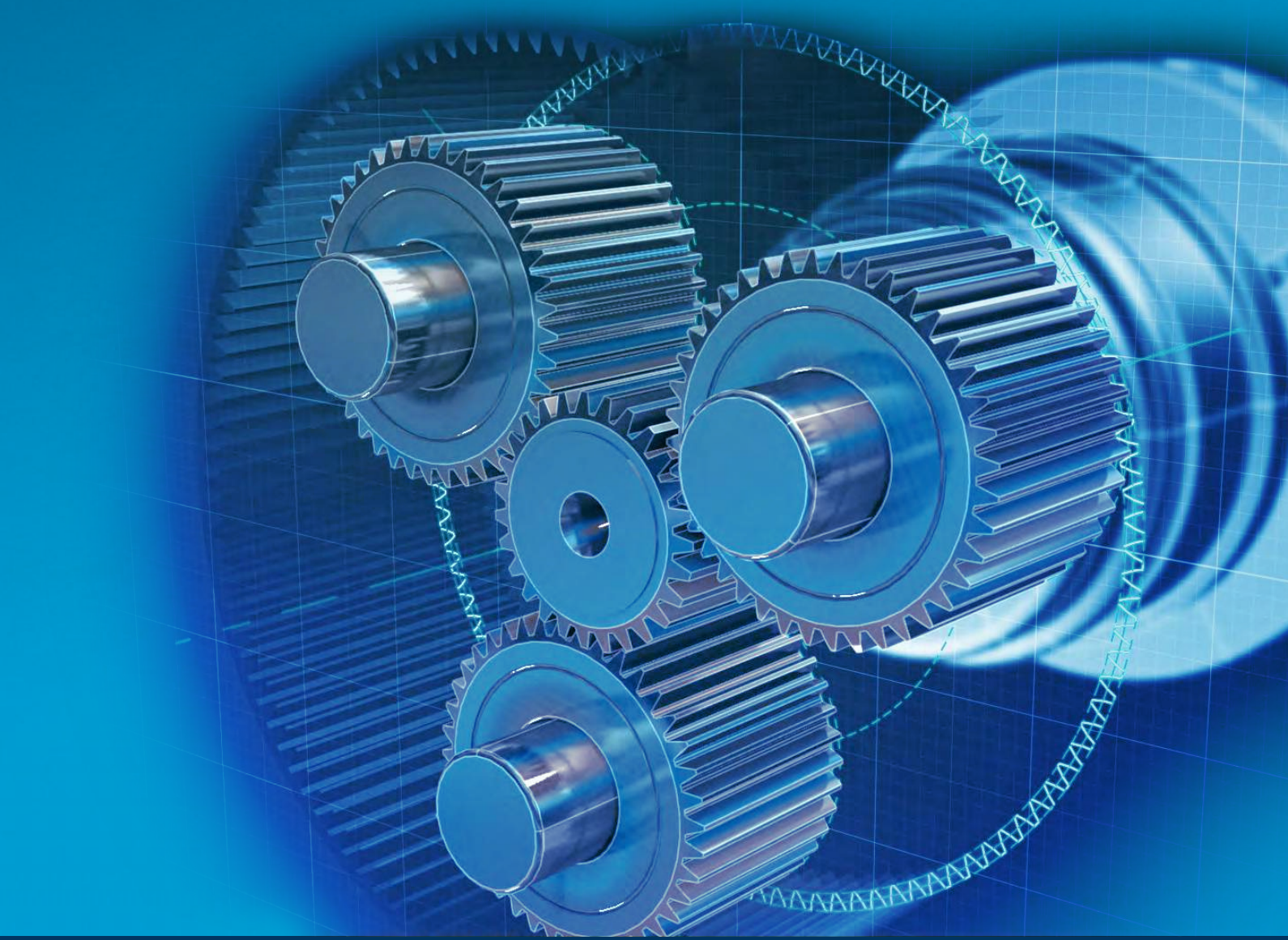
Bonfiglioli
Tecnoingranaggi

Serie TQ-TQF-TQK TR-MP-LC-LCK-SL-KR

Spielarme Planetengetriebe



60 years 1956-2016

Bonfiglioli
Forever Forward

Bonfiglioli solutions

INDEX

3 **Wir halten die Welt in Bewegung**

4 **Mechatronik – die Herausforderung, ihren Erfolg sicherzustellen**

5 **Unsere Kompetenz von Anfang bis Ende!**

6 **Ihr One-stop-shop für mechatronik Anwendungen**

7 **Leistungsfähigere, effizientere und kostengünstigere Konzepte**

8 **Optimierung des Servo-systems mittels Energiekostenmodell**

9 **Ein zuverlässiger Partner für ihr Geschäft**

10 **One-stop shop unser Service**

11 **Qualität und Technologie**

12 **Unsere Produkte auf einen Blick**

14 **Servogetriebe**

15 **Technische Informationen**

16 1 Allgemeine Informationen
16 1.1 Symbole, Einheiten und Definitionen
18 1.2 Getriebeauswahl
22 1.3 Lagerlebensdauer

25 **TQ-Reihe**
26 2 Eigenschaften der TQ-Reihe
27 2.1 Bestellbezeichnung
28 2.2 Abmessungen und technische Daten

39 **Neue TQF-Reihe**
40 3 Eigenschaften der TQF-Reihe
41 3.1 Bestellbezeichnung
42 3.2 Abmessungen und technische Daten

53 **TQK-Reihe**
54 4 Eigenschaften der TQK-Reihe
55 4.1 Bestellbezeichnung
56 4.2 Abmessungen und technische Daten

67 **TR-Reihe**
68 5 Eigenschaften der TR-Reihe
70 5.1 Bestellbezeichnung
71 5.1.1 Versionen und Antriebsseite
71 5.1.2 Montagepositionen
71 5.2 Zulässige radial- und axialkräfte Für die Mb-version
72 5.3 Abmessungen und technische Daten
106 5.3.1 Maschinenwelle

107 **MP-Reihe**
108 6 Eigenschaften der MP-Reihe
110 6.1 Bestellbezeichnung
111 6.1.1 Versionen und Antriebsseite
111 6.1.2 Montagepositionen
111 6.2 Zulässige radial- und axialkräfte Für die Mb-version
112 6.3 Abmessungen und technische Daten
146 6.3.1 Maschinenwelle

147 **LC-Reihe**
148 7 Eigenschaften der LC-Reihe
149 7.1 Bestellbezeichnung
150 7.2 Abmessungen und technische Daten

169 **LCK-Reihe**
170 8 Eigenschaften der LCK-Reihe
171 8.1 Bestellbezeichnung
172 8.2 Abmessungen und technische Daten

191 **SL-Reihe**
192 9 Eigenschaften der SL-Reihe
193 9.1 Bestellbezeichnung
194 9.2 Abmessungen und technische Daten

207 **KR-Reihe**
208 10 Eigenschaften der KR-Reihe
209 10.1 Versionen
209 10.2 Montagepositionen
209 10.3 Wellendrehrichtung
210 10.4 Bestellbezeichnung
211 10.5 Technische Daten
212 10.6 Massenträgheitsmoment
212 10.6.1 KR 010...KR 040 mit standard Kugellagern (SB Option)
213 10.6.2 KR 020...KR 040 mit Kegelrollenlagern (HB Option)
214 10.7 Abmessungen
222 10.7.1 Getriebe ohne Motoradapter
223 10.7.2 Maschinenwelle

Änderungen

Das Revisionsverzeichnis des Katalogs wird auf Seite 224 wiedergegeben. Auf unserer Website www.bonfiglioli.com werden die Kataloge in ihrer letzten, überarbeiteten Version angeboten.

WIR HALTEN DIE WELT IN BEWEGUNG

Seit 1956 ist Bonfiglioli ein führender name in der Antriebstechnik mit dem Engagement als weltweit zuverlässiger Partner aufzutreten.

Unsere Best-in-Class-Lösungen beruhen auf fast 60 Jahren Fachkompetenz und profunden Branchenkenntnissen.

Hochinnovative und maßgeschneiderte Mechatroniklösungen von einem einzigen Anbieter für spezifische Anforderungen jeder Art.

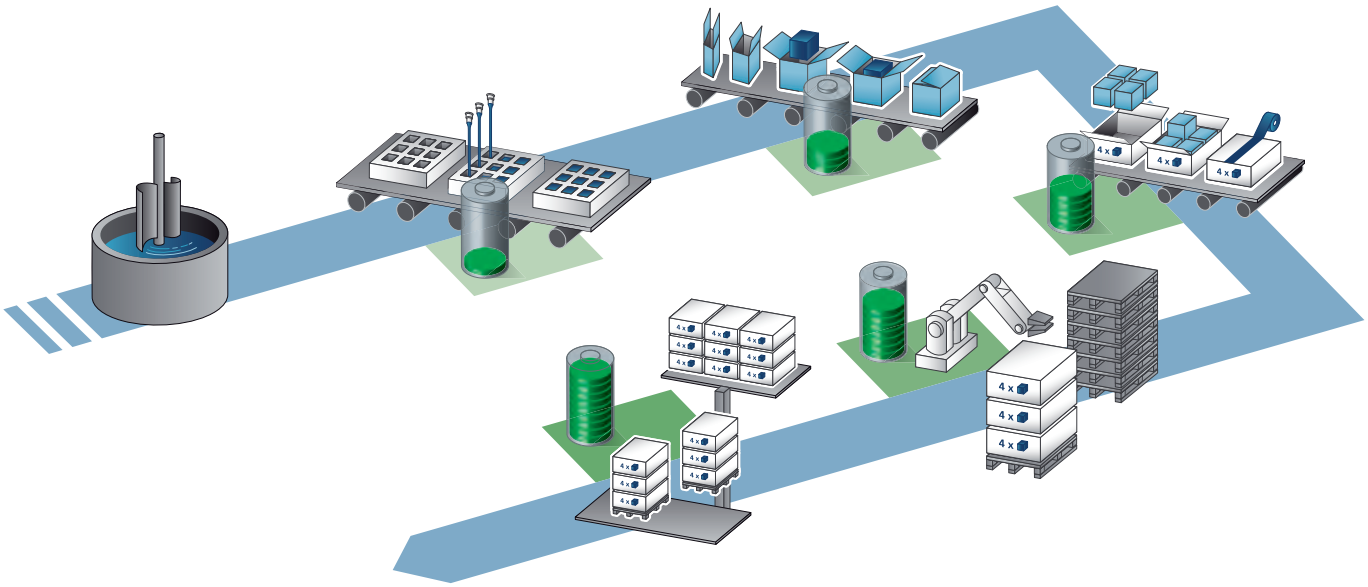
MECHATRONIK
DIE HERAUSFORDERUNG, IHREN ERFOLG SICHERZUSTELLEN

Schneller, besser und günstiger – das sind die neuen Herausforderung für Maschinenentwickler!

Steigende Anforderungen an die Produktivität, komplexere Systeme und flexiblere Maschinen, die mit höchstem Wirkungsgrad betrieben werden, erfordern neue und intelligente technische Lösungen, um zukünftiges Wachstum zu gewährleisten.
Bonfiglioli hat eine präzise und detaillierte Strategie umgesetzt, um genau dieses Ziel zu erreichen.
Mit dem Engagement, Ihr weltweit führender Partner für intelligente Mechatroniklösungen und Servosysteme zu sein, hat der Geschäftsbereich Industrial Business zwei Abteilungen eingerichtet, um die jeweiligen Märkte mit Fachkompetenz und Sorgfalt zu betreuen:
- Power Transmission Solutions (PTS)
- Mechatronic Drives & Solutions (MDS)

Zielsetzung unserer neuen Abteilung Mechatronic Drives & Solutions (MDS): Rentabilitätssteigerung, indem sie im Bereich der industriellen Automation als verlässlicher Partner und Anbieter energieeffizienter Lösungen für den gesamten Lebenszyklus auftritt.

- Systemintegration
- Fachkompetenz
- Energieeinsparung



Leistung, Zuverlässigkeit, Kostengünstigkeit, Robustheit, Effizienz und Nachhaltigkeit sind unverzichtbar.

SCHULUNG | **MECHANIK- UND MECHATRONIK-**STUDIEN | **PRODUKTANPASSUNG** | **PROTOTYPISIERUNG,** TEST- UND ANALYSEBERICHTE

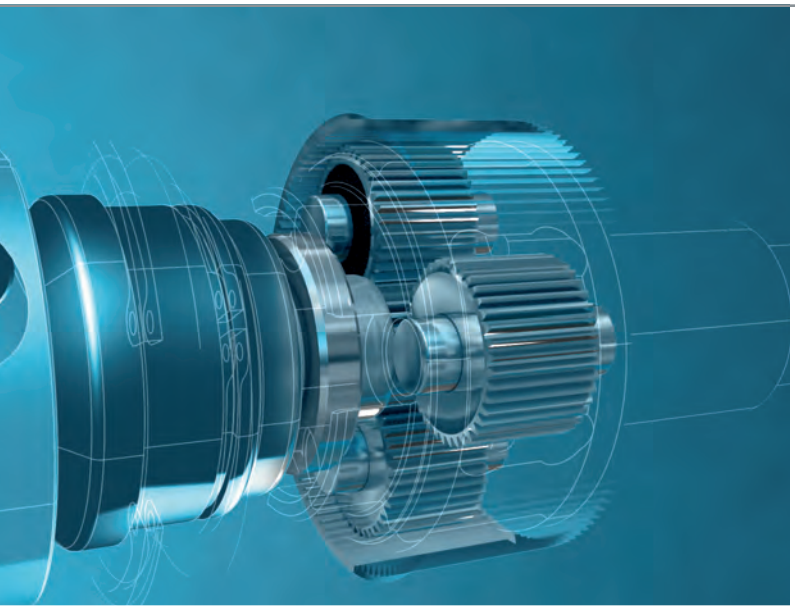
UNSERE KOMPETENZ VON ANFANG BIS ENDE!

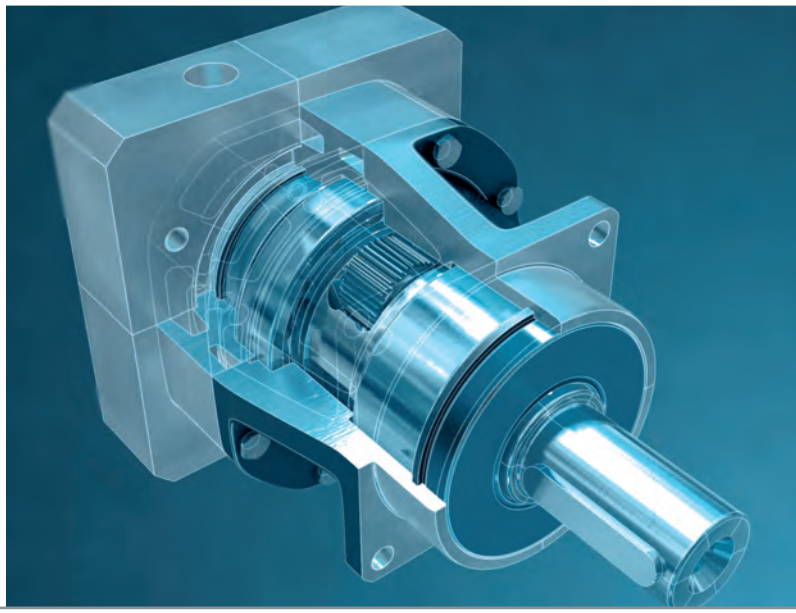
MDS-Innovationen werden durch zwei Kompetenzzentren vorangebracht:

- Bonfiglioli Vectron GmbH in Deutschland, mit ausgeprägten Kompetenzen in Technik, Forschung und Entwicklung sowie Fertigung von elektronischen Komponenten, insbesondere Umrichtern und Servoantrieben
- BMR (Bonfiglioli Mechatronic Research) in Rovereto (Trento, Italien), mit umfassenden Forschungs- und Entwicklungsmöglichkeiten, um innovative neue Lösungen für Ihre speziellen Bedürfnisse bereitzustellen. BMR ist eine Produktionsanlage, in der neue Mechatroniklösungen realisiert werden.

Der Schlüssel zu unserem Erfolg ist der herrausragende technische Support durch unsere DSC (Drive Service Center)-Spezialisten. Diese begleiten Sie während der gesamten Installationsphase – vom ersten Konzept bis zur abschließenden Inbetriebnahme.

Bonfiglioli
ist mit seinen weltweiten Niederlassungen und effizientem Kundendienst immer für Sie da.





VOR-ORT-SERVICE › TECHNISCHE BETREUUNG › INBETRIEBNAHME › INSTANDHALTUNG › KUNDENDIENST

IHR ONE-STOP-SHOP FÜR MECHATRONIK ANWENDUNGEN

Als kompetenter Technologiepartner sorgen wir dafür, dass unsere Ingenieure **gemeinsam mit Ihnen maßgeschneiderte, zukunftsgerichtete und integrierte Lösungen realisieren, die Ihren individuellen Anforderungen entsprechen und energieeffiziente Mechatroniksysteme für Ihre Anwendung bereitstellen.**
Das Bonfiglioli Servo-Portfolio umfasst alle Komponenten, die für eine komplette Automatisierungslösung erforderlich sind:

- HMI – Bonfiglioli Mensch-Maschine-Schnittstelle
- Programmierbare Steuerung (ACU / ACT / AGL)
- Höchstdynamische geregelte Servomotoren (BMD-Reihe)
- Präzisions-Planetengetriebe (TQ, TQF, TQK, TR, MP, LC, LCK, SL)
- Präzisionskegelradgetriebe (KR)
- Konfektioniertes Zubehör (Kabel, Drosseln, Filter etc.)

Ihre Vorteile:

- Ihre Vorteile:
- Höchste Präzision & Dynamik
- Leistungsstark & Kompakt
- Höchste radiale und axiale Tragfähigkeiten
- Höchste Kippmomente
- Laufruhig

Ihre Vorteile:

- Hohe Präzision und Dynamik
- Häufige Drehrichtungswechsel
- Höchste Leistungsdichte

Ihre Vorteile:

- Energieeinsparung
- Einfache Systemlösung
- Hoher Drehmomentbereich
- Präzise Vierquadrant-Drehzahl- und Geschwindigkeitssteuerung
- Höchste Leistungsdichte

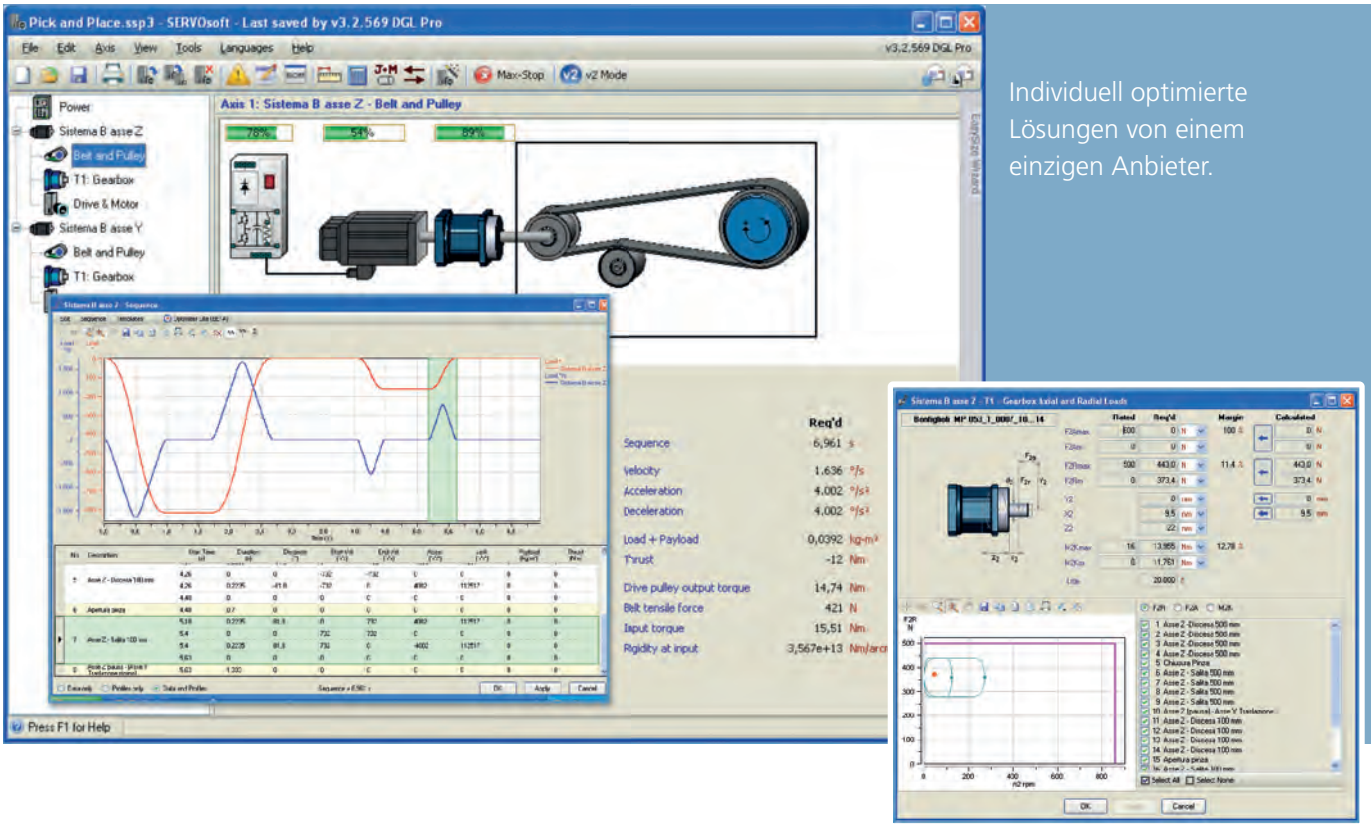
Komplettes Automatisierungs-Paket von nur einem Anbieter!

LEISTUNGSFÄHIGERE, EFFIZIENTERE UND KOSTENGÜNSTIGERE KONZEPTE

Bonfiglioli ist Ihr Partner und unterstüzt Sie bei der Dimensionierung, Optimierung und Auswahl des Antriebsstrangs.

Unser Schwerpunkt liegt nicht nur auf der Entwicklung und Fertigung von Produkten für Ihre Anforderungen, wir verfügen auch über Software-Tools, die Ihren Entwicklungsprozess vereinfachen.

Wir können Ihr Servo-Paket optimieren, um eine Überdimensionierung zu vermeiden, durch die sich sowohl die Anschaffungskosten als auch die laufenden Betriebskosten für ein Servosystem erhöhen würden.

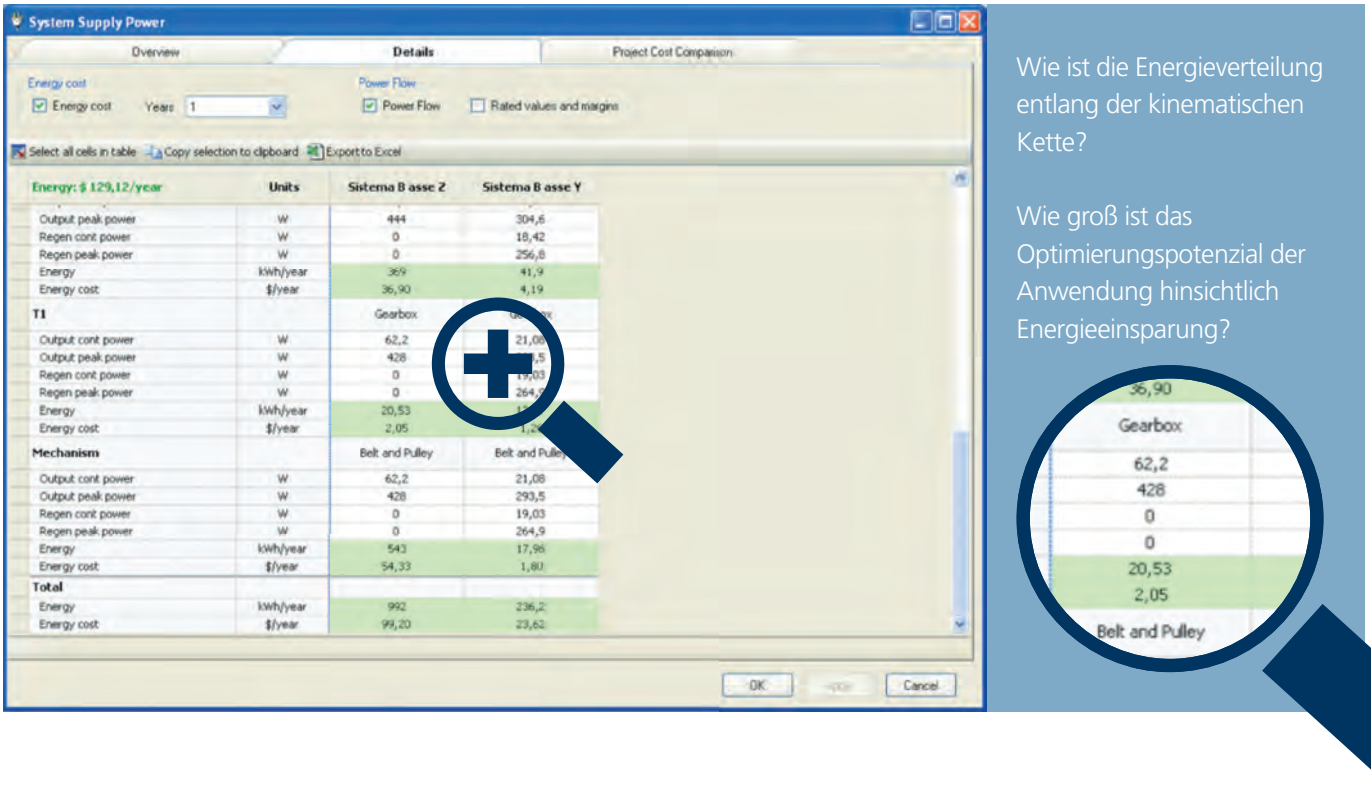


Individuell optimierte Lösungen von einem einzigen Anbieter.

OPTIMIERUNG DES SERVO-SYSTEMS MITTELS ENERGIEKOSTENMODELL

Die meisten modernen Servosysteme sind dafür ausgelegt, elektrisch gekoppelt zu werden, um Energie zu sparen, unnötige oder überdimensionierte Komponenten weitgehend zu minimieren und sowohl die anfänglichen Hardwarekosten als auch die Betriebskosten durch eine verbesserte Energieeffizienz zu senken.

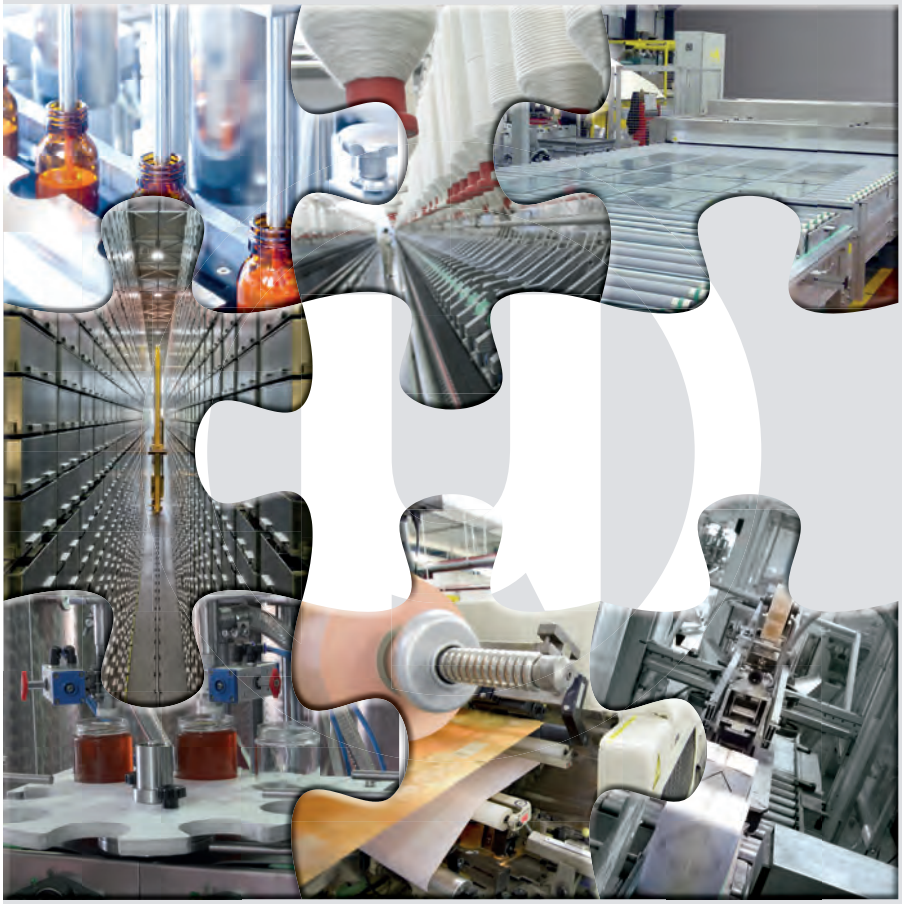
Mit den stetig steigenden Energiepreisen ist die Energieeffizienz zu einem vorrangigen Entwicklungsziel geworden. Energiekosten können bis zu **95% der Lebenskosten eines Servosystems ausmachen.**
Bonfiglioli optimiert die Effizienz des gesamten Antriebsstrangs durch eine detaillierte Analyse, mit der das Energieeinsparpotenzial ermittelt und bewertet wird.



EIN ZUVERLÄSSIGER PARTNER FÜR IHR GESCHÄFT

Bonfiglioli verfügt über jahrzehntelange Erfahrungen mit Kunden aus den verschiedensten Industriesektoren.

Unsere Fachkompetenz besteht darin, dass wir Ihre Anwendungen kennen: Produkte und Anforderungen müssen aufeinander abgestimmt sein und eine Lösung darstellen, die Ihren Bedürfnissen gerecht wird. Mit unseren individuellen Lösungen erhalten Sie stets ein vollständiges Paket.



Einige unserer Anwendungsbereiche:

- Gewerbliche HLK-Systeme
- Werkzeugmaschinen
- Verpackung und Etikettierung
- Lebensmittel-, Getränke- und Tabakindustrie
- Textilien
- Glasbearbeitung
- Robotik
- Materialwirtschaft
- Gummi und Kunststoffe
- Papier und Kartonagen
- Förderanlagen
- Elektronik und Elektronikbauteile
- Krane und Hebebühnen
- Holzbearbeitung
- Energieerzeugung
- Erneuerbare Energie
- Materialumwandlung
- Bergbau
- Aufzüge

Und viele weitere

ONE-STOP SHOP UNSER SERVICE

Alle Bonfiglioli-Systeme sind weltweit mit einer zeitnahen und zuverlässigen technischen Unterstützung verbunden.

Spezialisten mit profunden Fachkenntnissen des jeweiligen Markts stehen mit Serviceleistungen wie Beratung, Installation, Kundendienst und Benutzerdokumentation zur Verfügung.

Wir verfügen über ein umfassendes Angebot an Dienstleistungen, die auf die individuellen Wünsche und Bedürfnisse unserer Kunden zugeschnitten sind.

- Optimale Lieferfristen für Ihre Produkte und schnelle Lieferungen bei ungeplanten und dringenden Anfragen
- Ermittlung individueller Lösungen durch umgehende professionelle technische Unterstützung
- Kurze Reaktionszeit und rasche Lieferung von Ersatzeinheiten in zeitkritischen Situationen

VOR DER INBETRIEBNAHME

NACH DER INBETRIEBNAHME

Mechanik- und Mechatronik-Studien

Produktanpassung

Prototypisierung, Test- und Analyseberichte

Unterstützung bei der Inbetriebnahme

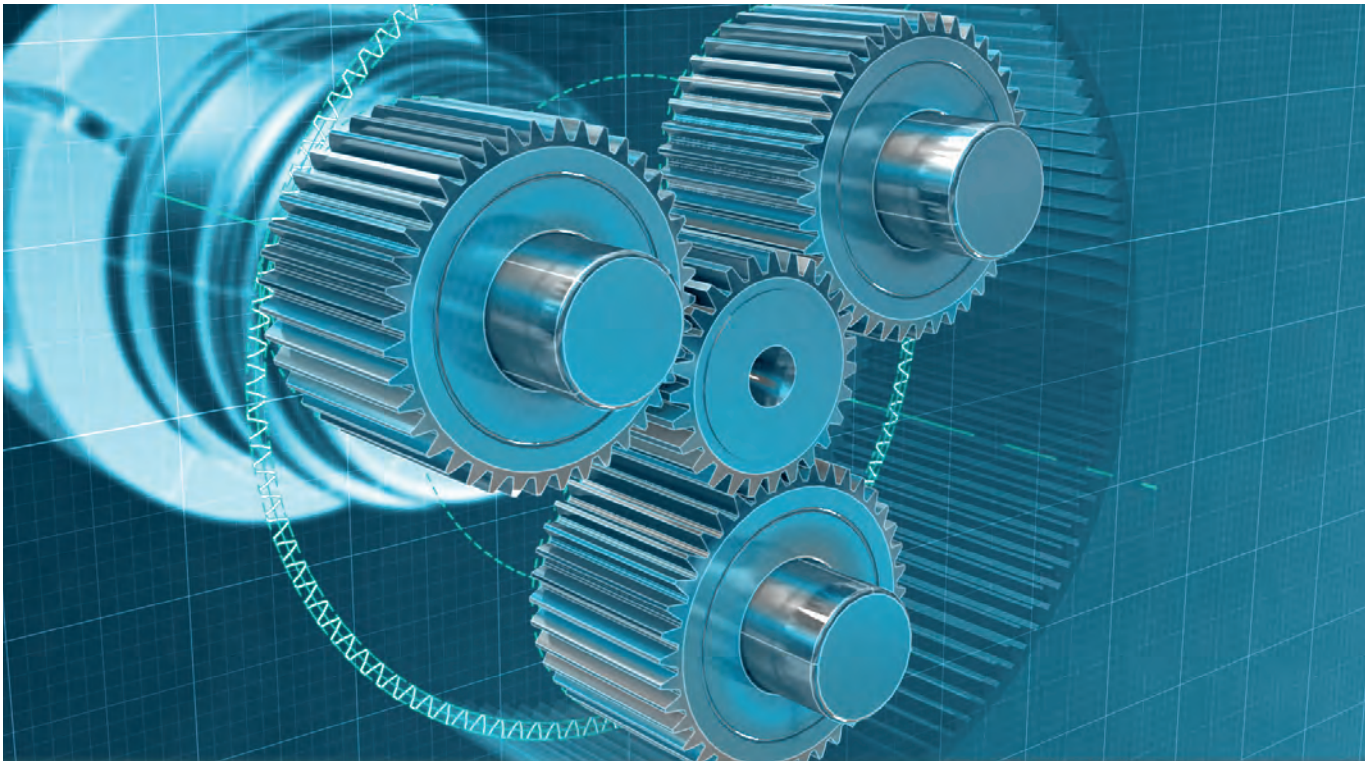
Instandhaltung

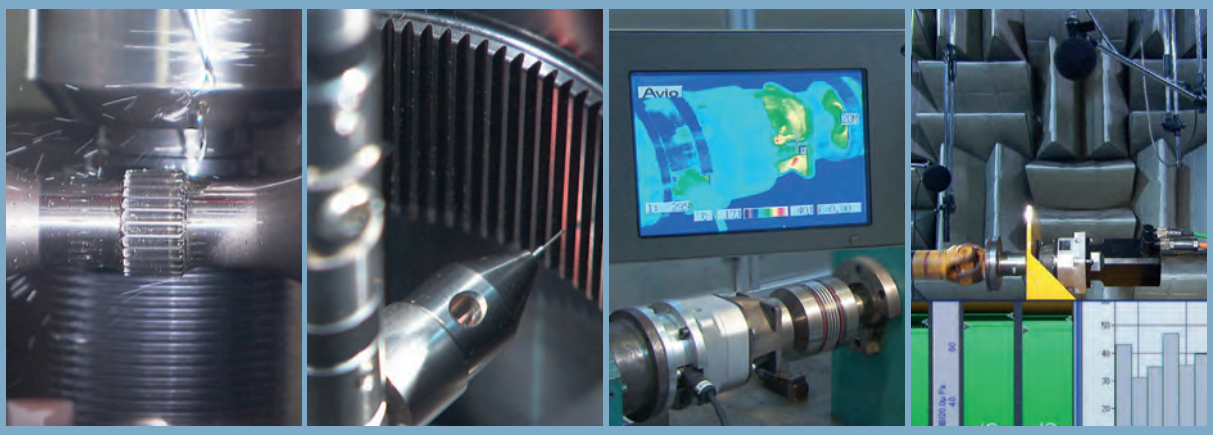
Kundendienst

SCHULUNG

QUALITÄT UND TECHNOLOGIE

Produktzuverlässigkeit wird durch einen auf maximale Qualität ausgelegten Produktionsprozess erreicht.
Moderne Maschinen waren stets zentraler Bestandteil von Bonfiglioli's Produktionssystem.

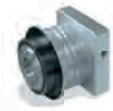




Bonfiglioli räumt der Qualität und Effizienz seines Maschinenparks schon immer absoluten Vorrang ein und investiert entsprechend.

UNSERE PRODUKTE AUF EINEN BLICK

HOHE LEISTUNGSDICHTE

	PRODUKT	KOAXIAL	RECHTWINKLIG	PRODUKTMERKMALE	KONFIGURATIONEN
HOCHLEISTUNG	TQ	Ja		• Höchste Präzision und Dynamik • Hohe Eingangsdrehzahl • Höchste axiale und radiale Belastbarkeit • Laufruhig • Modulares Design für Ihre Anforderungen	• Vollwelle
HOCHLEISTUNG	NEUE TQF 	Ja		• Höchste Präzision & Dynamik • Leistungsstark & Kompakt • Höchste radiale und axiale Tragfähigkeiten • Höchste Kippmomente • Laufruhig	• Flanschwelle
HOCHLEISTUNG	TQK		Ja	• Höchste Präzision und Dynamik • Hohe Eingangsdrehzahl • Höchste axiale und radiale Belastbarkeit • Laufruhig • Modulares Design für Ihre Anforderungen	• Vollwelle
PRÄZISION	TR	Ja	Ja	• Hohe Leistungsfähigkeit • Hohe Präzision • Modulares Design für Ihre Anforderungen	• Vollwelle • Hohlwelle • Antriebsseitige Vollwelle
PRÄZISION	MP	Ja	Ja	• Hohe Leistungsfähigkeit • Mittlere Präzision • Modulares Design für Ihre Anforderungen	• Vollwelle • Hohlwelle • Antriebsseitige Vollwelle
FLEXIBILITÄT	LC	Ja		• Flexibel • Mittlere Präzision • Neue Option mit mehr Drehmoment verfügbar	• Vollwelle • Antriebsseitige Vollwelle
FLEXIBILITÄT	LCK		Ja	• Flexibel • Mittlere Präzision • Neue Option mit mehr Drehmoment verfügbar	• Vollwelle • Antriebsseitige Vollwelle
FLEXIBILITÄT	SL	Ja		• Dynamische Riemenanwendung • Kompaktheit • Mittlere Präzision • Neue Option mit mehr Drehmoment verfügbar	• Vollwelle
FLEXIBILITÄT	KR		Ja	Präzision, Dynamik und Kompaktheit zu einem unschlagbaren Preis	• Vollwelle • Flansch • Schrumpfscheibe

MAX. NENNDREHMOMENT MAX. BESCHL.- MOMENT	ÜBERSETZUNG I	DREHM.-DICHTE	TORSIONSSTEIFIGKEIT	VERDREHSPIEL	KONFIGURATIONEN
[Nm]	[-]			[arcmin]	
800 1200	3-100	●●●●●	●●●●	STANDARD ≤ 4-6 REDUZIERT ≤ 2-4	●●●●●
800 1200	4-100	●●●●●	●●●●●	STANDARD ≤ 5-7 REDUZIERT ≤ 3-5	●●●●●
800 1200	6-200	●●●●●	●●●●	STANDARD ≤ 5-7 REDUZIERT ≤ 4-6	●●●●●
1000 1200	3-1000	●●●	●●●	STANDARD ≤ 5-7 REDUZIERT ≤ 3-5	●●●
1000 1200	3-1000	●●●	●●●	STANDARD ≤ 15-17 REDUZIERT ≤ 10-12	●●●
450 700	3-100	●●●	●●●	STANDARD ≤ 12-15 REDUZIERT ≤ 6-8	●●●
450 700	6-100	●●●	●●●	STANDARD ≤ 6-8	●●●
155 300	3-100	●●●	●●●	STANDARD ≤ 12 REDUZIERT ≤ 6	●●●
120 170	1-5	●	●	STANDARD ≤ 8	●

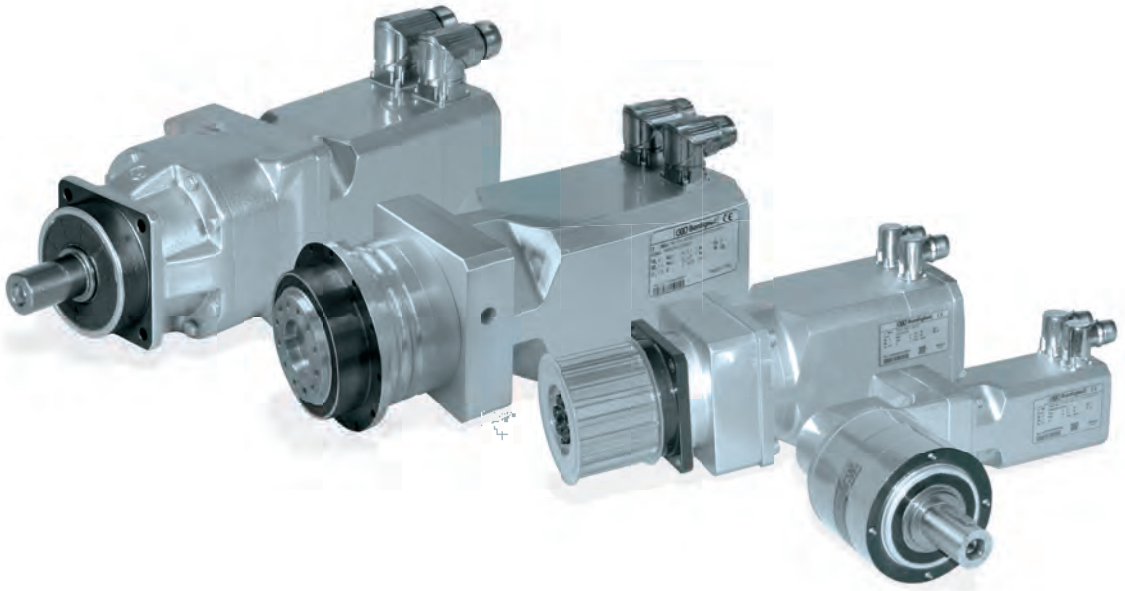
SERVOGETRIEBE

Positionierungssanwendungen machen den Einsatz von spielarmen Planetengetrieben erforderlich, um Drehzahlen und Drehmomente anzupassen und gleichzeitig die anwendungsspezifische Präzision zu gewährleisten.

Bonfiglioli hat sich für den Einsatz von Präzisions-Planetengetrieben zusammen mit der Permanenteregnte-Synchronmotoren-Reihe BMD entschieden.

In Verbindung mit einer leistungsfähigen Antriebselektronik sind diese Getriebe für Servoanwendungen ausgelegt, die höchste Leistung hinsichtlich Dynamik, Präzision, Robustheit, Haltbarkeit und Lebensdauer erfordern .

Eine wichtige Voraussetzung für Automatisierungsanwendungen ist eine hohe Drehmomentkapazität als ein kompaktes und leichtes Paket. Diese hohe Drehmomentdichte (ein hohes Drehmoment/Volumen- oder Drehmoment/Gewicht-Verhältnis) ist wichtig, um bei Automatisierungsanwendungen mit hoher dynamischer Belastung zusätzliche Systemträgheit zu vermeiden.



TECHNISCHE INFORMATIONEN

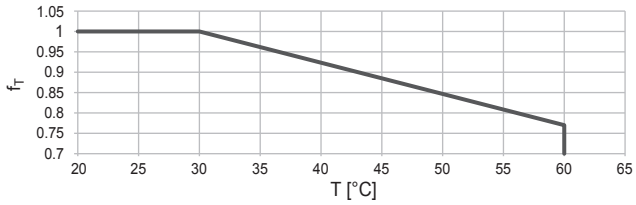
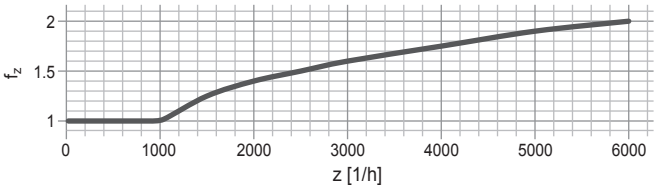
Anwendungsspezifische Werte

bezeichnung	einheit	definition
A_2	[N]	Axialkraft an der Abtriebswelle
$A_{2\ EQU}$	[N]	Äquivalente Axialkraft an der Abtriebswelle
$A_{2\ MAX}$	[N]	Maximale Axialkraft an der Abtriebswelle
R_2	[N]	Radialkraft an der Abtriebswelle
$R_{2\ EQU}$	[N]	Äquivalente Radialkraft an der Abtriebswelle
$R_{2\ MAX}$	[N]	Maximale Radialkraft an der Abtriebswelle
ED	[s]	Belastungsdauer (ohne Bremse)
ED%	[%]	Einschaltdauer
$L_{10h\ TARGET}$	[h]	Nominelle Ziellebensdauer der Abtriebswellenlager
$M_{1\ PEAK}$	[Nm]	Maximales Eingangsdrehmoment (begrenzt durch Motorsteuerung)
$M_{2(1)}$ ... $M_{2(n)}$	[Nm]	Ausgangsdrehmoment im Zeitfenster t_1 ... t_n
$M_{2\ EQU}$	[Nm]	Äquivalentes Abtriebsdrehmoment
$M_{2\ MAX}$	[Nm]	Not-Aus-Moment
$M_{T2\ EQU}$	[Nm]	Äquivalentes Kippmoment an der Abtriebswelle
$M_{T2\ MAX}$	[Nm]	Maximales Kippmoment an der Abtriebswelle
n_1	[min^{-1}]	Nominelle Eingangsdrehzahl
n_2	[min^{-1}]	Ausgangsdrehzahl
$n_{2(1)}$ ... $n_{2(n)}$	[min^{-1}]	Ausgangsdrehzahl im Zeitfenster t_1 ... t_n
$n_{2\ EQU}$	[min^{-1}]	Äquivalente Ausgangsdrehzahl
$n_{2\ MAX}$	[min^{-1}]	Maximale Ausgangsdrehzahl
T	[C°]	Umgebungstemperatur
t_1 ... t_n	[s]	Betriebsdauer
t_Σ	[s]	Einschaltdauer inkl. Pause
Z	[1/h]	Zyklen pro Stunde

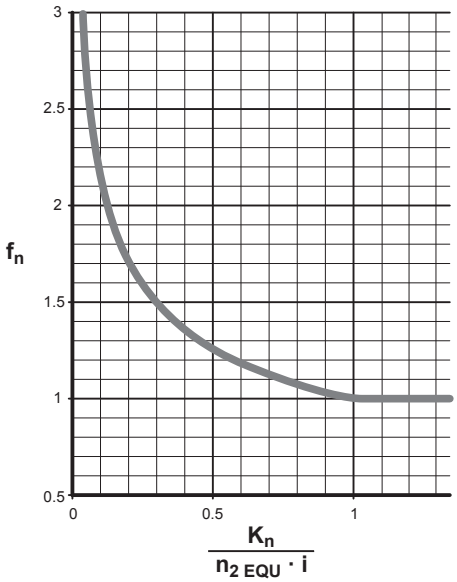
Getriebespezifische Werte

bezeichnung	einheit	definition
$A_{2/3\ max}$	[N]	Zulässige Axialkraft an der Abtriebswelle
$A_{2/3'\ max}$	[N]	Gleichzeitig mit der Radialkraft einwirkende Axialkraft
$R_{1\ max}$	[N]	Zulässige Radialkraft am Mittelpunkt der Eintriebswelle
$R_{2/3\ max}$	[N]	Zulässige Radialkraft am Mittelpunkt der Abtriebswelle
C_B	[Nm]	Konstante zur Berechnung der Lagerlebensdauer
C_t	$\left[\frac{Nm}{arcmin}\right]$	Torsionssteifigkeit
f	—	Verhältnis zwischen Axial- und Radialkraft
f_n	—	Drehzahlfaktor
f_z	—	Zyklusfaktor
f_T	—	Temperaturfaktor
i	—	Getriebeübersetzung
J_G	[kgcm²]	Massenträgheitsmoment des Getriebes
K_n	—	Drehzahlkonstante
L_{10h}	[h]	Allgemeine Lagerlebensdauer
L_Z	[mm]	Faktor zur Berechnung der Lagerlebensdauer
$M_{a\ 2}$	[Nm]	Maximal zulässiges Abtriebsbeschleunigungsmoment
$M_{n\ 2}$	[Nm]	Nominelles Abtriebsdrehmoment
$M_{p\ 2}$	[Nm]	Not-Aus-Moment 1000 mal während der Nutzungsdauer des Getriebes zulässig
$M_{T2\ max}$	[Nm]	Maximal zulässiges Kippmoment an der Abtriebswelle
$n_{1\ max}$	[min^{-1}]	Spitzen-Eingangsdrehzahl. Drehzahl, mit der die Einheit gelegentlich, unter sich nicht wiederholenden Bedingungen betrieben werden kann. Im S5-Betrieb darf dies nicht länger als 30 Sekunden dauern.
p	—	Lagerlebensdauerexponent
η	[%]	Getriebewirkungsgrad
φ_R	[arcmin]	Reduziertes Flankenspiel, wird unter statischen Bedingungen und bei einem Drehmoment von 2% des Getriebenenndrehmoments ermittelt.
φ_S	[arcmin]	Standard Flankenspiel, wird unter statischen Bedingungen und bei einem Drehmoment von 2% des Getriebenenndrehmoments ermittelt.

1.2 GETRIEBEAUSWAHL

(a)	Übersetzung	i	—	$i = \frac{n_1}{n_2}$
(b)	Äquivalentes Abtriebsdrehmoment	$M_{2\,EQU}$	[Nm]	$M_{2\,EQU} = \sqrt[3]{\frac{\lvert n_{2(1)}\rvert \cdot t_1 \cdot \lvert M_{2(1)}\rvert^3 + \ldots + \lvert n_{2(n)}\rvert \cdot t_n \cdot \lvert M_{2(n)}\rvert^3}{\lvert n_{2(1)}\rvert \cdot t_1 + \ldots + \lvert n_{2(n)}\rvert \cdot t_n}}$
(c)	Äquivalente Ausgangsdrehzahl	$n_{2\,EQU}$	[min^{-1}]	$n_{2\,EQU} = \frac{\lvert n_{2(1)}\rvert \cdot t_1 + \lvert n_{2(2)}\rvert \cdot t_2 + \ldots + \lvert n_{2(n)}\rvert \cdot t_n}{t_\Sigma}$
(d)	Drehzahlfaktor	f_n	—	Wenn $\frac{K_n}{n_{2\,EQU} \cdot i} \geq 1 \Rightarrow f_n = 1$ Wenn $\frac{K_n}{n_{2\,EQU} \cdot i} < 1 \Rightarrow f_n$ = Dem Diagramm entnehmen
(e)	Temperaturfaktor	f_T	—	
(f)	Einschaltdauer Belastungsdauer	ED% ED	[%] [s]	$ED\% = \frac{ED}{t_\Sigma} \cdot 100$ $ED = t_1 + t_2 + \ldots + t_n$
(g)	Zyklen pro Stunde	Z	[1/h]	$Z = \frac{3600}{t_\Sigma}$
(h)	Zyklusfaktor*	f_z	—	 *Für Z>6000 Bonfiglioli kontaktieren!
(i)	Maximales Eingangsmoment	$M_{1\,PEAK}$	[Nm]	a) Maximal mögliches Anwendungsdrehmoment b) Per Umrichter begrenztes Motordrehmoment c) Maximales Motordrehmoment

f_n - Drehzahlfaktor



K_n - Drehzahlkonstante

i	TQ 060	TQ 070	TQ 090	TQ 130	TQ 160
3	3500	3100	1050	1800	1100
4	3500	3300	1050	2000	1450
5	3500	3500	1700	2500	1650
7	4000	3500	3000	2800	2500
10	4000	3500	3000	2800	2500
16	4500	3500	3000	2800	2500
20	4500	3500	3000	2800	2500
25	4500	3500	3000	2800	2500
28	4500	3500	3000	2800	2500
35	4500	3500	3000	2800	2500
40	4500	3500	3000	2800	2500
50	4500	3500	3500	3200	2500
70	5000	4500	4000	3500	2500
100	5000	4500	4000	3500	2500

i	TQK 060	TQK 070	TQK 090	TQK 130	TQK 160
6	2400	2400	2000	1600	1600
8	2400	2400	2000	1600	1600
10	2400	2400	2000	1600	1600
14	2400	2400	2000	1600	1600
18	2400	2400	2400	2000	1600
20	2400	2400	2400	1600	1600
24	2400	2400	2400	2000	1600
30	2400	2400	2400	2000	1600
40	2400	2400	2400	2000	1600
50	2400	2400	2400	2000	1600
70	2400	2400	2400	2000	1600
80	2400	2400	2400	2000	1600
100	2400	2400	2400	2000	1600
140	2400	2400	2400	2000	1600
200	2400	2400	2400	2000	1600

i	TR / MP 053	TR / MP 060	TR / MP 080	TR / MP 105	TR / MP 130	TR / MP 160	TR / MP 190
3	1400	1400	2700	2500	1700	550	1500
4	2000	1600	1500	1600*	500*	350*	1150
5	2300	2050	1750	1850*	600*	350*	1300
6	2300	2500	2500	1050*	150*	150*	1150*
7	3800	3000	2100	1350	400*	300*	1600
9	4000	3300	2900	2500	2100	1600	1500
10	–	4000	4000	3500	3200	1150	2900
12	3300	3300	1500	1500	500	300*	1050
15	3300	3300	1700	1750	600	350*	1200
16	3500	3500	1950	2050	700	450*	1400
20	3500	3500	2450	2550	850	300	1750
25	3500	3500	2800	2900	1000	350	2000
28	4000	4000	3450	3500	1200	450	2450
30	–	4000	4000	3500	3200	3000	1950
35	4000	4000	3950	3500	1350	500	2800
36	4000	3500	3200	1950	550	500	2300
40	–	4000	4000	3500	1700	650	2900
45	4000	–	–	–	–	–	–
48	4000	3500	3100	2800	2300	850	2100
50	–	4000	4000	3500	1950	750	2900
60	3500	–	–	–	–	–	–
64	3500	3500	3100	2800	2400	1000	2100
70	–	4000	4000	3500	2400	900	2900
75	3500	3500	3200	3000	2900	1350	2300
80	3500	3500	3100	2800	2400	1300	2100
81	4000	–	–	–	–	–	–
84	4000	4000	4000	3500	2900	1050	2900
90	–	4000	4000	3500	2850	3000	2900
100	3500	4000	4000	3500	3200	3000	2900
112	3500	–	–	–	–	–	–
120	–	4000	4000	3500	3200	2150	2900
125	3500	3500	3200	3000	2900	1800	2300
140	4000	4000	4000	3500	3200	2050	2900
144	4000	–	–	–	–	–	–
150	–	4000	4000	3500	3200	2200	2900
160	–	4000	4000	3500	3200	2550	2900
175	4000	4000	4000	3500	3200	2550	2900
180	4000	–	–	–	–	–	–
200	–	4000	4000	3500	3200	2900	2900
210	–	4000	4000	3500	3200	2700	2900
216	3500	3500	3200	3000	1900	–	–
225	4000	–	–	–	–	–	–
245	4000	–	–	–	–	–	–
250	–	4000	4000	3500	3200	3000	2900
252	4000	–	–	–	–	–	–
280	–	4000	4000	3500	3200	3000	2900
324	4000	–	–	–	–	–	–
350	–	4000	4000	3500	3200	3000	2900
400	–	4000	4000	3500	3200	3000	2900
405	4000	–	–	–	–	–	–
500		4000	4000	3500	3200	3000	2900
567	4000	–	–	–	–	–	–
700	–	4000	4000	3500	3200	3000	2900
729	4000	–	–	–	–	–	–
1000	–	4000	4000	3500	3200	3000	2900

i	TQF 060	TQF 070	TQF 090	TQF 130	TQF 160
4	3500	3300	1050	2000	1450
5	3500	3500	1700	2500	1650
7	4000	3500	3000	2800	2500
10	4000	3500	3000	2800	2500
16	4500	3500	3000	2800	2500
20	4500	3500	3000	2800	2500
25	4500	3500	3000	2800	2500
28	4500	3500	3000	2800	2500
35	4500	3500	3000	2800	2500
40	4500	3500	3000	2800	2500
50	4500	3500	3500	3200	2500
70	5000	4500	4000	3500	2500
100	5000	4500	4000	3500	2500

i	LC 050	LC 070 LC 070P	LC 090 / LC 090P	LC 120 / LC 120P	LC 155 / LC 155P
3	1650	1400	2900 / 3500	2500 / 3000	1350 / 2100
4	2200	1600	2500 / 2000	2100 / 1700	900 / 2200
5	2900	2050	2700 / 1500	2300 / 1500	950 / 800
7	3700	3050	3500 / 1900	3000 / 1900	1250
9	4000	3300	2900 / 3500	2500 / 3000	2100
10	–	4000	4000 / 3500	3500	2500 / 3200
12	3300	3300	2900 / 3500	2500 / 3000	2100
15	3300	3300	2900 / 3500	2500 / 3000	2100
16	3500	3500	3100	2800	2400
20	3500	3500	3200	3000	2900
25	3500	3500	3200	3000	2900
28	3500	3700	3500	3500	3000
30	–	4000	4000	3500	3000
35	3700	4000	3500	3000	3000
36	4000	–	–	–	–
40	–	4000	4000	3500	3000
45	4000	–	–	–	–
50	–	4000	4000	3500	3000
70	–	4000	4000	3500	3000
81	4000	–	–	–	–
100	–	4000	4000	3500	3000

i	LCK 050	LCK 070 LCK 070P	LCK 090 LCK 090P	LCK 120 LCK 120P	LCK 155 LCK 155P
6	2400	2400	2400	2000	1600
8	2400	2400	2400	2000	1600
10	2400	2400	2400	2000	1600
14	2400	2400	2400	2000	1600
20	–	2400	2400	2000	1600
24	2400	2400	2400	2000	1600
30	2400	2400	2400	2000	1600
50	2400	2400	2400	2000	1600
70	2400	2400	2400	2000	1600
80	–	2400	2400	2000	1600
90	2400	–	–	–	–
100	–	2400	2400	2000	1600

i	SL 070 / SL 070P	SL 090 / SL 090P	SL 120 / SL 120P
3	1400	2900 / 3500	2500 / 3000
4	1600	2500 / 2000	2100 / 1700
5	2050	2700 / 1500	2300 / 1500
7	3050	3500 / 1900	3000 / 1900
9	3300	2900 / 3500	2500 / 3000
10	4000	4000 / 3500	3500
12	3300	2900 / 3500	2500 / 3000
15	3300	2900 / 3500	2500 / 3000
16	3500	3100	2800
20	3500	3200	3000
25	3500	3200	3000
28	3700	3500	3000
30	4000	4000	3500
35	4000	3500	3000
40	4000	4000	3500
50	4000	4000	3500
70	4000	4000	3500
100	4000	4000	3500

i	KR 010	KR 020	KR 030	KR 040
1	1200	1200	1000	800
2	2400	2400	2000	1600
3	3000	3000	2800	2500

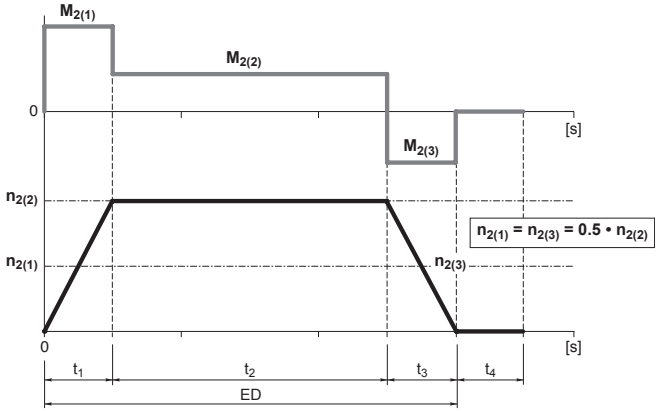
Im S1-Betrieb verringern die mit * gekennzeichneten Werte die durchschnittliche Lebensdauer der Lager.

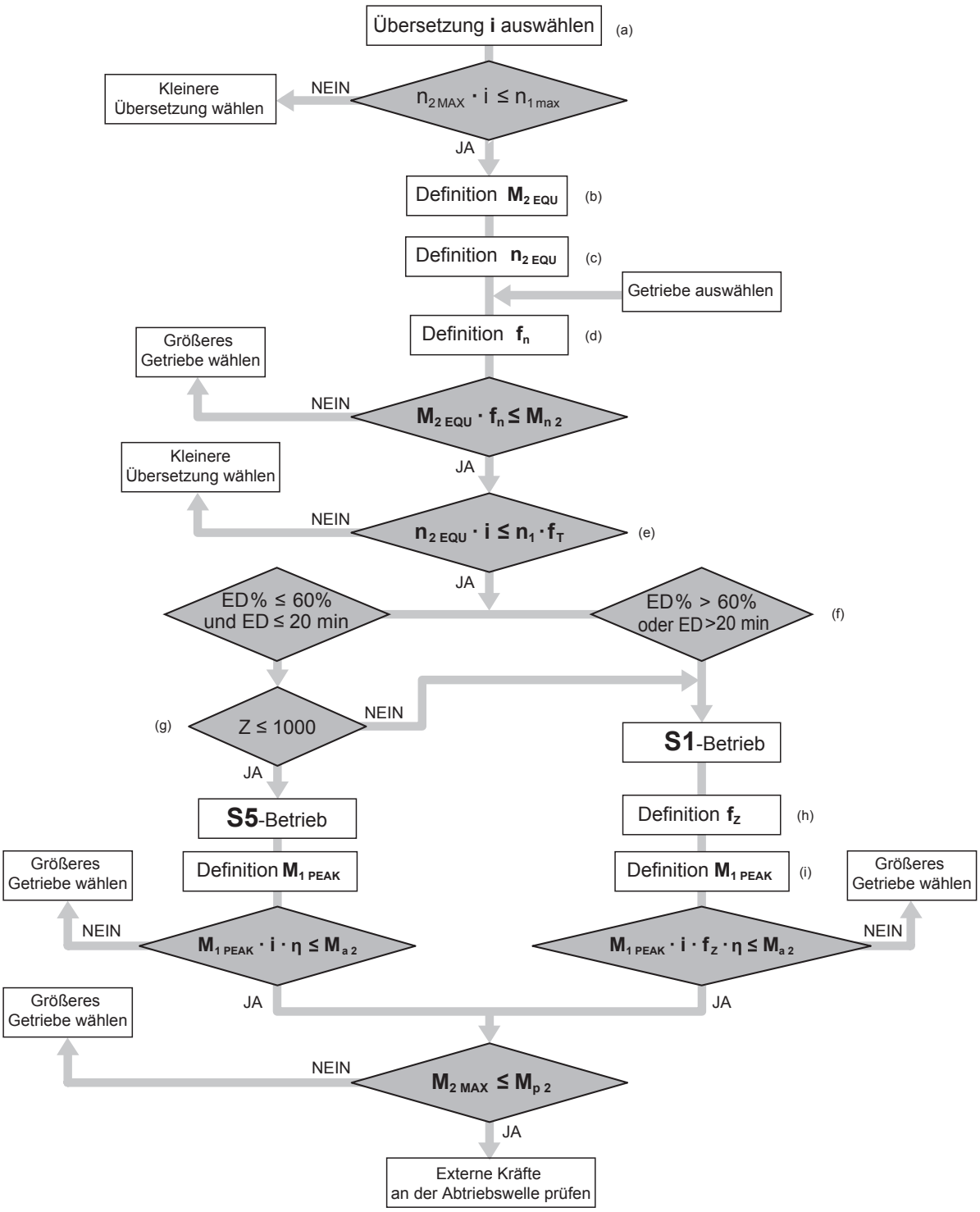
Belastungsdiagramm

M_2: Abtriebsdrehmoment

Drehzahldiagramm

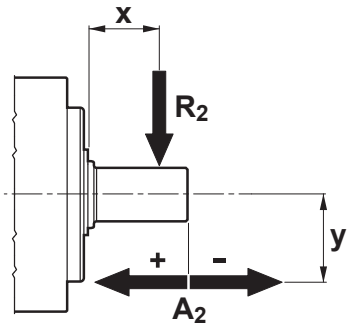
n_2: Ausgangsdrehzahl



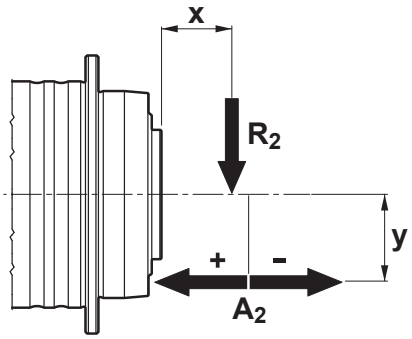


1.3 LAGERLEBENSDAUER

Vollwelle



Flanschwelle



(a)	Maximale Radialkraft an der Abtriebswelle Maximale Axialkraft an der Abtriebswelle	$R_{2\,MAX}$ $A_{2\,MAX}$	[N] [N]	Bitte die spezifischen Bedingungen beachten (z. B. Riementriebe unter Beschleunigungsmoment)
(b)	Maximales Kippmoment an der Abtriebswelle	$M_{T\,2\,MAX}$	[Nm]	$M_{T\,2\,MAX} = \frac{R_{2\,MAX} \cdot (x + L_Z) \pm A_{2\,MAX} \cdot y}{1000}$
(c)	Äquivalente Kräfte an der Abtriebswelle	$R_{2\,EQU}$ $A_{2\,EQU}$	[N] [N]	$R_{2\,EQU} = \sqrt[3]{\frac{\lvert n_{2(1)}\rvert \cdot t_1 \cdot \lvert R_{2(1)}\rvert^3 + \ldots + \lvert n_{2(n)}\rvert \cdot t_n \cdot \lvert R_{2(n)}\rvert^3}{\lvert n_{2(1)}\rvert \cdot t_1 + \ldots + \lvert n_{2(n)}\rvert \cdot t_n}}$ $A_{2\,EQU} = \sqrt[3]{\frac{\lvert n_{2(1)}\rvert \cdot t_1 \cdot \lvert A_{2(1)}\rvert^3 + \ldots + \lvert n_{2(n)}\rvert \cdot t_n \cdot \lvert A_{2(n)}\rvert^3}{\lvert n_{2(1)}\rvert \cdot t_1 + \ldots + \lvert n_{2(n)}\rvert \cdot t_n}}$
(d)	Äquivalentes Kippmoment an der Abtriebswelle	$M_{T\,2\,EQU}$	[Nm]	$M_{T\,2\,EQU} = \frac{R_{2\,EQU} \cdot (x + L_Z) + A_{2\,EQU} \cdot y}{1000}$
(e)	Äquivalente Ausgangsdrehzahl	$n_{2\,EQU}$	[min^{-1}]	$n_{2\,EQU} = \frac{\lvert n_{2(1)}\rvert \cdot t_1 + \lvert n_{2(2)}\rvert \cdot t_2 + \ldots + \lvert n_{2(n)}\rvert \cdot t_n}{t_1 + t_2 + \ldots + t_n}$
(f)	Allgemeine Lagerlebensdauer	L_{10h}	[h]	$L_{10h} = \frac{16666}{n_{2\,EQU}} \cdot \left(\frac{C_B}{M_{T\,2\,EQU}}\right)^p$

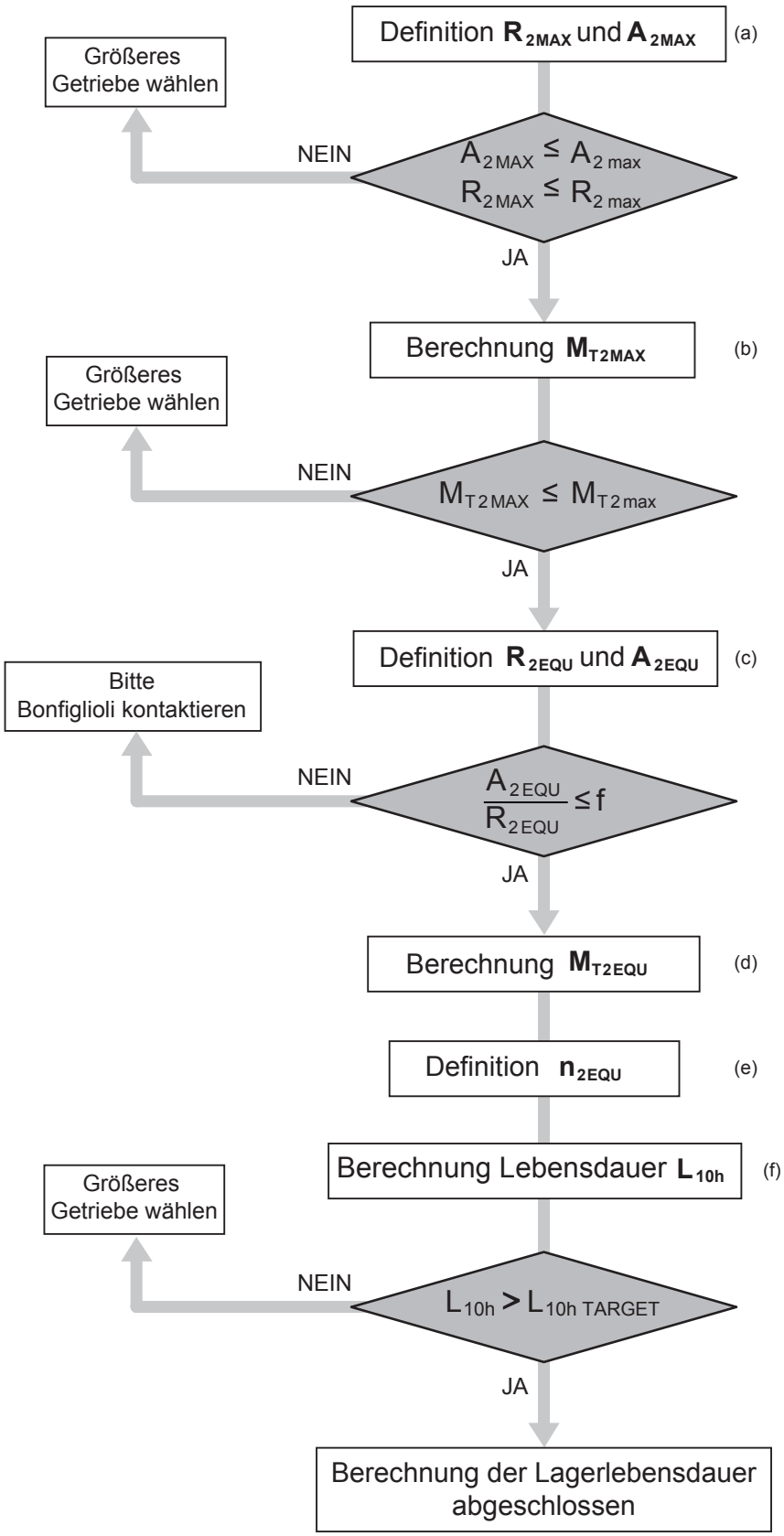
		TQ / TQK 060	TQ / TQK 070		TQ / TQK 090		TQ / TQK 130	TQ / TQK 160
		SB	SB	HB	SB	HB	SB	SB
L_Z	[mm]	56	67	64	95	89	96	114
$M_{T\,2\,max}$	[Nm]	129.5	221	343	592	772	1233	2331
C_B	[Nm]	632	1065	1510	2898	3325	6395	9795
p	—	3	3	3.33	3	3.33	3.33	3.33

		TQF 060	TQF 070	TQF 090	TQF 130	TQF 160
L_Z	[mm]	48	72	78	100	128
$M_{T\,2\,max}$	[Nm]	115	318	430	1200	3700
C_B	[Nm]	490	1335	1815	5055	16200
p	-	3.33	3.33	3.33	3.33	3.33

		TR 053	TR 060	TR 080	TR 105	TR 130	TR 160	TR 190
		SB	SB	SB	SB	SB	SB	SB
L_Z	[mm]	22	23	42	53	74	94	100
$M_{T\,2\,max}$	[Nm]	16	23	155	278	515	739	1683
C_B	[Nm]	91	143	994	2048	3893	5824	8680
p	—	3	3	3.33	3.33	3.33	3.33	3.33

		MP 053	MP 060	MP 080		MP 105		MP 130	MP 160	MP 190
		SB	SB	SB	HB	SB	HB	SB	SB	SB
L_Z	[mm]	22	23	44	42	46	53	74	94	100
$M_{T\,2\,max}$	[Nm]	16	23	83	155	99	278	515	739	1683
C_B	[Nm]	91	143	407	994	637	2048	3893	5824	8680
p	—	3	3	3	3.33	3	3.33	3.33	3.33	3.33

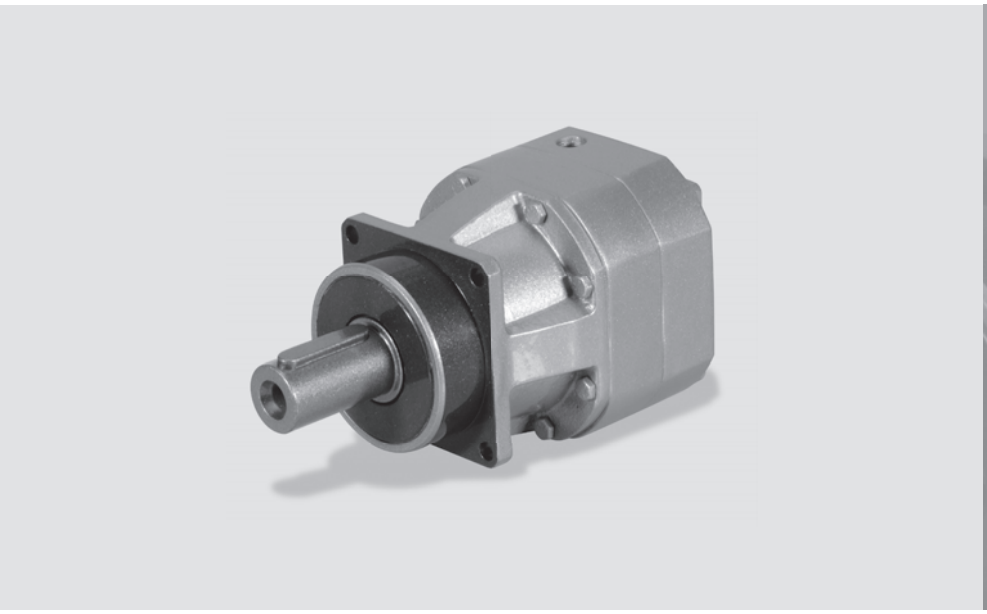
		LC / LCK 050	LC / LCK / SL 070	LC / LCK / SL 090	LC / LCK / SL 120	LC / LCK 155
L_Z	[mm]	22	28	30	39	46
$M_{T\,2\,max}$	[Nm]	15	54	105	238	522
C_B	[Nm]	106	280	298	813	1588
p	—	3	3	3	3	3



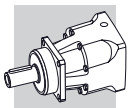
f	TQ / TQK	TQF	TR	MP	LC / LCK	SL	KR
0.26	**060 SB ... 090 SB**		**053 SB ... 060 SB**	**053 SB ... 105 SB**	**050 SB ... 155 SB**	**070 SB ... 120 SB**	**010 SB ... 040 SB**
0.37	**130 SB ; 160 SB 070 HB ; 090 HB**	**060 ... 160**	**080 SB ... 190 SB**	**130 SB ... 190 SB 080 HB ; 105 HB**			**020 HB ... 040 HB**

TQ
KOAXIALE PRÄZISIONSPLANETENGETRIEBE

Die TQ Getriebe stehen an der Spitze des Produktportfolios. Ob Drehmoment, Steifigkeit oder Präzision – diese attraktive Produktreihe punktet in jeder Kategorie.



Produktmerkmale:
- Höchste Drehmomentdichte
- Höchstes Beschleunigungs- und Nenndrehmoment
- Höchste radiale und axiale Belastbarkeit
- Entwickelt für Zyklus- und Dauerbetrieb
- Höchste Verdrehsteifigkeit
- Niedriges Verdrehflankenspiel – unter 2 arcmin
- Laufruhig
- Einsetzbar in beliebiger Montageaposition



2 EIGENSCHAFTEN DER TQ-REIHE

TQ

Die spielarmen Planetengetriebe der TQ-Reihe vereinen herausragendes Leistungsverhalten mit charakteristischem italienischen Design, das sie von ähnlichen Produkten in der Branche unterscheidet.
Entwicklung und Konstruktion folgten dem Ziel eine Produktreihe mit uneingeschränkter und konstanter Qualität bereitzustellen, die den Wettbewerbsvorteil beim Einsatz in Ihren Maschinen und Systemen darstellt.

- Die TQ-Reihe hat zwei Präzisionsklassen, mit diesem Verdrehflankenspiel:
  1-stufige Getriebe: standard $\varphi_S \leq 3'$ reduziert $\varphi_R \leq 2'$ ($\varphi_S \leq 4'$; $\varphi_R \leq 2'$ for TQ 060 and TQ 070)
  2-stufige Getriebe: standard $\varphi_S \leq 5'$ reduziert $\varphi_R \leq 3'$ ($\varphi_S \leq 6'$; $\varphi_R \leq 4'$ for TQ 060 and TQ 070)
- Eine hohe IP-Schutzklasse (IP65) sorgt dafür, dass innenliegende Teile vor Staub- und Flüssigkeitseintritt geschützt sind.
- Serienmäßige Fluorelastomer-Wellendichtungen an der Eingangswelle
- Schalldruckpegel 60 ≤ L_p ≤ 70 dB(A). Gemessen in 1 m Abstand ohne Last und bei einer Eingangsdrehzahl von n_1 = 3000 min^{-1}; i = 10.
- Große Auswahl an Motoradaptern sorgt für den Anschluss an die marktgängigsten Servomotoren. Große Auswahl an Motoradaptern sorgt für den Anschluss an die marktgängigsten Servomotoren. Große Auswahl an Motoradaptern sorgt für den Anschluss an die marktgängigsten Servomotoren.
- Schmierung optimiert für die gewünschte Betriebsart.
  Ohne Verunreinigung muss das Schmiermittel nicht regelmäßig gewechselt werden.

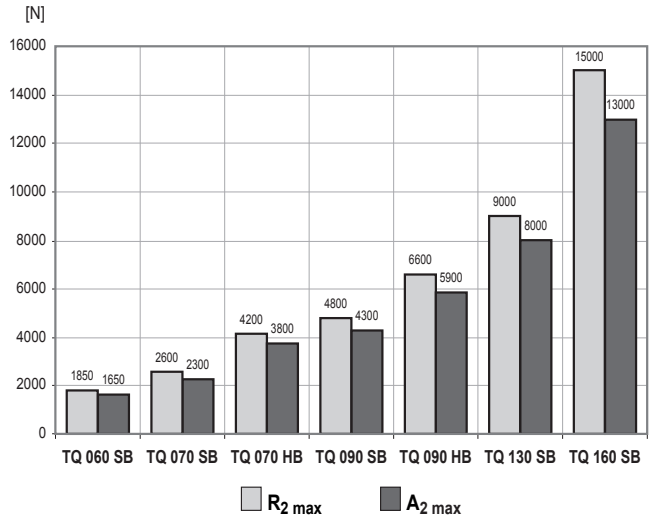
Betrieb	TQ 060 ... TQ 160	andere Dichtungen
S1 (kontinuierlich)	Synthetiköl Viskositätsklasse ISO VG 220	Fluoroelastomer
S5 (unterbrochen)	NLGI Fettkonsistenz 00	NBR

- Umgebungstemperatur min. -20°C, max. +30°C; bei Temperaturen höher als 30°C ist der Temperaturfaktor f_T zu berücksichtigen.
- Die Gehäusetemperatur darf T_{max} = 90°C nicht übersteigen.

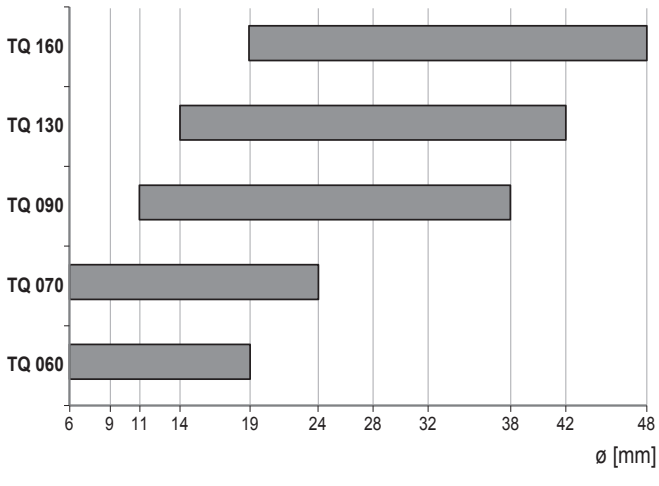
Übersicht der Nenndrehmomente M_{n2} [Nm]

[i]	3	4	5	7	10	16	20	25	28	35	40	50	70	100
TQ 060	21	30	30	25	20	30	30	30	30	30	30	30	25	20
TQ 070	45	70	70	60	40	70	70	70	70	70	70	70	60	40
TQ 090	130	200	180	160	110	200	180	180	200	180	200	180	160	110
TQ 130	260	400	400	360	280	400	400	400	400	400	400	400	360	280
TQ 160	530	800	800	750	550	800	800	800	800	800	800	800	750	550

Verfügbare Motorwellendurchmesser



Übersicht der Nenndrehmomente



2.1 BESTELLBEZEICHNUNG

TQ 130 1 3 STD 80A3 CD 19 S5 SB KL UH1

SCHMIERSTOFF
- **–** Standard
- **UH1** Lebensmitteltaugliches Schmiermittel

ABTRIEBSWELLENKONFIGURATION
- **KL** Glatte Welle ohne Passfeder
- **KE** Welle mit Passfeder

LAGER DER ABTRIEBSWELLE
- **SB** Standard
- **HB** Verstärkt (TQ 070 - TQ 090)

BETRIEBSART
- **S1** Dauerbetrieb
- **S5** Kurzzeitbetrieb

BOHRUNGSDURCHMESSER EINGANGSWELLE
- **6 ... 48**

MOTORKOPPLUNG
- **CD** Klemmnabe

ANTRIEBSFLANSCH
- **30A ... 230A** Motorflansch
- **FM** Ohne Motorflansch

VERDREHSPIEL

	1 Getriebestufe	1 Getriebestufe (nur TQ060, TQ070)	2 Getriebestufen	2 Getriebestufen (nur TQ060, TQ070)
STD	$\varphi_S \leq 3'$	$\varphi_S \leq 4'$	$\varphi_S \leq 5'$	$\varphi_S \leq 6'$
LOW	$\varphi_R \leq 2'$	$\varphi_R \leq 2'$	$\varphi_R \leq 3'$	$\varphi_R \leq 4'$

GETRIEBEÜBERSETZUNG

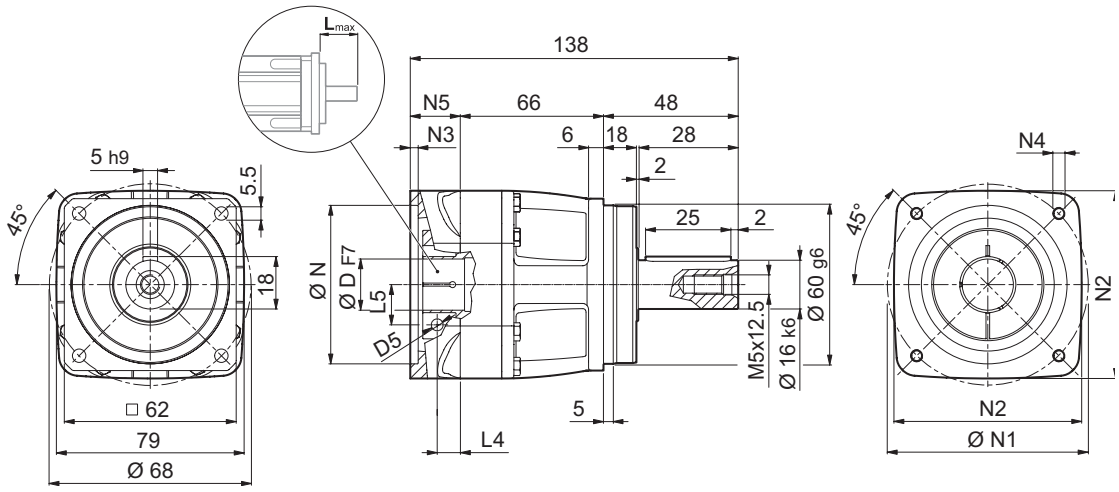
GETRIEBESTUFEN
- **1** **2**

BAUGRÖSSE
- **060** **070** **090** **130** **160**

REIHE
- **TQ**

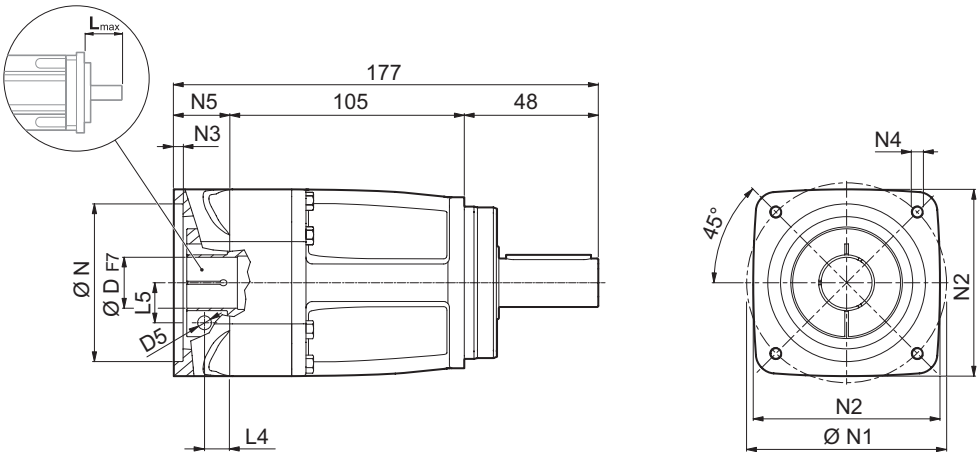
2.2 ABMESSUNGEN UND TECHNISCHE DATEN

TQ 060



	Kg
TQ 060 1	2.5

30A ... 110B0



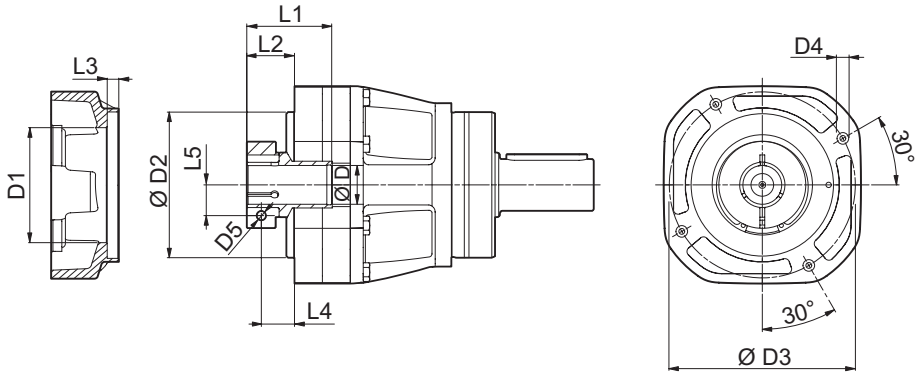
	Kg
TQ 060 2	3.5

	D					N	N1	N2	N3	N4	N5	L_{max}
30A	6	–	–	–	–	30	46	60	3.5	M4x10	24	40
40B1	6	9	11	14	–	40	63	60	3.5	M4x10	24	40
50A1	6	9	11	14	–	50	60	60	4.0	M4x10	24	40
50C1	6	9	11	14	–	50	70	60	4.0	M4x10	24	40
60A2	6	9	11	14	19	60	75	80	4.0	M5x12	24	40
70B1	6	9	11	14	19	70	90	80	4.0	M5x12	24	40
80A1	6	9	11	14	19	80	100	100	4.0	M6x14	24	40
95A	6	9	11	14	19	95	115	100	4.0	M8x24	24	40
110B0	6	9	11	14	19	110	145	120	4.0	M8x24	24	40

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

TQ 060

FM

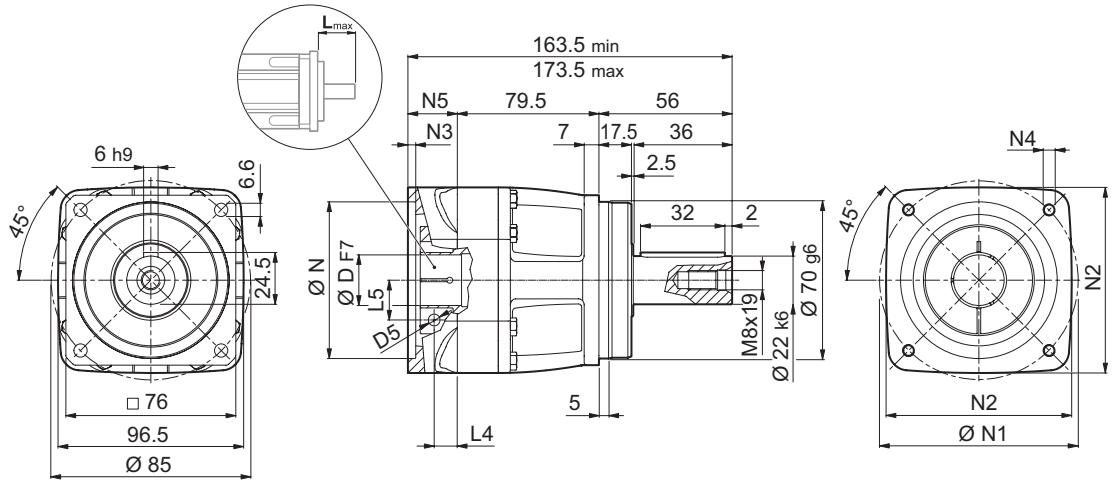


D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6	37	59	72	M5x11	M4	31.5	15.5	4.5	10.5	8
9	49	59	72	M5x11	M5	35	19	4.5	11.5	10.5
11	49	59	72	M5x11	M6	35	19	4.5	11.5	12.5
14	49	59	72	M5x11	M6	35	19	4.5	11.5	14.5
19	54	59	72	M5x11	M6	35	19	4.5	11.5	16.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min⁻¹]	$n_{1\,max}$ [min⁻¹]	φ_S ≤ [arcmin]	φ_R ≤ [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm²] D 6 - 9	11 - 14	19
TQ 060 1_3	21	32	60	3500	6000	4'	2'	4.8	1850	1650	97	0.36	0.47	0.51
TQ 060 1_4	30	45	80	3500	6000	4'	2'	4.8	1850	1650	97	0.28	0.39	0.43
TQ 060 1_5	30	45	80	3500	6000	4'	2'	4.8	1850	1650	97	0.25	0.36	0.40
TQ 060 1_7	25	38	70	4000	6000	4'	2'	4.8	1850	1650	97	0.22	0.33	0.37
TQ 060 1_10	20	30	55	4000	6000	4'	2'	4.8	1850	1650	97	0.21	0.32	0.36
TQ 060 2_16	30	45	80	4500	6000	6'	4'	4.7	1850	1650	94	0.27	0.39	0.42
TQ 060 2_20	30	45	80	4500	6000	6'	4'	4.7	1850	1650	94	0.27	0.39	0.42
TQ 060 2_25	30	45	80	4500	6000	6'	4'	4.7	1850	1650	94	0.24	0.36	0.39
TQ 060 2_28	30	45	80	4500	6000	6'	4'	4.7	1850	1650	94	0.22	0.33	0.37
TQ 060 2_35	30	45	80	4500	6000	6'	4'	4.7	1850	1650	94	0.22	0.33	0.37
TQ 060 2_40	30	45	80	4500	6000	6'	4'	4.7	1850	1650	94	0.21	0.32	0.36
TQ 060 2_50	30	45	80	4500	6000	6'	4'	4.7	1850	1650	94	0.21	0.32	0.36
TQ 060 2_70	25	38	70	5000	6000	6'	4'	4.7	1850	1650	94	0.21	0.32	0.36
TQ 060 2_100	20	30	55	5000	6000	6'	4'	4.7	1850	1650	94	0.20	0.32	0.35

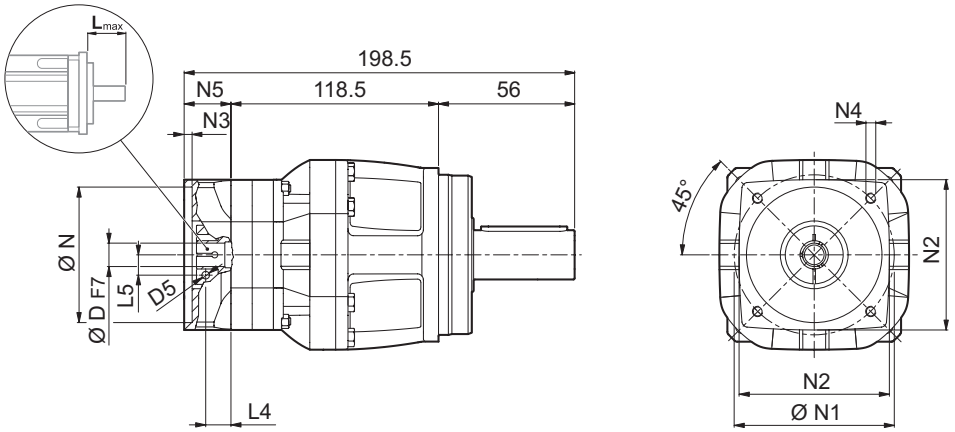
TQ 070

50C ... 130A



	Kg
TQ 070 1	3.6

30A ... 110B0



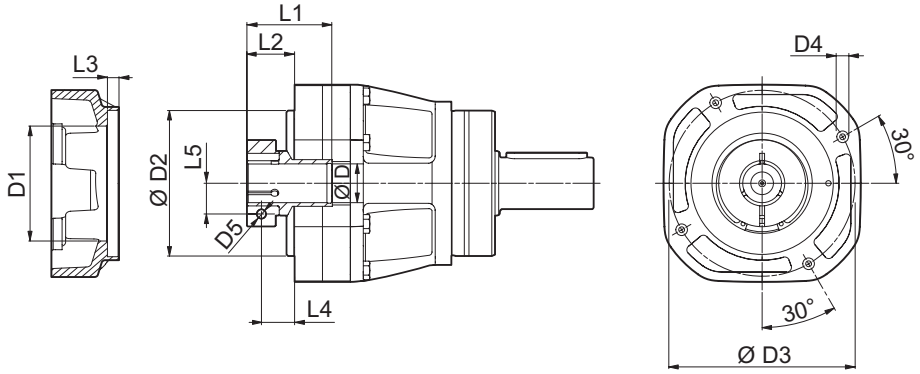
	Kg
TQ 070 2	5.0

	D						N	N1	N2	N3	N4	N5	L_{max}
TQ 070 1													
50C2	6	9	11	14	–	–	50	70	80	6.5	M4x12	28	50
60A3	6	9	11	14	19	–	60	75	80	6.5	M5x14	28	50
70B2	6	9	11	14	19	–	70	90	80	6.5	M5x14	28	50
80A2	6	9	11	14	19	–	80	100	100	6.5	M6x14	28	50
95A1	6	9	11	14	19	24	95	115	100	6.5	M8x18	28	50
110A1	6	9	11	14	19	24	110	130	120	6.5	M8x18	28	50
110B1	6	9	11	14	19	24	110	145	120	6.5	M8x20	38	60
130A	6	9	11	14	19	24	130	165	140	6.5	M10x19	28	50
TQ 070 2													
30A	6	–	–	–	–	–	30	46	60	3.5	M4x10	24	40
40B1	6	9	11	14	–	–	40	63	60	3.5	M4x10	24	40
50A1	6	9	11	14	–	–	50	60	60	4.0	M4x10	24	40
50C1	6	9	11	14	–	–	50	70	60	4.0	M4x10	24	40
60A2	6	9	11	14	19	–	60	75	80	4.0	M5x12	24	40
70B1	6	9	11	14	19	–	70	90	80	4.0	M5x12	24	40
80A1	6	9	11	14	19	–	80	100	100	4.0	M6x14	24	40
95A	6	9	11	14	19	–	95	115	100	4.0	M8x24	24	40
110B0	6	9	11	14	19	–	110	145	120	4.0	M8x24	24	40

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

TQ 070

FM

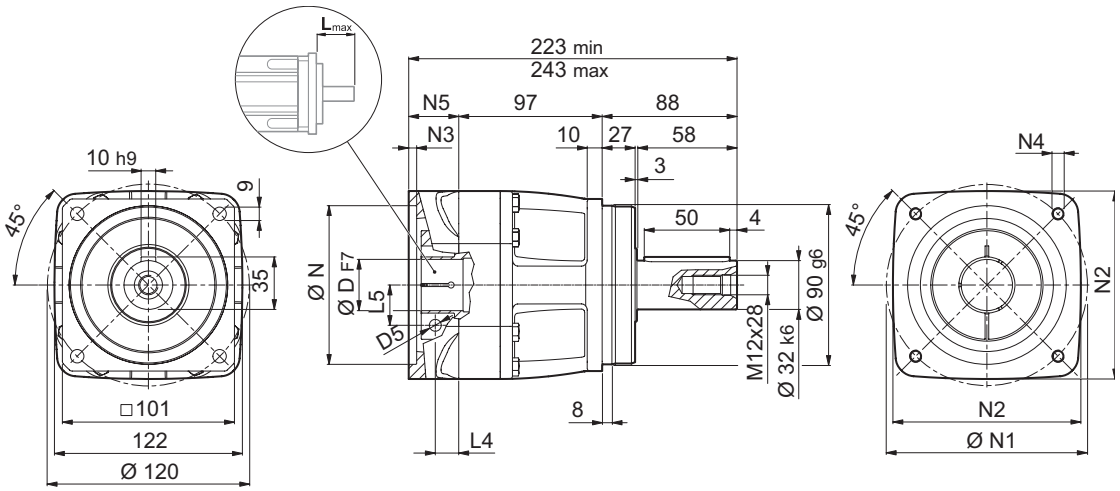


D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
TQ 070 1										
6	51	70	85	M6x11	M4	42	20	5	12.5	12.5
9	51	70	85	M6x11	M5	42	20	5	12.5	14.5
11	51	70	85	M6x11	M6	42	20	5	12.5	12.5
14	51	70	85	M6x11	M6	42	20	5	12.5	14.5
19	51	70	85	M6x11	M6	42	20	5	12.5	16.5
24	60	70	85	M6x11	M6	43.5	21.5	5	12.5	19
TQ 070 2										
6	37	59	72	M5x11	M4	31.5	15.5	4.5	10.5	8
9	49	59	72	M5x11	M5	35	19	4.5	11.5	10.5
11	49	59	72	M5x11	M6	35	19	4.5	11.5	12.5
14	49	59	72	M5x11	M6	35	19	4.5	11.5	14.5
19	54	59	72	M5x11	M6	35	19	4.5	11.5	16.5

	$M_{n\,2}$	$M_{a\,2}$	$M_{p\,2}$	n_1	$n_{1\,max}$	φ_S ≤	φ_R ≤	C_t	SB $R_{2\,max}$	SB $A_{2\,max}$	HB $R_{2\,max}$	HB $A_{2\,max}$	η	J_G [kgcm²] D			
i	[Nm]	[Nm]	[Nm]	[min⁻¹]	[min⁻¹]	[arcmin]		[Nm/arcmin]	[N]	[N]	[N]	[N]	%	6 - 9	11 - 14	19	24
TQ 070 1_3	45	65	120	3000	6000	4'	2'	11.3	2600	2300	4200	3800	97	–	0.99	1.02	1.15
TQ 070 1_4	70	100	180	3000	6000	4'	2'	11.3	2600	2300	4200	3800	97	–	0.76	0.79	0.92
TQ 070 1_5	70	100	180	3000	6000	4'	2'	11.3	2600	2300	4200	3800	97	–	0.67	0.70	0.83
TQ 070 1_7	60	90	160	3500	6000	4'	2'	11.3	2600	2300	4200	3800	97	–	0.59	0.62	0.75
TQ 070 1_10	40	60	110	3500	6000	4'	2'	11.3	2600	2300	4200	3800	97	–	0.55	0.58	0.71
TQ 070 2_16	70	100	180	3500	6000	6'	4'	11.3	2600	2300	4200	3800	94	0.28	0.40	0.43	–
TQ 070 2_20	70	100	180	3500	6000	6'	4'	11.3	2600	2300	4200	3800	94	0.28	0.39	0.43	–
TQ 070 2_25	70	100	180	3500	6000	6'	4'	11.3	2600	2300	4200	3800	94	0.25	0.36	0.40	–
TQ 070 2_28	70	100	180	3500	6000	6'	4'	11.3	2600	2300	4200	3800	94	0.22	0.34	0.37	–
TQ 070 2_35	70	100	180	3500	6000	6'	4'	11.3	2600	2300	4200	3800	94	0.22	0.34	0.37	–
TQ 070 2_40	70	100	180	3500	6000	6'	4'	11.3	2600	2300	4200	3800	94	0.21	0.32	0.36	–
TQ 070 2_50	70	100	180	3500	6000	6'	4'	11.3	2600	2300	4200	3800	94	0.21	0.32	0.36	–
TQ 070 2_70	60	90	160	4000	6000	6'	4'	11.3	2600	2300	4200	3800	94	0.21	0.32	0.36	–
TQ 070 2_100	40	60	110	4500	6000	6'	4'	11.3	2600	2300	4200	3800	94	0.21	0.32	0.36	–

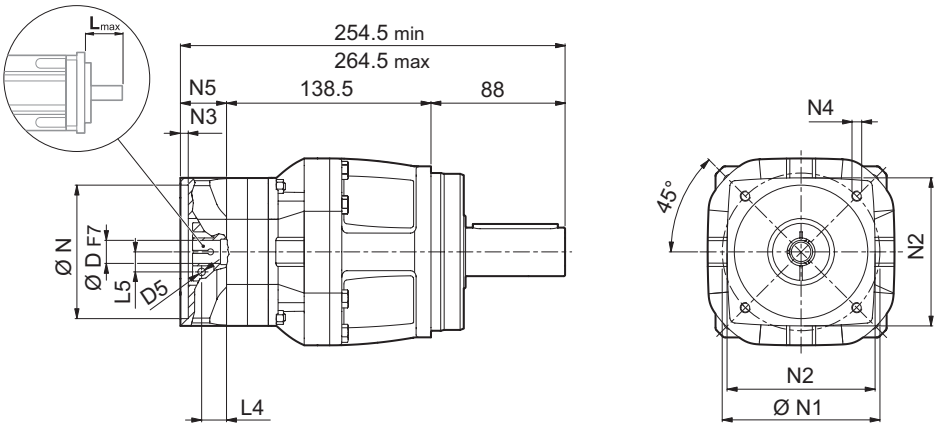
TQ 090

60A4 ... 180A1



	Kg
TQ 090 1	7.6

50C2 ... 130A



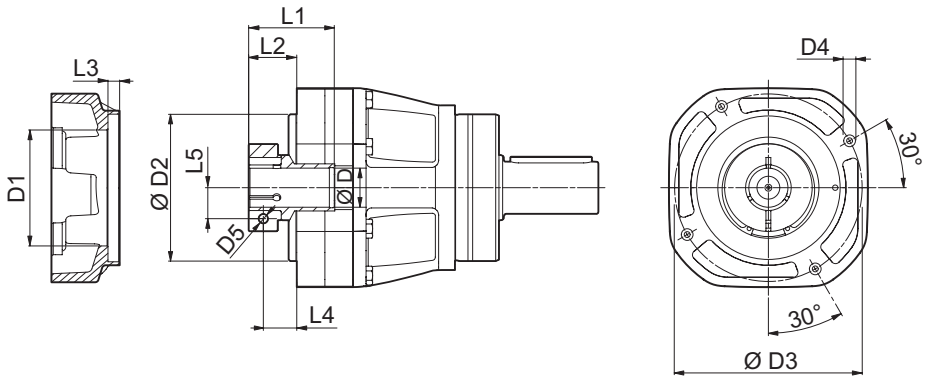
	Kg
TQ 090 2	8.9

	D							N	N1	N2	N3	N4	N5	L_{max}
TQ 090 1														
60A4	11	14	19	–	–	–	–	60	75	100	6.5	M5x14	38	60
80A3	11	14	19	–	–	–	–	80	100	100	6.5	M6x14	38	60
95A2	11	14	19	24	28	–	–	95	115	100	6.5	M8x18	38	60
110A2	11	14	19	24	–	–	–	110	130	122	6.5	M8x20	38	60
110B1	11	14	19	24	28	–	–	110	145	122	6.5	M8x20	38	60
130A1	11	14	19	24	28	32	–	130	165	140	6.5	M10x20	38	60
180A	11	14	19	24	28	32	–	180	215	190	6.5	M14x38	38	60
180A1	11	14	19	24	28	32	38	180	215	190	6.5	M14x28	58	80
TQ 090 2														
50C2	11	14	–	–	–	–	–	50	70	80	6.5	M4x12	28	50
60A3	11	14	19	–	–	–	–	60	75	80	6.5	M5x14	28	50
70B2	11	14	19	–	–	–	–	70	90	80	6.5	M5x14	28	50
80A2	11	14	19	–	–	–	–	80	100	100	6.5	M6x14	28	50
95A1	11	14	19	24	–	–	–	95	115	100	6.5	M8x18	28	50
110A1	11	14	19	24	–	–	–	110	130	120	6.5	M8x18	28	50
110B1	11	14	19	24	–	–	–	110	145	120	6.5	M8x20	38	60
130A	11	14	19	24	–	–	–	130	165	140	6.5	M10x19	28	50

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

TQ 090

FM

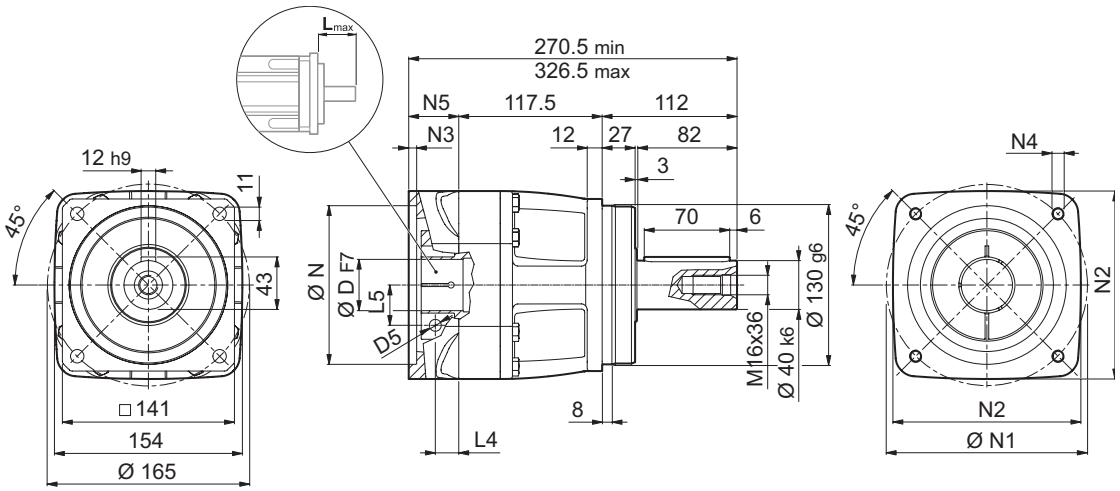


D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
TQ 090 1										
11	51	90	115	M8x13	M6	50	28	6.5	20.5	14.5
14	51	90	115	M8x13	M6	50	28	6.5	20.5	14.5
19	51	90	115	M8x13	M6	50	28	6.5	20.5	16.5
24	60	90	115	M8x13	M6	51.5	29.5	6.5	20.5	19
28	72	90	115	M8x13	M8	51.5	29.5	6.5	20.5	22.5
32	72	90	115	M8x13	M8	51.5	29.5	6.5	20.5	24.5
38	80	90	115	M8x13	M8	51.5	29.5	6.5	20.5	28
TQ 090 2										
6	51	70	85	M6x11	M4	42	20	5	12.5	12.5
9	51	70	85	M6x11	M5	42	20	5	12.5	14.5
11	51	70	85	M6x11	M6	42	20	5	12.5	12.5
14	51	70	85	M6x11	M6	42	20	5	12.5	14.5
19	51	70	85	M6x11	M6	42	20	5	12.5	16.5
24	60	70	85	M6x11	M6	43.5	21.5	5	12.5	19

	M_{n2}	M_{a2}	M_{p2}	n_1	$n_{1\,max}$	φ_S ≤	φ_R ≤	C_t	SB $R_{2\,max}$	SB $A_{2\,max}$	HB $R_{2\,max}$	HB $A_{2\,max}$	η	J_G [kgcm²] D				
i	[Nm]	[Nm]	[Nm]	[min⁻¹]	[min⁻¹]	[arcmin]		[Nm/arcmin]	[N]	[N]	[N]	[N]	%	11	14 - 19	24	28	32-38
TQ 090 1_3	130	200	400	2500	4500	3'	2'	28	4800	4300	6600	5900	97	–	2.18	2.30	2.69	4.48
TQ 090 1_4	200	300	500	2500	4500	3'	2'	28	4800	4300	6600	5900	97	–	1.63	1.75	2.14	3.93
TQ 090 1_5	180	280	500	2500	4500	3'	2'	28	4800	4300	6600	5900	97	–	1.39	1.52	1.90	3.70
TQ 090 1_7	160	250	500	3000	4500	3'	2'	28	4800	4300	6600	5900	97	–	1.19	1.32	1.70	3.50
TQ 090 1_10	110	170	350	3000	4500	3'	2'	28	4800	4300	6600	5900	97	–	1.08	1.21	1.59	3.39
TQ 090 2_16	200	300	500	3000	4500	5'	3'	28	4800	4300	6600	5900	94	0.70	0.80	0.94	–	–
TQ 090 2_20	180	280	500	3000	4500	5'	3'	28	4800	4300	6600	5900	94	0.69	0.79	0.92	–	–
TQ 090 2_25	180	280	500	3000	4500	5'	3'	28	4800	4300	6600	5900	94	0.60	0.70	0.83	–	–
TQ 090 2_28	200	300	500	3000	4500	5'	3'	28	4800	4300	6600	5900	94	0.53	0.63	0.76	–	–
TQ 090 2_35	180	280	500	3000	4500	5'	3'	28	4800	4300	6600	5900	94	0.52	0.62	0.75	–	–
TQ 090 2_40	200	300	500	3000	4500	5'	3'	28	4800	4300	6600	5900	94	0.48	0.58	0.71	–	–
TQ 090 2_50	180	280	500	3500	4500	5'	3'	28	4800	4300	6600	5900	94	0.48	0.58	0.71	–	–
TQ 090 2_70	160	250	500	4000	4500	5'	3'	28	4800	4300	6600	5900	94	0.48	0.58	0.71	–	–
TQ 090 2_100	110	170	350	4000	4500	5'	3'	28	4800	4300	6600	5900	94	0.48	0.58	0.71	–	–

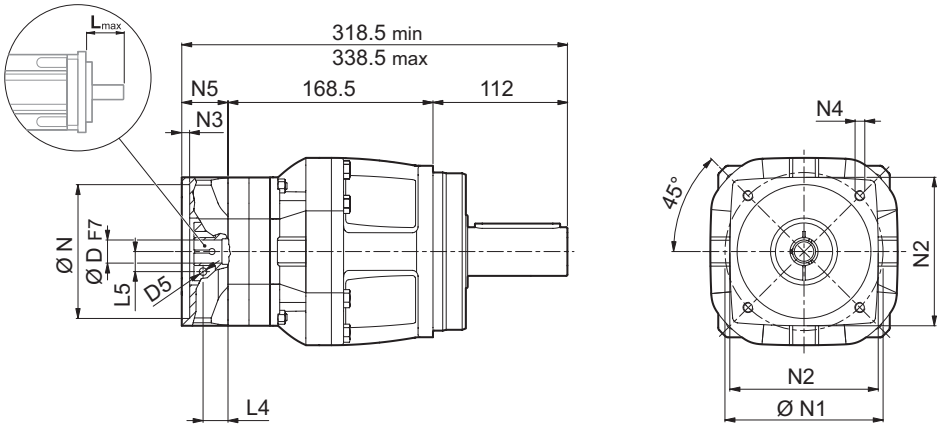
TQ 130

80A3 ... 200A



	Kg
TQ 130 1	15.6

60A4 ... 180A1



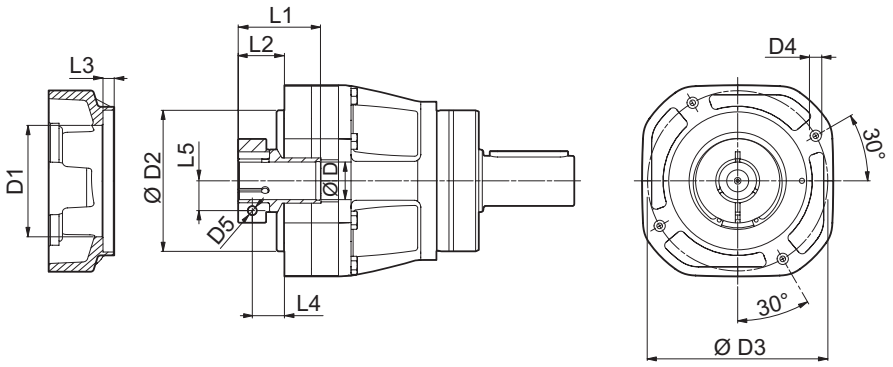
	Kg
TQ 130 2	19.1

	D							N	N1	N2	N3	N4	N5	L_{max}
TQ 130 1														
80A3	14	19	–	–	–	–	–	80	100	130	6.5	M6x14	41	60
95A2	14	19	24	28	–	–	–	95	115	130	6.5	M8x18	41	60
110A2	14	19	24	–	–	–	–	110	130	130	6.5	M8x20	41	60
110B1	14	19	24	28	–	–	–	110	145	130	6.5	M8x20	41	60
130A1	14	19	24	28	32	–	–	130	165	154	6.5	M10x20	41	60
180A	14	19	24	28	32	–	–	180	215	190	6.5	M14x28	41	60
180A1	14	19	24	28	32	38	–	180	215	190	6.5	M14x28	61	80
200A	14	19	24	28	32	38	42	200	235	210	6.5	M14x28	97	110
TQ 130 2														
60A4	14	19	–	–	–	–	–	60	75	100	6.5	M5x14	38	60
80A3	14	19	–	–	–	–	–	80	100	100	6.5	M6x14	38	60
95A2	14	19	24	28	–	–	–	95	115	100	6.5	M8x18	38	60
110A2	14	19	24	–	–	–	–	110	130	122	6.5	M8x20	38	60
110B1	14	19	24	28	–	–	–	110	145	122	6.5	M8x20	38	60
130A1	14	19	24	28	32	–	–	130	165	140	6.5	M10x20	38	60
180A	14	19	24	28	32	–	–	180	215	190	6.5	M14x38	38	60
180A1	14	19	24	28	32	38	–	180	215	190	6.5	M14x28	58	80

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

TQ 130

FM

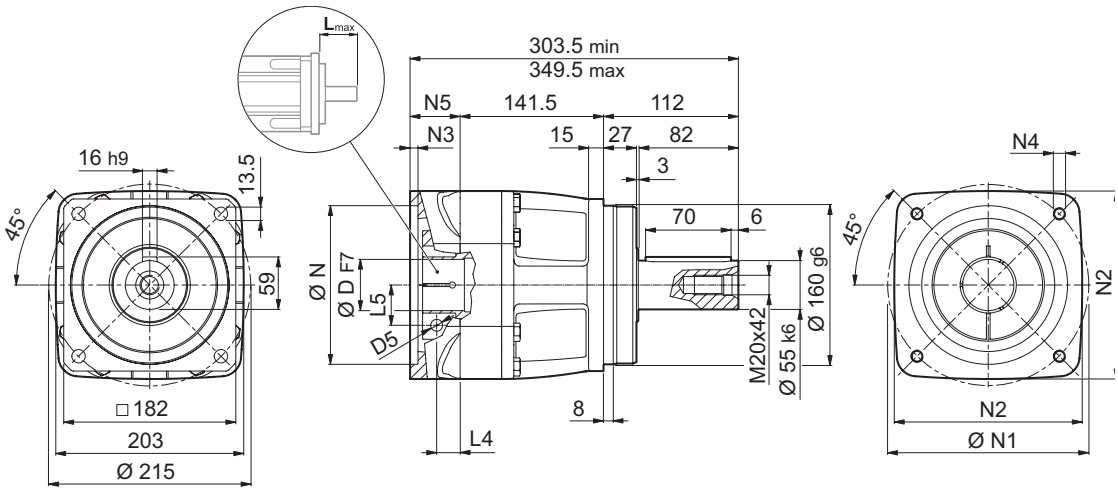


D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
TQ 130 1										
14	54	120	140	M10x16	M6	50	31	7.5	23.5	16.5
19	54	120	140	M10x16	M6	50	31	7.5	23.5	16.5
24	70	120	140	M10x16	M6	51.5	32.5	7.5	23.5	19
28	70	120	140	M10x16	M8	51.5	32.5	7.5	23.5	22.5
32	72	120	140	M10x16	M8	51.5	32.5	7.5	23.5	24.5
38	100	120	140	M10x16	M8	54	35	7.5	23.5	28
42	114	120	140	M10x16	M10	51.5	38.5	7.5	23.5	33
TQ 130 2										
11	51	90	115	M8x13	M6	50	28	6.5	20.5	14.5
14	51	90	115	M8x13	M6	50	28	6.5	20.5	14.5
19	51	90	115	M8x13	M6	50	28	6.5	20.5	16.5
24	60	90	115	M8x13	M6	51.5	29.5	6.5	20.5	19
28	72	90	115	M8x13	M8	51.5	29.5	6.5	20.5	22.5
32	72	90	115	M8x13	M8	51.5	29.5	6.5	20.5	24.5
38	80	90	115	M8x13	M8	51.5	29.5	6.5	20.5	28

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S ≤ [arcmin]	φ_R ≤ [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 14	19 - 24	28 - 32	38	42
TQ 130 1_3	260	400	900	2100	4000	3'	2'	59	9000	8000	97	–	10.02	10.48	11.12	17.12
TQ 130 1_4	400	600	1000	2100	4000	3'	2'	59	9000	8000	97	–	6.38	6.85	7.49	13.49
TQ 130 1_5	400	600	1000	2500	4000	3'	2'	59	9000	8000	97	–	5.01	5.47	6.11	12.11
TQ 130 1_7	360	550	950	2500	4000	3'	2'	59	9000	8000	97	–	3.82	4.28	4.93	10.93
TQ 130 1_10	280	420	900	2500	4000	3'	2'	59	9000	8000	97	–	3.15	3.61	4.25	10.25
TQ 130 2_16	400	600	1000	2800	4000	5'	3'	58	9000	8000	94	1.72	1.87	3.53	4.05	–
TQ 130 2_20	400	600	1000	2800	4000	5'	3'	58	9000	8000	94	1.64	1.80	3.46	3.98	–
TQ 130 2_25	400	600	1000	2800	4000	5'	3'	58	9000	8000	94	1.39	1.55	3.21	3.73	–
TQ 130 2_28	400	600	1000	2800	4000	5'	3'	58	9000	8000	94	1.20	1.36	3.02	3.54	–
TQ 130 2_35	400	600	1000	2800	4000	5'	3'	58	9000	8000	94	1.17	1.33	2.99	3.51	–
TQ 130 2_40	400	600	1000	3200	4000	5'	3'	58	9000	8000	94	1.07	1.23	2.89	3.41	–
TQ 130 2_50	400	600	1000	3200	4000	5'	3'	58	9000	8000	94	1.06	1.21	2.87	3.39	–
TQ 130 2_70	360	550	950	3500	4000	5'	3'	58	9000	8000	94	1.05	1.20	2.86	3.38	–
TQ 130 2_100	280	420	900	4000	4000	5'	3'	58	9000	8000	94	1.04	1.20	2.86	3.38	–

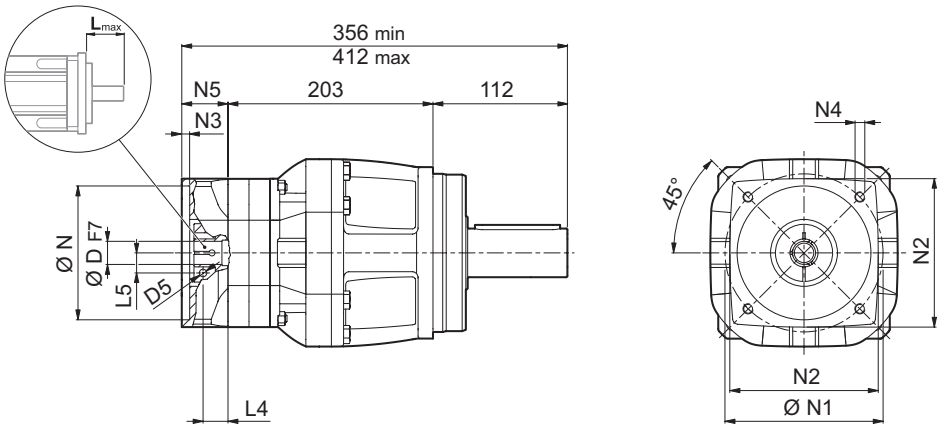
TQ 160

95A2 ... 230A



	Kg
TQ 160 1	29.7

80A3 ... 200A



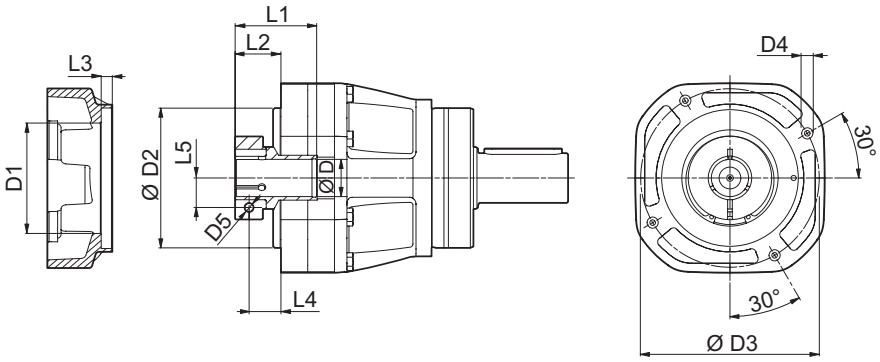
	Kg
TQ 160 2	37.4

	D							N	N1	N2	N3	N4	N5	L_{max}
TQ 160 1														
95A2	19	24	28	–	–	–	–	95	115	158	6.5	M8x20	50	60
110A2	19	24	–	–	–	–	–	110	130	158	6.5	M8x20	50	60
130A1	19	24	28	32	–	–	–	130	165	158	6.5	M10x20	50	60
180A	19	24	28	32	–	–	–	180	215	203	6.5	M14x28	50	60
180A1	19	24	28	32	38	–	–	180	215	205	6.5	M14x28	60	80
200A	19	24	28	32	38	42	48	200	235	220	6.5	M14x28	96	110
230A	19	24	28	32	38	42	48	230	265	240	6.5	M14x28	96	110
TQ 160 2														
80A3	19	–	–	–	–	–	–	80	100	130	6.5	M6x14	41	60
95A2	19	24	28	–	–	–	–	95	115	130	6.5	M8x18	41	60
110A2	19	24	–	–	–	–	–	110	130	130	6.5	M8x20	41	60
110B1	19	24	28	–	–	–	–	110	145	130	6.5	M8x20	41	60
130A1	19	24	28	32	–	–	–	130	165	154	6.5	M10x20	41	60
180A	19	24	28	32	–	–	–	180	215	190	6.5	M14x28	41	60
180A1	19	24	28	32	38	–	–	180	215	190	6.5	M14x28	61	80
200A	19	24	28	32	38	42	–	200	235	210	6.5	M14x28	97	110

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

TQ 160

FM

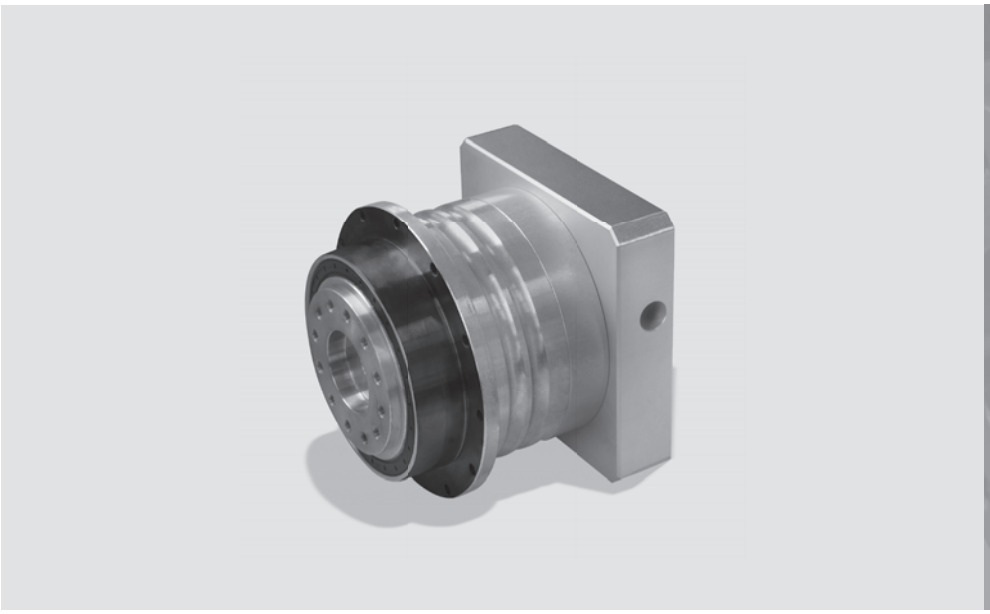


D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
TQ 160 1										
19	58	150	175	M12x20	M6	47	37	9.5	28	19
24	58	150	175	M12x20	M6	47	37	9.5	28	19
28	70	150	175	M12x20	M8	47	37	9.5	28	22.5
32	72	150	175	M12x20	M8	47	37	9.5	28	24.5
38	100	150	175	M12x20	M8	59.5	39.5	9.5	28	28
42	114	150	175	M12x20	M10	57	43	9.5	28	33
48	125	150	175	M12x20	M12	57	43	9.5	28	36.5
TQ 160 2										
14	54	120	140	M10x16	M6	50	31	7.5	23.5	16.5
19	54	120	140	M10x16	M6	50	31	7.5	23.5	16.5
24	70	120	140	M10x16	M6	51.5	32.5	7.5	23.5	19
28	70	120	140	M10x16	M8	51.5	32.5	7.5	23.5	22.5
32	72	120	140	M10x16	M8	51.5	32.5	7.5	23.5	24.5
38	100	120	140	M10x16	M8	54	35	7.5	23.5	28
42	114	120	140	M10x16	M10	51.5	38.5	7.5	23.5	33

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min⁻¹]	$n_{1\,max}$ [min⁻¹]	φ_S ≤ [arcmin]	φ_R ≤ [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm²] D 19	24 - 28	32 - 38	42	48
TQ 160 1_3	530	800	1500	1500	3500	3'	2'	170	15000	13000	97	–	29.58	29.99	32.89	45.99
TQ 160 1_4	800	1200	2000	1500	3500	3'	2'	170	15000	13000	97	–	18.03	18.44	21.33	34.44
TQ 160 1_5	800	1200	2000	1800	3500	3'	2'	170	15000	13000	97	–	11.76	12.17	15.06	28.17
TQ 160 1_7	750	1150	2000	2500	3500	3'	2'	170	15000	13000	97	–	9.27	9.68	12.58	25.68
TQ 160 1_10	550	850	1600	2500	3500	3'	2'	170	15000	13000	97	–	7.05	7.46	10.35	23.46
TQ 160 2_16	800	1200	2000	2800	3500	5'	3'	170	15000	13000	94	6.52	7.05	7.77	13.77	–
TQ 160 2_20	800	1200	2000	2800	3500	5'	3'	170	15000	13000	94	6.16	6.69	7.41	13.41	–
TQ 160 2_25	800	1200	2000	2800	3500	5'	3'	170	15000	13000	94	4.81	5.34	6.06	12.06	–
TQ 160 2_28	800	1200	2000	2800	3500	5'	3'	170	15000	13000	94	3.77	4.30	5.02	11.02	–
TQ 160 2_35	800	1200	2000	2800	3500	5'	3'	170	15000	13000	94	3.65	4.18	4.90	10.90	–
TQ 160 2_40	800	1200	2000	2800	3500	5'	3'	170	15000	13000	94	3.05	3.57	4.30	10.30	–
TQ 160 2_50	800	1200	2000	2800	3500	5'	3'	170	15000	13000	94	2.99	3.52	4.24	10.24	–
TQ 160 2_70	750	1150	2000	3000	3500	5'	3'	170	15000	13000	94	2.97	3.50	4.22	10.22	–
TQ 160 2_100	550	850	1600	3000	3500	5'	3'	170	15000	13000	94	2.95	3.48	4.20	10.20	–

NEUE TQF-REIHE
KOAXIALE PRÄZISIONSPLANETENGETRIEBE MIT FLANSCHWELLE

Die TQF Getriebe stehen an der Spitze des Produktportfolios.
Ob Drehmoment, Steifigkeit oder Präzision – diese attraktive Produktreihe punktet in jeder Kategorie.



Produktmerkmale:
- Höchste Drehmomentdichte mit kompaktem Design
- Höchstes Beschleunigungs- und Nenndrehmoment
- Höchste radiale und axiale Belastbarkeit
- Höchstes Kippmoment und höchste Drehsteifigkeit
- Niedriges Verdrehflankenspiel – unter 3 arcmin
- Flanschwelle ähnlich EN ISO 9409
- Entwickelt für Zyklus- und Dauerbetrieb
- Höchste Verdrehsteifigkeit
- Laufruhig
- Einsetzbar in beliebiger Montageaposition

3 EIGENSCHAFTEN DER NEUEN TQF-REIHE

Die spielarmen Planetengetriebe der TQF-Reihe mit abtriebsseitiger Flanschwelle sind ideal für höchste Positioniergenauigkeit und dynamischen Zyklusbetrieb geeignet.
Entwicklung und Konstruktion folgten dem Ziel eine Produktreihe mit höchster Leistung, höchster Steifigkeit, geringem Spiel und kompaktheit zu schaffen.

- Die TQF-Reihe hat zwei Präzisionsklassen, mit diesem Verdrehflankenspiel:
  1-stufige Getriebe: standard $\varphi_S \leq 5'$ reduziert $\varphi_R \leq 3'$
  2-stufige Getriebe: standard $\varphi_S \leq 7'$ reduziert $\varphi_R \leq 5'$
- Eine hohe IP-Schutzklasse (IP65) sorgt dafür, dass innenliegende Teile vor Staub- und Flüssigkeitseintritt geschützt sind.
- Serienmäßige Fluorelastomer-Wellendichtungen an der Eingangswelle
- Schalldruckpegel 60 ≤ L_p ≤ 70 dB(A). Gemessen in 1 m Abstand ohne Last und bei einer Eingangsdrehzahl von n_1 = 3000 min^{-1}; i = 10.
- Große Auswahl an Motoradaptern sorgt für den Anschluss an die marktgängigsten Servomotoren.
- Schmierung optimiert für die gewünschte Betriebsart.
  Ohne Verunreinigung muss das Schmiermittel nicht regelmäßig gewechselt werden.

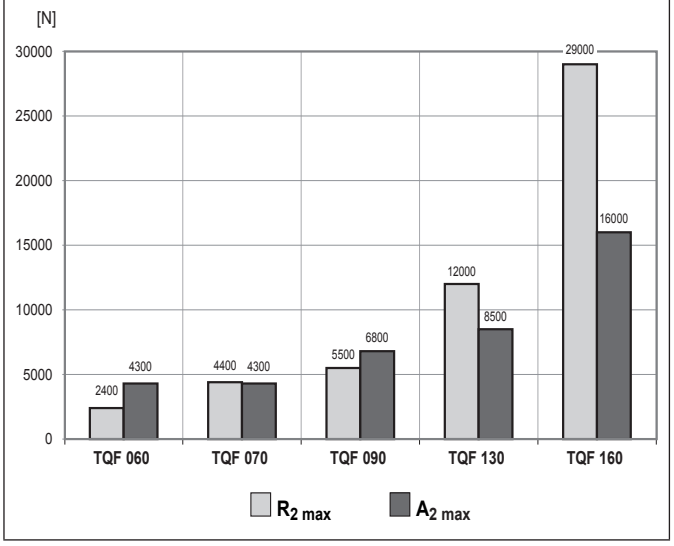
Betrieb	TQF 060 ... TQF 160	andere Dichtungen
S1 (kontinuierlich)	Synthetiköl Viskositätsklasse ISO VG 220	Fluoroelastomer
S5 (unterbrochen)	NLGI Fettkonsistenz 00	NBR

- Umgebungstemperatur min. -20°C, max. +30°C; bei Temperaturen höher als 30°C ist der Temperaturfaktor f_T zu berücksichtigen..
- Die Gehäusetemperatur darf T_{max} = 90°C nicht übersteigen.

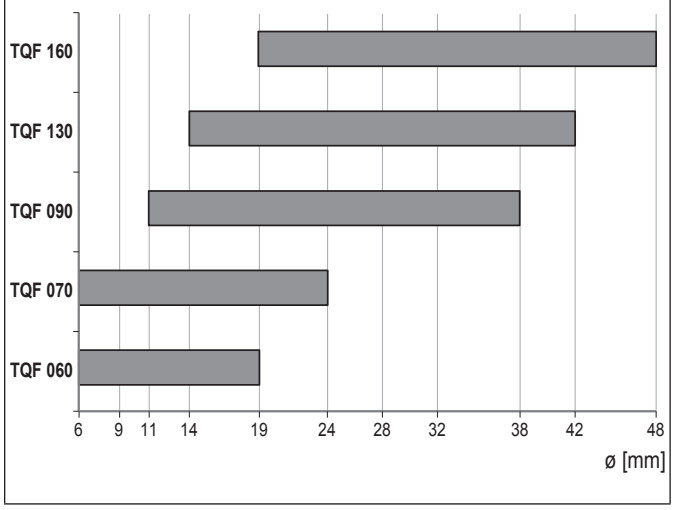
Übersicht der Nenndrehmomente M_{n2} [Nm]

[i]	4	5	7	10	16	20	25	28	35	40	50	70	100
TQF 060	30	30	25	20	30	30	30	30	30	30	30	25	20
TQF 070	70	70	60	40	70	70	70	70	70	70	70	60	40
TQF 090	200	180	160	110	200	180	180	200	180	200	180	160	110
TQF 130	400	400	360	280	400	400	400	400	400	400	400	360	280
TQF 160	800	800	750	550	800	800	800	800	800	800	800	750	550

Max. Belastbarkeit der Abtriebswelle



Verfügbare Motorwellendurchmesser



3.1 BESTELLBEZEICHNUNG

TQF 130 1 4 STD 80A3 CD 19 S5 UH1

SCHMIERSTOFF
- **–** Standard
- **UH1** Lebensmitteltaugliches Schmiermittel

BETRIEBSART
- **S1** Dauerbetrieb
- **S5** Kurzzeitbetrieb

BOHRUNGSDURCHMESSER EINGANGSWELLE
- **6 ... 38**

MOTORKOPPLUNG
- **CD** Klemmnabe

ANTRIEBSFLANSCH
- **40B1.. .180A1** Motorflansch
- **FM** Ohne Motorflansch

VERDREHSPIEL

	1 Getriebestufe	2 Getriebestufen
STD	$\varphi_S \leq 5'$	$\varphi_S \leq 7'$
LOW	$\varphi_R \leq 3'$	$\varphi_R \leq 5'$

GETRIEBEÜBERSETZUNG

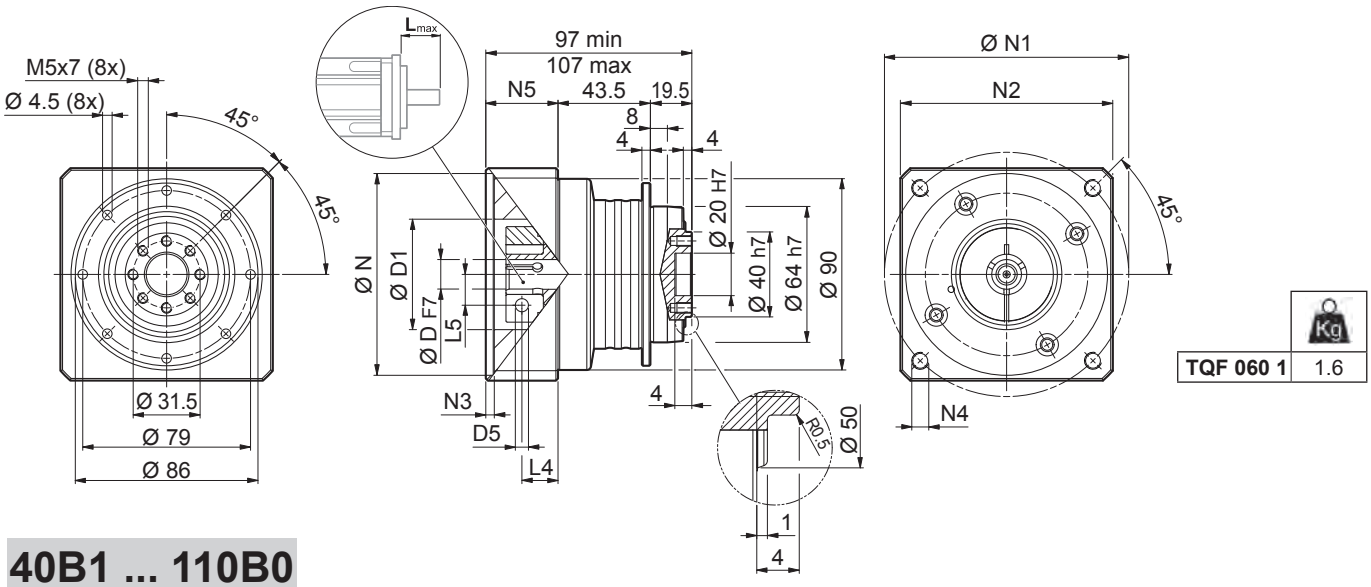
GETRIEBESTUFEN
- **1** **2**

BAUGRÖSSE
- **060** **070** **090** **130** **160**

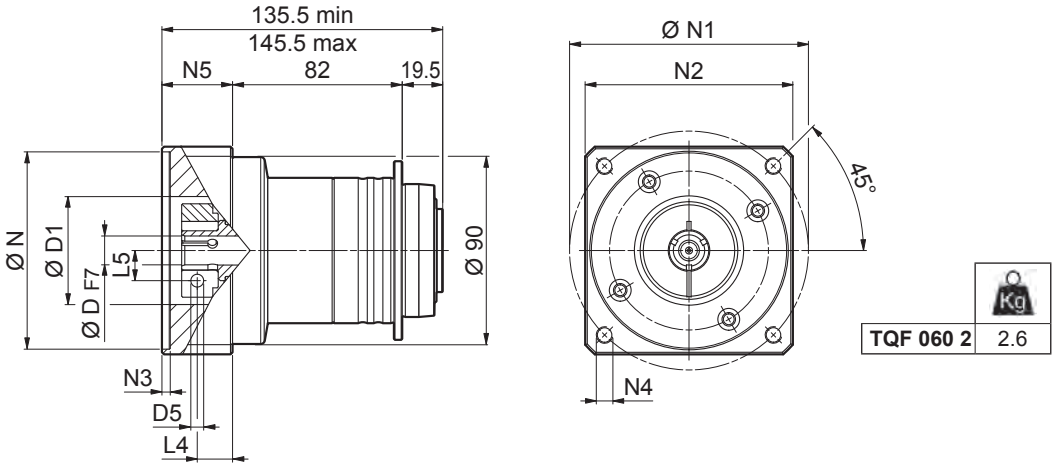
REIHE
- **TQF**

3.2 ABMESSUNGEN UND TECHNISCHE DATEN

TQF 060



40B1 ... 110B0

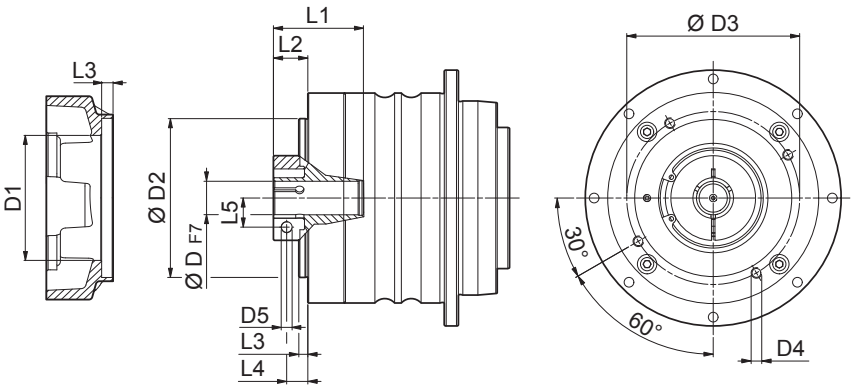


	D					N	N1	N2	N3	N4	N5	L_{max}
40B1	6	9	11	14	-	40	63	80	4	M4x12	34	40
50A1	6	9	11	14	-	50	60	80	4	M4x10	34	40
50C1	6	9	11	14	-	50	70	80	4	M4x10	34	40
60A2	6	9	11	14	19	60	75	80	4	M5x16	34	40
70B1	6	9	11	14	19	70	90	80	4	M5x16	34	40
80A1	6	9	11	14	19	80	100	90	4	M6x16	34	40
95A	6	9	11	14	19	95	115	100	6.5	M8x20	34	40
110B0	6	9	11	14	19	110	145	120	6.5	M8x20	44	40

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

TQF 060

FM

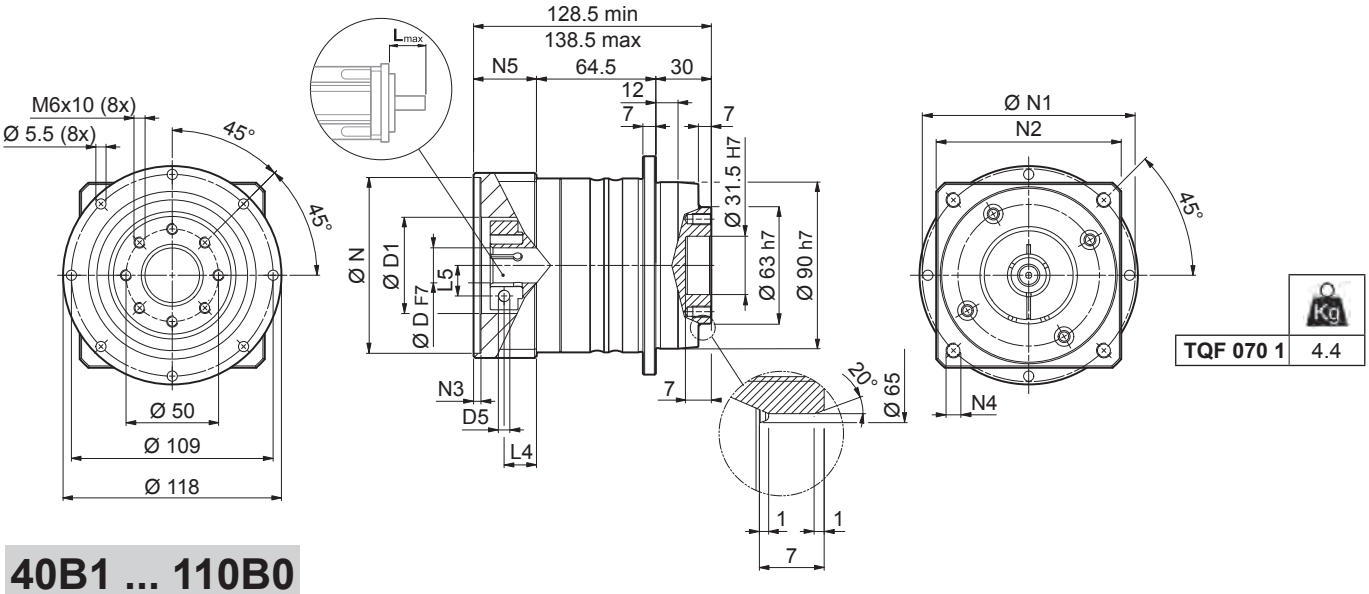


D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6	37	68	76.5	M6x12	M4	31.5	21.5	7.5	16	8
9	49	68	76.5	M6x12	M5	35	24.5	7.5	17	10.5
11	49	68	76.5	M6x12	M6	35	24.5	7.5	17	12.5
14	49	68	76.5	M6x12	M6	35	24.5	7.5	17	14.5
19	54	68	76.5	M6x12	M6	35	24.5	7.5	17	16.5

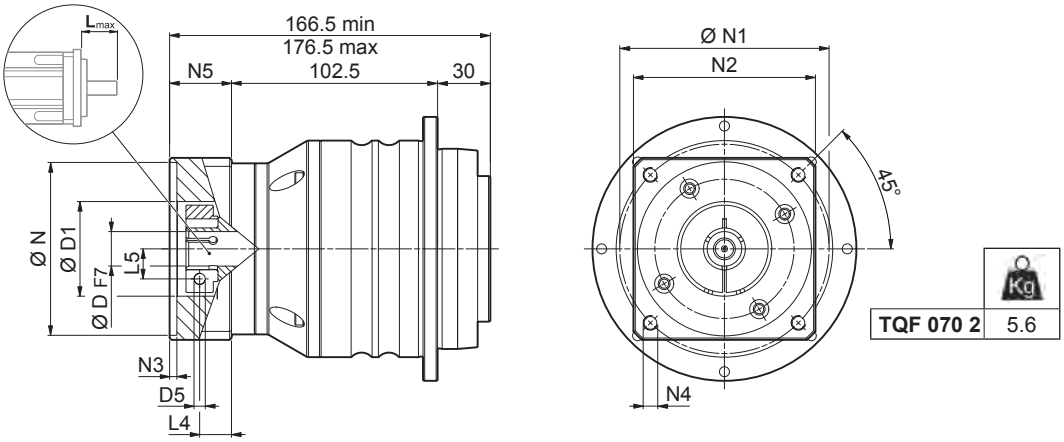
i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S ≤ [arcmin]	φ_R ≤ [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 6 - 9	11 - 14	19
TQF 060 1_4	30	45	80	3500	6000	5'	3'	12	2400	4300	97	0.32	0.43	0.47
TQF 060 1_5	30	45	80	3500	6000	5'	3'	12	2400	4300	97	0.27	0.39	0.42
TQF 060 1_7	25	38	70	4000	6000	5'	3'	12	2400	4300	97	0.23	0.35	0.38
TQF 060 1_10	20	30	55	4000	6000	5'	3'	12	2400	4300	97	0.21	0.33	0.36
TQF 060 2_16	30	45	80	4500	6000	7'	5'	12	2400	4300	94	0.28	0.39	0.43
TQF 060 2_20	30	45	80	4500	6000	7'	5'	12	2400	4300	94	0.27	0.39	0.42
TQF 060 2_25	30	45	80	4500	6000	7'	5'	12	2400	4300	94	0.25	0.36	0,40
TQF 060 2_28	30	45	80	4500	6000	7'	5'	12	2400	4300	94	0.22	0.34	0.37
TQF 060 2_35	30	45	80	4500	6000	7'	5'	12	2400	4300	94	0.22	0.33	0.37
TQF 060 2_40	30	45	80	4500	6000	7'	5'	12	2400	4300	94	0.21	0.32	0.36
TQF 060 2_50	30	45	80	4500	6000	7'	5'	12	2400	4300	94	0.21	0.32	0.36
TQF 060 2_70	25	38	70	5000	6000	7'	5'	12	2400	4300	94	0.21	0.32	0.36
TQF 060 2_100	20	30	55	5000	6000	7'	5'	12	2400	4300	94	0.21	0.32	0.36

TQF 070

50C2 ... 130A



40B1 ... 110B0

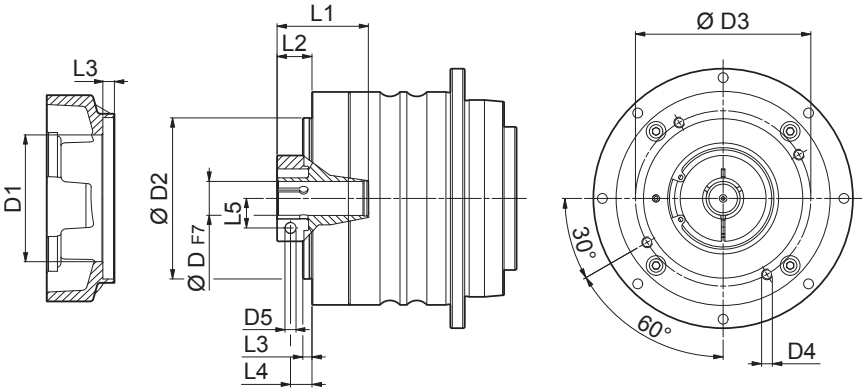


	D						N	N1	N2	N3	N4	N5	L_{max}
TQF 070 1													
50C2	6	9	11	14	-	-	50	70	80	4	M4x10	34	50
60A3	6	9	11	14	19	-	60	75	80	4	M5x16	34	50
70B2	6	9	11	14	19	-	70	90	80	4	M5x16	34	50
80A2	6	9	11	14	19	-	80	100	90	4	M6x16	34	50
95A1	6	9	11	14	19	24	95	115	100	6.5	M8x20	34	50
110A1	6	9	11	14	19	24	110	130	115	6.5	M8x20	34	50
110B1	6	9	11	14	19	24	110	145	120	6.5	M8x20	44	60
130A	6	9	11	14	19	24	130	165	140	6.5	M10x19	34	50
TQF 070 2													
40B1	6	9	11	14	-	-	40	63	80	4	M4x12	34	40
50A1	6	9	11	14	-	-	50	60	80	4	M4x10	34	40
50C1	6	9	11	14	-	-	50	70	80	4	M4x10	34	40
60A2	6	9	11	14	19	-	60	75	80	4	M5x16	34	40
70B1	6	9	11	14	19	-	70	90	80	4	M5x16	34	40
80A1	6	9	11	14	19	-	80	100	90	4	M6x16	34	40
95A	6	9	11	14	19	-	95	115	100	6.5	M8x20	34	40
110B0	6	9	11	14	19	-	110	145	120	6.5	M8x20	44	40

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

TQF 070

FM

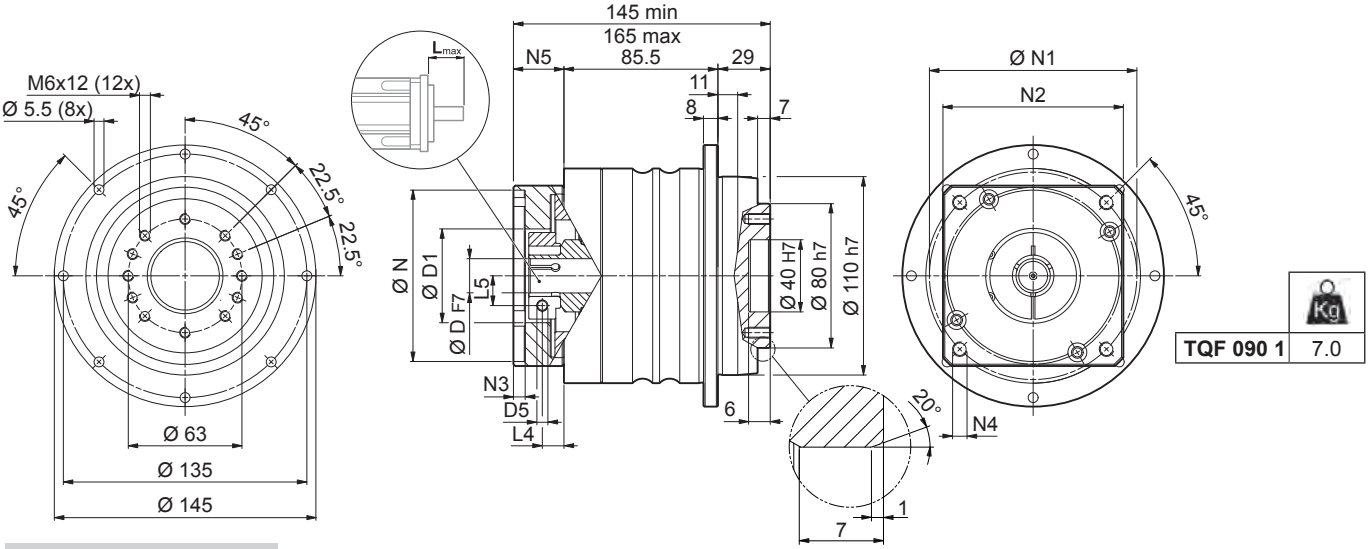


D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
TQF 070 1										
6	37	68	76.5	M6x14	M4	45	23	9	19	8
9	49	68	76.5	M6x14	M5	42	26	9	18.5	10.5
11	51	68	76.5	M6x14	M6	42	25	9	17.5	12.5
14	51	68	76.5	M6x14	M6	42	25	9	17.5	14.5
19	51	68	76.5	M6x14	M6	42	25	9	17.5	16.5
24	60	68	76.5	M6x14	M6	43.5	26.5	9	17.5	19
TQF 070 2										
6	37	68	76.5	M6x12	M4	31.5	21.5	7.5	16	8
9	49	68	76.5	M6x12	M5	35	24.5	7.5	17	10.5
11	49	68	76.5	M6x12	M6	35	24.5	7.5	17	12.5
14	49	68	76.5	M6x12	M6	35	24.5	7.5	17	14.5
19	54	68	76.5	M6x12	M6	35	24.5	7.5	17	16.5

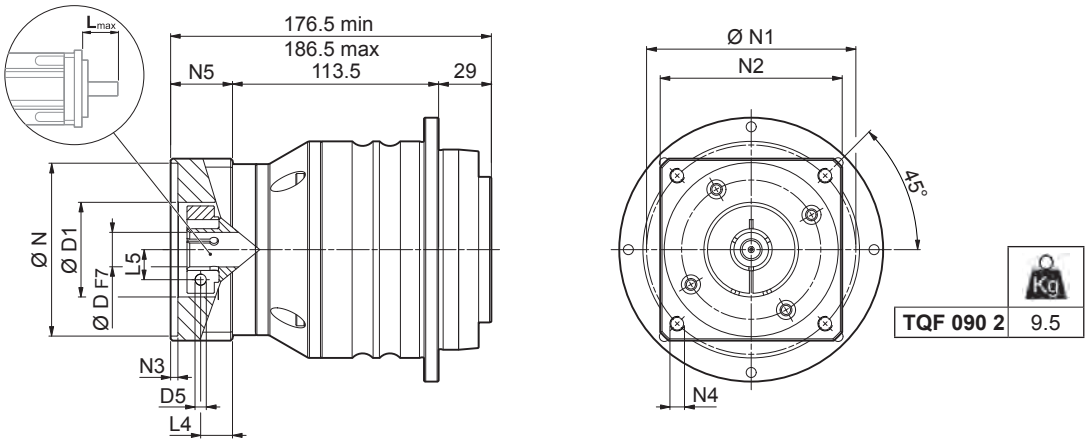
i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S ≤ [arcmin]	φ_R ≤ [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 6 - 9	11 - 14	19	24
TQF 070 1_4	70	100	180	3000	6000	5'	3'	29	4400	4300	97	-	1.05	1.09	1.22
TQF 070 1_5	70	100	180	3000	6000	5'	3'	29	4400	4300	97	-	0.85	0.88	1.01
TQF 070 1_7	60	90	160	3500	6000	5'	3'	29	4400	4300	97	-	0.68	0.71	0.85
TQF 070 1_10	40	60	110	3500	6000	5'	3'	29	4400	4300	97	-	0.59	0.62	0.75
TQF 070 2_16	70	100	180	3500	6000	7'	5'	29	4400	4300	94	0.31	0.43	0.46	-
TQF 070 2_20	70	100	180	3500	6000	7'	5'	29	4400	4300	94	0,30	0.41	0.45	-
TQF 070 2_25	70	100	180	3500	6000	7'	5'	29	4400	4300	94	0.26	0.37	0.41	-
TQF 070 2_28	70	100	180	3500	6000	7'	5'	29	4400	4300	94	0.23	0.35	0.38	-
TQF 070 2_35	70	100	180	3500	6000	7'	5'	29	4400	4300	94	0.23	0.34	0.38	-
TQF 070 2_40	70	100	180	3500	6000	7'	5'	29	4400	4300	94	0.21	0.33	0.36	-
TQF 070 2_50	70	100	180	3500	6000	7'	5'	29	4400	4300	94	0.21	0.32	0.36	-
TQF 070 2_70	60	90	160	4000	6000	7'	5'	29	4400	4300	94	0.21	0.32	0.36	-
TQF 070 2_100	40	60	110	4500	6000	7'	5'	29	4400	4300	94	0.21	0.32	0.36	-

TQF 090

60A4 ... 180A



50C2 ... 130A

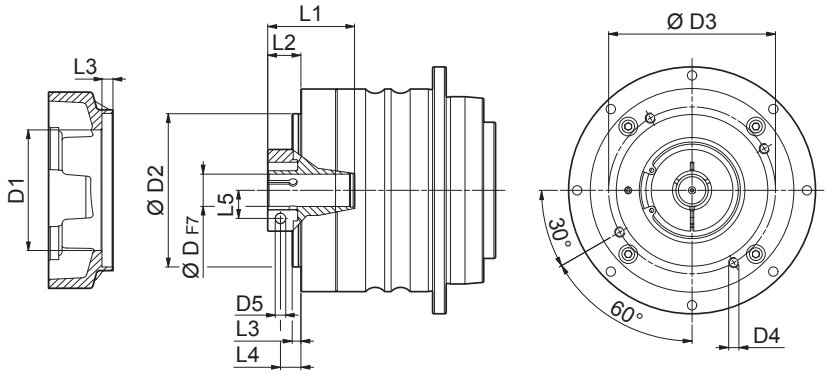


	D						N	N1	N2	N3	N4	N5	L_{max}
TQF 090 1													
60A4	11	14	19	-	-	-	60	75	100	6.5	M5x14	28	60
80A3	11	14	19	-	-	-	80	100	100	6.5	M6x16	28	60
95A2	11	14	19	24	28	-	95	115	100	6.5	M8x18	28	60
110A2	11	14	19	24	-	-	110	130	115	6.5	M8x18	28	60
110B1	11	14	19	24	28	-	110	145	120	6.5	M8x20	38	60
130A1	11	14	19	24	28	32	130	165	140	6.5	M10x25	38	60
180A	11	14	19	24	28	32	180	215	190	6.5	M14x28	48	80
TQF 090 2													
50C2	11	14	-	-	-	-	50	70	80	4	M4x10	34	50
60A3	11	14	19	-	-	-	60	75	80	4	M5x16	34	50
70B2	11	14	19	-	-	-	70	90	80	4	M5x16	34	50
80A2	11	14	19	-	-	-	80	100	90	4	M6x16	34	50
95A1	11	14	19	24	-	-	95	115	100	6.5	M8x20	34	50
110A1	11	14	19	24	-	-	110	130	115	6.5	M8x20	34	50
110B1	11	14	19	24	-	-	110	145	120	6.5	M8x20	44	60
130A	11	14	19	24	-	-	130	165	140	6.5	M10x19	34	50

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

TQF 090

FM

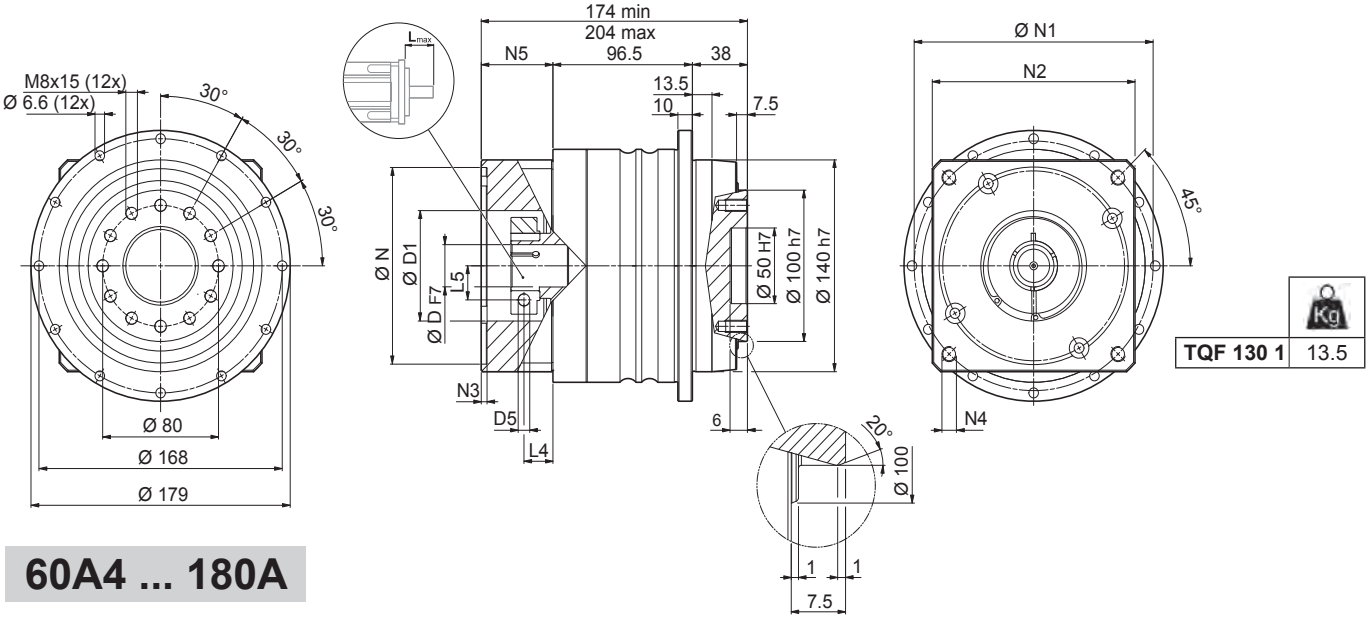


D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
TQF 090 1										
11	49	90	98	M6x12	M6	50	17	4	9.5	12.5
14	51	90	98	M6x12	M6	50	17	4	9.5	14.5
19	51	90	98	M6x12	M6	50	17	4	9.5	16.5
24	60	90	98	M6x12	M6	51.5	18.5	4	9.5	19
28	72	90	98	M6x12	M8	51.5	18.5	4	9.5	22.5
32	72	90	98	M6x12	M8	51.5	18.5	5	12	24.5
38	80	90	98	M6x12	M8	51.5	18.5	5	12	28
TQF 090 2										
6	37	68	76.5	M6x14	M4	45	23	9	19	8
9	49	68	76.5	M6x14	M5	42	26	9	18.5	10.5
11	51	68	76.5	M6x14	M6	42	25	9	17.5	12.5
14	51	68	76.5	M6x14	M6	42	25	9	17.5	14.5
19	51	68	76.5	M6x14	M6	42	25	9	17.5	16.5
24	60	68	76.5	M6x14	M6	43.5	25	9	17.5	19

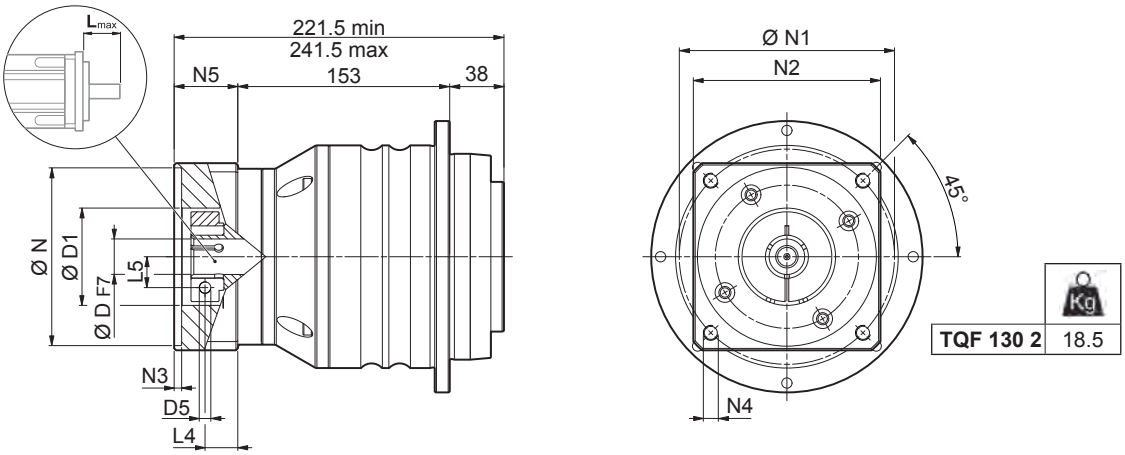
i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S ≤ [arcmin]	φ_R ≤ [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 11	14 - 19	24	28	32-38
TQF 090 1_4	200	300	500	2500	4500	5'	3'	70	5500	6800	97	-	2,00	2.12	2.51	4,30
TQF 090 1_5	180	280	500	2500	4500	5'	3'	70	5500	6800	97	-	1.63	1.76	2.14	3.94
TQF 090 1_7	160	250	500	3000	4500	5'	3'	70	5500	6800	97	-	1.31	1.44	1.82	3.62
TQF 090 1_10	110	170	350	3000	4500	5'	3'	70	5500	6800	97	-	1.14	1.27	1.65	3.45
TQF 090 2_16	200	300	500	3000	4500	7'	5'	70	5500	6800	94	0.75	0.85	0.98	-	-
TQF 090 2_20	180	280	500	3000	4500	7'	5'	70	5500	6800	94	0.72	0.82	0.96	-	-
TQF 090 2_25	180	280	500	3000	4500	7'	5'	70	5500	6800	94	0.62	0.72	0.85	-	-
TQF 090 2_28	200	300	500	3000	4500	7'	5'	70	5500	6800	94	0.54	0.64	0.77	-	-
TQF 090 2_35	180	280	500	3000	4500	7'	5'	70	5500	6800	94	0.53	0.63	0.76	-	-
TQF 090 2_40	200	300	500	3000	4500	7'	5'	70	5500	6800	94	0.49	0.59	0.72	-	-
TQF 090 2_50	180	280	500	3500	4500	7'	5'	70	5500	6800	94	0.48	0.58	0.72	-	-
TQF 090 2_70	160	250	500	4000	4500	7'	5'	70	5500	6800	94	0.48	0.58	0.71	-	-
TQF 090 2_100	110	170	350	4000	4500	7'	5'	70	5500	6800	94	0.48	0.58	0.71	-	-

TQF 130

80A3 ... 180A1

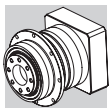


60A4 ... 180A



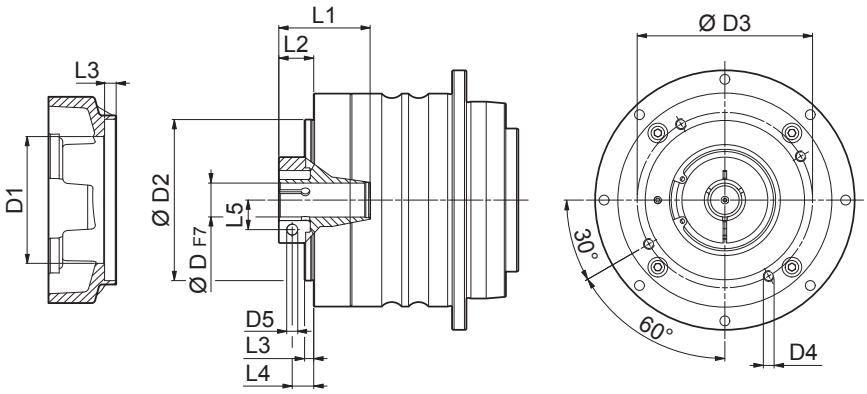
	D						N	N1	N2	N3	N4	N5	L_{max}
TQF 130 1													
80A3	14	19	-	-	-	-	80	100	130	4	M6x15	39.5	60
95A2	14	19	24	28	-	-	95	115	130	6.5	M8x20	39.5	60
110A2	14	19	24	-	-	-	110	130	130	4	M8x20	39.5	60
110B1	14	19	24	28	-	-	110	145	130	6.5	M8x20	49.5	60
130A1	14	19	24	28	32	-	130	165	140	4	M10x20	39	60
180A	14	19	24	28	32	38	180	215	190	5.5	M14x25	49.5	60
180A1	14	19	24	28	32	38	180	215	190	5.5	M14x25	69.5	80
TQF 130 2													
60A4	14	19	-	-	-	-	60	75	100	6.5	M5x14	28	60
80A3	14	19	-	-	-	-	80	100	100	6.5	M6x16	28	60
95A2	14	19	24	28	-	-	95	115	100	6.5	M8x18	28	60
110A2	14	19	24	-	-	-	110	130	115	6.5	M8x18	28	60
110B1	14	19	24	28	-	-	110	145	120	6.5	M8x20	38	60
130A1	14	19	24	28	32	-	130	165	140	6.5	M10x25	38	60
180A	14	19	24	28	32	-	180	215	190	6.5	M14x28	48	80

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



TQF 130

FM

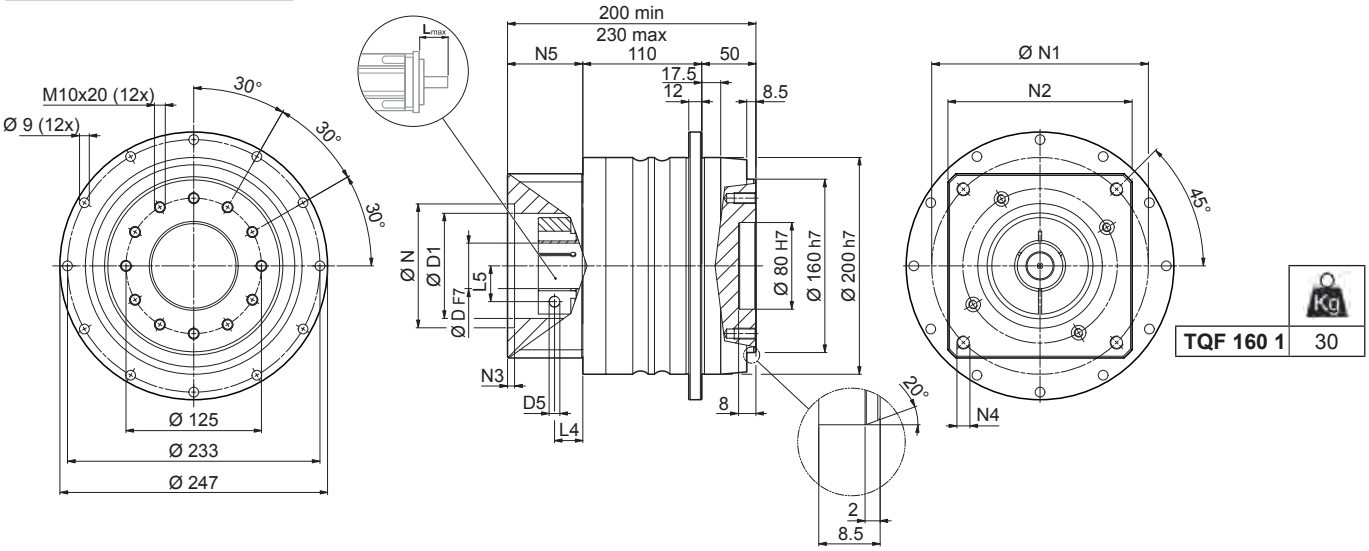


D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
TQF 130 1										
14	51	113	125.5	M8x16	M6	50	30.5	5	23	14.5
19	54	113	125.5	M8x16	M6	50	27.5	5	20	16.5
24	70	113	125.5	M8x16	M6	51.5	29	5	20	19
28	70	113	125.5	M8x16	M8	51.5	29	5	20	22.5
32	72	113	125.5	M8x16	M8	51.5	29	5	20	24.5
38	100	113	125.5	M8x16	M8	54	31.5	5	20	28
42	114	113	125.5	M8x16	M10	51.5	35	5	20	33
TQF 130 2										
11	49	90	98	M6x12	M6	50	17	4	9.5	12.5
14	51	90	98	M6x12	M6	50	17	4	9.5	14.5
19	51	90	98	M6x12	M6	50	17	4	9.5	16.5
24	60	90	98	M6x12	M6	51.5	18.5	4	9.5	19
28	72	90	98	M6x12	M8	51.5	18.5	4	9.5	22.5
32	72	90	98	M6x12	M8	51.5	18.5	5	12	24.5
38	80	90	98	M6x12	M8	51.5	18.5	5	12	28

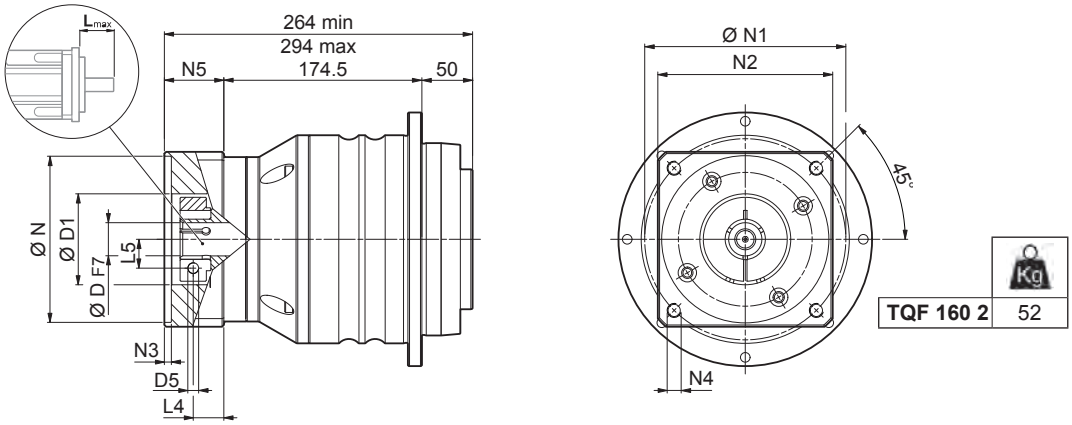
i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S ≤ [arcmin]	φ_R ≤ [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 14	19 - 24	28 - 32	38	42
TQF 130 1_4	400	600	1000	2100	4000	5'	3'	180	12000	8500	97	-	8.14	8.61	9.25	15.25
TQF 130 1_5	400	600	1000	2500	4000	5'	3'	180	12000	8500	97	-	6.13	6.59	7.24	13.24
TQF 130 1_7	360	550	950	2500	4000	5'	3'	180	12000	8500	97	-	4,40	4.86	5,50	11,50
TQF 130 1_10	280	420	900	2500	4000	5'	3'	180	12000	8500	97	-	3.43	3.89	4.53	10.53
TQF 130 2_16	400	600	1000	2800	4000	7'	5'	180	12000	8500	94	1.89	2.05	3.71	3.71	-
TQF 130 2_20	400	600	1000	2800	4000	7'	5'	180	12000	8500	94	1.77	1.92	3.58	3.58	-
TQF 130 2_25	400	600	1000	2800	4000	7'	5'	180	12000	8500	94	1.47	1.63	3.29	3.29	-
TQF 130 2_28	400	600	1000	2800	4000	7'	5'	180	12000	8500	94	1.26	1.41	3.07	3.07	-
TQF 130 2_35	400	600	1000	2800	4000	7'	5'	180	12000	8500	94	1.22	1.37	3.03	3.03	-
TQF 130 2_40	400	600	1000	3200	4000	7'	5'	180	12000	8500	94	1,10	1.25	2.91	2.91	-
TQF 130 2_50	400	600	1000	3200	4000	7'	5'	180	12000	8500	94	1.08	1.23	2.89	2.89	-
TQF 130 2_70	360	550	950	3500	4000	7'	5'	180	12000	8500	94	1.06	1.22	2.88	2.88	-
TQF 130 2_100	280	420	900	4000	4000	7'	5'	180	12000	8500	94	1.05	1.21	2.87	2.87	-

TQF 160

95A2 ... 180A1



80A3 ... 180A1

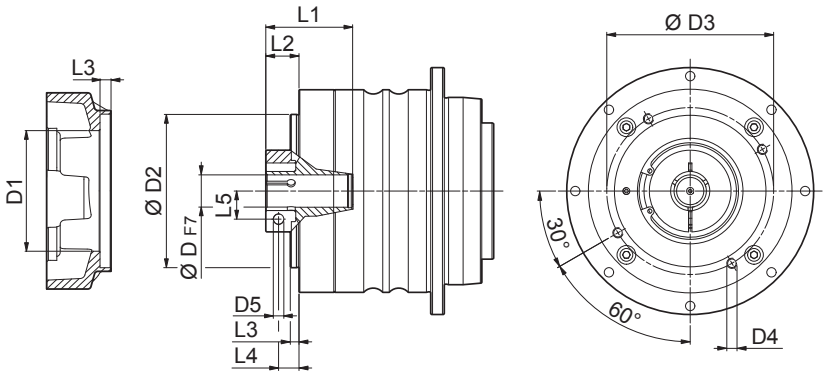


	D					N	N1	N2	N3	N4	N5	L_{max}
TQF 160 1												
95A2	19	24	28	-	-	95	115	140	6.5	M8x20	39.5	60
110A2	19	24	-	-	-	110	130	140	5	M8x20	39.5	60
130A1	19	24	28	32	-	130	165	140	5	M10x20	39.5	60
180A	-	24	28	32	-	180	215	190	6.5	M14x25	49.5	60
180A1	19	24	28	32	38	180	215	190	6.5	M14x25	69.5	80
TQF 160 2												
80A3	19	-	-	-	-	80	100	130	4	M6x15	39.5	60
95A2	19	24	28	-	-	95	115	130	6.5	M8x20	39.5	60
110A2	19	24	-	-	-	110	130	130	4	M8x20	39.5	60
110B1	19	24	28	-	-	110	145	130	6.5	M8x20	49.5	60
130A1	19	24	28	32	-	130	165	140	4	M10x20	39	60
180A	19	24	28	32	-	180	215	190	5.5	M14x25	49.5	60
180A1	19	24	28	32	38	180	215	190	5.5	M14x25	69.5	80

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

TQF 160

FM



D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
TQF 160 1										
19	54	130	142.5	M8x16	M6	47	33.5	8	26	16.5
24	58	130	142.5	M8x16	M6	47	35	8	26	19
28	70	130	142.5	M8x16	M8	47	35	8	26	22.5
32	72	130	142.5	M8x16	M8	47	35	8	26	24.5
38	100	130	142.5	M8x16	M8	59.5	37.5	8	26	28
42	114	130	142.5	M8x16	M10	57	41	8	26	33
48	125	130	142.5	M8x16	M12	57	41	8	26	36.5
TQF 160 2										
14	51	113	125.5	M8x16	M6	50	30.5	5	23	14.5
19	54	113	125.5	M8x16	M6	50	27.5	5	20	16.5
24	70	113	125.5	M8x16	M6	51.5	29	5	20	19
28	70	113	125.5	M8x16	M8	51.5	29	5	20	22.5
32	72	113	125.5	M8x16	M8	51.5	29	5	20	24.5
38	100	113	125.5	M8x16	M8	54	31.5	5	20	28
42	114	113	125.5	M8x16	M10	51.5	35	5	20	33

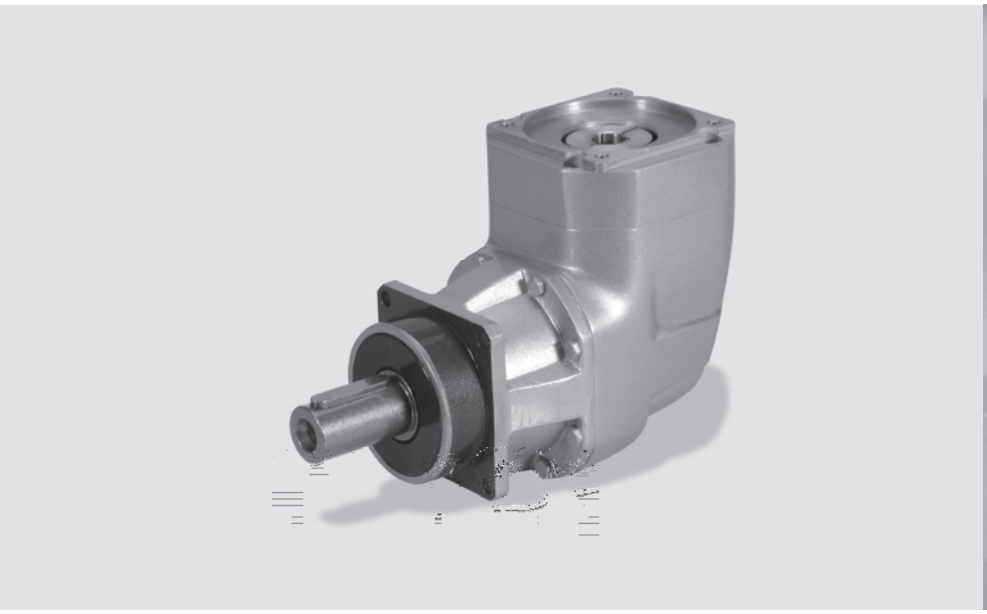
i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S ≤ [arcmin]	φ_R ≤ [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 19	24 - 28	32 - 38	42	48
TQF 160 1_4	800	1200	2000	1500	3500	5'	3'	500	29000	16000	97	-	27,10	27.51	30,40	43.51
TQF 160 1_5	800	1200	2000	1800	3500	5'	3'	500	29000	16000	97	-	18.22	18.63	21.52	34.63
TQF 160 1_7	750	1150	2000	2500	3500	5'	3'	500	29000	16000	97	-	13.46	13.87	16.77	29.88
TQF 160 1_10	550	850	1600	2500	3500	5'	3'	500	29000	16000	97	-	10.03	10.44	13.34	26.45
TQF 160 2_16	800	1200	2000	2800	3500	7'	5'	500	29000	16000	94	7.22	7.75	8.47	14.47	-
TQF 160 2_20	800	1200	2000	2800	3500	7'	5'	500	29000	16000	94	6.67	7,20	7.92	13.92	-
TQF 160 2_25	800	1200	2000	2800	3500	7'	5'	500	29000	16000	94	5.13	5.66	6.38	12.38	-
TQF 160 2_28	800	1200	2000	2800	3500	7'	5'	500	29000	16000	94	4,00	4.53	5.25	11.25	-
TQF 160 2_35	800	1200	2000	2800	3500	7'	5'	500	29000	16000	94	3.82	4.34	5.07	11.07	-
TQF 160 2_40	800	1200	2000	2800	3500	7'	5'	500	29000	16000	94	3.16	3.69	4.41	10.41	-
TQF 160 2_50	800	1200	2000	2800	3500	7'	5'	500	29000	16000	94	3.07	3,60	4.32	10.32	-
TQF 160 2_70	750	1150	2000	3000	3500	7'	5'	500	29000	16000	94	3.02	3.55	4.27	10.27	-
TQF 160 2_100	550	850	1600	3000	3500	7'	5'	500	29000	16000	94	2.99	3.52	4.24	10.24	-

TQK
ABGEWINKELTES PRÄZISIONSPLANETENGETRIEBE

Die TQK Getriebe stehen wie die TQ Getriebe an der Spitze des Produktportfolios.

Dieses Getriebe ist die Lösung bei Platzproblemen, die die immer kompakteren Maschinen aufwerfen.

Ob Drehmoment, Steifigkeit oder Präzision – diese attraktive Produktreihe punktet in jeder Kategorie.



Produktmerkmale:
- Höchste Drehmomentdichte
- Höchstes Beschleunigungs- und Nenndrehmoment
- Höchste radiale und axiale Belastbarkeit
- Entwickelt für Zyklus- und Dauerbetrieb
- Höchste Verdrehsteifigkeit
- Niedriges Verdrehflankenspiel – unter 4 arcmin
- Laufruhig
- Einsetzbar in beliebiger Montageaposition

4 MERKMALE DER TQK-REIHE

Die spielarmen Kegelrad-Planetengetriebe der Baureihe TQK sind die Lösung bei Platzproblemen, die durch zunehmend kompaktere Maschinen immer häufiger auftreten.
TQK Getriebe vereinen ein extrem dynamisches Betriebsverhalten mit maximaler Präzision. Damit verleihen sie jeder Positioniermechanik, in die sie installiert werden, höchste Genauigkeit und Wiederholbarkeit.
Außer ihrer Robustheit und Verlässlichkeit haben TQK-Antriebe etwas unverkennbar Italienisches, das sie von ähnlichen Produkten in der Branche deutlich unterscheidet.

- Die TQK-Reihe hat zwei Präzisionsklassen, mit diesem Verdrehflankenspiel:
  2-stufige Getriebe: standard $\varphi_S \leq 5'$; reduziert $\varphi_R \leq 4'$ ($\varphi_S \leq 6'$; $\varphi_R \leq 5'$ für TQK 060 und TQK 070)
  3-stufige Getriebe: standard $\varphi_S \leq 7'$; reduziert $\varphi_R \leq 6'$ ($\varphi_S \leq 8'$; $\varphi_R \leq 7'$ für TQK 060 und TQK 070)
- Eine hohe IP-Schutzklasse (IP65) sorgt dafür, dass innenliegende Teile vor Staub- und Flüssigkeitseintritt geschützt sind.
- Serienmäßige Fluorelastomer-Wellendichtungen an der Eingangswelle
- Schalldruckpegel $60 \leq L_p \leq 70$ dB(A). Gemessen in 1 m Abstand ohne Last und bei einer Eingangsdrehzahl von $n_1 = 3000$ min^{-1}; i = 20.
- Große Auswahl an Motoradaptern sorgt für den Anschluss an die marktgängigsten Servomotoren.
- Schmierung optimiert für die gewünschte Betriebsart.
  Ohne Verunreinigung muss das Schmiermittel nicht regelmäßig gewechselt werden.

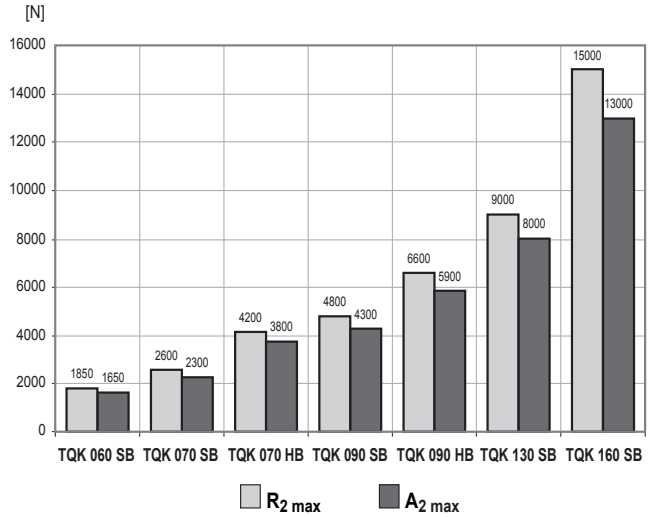
Betrieb	TQK 060 ... TQK 160	andere Dichtungen
S1 (kontinuierlich)	Synthetiköl Viskositätsklasse ISO VG 220	Fluoroelastomer
S5 (unterbrochen)	NLGI Fettkonsistenz 00	NBR

- Umgebungstemperatur min. -20°C, max. +30°C; bei Temperaturen höher als 30°C ist der Temperaturfaktor f_T zu berücksichtigen.
- Die Gehäusetemperatur darf T_{max} = 90°C nicht übersteigen.

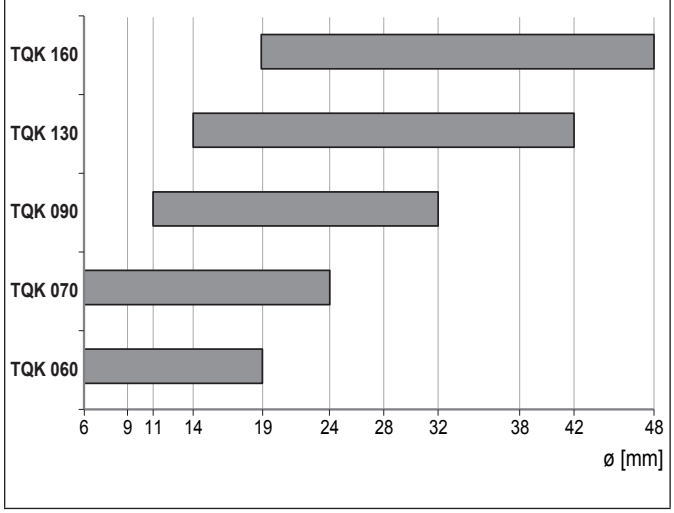
Übersicht der Nenndrehmomente M_{n2} [Nm]

[i]	6	8	10	14	18	20	24	30	40	50	70	80	100	140	200
TQK 060	21	28	30	25	21	20	30	30	30	30	30	30	30	25	20
TQK 070	45	60	70	60	45	40	70	70	70	70	70	70	70	60	40
TQK 090	110	150	180	160	130	110	200	180	180	180	180	200	180	160	110
TQK 130	255	340	400	360	260	280	400	400	400	400	400	400	400	360	280
TQK 160	420	560	700	750	530	550	800	800	800	800	800	800	800	750	550

Max. Belastbarkeit der Abtriebswelle



Verfügbare Motorwellendurchmesser



4.1 BESTELLBEZEICHNUNG

TQK 130 2 25 STD 80A3 CD 19 S5 SB KL UH1

SCHMIERSTOFF
- **–** Standard
- **UH1** Lebensmitteltaugliches Schmiermittel

ABTRIEBSWELLENKONFIGURATION
- **KL** Glatte Welle ohne Passfedert
- **KE** Welle mit Passfeder

LAGER DER ABTRIEBSWELLE
- **SB** Standard
- **HB** Verstärkt (TQK 070 - TQK 090)

BETRIEBSART
- **S1** Dauerbetrieb
- **S5** Kurzzeitbetrieb

BOHRUNGSDURCHMESSER EINGANGSWELLE
- **6 ... 48**

MOTORKOPPLUNG
- **CD** Klemmnabe

ANTRIEBSFLANSCH
- **30A ... 230A** Motorflansch
- **FM** Ohne Motorflansch

VERDREHSPIEL

	2 Getriebestufe	2 Getriebestufen (TQK060, TQK070 only)	3 Getriebestufen	3 Getriebestufen (TQK060, TQK070 only)
STD	$\varphi_S \leq 5'$	$\varphi_S \leq 6'$	$\varphi_S \leq 7'$	$\varphi_S \leq 8'$
LOW	$\varphi_R \leq 4'$	$\varphi_R \leq 5'$	$\varphi_R \leq 6'$	$\varphi_R \leq 7'$

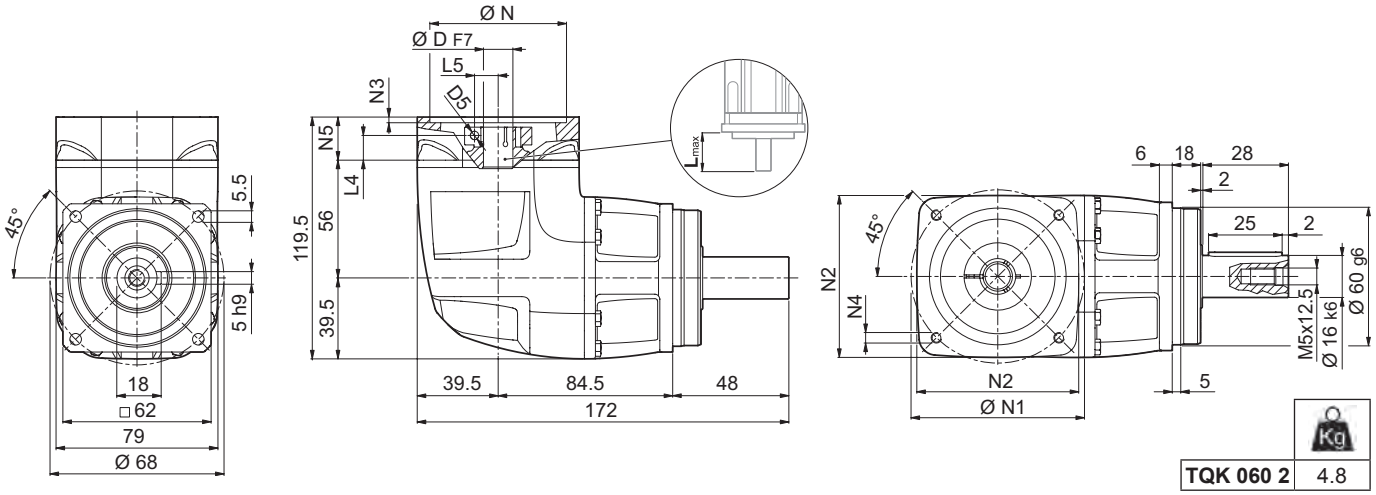
GETRIEBEÜBERSETZUNG

GETRIEBESTUFEN
- **2** **3**

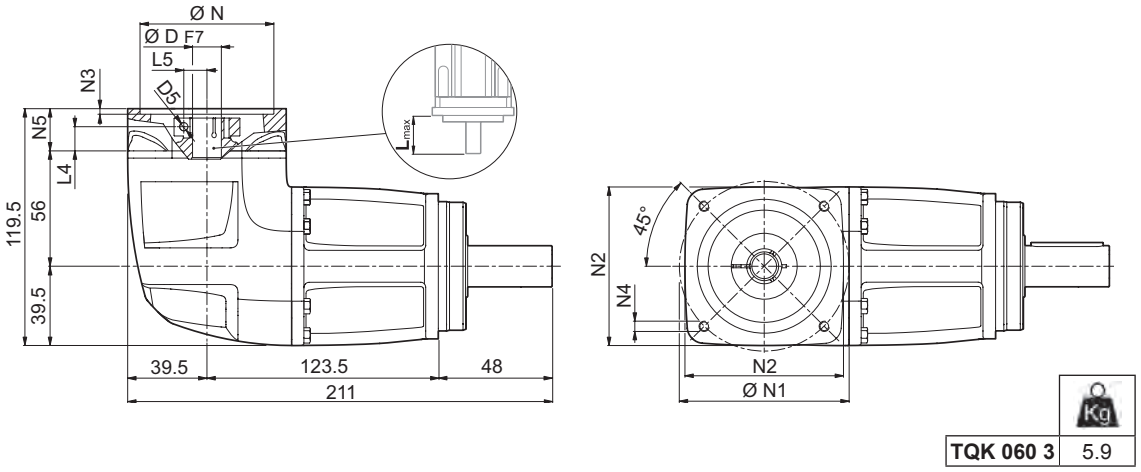
BAUGRÖSSE
- **060** **070** **090** **130** **160**

REIHE
- **TQK**

TQK 060

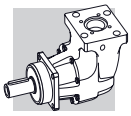


30A ... 110B0



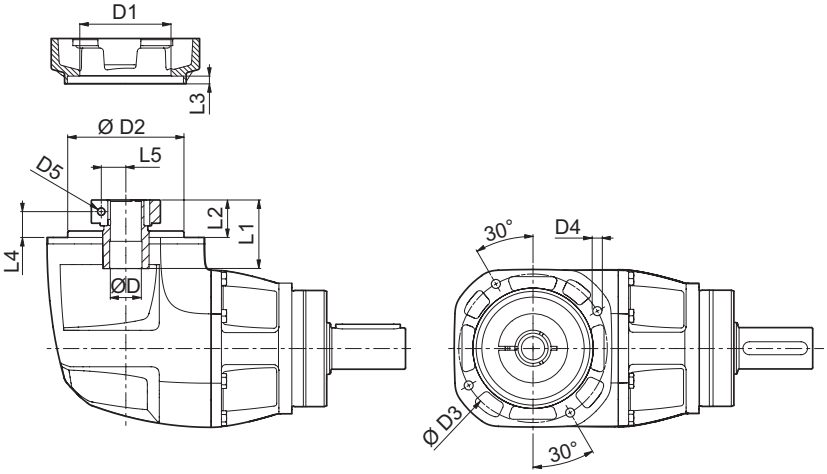
	D					N	N1	N2	N3	N4	N5	L_{max}
30A	6	–	–	–	–	30	46	60	3.5	M4x10	24	40
40B1	6	9	11	14	–	40	63	60	3.5	M4x10	24	40
50A1	6	9	11	14	–	50	60	60	4.0	M4x10	24	40
50C1	6	9	11	14	–	50	70	60	4.0	M4x10	24	40
60A2	6	9	11	14	19	60	75	80	4.0	M5x12	24	40
70B1	6	9	11	14	19	70	90	80	4.0	M5x12	24	40
80A1	6	9	11	14	19	80	100	100	4.0	M6x14	24	40
95A	6	9	11	14	19	95	115	100	4.0	M8x24*	24	40
110B0	6	9	11	14	19	110	145	120	4.0	M8x24*	24	40

* Durchgehend Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



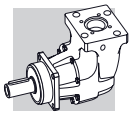
TQK 060

FM



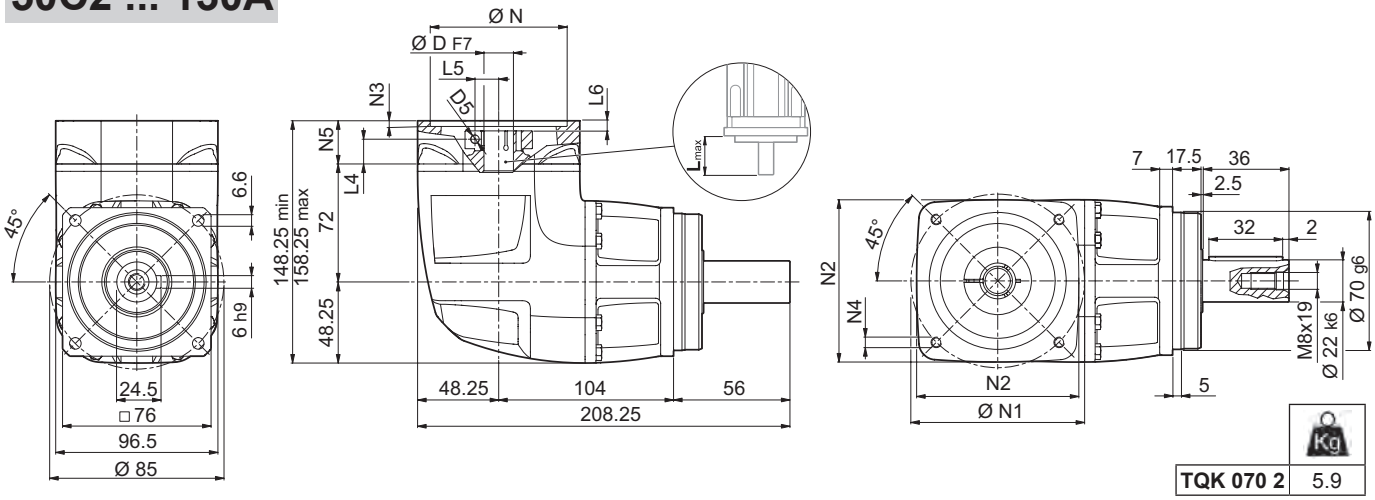
D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6	37	59	72	M5x11	M4	31.5	15.5	4.5	10.5	8
9	49	59	72	M5x11	M5	35	19	4.5	11.5	10.5
11	49	59	72	M5x11	M6	35	19	4.5	11.5	12.5
14	49	59	72	M5x11	M6	35	19	4.5	11.5	14.5
19	54	59	72	M5x11	M6	35	19	4.5	11.5	16.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S ≤ [arcmin]	φ_R ≤ [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 6 - 9	11 - 14	19
TQK 060 2_6	21	30	45	2500	5000	6'	5'	4.3	1850	1650	94	0.76	0.78	0.78
TQK 060 2_8	28	40	60	2500	5000	6'	5'	4.3	1850	1650	94	0.75	0.76	0.77
TQK 060 2_10	30	45	70	2500	5000	6'	5'	4.3	1850	1650	94	0.73	0.75	0.75
TQK 060 2_14	25	38	70	2500	5000	6'	5'	4.3	1850	1650	94	0.72	0.73	0.74
TQK 060 2_20	20	30	55	2500	5000	6'	5'	4.3	1850	1650	94	0.71	0.72	0.73
TQK 060 3_18	21	32	60	2500	5000	8'	7'	4.3	1850	1650	91	0.61	0.62	0.63
TQK 060 3_24	30	45	80	2500	5000	8'	7'	4.3	1850	1650	91	0.61	0.62	0.63
TQK 060 3_30	30	45	80	2500	5000	8'	7'	4.3	1850	1650	91	0.60	0.62	0.62
TQK 060 3_40	30	45	80	2500	5000	8'	7'	4.3	1850	1650	91	0.60	0.61	0.62
TQK 060 3_50	30	45	80	2500	5000	8'	7'	4.3	1850	1650	91	0.60	0.61	0.62
TQK 060 3_70	30	45	80	2500	5000	8'	7'	4.3	1850	1650	91	0.60	0.61	0.62
TQK 060 3_80	30	45	80	2500	5000	8'	7'	4.3	1850	1650	91	0.60	0.61	0.62
TQK 060 3_100	30	45	80	2500	5000	8'	7'	4.3	1850	1650	91	0.59	0.61	0.61
TQK 060 3_140	25	38	70	2500	5000	8'	7'	4.3	1850	1650	91	0.59	0.61	0.61
TQK 060 3_200	20	30	55	2500	5000	8'	7'	4.3	1850	1650	91	0.59	0.61	0.61



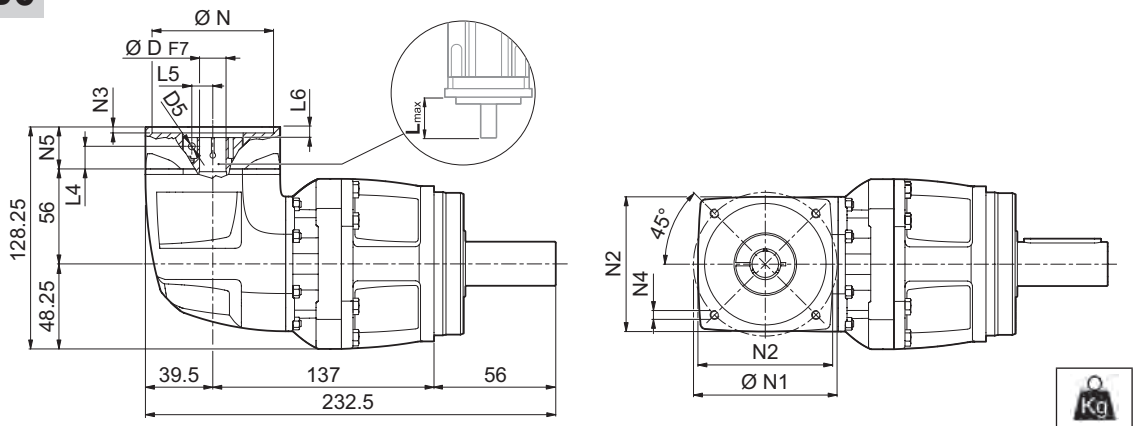
TQK 070

50C2 ... 130A



	Kg
TQK 070 2	5.9

30A ... 110B0



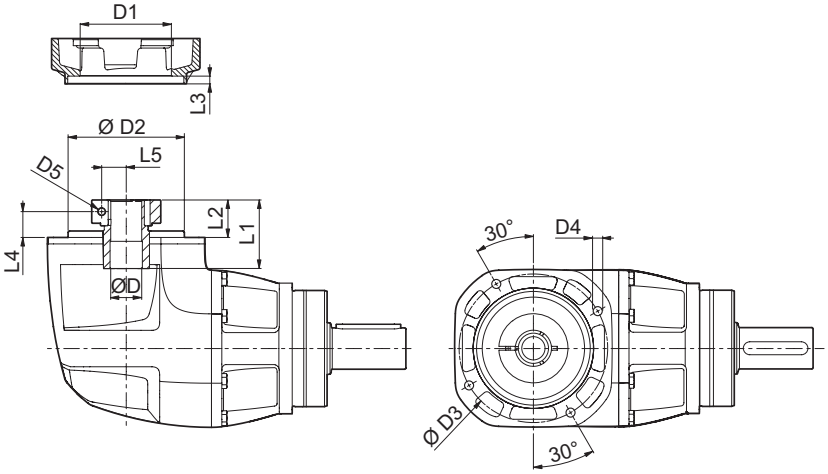
	Kg
TQK 070 3	7.3

	D						N	N1	N2	N3	N4	N5	L_{max}
TQK 070 2													
50C2	6	9	11	14	–	–	50	70	80	6.5	M4x12	28	50
60A3	6	9	11	14	19	–	60	75	80	6.5	M5x14	28	50
70B2	6	9	11	14	19	–	70	90	80	6.5	M5x14	28	50
80A2	6	9	11	14	19	–	80	100	100	6.5	M6x14	28	50
95A1	6	9	11	14	19	24	95	115	100	6.5	M8x18	28	50
110A1	6	9	11	14	19	24	110	130	120	6.5	M8x18	28	50
110B1	6	9	11	14	19	24	110	145	120	6.5	M8x20	38	60
130A	6	9	11	14	19	24	130	165	140	6.5	M10x19	28	50
TQK 070 3													
30A	6	–	–	–	–	–	30	46	60	3.5	M4x10	24	40
40B1	6	9	11	14	–	–	40	63	60	3.5	M4x10	24	40
50A1	6	9	11	14	–	–	50	60	60	4.0	M4x10	24	40
50C1	6	9	11	14	–	–	50	70	60	4.0	M4x10	24	40
60A2	6	9	11	14	19	–	60	75	80	4.0	M5x12	24	40
70B1	6	9	11	14	19	–	70	90	80	4.0	M5x12	24	40
80A1	6	9	11	14	19	–	80	100	100	4.0	M6x14	24	40
95A	6	9	11	14	19	–	95	115	100	4.0	M8x24*	24	40
110B0	6	9	11	14	19	–	110	145	120	4.0	M8x24*	24	40

* Durchgehend Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

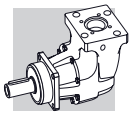
TQK 070

FM



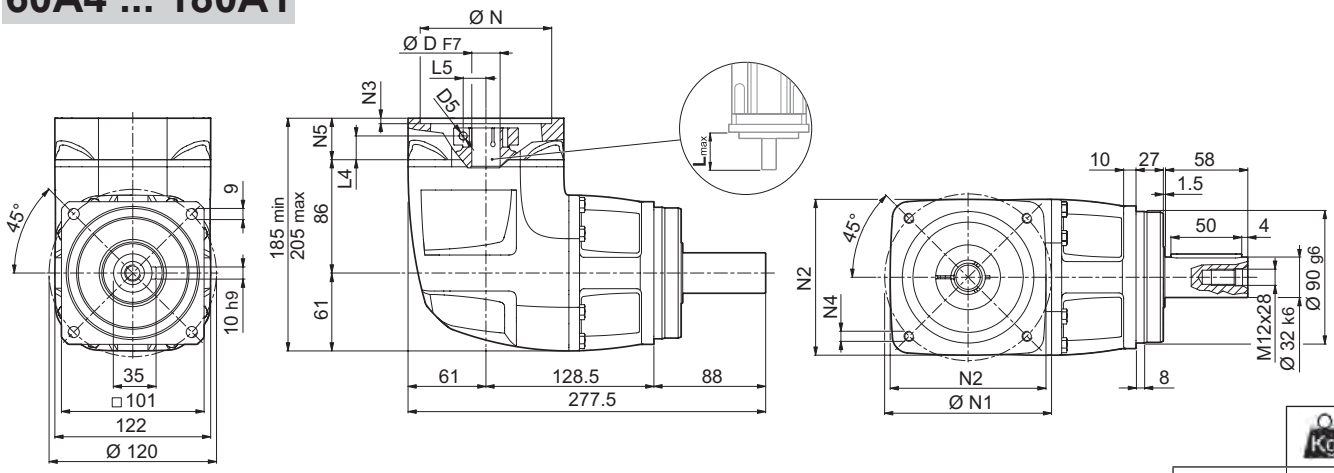
D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
TQK 070 2										
11	51	70	85	M6x11	M6	42	20	5	12.5	12.5
14	51	70	85	M6x11	M6	42	20	5	12.5	14.5
19	51	70	85	M6x11	M6	42	20	5	12.5	16.5
24	60	70	85	M6x11	M6	43.5	21.5	5	12.5	19
TQK 070 3										
6	37	59	72	M5x11	M4	31.5	15.5	4.5	10.5	8
9	49	59	72	M5x11	M5	35	19	4.5	11.5	10.5
11	49	59	72	M5x11	M6	35	19	4.5	11.5	12.5
14	49	59	72	M5x11	M6	35	19	4.5	11.5	14.5
19	54	59	72	M5x11	M6	35	19	4.5	11.5	16.5

	$M_{n\,2}$	$M_{a\,2}$	$M_{p\,2}$	n_1	$n_{1\,max}$	φ_S ≤	φ_R ≤	C_t	SB $R_{2\,max}$	SB $A_{2\,max}$	HB $R_{2\,max}$	HB $A_{2\,max}$	η	J_G [kgcm²] D			
i	[Nm]	[Nm]	[Nm]	[min⁻¹]	[min⁻¹]	[arcmin]		[Nm/arcmin]	[N]	[N]	[N]	[N]	%	6 - 9	11 - 14	19	24
TQK 070 2_6	45	65	90	2500	5000	6'	5'	11	2600	2300	4200	3800	94	–	1.52	1.55	1.63
TQK 070 2_8	60	85	120	2500	5000	6'	5'	11	2600	2300	4200	3800	94	–	1.44	1.47	1.55
TQK 070 2_10	70	100	150	2500	5000	6'	5'	11	2600	2300	4200	3800	94	–	1.41	1.43	1.52
TQK 070 2_14	60	90	160	2500	5000	6'	5'	11	2600	2300	4200	3800	94	–	1.38	1.41	1.49
TQK 070 2_20	40	60	110	2500	5000	6'	5'	11	2600	2300	4200	3800	94	–	1.36	1.39	1.48
TQK 070 3_18	45	65	120	2500	5000	8'	7'	11	2600	2300	4200	3800	91	1.28	1.39	1.42	–
TQK 070 3_24	70	100	180	2500	5000	8'	7'	11	2600	2300	4200	3800	91	1.26	1.37	1.40	–
TQK 070 3_30	70	100	180	2500	5000	8'	7'	11	2600	2300	4200	3800	91	1.25	1.36	1.39	–
TQK 070 3_40	70	100	180	2500	5000	8'	7'	11	2600	2300	4200	3800	91	1.20	1.31	1.34	–
TQK 070 3_50	70	100	180	2500	5000	8'	7'	11	2600	2300	4200	3800	91	1.19	1.31	1.33	–
TQK 070 3_70	70	100	180	2500	5000	8'	7'	11	2600	2300	4200	3800	91	1.18	1.29	1.32	–
TQK 070 3_80	70	100	180	2500	5000	8'	7'	11	2600	2300	4200	3800	91	1.17	1.29	1.31	–
TQK 070 3_100	70	100	180	2500	5000	8'	7'	11	2600	2300	4200	3800	91	1.17	1.28	1.31	–
TQK 070 3_140	60	90	160	2500	5000	8'	7'	11	2600	2300	4200	3800	91	1.16	1.27	1.30	–
TQK 070 3_200	40	60	110	2500	5000	8'	7'	11	2600	2300	4200	3800	91	1.15	1.27	1.29	–



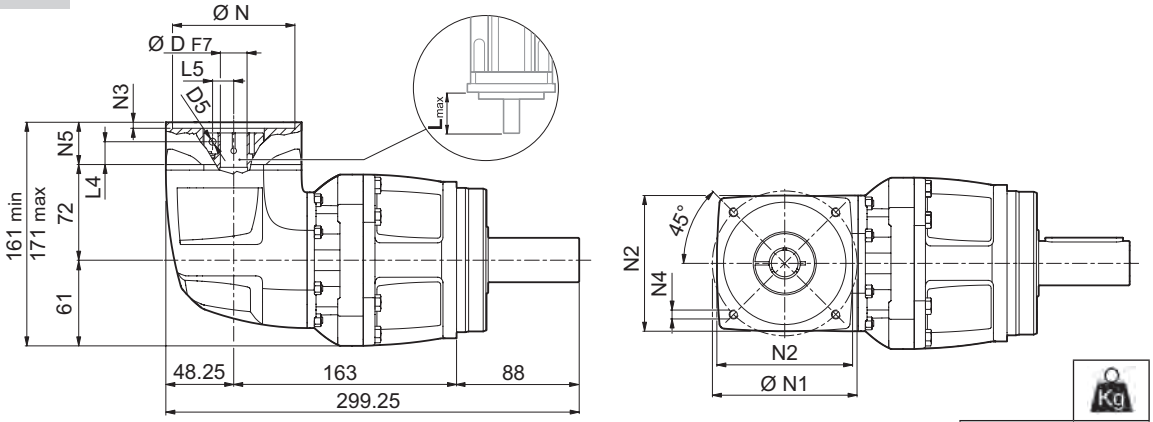
TQK 090

60A4 ... 180A1



	Kg
TQK 090 2	10.0

50C2 ... 130A



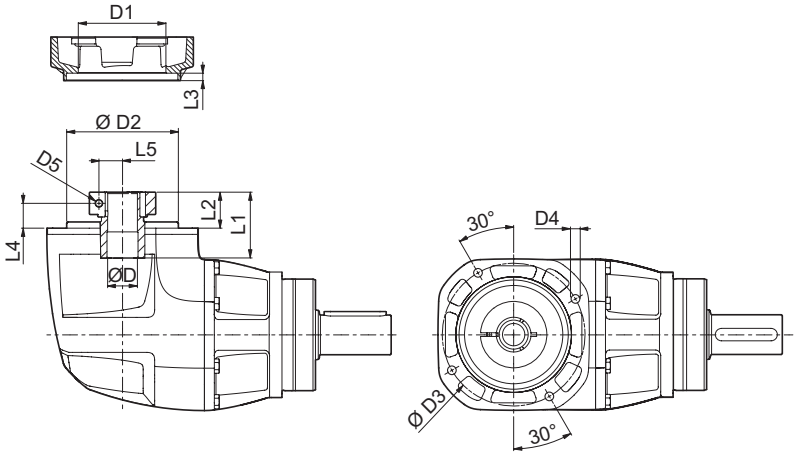
	Kg
TQK 090 3	11.7

	D						N	N1	N2	N3	N4	N5	L_{max}
TQK 090 2													
60A4	11	14	19	–	–	–	60	75	100	6.5	M5x14	38	60
80A3	11	14	19	–	–	–	80	100	100	6.5	M6x14	38	60
95A2	11	14	19	24	28	–	95	115	100	6.5	M8x18	38	60
110A2	11	14	19	24	–	–	110	130	122	6.5	M8x20	38	60
110B1	11	14	19	24	28	–	110	145	122	6.5	M8x20	38	60
130A1	11	14	19	24	28	32	130	165	140	6.5	M10x20	38	60
180A	11	14	19	24	28	32	180	215	190	6.5	M14x38*	38	60
180A1	11	14	19	24	28	32	180	215	190	6.5	M14x28	58	80
TQK 090 3													
50C2	11	14	–	–	–	–	50	70	80	6.5	M4x12	28	50
60A3	11	14	19	–	–	–	60	75	80	6.5	M5x14	28	50
70B2	11	14	19	–	–	–	70	90	80	6.5	M5x14	28	50
80A2	11	14	19	–	–	–	80	100	100	6.5	M6x14	28	50
95A1	11	14	19	24	–	–	95	115	100	6.5	M8x18	28	50
110A1	11	14	19	24	–	–	110	130	120	6.5	M8x18	28	50
110B1	11	14	19	24	–	–	110	145	120	6.5	M8x20	38	60
130A	11	14	19	24	–	–	130	165	140	6.5	M10x19	28	50

* Durchgehend Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

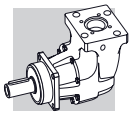
TQK 090

FM



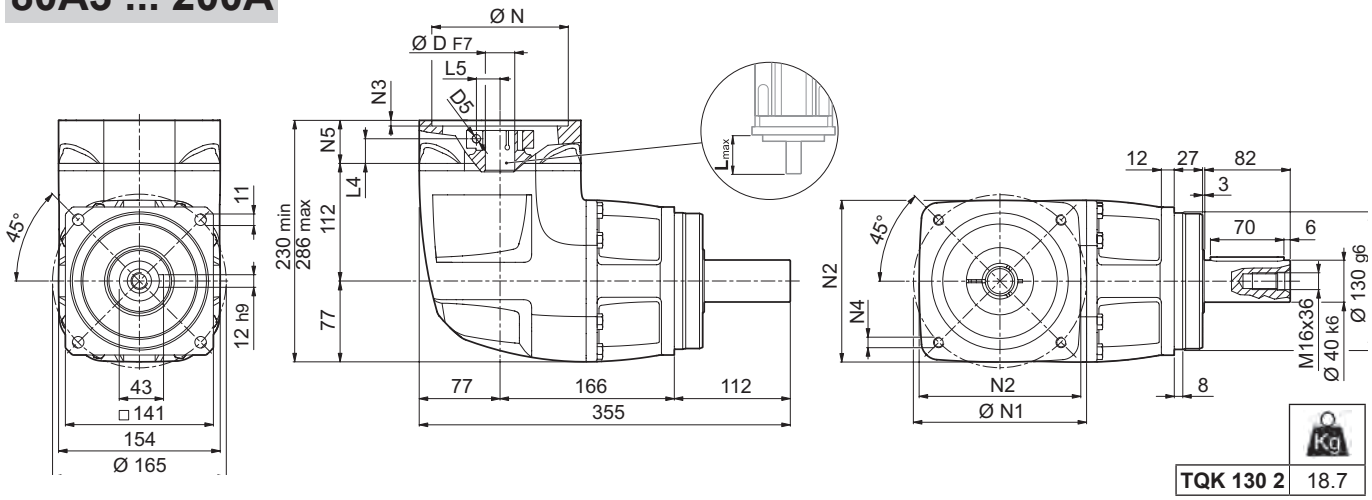
D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
TQK 090 2										
14	51	90	115	M8x13	M6	50	28	6.5	20.5	14.5
19	51	90	115	M8x13	M6	50	28	6.5	20.5	16.5
24	60	90	115	M8x13	M6	51.5	29.5	6.5	20.5	19
28	72	90	115	M8x13	M8	51.5	29.5	6.5	20.5	22.5
32	72	90	115	M8x13	M8	51.5	29.5	6.5	20.5	24.5
38	80	90	115	M8x13	M8	51.5	29.5	6.5	20.5	28
TQK 090 3										
11	51	70	85	M6x11	M6	42	20	5	12.5	12.5
14	51	70	85	M6x11	M6	42	20	5	12.5	14.5
19	51	70	85	M6x11	M6	42	20	5	12.5	16.5
24	60	70	85	M6x11	M6	43.5	21.5	5	12.5	19

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S ≤ [arcmin]	φ_R ≤ [arcmin]	C_t [Nm/arcmin]	SB $R_{2\,max}$ [N]	SB $A_{2\,max}$ [N]	HB $R_{2\,max}$ [N]	HB $A_{2\,max}$ [N]	η %	J_G [kgcm²] D 11	14	19 - 24	28 - 32
TQK 090 2_6	110	150	225	2000	4500	5'	4'	28	4800	4300	6600	5900	94	–	4.82	4.89	5.42
TQK 090 2_8	150	208	300	2000	4500	5'	4'	28	4800	4300	6600	5900	94	–	4.56	4.63	5.16
TQK 090 2_10	180	260	360	2000	4500	5'	4'	28	4800	4300	6600	5900	94	–	4.45	4.51	5.04
TQK 090 2_14	160	250	500	2000	4500	5'	4'	28	4800	4300	6600	5900	94	–	4.34	4.41	4.94
TQK 090 2_20	110	170	350	2000	4500	5'	4'	28	4800	4300	6600	5900	94	–	4.29	4.36	4.88
TQK 090 3_18	130	200	400	2000	4500	7'	6'	28	4800	4300	6600	5900	91	3.56	3.63	3.70	–
TQK 090 3_24	200	300	500	2000	4500	7'	6'	28	4800	4300	6600	5900	91	3.53	3.60	3.67	–
TQK 090 3_30	180	280	500	2000	4500	7'	6'	28	4800	4300	6600	5900	91	3.52	3.59	3.66	–
TQK 090 3_40	180	280	500	2000	4500	7'	6'	28	4800	4300	6600	5900	91	3.45	3.52	3.58	–
TQK 090 3_50	180	280	500	2000	4500	7'	6'	28	4800	4300	6600	5900	91	3.42	3.49	3.56	–
TQK 090 3_70	180	280	500	2000	4500	7'	6'	28	4800	4300	6600	5900	91	3.40	3.46	3.53	–
TQK 090 3_80	200	300	500	2000	4500	7'	6'	28	4800	4300	6600	5900	91	3.38	3.45	3.52	–
TQK 090 3_100	180	280	500	2000	4500	7'	6'	28	4800	4300	6600	5900	91	3.38	3.45	3.52	–
TQK 090 3_140	160	250	500	2000	4500	7'	6'	28	4800	4300	6600	5900	91	3.38	3.45	3.52	–
TQK 090 3_200	110	170	350	2000	4500	7'	6'	28	4800	4300	6600	5900	91	3.38	3.45	3.52	–



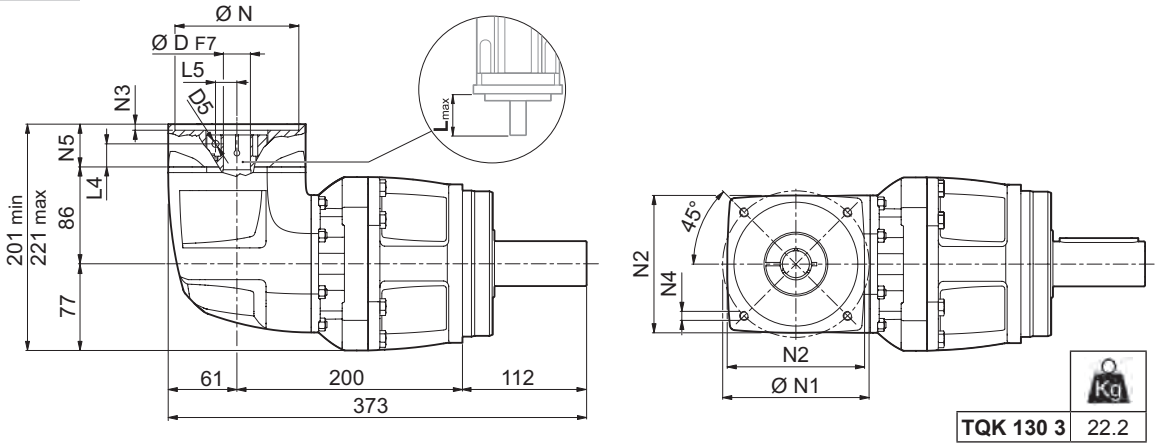
TQK 130

80A3 ... 200A



	Kg
TQK 130 2	18.7

60A4 ... 180A1



	Kg
TQK 130 3	22.2

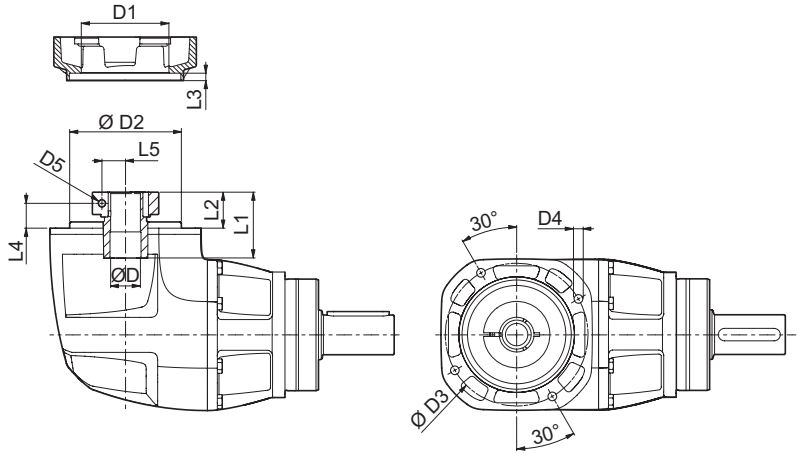
	D							N	N1	N2	N3	N4	N5	L_{max}
TQK 130 2														
80A3	14	19	–	–	–	–	–	80	100	130	6.5	M6x14	41	60
95A2	14	19	24	28	–	–	–	95	115	130	6.5	M8x18	41	60
110A2	14	19	24	–	–	–	–	110	130	130	6.5	M8x20	41	60
110B1	14	19	24	28	–	–	–	110	145	130	6.5	M8x20	41	60
130A1	14	19	24	28	32	–	–	130	165	154	6.5	M10x20	41	60
180A	14	19	24	28	32	–	–	180	215	190	6.5	M14x28	41	60
180A1	14	19	24	28	32	38	–	180	215	190	6.5	M14x28	61	80
200A	14	19	24	28	32	38	42	200	235	210	6.5	M14x28	97	110
TQK 130 3														
60A4	14	19	–	–	–	–	–	60	75	100	6.5	M5x14	38	60
80A3	14	19	–	–	–	–	–	80	100	100	6.5	M6x14	38	60
95A2	14	19	24	28	–	–	–	95	115	100	6.5	M8x18	38	60
110A2	14	19	24	-	–	–	–	110	130	122	6.5	M8x20	38	60
110B1	14	19	24	28	–	–	–	110	145	122	6.5	M8x20	38	60
130A1	14	19	24	28	32	–	–	130	165	140	6.5	M10x20	38	60
180A	14	19	24	28	32	–	–	180	215	190	6.5	M14x38	38	60
180A1	14	19	24	28	32	38	–	180	215	190	6.5	M14x28	58	80

* Durchgehend Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

Bonfiglioli Tecnoingranaggi

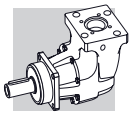
TQK 130

FM



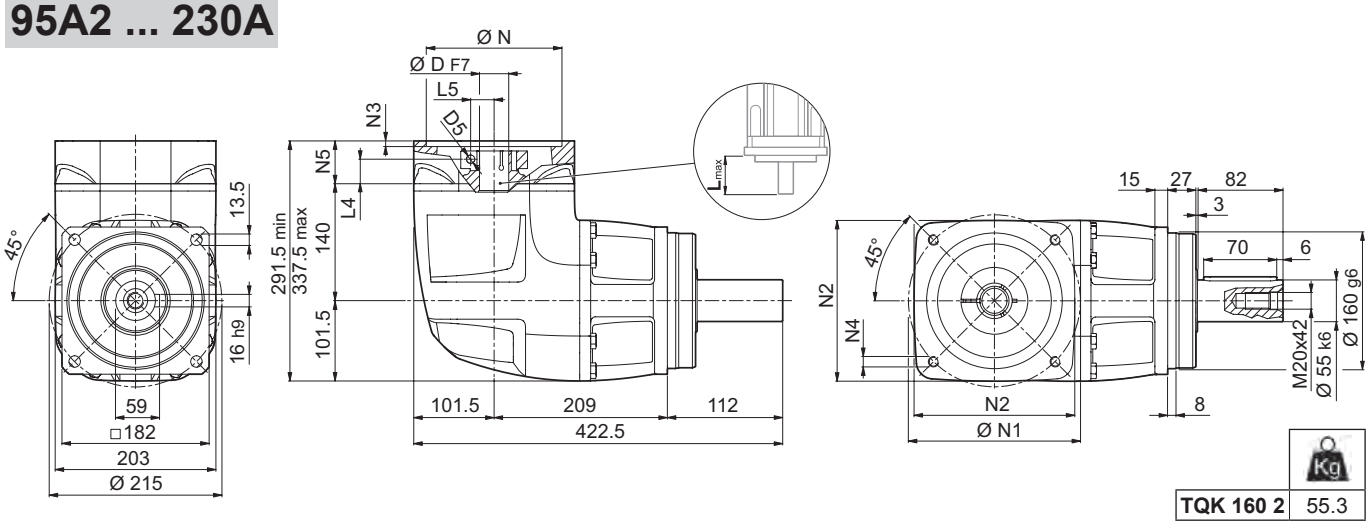
D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
TQK 130 2										
19	54	120	140	M10x16	M6	50	31	7.5	23.5	16.5
24	70	120	140	M10x16	M6	51.5	32.5	7.5	23.5	19
28	70	120	140	M10x16	M8	51.5	32.5	7.5	23.5	22.5
32	72	120	140	M10x16	M8	51.5	32.5	7.5	23.5	24.5
38	100	120	140	M10x16	M8	54	35	7.5	23.5	28
42	114	120	140	M10x16	M10	51.5	38.5	7.5	23.5	33
TQK 130 3										
14	51	90	115	M8x13	M6	50	28	6.5	20.5	14.5
19	51	90	115	M8x13	M6	50	28	6.5	20.5	16.5
24	60	90	115	M8x13	M6	51.5	29.5	6.5	20.5	19
28	72	90	115	M8x13	M8	51.5	29.5	6.5	20.5	22.5
32	72	90	115	M8x13	M8	51.5	29.5	6.5	20.5	24.5
38	80	90	115	M8x13	M8	51.5	29.5	6.5	20.5	28

	$M_{n\,2}$	$M_{a\,2}$	$M_{p\,2}$	n_1	$n_{1\,max}$	φ_S ≤	φ_R ≤	C_t	$R_{2\,max}$	$A_{2\,max}$	η	J_G [kgcm²] D				
i	[Nm]	[Nm]	[Nm]	[min⁻¹]	[min⁻¹]	[arcmin]		[Nm/arcmin]	[N]	[N]	%	14	19 - 24	28 - 32	38	42
TQK 130 2_6	255	360	510	2000	4500	5'	4'	56	9000	8000	94	–	17.44	18.02	18.55	24.47
TQK 130 2_8	340	480	680	2000	4500	5'	4'	56	9000	8000	94	–	16.31	16.89	17.41	23.33
TQK 130 2_10	400	600	850	2000	4500	5'	4'	56	9000	8000	94	–	15.77	16.35	16.88	22.80
TQK 130 2_14	360	550	950	2000	4500	5'	4'	56	9000	8000	94	–	15.35	15.93	16.46	22.38
TQK 130 2_20	280	420	900	2000	4500	5'	4'	56	9000	8000	94	–	15.13	15.71	16.23	22.15
TQK 130 3_18	260	400	900	2000	4500	7'	6'	56	9000	8000	91	15.18	15.34	15.92	16.44	–
TQK 130 3_24	400	600	1000	2000	4500	7'	6'	56	9000	8000	91	15.05	15.21	15.79	16.32	–
TQK 130 3_30	400	600	1000	2000	4500	7'	6'	56	9000	8000	91	14.99	15.15	15.73	16.26	–
TQK 130 3_40	400	600	1000	2000	4500	7'	6'	56	9000	8000	91	14.72	14.88	15.46	15.99	–
TQK 130 3_50	400	600	1000	2000	4500	7'	6'	56	9000	8000	91	14.61	14.77	15.35	15.88	–
TQK 130 3_70	400	600	1000	2000	4500	7'	6'	56	9000	8000	91	14.52	14.68	15.25	15.78	–
TQK 130 3_80	400	600	1000	2000	4500	7'	6'	56	9000	8000	91	14.47	14.63	15.21	15.74	–
TQK 130 3_100	400	600	1000	2000	4500	7'	6'	56	9000	8000	91	14.46	14.62	15.20	15.73	–
TQK 130 3_140	360	550	950	2000	4500	7'	6'	56	9000	8000	91	14.46	14.62	15.20	15.73	–
TQK 130 3_200	280	420	900	2000	4500	7'	6'	56	9000	8000	91	14.46	14.62	15.20	15.73	–



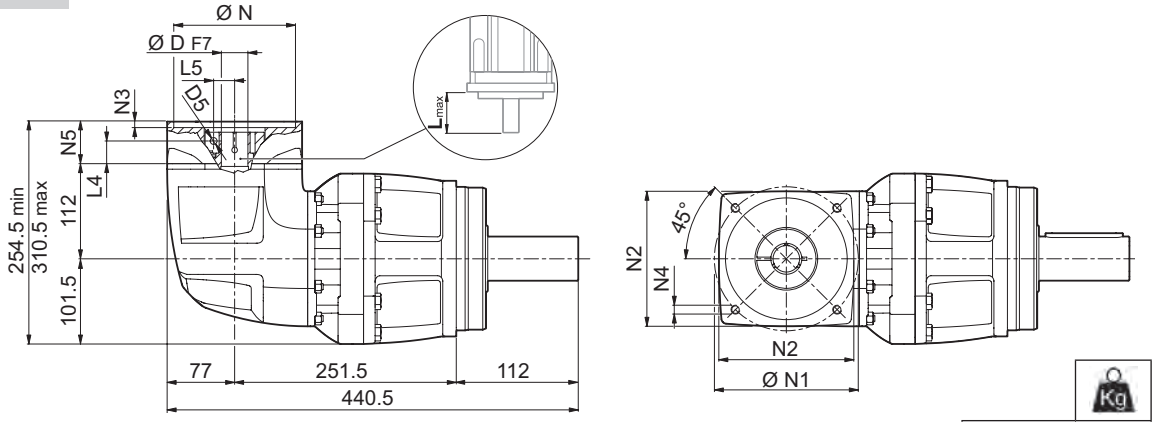
TQK 160

95A2 ... 230A



	Kg
TQK 160 2	55.3

80A3 ... 200A



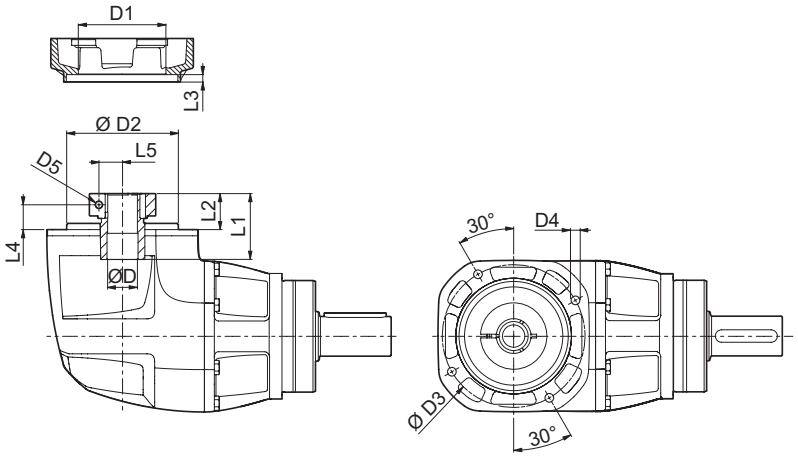
	Kg
TQK 160 3	63

	D							N	N1	N2	N3	N4	N5	L_{max}
TQK 160 2														
95A2	19	24	28	–	–	–	–	95	115	158	6.5	M8x20	50	60
110A2	19	24	–	–	–	–	–	110	130	158	6.5	M8x20	50	60
130A1	19	24	28	32	–	–	–	130	165	158	6.5	M10x20	50	60
180A	19	24	28	32	–	–	–	180	215	203	6.5	M14x28	50	60
180A1	19	24	28	32	38	–	–	180	215	205	6.5	M14x28	60	80
200A	19	24	28	32	38	42	48	200	235	220	6.5	M14x28	96	110
230A	19	24	28	32	38	42	48	230	265	240	6.5	M14x28	96	110
TQK 160 3														
80A3	19	–	–	–	–	–	–	80	100	130	6.5	M6x14	41	60
95A2	19	24	28	–	–	–	–	95	115	130	6.5	M8x18	41	60
110A2	19	24	–	–	–	–	–	110	130	130	6.5	M8x20	41	60
110B1	19	24	28	–	–	–	–	110	145	130	6.5	M8x20	41	60
130A1	19	24	28	32	–	–	–	130	165	154	6.5	M10x20	41	60
180A	19	24	28	32	–	–	–	180	215	190	6.5	M14x28	41	60
180A1	19	24	28	32	38	–	–	180	215	190	6.5	M14x28	61	80
200A	19	24	28	32	38	42	–	200	235	210	6.5	M14x28	97	110

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

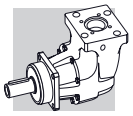
TQK 160

FM



D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
TQK 160 2										
24	58	150	175	M12x20	M6	47	37	9.5	28	19
28	70	150	175	M12x20	M8	47	37	9.5	28	22.5
32	72	150	175	M12x20	M8	47	37	9.5	28	24.5
38	100	150	175	M12x20	M8	59.5	39.5	9.5	28	28
42	114	150	175	M12x20	M10	57	43	9.5	28	33
48	125	150	175	M12x20	M12	57	43	9.5	28	36.5
TQK 160 3										
19	54	120	140	M10x16	M6	50	31	7.5	23.5	16.5
24	70	120	140	M10x16	M6	51.5	32.5	7.5	23.5	19
28	70	120	140	M10x16	M8	51.5	32.5	7.5	23.5	22.5
32	72	120	140	M10x16	M8	51.5	32.5	7.5	23.5	24.5
38	100	120	140	M10x16	M8	54	35	7.5	23.5	28
42	114	120	140	M10x16	M10	51.5	38.5	7.5	23.5	33

	$M_{n\,2}$	$M_{a\,2}$	$M_{p\,2}$	n_1	$n_{1\,max}$	φ_S	φ_R	C_t	$R_{2\,max}$	$A_{2\,max}$	η	J_G [kgcm²] D				
i	[Nm]	[Nm]	[Nm]	[min⁻¹]	[min⁻¹]	≤ [arcmin]		[Nm/arcmin]	[N]	[N]	%	19	24 - 28	32 - 38	42	48
TQK 160 2_6	420	630	840	1600	4000	5'	4'	167	15000	13000	94	–	73.33	73.51	75.57	79.19
TQK 160 2_8	560	840	1120	1600	4000	5'	4'	167	15000	13000	94	–	69.49	69.66	71.73	75.34
TQK 160 2_10	700	1050	1400	1600	4000	5'	4'	167	15000	13000	94	–	67.98	68.16	70.22	73.83
TQK 160 2_14	750	1150	2000	1600	4000	5'	4'	167	15000	13000	94	–	66.68	66.85	68.92	72.53
TQK 160 2_20	550	850	1600	1600	4000	5'	4'	167	15000	13000	94	–	65.94	66.12	68.18	71.80
TQK 160 3_18	530	800	1500	1600	4000	7'	6'	167	15000	13000	91	66.84	67.17	67.34	69.41	–
TQK 160 3_24	800	1200	2000	1600	4000	7'	6'	167	15000	13000	91	66.47	66.79	66.97	69.03	–
TQK 160 3_30	800	1200	2000	1600	4000	7'	6'	167	15000	13000	91	66.30	66.63	66.80	68.87	–
TQK 160 3_40	800	1200	2000	1600	4000	7'	6'	167	15000	13000	91	65.41	65.73	65.91	67.97	–
TQK 160 3_50	800	1200	2000	1600	4000	7'	6'	167	15000	13000	91	64.99	65.32	65.49	67.56	–
TQK 160 3_70	800	1200	2000	1600	4000	7'	6'	167	15000	13000	91	64.67	65.00	65.17	67.24	–
TQK 160 3_80	800	1200	2000	1600	4000	7'	6'	167	15000	13000	91	64.51	64.84	65.01	67.08	–
TQK 160 3_100	800	1200	2000	1600	4000	7'	6'	167	15000	13000	91	64.49	64.82	65.00	67.06	–
TQK 160 3_140	750	1150	2000	1600	4000	7'	6'	167	15000	13000	91	64.48	64.81	64.99	67.05	–
TQK 160 3_200	550	850	1600	1600	4000	7'	6'	167	15000	13000	91	64.47	64.80	64.98	67.04	–

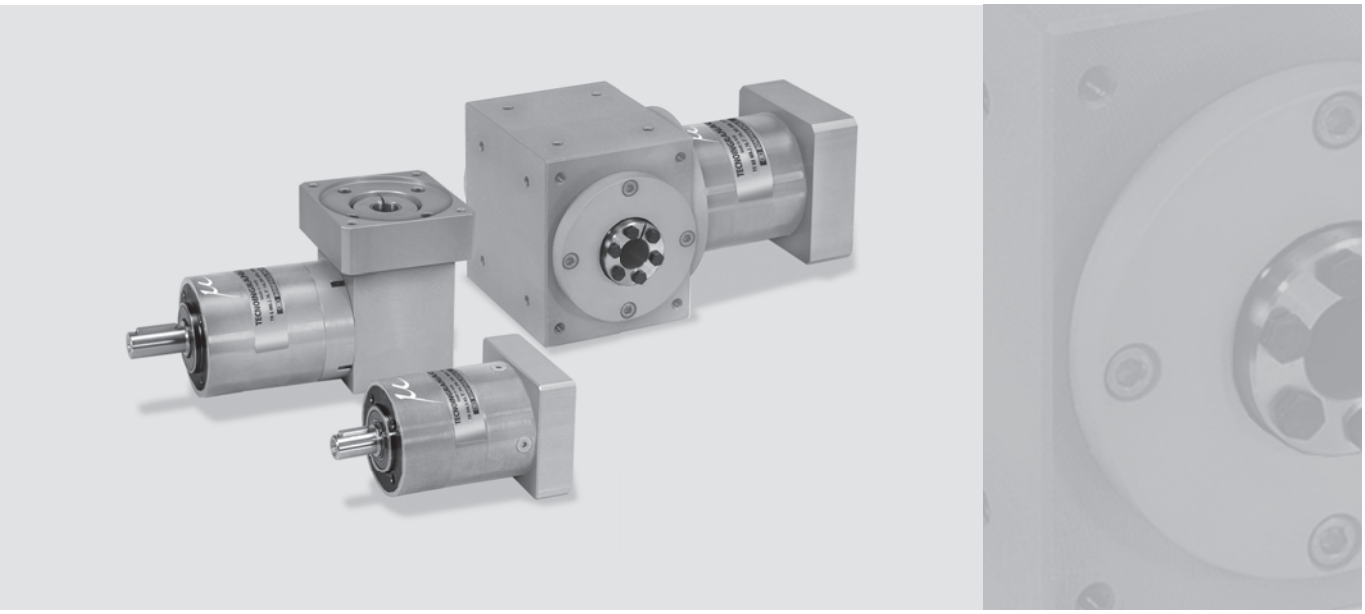


TQK

TR
PRÄZISIONSPLANETENGETRIEBE

TR-Präzisionsplanetengetriebe zeichnen sich durch ein extrem reduziertes Axialspiel, optimale Leistung, Laufruhe, einfache Motormontage und höchste Zuverlässigkeit aus.

Sie sind in verschiedenen Konfigurationen (Antrieb rechtwinklig, Abtrieb rechtwinklig, Hohlwelle, Eingangsvollwelle) und Motoradaptern erhältlich und so mit den mechanischen Schnittstellen der marktgängigsten Servomotoren kompatibel.



Produktmerkmale:

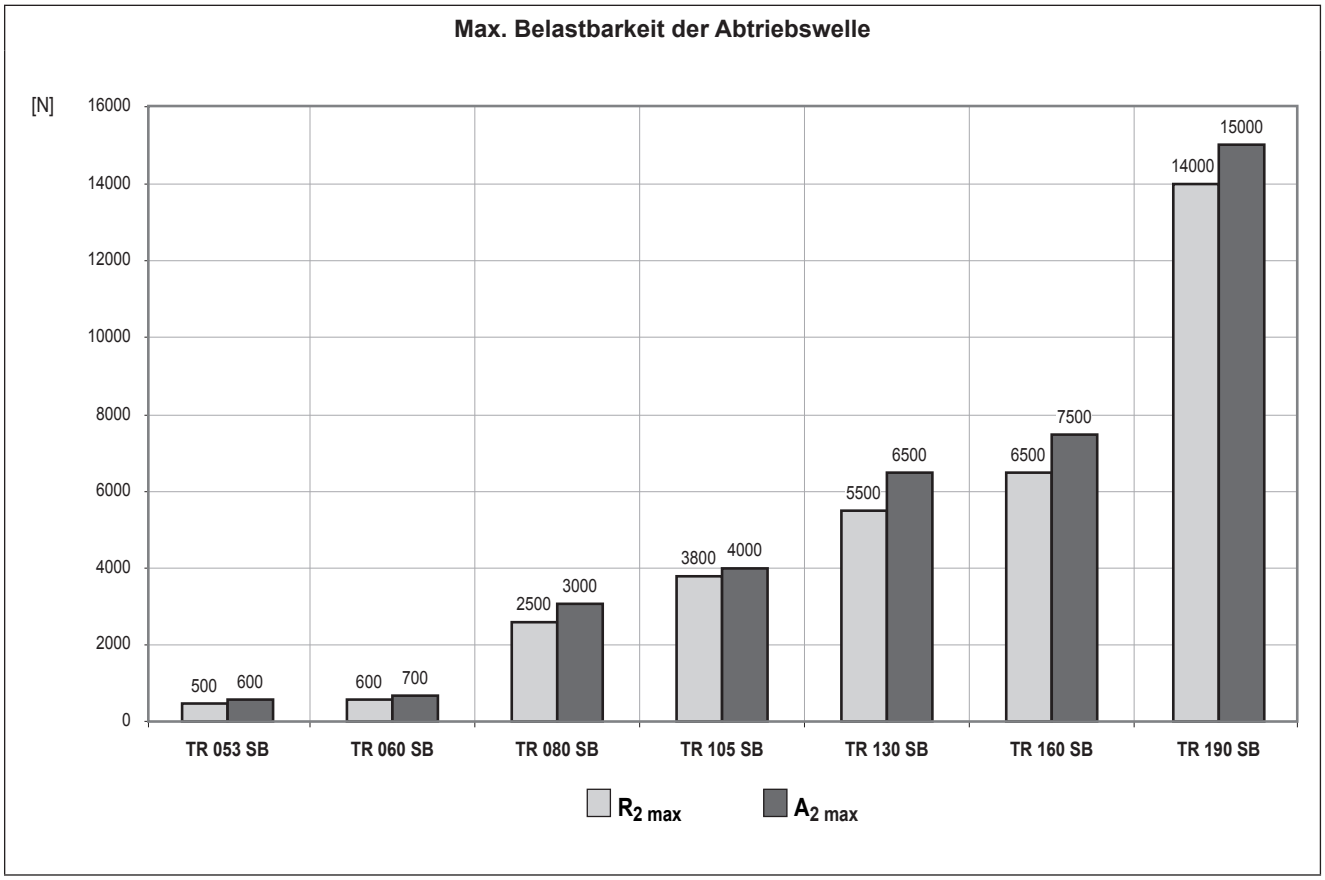
- Hohe Drehmomentdichte
- Hohes Beschleunigungs- und Nenndrehmoment
- Hohe radiale und axiale Belastbarkeit
- Entwickelt für Zyklus- und Dauerbetrieb
- Hohe Verdrehsteifigkeit
- Höchste Präzision dank des Verdrehflankenspiels von weniger als 3 arcmin
- Laufruhig
- Maximale Flexibilität (standard/reduziertes Flankenspiel; standard/verstärkte Lager)
- Verschiedene Varianten) für Ihre Anforderungen.

5 MERKMALE DER TR-REIHE

Die Planetengetriebe der TR-Reihe zeichnen sich durch geringes Verdrehspiel, hohes übertragbares Drehmoment und hohe Getriebeübersetzungen aus.
Alle Getriebe sind laufruhig und gewährleisten eine lange und wartungsarme Nutzungsdauer. Die Motormontage ist einfach und erfordert keinerlei Spezialwerkzeug.

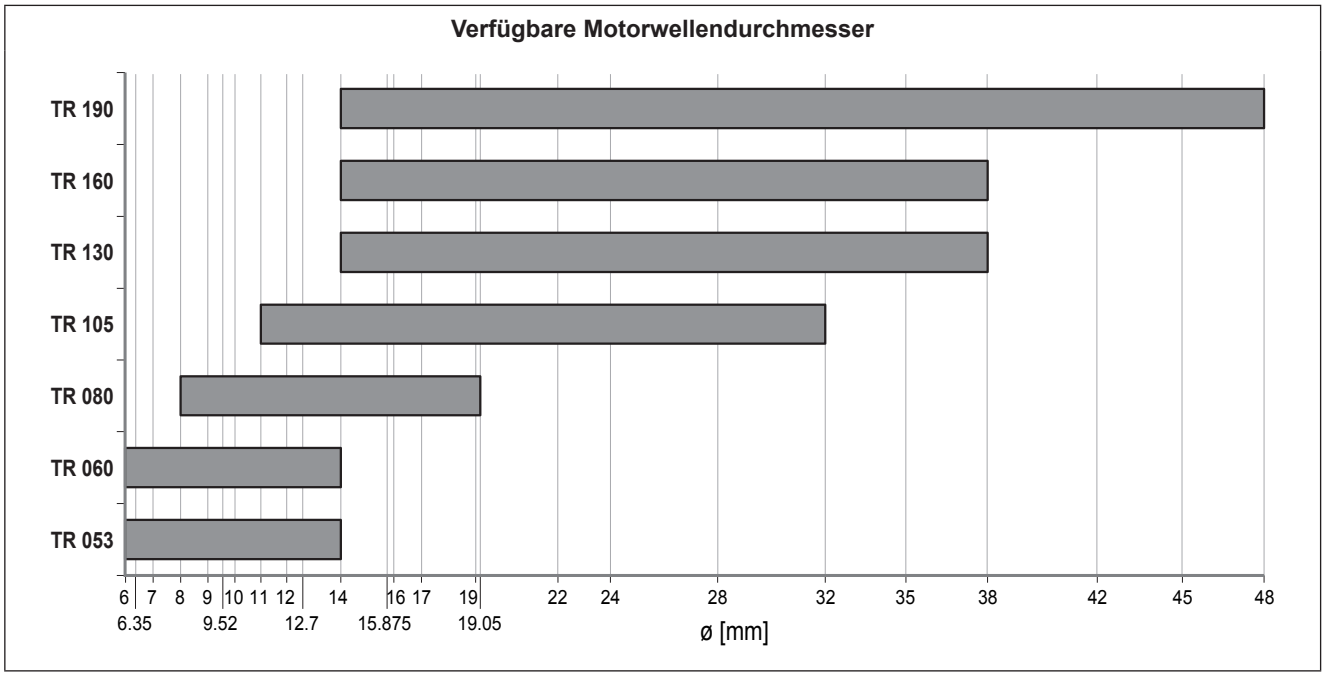
- Erhältlich mit standard (STD) oder reduziertem (LOW) Verdrehflankenspiel:
  1-Stufige Getriebe: standard $\varphi_S \leq 5'$; reduziert $\varphi_R \leq 3'$
  2-Stufige Getriebe: standard $\varphi_S \leq 5'$; reduziert $\varphi_R \leq 3'$
  3-Stufige Getriebe (nur G und MB): standard $\varphi_R \leq 5'$; reduziert $\varphi_R \leq 3'$
  3-Stufige Getriebe: standard $\varphi_S \leq 7'$; reduziert $\varphi_R \leq 5'$
  4-Stufige Getriebe (nur G und MB): standard $\varphi_S \leq 7'$; reduziert $\varphi_R \leq 5'$
- Eine hohe IP-Schutzklasse (IP65) sorgt dafür, dass innenliegende Teile vor Staub- und Flüssigkeitseintritt geschützt sind.
- Serienmäßige Fluorelastomer-Wellendichtungen an der Eingangswelle
- Schalldruckpegel $L_P \leq 70$ dB(A). Gemessen in 1 m Abstand ohne Last und bei einer Eingangsdrehzahl von $n_1 = 3000$ min^{-1}; i = 10.
- Lager für eine durchschnittliche Lebensdauer von von 20.000 Stunden unter normalen Betriebsbedingungen geeignet. Die folgende Tabelle zeigt die Lagertypen für die Abtriebswelle.

	TR 053	TR 060	TR 080	TR 105	TR 130	TR 160	TR 190
SB							



Bonfiglioli Tecnoingranaggi

- Große Auswahl an Motoradaptern sorgt für den Anschluss an die marktgängigsten Servomotoren.



- Schmierung optimiert für die gewünschte Betriebsart.
  Ohne Verunreinigung muss das Schmiermittel nicht regelmäßig gewechselt werden.

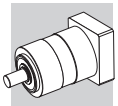
Betrieb	TR 053 - TR 060	TR 080 ... TR 190	andere Dichtungen
S1 (kontinuierlich)	NLGI Fettkonsistenz 00	Synthetiköl Viskositätsklasse ISO VG 220	Fluoroelastomer
S5 (unterbrochen)		NLGI Fettkonsistenz 00	NBR

- Umgebungstemperatur min. -20°C, max. +30°C; bei Temperaturen höher als 30°C ist der Temperaturfaktor f_T zu berücksichtigen.
- Die Gehäusetemperatur darf T_{max} = 90°C nicht übersteigen.

Übersicht der Nenndrehmomente M_{n2} [Nm]

[I]	3	4	5	6	7	9	10	12	15	16	20	25	28	30	35	36	40	45	48	50	60	64	70	75	80	81	84	90
TR 053	12	15	15	15	15	12	–	20	20	20	20	20	20	–	20	15	–	20	20	–	20	20	–	20	20	12	20	–
TR 060	18	25	25	25	25	18	18	30	30	30	30	30	30	18	30	25	30	–	30	30	–	30	30	30	30	–	30	18
TR 080	40	50	50	50	50	40	40	70	70	70	70	70	70	40	70	50	70	–	70	70	–	70	70	70	70	–	70	40
TR 105	100	140	140	140	140	100	100	170	170	170	170	170	170	100	170	140	170	–	170	170	–	170	170	170	170	–	170	100
TR 130	215	380	380	380	380	215	215	450	450	450	450	450	450	215	450	380	450	–	450	450	–	450	450	450	450	–	450	215
TR 160	350	500	500	500	500	350	350	700	700	700	700	700	700	350	700	500	700	–	700	700	–	700	700	700	700	–	700	350
TR 190	500	700	700	700	700	500	500	1000	1000	1000	1000	1000	1000	500	1000	700	1000	–	1000	1000	–	1000	1000	1000	1000	–	1000	500

[I]	100	112	120	125	140	144	150	160	175	180	200	210	216	225	245	250	252	280	324	350	400	405	500	567	700	729	1000
TR 053	20	20	–	20	20	20	–	–	20	20	–	–	20	20	20	–	20	–	20	–	–	20	–	20	–	12	–
TR 060	18	–	30	30	30	–	30	30	30	–	30	30	30	–	–	30	–	30	–	30	30	–	30	–	30	–	18
TR 080	40	–	70	70	70	–	70	70	70	–	70	70	70	–	–	70	–	70	–	70	70	–	70	–	70	–	40
TR 105	100	–	170	170	170	–	170	170	170	–	170	170	170	–	–	170	–	170	–	170	170	–	170	–	170	–	100
TR 130	215	–	450	450	450	–	450	450	450	–	450	450	450	–	–	450	–	450	–	450	450	–	450	–	450	–	215
TR 160	700	–	350	700	700	–	700	700	700	–	700	700	–	–	–	700	–	700	–	700	700	–	700	–	700	–	350
TR 190	1000	–	500	1000	1000	–	1000	1000	1000	–	1000	1000	–	–	–	1000	–	1000	–	1000	1000	–	1000	–	1000	–	500



5.1 BESTELLBEZEICHNUNG

TR G 080 3 20 STD 95A CD 19 S1 OR SB KL UH1

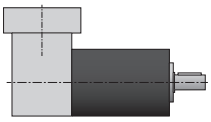
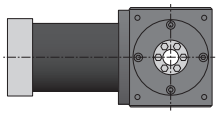
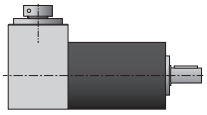
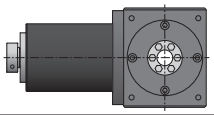
- **UH1** — SCHMIERSTOFF
  - **–** Standard
  - **UH1** Lebensmitteltaugliches Schmiermittel
- **KL** — ABTRIEBSWELLENKONFIGURATION
  - **KL** Glatte Welle ohne Passfeder
  - **KE** Passfedernut (⊖ MB)
- **SB** — LAGER DER ABTRIEBSWELLE
  - **SB** Standard
- **OR** — MONTAGEPOSITION
  - **OR** Horizontal
  - **VA** Vertikal mit Motor oben
  - **VB** Vertikal mit Motor unten
- **S1** — BETRIEBSART
  - **S1** Dauerbetrieb
  - **S5** Kurzzeitbetrieb
- **19** — BOHRUNGSDURCHMESSER EINGANGSWELLE
  - **6 ... 48** (⊖ IS)
- **CD** — MOTORKOPPLUNG
  - **CD** Klemmnabe (⊖ IS)
- **95A** — ANTRIEBSFLANSCH
  - **25AH ... 180A1** Motorflansch
  - **IS** Eingangsvollwelle (TR 053 ... TR 160) (⊖ G - ⊖ MB)
  - **FM** Ohne Motorflansch
- **STD** — VERDREHSPIEL

	1 Getriebestufe	2 Getriebestufen	3 Getriebestufen (nur MB, G)	3 Getriebestufen	4 Getriebestufen (nur MB, G)
STD	$\varphi_S \leq 5'$	$\varphi_S \leq 5'$	$\varphi_S \leq 5'$	$\varphi_S \leq 7'$	$\varphi_S \leq 7'$
LOW (⊖ TR 053)	$\varphi_R \leq 3'$	$\varphi_R \leq 3'$	$\varphi_R \leq 3'$	$\varphi_R \leq 5'$	$\varphi_R \leq 5'$

- **20** — GETRIEBEÜBERSETZUNG
- **3** — GETRIEBESTUFEN
  - **1 2 3 4**
- **080** — BAUGRÖSSE
  - **053 060 080 105 130 160 190**
- **G** — VERSION
  - **–** Koaxial
  - **G** Rechtwinkliger Eingang (TR 053 ... TR 160)
  - **MB** Rechtwinkliger Ausgang (TR 080 ... TR 160)
- **TR** — REIHE
  - **TR**

TR

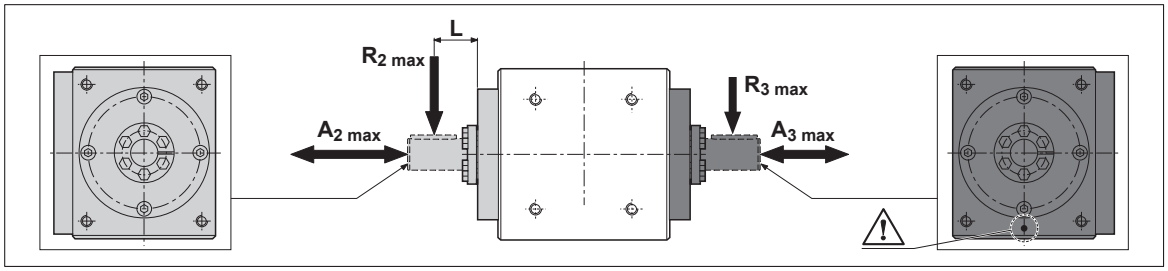
5.1.1 VERSIONEN UND ANTRIEBSSEITE

		VERSION		
		Koaxial **(—)**	Rechtwinkliger Eingang **(G)**	Rechtwinkliger Ausgang **(MB)**
ANTRIEBSFLANSCH	**25AH ... 180A1**			
	IS		⊖	⊖
	FM			

5.1.2 MONTAGEPOSITIONEN

	OR	VA	VB
—			
G			
MB			

5.2 ZULÄSSIGE RADIAL- UND AXIALKRÄFTE FÜR DIE MB-VERSION



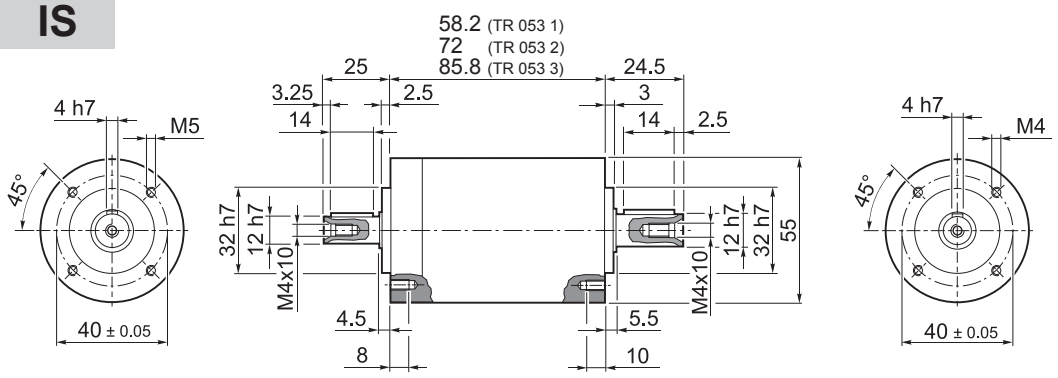
	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	L [mm]	$R_{3\,max}$ [N]	$A_{3\,max}$ [N]
TR MB 080	6000	5000	60	5500	5000
TR MB 105	9000	7500	80	7500	7500
TR MB 130	13500	11500	100	11000	11500
TR MB 160*	15000	11500	100	12500	11500

* Lager ausgelegt für eine durchschnittliche Lebensdauer von 10.000 Stunden unter normalen Betriebsbedingungen.

TR

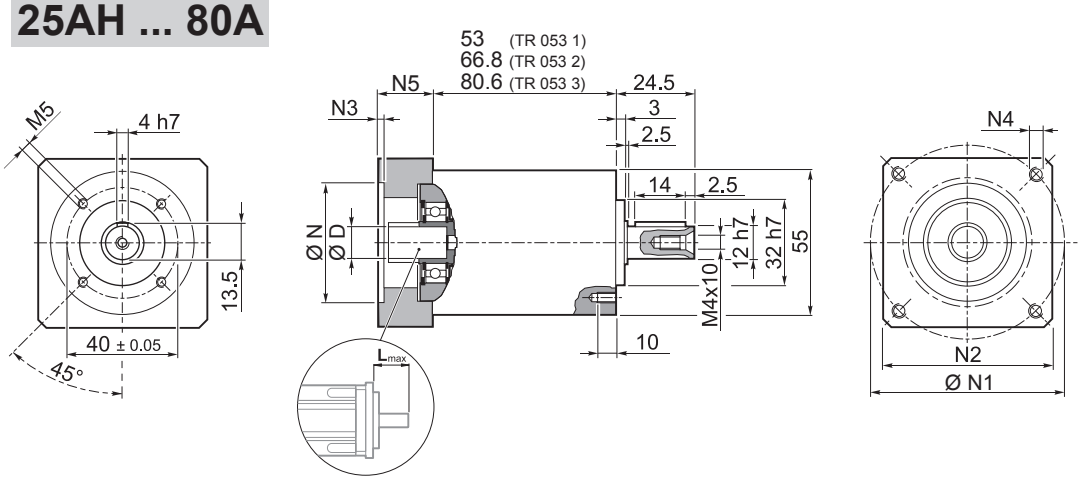
TR 053

IS



	Kg
TR 053 1	0.8
TR 053 2	1.0
TR 053 3	1.3

25AH ... 80A

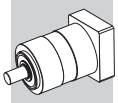


	Kg
TR 053 1	0.8
TR 053 2	1.0
TR 053 3	1.3

	D											N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6	6.35	7	8	9	9.52	–	–	–	–	–	25	36	48	55	3.5	4.5	25	25
26AH	6	6.35	7	8	9	9.52	–	–	–	–	–	26	36	48					
28AH	6	6.35	7	8	9	9.52	–	–	–	–	–	28	36	48					
30AH	6	6.35	7	8	9	9.52	–	–	–	–	–	30	36	48					
32AH	6	6.35	7	8	9	9.52	–	–	–	–	–	32	38	48					
34AH	6	6.35	7	8	9	9.52	–	–	–	–	–	34	40	48					
36AH	6	6.35	7	8	9	9.52	–	–	–	–	–	36	42	48					
38AH	6	6.35	7	8	9	9.52	–	–	–	–	–	38	44	48					
40AH	6	6.35	7	8	9	9.52	–	–	–	–	–	40	46	48					
38B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	4	5.5	23	30
50C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
50MH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	65		55	2	5.5	16	23
60A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60AH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	5.5	18	25
60A1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60AH1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	5.5	23	30
60B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

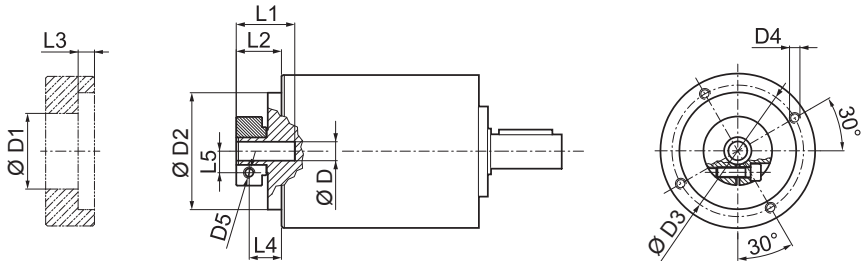
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

Bonfiglioli Tecnoingranaggi



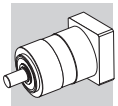
TR 053

FM



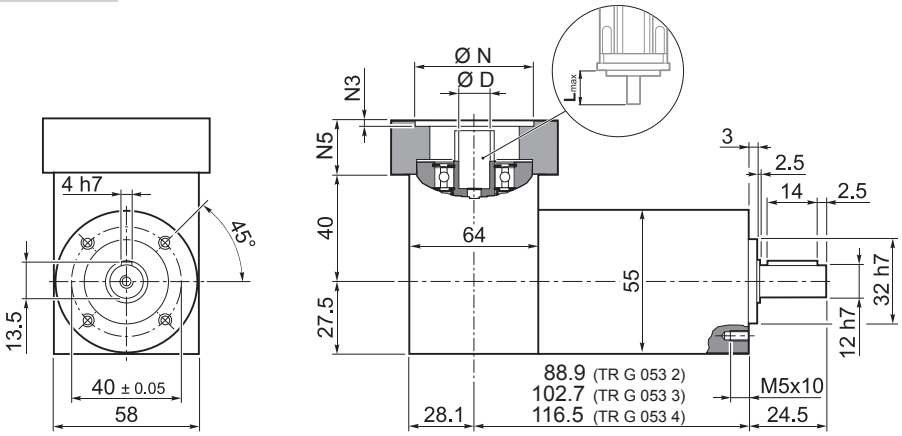
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6	6.35	7		32.5	50	42.5	M4x8	M4	20.2	13.2	3	8.7	8
8	9	9.52	10	32.5	50	42.5	M4x8	M4	20.2	13.2	3	7.8	9
11	12	12.7		35.5	50	42.5	M4x8	M4	20.5	13.5	3	8.5	11
14				35.5	50	42.5	M4x8	M4	24	17	3	10.2	11.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	C_t [Nm/arcmin]	$R_{1\,max}$ [N]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 6 ... 9.52	J_G [kgcm^2] D 10 ... 14
TR 053 1_3	12	22	40	3300	4000	5'	1.0	200	500	600	97	0.06	0.08
TR 053 1_4	15	28	45	3500	5000	5'	1.0	200	500	600	97	0.05	0.06
TR 053 1_5	15	28	45	3500	5000	5'	1.0	200	500	600	97	0.04	0.06
TR 053 1_6	15	28	45	3500	5000	5'	1.0	200	500	600	97	0.03	0.05
TR 053 1_7	15	28	45	4000	6000	5'	1.0	200	500	600	97	0.03	0.05
TR 053 1_9	12	22	40	4000	6000	5'	1.0	200	500	600	97	0.03	0.05
TR 053 2_12	20	30	60	3300	4000	5'	0.9	200	500	600	94	0.06	0.08
TR 053 2_15	20	30	60	3300	4000	5'	0.9	200	500	600	94	0.06	0.08
TR 053 2_16	20	30	60	3500	5000	5'	0.9	200	500	600	94	0.05	0.06
TR 053 2_20	20	30	60	3500	5000	5'	0.9	200	500	600	94	0.04	0.06
TR 053 2_25	20	30	60	3500	5000	5'	0.9	200	500	600	94	0.04	0.06
TR 053 2_28	20	30	60	4000	6000	5'	0.9	200	500	600	94	0.03	0.05
TR 053 2_35	20	30	60	4000	6000	5'	0.9	200	500	600	94	0.03	0.05
TR 053 2_36	15	28	45	4000	6000	5'	0.9	200	500	600	94	0.03	0.05
TR 053 2_45	20	30	60	4000	6000	5'	0.9	200	500	600	94	0.03	0.05
TR 053 2_81	12	22	40	4000	6000	5'	0.9	200	500	600	94	0.03	0.05
TR 053 3_48	20	30	60	4000	5000	7'	0.7	200	500	600	91	0.05	0.07
TR 053 3_60	20	30	60	3500	5000	7'	0.7	200	500	600	91	0.05	0.07
TR 053 3_64	20	30	60	3500	5000	7'	0.7	200	500	600	91	0.05	0.06
TR 053 3_75	20	30	60	3500	5000	7'	0.7	200	500	600	91	0.04	0.06
TR 053 3_80	20	30	60	3500	5000	7'	0.7	200	500	600	91	0.05	0.06
TR 053 3_84	20	30	60	4000	6000	7'	0.7	200	500	600	91	0.03	0.05
TR 053 3_100	20	30	60	3500	5000	7'	0.7	200	500	600	91	0.04	0.06
TR 053 3_112	20	30	60	4000	6000	7'	0.7	200	500	600	91	0.03	0.05
TR 053 3_125	20	30	60	3500	5000	7'	0.7	200	500	600	91	0.04	0.06
TR 053 3_140	20	30	60	4000	6000	7'	0.7	200	500	600	91	0.03	0.05
TR 053 3_144	20	30	60	4000	6000	7'	0.7	200	500	600	91	0.03	0.05
TR 053 3_175	20	30	60	4000	6000	7'	0.7	200	500	600	91	0.03	0.05
TR 053 3_180	20	30	60	4000	6000	7'	0.7	200	500	600	91	0.03	0.05
TR 053 3_216	20	30	60	3500	5000	7'	0.7	200	500	600	91	0.03	0.05
TR 053 3_225	20	30	60	4000	6000	7'	0.7	200	500	600	91	0.03	0.05
TR 053 3_245	20	30	60	4000	6000	7'	0.7	200	500	600	91	0.03	0.05
TR 053 3_252	20	30	60	4000	6000	7'	0.7	200	500	600	91	0.05	0.06
TR 053 3_324	20	30	60	4000	6000	7'	0.7	200	500	600	91	0.03	0.05
TR 053 3_405	20	30	60	4000	6000	7'	0.7	200	500	600	91	0.03	0.05
TR 053 3_567	20	30	60	4000	6000	7'	0.7	200	500	600	91	0.03	0.05
TR 053 3_729	12	22	40	4000	6000	7'	0.7	200	500	600	91	0.03	0.05

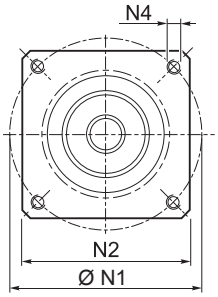


TR G 053

25AH ... 80A



	Kg
TR G 053 2	1.3
TR G 053 3	1.5
TR G 053 4	1.8

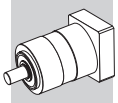


TR

	D											N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6	6.35	7	8	9	9.52	–	–	–	–	–	25	36	48					
26AH	6	6.35	7	8	9	9.52	–	–	–	–	–	26	36	48					
28AH	6	6.35	7	8	9	9.52	–	–	–	–	–	28	36	48					
30AH	6	6.35	7	8	9	9.52	–	–	–	–	–	30	36	48					
32AH	6	6.35	7	8	9	9.52	–	–	–	–	–	32	38	48	55	3.5	4.5	25	25
34AH	6	6.35	7	8	9	9.52	–	–	–	–	–	34	40	48					
36AH	6	6.35	7	8	9	9.52	–	–	–	–	–	36	42	48					
38AH	6	6.35	7	8	9	9.52	–	–	–	–	–	38	44	48					
40AH	6	6.35	7	8	9	9.52	–	–	–	–	–	40	46	48					
38B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	4	5.5	23	30
50C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
50MH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	65		55	2	5.5	16	23
60A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60A1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

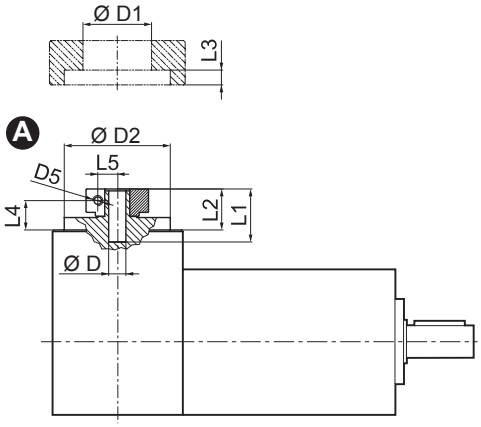
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

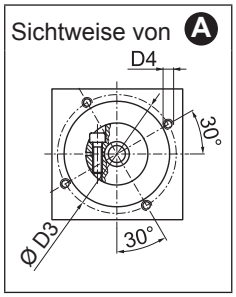
Bonfiglioli Tecnoingranaggi



TR G 053

FM



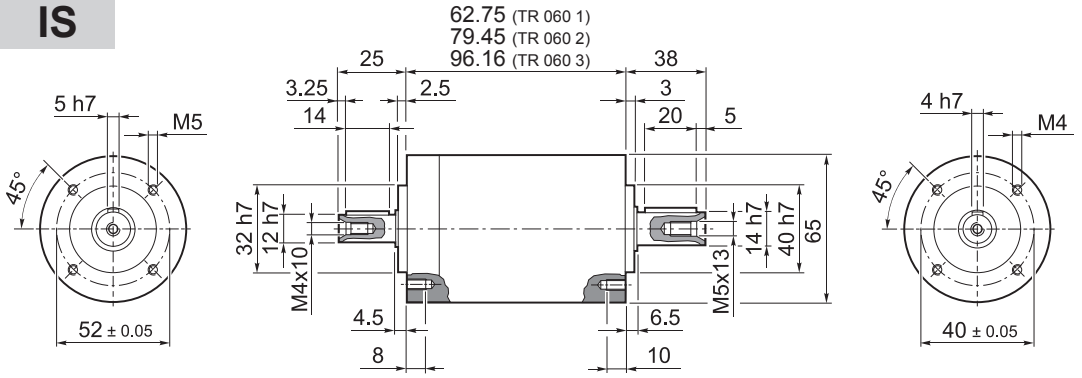


D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6	6.35	7		32.5	50	42.5	M4x8	M4	20.2	13.2	3	8.7	8
8	9	9.52	10	32.5	50	42.5	M4x8	M4	20.2	13.2	3	7.8	9
11	12	12.7		35.5	50	42.5	M4x8	M4	20.5	13.5	3	8.5	11
14				35.5	50	42.5	M4x8	M4	24	17	3	10.2	11.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	%	J_G [kgcm^2] D 6 ... 9.52	J_G [kgcm^2] D 10 ... 14
TR G 053 2_3	12	22	40	3300	4000	5'	1.0	500	600	94	0.18	0.20
TR G 053 2_4	15	28	45	3500	5000	5'	1.0	500	600	94	0.18	0.19
TR G 053 2_5	15	28	45	3500	5000	5'	1.0	500	600	94	0.17	0.19
TR G 053 2_6	15	28	45	3500	5000	5'	1.0	500	600	94	0.17	0.18
TR G 053 2_7	15	28	45	4000	6000	5'	1.0	500	600	94	0.17	0.19
TR G 053 2_9	12	22	40	4000	6000	5'	1.0	500	600	94	0.17	0.18
TR G 053 3_12	20	30	60	3300	4000	5'	0.9	500	600	91	0.18	0.20
TR G 053 3_15	20	30	60	3300	4000	5'	0.9	500	600	91	0.18	0.20
TR G 053 3_16	20	30	60	3500	5000	5'	0.9	500	600	91	0.17	0.19
TR G 053 3_20	20	30	60	3500	5000	5'	0.9	500	600	91	0.17	0.19
TR G 053 3_25	20	30	60	3500	5000	5'	0.9	500	600	91	0.17	0.19
TR G 053 3_28	20	30	60	4000	6000	5'	0.9	500	600	91	0.17	0.19
TR G 053 3_35	20	30	60	4000	6000	5'	0.9	500	600	91	0.17	0.19
TR G 053 3_36	15	28	45	4000	6000	5'	0.9	500	600	91	0.17	0.18
TR G 053 3_45	20	30	60	4000	6000	5'	0.9	500	600	91	0.17	0.19
TR G 053 3_81	12	22	40	4000	6000	5'	0.9	500	600	91	0.17	0.18
TR G 053 4_48	20	30	60	4000	5000	7'	0.7	500	600	89	0.18	0.19
TR G 053 4_60	20	30	60	3500	5000	7'	0.7	500	600	89	0.18	0.19
TR G 053 4_64	20	30	60	3500	5000	7'	0.7	500	600	89	0.17	0.19
TR G 053 4_75	20	30	60	3500	5000	7'	0.7	500	600	89	0.17	0.19
TR G 053 4_80	20	30	60	3500	5000	7'	0.7	500	600	89	0.17	0.19
TR G 053 4_84	20	30	60	4000	6000	7'	0.7	500	600	89	0.17	0.19
TR G 053 4_100	20	30	60	3500	5000	7'	0.7	500	600	89	0.17	0.19
TR G 053 4_112	20	30	60	4000	6000	7'	0.7	500	600	89	0.17	0.19
TR G 053 4_125	20	30	60	3500	5000	7'	0.7	500	600	89	0.17	0.19
TR G 053 4_140	20	30	60	4000	6000	7'	0.7	500	600	89	0.17	0.19
TR G 053 4_144	20	30	60	4000	6000	7'	0.7	500	600	89	0.17	0.18
TR G 053 4_175	20	30	60	4000	6000	7'	0.7	500	600	89	0.17	0.19
TR G 053 4_180	20	30	60	4000	6000	7'	0.7	500	600	89	0.17	0.18
TR G 053 4_216	20	30	60	3500	5000	7'	0.7	500	600	89	0.17	0.18
TR G 053 4_225	20	30	60	4000	6000	7'	0.7	500	600	89	0.17	0.18
TR G 053 4_245	20	30	60	4000	6000	7'	0.7	500	600	89	0.17	0.19
TR G 053 4_252	20	30	60	4000	6000	7'	0.7	500	600	89	0.18	0.20
TR G 053 4_324	20	30	60	4000	6000	7'	0.7	500	600	89	0.17	0.18
TR G 053 4_405	20	30	60	4000	6000	7'	0.7	500	600	89	0.17	0.18
TR G 053 4_567	20	30	60	4000	6000	7'	0.7	500	600	89	0.17	0.18
TR G 053 4_729	12	22	40	4000	6000	7'	0.7	500	600	89	0.17	0.18

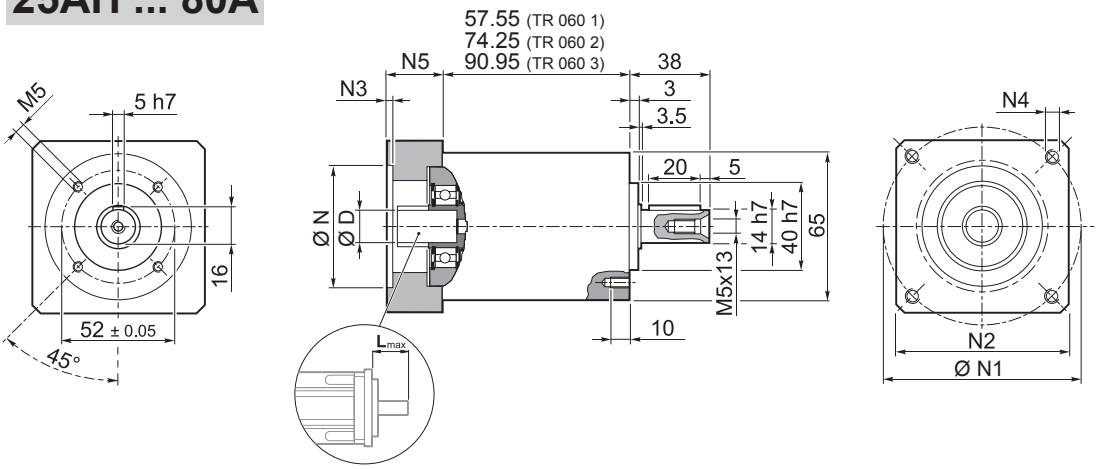
TR 060

IS



	Kg
TR 060 1	1.2
TR 060 2	1.7
TR 060 3	2.0

25AH ... 80A

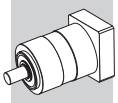


	Kg
TR 060 1	1.2
TR 060 2	1.7
TR 060 3	2.0

	D											N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6	6.35	7	8	9	9.52	–	–	–	–	–	25	39	56	65	3.5	4.5	25	25
26AH	6	6.35	7	8	9	9.52	–	–	–	–	–	26	39	56					
28AH	6	6.35	7	8	9	9.52	–	–	–	–	–	28	39	56					
30AH	6	6.35	7	8	9	9.52	–	–	–	–	–	30	39	56					
32AH	6	6.35	7	8	9	9.52	–	–	–	–	–	32	39	56					
34AH	6	6.35	7	8	9	9.52	–	–	–	–	–	34	40	56					
36AH	6	6.35	7	8	9	9.52	–	–	–	–	–	36	42	56					
39AH	6	6.35	7	8	9	9.52	–	–	–	–	–	39	45	56					
40AH	6	6.35	7	8	9	9.52	–	–	–	–	–	40	46	56					
38B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		65	3	5.5	25	32
50C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
55MH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	55	80		65	2	5.5	16	23
60A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60AH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	5.5	18	25
60A1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60AH1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	5.5	23	30
60B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

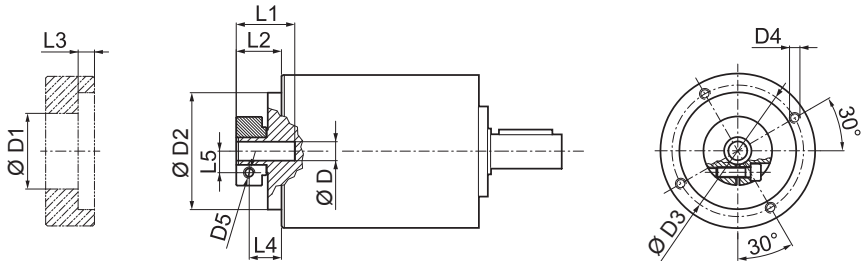
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

Bonfiglioli Tecnoingranaggi



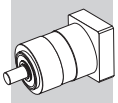
TR 060

FM



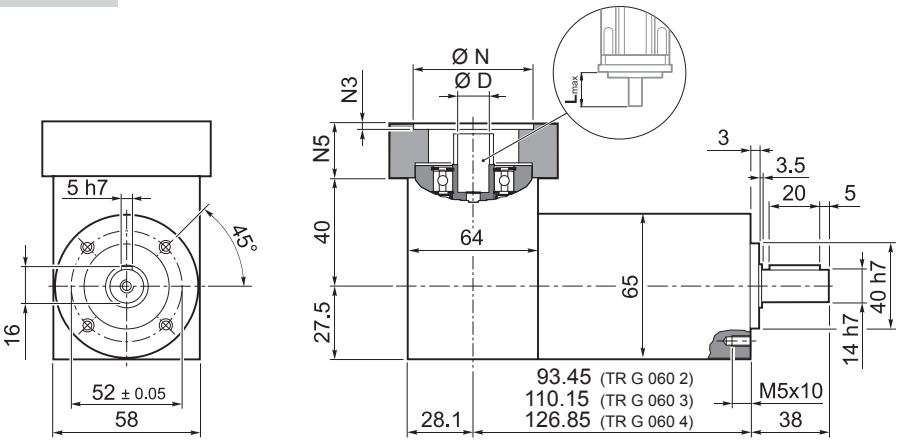
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6	6.35	7		32.5	50	42.5	M4x8	M4	20.2	13.2	3	8.7	8
8	9	9.52	10	32.5	50	42.5	M4x8	M4	20.2	13.2	3	7.8	9
11	12	12.7		35.5	50	42.5	M4x8	M4	20.5	13.5	3	8.5	11
14				35.5	50	42.5	M4x8	M4	24	17	3	10.2	11.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{1\,max}$ [N]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 6 ... 9.52	J_G [kgcm^2] D 10 ... 14
TR 060 1_3	18	35	70	3300	4000	5'	3'	3.0	200	600	700	97	0.10	0.11
TR 060 1_4	25	40	90	3500	5000	5'	3'	3.0	200	600	700	97	0.06	0.08
TR 060 1_5	25	40	90	3500	5000	5'	3'	3.0	200	600	700	97	0.05	0.07
TR 060 1_6	25	40	90	3500	5000	5'	3'	3.0	200	600	700	97	0.04	0.06
TR 060 1_7	25	40	90	4000	6000	5'	3'	3.0	200	600	700	97	0.04	0.06
TR 060 1_10	18	35	70	4000	6000	5'	3'	3.0	200	600	700	97	0.03	0.05
TR 060 2_9	18	35	70	3300	4000	5'	3'	2.5	200	600	700	94	0.10	0.12
TR 060 2_12	30	45	100	3300	4000	5'	3'	2.5	200	600	700	94	0.10	0.11
TR 060 2_15	30	45	100	3300	4000	5'	3'	2.5	200	600	700	94	0.09	0.11
TR 060 2_16	30	45	100	3500	5000	5'	3'	2.5	200	600	700	94	0.06	0.08
TR 060 2_20	30	45	100	3500	5000	5'	3'	2.5	200	600	700	94	0.05	0.07
TR 060 2_25	30	45	100	3500	5000	5'	3'	2.5	200	600	700	94	0.05	0.06
TR 060 2_28	30	45	100	4000	6000	5'	3'	2.5	200	600	700	94	0.04	0.06
TR 060 2_30	18	35	70	4000	6000	5'	3'	2.5	200	600	700	94	0.03	0.05
TR 060 2_35	30	45	100	4000	6000	5'	3'	2.5	200	600	700	94	0.04	0.06
TR 060 2_36	25	40	90	3500	5000	5'	3'	2.5	200	600	700	94	0.04	0.06
TR 060 2_40	30	45	100	4000	6000	5'	3'	2.5	200	600	700	94	0.03	0.05
TR 060 2_50	30	45	100	4000	6000	5'	3'	2.5	200	600	700	94	0.03	0.05
TR 060 2_70	30	45	100	4000	6000	5'	3'	2.5	200	600	700	94	0.03	0.05
TR 060 2_100	18	35	70	4000	6000	5'	3'	2.5	200	600	700	94	0.03	0.05
TR 060 3_48	30	45	100	3500	5000	7'	5'	2.0	200	600	700	91	0.06	0.08
TR 060 3_64	30	45	100	3500	5000	7'	5'	2.0	200	600	700	91	0.06	0.08
TR 060 3_75	30	45	100	3500	5000	7'	5'	2.0	200	600	700	91	0.05	0.07
TR 060 3_80	30	45	100	3500	5000	7'	5'	2.0	200	600	700	91	0.06	0.08
TR 060 3_84	30	45	100	4000	6000	7'	5'	2.0	200	600	700	91	0.04	0.06
TR 060 3_90	18	35	70	4000	6000	7'	5'	2.0	200	600	700	91	0.03	0.05
TR 060 3_120	30	45	100	4000	6000	7'	5'	2.0	200	600	700	91	0.03	0.05
TR 060 3_125	30	45	100	3500	5000	7'	5'	2.0	200	600	700	91	0.05	0.07
TR 060 3_140	30	45	100	4000	6000	7'	5'	2.0	200	600	700	91	0.04	0.06
TR 060 3_150	30	45	100	4000	6000	7'	5'	2.0	200	600	700	91	0.03	0.05
TR 060 3_160	30	45	100	4000	6000	7'	5'	2.0	200	600	700	91	0.03	0.05
TR 060 3_175	30	45	100	4000	6000	7'	5'	2.0	200	600	700	91	0.04	0.06
TR 060 3_200	30	45	100	4000	6000	7'	5'	2.0	200	600	700	91	0.03	0.05
TR 060 3_210	30	45	100	4000	6000	7'	5'	2.0	200	600	700	91	0.03	0.05
TR 060 3_216	30	45	100	3500	5000	7'	5'	2.0	200	600	700	91	0.04	0.06
TR 060 3_250	30	45	100	4000	6000	7'	5'	2.0	200	600	700	91	0.03	0.05
TR 060 3_280	30	45	100	4000	6000	7'	5'	2.0	200	600	700	91	0.03	0.05
TR 060 3_350	30	45	100	4000	6000	7'	5'	2.0	200	600	700	91	0.03	0.05
TR 060 3_400	30	45	100	4000	6000	7'	5'	2.0	200	600	700	91	0.03	0.05
TR 060 3_500	30	45	100	4000	6000	7'	5'	2.0	200	600	700	91	0.03	0.05
TR 060 3_700	30	45	100	4000	6000	7'	5'	2.0	200	600	700	91	0.03	0.05
TR 060 3_1000	18	35	70	4000	6000	7'	5'	2.0	200	600	700	91	0.03	0.05

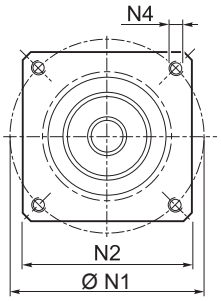


TR G 060

25AH ... 80A

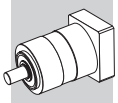


	Kg
TR G 060 2	1.7
TR G 060 3	2.2
TR G 060 4	2.5



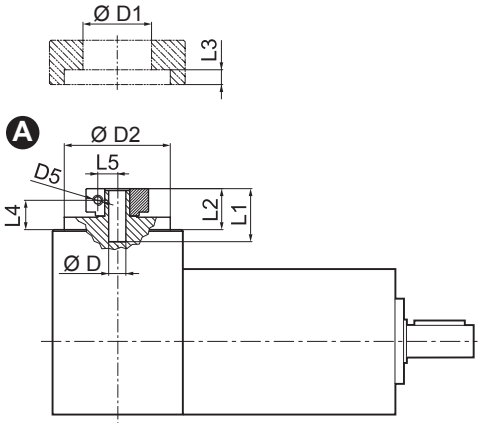
	D											N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6	6.35	7	8	9	9.52	–	–	–	–	–	25	39	56					
26AH	6	6.35	7	8	9	9.52	–	–	–	–	–	26	39	56					
28AH	6	6.35	7	8	9	9.52	–	–	–	–	–	28	39	56					
30AH	6	6.35	7	8	9	9.52	–	–	–	–	–	30	39	56					
32AH	6	6.35	7	8	9	9.52	–	–	–	–	–	32	39	56	65	3.5	4.5	25	25
34AH	6	6.35	7	8	9	9.52	–	–	–	–	–	34	40	56					
36AH	6	6.35	7	8	9	9.52	–	–	–	–	–	36	42	56					
39AH	6	6.35	7	8	9	9.52	–	–	–	–	–	39	45	56					
40AH	6	6.35	7	8	9	9.52	–	–	–	–	–	40	46	56					
38B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		65	3	5.5	25	32
50C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
55MH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	55	80		65	2	5.5	16	23
60A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60A1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

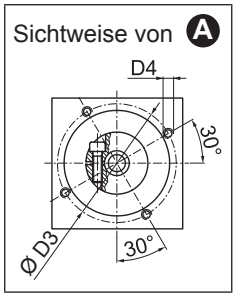
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



TR G 060

FM



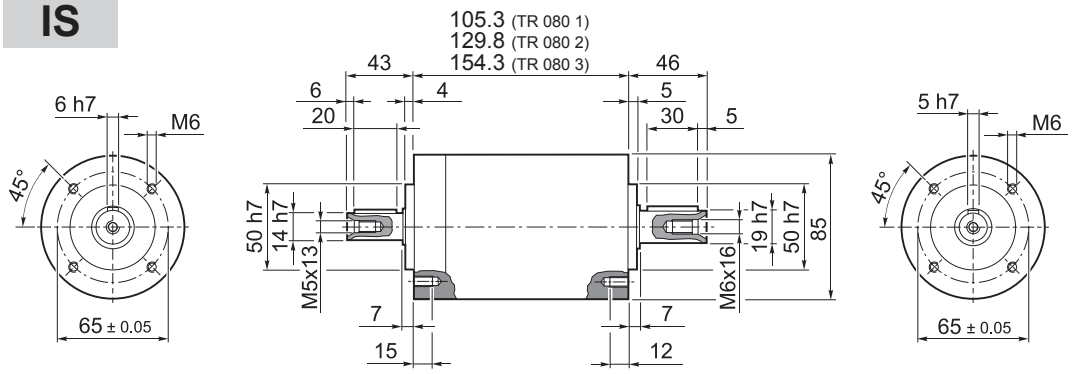


D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6	6.35	7		32.5	50	42.5	M4x8	M4	20.2	13.2	3	8.7	8
8	9	9.52	10	32.5	50	42.5	M4x8	M4	20.2	13.2	3	7.8	9
11	12	12.7		35.5	50	42.5	M4x8	M4	20.5	13.5	3	8.5	11
14				35.5	50	42.5	M4x8	M4	24	17	3	10.2	11.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 6 ... 9.52	J_G [kgcm^2] D 10 ... 14
TR G 060 2_3	18	35	70	3300	4000	5'	3'	3.0	600	700	94	0.20	0.20
TR G 060 2_4	25	40	90	3500	5000	5'	3'	3.0	600	700	94	0.18	0.20
TR G 060 2_5	25	40	90	3500	5000	5'	3'	3.0	600	700	94	0.17	0.19
TR G 060 2_6	25	40	90	3500	5000	5'	3'	3.0	600	700	94	0.17	0.19
TR G 060 2_7	25	40	90	4000	6000	5'	3'	3.0	600	700	94	0.17	0.19
TR G 060 2_10	18	35	70	4000	6000	5'	3'	3.0	600	700	94	0.17	0.18
TR G 060 3_9	18	35	70	3300	4000	5'	3'	2.5	600	700	91	0.20	0.21
TR G 060 3_12	30	45	100	3300	4000	5'	3'	2.5	600	700	91	0.20	0.21
TR G 060 3_15	30	45	100	3300	4000	5'	3'	2.5	600	700	91	0.19	0.21
TR G 060 3_16	30	45	100	3500	5000	5'	3'	2.5	600	700	91	0.18	0.20
TR G 060 3_20	30	45	100	3500	5000	5'	3'	2.5	600	700	91	0.17	0.19
TR G 060 3_25	30	45	100	3500	5000	5'	3'	2.5	600	700	91	0.17	0.18
TR G 060 3_28	30	45	100	4000	6000	5'	3'	2.5	600	700	91	0.17	0.19
TR G 060 3_30	18	35	70	4000	6000	5'	3'	2.5	600	700	91	0.17	0.18
TR G 060 3_35	30	45	100	4000	6000	5'	3'	2.5	600	700	91	0.18	0.19
TR G 060 3_36	25	40	90	3500	5000	5'	3'	2.5	600	700	91	0.18	0.19
TR G 060 3_40	30	45	100	4000	6000	5'	3'	2.5	600	700	91	0.17	0.18
TR G 060 3_50	30	45	100	4000	6000	5'	3'	2.5	600	700	91	0.17	0.18
TR G 060 3_70	30	45	100	4000	6000	5'	3'	2.5	600	700	91	0.17	0.18
TR G 060 3_100	18	35	70	4000	6000	5'	3'	2.5	600	700	91	0.17	0.18
TR G 060 4_48	30	45	100	3500	5000	7'	5'	2.0	600	700	89	0.18	0.20
TR G 060 4_64	30	45	100	3500	5000	7'	5'	2.0	600	700	89	0.18	0.20
TR G 060 4_75	30	45	100	3500	5000	7'	5'	2.0	600	700	89	0.17	0.19
TR G 060 4_80	30	45	100	3500	5000	7'	5'	2.0	600	700	89	0.18	0.20
TR G 060 4_84	30	45	100	4000	6000	7'	5'	2.0	600	700	89	0.17	0.19
TR G 060 4_90	18	35	70	4000	6000	7'	5'	2.0	600	700	89	0.17	0.18
TR G 060 4_120	30	45	100	4000	6000	7'	5'	2.0	600	700	89	0.15	0.17
TR G 060 4_125	30	45	100	3500	5000	7'	5'	2.0	600	700	89	0.17	0.19
TR G 060 4_140	30	45	100	4000	6000	7'	5'	2.0	600	700	89	0.17	0.19
TR G 060 4_150	30	45	100	4000	6000	7'	5'	2.0	600	700	89	0.17	0.18
TR G 060 4_160	30	45	100	4000	6000	7'	5'	2.0	600	700	89	0.17	0.18
TR G 060 4_175	30	45	100	4000	6000	7'	5'	2.0	600	700	89	0.17	0.19
TR G 060 4_200	30	45	100	4000	6000	7'	5'	2.0	600	700	89	0.17	0.18
TR G 060 4_210	30	45	100	4000	6000	7'	5'	2.0	600	700	89	0.17	0.18
TR G 060 4_216	30	45	100	3500	5000	7'	5'	2.0	600	700	89	0.17	0.19
TR G 060 4_250	30	45	100	4000	6000	7'	5'	2.0	600	700	89	0.17	0.18
TR G 060 4_280	30	45	100	4000	6000	7'	5'	2.0	600	700	89	0.17	0.18
TR G 060 4_350	30	45	100	4000	6000	7'	5'	2.0	600	700	89	0.17	0.18
TR G 060 4_400	30	45	100	4000	6000	7'	5'	2.0	600	700	89	0.17	0.18
TR G 060 4_500	30	45	100	4000	6000	7'	5'	2.0	600	700	89	0.17	0.18
TR G 060 4_700	30	45	100	4000	6000	7'	5'	2.0	600	700	89	0.17	0.18
TR G 060 4_1000	18	35	70	4000	6000	7'	5'	2.0	600	700	89	0.17	0.18

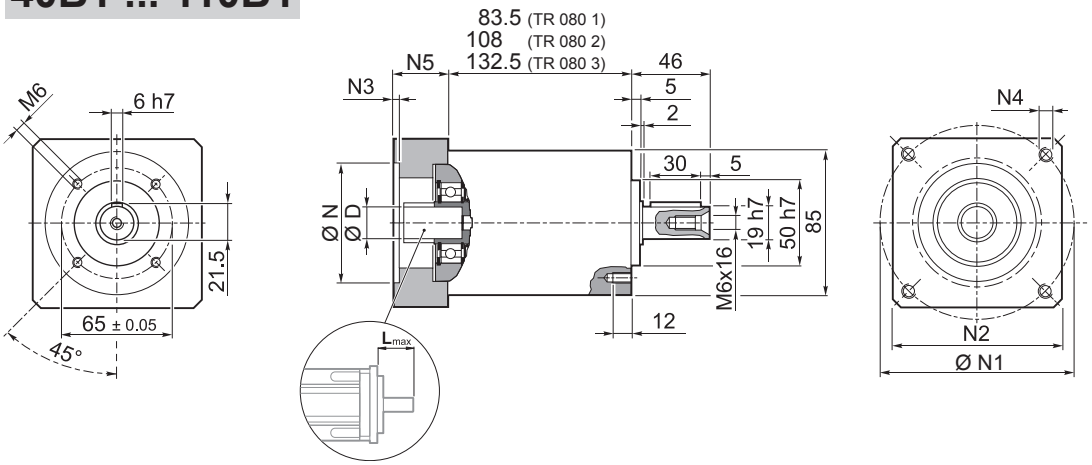
TR 080

IS



	Kg
TR 080 1	4.0
TR 080 2	4.6
TR 080 3	5.2

40B1 ... 110B1

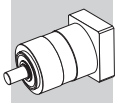


	Kg
TR 080 1	4.0
TR 080 2	4.6
TR 080 3	5.2

	D												N	N1	N2	N3	N4	N5	L_{max}
40B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	40	63	80	4	M4x12	34	40
45A	8	9	9.52	11	12	12.7	–	–	–	–	–	–	45	63	80	4	M4x12	34	40
50B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	M5x16	34	40
50BH1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	5.5	34	40
50C1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	70	80	4	M4x10	34	40
50D	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	95	80	4	M6x20	34	40
55A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	55.5	125.7	105	4	M6x20	34	40
60A2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	80	4	M5x16	34	40
60AH2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	90	4	6.5	34	40
60B1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	85	80	4	M5x16	34	40
60C1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	90	80	4	M5x16	34	40
70A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	80	4	M6x20	34	40
70AH1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	90	4	6.5	34	40
70B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	90	80	4	M5x16	34	40
73A1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	73	98.4	85	4	M5x16	34	40
80A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	80	100	90	4	M6x16	34	40
95A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	115	100	4	M8x20	34	40
95B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	130	115	4	M8x20	34	40
110A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	130	115	4	M8x20	34	40
110B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	44	50
110B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	54	60

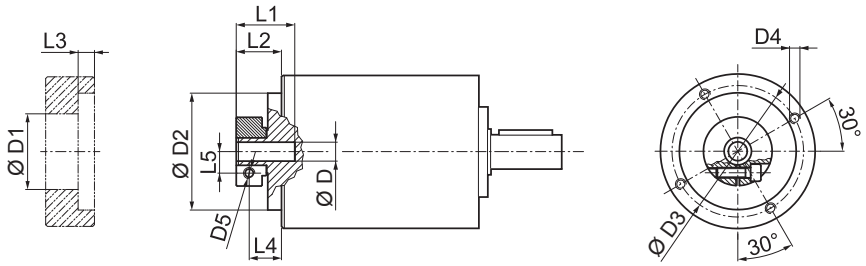
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

Bonfiglioli Tecnoingranaggi



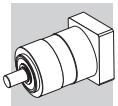
TR 080

FM



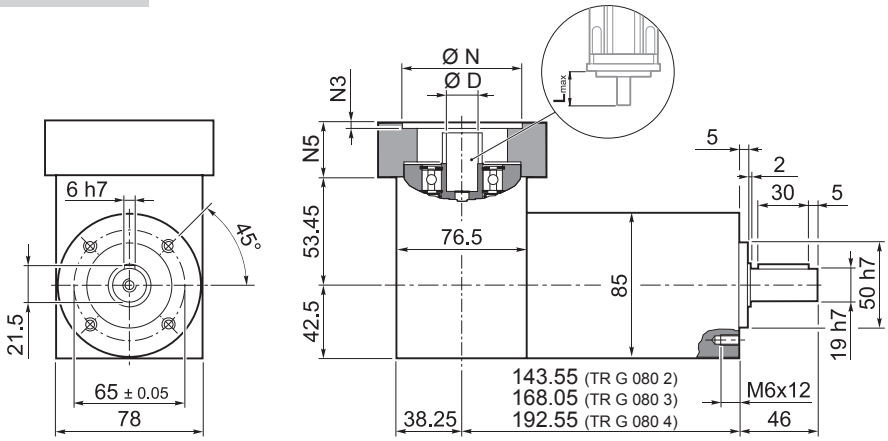
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
8	9	9.52		38	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	10.5
11	12	12.7		43	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	12.5
14	15.875	16	17	48	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	14.5
19	19.05			51	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	16.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{1\,max}$ [N]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 8 ... 12.7	J_G [kgcm^2] D 14 ... 19.05
TR 080 1_3	40	80	180	2900	3500	5'	3'	8.0	400	2500	3000	97	0.50	0.59
TR 080 1_4	50	80	200	3100	4500	5'	3'	8.0	400	2500	3000	97	0.34	0.43
TR 080 1_5	50	80	200	3200	4500	5'	3'	8.0	400	2500	3000	97	0.28	0.37
TR 080 1_6	50	80	200	3200	4500	5'	3'	8.0	400	2500	3000	97	0.21	0.30
TR 080 1_7	50	80	200	4000	6000	5'	3'	8.0	400	2500	3000	97	0.23	0.32
TR 080 1_10	40	80	180	4000	6000	5'	3'	8.0	400	2500	3000	97	0.20	0.29
TR 080 2_9	40	80	180	2900	3500	5'	3'	6.5	400	2500	3000	94	0.49	0.58
TR 080 2_12	70	100	250	2900	3500	5'	3'	6.5	400	2500	3000	94	0.47	0.56
TR 080 2_15	70	100	250	2900	3500	5'	3'	6.5	400	2500	3000	94	0.46	0.55
TR 080 2_16	70	100	250	3100	4500	5'	3'	6.5	400	2500	3000	94	0.32	0.41
TR 080 2_20	70	100	250	3200	4500	5'	3'	6.5	400	2500	3000	94	0.27	0.36
TR 080 2_25	70	100	250	3200	4500	5'	3'	6.5	400	2500	3000	94	0.27	0.36
TR 080 2_28	70	100	250	4000	6000	5'	3'	6.5	400	2500	3000	94	0.22	0.31
TR 080 2_30	40	80	180	4000	6000	5'	3'	6.5	400	2500	3000	94	0.20	0.29
TR 080 2_35	70	100	250	4000	6000	5'	3'	6.5	400	2500	3000	94	0.22	0.31
TR 080 2_36	50	80	200	3200	4500	5'	3'	6.5	400	2500	3000	94	0.20	0.29
TR 080 2_40	70	100	250	4000	6000	5'	3'	6.5	400	2500	3000	94	0.20	0.29
TR 080 2_50	70	100	250	4000	6000	5'	3'	6.5	400	2500	3000	94	0.19	0.28
TR 080 2_70	70	100	250	4000	6000	5'	3'	6.5	400	2500	3000	94	0.19	0.28
TR 080 2_100	40	80	180	4000	6000	5'	3'	6.5	400	2500	3000	94	0.19	0.28
TR 080 3_48	70	100	250	3100	4500	7'	5'	5.5	400	2500	3000	91	0.33	0.42
TR 080 3_64	70	100	250	3100	4500	7'	5'	5.5	400	2500	3000	91	0.32	0.41
TR 080 3_75	70	100	250	3200	4500	7'	5'	5.5	400	2500	3000	91	0.27	0.36
TR 080 3_80	70	100	250	3100	4500	7'	5'	5.5	400	2500	3000	91	0.32	0.41
TR 080 3_84	70	100	250	4000	6000	7'	5'	5.5	400	2500	3000	91	0.23	0.32
TR 080 3_90	40	80	180	4000	6000	7'	5'	5.5	400	2500	3000	91	0.20	0.29
TR 080 3_120	70	100	250	4000	6000	7'	5'	5.5	400	2500	3000	91	0.20	0.29
TR 080 3_125	70	100	250	3200	4500	7'	5'	5.5	400	2500	3000	91	0.27	0.36
TR 080 3_140	70	100	250	4000	6000	7'	5'	5.5	400	2500	3000	91	0.22	0.31
TR 080 3_150	70	100	250	4000	6000	7'	5'	5.5	400	2500	3000	91	0.20	0.29
TR 080 3_160	70	100	250	4000	6000	7'	5'	5.5	400	2500	3000	91	0.20	0.29
TR 080 3_175	70	100	250	4000	6000	7'	5'	5.5	400	2500	3000	91	0.22	0.31
TR 080 3_200	70	100	250	4000	6000	7'	5'	5.5	400	2500	3000	91	0.20	0.29
TR 080 3_210	70	100	250	4000	6000	7'	5'	5.5	400	2500	3000	91	0.20	0.29
TR 080 3_216	70	100	250	3200	4500	7'	5'	5.5	400	2500	3000	91	0.20	0.29
TR 080 3_250	70	100	250	4000	6000	7'	5'	5.5	400	2500	3000	91	0.19	0.28
TR 080 3_280	70	100	250	4000	6000	7'	5'	5.5	400	2500	3000	91	0.19	0.28
TR 080 3_350	70	100	250	4000	6000	7'	5'	5.5	400	2500	3000	91	0.19	0.28
TR 080 3_400	70	100	250	4000	6000	7'	5'	5.5	400	2500	3000	91	0.19	0.28
TR 080 3_500	70	100	250	4000	6000	7'	5'	5.5	400	2500	3000	91	0.19	0.28
TR 080 3_700	70	100	250	4000	6000	7'	5'	5.5	400	2500	3000	91	0.19	0.28
TR 080 3_1000	40	80	180	4000	6000	7'	5'	5.5	400	2500	3000	91	0.19	0.28

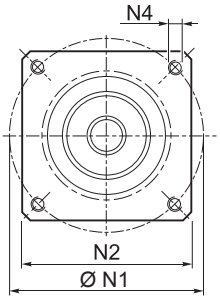


TR G 080

40B1 ... 110B1



	Kg
TR G 080 2	5.2
TR G 080 3	5.8
TR G 080 4	6.4

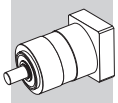


TR

	D												N	N1	N2	N3	N4	N5	L_{max}
40B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	40	63	80	4	M4x12	34	40
45A	8	9	9.52	11	12	12.7	–	–	–	–	–	–	45	63	80	4	M4x12	34	40
50B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	M5x16	34	40
50BH1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	5.5	34	40
50C1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	70	80	4	M4x10	34	40
50D	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	95	80	4	M6x20	34	40
55A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	55.5	125.7	105	4	M6x20	34	40
60A2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	80	4	M5x16	34	40
60AH2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	90	4	6.5	34	40
60B1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	85	80	4	M5x16	34	40
60C1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	90	80	4	M5x16	34	40
70A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	80	4	M6x20	34	40
70AH1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	90	4	6.5	34	40
70B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	90	80	4	M5x16	34	40
73A1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	73	98.4	85	4	M5x16	34	40
80A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	80	100	90	4	M6x16	34	40
95A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	115	100	4	M8x20	34	40
95B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	130	115	4	M8x20	34	40
110A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	130	115	4	M8x20	34	40
110B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	44	50
110B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	54	60

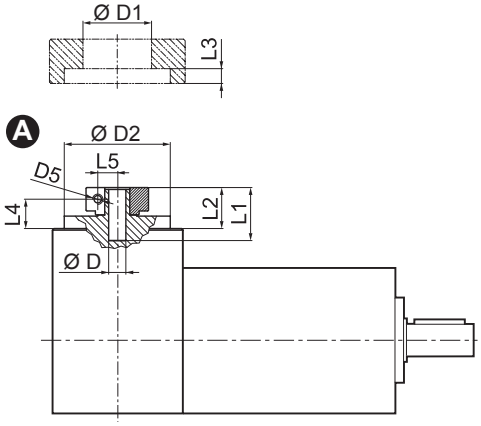
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

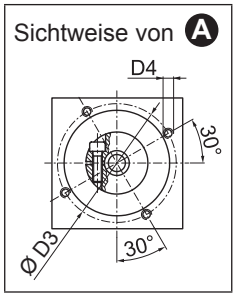
Bonfiglioli Tecnoingranaggi



TR G 080

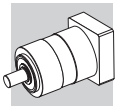
FM





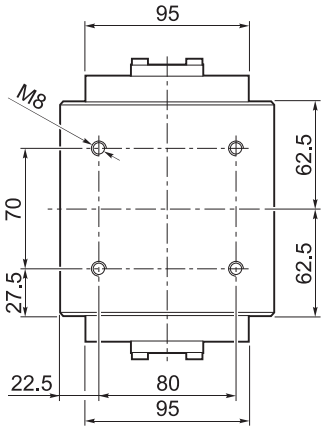
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
8	9	9.52		38	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	10.5
11	12	12.7		43	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	12.5
14	15.875	16	17	48	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	14.5
19	19.05			51	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	16.5

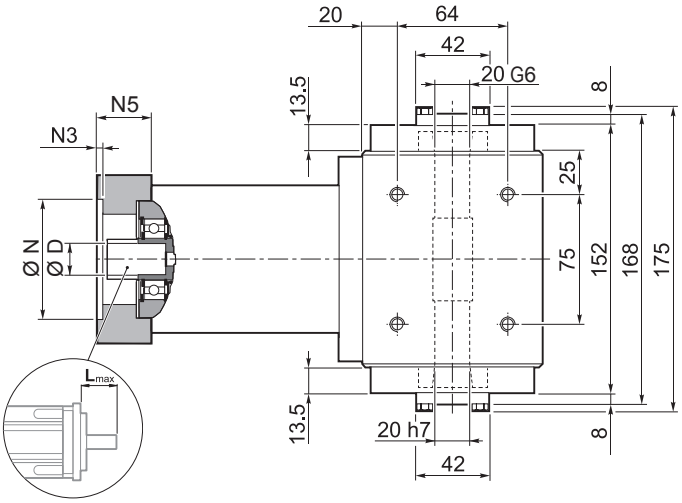
i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 8 ... 12.7	J_G [kgcm^2] D 14 ... 19.05
TR G 080 2_3	40	80	180	2900	3500	5'	3'	8.0	2500	3000	94	0.67	0.79
TR G 080 2_4	50	80	200	3100	4500	5'	3'	8.0	2500	3000	94	0.62	0.75
TR G 080 2_5	50	80	200	3200	4500	5'	3'	8.0	2500	3000	94	0.61	0.74
TR G 080 2_6	50	80	200	3200	4500	5'	3'	8.0	2500	3000	94	0.58	0.71
TR G 080 2_7	50	80	200	4000	6000	5'	3'	8.0	2500	3000	94	0.60	0.73
TR G 080 2_10	40	80	180	4000	6000	5'	3'	8.0	2500	3000	94	0.60	0.72
TR G 080 3_9	40	80	180	2900	3500	5'	3'	6.5	2500	3000	91	0.66	0.78
TR G 080 3_12	70	100	250	2900	3500	5'	3'	6.5	2500	3000	91	0.75	0.87
TR G 080 3_15	70	100	250	2900	3500	5'	3'	6.5	2500	3000	91	0.74	0.87
TR G 080 3_16	70	100	250	3100	4500	5'	3'	6.5	2500	3000	91	0.60	0.73
TR G 080 3_20	70	100	250	3200	4500	5'	3'	6.5	2500	3000	91	0.60	0.73
TR G 080 3_25	70	100	250	3200	4500	5'	3'	6.5	2500	3000	91	0.64	0.76
TR G 080 3_28	70	100	250	4000	6000	5'	3'	6.5	2500	3000	91	0.59	0.72
TR G 080 3_30	40	80	180	4000	6000	5'	3'	6.5	2500	3000	91	0.60	0.72
TR G 080 3_35	70	100	250	4000	6000	5'	3'	6.5	2500	3000	91	0.61	0.74
TR G 080 3_36	50	80	200	3200	4500	5'	3'	6.5	2500	3000	91	0.57	0.70
TR G 080 3_40	70	100	250	4000	6000	5'	3'	6.5	2500	3000	91	0.60	0.72
TR G 080 3_50	70	100	250	4000	6000	5'	3'	6.5	2500	3000	91	0.59	0.71
TR G 080 3_70	70	100	250	4000	6000	5'	3'	6.5	2500	3000	91	0.59	0.71
TR G 080 3_100	40	80	180	4000	6000	5'	3'	6.5	2500	3000	91	0.59	0.71
TR G 080 4_48	70	100	250	3100	4500	7'	5'	5.5	2500	3000	89	0.61	0.75
TR G 080 4_64	70	100	250	3100	4500	7'	5'	5.5	2500	3000	89	0.60	0.73
TR G 080 4_75	70	100	250	3200	4500	7'	5'	5.5	2500	3000	89	0.60	0.73
TR G 080 4_80	70	100	250	3100	4500	7'	5'	5.5	2500	3000	89	0.60	0.73
TR G 080 4_84	70	100	250	4000	6000	7'	5'	5.5	2500	3000	89	0.60	0.73
TR G 080 4_90	40	80	180	4000	6000	7'	5'	5.5	2500	3000	89	0.60	0.72
TR G 080 4_120	70	100	250	4000	6000	7'	5'	5.5	2500	3000	89	0.60	0.72
TR G 080 4_125	70	100	250	3200	4500	7'	5'	5.5	2500	3000	89	0.60	0.73
TR G 080 4_140	70	100	250	4000	6000	7'	5'	5.5	2500	3000	89	0.59	0.72
TR G 080 4_150	70	100	250	4000	6000	7'	5'	5.5	2500	3000	89	0.60	0.72
TR G 080 4_160	70	100	250	4000	6000	7'	5'	5.5	2500	3000	89	0.60	0.72
TR G 080 4_175	70	100	250	4000	6000	7'	5'	5.5	2500	3000	89	0.59	0.72
TR G 080 4_200	70	100	250	4000	6000	7'	5'	5.5	2500	3000	89	0.60	0.72
TR G 080 4_210	70	100	250	4000	6000	7'	5'	5.5	2500	3000	89	0.60	0.72
TR G 080 4_216	70	100	250	3200	4500	7'	5'	5.5	2500	3000	89	0.57	0.70
TR G 080 4_250	70	100	250	4000	6000	7'	5'	5.5	2500	3000	89	0.59	0.71
TR G 080 4_280	70	100	250	4000	6000	7'	5'	5.5	2500	3000	89	0.59	0.71
TR G 080 4_350	70	100	250	4000	6000	7'	5'	5.5	2500	3000	89	0.59	0.71
TR G 080 4_400	70	100	250	4000	6000	7'	5'	5.5	2500	3000	89	0.59	0.71
TR G 080 4_500	70	100	250	4000	6000	7'	5'	5.5	2500	3000	89	0.59	0.71
TR G 080 4_700	70	100	250	4000	6000	7'	5'	5.5	2500	3000	89	0.59	0.71
TR G 080 4_1000	40	80	180	4000	6000	7'	5'	5.5	2500	3000	89	0.59	0.71

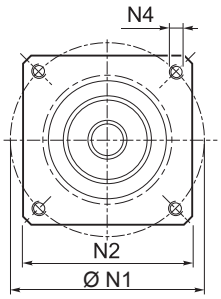


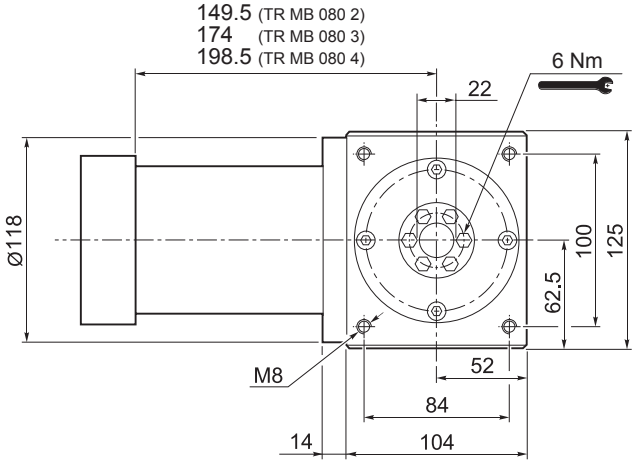
TR MB 080

40B1 ... 110B1





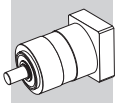




	Kg
TR MB 080 2	14.0
TR MB 080 3	15.0
TR MB 080 4	16.0

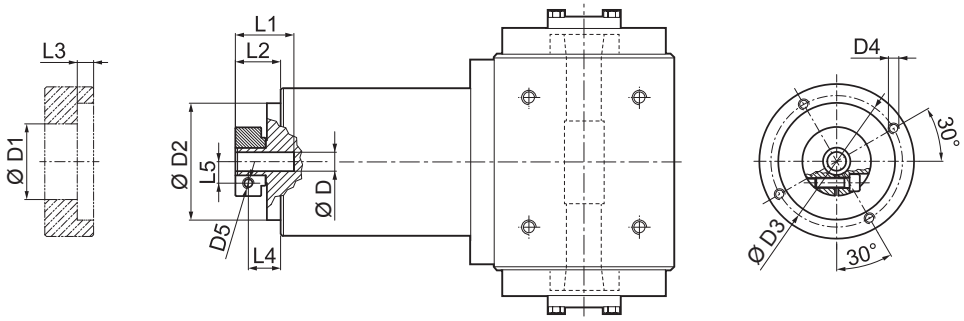
	D												N	N1	N2	N3	N4	N5	L_{max}
40B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	40	63	80	4	M4x12	34	40
45A	8	9	9.52	11	12	12.7	–	–	–	–	–	–	45	63	80	4	M4x12	34	40
50B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	M5x16	34	40
50BH1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	5.5	34	40
50C1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	70	80	4	M4x10	34	40
50D	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	95	80	4	M6x20	34	40
55A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	55.5	125.7	105	4	M6x20	34	40
60A2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	80	4	M5x16	34	40
60AH2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	90	4	6.5	34	40
60B1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	85	80	4	M5x16	34	40
60C1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	90	80	4	M5x16	34	40
70A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	80	4	M6x20	34	40
70AH1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	90	4	6.5	34	40
70B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	90	80	4	M5x16	34	40
73A1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	73	98.4	85	4	M5x16	34	40
80A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	80	100	90	4	M6x16	34	40
95A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	115	100	4	M8x20	34	40
95B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	130	115	4	M8x20	34	40
110A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	130	115	4	M8x20	34	40
110B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	44	50
110B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	54	60

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



TR MB 080

FM

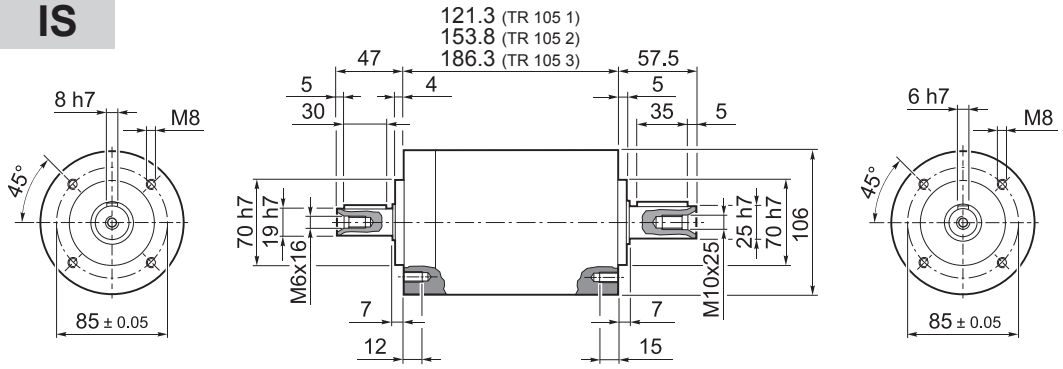


D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
8	9	9.52		38	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	10.5
11	12	12.7		43	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	12.5
14	15.875	16	17	48	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	14.5
19	19.05			51	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	16.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min⁻¹]	$n_{1\,max}$ [min⁻¹]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	η %	J_G [kgcm²] D 8 ... 12.7	J_G [kgcm²] D 14 ... 19.05
TR MB 080 2_3	40	80	180	2900	3500	5'	3'	8.0	94	0.50	0.59
TR MB 080 2_4	50	80	200	3100	4500	5'	3'	8.0	94	0.34	0.43
TR MB 080 2_5	50	80	200	3200	4500	5'	3'	8.0	94	0.28	0.37
TR MB 080 2_6	50	80	200	3200	4500	5'	3'	8.0	94	0.21	0.30
TR MB 080 2_7	50	80	200	4000	6000	5'	3'	8.0	94	0.23	0.32
TR MB 080 2_10	40	80	180	4000	6000	5'	3'	8.0	94	0.20	0.29
TR MB 080 3_9	40	80	180	2900	3500	5'	3'	6.5	91	0.49	0.58
TR MB 080 3_12	70	100	250	2900	3500	5'	3'	6.5	91	0.47	0.56
TR MB 080 3_15	70	100	250	2900	3500	5'	3'	6.5	91	0.46	0.55
TR MB 080 3_16	70	100	250	3100	4500	5'	3'	6.5	91	0.32	0.41
TR MB 080 3_20	70	100	250	3200	4500	5'	3'	6.5	91	0.27	0.36
TR MB 080 3_25	70	100	250	3200	4500	5'	3'	6.5	91	0.27	0.36
TR MB 080 3_28	70	100	250	4000	6000	5'	3'	6.5	91	0.22	0.31
TR MB 080 3_30	40	80	180	4000	6000	5'	3'	6.5	91	0.20	0.29
TR MB 080 3_35	70	100	250	4000	6000	5'	3'	6.5	91	0.22	0.31
TR MB 080 3_36	50	80	200	3200	4500	5'	3'	6.5	91	0.20	0.29
TR MB 080 3_40	70	100	250	4000	6000	5'	3'	6.5	91	0.20	0.29
TR MB 080 3_50	70	100	250	4000	6000	5'	3'	6.5	91	0.19	0.28
TR MB 080 3_70	70	100	250	4000	6000	5'	3'	6.5	91	0.19	0.28
TR MB 080 3_100	40	80	180	4000	6000	5'	3'	6.5	91	0.19	0.28
TR MB 080 4_48	70	100	250	3100	4500	7'	5'	5.5	89	0.33	0.42
TR MB 080 4_64	70	100	250	3100	4500	7'	5'	5.5	89	0.32	0.41
TR MB 080 4_75	70	100	250	3200	4500	7'	5'	5.5	89	0.27	0.36
TR MB 080 4_80	70	100	250	3100	4500	7'	5'	5.5	89	0.32	0.41
TR MB 080 4_84	70	100	250	4000	6000	7'	5'	5.5	89	0.23	0.32
TR MB 080 4_90	40	80	180	4000	6000	7'	5'	5.5	89	0.20	0.29
TR MB 080 4_120	70	100	250	4000	6000	7'	5'	5.5	89	0.20	0.29
TR MB 080 4_125	70	100	250	3200	4500	7'	5'	5.5	89	0.27	0.36
TR MB 080 4_140	70	100	250	4000	6000	7'	5'	5.5	89	0.22	0.31
TR MB 080 4_150	70	100	250	4000	6000	7'	5'	5.5	89	0.20	0.29
TR MB 080 4_160	70	100	250	4000	6000	7'	5'	5.5	89	0.20	0.29
TR MB 080 4_175	70	100	250	4000	6000	7'	5'	5.5	89	0.22	0.31
TR MB 080 4_200	70	100	250	4000	6000	7'	5'	5.5	89	0.20	0.29
TR MB 080 4_210	70	100	250	4000	6000	7'	5'	5.5	89	0.20	0.29
TR MB 080 4_216	70	100	250	3200	4500	7'	5'	5.5	89	0.20	0.29
TR MB 080 4_250	70	100	250	4000	6000	7'	5'	5.5	89	0.19	0.28
TR MB 080 4_280	70	100	250	4000	6000	7'	5'	5.5	89	0.19	0.28
TR MB 080 4_350	70	100	250	4000	6000	7'	5'	5.5	89	0.19	0.28
TR MB 080 4_400	70	100	250	4000	6000	7'	5'	5.5	89	0.19	0.28
TR MB 080 4_500	70	100	250	4000	6000	7'	5'	5.5	89	0.19	0.28
TR MB 080 4_700	70	100	250	4000	6000	7'	5'	5.5	89	0.19	0.28
TR MB 080 4_1000	40	80	180	4000	6000	7'	5'	5.5	89	0.19	0.28

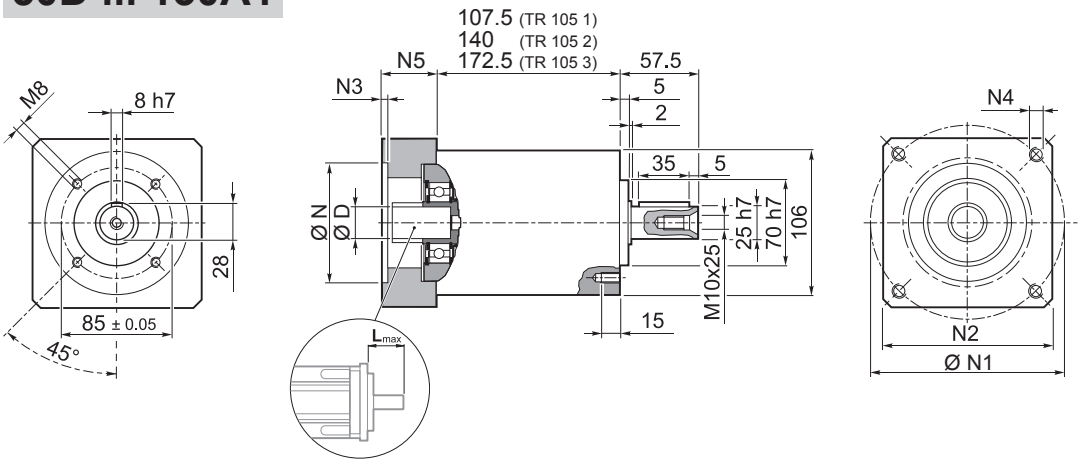
TR 105

IS



	Kg
TR 105 1	6.5
TR 105 2	8.5
TR 105 3	10.5

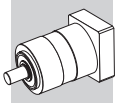
50D ... 130A1



	Kg
TR 105 1	6.5
TR 105 2	8.5
TR 105 3	10.5

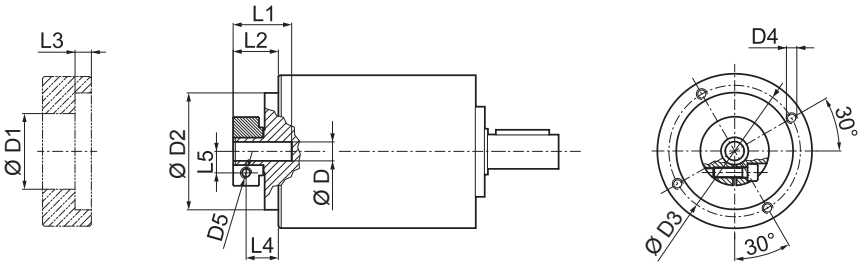
	D												N	N1	N2	N3	N4	N5	L_{max}
50D	11	12	12.7	14	15	15.875	16	19	–	–	–	–	50	95	100	5	M6x14	28	40
55A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	55	125.7	105	5	M6x16	28	40
60A2	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	75	100	6.5	M5x14	28	40
60AH2	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	75	100	4	6.5	33	40
60B1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	85	100	6.5	M5x14	28	40
70A1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	85	100	6.5	M6x14	28	40
70AH1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	85	100	4	6.5	33	40
70B1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	90	100	6.5	M5x12	28	40
80A1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	80	100	100	6.5	M6x16	28	40
80AH1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	80	100	100	4	6.5	33	40
95A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	95	115	100	6.5	M8x18	28	40
95A1	11	12	12.7	14	15	15.875	16	19	22	24	–	–	95	115	100	6.5	M8x18	38	50
95B	11	12	12.7	14	15	15.875	16	19	–	–	–	–	95	130	115	6.5	M8x18	28	40
110A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	110	130	115	6.5	M8x18	28	40
110A1	11	12	12.7	14	15	15.875	16	19	22	24	–	–	110	130	115	6.5	M8x20	38	50
110B	11	12	12.7	14	15	15.875	16	19	22	24	–	–	110	145	120	6.5	M8x20	38	50
110B1	11	12	12.7	14	15	15.875	16	19	22	24	28	–	110	145	120	6.5	M8x20	48	60
130A	11	12	12.7	14	15	15.875	16	19	22	24	–	–	130	165	140	6.5	M10x20	38	50
130A1	11	12	12.7	14	15	15.875	16	19	22	24	28	32	130	165	140	6.5	M10x25	48	60

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



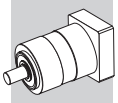
TR 105

FM



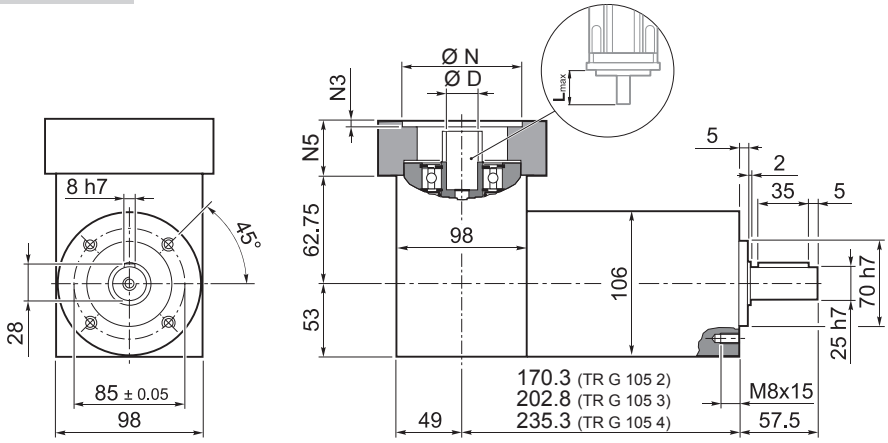
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
11	12	12.7		43	90	98	M6x15	M6	31.5	19.5	7.6	12	12.5
14	15	15.875	16	48	90	98	M6x15	M6	31.5	19.5	7.6	12	14.5
19				51	90	98	M6x15	M6	31.5	19.5	7.6	12	16.5
22	24			56.5	90	98	M6x15	M6	35	23	7.6	12	19
28				67	90	98	M6x15	M8	35	23	7.6	14	22.5
32				71	90	98	M6x15	M8	37	25	7.6	16	24.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{1\,max}$ [N]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 11 ... 12.7	14 ... 19	22 - 24	28 - 32
TR 105 1_3	100	180	360	2500	3500	5'	3'	24.0	600	3800	4000	97	1.70	1.78	2.22	2.59
TR 105 1_4	140	210	450	2800	4500	5'	3'	24.0	600	3800	4000	97	0.99	1.06	1.51	1.87
TR 105 1_5	140	210	450	3000	4500	5'	3'	24.0	600	3800	4000	97	0.72	0.79	1.23	1.60
TR 105 1_6	140	210	450	3000	4500	5'	3'	24.0	600	3800	4000	97	0.36	0.43	0.88	1.24
TR 105 1_7	140	210	450	3500	5000	5'	3'	24.0	600	3800	4000	97	0.47	0.55	0.99	1.35
TR 105 1_10	100	180	360	3500	5000	5'	3'	24.0	600	3800	4000	97	0.33	0.41	0.85	1.21
TR 105 2_9	100	180	360	2500	3500	5'	3'	21.5	600	3800	4000	94	1.58	1.63	2.07	2.44
TR 105 2_12	170	250	600	2500	3500	5'	3'	21.5	600	3800	4000	94	1.52	1.59	2.03	2.40
TR 105 2_15	170	250	600	2500	3500	5'	3'	21.5	600	3800	4000	94	1.47	1.55	1.99	2.36
TR 105 2_16	170	250	600	2800	4500	5'	3'	21.5	600	3800	4000	94	0.87	0.95	1.39	1.76
TR 105 2_20	170	250	600	3000	4500	5'	3'	21.5	600	3800	4000	94	0.86	0.93	1.37	1.74
TR 105 2_25	170	250	600	3000	4500	5'	3'	21.5	600	3800	4000	94	0.63	0.71	1.15	1.51
TR 105 2_28	170	250	600	3500	5000	5'	3'	21.5	600	3800	4000	94	0.43	0.51	0.95	1.32
TR 105 2_30	100	180	360	3500	5000	5'	3'	21.5	600	3800	4000	94	0.32	0.40	0.84	1.20
TR 105 2_35	170	250	600	3500	5000	5'	3'	21.5	600	3800	4000	94	0.43	0.50	0.95	1.31
TR 105 2_36	140	210	450	3000	4500	5'	3'	21.5	600	3800	4000	94	0.32	0.39	0.84	1.20
TR 105 2_40	170	250	600	3500	5000	5'	3'	21.5	600	3800	4000	94	0.31	0.39	0.83	1.20
TR 105 2_50	170	250	600	3500	5000	5'	3'	21.5	600	3800	4000	94	0.31	0.39	0.83	1.19
TR 105 2_70	170	250	600	3500	5000	5'	3'	21.5	600	3800	4000	94	0.31	0.38	0.83	1.19
TR 105 2_100	100	180	360	3500	5000	5'	3'	21.5	600	3800	4000	94	0.31	0.38	0.83	1.19
TR 105 3_48	170	250	600	2800	4500	7'	5'	18.0	600	3800	4000	91	0.91	0.98	1.42	1.79
TR 105 3_64	170	250	600	2800	4500	7'	5'	18.0	600	3800	4000	91	0.87	0.94	1.38	1.75
TR 105 3_75	170	250	600	3000	4500	7'	5'	18.0	600	3800	4000	91	0.66	0.74	1.18	1.55
TR 105 3_80	170	250	600	2800	4500	7'	5'	18.0	600	3800	4000	91	0.86	0.94	1.38	1.75
TR 105 3_84	170	250	600	3500	5000	7'	5'	18.0	600	3800	4000	91	0.44	0.52	0.96	1.33
TR 105 3_90	100	180	360	3500	5000	7'	5'	18.0	600	3800	4000	91	0.32	0.39	0.84	1.20
TR 105 3_120	170	250	600	3500	5000	7'	5'	18.0	600	3800	4000	91	0.32	0.39	0.84	1.20
TR 105 3_125	170	250	600	3000	4500	7'	5'	18.0	600	3800	4000	91	0.63	0.70	1.15	1.51
TR 105 3_140	170	250	600	3500	5000	7'	5'	18.0	600	3800	4000	91	0.43	0.51	0.95	1.32
TR 105 3_150	170	250	600	3500	5000	7'	5'	18.0	600	3800	4000	91	0.32	0.39	0.84	1.20
TR 105 3_160	170	250	600	3500	5000	7'	5'	18.0	600	3800	4000	91	0.31	0.39	0.83	1.21
TR 105 3_175	170	250	600	3500	5000	7'	5'	18.0	600	3800	4000	91	0.43	0.50	0.95	1.31
TR 105 3_200	170	250	600	3500	5000	7'	5'	18.0	600	3800	4000	91	0.31	0.39	0.83	1.20
TR 105 3_210	170	250	600	3500	5000	7'	5'	18.0	600	3800	4000	91	0.32	0.39	0.84	1.20
TR 105 3_216	170	250	600	3000	4500	7'	5'	18.0	600	3800	4000	91	0.31	0.39	0.83	1.20
TR 105 3_250	170	250	600	3500	5000	7'	5'	18.0	600	3800	4000	91	0.31	0.39	0.83	1.19
TR 105 3_280	170	250	600	3500	5000	7'	5'	18.0	600	3800	4000	91	0.31	0.38	0.83	1.19
TR 105 3_350	170	250	600	3500	5000	7'	5'	18.0	600	3800	4000	91	0.31	0.38	0.83	1.19
TR 105 3_400	170	250	600	3500	5000	7'	5'	18.0	600	3800	4000	91	0.31	0.38	0.83	1.19
TR 105 3_500	170	250	600	3500	5000	7'	5'	18.0	600	3800	4000	91	0.31	0.38	0.83	1.19
TR 105 3_700	170	250	600	3500	5000	7'	5'	18.0	600	3800	4000	91	0.31	0.38	0.83	1.19
TR 105 3_1000	100	180	360	3500	5000	7'	5'	18.0	600	3800	4000	91	0.31	0.38	0.83	1.19

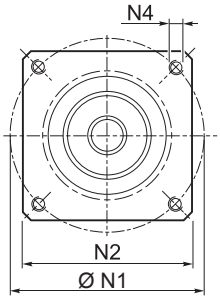


TR G 105

50D ... 130A1



	Kg
TR G 105 2	8.5
TR G 105 3	10.5
TR G 105 4	12.5

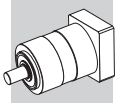


TR

	D												N	N1	N2	N3	N4	N5	L_{max}
50D	11	12	12.7	14	15	15.875	16	19	–	–	–	–	50	95	100	5	M6x14	28	40
55A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	55	125.7	105	5	M6x16	28	40
60A2	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	75	100	6.5	M5x14	28	40
60AH2	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	75	100	4	6.5	33	40
60B1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	85	100	6.5	M5x14	28	40
70A1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	85	100	6.5	M6x14	28	40
70AH1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	85	100	4	6.5	33	40
70B1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	90	100	6.5	M5x12	28	40
80A1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	80	100	100	6.5	M6x16	28	40
80AH1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	80	100	100	4	6.5	33	40
95A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	95	115	100	6.5	M8x18	28	40
95A1	11	12	12.7	14	15	15.875	16	19	22	24	–	–	95	115	100	6.5	M8x18	38	50
95B	11	12	12.7	14	15	15.875	16	19	–	–	–	–	95	130	115	6.5	M8x18	28	40
110A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	110	130	115	6.5	M8x18	28	40
110A1	11	12	12.7	14	15	15.875	16	19	22	24	–	–	110	130	115	6.5	M8x20	38	50
110B	11	12	12.7	14	15	15.875	16	19	22	24	–	–	110	145	120	6.5	M8x20	38	50
110B1	11	12	12.7	14	15	15.875	16	19	22	24	28	–	110	145	120	6.5	M8x20	48	60
130A	11	12	12.7	14	15	15.875	16	19	22	24	–	–	130	165	140	6.5	M10x20	38	50
130A1	11	12	12.7	14	15	15.875	16	19	22	24	28	32	130	165	140	6.5	M10x25	48	60

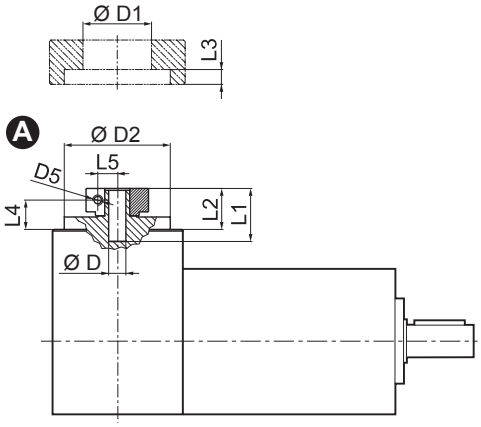
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

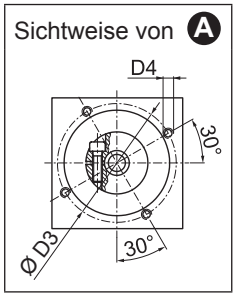
Bonfiglioli Tecnoingranaggi



TR G 105

FM



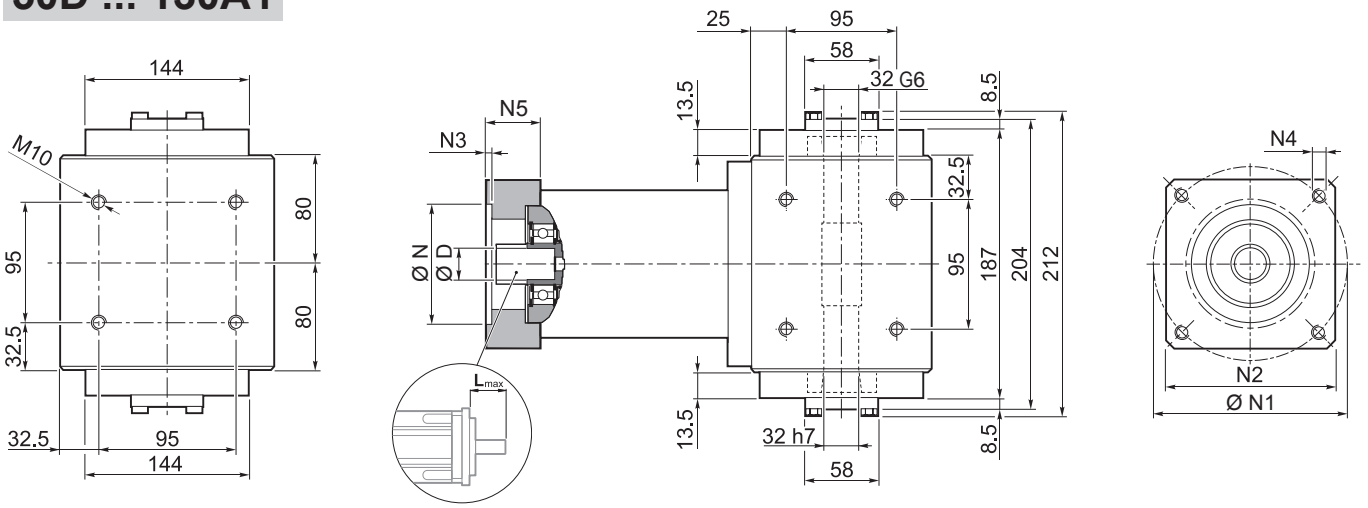


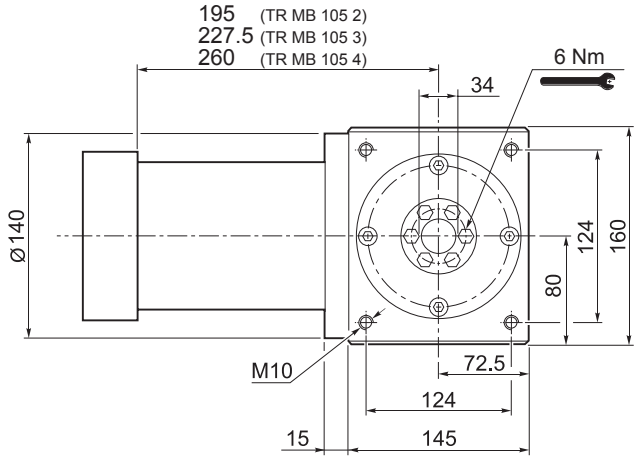
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
11	12	12.7		43	90	98	M6x15	M6	31.5	19.5	7.6	12	12.5
14	15	15.875	16	48	90	98	M6x15	M6	31.5	19.5	7.6	12	14.5
19				51	90	98	M6x15	M6	31.5	19.5	7.6	12	16.5
22	24			56.5	90	98	M6x15	M6	35	23	7.6	12	19
28				67	90	98	M6x15	M8	35	23	7.6	14	22.5
32				71	90	98	M6x15	M8	37	25	7.6	16	24.5

	i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 11 ... 12.7	14 ... 19	22 - 24	28 - 32
TR G 105 2_3		100	180	360	2500	3500	5'	3'	24.0	3800	4000	94	1.85	2.01	2.33	3.07
TR G 105 2_4		140	210	450	2800	4500	5'	3'	24.0	3800	4000	94	1.14	1.29	1.62	2.35
TR G 105 2_5		140	210	450	3000	4500	5'	3'	24.0	3800	4000	94	1.07	1.21	1.34	2.08
TR G 105 2_6		140	210	450	3000	4500	5'	3'	24.0	3800	4000	94	0.87	1.02	1.16	1.89
TR G 105 2_7		140	210	450	3500	5000	5'	3'	24.0	3800	4000	94	0.98	1.14	1.27	2.00
TR G 105 2_10		100	180	360	3500	5000	5'	3'	24.0	3800	4000	94	0.94	1.09	1.23	1.95
TR G 105 3_9		100	180	360	2500	3500	5'	3'	21.5	3800	4000	91	1.76	1.86	2.18	2.92
TR G 105 3_12		170	250	600	2500	3500	5'	3'	21.5	3800	4000	91	1.60	1.75	2.14	2.88
TR G 105 3_15		170	250	600	2500	3500	5'	3'	21.5	3800	4000	91	1.57	1.73	2.10	2.84
TR G 105 3_16		170	250	600	2800	4500	5'	3'	21.5	3800	4000	91	1.02	1.18	1.50	2.24
TR G 105 3_20		170	250	600	3000	4500	5'	3'	21.5	3800	4000	91	1.20	1.35	1.48	2.22
TR G 105 3_25		170	250	600	3000	4500	5'	3'	21.5	3800	4000	91	1.13	1.29	1.42	2.15
TR G 105 3_28		170	250	600	3500	5000	5'	3'	21.5	3800	4000	91	0.94	1.10	1.23	1.97
TR G 105 3_30		100	180	360	3500	5000	5'	3'	21.5	3800	4000	91	0.93	1.08	1.22	1.94
TR G 105 3_35		170	250	600	3500	5000	5'	3'	21.5	3800	4000	91	1.02	1.17	1.31	2.04
TR G 105 3_36		140	210	450	3000	4500	5'	3'	21.5	3800	4000	91	0.83	0.98	1.12	1.85
TR G 105 3_40		170	250	600	3500	5000	5'	3'	21.5	3800	4000	91	0.96	1.11	1.25	1.98
TR G 105 3_50		170	250	600	3500	5000	5'	3'	21.5	3800	4000	91	0.96	1.11	1.25	1.98
TR G 105 3_70		170	250	600	3500	5000	5'	3'	21.5	3800	4000	91	0.92	1.06	1.21	1.93
TR G 105 3_100		100	180	360	3500	5000	5'	3'	21.5	3800	4000	91	0.92	1.06	1.21	1.93
TR G 105 4_48		170	250	600	2800	4500	7'	5'	18.0	3800	4000	89	1.06	1.21	1.53	2.27
TR G 105 4_64		170	250	600	2800	4500	7'	5'	18.0	3800	4000	89	1.02	1.17	1.49	2.23
TR G 105 4_75		170	250	600	3000	4500	7'	5'	18.0	3800	4000	89	1.00	1.16	1.29	2.03
TR G 105 4_80		170	250	600	2800	4500	7'	5'	18.0	3800	4000	89	1.01	1.17	1.49	2.23
TR G 105 4_84		170	250	600	3500	5000	7'	5'	18.0	3800	4000	89	0.95	1.11	1.24	1.98
TR G 105 4_90		100	180	360	3500	5000	7'	5'	18.0	3800	4000	89	0.93	1.07	1.22	1.94
TR G 105 4_120		170	250	600	3500	5000	7'	5'	18.0	3800	4000	89	0.93	1.07	1.22	1.94
TR G 105 4_125		170	250	600	3000	4500	7'	5'	18.0	3800	4000	89	0.97	1.12	1.26	1.99
TR G 105 4_140		170	250	600	3500	5000	7'	5'	18.0	3800	4000	89	0.94	1.10	1.23	1.97
TR G 105 4_150		170	250	600	3500	5000	7'	5'	18.0	3800	4000	89	0.93	1.07	1.22	1.94
TR G 105 4_160		170	250	600	3500	5000	7'	5'	18.0	3800	4000	89	0.92	1.07	1.21	1.96
TR G 105 4_175		170	250	600	3500	5000	7'	5'	18.0	3800	4000	89	0.94	1.09	1.23	1.96
TR G 105 4_200		170	250	600	3500	5000	7'	5'	18.0	3800	4000	89	0.92	1.07	1.21	1.94
TR G 105 4_210		170	250	600	3500	5000	7'	5'	18.0	3800	4000	89	0.93	1.07	1.22	1.94
TR G 105 4_216		170	250	600	3000	4500	7'	5'	18.0	3800	4000	89	0.83	0.98	1.11	1.85
TR G 105 4_250		170	250	600	3500	5000	7'	5'	18.0	3800	4000	89	0.92	1.07	1.21	1.93
TR G 105 4_280		170	250	600	3500	5000	7'	5'	18.0	3800	4000	89	0.92	1.06	1.21	1.93
TR G 105 4_350		170	250	600	3500	5000	7'	5'	18.0	3800	4000	89	0.92	1.06	1.21	1.93
TR G 105 4_400		170	250	600	3500	5000	7'	5'	18.0	3800	4000	89	0.92	1.06	1.21	1.93
TR G 105 4_500		170	250	600	3500	5000	7'	5'	18.0	3800	4000	89	0.92	1.06	1.21	1.93
TR G 105 4_700		170	250	600	3500	5000	7'	5'	18.0	3800	4000	89	0.92	1.06	1.21	1.93
TR G 105 4_1000		100	180	360	3500	5000	7'	5'	18.0	3800	4000	89	0.92	1.06	1.21	1.93

TR MB 105

50D ... 130A1





	Kg
TR MB 105 2	32
TR MB 105 3	34
TR MB 105 4	36

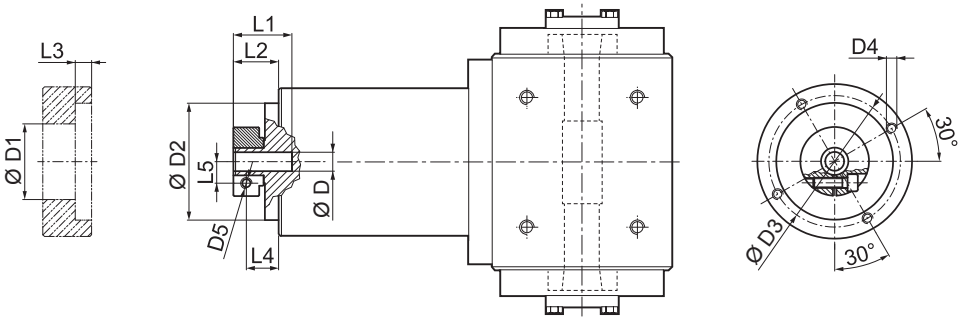
	D												N	N1	N2	N3	N4	N5	L_{max}
50D	11	12	12.7	14	15	15.875	16	19	–	–	–	–	50	95	100	5	M6x14	28	40
55A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	55	125.7	105	5	M6x16	28	40
60A2	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	75	100	6.5	M5x14	28	40
60AH2	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	75	100	4	6.5	33	40
60B1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	85	100	6.5	M5x14	28	40
70A1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	85	100	6.5	M6x14	28	40
70AH1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	85	100	4	6.5	33	40
70B1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	90	100	6.5	M5x12	28	40
80A1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	80	100	100	6.5	M6x16	28	40
80AH1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	80	100	100	4	6.5	33	40
95A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	95	115	100	6.5	M8x18	28	40
95A1	11	12	12.7	14	15	15.875	16	19	22	24	–	–	95	115	100	6.5	M8x18	38	50
95B	11	12	12.7	14	15	15.875	16	19	–	–	–	–	95	130	115	6.5	M8x18	28	40
110A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	110	130	115	6.5	M8x18	28	40
110A1	11	12	12.7	14	15	15.875	16	19	22	24	–	–	110	130	115	6.5	M8x20	38	50
110B	11	12	12.7	14	15	15.875	16	19	22	24	–	–	110	145	120	6.5	M8x20	38	50
110B1	11	12	12.7	14	15	15.875	16	19	22	24	28	–	110	145	120	6.5	M8x20	48	60
130A	11	12	12.7	14	15	15.875	16	19	22	24	–	–	130	165	140	6.5	M10x20	38	50
130A1	11	12	12.7	14	15	15.875	16	19	22	24	28	32	130	165	140	6.5	M10x25	48	60

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

Bonfiglioli Tecnoingranaggi

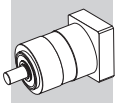
TR MB 105

FM



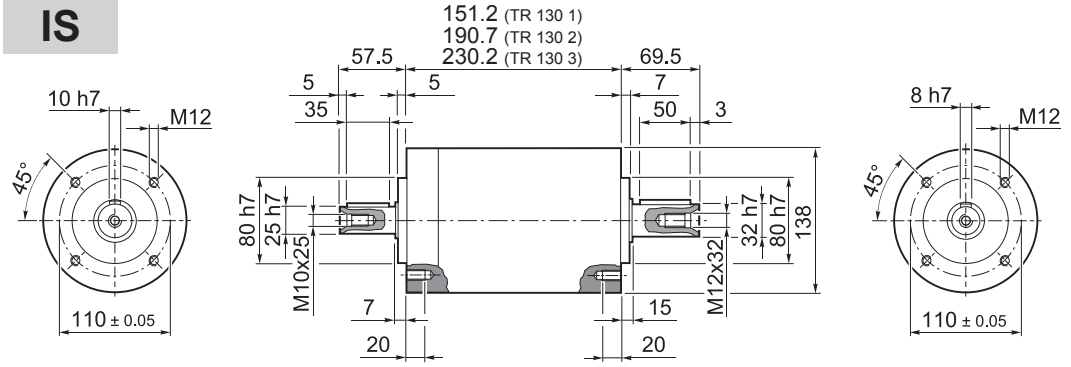
D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
11 12 12.7	43	90	98	M6x15	M6	31.5	19.5	7.6	12	12.5
14 15 15.875 16	48	90	98	M6x15	M6	31.5	19.5	7.6	12	14.5
19	51	90	98	M6x15	M6	31.5	19.5	7.6	12	16.5
22 24	56.5	90	98	M6x15	M6	35	23	7.6	12	19
28	67	90	98	M6x15	M8	35	23	7.6	14	22.5
32	71	90	98	M6x15	M8	37	25	7.6	16	24.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	η %	J_G [kgcm^2] D 11 ... 12.7	14 ... 19	22 - 24	28 - 32
TR MB 105 2_3	100	180	360	2500	3500	5'	3'	24.0	94	1.70	1.78	2.22	2.59
TR MB 105 2_4	140	210	450	2800	4500	5'	3'	24.0	94	0.99	1.06	1.51	1.87
TR MB 105 2_5	140	210	450	3000	4500	5'	3'	24.0	94	0.72	0.79	1.23	1.60
TR MB 105 2_6	140	210	450	3000	4500	5'	3'	24.0	94	0.36	0.43	0.88	1.24
TR MB 105 2_7	140	210	450	3500	5000	5'	3'	24.0	94	0.47	0.55	0.99	1.35
TR MB 105 2_10	100	180	360	3500	5000	5'	3'	24.0	94	0.33	0.41	0.85	1.21
TR MB 105 3_9	100	180	360	2500	3500	5'	3'	21.5	91	1.58	1.63	2.07	2.44
TR MB 105 3_12	170	250	600	2500	3500	5'	3'	21.5	91	1.52	1.59	2.03	2.40
TR MB 105 3_15	170	250	600	2500	3500	5'	3'	21.5	91	1.47	1.55	1.99	2.36
TR MB 105 3_16	170	250	600	2800	4500	5'	3'	21.5	91	0.87	0.95	1.39	1.76
TR MB 105 3_20	170	250	600	3000	4500	5'	3'	21.5	91	0.86	0.93	1.37	1.74
TR MB 105 3_25	170	250	600	3000	4500	5'	3'	21.5	91	0.63	0.71	1.15	1.51
TR MB 105 3_28	170	250	600	3500	5000	5'	3'	21.5	91	0.43	0.51	0.95	1.32
TR MB 105 3_30	100	180	360	3500	5000	5'	3'	21.5	91	0.32	0.40	0.84	1.20
TR MB 105 3_35	170	250	600	3500	5000	5'	3'	21.5	91	0.43	0.50	0.95	1.31
TR MB 105 3_36	140	210	450	3000	4500	5'	3'	21.5	91	0.32	0.39	0.84	1.20
TR MB 105 3_40	170	250	600	3500	5000	5'	3'	21.5	91	0.31	0.39	0.83	1.20
TR MB 105 3_50	170	250	600	3500	5000	5'	3'	21.5	91	0.31	0.39	0.83	1.19
TR MB 105 3_70	170	250	600	3500	5000	5'	3'	21.5	91	0.31	0.38	0.83	1.19
TR MB 105 3_100	100	180	360	3500	5000	5'	3'	21.5	91	0.31	0.38	0.83	1.19
TR MB 105 4_48	170	250	600	2800	4500	7'	5'	18.0	89	0.91	0.98	1.42	1.79
TR MB 105 4_64	170	250	600	2800	4500	7'	5'	18.0	89	0.87	0.94	1.38	1.75
TR MB 105 4_75	170	250	600	3000	4500	7'	5'	18.0	89	0.66	0.74	1.18	1.55
TR MB 105 4_80	170	250	600	2800	4500	7'	5'	18.0	89	0.86	0.94	1.38	1.75
TR MB 105 4_84	170	250	600	3500	5000	7'	5'	18.0	89	0.44	0.52	0.96	1.33
TR MB 105 4_90	100	180	360	3500	5000	7'	5'	18.0	89	0.32	0.39	0.84	1.20
TR MB 105 4_120	170	250	600	3500	5000	7'	5'	18.0	89	0.32	0.39	0.84	1.20
TR MB 105 4_125	170	250	600	3000	4500	7'	5'	18.0	89	0.63	0.70	1.15	1.51
TR MB 105 4_140	170	250	600	3500	5000	7'	5'	18.0	89	0.43	0.51	0.95	1.32
TR MB 105 4_150	170	250	600	3500	5000	7'	5'	18.0	89	0.32	0.39	0.84	1.20
TR MB 105 4_160	170	250	600	3500	5000	7'	5'	18.0	89	0.31	0.39	0.83	1.21
TR MB 105 4_175	170	250	600	3500	5000	7'	5'	18.0	89	0.43	0.50	0.95	1.31
TR MB 105 4_200	170	250	600	3500	5000	7'	5'	18.0	89	0.31	0.39	0.83	1.20
TR MB 105 4_210	170	250	600	3500	5000	7'	5'	18.0	89	0.32	0.39	0.84	1.20
TR MB 105 4_216	170	250	600	3000	4500	7'	5'	18.0	89	0.31	0.39	0.83	1.20
TR MB 105 4_250	170	250	600	3500	5000	7'	5'	18.0	89	0.31	0.39	0.83	1.19
TR MB 105 4_280	170	250	600	3500	5000	7'	5'	18.0	89	0.31	0.38	0.83	1.19
TR MB 105 4_350	170	250	600	3500	5000	7'	5'	18.0	89	0.31	0.38	0.83	1.19
TR MB 105 4_400	170	250	600	3500	5000	7'	5'	18.0	89	0.31	0.38	0.83	1.19
TR MB 105 4_500	170	250	600	3500	5000	7'	5'	18.0	89	0.31	0.38	0.83	1.19
TR MB 105 4_700	170	250	600	3500	5000	7'	5'	18.0	89	0.31	0.38	0.83	1.19
TR MB 105 4_1000	100	180	360	3500	5000	7'	5'	18.0	89	0.31	0.38	0.83	1.19



TR 130

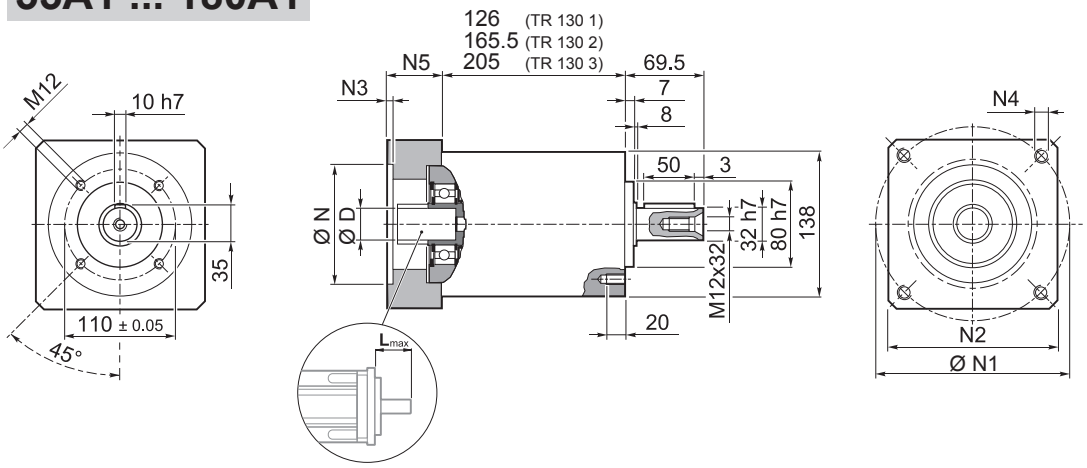
IS



	Kg
TR 130 1	12.0
TR 130 2	15.5
TR 130 3	18.5

TR

55A1 ... 180A1

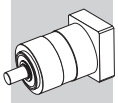


	Kg
TR 130 1	12.0
TR 130 2	15.5
TR 130 3	18.5

	D										N	N1	N2	N3	N4	N5	L_{max}
55A1	14	15.875	16	19	–	–	–	–	–	–	55.5	125.7	130	4	M6x15	39.5	50
80A2	14	15.875	16	19	–	–	–	–	–	–	80	100	130	4	M6x15	39.5	50
95A1	14	15.875	16	19	22	24	–	–	–	–	95	115	130	4	M8x20	39.5	50
110A1	14	15.875	16	19	22	24	–	–	–	–	110	130	130	4	M8x20	39.5	50
110B1	14	15.875	16	19	22	24	–	–	–	–	110	145	130	6.5	M8x20	49.5	60
114A0	14	15.875	16	19	22	24	–	–	–	–	114.3	200	170	5.5	M12x25	39.5	50
114A	14	15.875	16	19	22	24	28	32	35	38	114.3	200	170	5.5	M12x25	69.5	80
130A	14	15.875	16	19	22	24	–	–	–	–	130	165	140	4	M10x20	39.5	50
130A1	14	15.875	16	19	22	24	28	32	–	–	130	165	140	4	M10x20	49.5	60
180A	14	15.875	16	19	22	24	28	32	–	–	180	215	190	5.5	M14x25	49.5	60
180A1	14	15.875	16	19	22	24	28	32	35	38	180	215	190	5.5	M14x25	69.5	80

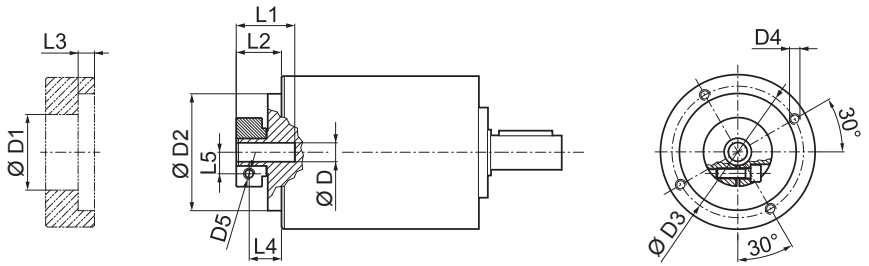
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

Bonfiglioli Tecnoingranaggi



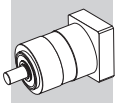
TR 130

FM



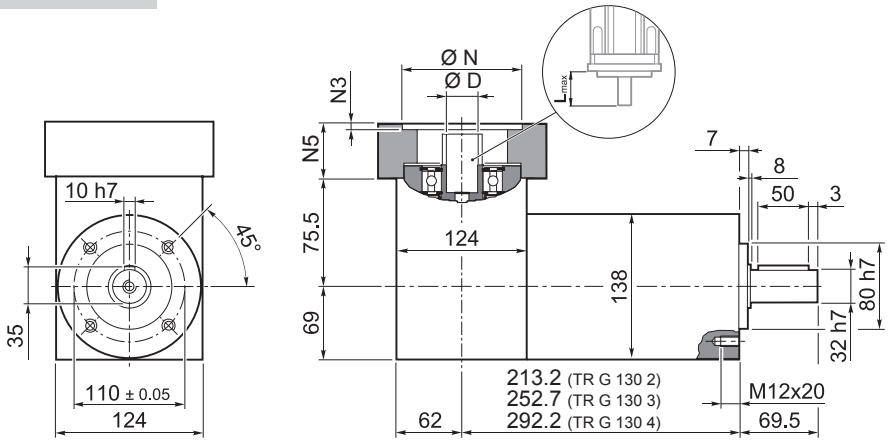
D			D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14	15.875	16	48	113	125.5	M8x15	M6	40	27.5	6	20	14.5
19			51	113	125.5	M8x15	M6	40	27.5	6	20	16.5
22	24		56.5	113	125.5	M8x15	M6	41	28.5	6	19.5	19
28			67	113	125.5	M8x15	M8	41	28.5	6	19.5	22.5
32			71	113	125.5	M8x15	M8	41	28.5	6	19.5	24.5
35			73	113	125.5	M8x15	M8	50	37.5	11.25	26	26
38			77.5	113	125.5	M8x15	M8	50	37.5	11.25	26	28

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{1\,max}$ [N]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 14 ... 19	22 - 24	28 - 32	35 - 38
TR 130 1_3	215	400	800	2100	3000	5'	3'	45.0	800	5500	6500	97	5.25	5.46	5.81	7.16
TR 130 1_4	380	600	1100	2400	3500	5'	3'	45.0	800	5500	6500	97	3.06	3.26	3.61	4.97
TR 130 1_5	380	600	1100	2900	3500	5'	3'	45.0	800	5500	6500	97	2.22	2.42	2.77	4.13
TR 130 1_6	380	600	1100	2900	3500	5'	3'	45.0	800	5500	6500	97	1.19	1.40	1.75	3.10
TR 130 1_7	380	600	1100	3200	4000	5'	3'	45.0	800	5500	6500	97	1.47	1.68	2.03	3.38
TR 130 1_10	215	400	800	3200	4000	5'	3'	45.0	800	5500	6500	97	1.04	1.25	1.60	2.95
TR 130 2_9	215	400	800	2100	3000	5'	3'	38.5	800	5500	6500	94	4.82	5.02	5.37	6.72
TR 130 2_12	450	700	1300	2100	3000	5'	3'	38.5	800	5500	6500	94	4.57	4.78	5.13	6.48
TR 130 2_15	450	700	1300	2100	3000	5'	3'	38.5	800	5500	6500	94	4.48	4.69	5.04	6.39
TR 130 2_16	450	700	1300	2400	3500	5'	3'	38.5	800	5500	6500	94	2.67	2.88	3.23	4.58
TR 130 2_20	450	700	1300	2900	3500	5'	3'	38.5	800	5500	6500	94	1.97	2.18	2.53	3.88
TR 130 2_25	450	700	1300	2900	3500	5'	3'	38.5	800	5500	6500	94	1.94	2.15	2.50	3.85
TR 130 2_28	450	700	1300	3200	4000	5'	3'	38.5	800	5500	6500	94	1.34	1.55	1.90	3.25
TR 130 2_30	215	400	800	3200	4000	5'	3'	38.5	800	5500	6500	94	1.00	1.21	1.56	2.91
TR 130 2_35	450	700	1300	3200	4000	5'	3'	38.5	800	5500	6500	94	1.33	1.53	1.88	3.24
TR 130 2_36	380	600	1100	2900	3500	5'	3'	38.5	800	5500	6500	94	1.05	1.26	1.61	2.96
TR 130 2_40	450	700	1300	3200	4000	5'	3'	38.5	800	5500	6500	94	0.98	1.19	1.54	2.89
TR 130 2_50	450	700	1300	3200	4000	5'	3'	38.5	800	5500	6500	94	0.97	1.18	1.53	2.88
TR 130 2_70	450	700	1300	3200	4000	5'	3'	38.5	800	5500	6500	94	0.96	1.17	1.52	2.87
TR 130 2_100	215	400	800	3200	4000	5'	3'	38.5	800	5500	6500	94	0.96	1.17	1.52	2.87
TR 130 3_48	450	700	1300	2400	3500	7'	5'	30.0	800	5500	6500	91	2.77	2.98	3.33	4.68
TR 130 3_64	450	700	1300	2400	3500	7'	5'	30.0	800	5500	6500	91	2.65	2.86	3.21	4.56
TR 130 3_75	450	700	1300	2900	3500	7'	5'	30.0	800	5500	6500	91	2.03	2.24	2.59	3.94
TR 130 3_80	450	700	1300	2400	3500	7'	5'	30.0	800	5500	6500	91	2.65	2.85	3.20	4.56
TR 130 3_84	450	700	1300	3200	4000	7'	5'	30.0	800	5500	6500	91	1.37	1.58	1.93	3.28
TR 130 3_90	215	400	800	3200	4000	7'	5'	30.0	800	5500	6500	91	1.00	1.20	1.55	2.91
TR 130 3_120	450	700	1300	3200	4000	7'	5'	30.0	800	5500	6500	91	0.99	1.20	1.55	2.90
TR 130 3_125	450	700	1300	2900	3500	7'	5'	30.0	800	5500	6500	91	1.93	2.13	2.48	3.84
TR 130 3_140	450	700	1300	3200	4000	7'	5'	30.0	800	5500	6500	91	1.34	1.54	1.89	3.25
TR 130 3_150	450	700	1300	3200	4000	7'	5'	30.0	800	5500	6500	91	0.99	1.20	1.55	2.90
TR 130 3_160	450	700	1300	3200	4000	7'	5'	30.0	800	5500	6500	91	0.98	1.18	1.53	2.89
TR 130 3_175	450	700	1300	3200	4000	7'	5'	30.0	800	5500	6500	91	1.32	1.53	1.88	3.23
TR 130 3_200	450	700	1300	3200	4000	7'	5'	30.0	800	5500	6500	91	0.97	1.18	1.53	2.88
TR 130 3_210	450	700	1300	3200	4000	7'	5'	30.0	800	5500	6500	91	0.99	1.20	1.55	2.90
TR 130 3_216	450	700	1300	2900	3500	7'	5'	30.0	800	5500	6500	91	1.05	1.26	1.61	2.96
TR 130 3_250	450	700	1300	3200	4000	7'	5'	30.0	800	5500	6500	91	0.97	1.18	1.53	2.88
TR 130 3_280	450	700	1300	3200	4000	7'	5'	30.0	800	5500	6500	91	0.96	1.17	1.52	2.87
TR 130 3_350	450	700	1300	3200	4000	7'	5'	30.0	800	5500	6500	91	0.96	1.17	1.52	2.87
TR 130 3_400	450	700	1300	3200	4000	7'	5'	30.0	800	5500	6500	91	0.96	1.17	1.52	2.87
TR 130 3_500	450	700	1300	3200	4000	7'	5'	30.0	800	5500	6500	91	0.96	1.17	1.52	2.87
TR 130 3_700	450	700	1300	3200	4000	7'	5'	30.0	800	5500	6500	91	0.96	1.17	1.52	2.87
TR 130 3_1000	215	400	800	3200	4000	7'	5'	30.0	800	5500	6500	91	0.96	1.17	1.52	2.87

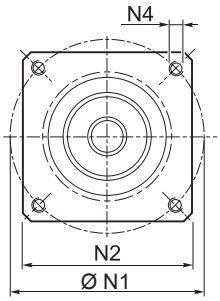


TR G 130

55A1 ... 180A1



	Kg
TR G 130 2	16.0
TR G 130 3	19.5
TR G 130 4	22.5



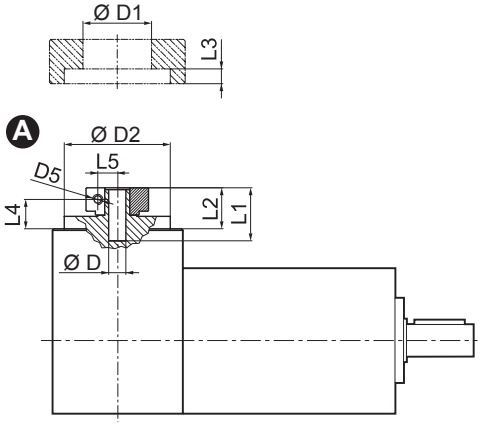
TR

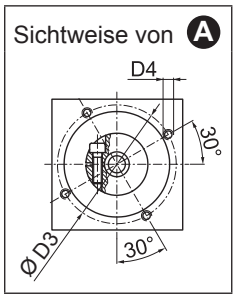
	D										N	N1	N2	N3	N4	N5	L_{max}
55A1	14	15.875	16	19	–	–	–	–	–	–	55.5	125.7	130	4	M6x15	39.5	50
80A2	14	15.875	16	19	–	–	–	–	–	–	80	100	130	4	M6x15	39.5	50
95A1	14	15.875	16	19	22	24	–	–	–	–	95	115	130	4	M8x20	39.5	50
110A1	14	15.875	16	19	22	24	–	–	–	–	110	130	130	4	M8x20	39.5	50
110B1	14	15.875	16	19	22	24	–	–	–	–	110	145	130	6.5	M8x20	49.5	60
114A0	14	15.875	16	19	22	24	–	–	–	–	114.3	200	170	5.5	M12x25	39.5	50
114A	14	15.875	16	19	22	24	28	32	35	38	114.3	200	170	5.5	M12x25	69.5	80
130A	14	15.875	16	19	22	24	–	–	–	–	130	165	140	4	M10x20	39.5	50
130A1	14	15.875	16	19	22	24	28	32	–	–	130	165	140	4	M10x20	49.5	60
180A	14	15.875	16	19	22	24	28	32	–	–	180	215	190	5.5	M14x25	49.5	60
180A1	14	15.875	16	19	22	24	28	32	35	38	180	215	190	5.5	M14x25	69.5	80

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

TR G 130

FM



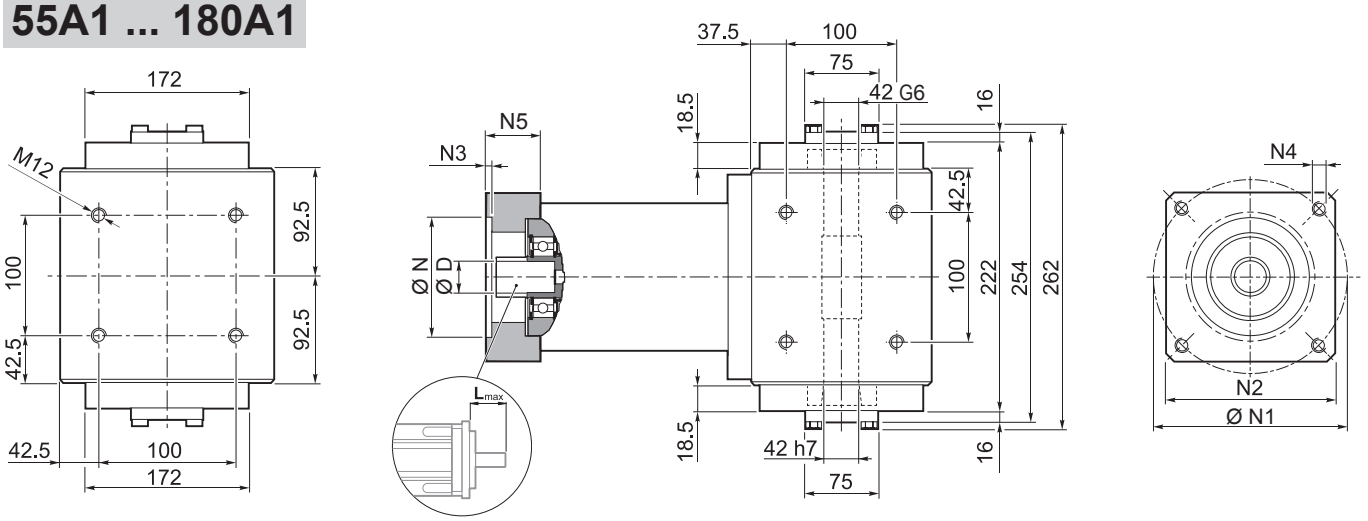


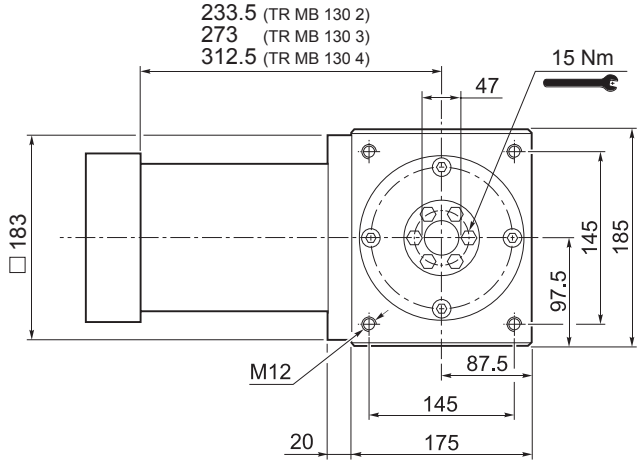
D			D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14	15.875	16	48	113	125.5	M8x15	M6	40	27.5	6	20	14.5
19			51	113	125.5	M8x15	M6	40	27.5	6	20	16.5
22	24		56.5	113	125.5	M8x15	M6	41	28.5	6	19.5	19
28			67	113	125.5	M8x15	M8	41	28.5	6	19.5	22.5
32			71	113	125.5	M8x15	M8	41	28.5	6	19.5	24.5
35			73	113	125.5	M8x15	M8	50	37.5	11.25	26	26
38			77.5	113	125.5	M8x15	M8	50	37.5	11.25	26	28

	i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min-1]	$n_{1\,max}$ [min-1]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm²] D 14 ... 19	22 - 24	28 - 32	35 - 38
TR G 130 2_3		215	400	800	2100	3000	5'	3'	45.0	5500	6500	94	7.09	7.28	7.66	10.37
TR G 130 2_4		380	600	1100	2400	3500	5'	3'	45.0	5500	6500	94	4.90	5.08	5.46	8.18
TR G 130 2_5		380	600	1100	2900	3500	5'	3'	45.0	5500	6500	94	4.81	4.99	5.38	8.10
TR G 130 2_6		380	600	1100	2900	3500	5'	3'	45.0	5500	6500	94	4.45	4.64	5.03	7.73
TR G 130 2_7		380	600	1100	3200	4000	5'	3'	45.0	5500	6500	94	4.73	4.92	5.31	8.01
TR G 130 2_10		215	400	800	3200	4000	5'	3'	45.0	5500	6500	94	4.68	4.88	5.26	7.97
TR G 130 3_9		215	400	800	2100	3000	5'	3'	38.5	5500	6500	91	6.66	6.84	7.22	9.93
TR G 130 3_12		450	700	1300	2100	3000	5'	3'	38.5	5500	6500	91	6.25	6.45	6.84	9.54
TR G 130 3_15		450	700	1300	2100	3000	5'	3'	38.5	5500	6500	91	6.25	6.44	6.83	9.53
TR G 130 3_16		450	700	1300	2400	3500	5'	3'	38.5	5500	6500	91	4.51	4.70	5.08	7.79
TR G 130 3_20		450	700	1300	2900	3500	5'	3'	38.5	5500	6500	91	4.56	5.36	5.75	8.45
TR G 130 3_25		450	700	1300	2900	3500	5'	3'	38.5	5500	6500	91	5.13	4.72	5.11	7.82
TR G 130 3_28		450	700	1300	3200	4000	5'	3'	38.5	5500	6500	91	4.60	4.79	5.18	7.88
TR G 130 3_30		215	400	800	3200	4000	5'	3'	38.5	5500	6500	91	4.64	4.84	5.22	7.93
TR G 130 3_35		450	700	1300	3200	4000	5'	3'	38.5	5500	6500	91	4.92	5.10	5.49	8.20
TR G 130 3_36		380	600	1100	2900	3500	5'	3'	38.5	5500	6500	91	4.31	4.50	4.89	7.59
TR G 130 3_40		450	700	1300	3200	4000	5'	3'	38.5	5500	6500	91	4.77	4.96	5.35	8.05
TR G 130 3_50		450	700	1300	3200	4000	5'	3'	38.5	5500	6500	91	4.76	4.96	5.34	8.05
TR G 130 3_70		450	700	1300	3200	4000	5'	3'	38.5	5500	6500	91	4.60	4.80	5.18	7.89
TR G 130 3_100		215	400	800	3200	4000	5'	3'	38.5	5500	6500	91	4.60	4.80	5.18	7.89
TR G 130 4_48		450	700	1300	2400	3500	7'	5'	30.0	5500	6500	89	4.61	4.81	5.18	7.89
TR G 130 4_64		450	700	1300	2400	3500	7'	5'	30.0	5500	6500	89	4.49	4.68	5.06	7.77
TR G 130 4_75		450	700	1300	2900	3500	7'	5'	30.0	5500	6500	89	4.62	4.81	5.20	7.91
TR G 130 4_80		450	700	1300	2400	3500	7'	5'	30.0	5500	6500	89	4.49	4.67	5.05	7.77
TR G 130 4_84		450	700	1300	3200	4000	7'	5'	30.0	5500	6500	89	4.63	4.82	5.21	7.91
TR G 130 4_90		215	400	800	3200	4000	7'	5'	30.0	5500	6500	89	4.64	4.83	5.21	7.93
TR G 130 4_120		450	700	1300	3200	4000	7'	5'	30.0	5500	6500	89	4.63	4.83	5.21	7.92
TR G 130 4_125		450	700	1300	2900	3500	7'	5'	30.0	5500	6500	89	4.52	4.70	5.09	7.81
TR G 130 4_140		450	700	1300	3200	4000	7'	5'	30.0	5500	6500	89	4.60	4.78	5.17	7.88
TR G 130 4_150		450	700	1300	3200	4000	7'	5'	30.0	5500	6500	89	4.63	4.83	5.21	7.92
TR G 130 4_160		450	700	1300	3200	4000	7'	5'	30.0	5500	6500	89	4.62	4.81	5.19	7.91
TR G 130 4_175		450	700	1300	3200	4000	7'	5'	30.0	5500	6500	89	4.58	4.77	5.16	7.86
TR G 130 4_200		450	700	1300	3200	4000	7'	5'	30.0	5500	6500	89	4.61	4.81	5.19	7.90
TR G 130 4_210		450	700	1300	3200	4000	7'	5'	30.0	5500	6500	89	4.63	4.83	5.21	7.92
TR G 130 4_216		450	700	1300	2900	3500	7'	5'	30.0	5500	6500	89	4.31	4.50	4.89	7.59
TR G 130 4_250		450	700	1300	3200	4000	7'	5'	30.0	5500	6500	89	4.61	4.81	5.19	7.90
TR G 130 4_280		450	700	1300	3200	4000	7'	5'	30.0	5500	6500	89	4.60	4.80	5.18	7.89
TR G 130 4_350		450	700	1300	3200	4000	7'	5'	30.0	5500	6500	89	4.60	4.80	5.18	7.89
TR G 130 4_400		450	700	1300	3200	4000	7'	5'	30.0	5500	6500	89	4.60	4.80	5.18	7.89
TR G 130 4_500		450	700	1300	3200	4000	7'	5'	30.0	5500	6500	89	4.60	4.80	5.18	7.89
TR G 130 4_700		450	700	1300	3200	4000	7'	5'	30.0	5500	6500	89	4.60	4.80	5.18	7.89
TR G 130 4_1000		215	400	800	3200	4000	7'	5'	30.0	5500	6500	89	4.60	4.80	5.18	7.89

TR MB 130

55A1 ... 180A1

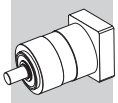




	Kg
TR MB 130 2	54
TR MB 130 3	58
TR MB 130 4	61

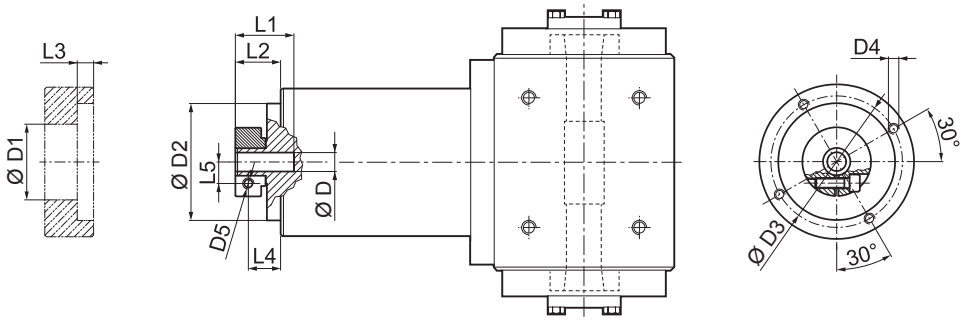
	D										N	N1	N2	N3	N4	N5	L_{max}
55A1	14	15.875	16	19	–	–	–	–	–	–	55.5	125.7	130	4	M6x15	39.5	50
80A2	14	15.875	16	19	–	–	–	–	–	–	80	100	130	4	M6x15	39.5	50
95A1	14	15.875	16	19	22	24	–	–	–	–	95	115	130	4	M8x20	39.5	50
110A1	14	15.875	16	19	22	24	–	–	–	–	110	130	130	4	M8x20	39.5	50
110B1	14	15.875	16	19	22	24	–	–	–	–	110	145	130	6.5	M8x20	49.5	60
114A0	14	15.875	16	19	22	24	–	–	–	–	114.3	200	170	5.5	M12x25	39.5	50
114A	14	15.875	16	19	22	24	28	32	35	38	114.3	200	170	5.5	M12x25	69.5	80
130A	14	15.875	16	19	22	24	–	–	–	–	130	165	140	4	M10x20	39.5	50
130A1	14	15.875	16	19	22	24	28	32	–	–	130	165	140	4	M10x20	49.5	60
180A	14	15.875	16	19	22	24	28	32	–	–	180	215	190	5.5	M14x25	49.5	60
180A1	14	15.875	16	19	22	24	28	32	35	38	180	215	190	5.5	M14x25	69.5	80

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



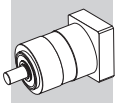
TR MB 130

FM



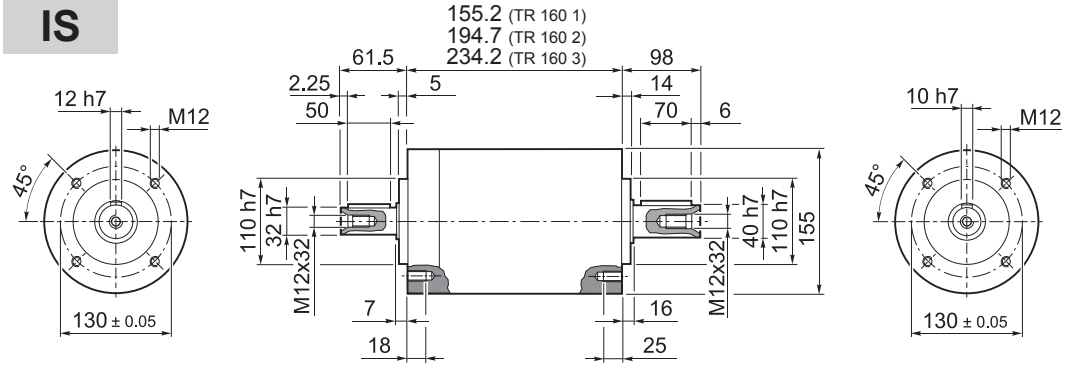
D			D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14	15.875	16	48	113	125.5	M8x15	M6	40	27.5	6	20	14.5
19			51	113	125.5	M8x15	M6	40	27.5	6	20	16.5
22	24		56.5	113	125.5	M8x15	M6	41	28.5	6	19.5	19
28			67	113	125.5	M8x15	M8	41	28.5	6	19.5	22.5
32			71	113	125.5	M8x15	M8	41	28.5	6	19.5	24.5
35			73	113	125.5	M8x15	M8	50	37.5	11.25	26	26
38			77.5	113	125.5	M8x15	M8	50	37.5	11.25	26	28

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	η %	J_G [kgcm^2] D 14 ... 19	22 - 24	28 - 32	35 - 38
TR MB 130 2_3	215	400	800	2100	3000	5'	3'	45.0	94	5.25	5.46	5.81	7.16
TR MB 130 2_4	380	600	1100	2400	3500	5'	3'	45.0	94	3.06	3.26	3.61	4.97
TR MB 130 2_5	380	600	1100	2900	3500	5'	3'	45.0	94	2.22	2.42	2.77	4.13
TR MB 130 2_6	380	600	1100	2900	3500	5'	3'	45.0	94	1.19	1.40	1.75	3.10
TR MB 130 2_7	380	600	1100	3200	4000	5'	3'	45.0	94	1.47	1.68	2.03	3.38
TR MB 130 2_10	215	400	800	3200	4000	5'	3'	45.0	94	1.04	1.25	1.60	2.95
TR MB 130 3_9	215	400	800	2100	3000	5'	3'	38.5	91	4.82	5.02	5.37	6.72
TR MB 130 3_12	450	700	1300	2100	3000	5'	3'	38.5	91	4.57	4.78	5.13	6.48
TR MB 130 3_15	450	700	1300	2100	3000	5'	3'	38.5	91	4.48	4.69	5.04	6.39
TR MB 130 3_16	450	700	1300	2400	3500	5'	3'	38.5	91	2.67	2.88	3.23	4.58
TR MB 130 3_20	450	700	1300	2900	3500	5'	3'	38.5	91	1.97	2.18	2.53	3.88
TR MB 130 3_25	450	700	1300	2900	3500	5'	3'	38.5	91	1.94	2.15	2.50	3.85
TR MB 130 3_28	450	700	1300	3200	4000	5'	3'	38.5	91	1.34	1.55	1.90	3.25
TR MB 130 3_30	215	400	800	3200	4000	5'	3'	38.5	91	1.00	1.21	1.56	2.91
TR MB 130 3_35	450	700	1300	3200	4000	5'	3'	38.5	91	1.33	1.53	1.88	3.24
TR MB 130 3_36	380	600	1100	2900	3500	5'	3'	38.5	91	1.05	1.26	1.61	2.96
TR MB 130 3_40	450	700	1300	3200	4000	5'	3'	38.5	91	0.98	1.19	1.54	2.89
TR MB 130 3_50	450	700	1300	3200	4000	5'	3'	38.5	91	0.97	1.18	1.53	2.88
TR MB 130 3_70	450	700	1300	3200	4000	5'	3'	38.5	91	0.96	1.17	1.52	2.87
TR MB 130 3_100	215	400	800	3200	4000	5'	3'	38.5	91	0.96	1.17	1.52	2.87
TR MB 130 4_48	450	700	1300	2400	3500	7'	5'	30.0	89	2.77	2.98	3.33	4.68
TR MB 130 4_64	450	700	1300	2400	3500	7'	5'	30.0	89	2.65	2.86	3.21	4.56
TR MB 130 4_75	450	700	1300	2900	3500	7'	5'	30.0	89	2.03	2.24	2.59	3.94
TR MB 130 4_80	450	700	1300	2400	3500	7'	5'	30.0	89	2.65	2.85	3.20	4.56
TR MB 130 4_84	450	700	1300	3200	4000	7'	5'	30.0	89	1.37	1.58	1.93	3.28
TR MB 130 4_90	215	400	800	3200	4000	7'	5'	30.0	89	1.00	1.20	1.55	2.91
TR MB 130 4_120	450	700	1300	3200	4000	7'	5'	30.0	89	0.99	1.20	1.55	2.90
TR MB 130 4_125	450	700	1300	2900	3500	7'	5'	30.0	89	1.93	2.13	2.48	3.84
TR MB 130 4_140	450	700	1300	3200	4000	7'	5'	30.0	89	1.34	1.54	1.89	3.25
TR MB 130 4_150	450	700	1300	3200	4000	7'	5'	30.0	89	0.99	1.20	1.55	2.90
TR MB 130 4_160	450	700	1300	3200	4000	7'	5'	30.0	89	0.98	1.18	1.53	2.89
TR MB 130 4_175	450	700	1300	3200	4000	7'	5'	30.0	89	1.32	1.53	1.88	3.23
TR MB 130 4_200	450	700	1300	3200	4000	7'	5'	30.0	89	0.97	1.18	1.53	2.88
TR MB 130 4_210	450	700	1300	3200	4000	7'	5'	30.0	89	0.99	1.20	1.55	2.90
TR MB 130 4_216	450	700	1300	2900	3500	7'	5'	30.0	89	1.05	1.26	1.61	2.96
TR MB 130 4_250	450	700	1300	3200	4000	7'	5'	30.0	89	0.97	1.18	1.53	2.88
TR MB 130 4_280	450	700	1300	3200	4000	7'	5'	30.0	89	0.96	1.17	1.52	2.87
TR MB 130 4_350	450	700	1300	3200	4000	7'	5'	30.0	89	0.96	1.17	1.52	2.87
TR MB 130 4_400	450	700	1300	3200	4000	7'	5'	30.0	89	0.96	1.17	1.52	2.87
TR MB 130 4_500	450	700	1300	3200	4000	7'	5'	30.0	89	0.96	1.17	1.52	2.87
TR MB 130 4_700	450	700	1300	3200	4000	7'	5'	30.0	89	0.96	1.17	1.52	2.87
TR MB 130 4_1000	215	400	800	3200	4000	7'	5'	30.0	89	0.96	1.17	1.52	2.87



TR 160

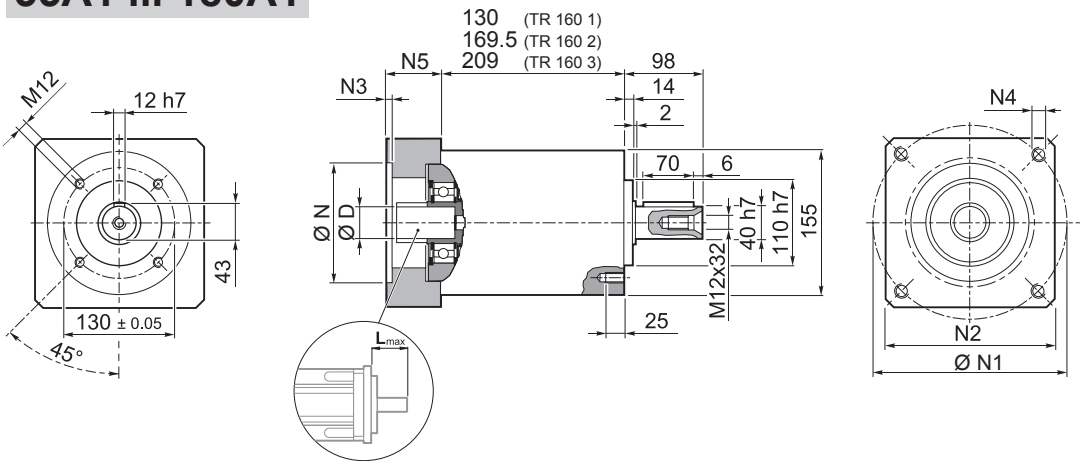
IS



	Kg
TR 160 1	17.0
TR 160 2	21
TR 160 3	28

TR

55A1 ... 180A1



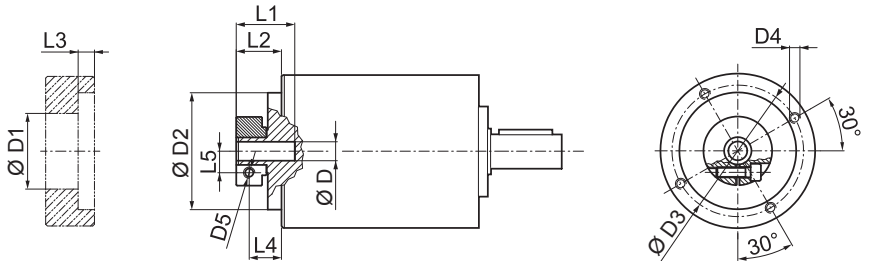
	Kg
TR 160 1	17.0
TR 160 2	21
TR 160 3	28

	D										N	N1	N2	N3	N4	N5	L_{max}
55A1	14	15.875	16	19	–	–	–	–	–	–	55.5	125.7	140	5	M6x15	39.5	50
80A2	14	15.875	16	19	–	–	–	–	–	–	80	100	140	5	M6x15	39.5	50
95A1	14	15.875	16	19	22	24	–	–	–	–	95	115	140	5	M8x20	39.5	50
110A1	14	15.875	16	19	22	24	–	–	–	–	110	130	140	5	M8x20	39.5	50
110B1	14	15.875	16	19	22	24	–	–	–	–	110	145	140	6.5	M8x20	49.5	60
114A	14	15.875	16	19	22	24	28	32	35	38	114.3	200	170	6.5	M12x25	69.5	80
130A	14	15.875	16	19	22	24	–	–	–	–	130	165	140	5	M10x20	39.5	50
130A1	14	15.875	16	19	22	24	28	32	–	–	130	165	140	5	M10x20	49.5	60
180A	14	15.875	16	19	22	24	28	32	–	–	180	215	190	6.5	M14x25	49.5	60
180A1	14	15.875	16	19	22	24	28	32	35	38	180	215	190	6.5	M14x25	69.5	80

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

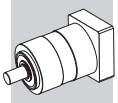
TR 160

FM



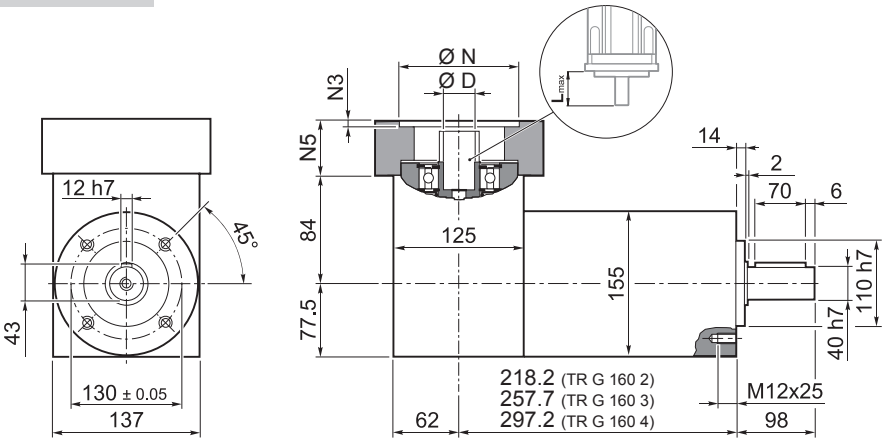
D			D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14	15.875	16	48	130	142.5	M8x16	M6	40	27.5	6	20	14.5
19			51	130	142.5	M8x16	M6	40	27.5	6	20	16.5
22	24		56.5	130	142.5	M8x16	M6	41	28.5	6	19.5	19
28			67	130	142.5	M8x16	M8	41	28.5	6	19.5	22.5
32			71	130	142.5	M8x16	M8	41	28.5	6	19.5	24.5
35			73	130	142.5	M8x16	M8	50	37.5	11.25	26	26
38			77.5	130	142.5	M8x16	M8	50	37.5	11.25	26	28

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{1\,max}$ [N]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm²] D 14 ... 19	22 - 24	28 - 32	35 - 38
TR 160 1_3	350	660	1200	1900	3000	5'	3'	90	1200	6500	7500	97	8.39	8.60	8.95	10.30
TR 160 1_4	500	750	1400	2200	3500	5'	3'	90	1200	6500	7500	97	4.68	4.89	5.24	6.59
TR 160 1_5	500	750	1400	2500	3500	5'	3'	90	1200	6500	7500	97	3.28	3.49	3.84	5.19
TR 160 1_6	500	750	1400	2500	3500	5'	3'	90	1200	6500	7500	97	1.32	1.53	1.88	3.23
TR 160 1_7	500	750	1400	3000	4000	5'	3'	90	1200	6500	7500	97	2.03	2.24	2.59	3.94
TR 160 1_10	350	660	1200	3000	4000	5'	3'	90	1200	6500	7500	97	1.33	1.53	1.88	3.24
TR 160 2_9	350	660	1200	1900	3000	5'	3'	83.5	1200	6500	7500	94	7.51	7.72	8.07	9.42
TR 160 2_12	700	950	1800	1900	3000	5'	3'	83.5	1200	6500	7500	94	7.10	7.30	7.65	9.01
TR 160 2_15	700	950	1800	1900	3000	5'	3'	83.5	1200	6500	7500	94	6.94	7.15	7.50	8.85
TR 160 2_16	700	950	1800	2200	3500	5'	3'	83.5	1200	6500	7500	94	3.95	4.16	4.51	5.86
TR 160 2_20	700	950	1800	2500	3500	5'	3'	83.5	1200	6500	7500	94	2.82	3.02	3.37	4.73
TR 160 2_25	700	950	1800	2500	3500	5'	3'	83.5	1200	6500	7500	94	2.76	2.97	3.32	4.67
TR 160 2_28	700	950	1800	3000	4000	5'	3'	83.5	1200	6500	7500	94	1.79	2.00	2.35	3.70
TR 160 2_30	350	660	1200	3000	4000	5'	3'	83.5	1200	6500	7500	94	1.25	1.46	1.81	3.16
TR 160 2_35	700	950	1800	3000	4000	5'	3'	83.5	1200	6500	7500	94	1.77	1.97	2.32	3.68
TR 160 2_36	500	750	1400	2500	3500	5'	3'	83.5	1200	6500	7500	94	1.06	1.27	1.62	2.97
TR 160 2_40	700	950	1800	3000	4000	5'	3'	83.5	1200	6500	7500	94	1.21	1.42	1.77	3.12
TR 160 2_50	700	950	1800	3000	4000	5'	3'	83.5	1200	6500	7500	94	1.20	1.40	1.75	3.11
TR 160 2_70	700	950	1800	3000	4000	5'	3'	83.5	1200	6500	7500	94	1.18	1.39	1.74	3.09
TR 160 2_100	350	660	1200	3000	4000	5'	3'	83.5	1200	6500	7500	94	1.18	1.38	1.73	3.09
TR 160 3_48	700	950	1800	2200	3500	7'	5'	60	1200	6500	7500	91	4.10	4.31	4.66	6.01
TR 160 3_64	700	950	1800	2200	3500	7'	5'	60	1200	6500	7500	91	3.90	4.11	4.46	5.81
TR 160 3_75	700	950	1800	2500	3500	7'	5'	60	1200	6500	7500	91	2.91	3.11	3.46	4.82
TR 160 3_80	700	950	1800	2200	3500	7'	5'	60	1200	6500	7500	91	3.90	4.11	4.46	5.81
TR 160 3_84	700	950	1800	3000	4000	7'	5'	60	1200	6500	7500	91	1.84	2.05	2.40	3.75
TR 160 3_90	350	660	1200	3000	4000	7'	5'	60	1200	6500	7500	91	1.24	1.45	1.80	3.15
TR 160 3_120	700	950	1800	3000	4000	7'	5'	60	1200	6500	7500	91	1.23	1.44	1.79	3.14
TR 160 3_125	700	950	1800	2500	3500	7'	5'	60	1200	6500	7500	91	2.74	2.95	3.30	4.65
TR 160 3_140	700	950	1800	3000	4000	7'	5'	60	1200	6500	7500	91	1.78	1.98	2.33	3.69
TR 160 3_150	700	950	1800	3000	4000	7'	5'	60	1200	6500	7500	91	1.23	1.44	1.79	3.14
TR 160 3_160	700	950	1800	3000	4000	7'	5'	60	1200	6500	7500	91	1.20	1.41	1.76	3.11
TR 160 3_175	700	950	1800	3000	4000	7'	5'	60	1200	6500	7500	91	1.76	1.96	2.31	3.67
TR 160 3_200	700	950	1800	3000	4000	7'	5'	60	1200	6500	7500	91	1.20	1.41	1.76	3.11
TR 160 3_210	700	950	1800	3000	4000	7'	5'	60	1200	6500	7500	91	1.23	1.44	1.79	3.14
TR 160 3_250	700	950	1800	3000	4000	7'	5'	60	1200	6500	7500	91	1.19	1.40	1.75	3.10
TR 160 3_280	700	950	1800	3000	4000	7'	5'	60	1200	6500	7500	91	1.18	1.39	1.74	3.09
TR 160 3_350	700	950	1800	3000	4000	7'	5'	60	1200	6500	7500	91	1.18	1.39	1.74	3.09
TR 160 3_400	700	950	1800	3000	4000	7'	5'	60	1200	6500	7500	91	1.18	1.38	1.73	3.09
TR 160 3_500	700	950	1800	3000	4000	7'	5'	60	1200	6500	7500	91	1.18	1.38	1.73	3.09
TR 160 3_700	700	950	1800	3000	4000	7'	5'	60	1200	6500	7500	91	1.18	1.38	1.73	3.09
TR 160 3_1000	350	660	1200	3000	4000	7'	5'	60	1200	6500	7500	91	1.18	1.38	1.73	3.09

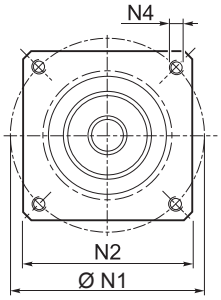


TR G 160

55A1 ... 180A1



	Kg
TR G 160 2	24
TR G 160 3	28
TR G 160 4	34

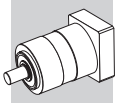


TR

	D										N	N1	N2	N3	N4	N5	L_{max}
55A1	14	15.875	16	19	–	–	–	–	–	–	55.5	125.7	140	5	M6x15	39.5	50
80A2	14	15.875	16	19	–	–	–	–	–	–	80	100	140	5	M6x15	39.5	50
95A1	14	15.875	16	19	22	24	–	–	–	–	95	115	140	5	M8x20	39.5	50
110A1	14	15.875	16	19	22	24	–	–	–	–	110	130	140	5	M8x20	39.5	50
110B1	14	15.875	16	19	22	24	–	–	–	–	110	145	140	6.5	M8x20	49.5	60
114A	14	15.875	16	19	22	24	28	32	35	38	114.3	200	170	6.5	M12x25	69.5	80
130A	14	15.875	16	19	22	24	–	–	–	–	130	165	140	5	M10x20	39.5	50
130A1	14	15.875	16	19	22	24	28	32	–	–	130	165	140	5	M10x20	49.5	60
180A	14	15.875	16	19	22	24	28	32	–	–	180	215	190	6.5	M14x25	49.5	60
180A1	14	15.875	16	19	22	24	28	32	35	38	180	215	190	6.5	M14x25	69.5	80

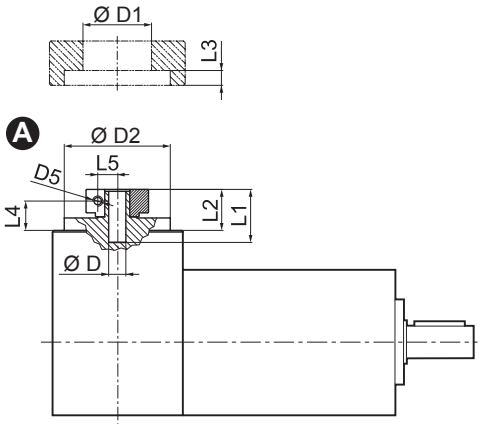
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

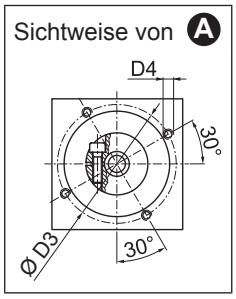
Bonfiglioli Tecnoingranaggi



TR G 160

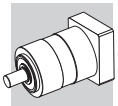
FM





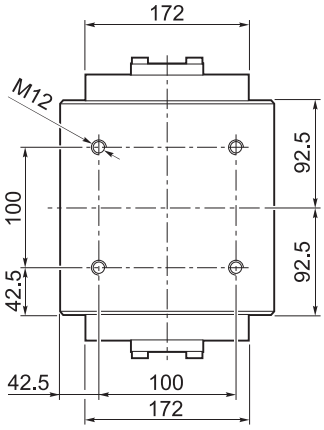
D			D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14	15.875	16	48	113	125.5	M8x15	M6	40	27.5	6	20	14.5
19			51	113	125.5	M8x15	M6	40	27.5	6	20	16.5
22	24		56.5	113	125.5	M8x15	M6	41	28.5	6	19.5	19
28			67	113	125.5	M8x15	M8	41	28.5	6	19.5	22.5
32			71	113	125.5	M8x15	M8	41	28.5	6	19.5	24.5
35			73	113	125.5	M8x15	M8	50	37.5	11.25	26	26
38			77.5	113	125.5	M8x15	M8	50	37.5	11.25	26	28

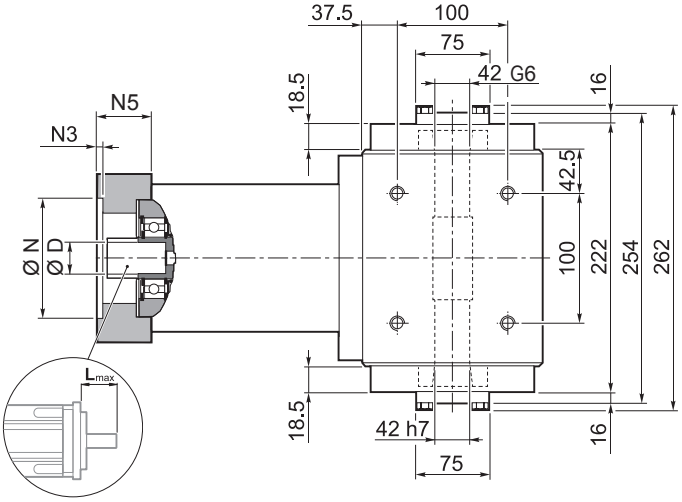
	i	$M_{n\,2}$	$M_{a\,2}$	$M_{p\,2}$	n_1	$n_{1\,max}$	φ_S	φ_R	C_t	$R_{2\,max}$	$A_{2\,max}$	η	J_G [kgcm²] D			
		[Nm]	[Nm]	[Nm]	[min⁻¹]	[min⁻¹]	[arcmin]		[Nm/arcmin]	[N]	[N]	%	14 ... 19	22 - 24	28 - 32	35 - 38
TR G 160 2_3		350	660	1200	1900	3000	5'	3'	90	6500	7500	94	10.23	10.42	10.80	13.51
TR G 160 2_4		500	750	1400	2200	3500	5'	3'	90	6500	7500	94	6.52	6.71	7.09	9.80
TR G 160 2_5		500	750	1400	2500	3500	5'	3'	90	6500	7500	94	5.87	6.06	6.45	9.16
TR G 160 2_6		500	750	1400	2500	3500	5'	3'	90	6500	7500	94	4.58	4.77	5.16	7.86
TR G 160 2_7		500	750	1400	3000	4000	5'	3'	90	6500	7500	94	5.29	5.48	5.87	8.57
TR G 160 2_10		350	660	1200	3000	4000	5'	3'	90	6500	7500	94	4.97	5.16	5.54	8.25
TR G 160 3_9		350	660	1200	1900	3000	5'	3'	83.5	6500	7500	91	9.35	9.54	9.92	12.63
TR G 160 3_12		700	950	1800	1900	3000	5'	3'	83.5	6500	7500	91	8.78	8.97	9.36	12.07
TR G 160 3_15		700	950	1800	1900	3000	5'	3'	83.5	6500	7500	91	8.71	8.90	9.29	11.99
TR G 160 3_16		700	950	1800	2200	3500	5'	3'	83.5	6500	7500	91	5.79	5.98	6.36	9.07
TR G 160 3_20		700	950	1800	2500	3500	5'	3'	83.5	6500	7500	91	5.41	6.20	6.59	9.30
TR G 160 3_25		700	950	1800	2500	3500	5'	3'	83.5	6500	7500	91	5.95	5.54	5.93	8.64
TR G 160 3_28		700	950	1800	3000	4000	5'	3'	83.5	6500	7500	91	5.05	5.24	5.63	8.33
TR G 160 3_30		350	660	1200	3000	4000	5'	3'	83.5	6500	7500	91	4.89	5.09	5.47	8.18
TR G 160 3_35		700	950	1800	3000	4000	5'	3'	83.5	6500	7500	91	5.36	5.54	5.93	8.64
TR G 160 3_36		500	750	1400	2500	3500	5'	3'	83.5	6500	7500	91	4.32	4.51	4.90	7.60
TR G 160 3_40		700	950	1800	3000	4000	5'	3'	83.5	6500	7500	91	5.00	5.19	5.58	8.28
TR G 160 3_50		700	950	1800	3000	4000	5'	3'	83.5	6500	7500	91	4.99	5.18	5.56	8.27
TR G 160 3_70		700	950	1800	3000	4000	5'	3'	83.5	6500	7500	91	4.82	5.02	5.40	8.11
TR G 160 3_100		350	660	1200	3000	4000	5'	3'	83.5	6500	7500	91	4.82	5.01	5.39	8.10
TR G 160 4_48		700	950	1800	2200	3500	7'	5'	60	6500	7500	89	5.94	6.13	6.53	9.22
TR G 160 4_64		700	950	1800	2200	3500	7'	5'	60	6500	7500	89	5.74	5.93	6.31	9.02
TR G 160 4_75		700	950	1800	2500	3500	7'	5'	60	6500	7500	89	5.50	5.68	6.07	8.79
TR G 160 4_80		700	950	1800	2200	3500	7'	5'	60	6500	7500	89	5.74	5.93	6.31	9.02
TR G 160 4_84		700	950	1800	3000	4000	7'	5'	60	6500	7500	89	5.10	5.29	5.68	8.38
TR G 160 4_90		350	660	1200	3000	4000	7'	5'	60	6500	7500	89	4.88	5.08	5.46	8.17
TR G 160 4_120		700	950	1800	3000	4000	7'	5'	60	6500	7500	89	4.87	5.07	5.45	8.16
TR G 160 4_125		700	950	1800	2500	3500	7'	5'	60	6500	7500	89	5.33	5.52	5.91	8.62
TR G 160 4_140		700	950	1800	3000	4000	7'	5'	60	6500	7500	89	5.04	5.22	5.61	8.32
TR G 160 4_150		700	950	1800	3000	4000	7'	5'	60	6500	7500	89	4.87	5.07	5.45	8.16
TR G 160 4_160		700	950	1800	3000	4000	7'	5'	60	6500	7500	89	4.84	5.04	5.42	8.13
TR G 160 4_175		700	950	1800	3000	4000	7'	5'	60	6500	7500	89	5.02	5.20	5.59	8.30
TR G 160 4_200		700	950	1800	3000	4000	7'	5'	60	6500	7500	89	4.84	5.04	5.42	8.13
TR G 160 4_210		700	950	1800	3000	4000	7'	5'	60	6500	7500	89	4.87	5.07	5.45	8.16
TR G 160 4_250		700	950	1800	3000	4000	7'	5'	60	6500	7500	89	4.83	5.03	5.41	8.12
TR G 160 4_280		700	950	1800	3000	4000	7'	5'	60	6500	7500	89	4.82	5.02	5.40	8.11
TR G 160 4_350		700	950	1800	3000	4000	7'	5'	60	6500	7500	89	4.82	2.05	5.40	8.11
TR G 160 4_400		700	950	1800	3000	4000	7'	5'	60	6500	7500	89	4.82	5.01	5.39	8.11
TR G 160 4_500		700	950	1800	3000	4000	7'	5'	60	6500	7500	89	4.82	5.01	5.39	8.11
TR G 160 4_700		700	950	1800	3000	4000	7'	5'	60	6500	7500	89	4.82	5.01	5.39	8.11
TR G 160 4_1000		350	660	1200	3000	4000	7'	5'	60	6500	7500	89	4.82	5.01	5.39	8.11

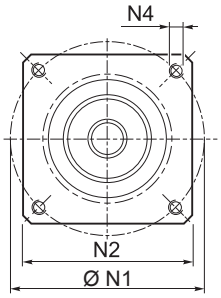


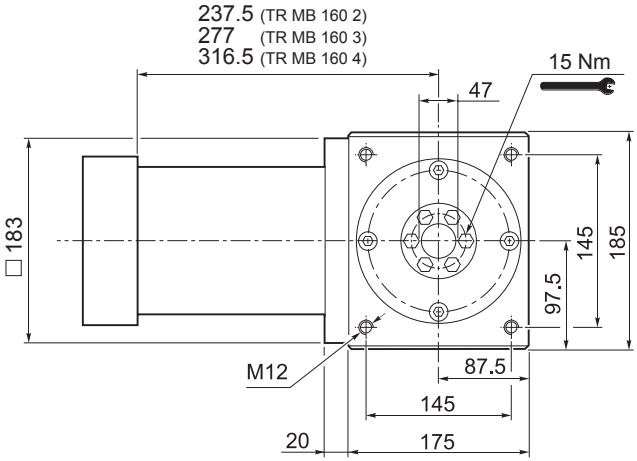
TR MB 160

55A1 ... 180A1





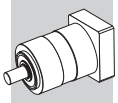




	Kg
TR MB 160 2	59
TR MB 160 3	63.5
TR MB 160 4	70.5

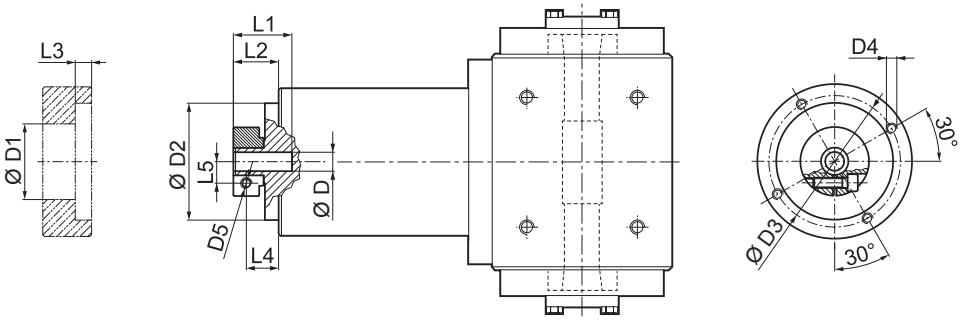
	D										N	N1	N2	N3	N4	N5	L_{max}
55A1	14	15.875	16	19	–	–	–	–	–	–	55.5	125.7	140	5	M6x15	39.5	50
80A2	14	15.875	16	19	–	–	–	–	–	–	80	100	140	5	M6x15	39.5	50
95A1	14	15.875	16	19	22	24	–	–	–	–	95	115	140	5	M8x20	39.5	50
110A1	14	15.875	16	19	22	24	–	–	–	–	110	130	140	5	M8x20	39.5	50
110B1	14	15.875	16	19	22	24	–	–	–	–	110	145	140	6.5	M8x20	49.5	60
114A	14	15.875	16	19	22	24	28	32	35	38	114.3	200	170	6.5	M12x25	69.5	80
130A	14	15.875	16	19	22	24	–	–	–	–	130	165	140	5	M10x20	39.5	50
130A1	14	15.875	16	19	22	24	28	32	–	–	130	165	140	5	M10x20	49.5	60
180A	14	15.875	16	19	22	24	28	32	–	–	180	215	190	6.5	M14x25	49.5	60
180A1	14	15.875	16	19	22	24	28	32	35	38	180	215	190	6.5	M14x25	69.5	80

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



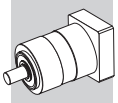
TR MB 160

FM



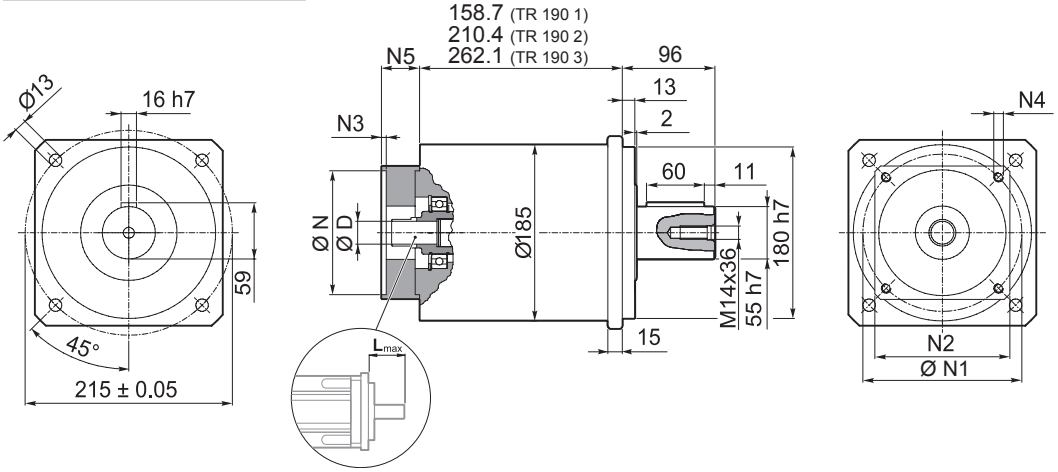
D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14 15.875 16	48	130	142.5	M8x16	M6	40	27.5	6	20	14.5
19	51	130	142.5	M8x16	M6	40	27.5	6	20	16.5
22 24	56.5	130	142.5	M8x16	M6	41	28.5	6	19.5	19
28	67	130	142.5	M8x16	M8	41	28.5	6	19.5	22.5
32	71	130	142.5	M8x16	M8	41	28.5	6	19.5	24.5
35	73	130	142.5	M8x16	M8	50	37.5	11.25	26	26
38	77.5	130	142.5	M8x16	M8	50	37.5	11.25	26	28

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	η %	J_G [kgcm^2] D 14 ... 19	22 - 24	28 - 32	35 - 38
TR MB 160 2_3	350	660	1200	1900	3000	5'	3'	90	94	8.39	8.60	8.95	10.30
TR MB 160 2_4	500	750	1400	2200	3500	5'	3'	90	94	4.68	4.89	5.24	6.59
TR MB 160 2_5	500	750	1400	2500	3500	5'	3'	90	94	3.28	3.49	3.84	5.19
TR MB 160 2_6	500	750	1400	2500	3500	5'	3'	90	94	1.32	1.53	1.88	3.23
TR MB 160 2_7	500	750	1400	3000	4000	5'	3'	90	94	2.03	2.24	2.59	3.94
TR MB 160 2_10	350	660	1200	3000	4000	5'	3'	90	94	1.33	1.53	1.88	3.24
TR MB 160 3_9	350	660	1200	1900	3000	5'	3'	83	91	7.51	7.72	8.07	9.42
TR MB 160 3_12	700	950	1800	1900	3000	5'	3'	83	91	7.10	7.30	7.65	9.01
TR MB 160 3_15	700	950	1800	1900	3000	5'	3'	83	91	6.94	7.15	7.50	8.85
TR MB 160 3_16	700	950	1800	2200	3500	5'	3'	83	91	3.95	4.16	4.51	5.86
TR MB 160 3_20	700	950	1800	2500	3500	5'	3'	83	91	2.82	3.02	3.37	4.73
TR MB 160 3_25	700	950	1800	2500	3500	5'	3'	83	91	2.76	2.97	3.32	4.67
TR MB 160 3_28	700	950	1800	3000	4000	5'	3'	83	91	1.79	2.00	2.35	3.70
TR MB 160 3_30	350	660	1200	3000	4000	5'	3'	83	91	1.25	1.46	1.81	3.16
TR MB 160 3_35	700	950	1800	3000	4000	5'	3'	83	91	1.77	1.97	2.32	3.68
TR MB 160 3_36	500	750	1400	2500	3500	5'	3'	83	91	1.06	1.27	1.62	2.97
TR MB 160 3_40	700	950	1800	3000	4000	5'	3'	83	91	1.21	1.42	1.77	3.12
TR MB 160 3_50	700	950	1800	3000	4000	5'	3'	83	91	1.20	1.40	1.75	3.11
TR MB 160 3_70	700	950	1800	3000	4000	5'	3'	83	91	1.18	1.39	1.74	3.09
TR MB 160 3_100	350	660	1200	3000	4000	5'	3'	83	91	1.18	1.38	1.73	3.09
TR MB 160 4_48	700	950	1800	2200	3500	7'	5'	60	89	4.10	4.31	4.66	6.01
TR MB 160 4_64	700	950	1800	2200	3500	7'	5'	60	89	3.90	4.11	4.46	5.81
TR MB 160 4_75	700	950	1800	2500	3500	7'	5'	60	89	2.91	3.11	3.46	4.82
TR MB 160 4_80	700	950	1800	2200	3500	7'	5'	60	89	3.90	4.11	4.46	5.81
TR MB 160 4_84	700	950	1800	3000	4000	7'	5'	60	89	1.84	2.05	2.40	3.75
TR MB 160 4_90	350	660	1200	3000	4000	7'	5'	60	89	1.24	1.45	1.80	3.15
TR MB 160 4_120	700	950	1800	3000	4000	7'	5'	60	89	1.23	1.44	1.79	3.14
TR MB 160 4_125	700	950	1800	2500	3500	7'	5'	60	89	2.74	2.95	3.30	4.65
TR MB 160 4_140	700	950	1800	3000	4000	7'	5'	60	89	1.78	1.98	2.33	3.69
TR MB 160 4_150	700	950	1800	3000	4000	7'	5'	60	89	1.23	1.44	1.79	3.14
TR MB 160 4_160	700	950	1800	3000	4000	7'	5'	60	89	1.20	1.41	1.76	3.11
TR MB 160 4_175	700	950	1800	3000	4000	7'	5'	60	89	1.76	1.96	2.31	3.67
TR MB 160 4_200	700	950	1800	3000	4000	7'	5'	60	89	1.20	1.41	1.76	3.11
TR MB 160 4_210	700	950	1800	3000	4000	7'	5'	60	89	1.23	1.44	1.79	3.14
TR MB 160 4_250	700	950	1800	3000	4000	7'	5'	60	89	1.19	1.40	1.75	3.10
TR MB 160 4_280	700	950	1800	3000	4000	7'	5'	60	89	1.18	1.39	1.74	3.09
TR MB 160 4_350	700	950	1800	3000	4000	7'	5'	60	89	1.18	1.39	1.74	3.09
TR MB 160 4_400	700	950	1800	3000	4000	7'	5'	60	89	1.18	1.38	1.73	3.09
TR MB 160 4_500	700	950	1800	3000	4000	7'	5'	60	89	1.18	1.38	1.73	3.09
TR MB 160 4_700	700	950	1800	3000	4000	7'	5'	60	89	1.18	1.38	1.73	3.09
TR MB 160 4_1000	350	660	1200	3000	4000	7'	5'	60	89	1.18	1.38	1.73	3.09



TR 190

55A1 ... 180A1

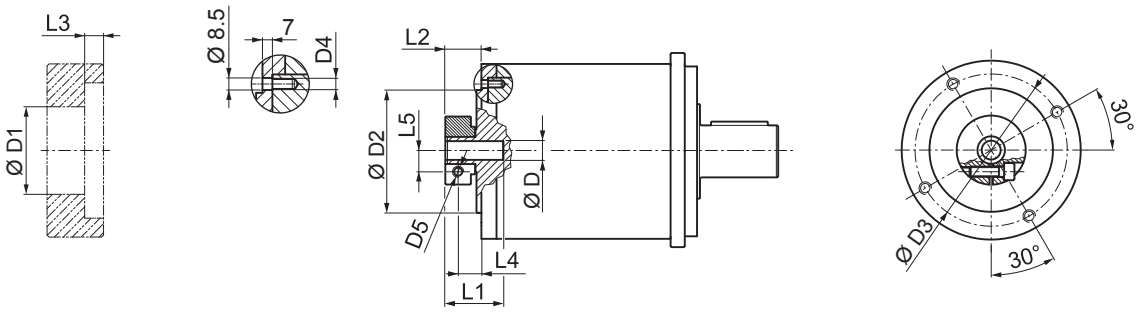


	Kg
TR 190 1	25
TR 190 2	29
TR 190 3	34

	D												N	N1	N2	N3	N4	N5	L_{max}
55A1	14	16	19	–	–	–	–	–	–	–	–	–	55.5	125.7	140	5	M6x15	39.5	50
80A2	14	16	19	–	–	–				–	–	–	80	100	140	5	M6x15	39.5	50
95A1	14	16	19	22	24	–	–	–	–	–	–	–	95	115	140	5	M8x20	39.5	50
110A1	14	16	19	22	24	–	–	–	–	–	–	–	110	130	140	5	M8x20	39.5	50
110B1	14	16	19	22	24	–	–	–	–	–	–	–	110	145	140	6.5	M8x20	49.5	60
114A	14	16	19	22	24	28	32	35	38	42	45	48	114.3	200	170	6.5	M12x25	69.5	80
130A	14	16	19	22	24	–	–	–	–	–	–	–	130	165	140	5	M10x20	39.5	50
130A1	14	16	19	22	24	28	32	–	–	–	–	–	130	165	140	5	M10x20	49.5	60
180A	14	16	19	22	24	28	32	–	–	–	–	–	180	215	190	6.5	M14x25	49.5	60
180A1	14	16	19	22	24	28	32	35	38	42	45	48	180	215	190	6.5	M14x25	69.5	80

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

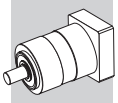
FM



D		D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14	16	48	130	142.5	M8x14	M6	45.5	27.5	6	20	14.5
19		51	130	142.5	M8x14	M6	45.5	27.5	6	20	16.5
22	24	56.5	130	142.5	M8x14	M6	47	29	6	20	19
28		67	130	142.5	M8x14	M8	47	29	6	20	22.5
32		71	130	142.5	M8x14	M8	47	29	6	20	24.5
35		73	130	142.5	M8x14	M8	54.5	36.5	6	25	26
38		77.5	130	142.5	M8x14	M8	54.5	36.5	6	25	28
42		92	130	142.5	M8x14	M10	60.5	40	6	25	33
45		95	130	142.5	M8x14	M10	60.5	40	6	25	33
48		97	130	142.5	M8x14	M10	60.5	40	6	25	33

TR 190

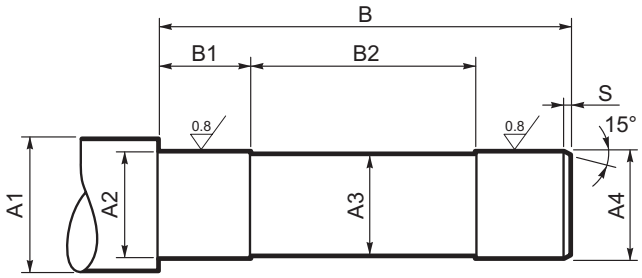
i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 14 ... 24	28 - 32	35 - 35	42	45 - 48
TR 190 1_3	500	800	1400	1500	2500	5'	3'	130	14000	15000	97	24.20	24.88	25.65	29.30	29.90
TR 190 1_4	700	950	1800	2100	3000	5'	3'	130	14000	15000	97	13.41	14.09	14.85	18.51	19.11
TR 190 1_5	700	950	1800	2300	3000	5'	3'	130	14000	15000	97	9.32	10.00	10.77	14.42	15.02
TR 190 1_6	700	950	1800	2300	3000	5'	3'	130	14000	15000	97	2.88	3.56	4.33	7.98	8.58
TR 190 1_7	700	950	1800	2900	3500	5'	3'	130	14000	15000	97	5.68	6.36	7.13	10.78	11.38
TR 190 1_10	500	800	1400	2900	3500	5'	3'	130	14000	15000	97	3.57	4.25	5.02	8.67	9.27
TR 190 2_9	500	800	1400	1500	2500	5'	3'	100	14000	15000	94	23.23	23.91	24.67	28.33	28.93
TR 190 2_12	1000	1200	2200	1500	2500	5'	3'	100	14000	15000	94	22.03	22.71	23.48	27.13	27.73
TR 190 2_15	1000	1200	2200	1500	2500	5'	3'	100	14000	15000	94	21.58	22.25	23.02	26.68	27.27
TR 190 2_16	1000	1200	2200	2100	3000	5'	3'	100	14000	15000	94	12.19	12.86	13.63	17.29	17.89
TR 190 2_20	1000	1200	2200	2300	3000	5'	3'	100	14000	15000	94	8.54	9.22	9.98	13.64	14.24
TR 190 2_25	1000	1200	2200	2300	3000	5'	3'	100	14000	15000	94	8.37	9.05	9.82	13.48	14.07
TR 190 2_28	1000	1200	2200	2900	3500	5'	3'	100	14000	15000	94	5.28	5.96	6.73	10.38	10.98
TR 190 2_30	500	800	1400	2900	3500	5'	3'	100	14000	15000	94	3.48	4.16	4.93	8.58	9.18
TR 190 2_35	1000	1200	2200	2900	3500	5'	3'	100	14000	15000	94	5.20	5.87	6.64	10.30	10.90
TR 190 2_36	700	950	1800	2300	3000	5'	3'	100	14000	15000	94	2.18	2.86	3.63	7.28	7.88
TR 190 2_40	1000	1200	2200	2900	3500	5'	3'	100	14000	15000	94	3.37	4.05	4.82	8.48	9.07
TR 190 2_50	1000	1200	2200	2900	3500	5'	3'	100	14000	15000	94	3.33	4.01	4.78	8.44	9.03
TR 190 2_70	1000	1200	2200	2900	3500	5'	3'	100	14000	15000	94	3.30	3.97	4.74	8.40	9.00
TR 190 2_100	500	800	1400	2900	3500	5'	3'	100	14000	15000	94	3.28	3.95	4.72	8.38	8.98
TR 190 3_48	1000	1200	2200	2100	3000	7'	5'	90	14000	15000	91	12.73	13.40	14.17	17.83	18.43
TR 190 3_64	1000	1200	2200	2100	3000	7'	5'	90	14000	15000	91	12.10	12.78	13.55	17.21	17.80
TR 190 3_75	1000	1200	2200	2300	3000	7'	5'	90	14000	15000	91	8.86	9.54	10.31	13.97	14.56
TR 190 3_80	1000	1200	2200	2100	3000	7'	5'	90	14000	15000	91	12.09	12.76	13.53	17.19	17.79
TR 190 3_84	1000	1200	2200	2900	3500	7'	5'	90	14000	15000	91	5.46	6.13	6.90	10.56	11.16
TR 190 3_90	500	800	1400	2900	3500	7'	5'	90	14000	15000	91	3.47	4.15	4.92	8.57	9.17
TR 190 3_120	1000	1200	2200	2900	3500	7'	5'	90	14000	15000	91	3.46	4.14	4.91	8.56	9.16
TR 190 3_125	1000	1200	2200	2300	3000	7'	5'	90	14000	15000	91	8.34	9.01	9.78	13.44	14.04
TR 190 3_140	1000	1200	2200	2900	3500	7'	5'	90	14000	15000	91	5.25	5.92	6.69	10.35	10.95
TR 190 3_150	1000	1200	2200	2900	3500	7'	5'	90	14000	15000	91	3.46	4.13	4.90	8.56	9.15
TR 190 3_160	1000	1200	2200	2900	3500	7'	5'	90	14000	15000	91	3.36	4.04	4.81	8.46	9.06
TR 190 3_175	1000	1200	2200	2900	3500	7'	5'	90	14000	15000	91	5.18	5.85	6.62	10.28	10.88
TR 190 3_200	1000	1200	2200	2900	3500	7'	5'	90	14000	15000	91	3.36	4.03	4.80	8.46	9.06
TR 190 3_210	1000	1200	2200	2900	3500	7'	5'	90	14000	15000	91	3.45	4.13	4.90	8.55	9.15
TR 190 3_250	1000	1200	2200	2900	3500	7'	5'	90	14000	15000	91	3.32	4.00	4.77	8.42	9.02
TR 190 3_280	1000	1200	2200	2900	3500	7'	5'	90	14000	15000	91	3.29	3.97	4.74	8.39	8.99
TR 190 3_350	1000	1200	2200	2900	3500	7'	5'	90	14000	15000	91	3.29	3.97	4.74	8.39	8.99
TR 190 3_400	1000	1200	2200	2900	3500	7'	5'	90	14000	15000	91	3.27	3.95	4.72	8.38	8.97
TR 190 3_500	1000	1200	2200	2900	3500	7'	5'	90	14000	15000	91	3.27	3.95	4.72	8.38	8.97
TR 190 3_700	1000	1200	2200	2900	3500	7'	5'	90	14000	15000	91	3.27	3.95	4.72	8.38	8.97
TR 190 3_1000	500	800	1400	2900	3500	7'	5'	90	14000	15000	91	3.27	3.95	4.72	8.38	8.97



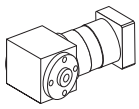
5.3.1 MASCHINENWELLE

Für die Welle der angetriebenen Maschine ist eine hochwertige Stahllegierung zu bevorzugen. Die Tabelle unten zeigt die empfohlenen Abmessungen, die vom Kunden bei der Konstruktion der Gegenwelle zu berücksichtigen sind. Weiterhin wird eine axiale Aufnahmevorrichtung für die Welle empfohlen (nicht gezeigt).
Anzahl und Größe der entsprechenden Gewindebohrungen am Wellenende sind von den Anwendungsanforderungen abhängig.

MB



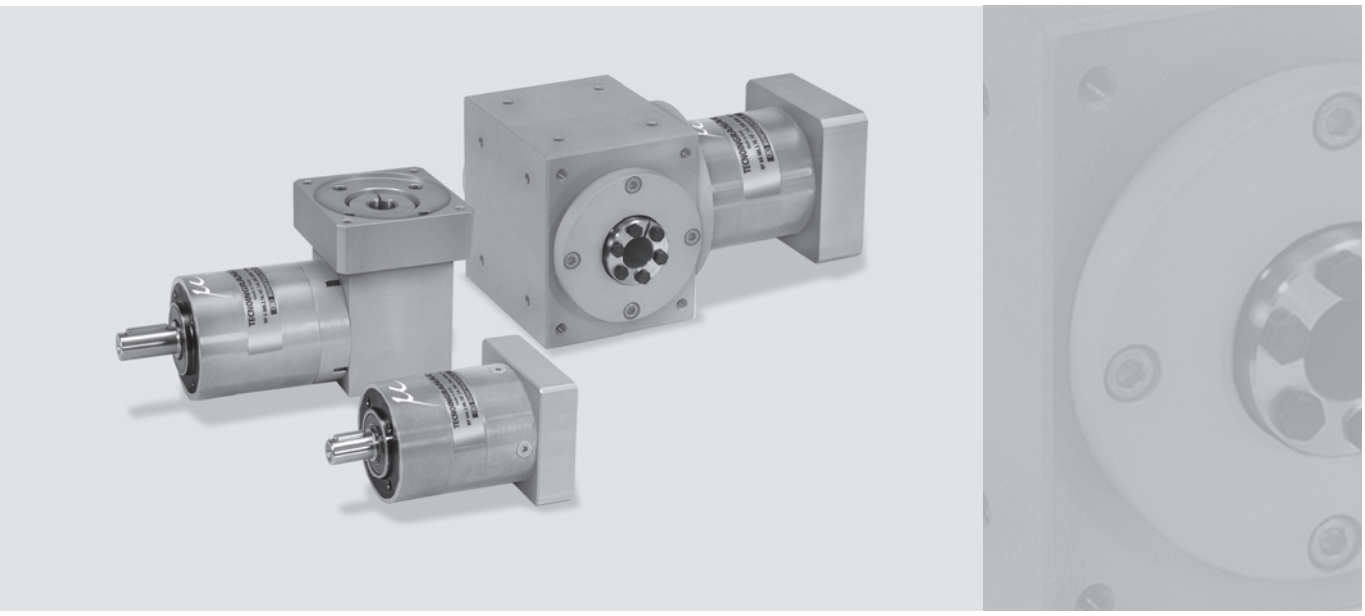
TR

	A1	A2	A3	A4	B	B1	B2	S
TR MB 080	≥ 25	20 h7	18	20 h7	178	50	90	
TR MB 105	≥ 40	32 h7	30	32 h7	205	60	115	1
TR MB 130/160	≥ 50	42 h7	40	42 h7	259	70	140	

MP
PRÄZISIONSPLANETENGETRIEBE

MP-Präzisionsplanetengetriebe bestechen durch optimale Leistungsfähigkeit und herausragende Zuverlässigkeit.

Sie sind in verschiedenen Konfigurationen (Antrieb rechtwinklig, Abtrieb rechtwinklig, Hohlwelle, Eingangsvollwelle) und Motoradaptern erhältlich und so mit den mechanischen Schnittstellen der marktgängigsten Servomotoren kompatibel.



MP

Produktmerkmale:

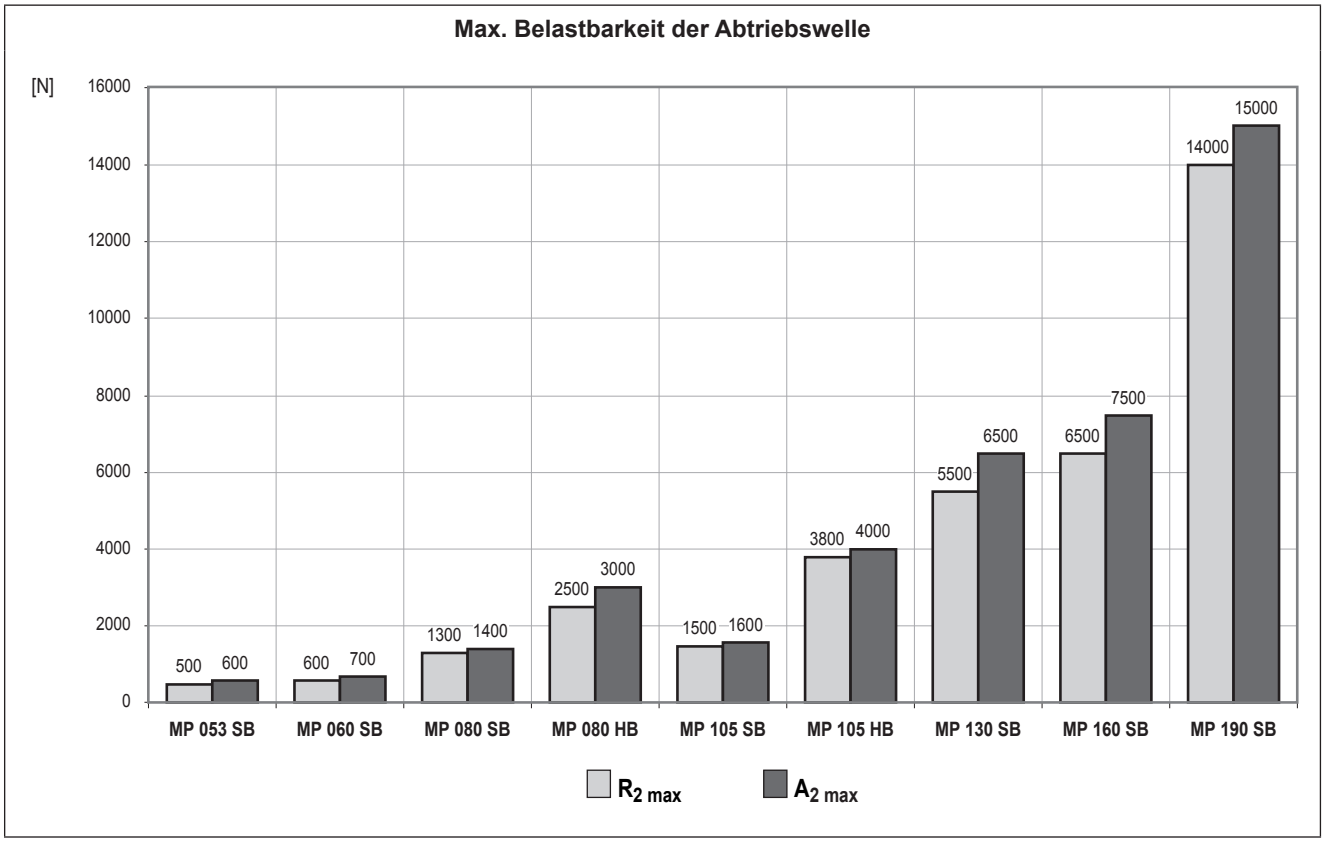
- Hohe Drehmomentdichte
- Hohes Beschleunigungs- und Nenndrehmoment
- Hohe radiale und axiale Belastbarkeit
- Entwickelt für Zyklus- und Dauerbetrieb
- Hohe Verdrehsteifigkeit
- Verdrehflankenspiels unter 10 arcmin
- Maximale Flexibilität (standard/reduziertes Flankenspiel; standard/verstärkte Lager)
- Verschiedene Varianten für Ihre Anforderungen.

6 MERKMALE DER MP-REIHE

Die Planetengetriebe der MP-Reihe zeichnen sich durch geringes Verdrehspiel, hohes übertragbares Drehmoment und hohe Getriebeübersetzungen aus.
Alle Getriebe sind laufruhig und gewährleisten eine lange und wartungsarme Nutzungsdauer. Die Motormontage ist einfach und erfordert keinerlei Spezialwerkzeug.

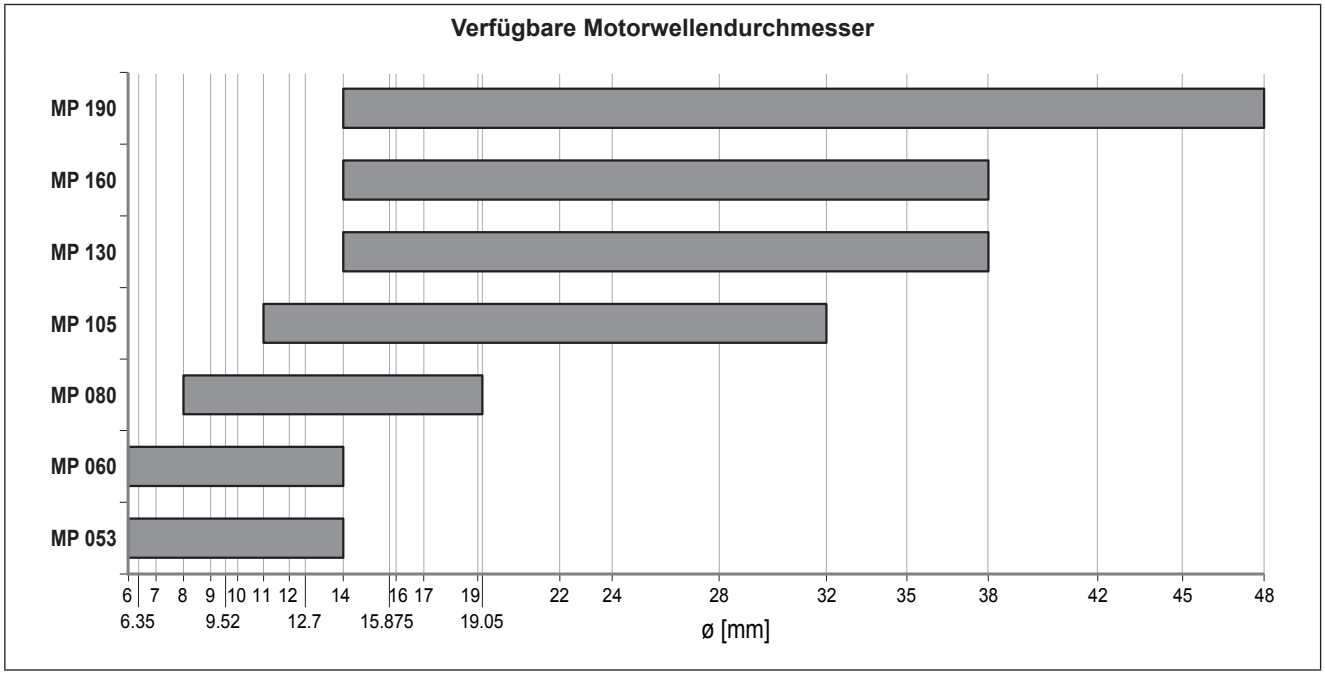
- Erhältlich entweder mit standard (STD) oder reduziertem (LOW) Flankenspiel:
  1-stufige Getriebe: standard $\varphi_S \leq 15'$; reduziert $\varphi_R \leq 10'$
  2-stufige Getriebe: standard $\varphi_S \leq 15'$; reduziert $\varphi_R \leq 10'$
  3-stufige Getriebe: (nur G und MB): standard $\varphi_R \leq 15'$; reduziert $\varphi_R \leq 10'$
  3-stufige Getriebe: standard $\varphi_S \leq 17'$; reduziert $\varphi_R \leq 12'$
  4-stufige Getriebe (nur G und MB): standard $\varphi_S \leq 17'$; reduziert $\varphi_R \leq 12'$
- Eine hohe IP-Schutzklasse (IP65) sorgt dafür, dass innenliegende Teile vor Staub- und Flüssigkeitseintritt geschützt sind.
- Serienmäßige Fluorelastomer-Wellendichtungen an der Eingangswelle.
- Schalldruckpegel $L_P \leq 70$ dB(A). Gemessen in 1 m Abstand ohne Last und bei einer Eingangsdrehzahl von $n_1 = 3000$ min^{-1}; i=10.
- Lager für eine durchschnittliche Lebensdauer von von 20.000 Stunden unter normalen Betriebsbedingungen geeignet. Die folgende Tabelle zeigt die Lagertypen für die Abtriebswelle.

	MP 053	MP 060	MP 080	MP 105	MP 130	MP 160	MP 190
SB							
HB							



MP

- Große Auswahl an Motoradaptern sorgt für den Anschluss an die marktgängigsten Servomotoren.



- Schmierung optimiert für die gewünschte Betriebsart.
  Ohne Verunreinigung muss das Schmiermittel nicht regelmäßig gewechselt werden.

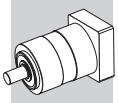
Betrieb	MP 053 - MP 060	MP 080 ... MP 190	andere Dichtungen
S1 (kontinuierlich)	NLGI Fettkonsistenz 00	Synthetiköl Viskositätsklasse ISO VG 220	Fluoroelastomer
S5 (unterbrochen)		NLGI Fettkonsistenz 00	NBR

- Umgebungstemperatur min. -20°C, max. +30°C; bei Temperaturen höher als 30°C ist der Temperaturfaktor f_T zu berücksichtigen.
- Die Gehäusetemperatur darf T_{max} = 90°C nicht übersteigen.

Übersicht der Nenndrehmomente M_{n2} [Nm]

[I]	3	4	5	6	7	9	10	12	15	16	20	25	28	30	35	36	40	45	48	50	60	64	70	75	80	81	84	90
MP 053	12	15	15	15	15	12	–	20	20	20	20	20	20	–	20	15	–	20	20	–	20	20	–	20	20	12	20	–
MP 060	18	25	25	25	25	18	18	30	30	30	30	30	30	18	30	25	30	–	30	30	–	30	30	30	30	–	30	18
MP 080	40	50	50	50	50	40	40	70	70	70	70	70	70	40	70	50	70	–	70	70	–	70	70	70	70	–	70	40
MP 105	100	140	140	140	140	100	100	170	170	170	170	170	170	100	170	140	170	–	170	170	–	170	170	170	170	–	170	100
MP 130	215	380	380	380	380	215	215	450	450	450	450	450	450	215	450	380	450	–	450	450	–	450	450	450	450	–	450	215
MP 160	350	500	500	500	500	350	350	700	700	700	700	700	700	350	700	500	700	–	700	700	–	700	700	700	700	–	700	350
MP 190	500	700	700	700	700	500	500	1000	1000	1000	1000	1000	1000	500	1000	700	1000	–	1000	1000	–	1000	1000	1000	1000	–	1000	500

[I]	100	112	120	125	140	144	150	160	175	180	200	210	216	225	245	250	252	280	324	350	400	405	500	567	700	729	1000
MP 053	20	20	–	20	20	20	–	–	20	20	–	–	20	20	20	–	20	–	20	–	–	20	–	20	–	12	–
MP 060	18	–	30	30	30	–	30	30	30	–	30	30	30	–	–	30	–	30	–	30	30	–	30	–	30	–	18
MP 080	40	–	70	70	70	–	70	70	70	–	70	70	70	–	–	70	–	70	–	70	70	–	70	–	70	–	40
MP 105	100	–	170	170	170	–	170	170	170	–	170	170	170	–	–	170	–	170	–	170	170	–	170	–	170	–	100
MP 130	215	–	450	450	450	–	450	450	450	–	450	450	450	–	–	450	–	450	–	450	450	–	450	–	450	–	215
MP 160	700	–	350	700	700	–	700	700	700	–	700	700	–	–	–	700	–	700	–	700	700	–	700	–	700	–	350
MP 190	1000	–	500	1000	1000	–	1000	1000	1000	–	1000	1000	–	–	–	1000	–	1000	–	1000	1000	–	1000	–	1000	–	500



6.1 BESTELLBEZEICHNUNG

MP G 080 3 20 STD 95A CD 19 S1 OR SB KL UH1

SCHMIERSTOFF
- **–** Standard
- **UH1** Lebensmitteltaugliches Schmiermittel

ABTRIEBSWELLENKONFIGURATION
- **KL** Glatte Welle ohne Passfeder
- **KE** Welle mit Passfeder (⊖ MB)

LAGER DER ABTRIEBSWELLE
- **SB** Standard
- **HB** Verstärkt (MP 080 - MP 105) (⊖ MB)

MONTAGEPOSITION
- **OR** Horizontal
- **VA** Vertikal mit Motor oben
- **VB** Vertikal mit Motor unten

BETRIEBSART
- **S1** Dauerbetrieb
- **S5** Kurzzeitbetrieb

BOHRUNGSDURCHMESSER EINGANGSWELLE
- **6 ... 48** (⊖ IS)

MOTORKOPPLUNG
- **CD** Klemmnabe (⊖ IS)

ANTRIEBSFLANSCH
- **25AH ... 180A1** Motorflansch
- **IS** Eingangsvollwelle (MP 053 ... MP 160) (⊖ G - ⊖ MB)
- **FM** Ohne Motorflansch

VERDREHSPIEL

	1 Getriebestufe	2 Getriebestufen	3 Getriebestufen (MB, G only)	3 Getriebestufen	4 Getriebestufen (MB, G only)
STD	$\varphi_S \leq 15'$	$\varphi_S \leq 15'$	$\varphi_S \leq 15'$	$\varphi_S \leq 17'$	$\varphi_S \leq 17'$
LOW	$\varphi_R \leq 10'$	$\varphi_R \leq 10'$	$\varphi_R \leq 10'$	$\varphi_R \leq 12'$	$\varphi_R \leq 12'$

GETRIEBEÜBERSETZUNG

GETRIEBESTUFEN
- **1** **2** **3** **4**

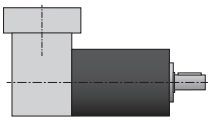
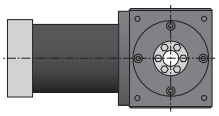
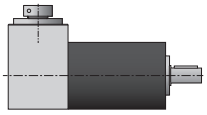
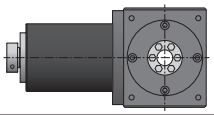
BAUGRÖSSE
- **053** **060** **080** **105** **130** **160** **190**

VERSION
- **–** Koaxial
- **G** Rechtwinkliger Eingang (MP 053 ... MP 160)
- **MB** Rechtwinkliger Ausgang (MP 080 ... MP 160)

REIHE
- **MP**

MP

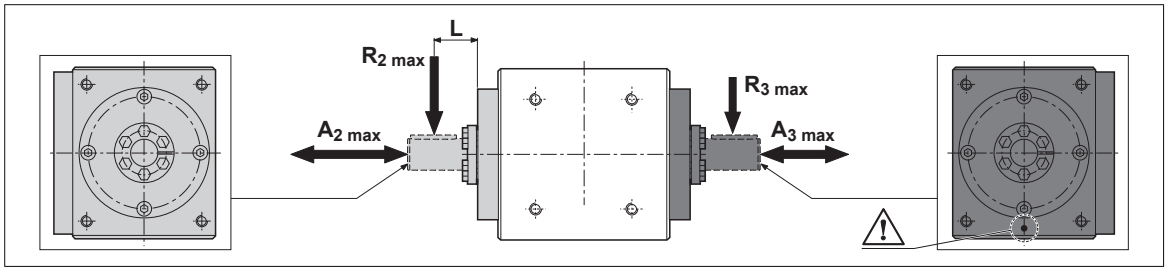
6.1.1 VERSIONEN UND ANTRIEBSSEITE

		VERSION		
		Koaxial **(—)**	Rechtwinkliger Eingang **(G)**	Rechtwinkliger Ausgang **(MB)**
ANTRIEBSFLANSCH	**25AH ... 180A1**			
	IS		⊖	⊖
	FM			

6.1.2 MONTAGEPOSITIONEN

	OR	VA	VB
—			
G			
MB			

6.2 ZULÄSSIGE RADIAL- UND AXIALKRÄFTE BEI DER MB-VERSION

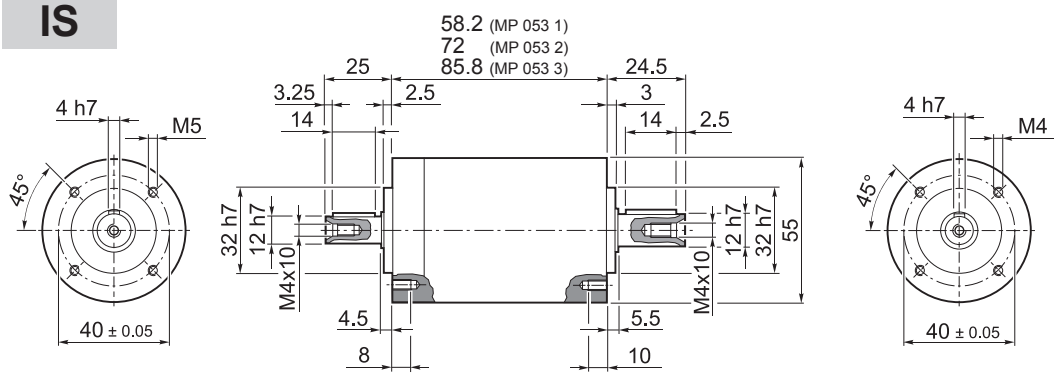


	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	L [mm]	$R_{3\,max}$ [N]	$A_{3\,max}$ [N]
MP MB 080	6000	5000	60	5500	5000
MP MB 105	9000	7500	80	7500	7500
MP MB 130	13500	11500	100	11000	11500
MP MB 160*	15000	11500	100	12500	11500

* Lager ausgelegt für eine durchschnittliche Lebensdauer von 10.000 Stunden unter normalen Betriebsbedingungen.

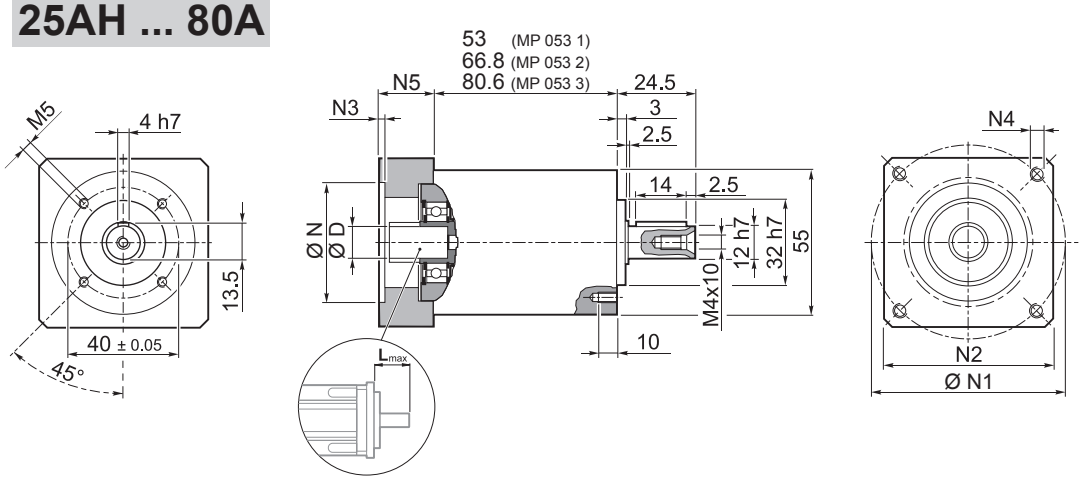
MP 053

IS



	Kg
MP 053 1	0.8
MP 053 2	1.0
MP 053 3	1.3

25AH ... 80A



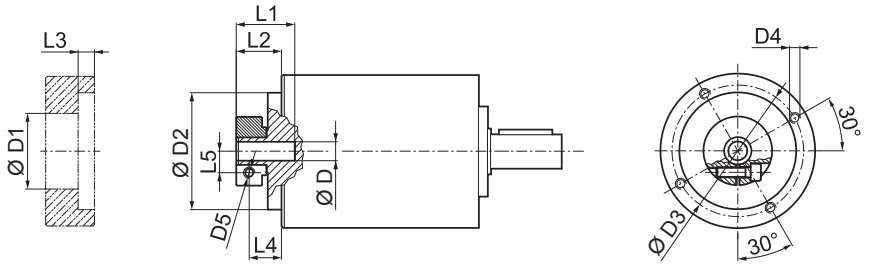
	Kg
MP 053 1	0.8
MP 053 2	1.0
MP 053 3	1.3

	D											N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6	6.35	7	8	9	9.52	–	–	–	–	–	25	36	48					
26AH	6	6.35	7	8	9	9.52	–	–	–	–	–	26	36	48					
28AH	6	6.35	7	8	9	9.52	–	–	–	–	–	28	36	48					
30AH	6	6.35	7	8	9	9.52	–	–	–	–	–	30	36	48					
32AH	6	6.35	7	8	9	9.52	–	–	–	–	–	32	38	48	55	3.5	4.5	25	25
34AH	6	6.35	7	8	9	9.52	–	–	–	–	–	34	40	48					
36AH	6	6.35	7	8	9	9.52	–	–	–	–	–	36	42	48					
38AH	6	6.35	7	8	9	9.52	–	–	–	–	–	38	44	48					
40AH	6	6.35	7	8	9	9.52	–	–	–	–	–	40	46	48					
38B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	4	5.5	23	30
50C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
50MH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	65		55	2	5.5	16	23
60A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60AH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	5.5	18	25
60A1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60AH1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	5.5	23	30
60B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

MP 053

FM

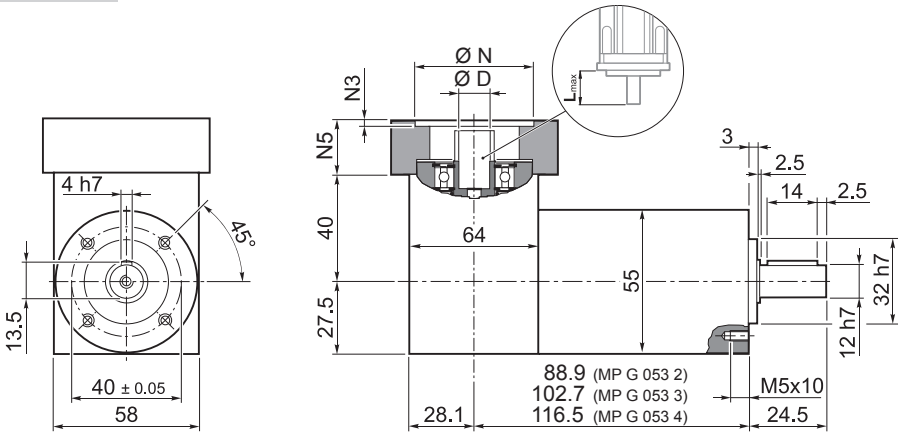


D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6	6.35	7		32.5	50	42.5	M4x8	M4	20.2	13.2	3	8.7	8
8	9	9.52	10	32.5	50	42.5	M4x8	M4	20.2	13.2	3	7.8	9
11	12	12.7		35.5	50	42.5	M4x8	M4	20.5	13.5	3	8.5	11
14				35.5	50	42.5	M4x8	M4	24	17	3	10.2	11.5

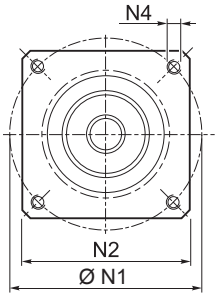
i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{1\,max}$ [N]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 6 ... 9.52	J_G [kgcm^2] D 10 ... 14
MP 053 1_3	12	22	40	3300	4000	15'	10'	1.0	200	500	600	97	0.06	0.08
MP 053 1_4	15	28	45	3500	5000	15'	10'	1.0	200	500	600	97	0.05	0.06
MP 053 1_5	15	28	45	3500	5000	15'	10'	1.0	200	500	600	97	0.04	0.06
MP 053 1_6	15	28	45	3500	5000	15'	10'	1.0	200	500	600	97	0.03	0.05
MP 053 1_7	15	28	45	4000	6000	15'	10'	1.0	200	500	600	97	0.03	0.05
MP 053 1_9	12	22	40	4000	6000	15'	10'	1.0	200	500	600	97	0.03	0.05
MP 053 2_12	20	30	60	3300	4000	15'	10'	0.9	200	500	600	94	0.06	0.08
MP 053 2_15	20	30	60	3300	4000	15'	10'	0.9	200	500	600	94	0.06	0.08
MP 053 2_16	20	30	60	3500	5000	15'	10'	0.9	200	500	600	94	0.05	0.06
MP 053 2_20	20	30	60	3500	5000	15'	10'	0.9	200	500	600	94	0.04	0.06
MP 053 2_25	20	30	60	3500	5000	15'	10'	0.9	200	500	600	94	0.04	0.06
MP 053 2_28	20	30	60	4000	6000	15'	10'	0.9	200	500	600	94	0.03	0.05
MP 053 2_35	20	30	60	4000	6000	15'	10'	0.9	200	500	600	94	0.03	0.05
MP 053 2_36	15	28	45	4000	6000	15'	10'	0.9	200	500	600	94	0.03	0.05
MP 053 2_45	20	30	60	4000	6000	15'	10'	0.9	200	500	600	94	0.03	0.05
MP 053 2_81	12	22	40	4000	6000	15'	10'	0.9	200	500	600	94	0.03	0.05
MP 053 3_48	20	30	60	4000	5000	17'	12'	0.7	200	500	600	91	0.05	0.07
MP 053 3_60	20	30	60	3500	5000	17'	12'	0.7	200	500	600	91	0.05	0.07
MP 053 3_64	20	30	60	3500	5000	17'	12'	0.7	200	500	600	91	0.05	0.06
MP 053 3_75	20	30	60	3500	5000	17'	12'	0.7	200	500	600	91	0.04	0.06
MP 053 3_80	20	30	60	3500	5000	17'	12'	0.7	200	500	600	91	0.05	0.06
MP 053 3_84	20	30	60	4000	6000	17'	12'	0.7	200	500	600	91	0.03	0.05
MP 053 3_100	20	30	60	3500	5000	17'	12'	0.7	200	500	600	91	0.04	0.06
MP 053 3_112	20	30	60	4000	6000	17'	12'	0.7	200	500	600	91	0.03	0.05
MP 053 3_125	20	30	60	3500	5000	17'	12'	0.7	200	500	600	91	0.04	0.06
MP 053 3_140	20	30	60	4000	6000	17'	12'	0.7	200	500	600	91	0.03	0.05
MP 053 3_144	20	30	60	4000	6000	17'	12'	0.7	200	500	600	91	0.03	0.05
MP 053 3_175	20	30	60	4000	6000	17'	12'	0.7	200	500	600	91	0.03	0.05
MP 053 3_180	20	30	60	4000	6000	17'	12'	0.7	200	500	600	91	0.03	0.05
MP 053 3_216	20	30	60	3500	5000	17'	12'	0.7	200	500	600	91	0.03	0.05
MP 053 3_225	20	30	60	4000	6000	17'	12'	0.7	200	500	600	91	0.03	0.05
MP 053 3_245	20	30	60	4000	6000	17'	12'	0.7	200	500	600	91	0.03	0.05
MP 053 3_252	20	30	60	4000	6000	17'	12'	0.7	200	500	600	91	0.05	0.06
MP 053 3_324	20	30	60	4000	6000	17'	12'	0.7	200	500	600	91	0.03	0.05
MP 053 3_405	20	30	60	4000	6000	17'	12'	0.7	200	500	600	91	0.03	0.05
MP 053 3_567	20	30	60	4000	6000	17'	12'	0.7	200	500	600	91	0.03	0.05
MP 053 3_729	12	22	40	4000	6000	17'	12'	0.7	200	500	600	91	0.03	0.05

MP G 053

25AH ... 80A



	Kg
MP G 053 2	1.3
MP G 053 3	1.5
MP G 053 4	1.8

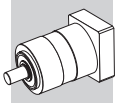


MP

	D											N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6	6.35	7	8	9	9.52	–	–	–	–	–	25	36	48					
26AH	6	6.35	7	8	9	9.52	–	–	–	–	–	26	36	48					
28AH	6	6.35	7	8	9	9.52	–	–	–	–	–	28	36	48					
30AH	6	6.35	7	8	9	9.52	–	–	–	–	–	30	36	48					
32AH	6	6.35	7	8	9	9.52	–	–	–	–	–	32	38	48	55	3.5	4.5	25	25
34AH	6	6.35	7	8	9	9.52	–	–	–	–	–	34	40	48					
36AH	6	6.35	7	8	9	9.52	–	–	–	–	–	36	42	48					
38AH	6	6.35	7	8	9	9.52	–	–	–	–	–	38	44	48					
40AH	6	6.35	7	8	9	9.52	–	–	–	–	–	40	46	48					
38B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	4	5.5	23	30
50C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
50MH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	65		55	2	5.5	16	23
60A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60A1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

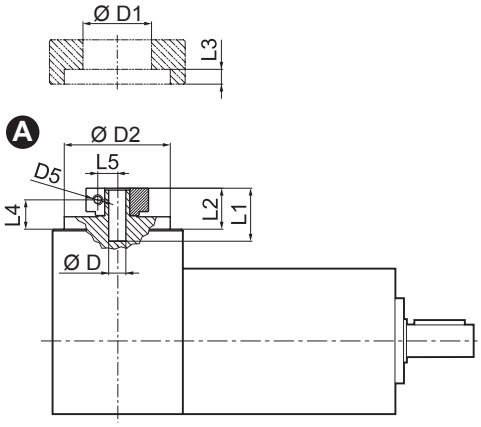
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

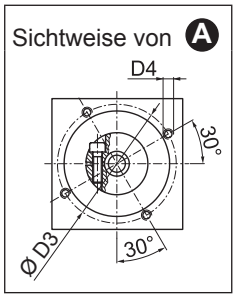
Bonfiglioli Tecnoingranaggi



MP G 053

FM





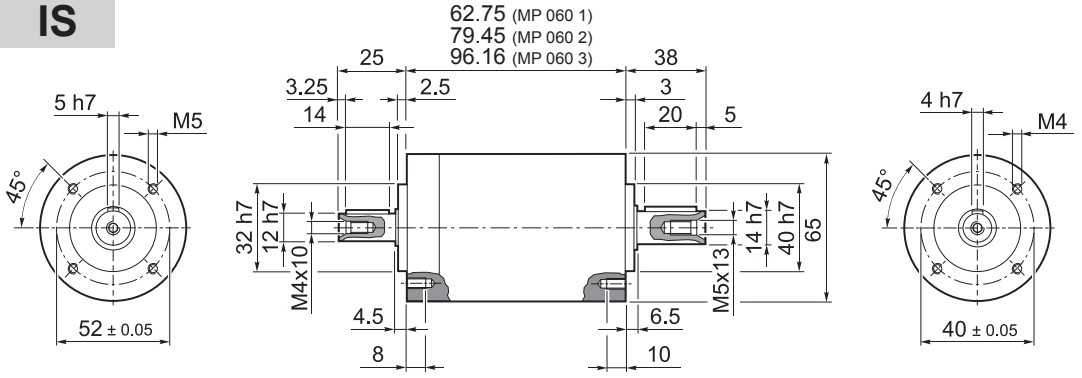
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6	6.35	7		32.5	50	42.5	M4x8	M4	20.2	13.2	3	8.7	8
8	9	9.52	10	32.5	50	42.5	M4x8	M4	20.2	13.2	3	7.8	9
11	12	12.7		35.5	50	42.5	M4x8	M4	20.5	13.5	3	8.5	11
14				35.5	50	42.5	M4x8	M4	24	17	3	10.2	11.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 6 ... 9.52	J_G [kgcm^2] D 10 ... 14
MP G 053 2_3	12	22	40	3300	4000	15'	10'	1.0	500	600	94	0.18	0.20
MP G 053 2_4	15	28	45	3500	5000	15'	10'	1.0	500	600	94	0.18	0.19
MP G 053 2_5	15	28	45	3500	5000	15'	10'	1.0	500	600	94	0.17	0.19
MP G 053 2_6	15	28	45	3500	5000	15'	10'	1.0	500	600	94	0.17	0.18
MP G 053 2_7	15	28	45	4000	6000	15'	10'	1.0	500	600	94	0.17	0.19
MP G 053 2_9	12	22	40	4000	6000	15'	10'	1.0	500	600	94	0.17	0.18
MP G 053 3_12	20	30	60	3300	4000	15'	10'	0.9	500	600	91	0.18	0.20
MP G 053 3_15	20	30	60	3300	4000	15'	10'	0.9	500	600	91	0.18	0.20
MP G 053 3_16	20	30	60	3500	5000	15'	10'	0.9	500	600	91	0.17	0.19
MP G 053 3_20	20	30	60	3500	5000	15'	10'	0.9	500	600	91	0.17	0.19
MP G 053 3_25	20	30	60	3500	5000	15'	10'	0.9	500	600	91	0.17	0.19
MP G 053 3_28	20	30	60	4000	6000	15'	10'	0.9	500	600	91	0.17	0.19
MP G 053 3_35	20	30	60	4000	6000	15'	10'	0.9	500	600	91	0.17	0.19
MP G 053 3_36	15	28	45	4000	6000	15'	10'	0.9	500	600	91	0.17	0.18
MP G 053 3_45	20	30	60	4000	6000	15'	10'	0.9	500	600	91	0.17	0.19
MP G 053 3_81	12	22	40	4000	6000	15'	10'	0.9	500	600	91	0.17	0.18
MP G 053 4_48	20	30	60	4000	5000	17'	12'	0.7	500	600	89	0.18	0.19
MP G 053 4_60	20	30	60	3500	5000	17'	12'	0.7	500	600	89	0.18	0.19
MP G 053 4_64	20	30	60	3500	5000	17'	12'	0.7	500	600	89	0.17	0.19
MP G 053 4_75	20	30	60	3500	5000	17'	12'	0.7	500	600	89	0.17	0.19
MP G 053 4_80	20	30	60	3500	5000	17'	12'	0.7	500	600	89	0.17	0.19
MP G 053 4_84	20	30	60	4000	6000	17'	12'	0.7	500	600	89	0.17	0.19
MP G 053 4_100	20	30	60	3500	5000	17'	12'	0.7	500	600	89	0.17	0.19
MP G 053 4_112	20	30	60	4000	6000	17'	12'	0.7	500	600	89	0.17	0.19
MP G 053 4_125	20	30	60	3500	5000	17'	12'	0.7	500	600	89	0.17	0.19
MP G 053 4_140	20	30	60	4000	6000	17'	12'	0.7	500	600	89	0.17	0.19
MP G 053 4_144	20	30	60	4000	6000	17'	12'	0.7	500	600	89	0.17	0.18
MP G 053 4_175	20	30	60	4000	6000	17'	12'	0.7	500	600	89	0.17	0.19
MP G 053 4_180	20	30	60	4000	6000	17'	12'	0.7	500	600	89	0.17	0.18
MP G 053 4_216	20	30	60	3500	5000	17'	12'	0.7	500	600	89	0.17	0.18
MP G 053 4_225	20	30	60	4000	6000	17'	12'	0.7	500	600	89	0.17	0.18
MP G 053 4_245	20	30	60	4000	6000	17'	12'	0.7	500	600	89	0.17	0.19
MP G 053 4_252	20	30	60	4000	6000	17'	12'	0.7	500	600	89	0.18	0.20
MP G 053 4_324	20	30	60	4000	6000	17'	12'	0.7	500	600	89	0.17	0.18
MP G 053 4_405	20	30	60	4000	6000	17'	12'	0.7	500	600	89	0.17	0.18
MP G 053 4_567	20	30	60	4000	6000	17'	12'	0.7	500	600	89	0.17	0.18
MP G 053 4_729	12	22	40	4000	6000	17'	12'	0.7	500	600	89	0.17	0.18

MP

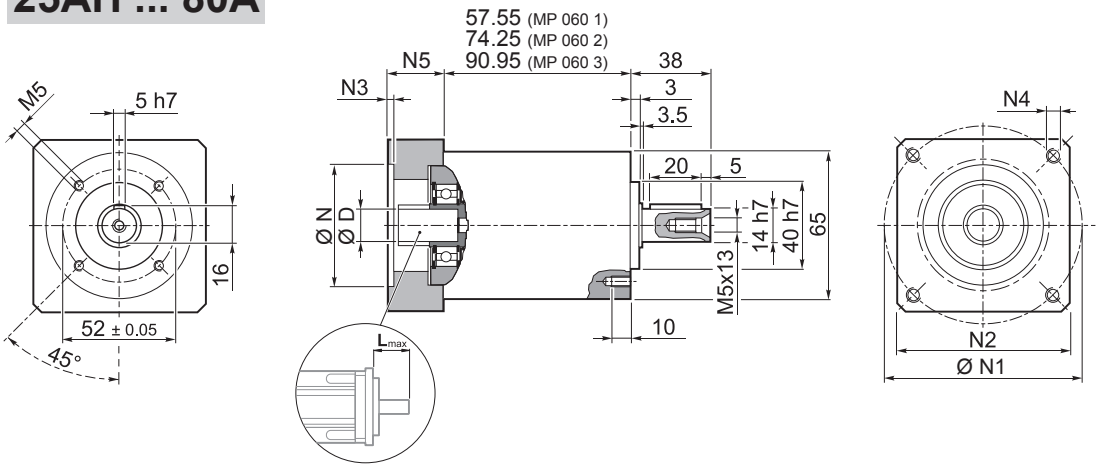
MP 060

IS



	Kg
MP 060 1	1.2
MP 060 2	1.7
MP 060 3	2.0

25AH ... 80A



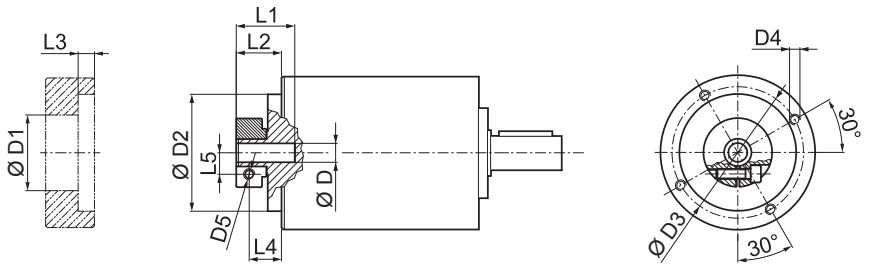
	Kg
MP 060 1	1.2
MP 060 2	1.7
MP 060 3	2.0

	D											N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6	6.35	7	8	9	9.52	–	–	–	–	–	25	39	56					
26AH	6	6.35	7	8	9	9.52	–	–	–	–	–	26	39	56					
28AH	6	6.35	7	8	9	9.52	–	–	–	–	–	28	39	56					
30AH	6	6.35	7	8	9	9.52	–	–	–	–	–	30	39	56					
32AH	6	6.35	7	8	9	9.52	–	–	–	–	–	32	39	56	65	3.5	4.5	25	25
34AH	6	6.35	7	8	9	9.52	–	–	–	–	–	34	40	56					
36AH	6	6.35	7	8	9	9.52	–	–	–	–	–	36	42	56					
39AH	6	6.35	7	8	9	9.52	–	–	–	–	–	39	45	56					
40AH	6	6.35	7	8	9	9.52	–	–	–	–	–	40	46	56					
38B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		65	3	5.5	25	32
50C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
55MH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	55	80		65	2	5.5	16	23
60A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60AH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	5.5	18	25
60A1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60AH1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	5.5	23	30
60B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

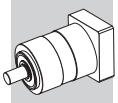
MP 060

FM



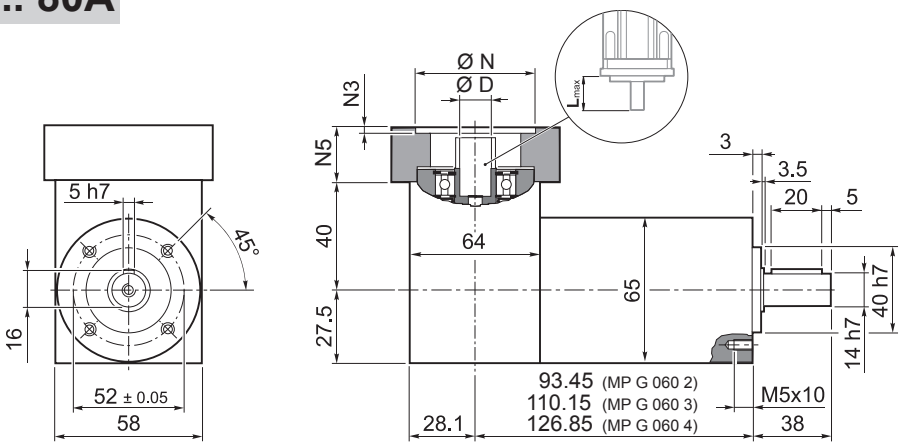
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6	6.35	7		32.5	50	42.5	M4x8	M4	20.2	13.2	3	8.7	8
8	9	9.52	10	32.5	50	42.5	M4x8	M4	20.2	13.2	3	7.8	9
11	12	12.7		35.5	50	42.5	M4x8	M4	20.5	13.5	3	8.5	11
14				35.5	50	42.5	M4x8	M4	24	17	3	10.2	11.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{1\,max}$ [N]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 6 ... 9.52	J_G [kgcm^2] D 10 ... 14
MP 060 1_3	18	35	70	3300	4000	15'	10'	3.0	200	600	700	97	0.10	0.11
MP 060 1_4	25	40	90	3500	5000	15'	10'	3.0	200	600	700	97	0.06	0.08
MP 060 1_5	25	40	90	3500	5000	15'	10'	3.0	200	600	700	97	0.05	0.07
MP 060 1_6	25	40	90	3500	5000	15'	10'	3.0	200	600	700	97	0.04	0.06
MP 060 1_7	25	40	90	4000	6000	15'	10'	3.0	200	600	700	97	0.04	0.06
MP 060 1_10	18	35	70	4000	6000	15'	10'	3.0	200	600	700	97	0.03	0.05
MP 060 2_9	18	35	70	3300	4000	15'	10'	2.5	200	600	700	94	0.10	0.12
MP 060 2_12	30	45	100	3300	4000	15'	10'	2.5	200	600	700	94	0.10	0.11
MP 060 2_15	30	45	100	3300	4000	15'	10'	2.5	200	600	700	94	0.09	0.11
MP 060 2_16	30	45	100	3500	5000	15'	10'	2.5	200	600	700	94	0.06	0.08
MP 060 2_20	30	45	100	3500	5000	15'	10'	2.5	200	600	700	94	0.05	0.07
MP 060 2_25	30	45	100	3500	5000	15'	10'	2.5	200	600	700	94	0.05	0.06
MP 060 2_28	30	45	100	4000	6000	15'	10'	2.5	200	600	700	94	0.04	0.06
MP 060 2_30	18	35	70	4000	6000	15'	10'	2.5	200	600	700	94	0.03	0.05
MP 060 2_35	30	45	100	4000	6000	15'	10'	2.5	200	600	700	94	0.04	0.06
MP 060 2_36	25	40	90	3500	5000	15'	10'	2.5	200	600	700	94	0.04	0.06
MP 060 2_40	30	45	100	4000	6000	15'	10'	2.5	200	600	700	94	0.03	0.05
MP 060 2_50	30	45	100	4000	6000	15'	10'	2.5	200	600	700	94	0.03	0.05
MP 060 2_70	30	45	100	4000	6000	15'	10'	2.5	200	600	700	94	0.03	0.05
MP 060 2_100	18	35	70	4000	6000	15'	10'	2.5	200	600	700	94	0.03	0.05
MP 060 3_48	30	45	100	3500	5000	17'	12'	1.8	200	600	700	91	0.06	0.08
MP 060 3_64	30	45	100	3500	5000	17'	12'	1.8	200	600	700	91	0.06	0.08
MP 060 3_75	30	45	100	3500	5000	17'	12'	1.8	200	600	700	91	0.05	0.07
MP 060 3_80	30	45	100	3500	5000	17'	12'	1.8	200	600	700	91	0.06	0.08
MP 060 3_84	30	45	100	4000	6000	17'	12'	1.8	200	600	700	91	0.04	0.06
MP 060 3_90	18	35	70	4000	6000	17'	12'	1.8	200	600	700	91	0.03	0.05
MP 060 3_120	30	45	100	4000	6000	17'	12'	1.8	200	600	700	91	0.03	0.05
MP 060 3_125	30	45	100	3500	5000	17'	12'	1.8	200	600	700	91	0.05	0.07
MP 060 3_140	30	45	100	4000	6000	17'	12'	1.8	200	600	700	91	0.04	0.06
MP 060 3_150	30	45	100	4000	6000	17'	12'	1.8	200	600	700	91	0.03	0.05
MP 060 3_160	30	45	100	4000	6000	17'	12'	1.8	200	600	700	91	0.03	0.05
MP 060 3_175	30	45	100	4000	6000	17'	12'	1.8	200	600	700	91	0.04	0.06
MP 060 3_200	30	45	100	4000	6000	17'	12'	1.8	200	600	700	91	0.03	0.05
MP 060 3_210	30	45	100	4000	6000	17'	12'	1.8	200	600	700	91	0.03	0.05
MP 060 3_216	30	45	100	3500	5000	17'	12'	1.8	200	600	700	91	0.04	0.06
MP 060 3_250	30	45	100	4000	6000	17'	12'	1.8	200	600	700	91	0.03	0.05
MP 060 3_280	30	45	100	4000	6000	17'	12'	1.8	200	600	700	91	0.03	0.05
MP 060 3_350	30	45	100	4000	6000	17'	12'	1.8	200	600	700	91	0.03	0.05
MP 060 3_400	30	45	100	4000	6000	17'	12'	1.8	200	600	700	91	0.03	0.05
MP 060 3_500	30	45	100	4000	6000	17'	12'	1.8	200	600	700	91	0.03	0.05
MP 060 3_700	30	45	100	4000	6000	17'	12'	1.8	200	600	700	91	0.03	0.05
MP 060 3_1000	18	35	70	4000	6000	17'	12'	1.8	200	600	700	91	0.03	0.05

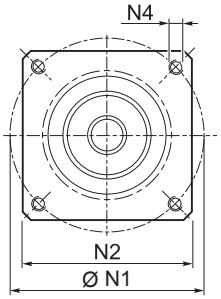


MP G 060

25AH ... 80A



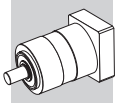
	Kg
MP G 060 2	1.7
MP G 060 3	2.2
MP G 060 4	2.5



MP

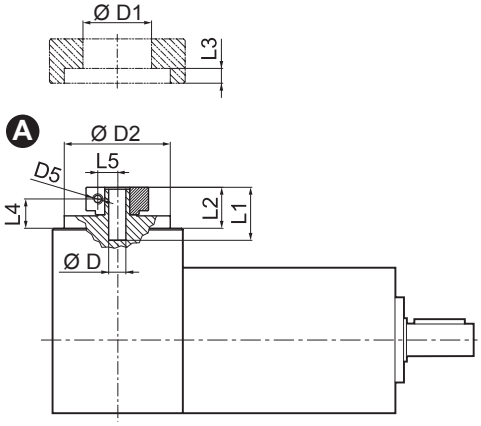
	D											N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6	6.35	7	8	9	9.52	–	–	–	–	–	25	39	56					
26AH	6	6.35	7	8	9	9.52	–	–	–	–	–	26	39	56					
28AH	6	6.35	7	8	9	9.52	–	–	–	–	–	28	39	56					
30AH	6	6.35	7	8	9	9.52	–	–	–	–	–	30	39	56					
32AH	6	6.35	7	8	9	9.52	–	–	–	–	–	32	39	56	65	3.5	4.5	25	25
34AH	6	6.35	7	8	9	9.52	–	–	–	–	–	34	40	56					
36AH	6	6.35	7	8	9	9.52	–	–	–	–	–	36	42	56					
39AH	6	6.35	7	8	9	9.52	–	–	–	–	–	39	45	56					
40AH	6	6.35	7	8	9	9.52	–	–	–	–	–	40	46	56					
38B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		65	3	5.5	25	32
50C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
55MH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	55	80		65	2	5.5	16	23
60A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60A1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

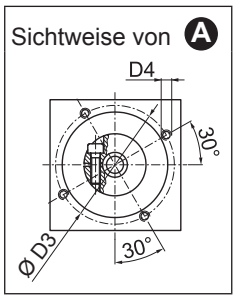
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



MP G 060

FM



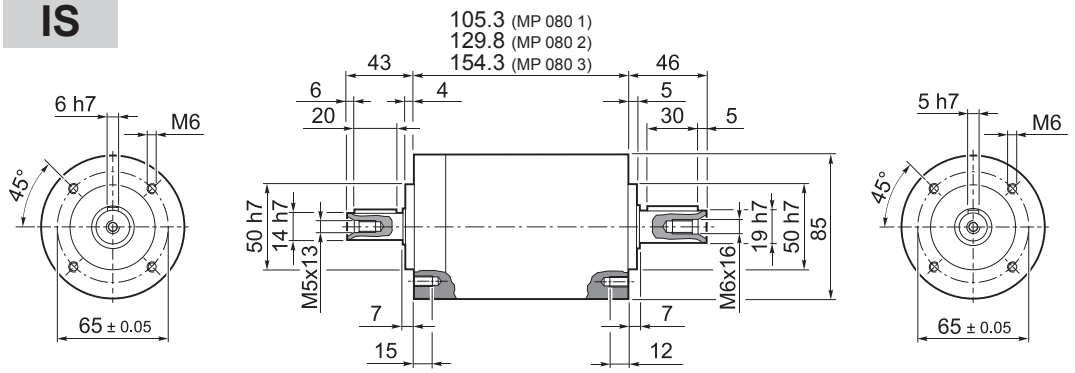


D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6	6.35	7		32.5	50	42.5	M4x8	M4	20.2	13.2	3	8.7	8
8	9	9.52	10	32.5	50	42.5	M4x8	M4	20.2	13.2	3	7.8	9
11	12	12.7		35.5	50	42.5	M4x8	M4	20.5	13.5	3	8.5	11
14				35.5	50	42.5	M4x8	M4	24	17	3	10.2	11.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 6 ... 9.52	J_G [kgcm^2] D 10 ... 14
MP G 060 2_3	18	35	70	3300	4000	15'	10'	3.0	600	700	94	0.20	0.20
MP G 060 2_4	25	40	90	3500	5000	15'	10'	3.0	600	700	94	0.18	0.20
MP G 060 2_5	25	40	90	3500	5000	15'	10'	3.0	600	700	94	0.17	0.19
MP G 060 2_6	25	40	90	3500	5000	15'	10'	3.0	600	700	94	0.17	0.19
MP G 060 2_7	25	40	90	4000	6000	15'	10'	3.0	600	700	94	0.17	0.19
MP G 060 2_10	18	35	70	4000	6000	15'	10'	3.0	600	700	94	0.17	0.18
MP G 060 3_9	18	35	70	3300	4000	15'	10'	2.5	600	700	91	0.20	0.21
MP G 060 3_12	30	45	100	3300	4000	15'	10'	2.5	600	700	91	0.20	0.21
MP G 060 3_15	30	45	100	3300	4000	15'	10'	2.5	600	700	91	0.19	0.21
MP G 060 3_16	30	45	100	3500	5000	15'	10'	2.5	600	700	91	0.18	0.20
MP G 060 3_20	30	45	100	3500	5000	15'	10'	2.5	600	700	91	0.17	0.19
MP G 060 3_25	30	45	100	3500	5000	15'	10'	2.5	600	700	91	0.17	0.18
MP G 060 3_28	30	45	100	4000	6000	15'	10'	2.5	600	700	91	0.17	0.19
MP G 060 3_30	18	35	70	4000	6000	15'	10'	2.5	600	700	91	0.17	0.18
MP G 060 3_35	30	45	100	4000	6000	15'	10'	2.5	600	700	91	0.18	0.19
MP G 060 3_36	25	40	90	3500	5000	15'	10'	2.5	600	700	91	0.18	0.19
MP G 060 3_40	30	45	100	4000	6000	15'	10'	2.5	600	700	91	0.17	0.18
MP G 060 3_50	30	45	100	4000	6000	15'	10'	2.5	600	700	91	0.17	0.18
MP G 060 3_70	30	45	100	4000	6000	15'	10'	2.5	600	700	91	0.17	0.18
MP G 060 3_100	18	35	70	4000	6000	15'	10'	2.5	600	700	91	0.17	0.18
MP G 060 4_48	30	45	100	3500	5000	17'	12'	1.8	600	700	89	0.18	0.20
MP G 060 4_64	30	45	100	3500	5000	17'	12'	1.8	600	700	89	0.18	0.20
MP G 060 4_75	30	45	100	3500	5000	17'	12'	1.8	600	700	89	0.17	0.19
MP G 060 4_80	30	45	100	3500	5000	17'	12'	1.8	600	700	89	0.18	0.20
MP G 060 4_84	30	45	100	4000	6000	17'	12'	1.8	600	700	89	0.17	0.19
MP G 060 4_90	18	35	70	4000	6000	17'	12'	1.8	600	700	89	0.17	0.18
MP G 060 4_120	30	45	100	4000	6000	17'	12'	1.8	600	700	89	0.15	0.17
MP G 060 4_125	30	45	100	3500	5000	17'	12'	1.8	600	700	89	0.17	0.19
MP G 060 4_140	30	45	100	4000	6000	17'	12'	1.8	600	700	89	0.17	0.19
MP G 060 4_150	30	45	100	4000	6000	17'	12'	1.8	600	700	89	0.17	0.18
MP G 060 4_160	30	45	100	4000	6000	17'	12'	1.8	600	700	89	0.17	0.18
MP G 060 4_175	30	45	100	4000	6000	17'	12'	1.8	600	700	89	0.17	0.19
MP G 060 4_200	30	45	100	4000	6000	17'	12'	1.8	600	700	89	0.17	0.18
MP G 060 4_210	30	45	100	4000	6000	17'	12'	1.8	600	700	89	0.17	0.18
MP G 060 4_216	30	45	100	3500	5000	17'	12'	1.8	600	700	89	0.17	0.19
MP G 060 4_250	30	45	100	4000	6000	17'	12'	1.8	600	700	89	0.17	0.18
MP G 060 4_280	30	45	100	4000	6000	17'	12'	1.8	600	700	89	0.17	0.18
MP G 060 4_350	30	45	100	4000	6000	17'	12'	1.8	600	700	89	0.17	0.18
MP G 060 4_400	30	45	100	4000	6000	17'	12'	1.8	600	700	89	0.17	0.18
MP G 060 4_500	30	45	100	4000	6000	17'	12'	1.8	600	700	89	0.17	0.18
MP G 060 4_700	30	45	100	4000	6000	17'	12'	1.8	600	700	89	0.17	0.18
MP G 060 4_1000	18	35	70	4000	6000	17'	12'	1.8	600	700	89	0.17	0.18

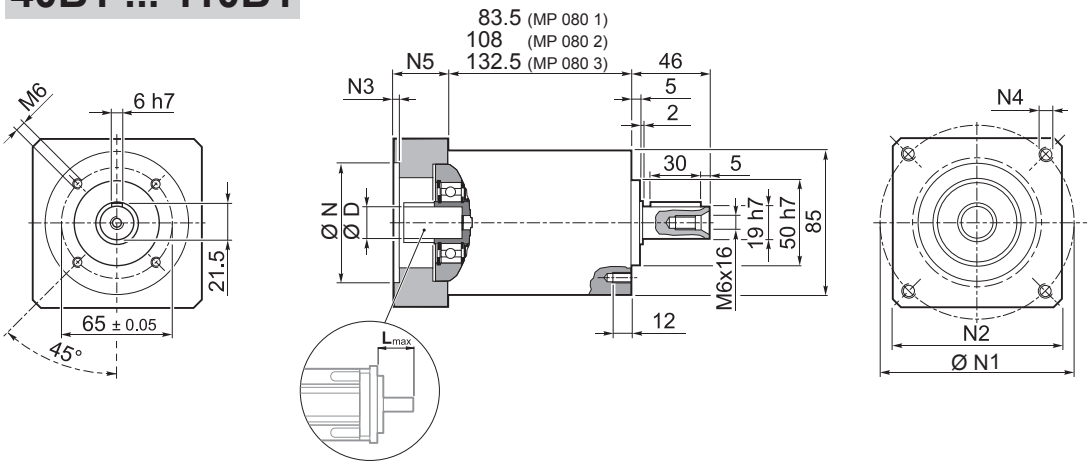
MP 080

IS



	Kg
MP 080 1	4.0
MP 080 2	4.6
MP 080 3	5.2

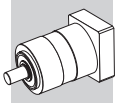
40B1 ... 110B1



	Kg
MP 080 1	4.0
MP 080 2	4.6
MP 080 3	5.2

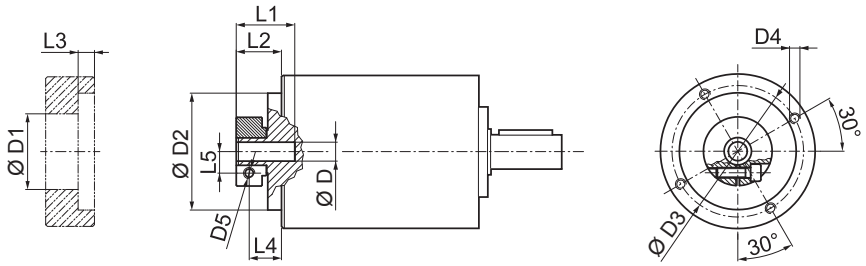
	D												N	N1	N2	N3	N4	N5	L_{max}
40B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	40	63	80	4	M4x12	34	40
45A	8	9	9.52	11	12	12.7	–	–	–	–	–	–	45	63	80	4	M4x12	34	40
50B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	M5x16	34	40
50BH1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	5.5	34	40
50C1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	70	80	4	M4x10	34	40
50D	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	95	80	4	M6x20	34	40
55A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	55.5	125.7	105	4	M6x20	34	40
60A2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	80	4	M5x16	34	40
60AH2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	90	4	6.5	34	40
60B1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	85	80	4	M5x16	34	40
60C1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	90	80	4	M5x16	34	40
70A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	80	4	M6x20	34	40
70AH1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	90	4	6.5	34	40
70B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	90	80	4	M5x16	34	40
73A1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	73	98.4	85	4	M5x16	34	40
80A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	80	100	90	4	M6x16	34	40
95A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	115	100	4	M8x20	34	40
95B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	130	115	4	M8x20	34	40
110A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	130	115	4	M8x20	34	40
110B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	44	50
110B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	54	60

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



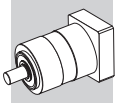
MP 080

FM



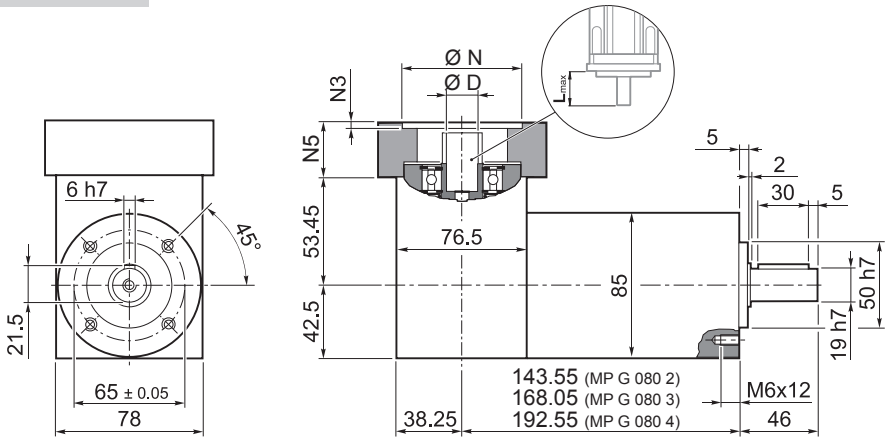
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
8	9	9.52		38	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	10.5
11	12	12.7		43	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	12.5
14	15.875	16	17	48	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	14.5
19	19.05			51	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	16.5

		$M_{n\,2}$	$M_{a\,2}$	$M_{p\,2}$	n_1	$n_{1\,max}$	φ_S	φ_R	C_t	$R_{1\,max}$	SB $R_{2\,max}$	SB $A_{2\,max}$	HB $R_{2\,max}$	HB $A_{2\,max}$	η	J_G [kgcm²] D	
	i	[Nm]	[Nm]	[Nm]	[min⁻¹]	[min⁻¹]	[arcmin]		[Nm/arcmin]	[N]	[N]	[N]	[N]	[N]	%	8 ... 12.7	14 ... 19.05
MP 080 1_3		40	80	180	2900	3500	15'	10'	7.0	400	1300	1400	2500	3000	97	0.50	0.59
MP 080 1_4		50	80	200	3100	4500	15'	10'	7.0	400	1300	1400	2500	3000	97	0.34	0.43
MP 080 1_5		50	80	200	3200	4500	15'	10'	7.0	400	1300	1400	2500	3000	97	0.28	0.37
MP 080 1_6		50	80	200	3200	4500	15'	10'	7.0	400	1300	1400	2500	3000	97	0.21	0.30
MP 080 1_7		50	80	200	4000	6000	15'	10'	7.0	400	1300	1400	2500	3000	97	0.23	0.32
MP 080 1_10		40	80	180	4000	6000	15'	10'	7.0	400	1300	1400	2500	3000	97	0.20	0.29
MP 080 2_9		40	80	180	2900	3500	15'	10'	5.9	400	1300	1400	2500	3000	94	0.49	0.58
MP 080 2_12		70	100	250	2900	3500	15'	10'	5.9	400	1300	1400	2500	3000	94	0.47	0.56
MP 080 2_15		70	100	250	2900	3500	15'	10'	5.9	400	1300	1400	2500	3000	94	0.46	0.55
MP 080 2_16		70	100	250	3100	4500	15'	10'	5.9	400	1300	1400	2500	3000	94	0.32	0.41
MP 080 2_20		70	100	250	3200	4500	15'	10'	5.9	400	1300	1400	2500	3000	94	0.27	0.36
MP 080 2_25		70	100	250	3200	4500	15'	10'	5.9	400	1300	1400	2500	3000	94	0.27	0.36
MP 080 2_28		70	100	250	4000	6000	15'	10'	5.9	400	1300	1400	2500	3000	94	0.22	0.31
MP 080 2_30		40	80	180	4000	6000	15'	10'	5.9	400	1300	1400	2500	3000	94	0.20	0.29
MP 080 2_35		70	100	250	4000	6000	15'	10'	5.9	400	1300	1400	2500	3000	94	0.22	0.31
MP 080 2_36		50	80	200	3200	4500	15'	10'	5.9	400	1300	1400	2500	3000	94	0.20	0.29
MP 080 2_40		70	100	250	4000	6000	15'	10'	5.9	400	1300	1400	2500	3000	94	0.20	0.29
MP 080 2_50		70	100	250	4000	6000	15'	10'	5.9	400	1300	1400	2500	3000	94	0.19	0.28
MP 080 2_70		70	100	250	4000	6000	15'	10'	5.9	400	1300	1400	2500	3000	94	0.19	0.28
MP 080 2_100		40	80	180	4000	6000	15'	10'	5.9	400	1300	1400	2500	3000	94	0.19	0.28
MP 080 3_48		70	100	250	3100	4500	17'	12'	5.4	400	1300	1400	2500	3000	91	0.33	0.42
MP 080 3_64		70	100	250	3100	4500	17'	12'	5.4	400	1300	1400	2500	3000	91	0.32	0.41
MP 080 3_75		70	100	250	3200	4500	17'	12'	5.4	400	1300	1400	2500	3000	91	0.27	0.36
MP 080 3_80		70	100	250	3100	4500	17'	12'	5.4	400	1300	1400	2500	3000	91	0.32	0.41
MP 080 3_84		70	100	250	4000	6000	17'	12'	5.4	400	1300	1400	2500	3000	91	0.23	0.32
MP 080 3_90		40	80	180	4000	6000	17'	12'	5.4	400	1300	1400	2500	3000	91	0.20	0.29
MP 080 3_120		70	100	250	4000	6000	17'	12'	5.4	400	1300	1400	2500	3000	91	0.20	0.29
MP 080 3_125		70	100	250	3200	4500	17'	12'	5.4	400	1300	1400	2500	3000	91	0.27	0.36
MP 080 3_140		70	100	250	4000	6000	17'	12'	5.4	400	1300	1400	2500	3000	91	0.22	0.31
MP 080 3_150		70	100	250	4000	6000	17'	12'	5.4	400	1300	1400	2500	3000	91	0.20	0.29
MP 080 3_160		70	100	250	4000	6000	17'	12'	5.4	400	1300	1400	2500	3000	91	0.20	0.29
MP 080 3_175		70	100	250	4000	6000	17'	12'	5.4	400	1300	1400	2500	3000	91	0.22	0.31
MP 080 3_200		70	100	250	4000	6000	17'	12'	5.4	400	1300	1400	2500	3000	91	0.20	0.29
MP 080 3_210		70	100	250	4000	6000	17'	12'	5.4	400	1300	1400	2500	3000	91	0.20	0.29
MP 080 3_216		70	100	250	3200	4500	17'	12'	5.4	400	1300	1400	2500	3000	91	0.20	0.29
MP 080 3_250		70	100	250	4000	6000	17'	12'	5.4	400	1300	1400	2500	3000	91	0.19	0.28
MP 080 3_280		70	100	250	4000	6000	17'	12'	5.4	400	1300	1400	2500	3000	91	0.19	0.28
MP 080 3_350		70	100	250	4000	6000	17'	12'	5.4	400	1300	1400	2500	3000	91	0.19	0.28
MP 080 3_400		70	100	250	4000	6000	17'	12'	5.4	400	1300	1400	2500	3000	91	0.19	0.28
MP 080 3_500		70	100	250	4000	6000	17'	12'	5.4	400	1300	1400	2500	3000	91	0.19	0.28
MP 080 3_700		70	100	250	4000	6000	17'	12'	5.4	400	1300	1400	2500	3000	91	0.19	0.28
MP 080 3_1000		40	80	180	4000	6000	17'	12'	5.4	400	1300	1400	2500	3000	91	0.19	0.28

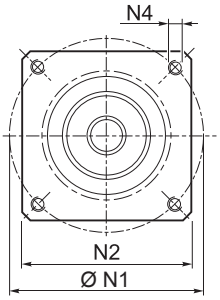


MP G 080

40B1 ... 110B1



	Kg
MP G 080 2	5.2
MP G 080 3	5.8
MP G 080 4	6.4

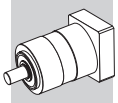


MP

	D												N	N1	N2	N3	N4	N5	L_{max}
40B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	40	63	80	4	M4x12	34	40
45A	8	9	9.52	11	12	12.7	–	–	–	–	–	–	45	63	80	4	M4x12	34	40
50B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	M5x16	34	40
50BH1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	5.5	34	40
50C1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	70	80	4	M4x10	34	40
50D	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	95	80	4	M6x20	34	40
55A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	55.5	125.7	105	4	M6x20	34	40
60A2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	80	4	M5x16	34	40
60AH2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	90	4	6.5	34	40
60B1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	85	80	4	M5x16	34	40
60C1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	90	80	4	M5x16	34	40
70A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	80	4	M6x20	34	40
70AH1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	90	4	6.5	34	40
70B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	90	80	4	M5x16	34	40
73A1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	73	98.4	85	4	M5x16	34	40
80A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	80	100	90	4	M6x16	34	40
95A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	115	100	4	M8x20	34	40
95B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	130	115	4	M8x20	34	40
110A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	130	115	4	M8x20	34	40
110B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	44	50
110B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	54	60

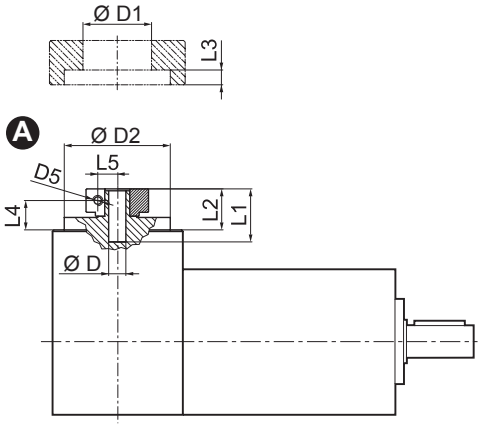
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

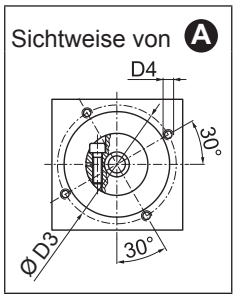
Bonfiglioli Tecnoingranaggi



MP G 080

FM





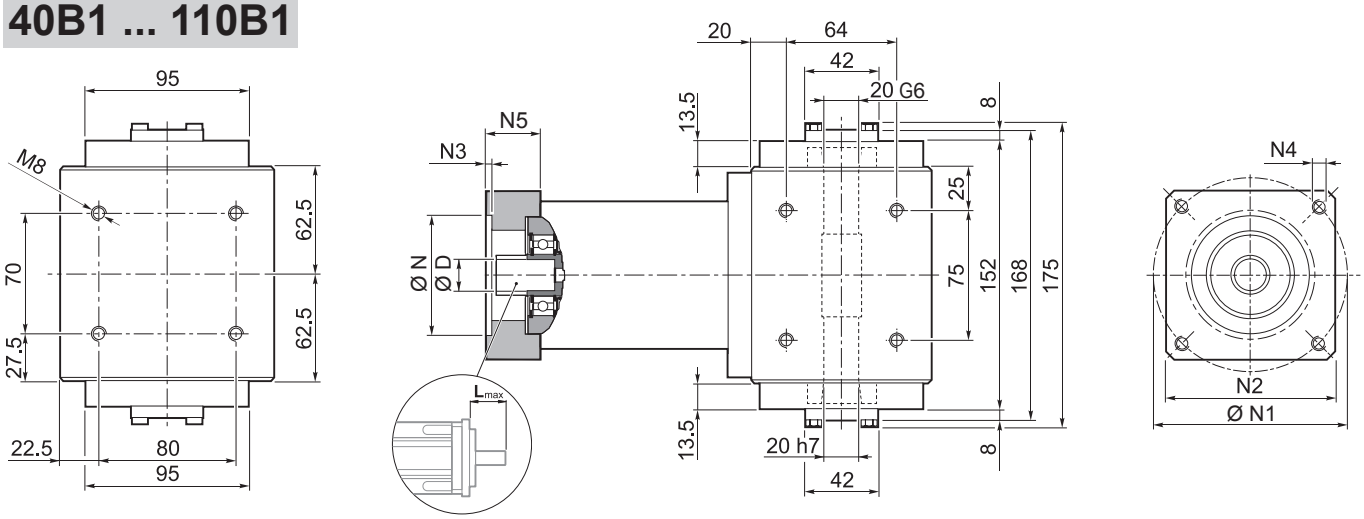
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
8	9	9.52		38	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	10.5
11	12	12.7		43	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	12.5
14	15.875	16	17	48	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	14.5
19	19.05			51	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	16.5

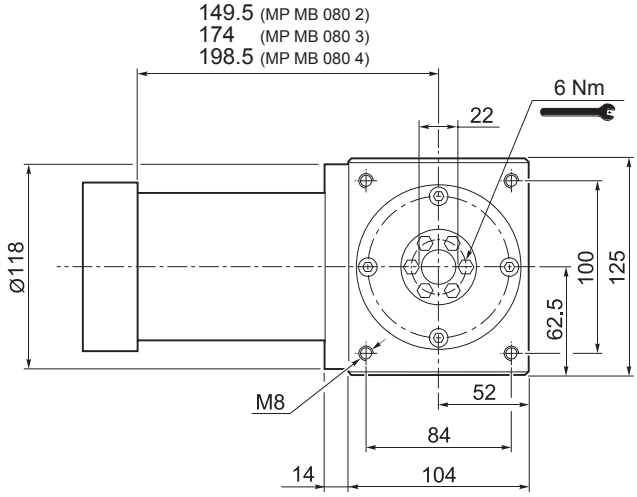
i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	SB $R_{2\,max}$ [N]	SB $A_{2\,max}$ [N]	HB $R_{2\,max}$ [N]	HB $A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 8 ... 12.7	J_G [kgcm^2] D 14 ... 19.05
MP G 080 2_3	40	80	180	2900	3500	15'	10'	7.0	1300	1400	2500	3000	94	0.67	0.79
MP G 080 2_4	50	80	200	3100	4500	15'	10'	7.0	1300	1400	2500	3000	94	0.62	0.75
MP G 080 2_5	50	80	200	3200	4500	15'	10'	7.0	1300	1400	2500	3000	94	0.61	0.74
MP G 080 2_6	50	80	200	3200	4500	15'	10'	7.0	1300	1400	2500	3000	94	0.58	0.71
MP G 080 2_7	50	80	200	4000	6000	15'	10'	7.0	1300	1400	2500	3000	94	0.60	0.73
MP G 080 2_10	40	80	180	4000	6000	15'	10'	7.0	1300	1400	2500	3000	94	0.60	0.72
MP G 080 3_9	40	80	180	2900	3500	15'	10'	5.9	1300	1400	2500	3000	91	0.66	0.78
MP G 080 3_12	70	100	250	2900	3500	15'	10'	5.9	1300	1400	2500	3000	91	0.75	0.87
MP G 080 3_15	70	100	250	2900	3500	15'	10'	5.9	1300	1400	2500	3000	91	0.74	0.87
MP G 080 3_16	70	100	250	3100	4500	15'	10'	5.9	1300	1400	2500	3000	91	0.60	0.73
MP G 080 3_20	70	100	250	3200	4500	15'	10'	5.9	1300	1400	2500	3000	91	0.60	0.73
MP G 080 3_25	70	100	250	3200	4500	15'	10'	5.9	1300	1400	2500	3000	91	0.64	0.76
MP G 080 3_28	70	100	250	4000	6000	15'	10'	5.9	1300	1400	2500	3000	91	0.59	0.72
MP G 080 3_30	40	80	180	4000	6000	15'	10'	5.9	1300	1400	2500	3000	91	0.60	0.72
MP G 080 3_35	70	100	250	4000	6000	15'	10'	5.9	1300	1400	2500	3000	91	0.61	0.74
MP G 080 3_36	50	80	200	3200	4500	15'	10'	5.9	1300	1400	2500	3000	91	0.57	0.70
MP G 080 3_40	70	100	250	4000	6000	15'	10'	5.9	1300	1400	2500	3000	91	0.60	0.72
MP G 080 3_50	70	100	250	4000	6000	15'	10'	5.9	1300	1400	2500	3000	91	0.59	0.71
MP G 080 3_70	70	100	250	4000	6000	15'	10'	5.9	1300	1400	2500	3000	91	0.59	0.71
MP G 080 3_100	40	80	180	4000	6000	15'	10'	5.9	1300	1400	2500	3000	91	0.59	0.71
MP G 080 4_48	70	100	250	3100	4500	17'	12'	5.4	1300	1400	2500	3000	89	0.61	0.75
MP G 080 4_64	70	100	250	3100	4500	17'	12'	5.4	1300	1400	2500	3000	89	0.60	0.73
MP G 080 4_75	70	100	250	3200	4500	17'	12'	5.4	1300	1400	2500	3000	89	0.60	0.73
MP G 080 4_80	70	100	250	3100	4500	17'	12'	5.4	1300	1400	2500	3000	89	0.60	0.73
MP G 080 4_84	70	100	250	4000	6000	17'	12'	5.4	1300	1400	2500	3000	89	0.60	0.73
MP G 080 4_90	40	80	180	4000	6000	17'	12'	5.4	1300	1400	2500	3000	89	0.60	0.72
MP G 080 4_120	70	100	250	4000	6000	17'	12'	5.4	1300	1400	2500	3000	89	0.60	0.72
MP G 080 4_125	70	100	250	3200	4500	17'	12'	5.4	1300	1400	2500	3000	89	0.60	0.73
MP G 080 4_140	70	100	250	4000	6000	17'	12'	5.4	1300	1400	2500	3000	89	0.59	0.72
MP G 080 4_150	70	100	250	4000	6000	17'	12'	5.4	1300	1400	2500	3000	89	0.60	0.72
MP G 080 4_160	70	100	250	4000	6000	17'	12'	5.4	1300	1400	2500	3000	89	0.60	0.72
MP G 080 4_175	70	100	250	4000	6000	17'	12'	5.4	1300	1400	2500	3000	89	0.59	0.72
MP G 080 4_200	70	100	250	4000	6000	17'	12'	5.4	1300	1400	2500	3000	89	0.60	0.72
MP G 080 4_210	70	100	250	4000	6000	17'	12'	5.4	1300	1400	2500	3000	89	0.60	0.72
MP G 080 4_216	70	100	250	3200	4500	17'	12'	5.4	1300	1400	2500	3000	89	0.57	0.70
MP G 080 4_250	70	100	250	4000	6000	17'	12'	5.4	1300	1400	2500	3000	89	0.59	0.71
MP G 080 4_280	70	100	250	4000	6000	17'	12'	5.4	1300	1400	2500	3000	89	0.59	0.71
MP G 080 4_350	70	100	250	4000	6000	17'	12'	5.4	1300	1400	2500	3000	89	0.59	0.71
MP G 080 4_400	70	100	250	4000	6000	17'	12'	5.4	1300	1400	2500	3000	89	0.59	0.71
MP G 080 4_500	70	100	250	4000	6000	17'	12'	5.4	1300	1400	2500	3000	89	0.59	0.71
MP G 080 4_700	70	100	250	4000	6000	17'	12'	5.4	1300	1400	2500	3000	89	0.59	0.71
MP G 080 4_1000	40	80	180	4000	6000	17'	12'	5.4	1300	1400	2500	3000	89	0.59	0.71

MP

MP MB 080

40B1 ... 110B1



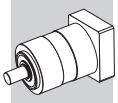


	Kg
MP MB 080 2	14.0
MP MB 080 3	15.0
MP MB 080 4	16.0

	D												N	N1	N2	N3	N4	N5	L_{max}
40B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	40	63	80	4	M4x12	34	40
45A	8	9	9.52	11	12	12.7	–	–	–	–	–	–	45	63	80	4	M4x12	34	40
50B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	M5x16	34	40
50BH1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	5.5	34	40
50C1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	70	80	4	M4x10	34	40
50D	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	95	80	4	M6x20	34	40
55A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	55.5	125.7	105	4	M6x20	34	40
60A2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	80	4	M5x16	34	40
60AH2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	90	4	6.5	34	40
60B1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	85	80	4	M5x16	34	40
60C1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	90	80	4	M5x16	34	40
70A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	80	4	M6x20	34	40
70AH1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	90	4	6.5	34	40
70B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	90	80	4	M5x16	34	40
73A1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	73	98.4	85	4	M5x16	34	40
80A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	80	100	90	4	M6x16	34	40
95A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	115	100	4	M8x20	34	40
95B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	130	115	4	M8x20	34	40
110A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	130	115	4	M8x20	34	40
110B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	44	50
110B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	54	60

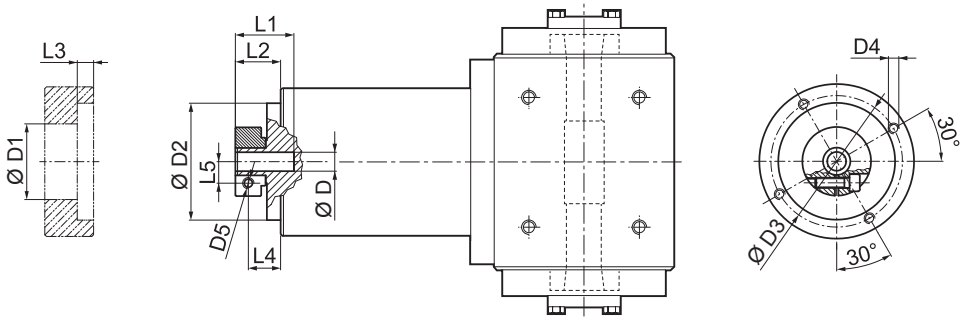
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

Bonfiglioli Tecnoingranaggi



MP MB 080

FM

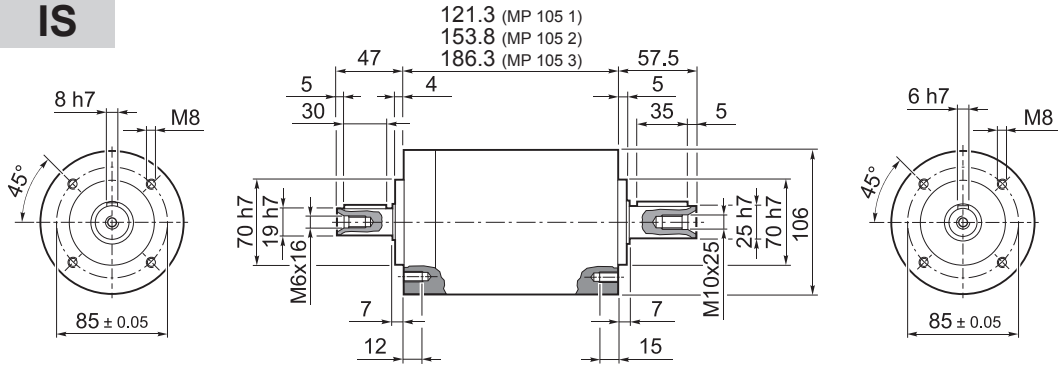


D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
8	9	9.52		38	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	10.5
11	12	12.7		43	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	12.5
14	15.875	16	17	48	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	14.5
19	19.05			51	68	76.5	M6x12	M6	32.2	26.3	9.5	19.3	16.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min⁻¹]	$n_{1\,max}$ [min⁻¹]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	η %	J_G [kgcm²] D 8 ... 12.7	J_G [kgcm²] D 14 ... 19.05
MP MB 080 2_3	40	80	180	2900	3500	15'	10'	7.0	94	0.50	0.59
MP MB 080 2_4	50	80	200	3100	4500	15'	10'	7.0	94	0.34	0.43
MP MB 080 2_5	50	80	200	3200	4500	15'	10'	7.0	94	0.28	0.37
MP MB 080 2_6	50	80	200	3200	4500	15'	10'	7.0	94	0.21	0.30
MP MB 080 2_7	50	80	200	4000	6000	15'	10'	7.0	94	0.23	0.32
MP MB 080 2_10	40	80	180	4000	6000	15'	10'	7.0	94	0.20	0.29
MP MB 080 3_9	40	80	180	2900	3500	15'	10'	5.9	91	0.49	0.58
MP MB 080 3_12	70	100	250	2900	3500	15'	10'	5.9	91	0.47	0.56
MP MB 080 3_15	70	100	250	2900	3500	15'	10'	5.9	91	0.46	0.55
MP MB 080 3_16	70	100	250	3100	4500	15'	10'	5.9	91	0.32	0.41
MP MB 080 3_20	70	100	250	3200	4500	15'	10'	5.9	91	0.27	0.36
MP MB 080 3_25	70	100	250	3200	4500	15'	10'	5.9	91	0.27	0.36
MP MB 080 3_28	70	100	250	4000	6000	15'	10'	5.9	91	0.22	0.31
MP MB 080 3_30	40	80	180	4000	6000	15'	10'	5.9	91	0.20	0.29
MP MB 080 3_35	70	100	250	4000	6000	15'	10'	5.9	91	0.22	0.31
MP MB 080 3_36	50	80	200	3200	4500	15'	10'	5.9	91	0.20	0.29
MP MB 080 3_40	70	100	250	4000	6000	15'	10'	5.9	91	0.20	0.29
MP MB 080 3_50	70	100	250	4000	6000	15'	10'	5.9	91	0.19	0.28
MP MB 080 3_70	70	100	250	4000	6000	15'	10'	5.9	91	0.19	0.28
MP MB 080 3_100	40	80	180	4000	6000	15'	10'	5.9	91	0.19	0.28
MP MB 080 4_48	70	100	250	3100	4500	17'	12'	5.4	89	0.33	0.42
MP MB 080 4_64	70	100	250	3100	4500	17'	12'	5.4	89	0.32	0.41
MP MB 080 4_75	70	100	250	3200	4500	17'	12'	5.4	89	0.27	0.36
MP MB 080 4_80	70	100	250	3100	4500	17'	12'	5.4	89	0.32	0.41
MP MB 080 4_84	70	100	250	4000	6000	17'	12'	5.4	89	0.23	0.32
MP MB 080 4_90	40	80	180	4000	6000	17'	12'	5.4	89	0.20	0.29
MP MB 080 4_120	70	100	250	4000	6000	17'	12'	5.4	89	0.20	0.29
MP MB 080 4_125	70	100	250	3200	4500	17'	12'	5.4	89	0.27	0.36
MP MB 080 4_140	70	100	250	4000	6000	17'	12'	5.4	89	0.22	0.31
MP MB 080 4_150	70	100	250	4000	6000	17'	12'	5.4	89	0.20	0.29
MP MB 080 4_160	70	100	250	4000	6000	17'	12'	5.4	89	0.20	0.29
MP MB 080 4_175	70	100	250	4000	6000	17'	12'	5.4	89	0.22	0.31
MP MB 080 4_200	70	100	250	4000	6000	17'	12'	5.4	89	0.20	0.29
MP MB 080 4_210	70	100	250	4000	6000	17'	12'	5.4	89	0.20	0.29
MP MB 080 4_216	70	100	250	3200	4500	17'	12'	5.4	89	0.20	0.29
MP MB 080 4_250	70	100	250	4000	6000	17'	12'	5.4	89	0.19	0.28
MP MB 080 4_280	70	100	250	4000	6000	17'	12'	5.4	89	0.19	0.28
MP MB 080 4_350	70	100	250	4000	6000	17'	12'	5.4	89	0.19	0.28
MP MB 080 4_400	70	100	250	4000	6000	17'	12'	5.4	89	0.19	0.28
MP MB 080 4_500	70	100	250	4000	6000	17'	12'	5.4	89	0.19	0.28
MP MB 080 4_700	70	100	250	4000	6000	17'	12'	5.4	89	0.19	0.28
MP MB 080 4_1000	40	80	180	4000	6000	17'	12'	5.4	89	0.19	0.28

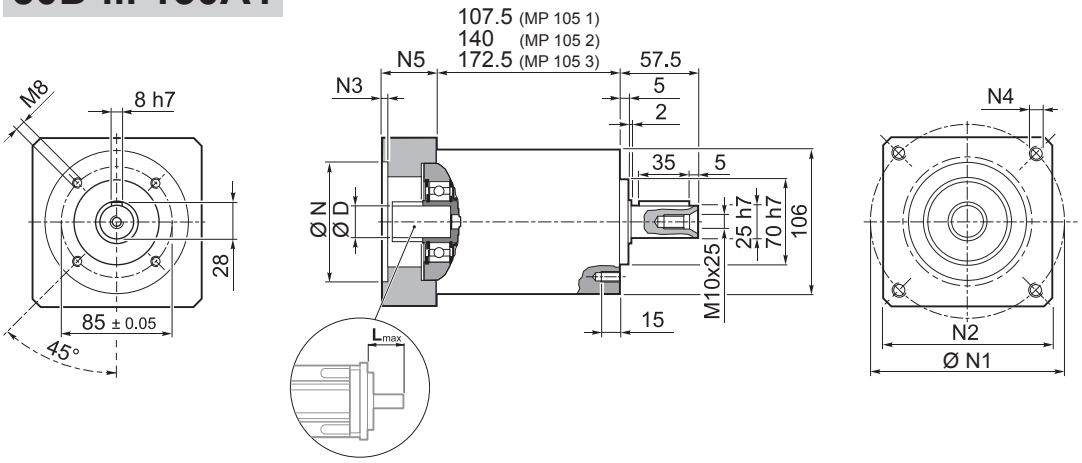
MP 105

IS



	Kg
MP 105 1	6.5
MP 105 2	8.5
MP 105 3	10.5

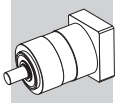
50D ... 130A1



	Kg
MP 105 1	6.5
MP 105 2	8.5
MP 105 3	10.5

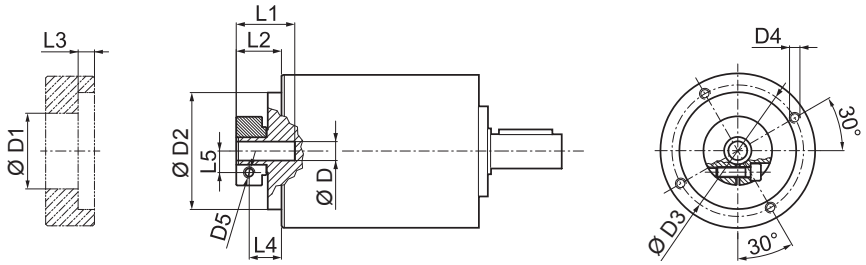
	D												N	N1	N2	N3	N4	N5	L_{max}
50D	11	12	12.7	14	15	15.875	16	19	–	–	–	–	50	95	100	5	M6x14	28	40
55A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	55	125.7	105	5	M6x16	28	40
60A2	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	75	100	6.5	M5x14	28	40
60AH2	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	75	100	4	6.5	33	40
60B1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	85	100	6.5	M5x14	28	40
70A1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	85	100	6.5	M6x14	28	40
70AH1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	85	100	4	6.5	33	40
70B1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	90	100	6.5	M5x12	28	40
80A1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	80	100	100	6.5	M6x16	28	40
80AH1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	80	100	100	4	6.5	33	40
95A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	95	115	100	6.5	M8x18	28	40
95A1	11	12	12.7	14	15	15.875	16	19	22	24	–	–	95	115	100	6.5	M8x18	38	50
95B	11	12	12.7	14	15	15.875	16	19	–	–	–	–	95	130	115	6.5	M8x18	28	40
110A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	110	130	115	6.5	M8x18	28	40
110A1	11	12	12.7	14	15	15.875	16	19	22	24	–	–	110	130	115	6.5	M8x20	38	50
110B	11	12	12.7	14	15	15.875	16	19	22	24	–	–	110	145	120	6.5	M8x20	38	50
110B1	11	12	12.7	14	15	15.875	16	19	22	24	28	–	110	145	120	6.5	M8x20	48	60
130A	11	12	12.7	14	15	15.875	16	19	22	24	–	–	130	165	140	6.5	M10x20	38	50
130A1	11	12	12.7	14	15	15.875	16	19	22	24	28	32	130	165	140	6.5	M10x25	48	60

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



MP 105

FM

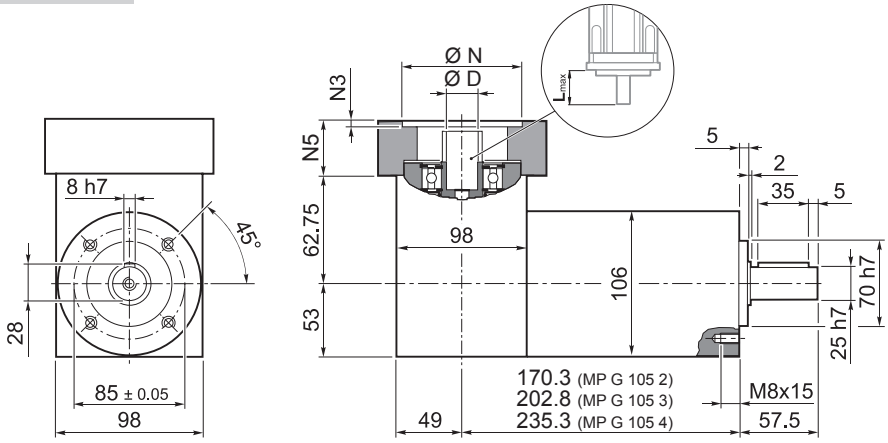


D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
11	12	12.7		43	90	98	M6x15	M6	31.5	19.5	7.6	12	12.5
14	15	15.875	16	48	90	98	M6x15	M6	31.5	19.5	7.6	12	14.5
19				51	90	98	M6x15	M6	31.5	19.5	7.6	12	16.5
22	24			56.5	90	98	M6x15	M6	35	23	7.6	12	19
28				67	90	98	M6x15	M8	35	23	7.6	14	22.5
32				71	90	98	M6x15	M8	37	25	7.6	16	24.5

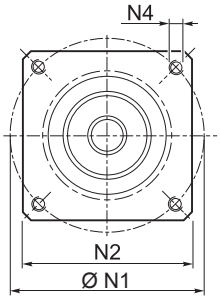
									SB		HB			J_G [kgcm²]			
	$M_{n\,2}$	$M_{a\,2}$	$M_{p\,2}$	n_1	$n_{1\,max}$	φ_S	φ_R	C_t	$R_{1\,max}$	$R_{2\,max}$	$A_{2\,max}$	$R_{2\,max}$	$A_{2\,max}$	η	D			
i	[Nm]	[Nm]	[Nm]	[min⁻¹]	[min⁻¹]	[arcmin]		[Nm/arcmin]	[N]	[N]	[N]	[N]	[N]	%	11 ... 12.7	14 ... 19	22 - 24	28 - 32
MP 105 1_3	100	180	360	2500	3500	15'	10'	22.0	600	1500	1600	3800	4000	97	1.70	1.78	2.22	2.59
MP 105 1_4	140	210	450	2800	4500	15'	10'	22.0	600	1500	1600	3800	4000	97	0.99	1.06	1.51	1.87
MP 105 1_5	140	210	450	3000	4500	15'	10'	22.0	600	1500	1600	3800	4000	97	0.72	0.79	1.23	1.60
MP 105 1_6	140	210	450	3000	4500	15'	10'	22.0	600	1500	1600	3800	4000	97	0.36	0.43	0.88	1.24
MP 105 1_7	140	210	450	3500	5000	15'	10'	22.0	600	1500	1600	3800	4000	97	0.47	0.55	0.99	1.35
MP 105 1_10	100	180	360	3500	5000	15'	10'	22.0	600	1500	1600	3800	4000	97	0.33	0.41	0.85	1.21
MP 105 2_9	100	180	360	2500	3500	15'	10'	20.5	600	1500	1600	3800	4000	94	1.58	1.63	2.07	2.44
MP 105 2_12	170	250	600	2500	3500	15'	10'	20.5	600	1500	1600	3800	4000	94	1.52	1.59	2.03	2.40
MP 105 2_15	170	250	600	2500	3500	15'	10'	20.5	600	1500	1600	3800	4000	94	1.47	1.55	1.99	2.36
MP 105 2_16	170	250	600	2800	4500	15'	10'	20.5	600	1500	1600	3800	4000	94	0.87	0.95	1.39	1.76
MP 105 2_20	170	250	600	3000	4500	15'	10'	20.5	600	1500	1600	3800	4000	94	0.86	0.93	1.37	1.74
MP 105 2_25	170	250	600	3000	4500	15'	10'	20.5	600	1500	1600	3800	4000	94	0.63	0.71	1.15	1.51
MP 105 2_28	170	250	600	3500	5000	15'	10'	20.5	600	1500	1600	3800	4000	94	0.43	0.51	0.95	1.32
MP 105 2_30	100	180	360	3500	5000	15'	10'	20.5	600	1500	1600	3800	4000	94	0.32	0.40	0.84	1.20
MP 105 2_35	170	250	600	3500	5000	15'	10'	20.5	600	1500	1600	3800	4000	94	0.43	0.50	0.95	1.31
MP 105 2_36	140	210	450	3000	4500	15'	10'	20.5	600	1500	1600	3800	4000	94	0.32	0.39	0.84	1.20
MP 105 2_40	170	250	600	3500	5000	15'	10'	20.5	600	1500	1600	3800	4000	94	0.31	0.39	0.83	1.20
MP 105 2_50	170	250	600	3500	5000	15'	10'	20.5	600	1500	1600	3800	4000	94	0.31	0.39	0.83	1.19
MP 105 2_70	170	250	600	3500	5000	15'	10'	20.5	600	1500	1600	3800	4000	94	0.31	0.38	0.83	1.19
MP 105 2_100	100	180	360	3500	5000	15'	10'	20.5	600	1500	1600	3800	4000	94	0.31	0.38	0.83	1.19
MP 105 3_48	170	250	600	2800	4500	17'	12'	17.5	600	1500	1600	3800	4000	91	0.91	0.98	1.42	1.79
MP 105 3_64	170	250	600	2800	4500	17'	12'	17.5	600	1500	1600	3800	4000	91	0.87	0.94	1.38	1.75
MP 105 3_75	170	250	600	3000	4500	17'	12'	17.5	600	1500	1600	3800	4000	91	0.66	0.74	1.18	1.55
MP 105 3_80	170	250	600	2800	4500	17'	12'	17.5	600	1500	1600	3800	4000	91	0.86	0.94	1.38	1.75
MP 105 3_84	170	250	600	3500	5000	17'	12'	17.5	600	1500	1600	3800	4000	91	0.44	0.52	0.96	1.33
MP 105 3_90	100	180	360	3500	5000	17'	12'	17.5	600	1500	1600	3800	4000	91	0.32	0.39	0.84	1.20
MP 105 3_120	170	250	600	3500	5000	17'	12'	17.5	600	1500	1600	3800	4000	91	0.32	0.39	0.84	1.20
MP 105 3_125	170	250	600	3000	4500	17'	12'	17.5	600	1500	1600	3800	4000	91	0.63	0.70	1.15	1.51
MP 105 3_140	170	250	600	3500	5000	17'	12'	17.5	600	1500	1600	3800	4000	91	0.43	0.51	0.95	1.32
MP 105 3_150	170	250	600	3500	5000	17'	12'	17.5	600	1500	1600	3800	4000	91	0.32	0.39	0.84	1.20
MP 105 3_160	170	250	600	3500	5000	17'	12'	17.5	600	1500	1600	3800	4000	91	0.31	0.39	0.83	1.21
MP 105 3_175	170	250	600	3500	5000	17'	12'	17.5	600	1500	1600	3800	4000	91	0.43	0.50	0.95	1.31
MP 105 3_200	170	250	600	3500	5000	17'	12'	17.5	600	1500	1600	3800	4000	91	0.31	0.39	0.83	1.20
MP 105 3_210	170	250	600	3500	5000	17'	12'	17.5	600	1500	1600	3800	4000	91	0.32	0.39	0.84	1.20
MP 105 3_216	170	250	600	3000	4500	17'	12'	17.5	600	1500	1600	3800	4000	91	0.31	0.39	0.83	1.20
MP 105 3_250	170	250	600	3500	5000	17'	12'	17.5	600	1500	1600	3800	4000	91	0.31	0.39	0.83	1.19
MP 105 3_280	170	250	600	3500	5000	17'	12'	17.5	600	1500	1600	3800	4000	91	0.31	0.38	0.83	1.19
MP 105 3_350	170	250	600	3500	5000	17'	12'	17.5	600	1500	1600	3800	4000	91	0.31	0.38	0.83	1.19
MP 105 3_400	170	250	600	3500	5000	17'	12'	17.5	600	1500	1600	3800	4000	91	0.31	0.38	0.83	1.19
MP 105 3_500	170	250	600	3500	5000	17'	12'	17.5	600	1500	1600	3800	4000	91	0.31	0.38	0.83	1.19
MP 105 3_700	170	250	600	3500	5000	17'	12'	17.5	600	1500	1600	3800	4000	91	0.31	0.38	0.83	1.19
MP 105 3_1000	100	180	360	3500	5000	17'	12'	17.5	600	1500	1600	3800	4000	91	0.31	0.38	0.83	1.19

MP G 105

50D ... 130A1



	Kg
MP G 105 2	8.5
MP G 105 3	10.5
MP G 105 4	12.5

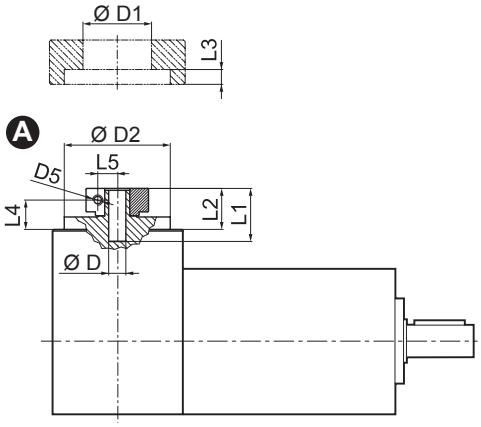


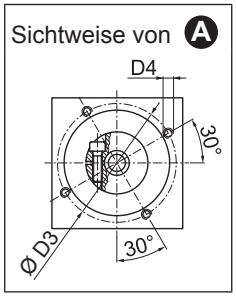
	D												N	N1	N2	N3	N4	N5	L_{max}
50D	11	12	12.7	14	15	15.875	16	19	–	–	–	–	50	95	100	5	M6x14	28	40
55A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	55	125.7	105	5	M6x16	28	40
60A2	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	75	100	6.5	M5x14	28	40
60AH2	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	75	100	4	6.5	33	40
60B1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	85	100	6.5	M5x14	28	40
70A1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	85	100	6.5	M6x14	28	40
70AH1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	85	100	4	6.5	33	40
70B1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	90	100	6.5	M5x12	28	40
80A1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	80	100	100	6.5	M6x16	28	40
80AH1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	80	100	100	4	6.5	33	40
95A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	95	115	100	6.5	M8x18	28	40
95A1	11	12	12.7	14	15	15.875	16	19	22	24	–	–	95	115	100	6.5	M8x18	38	50
95B	11	12	12.7	14	15	15.875	16	19	–	–	–	–	95	130	115	6.5	M8x18	28	40
110A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	110	130	115	6.5	M8x18	28	40
110A1	11	12	12.7	14	15	15.875	16	19	22	24	–	–	110	130	115	6.5	M8x20	38	50
110B	11	12	12.7	14	15	15.875	16	19	22	24	–	–	110	145	120	6.5	M8x20	38	50
110B1	11	12	12.7	14	15	15.875	16	19	22	24	28	–	110	145	120	6.5	M8x20	48	60
130A	11	12	12.7	14	15	15.875	16	19	22	24	–	–	130	165	140	6.5	M10x20	38	50
130A1	11	12	12.7	14	15	15.875	16	19	22	24	28	32	130	165	140	6.5	M10x25	48	60

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

MP G 105

FM



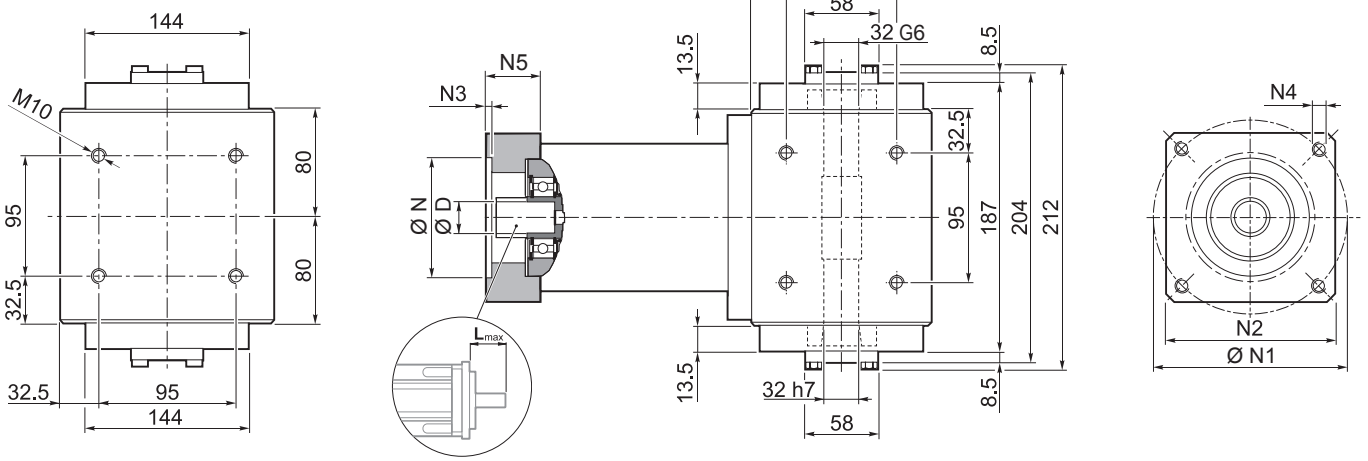


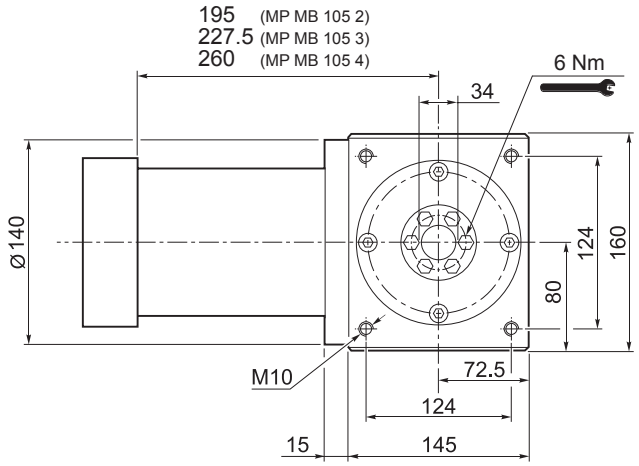
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
11	12	12.7		43	90	98	M6x15	M6	31.5	19.5	7.6	12	12.5
14	15	15.875	16	48	90	98	M6x15	M6	31.5	19.5	7.6	12	14.5
19				51	90	98	M6x15	M6	31.5	19.5	7.6	12	16.5
22	24			56.5	90	98	M6x15	M6	35	23	7.6	12	19
28				67	90	98	M6x15	M8	35	23	7.6	14	22.5
32				71	90	98	M6x15	M8	37	25	7.6	16	24.5

	i	$M_{n\,2}$	$M_{a\,2}$	$M_{p\,2}$	n_1	$n_{1\,max}$	φ_S	φ_R	C_t	SB $R_{2\,max}$	SB $A_{2\,max}$	HB $R_{2\,max}$	HB $A_{2\,max}$	η	J_G [kgcm²] D 11 ... 12.7	14 ... 19	22 - 24	28 - 32
		[Nm]	[Nm]	[Nm]	[min⁻¹]	[min⁻¹]	[arcmin]		[Nm/arcmin]	[N]	[N]	[N]	[N]	%				
MP G 105 2_3		100	180	360	2500	3500	15'	10'	22.0	1500	1600	3800	4000	94	1.85	2.01	2.33	3.07
MP G 105 2_4		140	210	450	2800	4500	15'	10'	22.0	1500	1600	3800	4000	94	1.14	1.29	1.62	2.35
MP G 105 2_5		140	210	450	3000	4500	15'	10'	22.0	1500	1600	3800	4000	94	1.07	1.21	1.34	2.08
MP G 105 2_6		140	210	450	3000	4500	15'	10'	22.0	1500	1600	3800	4000	94	0.87	1.02	1.16	1.89
MP G 105 2_7		140	210	450	3500	5000	15'	10'	22.0	1500	1600	3800	4000	94	0.98	1.14	1.27	2.00
MP G 105 2_10		100	180	360	3500	5000	15'	10'	22.0	1500	1600	3800	4000	94	0.94	1.09	1.23	1.95
MP G 105 3_9		100	180	360	2500	3500	15'	10'	20.5	1500	1600	3800	4000	91	1.76	1.86	2.18	2.92
MP G 105 3_12		170	250	600	2500	3500	15'	10'	20.5	1500	1600	3800	4000	91	1.60	1.75	2.14	2.88
MP G 105 3_15		170	250	600	2500	3500	15'	10'	20.5	1500	1600	3800	4000	91	1.57	1.73	2.10	2.84
MP G 105 3_16		170	250	600	2800	4500	15'	10'	20.5	1500	1600	3800	4000	91	1.02	1.18	1.50	2.24
MP G 105 3_20		170	250	600	3000	4500	15'	10'	20.5	1500	1600	3800	4000	91	1.20	1.35	1.48	2.22
MP G 105 3_25		170	250	600	3000	4500	15'	10'	20.5	1500	1600	3800	4000	91	1.13	1.29	1.42	2.15
MP G 105 3_28		170	250	600	3500	5000	15'	10'	20.5	1500	1600	3800	4000	91	0.94	1.10	1.23	1.97
MP G 105 3_30		100	180	360	3500	5000	15'	10'	20.5	1500	1600	3800	4000	91	0.93	1.08	1.22	1.94
MP G 105 3_35		170	250	600	3500	5000	15'	10'	20.5	1500	1600	3800	4000	91	1.02	1.17	1.31	2.04
MP G 105 3_36		140	210	450	3000	4500	15'	10'	20.5	1500	1600	3800	4000	91	0.83	0.98	1.12	1.85
MP G 105 3_40		170	250	600	3500	5000	15'	10'	20.5	1500	1600	3800	4000	91	0.96	1.11	1.25	1.98
MP G 105 3_50		170	250	600	3500	5000	15'	10'	20.5	1500	1600	3800	4000	91	0.96	1.11	1.25	1.98
MP G 105 3_70		170	250	600	3500	5000	15'	10'	20.5	1500	1600	3800	4000	91	0.92	1.06	1.21	1.93
MP G 105 3_100		100	180	360	3500	5000	15'	10'	20.5	1500	1600	3800	4000	91	0.92	1.06	1.21	1.93
MP G 105 4_48		170	250	600	2800	4500	17'	12'	17.5	1500	1600	3800	4000	89	1.06	1.21	1.53	2.27
MP G 105 4_64		170	250	600	2800	4500	17'	12'	17.5	1500	1600	3800	4000	89	1.02	1.17	1.49	2.23
MP G 105 4_75		170	250	600	3000	4500	17'	12'	17.5	1500	1600	3800	4000	89	1.00	1.16	1.29	2.03
MP G 105 4_80		170	250	600	2800	4500	17'	12'	17.5	1500	1600	3800	4000	89	1.01	1.17	1.49	2.23
MP G 105 4_84		170	250	600	3500	5000	17'	12'	17.5	1500	1600	3800	4000	89	0.95	1.11	1.24	1.98
MP G 105 4_90		100	180	360	3500	5000	17'	12'	17.5	1500	1600	3800	4000	89	0.93	1.07	1.22	1.94
MP G 105 4_120		170	250	600	3500	5000	17'	12'	17.5	1500	1600	3800	4000	89	0.93	1.07	1.22	1.94
MP G 105 4_125		170	250	600	3000	4500	17'	12'	17.5	1500	1600	3800	4000	89	0.97	1.12	1.26	1.99
MP G 105 4_140		170	250	600	3500	5000	17'	12'	17.5	1500	1600	3800	4000	89	0.94	1.10	1.23	1.97
MP G 105 4_150		170	250	600	3500	5000	17'	12'	17.5	1500	1600	3800	4000	89	0.93	1.07	1.22	1.94
MP G 105 4_160		170	250	600	3500	5000	17'	12'	17.5	1500	1600	3800	4000	89	0.92	1.07	1.21	1.96
MP G 105 4_175		170	250	600	3500	5000	17'	12'	17.5	1500	1600	3800	4000	89	0.94	1.09	1.23	1.96
MP G 105 4_200		170	250	600	3500	5000	17'	12'	17.5	1500	1600	3800	4000	89	0.92	1.07	1.21	1.94
MP G 105 4_210		170	250	600	3500	5000	17'	12'	17.5	1500	1600	3800	4000	89	0.93	1.07	1.22	1.94
MP G 105 4_216		170	250	600	3000	4500	17'	12'	17.5	1500	1600	3800	4000	89	0.83	0.98	1.11	1.85
MP G 105 4_250		170	250	600	3500	5000	17'	12'	17.5	1500	1600	3800	4000	89	0.92	1.07	1.21	1.93
MP G 105 4_280		170	250	600	3500	5000	17'	12'	17.5	1500	1600	3800	4000	89	0.92	1.06	1.21	1.93
MP G 105 4_350		170	250	600	3500	5000	17'	12'	17.5	1500	1600	3800	4000	89	0.92	1.06	1.21	1.93
MP G 105 4_400		170	250	600	3500	5000	17'	12'	17.5	1500	1600	3800	4000	89	0.92	1.06	1.21	1.93
MP G 105 4_500		170	250	600	3500	5000	17'	12'	17.5	1500	1600	3800	4000	89	0.92	1.06	1.21	1.93
MP G 105 4_700		170	250	600	3500	5000	17'	12'	17.5	1500	1600	3800	4000	89	0.92	1.06	1.21	1.93
MP G 105 4_1000		100	180	360	3500	5000	17'	12'	17.5	1500	1600	3800	4000	89	0.92	1.06	1.21	1.93

MP MB 105

50D ... 130A1





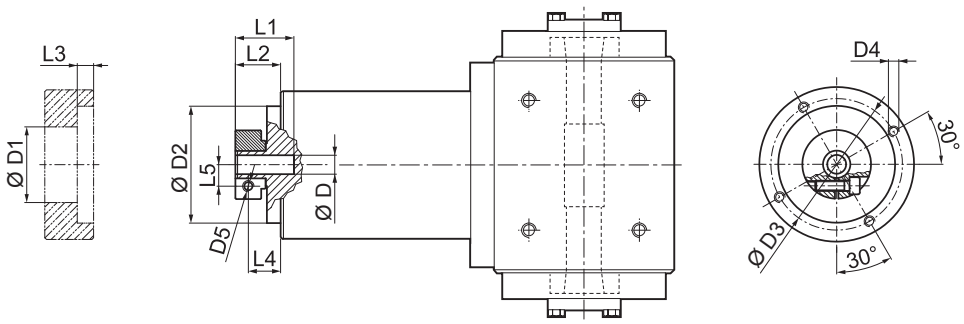
	Kg
MP MB 105 2	32
MP MB 105 3	34
MP MB 105 4	36

	D												N	N1	N2	N3	N4	N5	L_{max}
50D	11	12	12.7	14	15	15.875	16	19	–	–	–	–	50	95	100	5	M6x14	28	40
55A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	55	125.7	105	5	M6x16	28	40
60A2	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	75	100	6.5	M5x14	28	40
60AH2	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	75	100	4	6.5	33	40
60B1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	60	85	100	6.5	M5x14	28	40
70A1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	85	100	6.5	M6x14	28	40
70AH1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	85	100	4	6.5	33	40
70B1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	70	90	100	6.5	M5x12	28	40
80A1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	80	100	100	6.5	M6x16	28	40
80AH1	11	12	12.7	14	15	15.875	16	19	–	–	–	–	80	100	100	4	6.5	33	40
95A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	95	115	100	6.5	M8x18	28	40
95A1	11	12	12.7	14	15	15.875	16	19	22	24	–	–	95	115	100	6.5	M8x18	38	50
95B	11	12	12.7	14	15	15.875	16	19	–	–	–	–	95	130	115	6.5	M8x18	28	40
110A	11	12	12.7	14	15	15.875	16	19	–	–	–	–	110	130	115	6.5	M8x18	28	40
110A1	11	12	12.7	14	15	15.875	16	19	22	24	–	–	110	130	115	6.5	M8x20	38	50
110B	11	12	12.7	14	15	15.875	16	19	22	24	–	–	110	145	120	6.5	M8x20	38	50
110B1	11	12	12.7	14	15	15.875	16	19	22	24	28	–	110	145	120	6.5	M8x20	48	60
130A	11	12	12.7	14	15	15.875	16	19	22	24	–	–	130	165	140	6.5	M10x20	38	50
130A1	11	12	12.7	14	15	15.875	16	19	22	24	28	32	130	165	140	6.5	M10x25	48	60

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

MP MB 105

FM

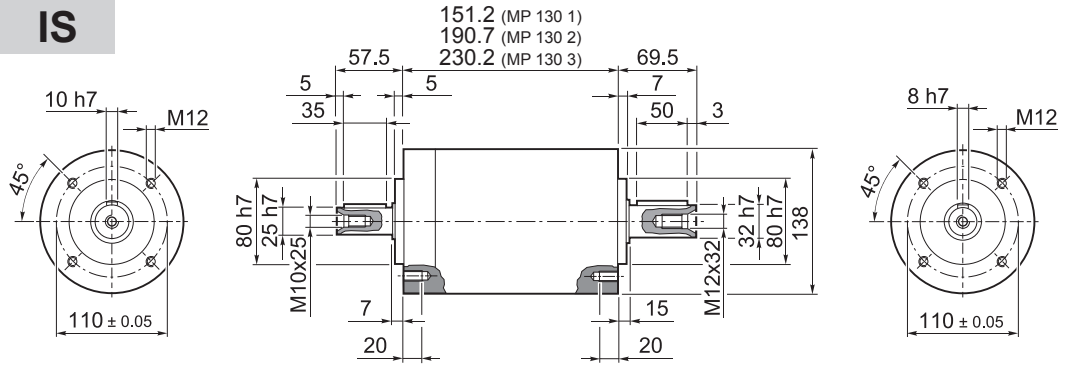


D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
11 12 12.7	43	90	98	M6x15	M6	31.5	19.5	7.6	12	12.5
14 15 15.875 16	48	90	98	M6x15	M6	31.5	19.5	7.6	12	14.5
19	51	90	98	M6x15	M6	31.5	19.5	7.6	12	16.5
22 24	56.5	90	98	M6x15	M6	35	23	7.6	12	19
28	67	90	98	M6x15	M8	35	23	7.6	14	22.5
32	71	90	98	M6x15	M8	37	25	7.6	16	24.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	η %	J_G [kgcm^2] D 11 ... 12.7	14 ... 19	22 - 24	28 - 32
MP MB 105 2_3	100	180	360	2500	3500	15'	10'	22.0	94	1.70	1.78	2.22	2.59
MP MB 105 2_4	140	210	450	2800	4500	15'	10'	22.0	94	0.99	1.06	1.51	1.87
MP MB 105 2_5	140	210	450	3000	4500	15'	10'	22.0	94	0.72	0.79	1.23	1.60
MP MB 105 2_6	140	210	450	3000	4500	15'	10'	22.0	94	0.36	0.43	0.88	1.24
MP MB 105 2_7	140	210	450	3500	5000	15'	10'	22.0	94	0.47	0.55	0.99	1.35
MP MB 105 2_10	100	180	360	3500	5000	15'	10'	22.0	94	0.33	0.41	0.85	1.21
MP MB 105 3_9	100	180	360	2500	3500	15'	10'	20.5	91	1.58	1.63	2.07	2.44
MP MB 105 3_12	170	250	600	2500	3500	15'	10'	20.5	91	1.52	1.59	2.03	2.40
MP MB 105 3_15	170	250	600	2500	3500	15'	10'	20.5	91	1.47	1.55	1.99	2.36
MP MB 105 3_16	170	250	600	2800	4500	15'	10'	20.5	91	0.87	0.95	1.39	1.76
MP MB 105 3_20	170	250	600	3000	4500	15'	10'	20.5	91	0.86	0.93	1.37	1.74
MP MB 105 3_25	170	250	600	3000	4500	15'	10'	20.5	91	0.63	0.71	1.15	1.51
MP MB 105 3_28	170	250	600	3500	5000	15'	10'	20.5	91	0.43	0.51	0.95	1.32
MP MB 105 3_30	100	180	360	3500	5000	15'	10'	20.5	91	0.32	0.40	0.84	1.20
MP MB 105 3_35	170	250	600	3500	5000	15'	10'	20.5	91	0.43	0.50	0.95	1.31
MP MB 105 3_36	140	210	450	3000	4500	15'	10'	20.5	91	0.32	0.39	0.84	1.20
MP MB 105 3_40	170	250	600	3500	5000	15'	10'	20.5	91	0.31	0.39	0.83	1.20
MP MB 105 3_50	170	250	600	3500	5000	15'	10'	20.5	91	0.31	0.39	0.83	1.19
MP MB 105 3_70	170	250	600	3500	5000	15'	10'	20.5	91	0.31	0.38	0.83	1.19
MP MB 105 3_100	100	180	360	3500	5000	15'	10'	20.5	91	0.31	0.38	0.83	1.19
MP MB 105 4_48	170	250	600	2800	4500	17'	12'	17.5	89	0.91	0.98	1.42	1.79
MP MB 105 4_64	170	250	600	2800	4500	17'	12'	17.5	89	0.87	0.94	1.38	1.75
MP MB 105 4_75	170	250	600	3000	4500	17'	12'	17.5	89	0.66	0.74	1.18	1.55
MP MB 105 4_80	170	250	600	2800	4500	17'	12'	17.5	89	0.86	0.94	1.38	1.75
MP MB 105 4_84	170	250	600	3500	5000	17'	12'	17.5	89	0.44	0.52	0.96	1.33
MP MB 105 4_90	100	180	360	3500	5000	17'	12'	17.5	89	0.32	0.39	0.84	1.20
MP MB 105 4_120	170	250	600	3500	5000	17'	12'	17.5	89	0.32	0.39	0.84	1.20
MP MB 105 4_125	170	250	600	3000	4500	17'	12'	17.5	89	0.63	0.70	1.15	1.51
MP MB 105 4_140	170	250	600	3500	5000	17'	12'	17.5	89	0.43	0.51	0.95	1.32
MP MB 105 4_150	170	250	600	3500	5000	17'	12'	17.5	89	0.32	0.39	0.84	1.20
MP MB 105 4_160	170	250	600	3500	5000	17'	12'	17.5	89	0.31	0.39	0.83	1.21
MP MB 105 4_175	170	250	600	3500	5000	17'	12'	17.5	89	0.43	0.50	0.95	1.31
MP MB 105 4_200	170	250	600	3500	5000	17'	12'	17.5	89	0.31	0.39	0.83	1.20
MP MB 105 4_210	170	250	600	3500	5000	17'	12'	17.5	89	0.32	0.39	0.84	1.20
MP MB 105 4_216	170	250	600	3000	4500	17'	12'	17.5	89	0.31	0.39	0.83	1.20
MP MB 105 4_250	170	250	600	3500	5000	17'	12'	17.5	89	0.31	0.39	0.83	1.19
MP MB 105 4_280	170	250	600	3500	5000	17'	12'	17.5	89	0.31	0.38	0.83	1.19
MP MB 105 4_350	170	250	600	3500	5000	17'	12'	17.5	89	0.31	0.38	0.83	1.19
MP MB 105 4_400	170	250	600	3500	5000	17'	12'	17.5	89	0.31	0.38	0.83	1.19
MP MB 105 4_500	170	250	600	3500	5000	17'	12'	17.5	89	0.31	0.38	0.83	1.19
MP MB 105 4_700	170	250	600	3500	5000	17'	12'	17.5	89	0.31	0.38	0.83	1.19
MP MB 105 4_1000	100	180	360	3500	5000	17'	12'	17.5	89	0.31	0.38	0.83	1.19

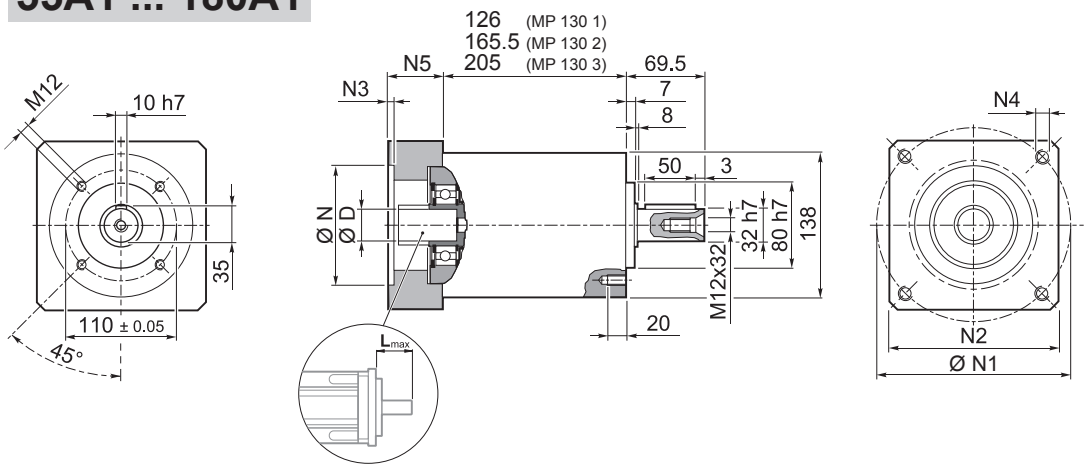
MP 130

IS



	Kg
MP 130 1	12.0
MP 130 2	15.5
MP 130 3	18.5

55A1 ... 180A1



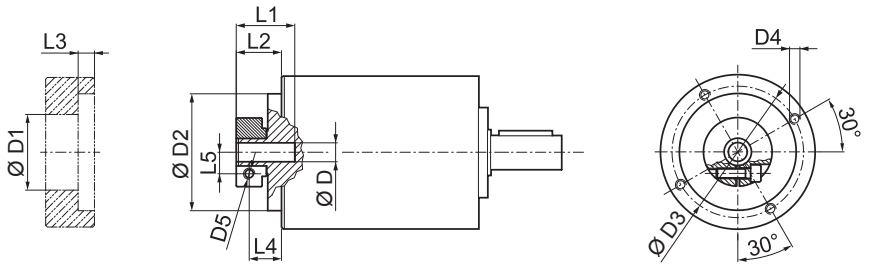
	Kg
MP 130 1	12.0
MP 130 2	15.5
MP 130 3	18.5

	D										N	N1	N2	N3	N4	N5	L_{max}
55A1	14	15.875	16	19	–	–	–	–	–	–	55.5	125.7	130	4	M6x15	39.5	50
80A2	14	15.875	16	19	–	–	–	–	–	–	80	100	130	4	M6x15	39.5	50
95A1	14	15.875	16	19	22	24	–	–	–	–	95	115	130	4	M8x20	39.5	50
110A1	14	15.875	16	19	22	24	–	–	–	–	110	130	130	4	M8x20	39.5	50
110B1	14	15.875	16	19	22	24	–	–	–	–	110	145	130	6.5	M8x20	49.5	60
114A0	14	15.875	16	19	22	24	–	–	–	–	114.3	200	170	5.5	M12x25	39.5	50
114A	14	15.875	16	19	22	24	28	32	35	38	114.3	200	170	5.5	M12x25	69.5	80
130A	14	15.875	16	19	22	24	–	–	–	–	130	165	140	4	M10x20	39.5	50
130A1	14	15.875	16	19	22	24	28	32	–	–	130	165	140	4	M10x20	49.5	60
180A	14	15.875	16	19	22	24	28	32	–	–	180	215	190	5.5	M14x25	49.5	60
180A1	14	15.875	16	19	22	24	28	32	35	38	180	215	190	5.5	M14x25	69.5	80

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

MP 130

FM

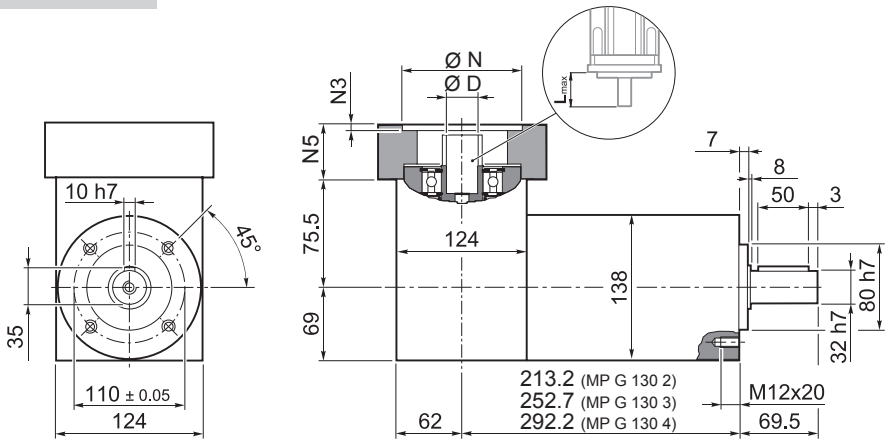


D			D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14	15.875	16	48	113	125.5	M8x15	M6	40	27.5	6	20	14.5
19			51	113	125.5	M8x15	M6	40	27.5	6	20	16.5
22	24		56.5	113	125.5	M8x15	M6	41	28.5	6	19.5	19
28			67	113	125.5	M8x15	M8	41	28.5	6	19.5	22.5
32			71	113	125.5	M8x15	M8	41	28.5	6	19.5	24.5
35			73	113	125.5	M8x15	M8	50	37.5	11.25	26	26
38			77.5	113	125.5	M8x15	M8	50	37.5	11.25	26	28

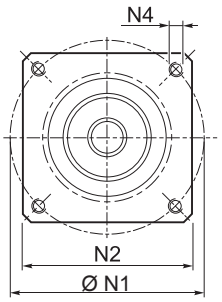
i	M_{n2} [Nm]	M_{a2} [Nm]	M_{p2} [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{1\,max}$ [N]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 14 ... 19	22 - 24	28 - 32	35 - 38
MP 130 1_3	215	400	800	2100	3000	15'	10'	43.0	800	5500	6500	97	5.25	5.46	5.81	7.16
MP 130 1_4	380	600	1100	2400	3500	15'	10'	43.0	800	5500	6500	97	3.06	3.26	3.61	4.97
MP 130 1_5	380	600	1100	2900	3500	15'	10'	43.0	800	5500	6500	97	2.22	2.42	2.77	4.13
MP 130 1_6	380	600	1100	2900	3500	15'	10'	43.0	800	5500	6500	97	1.19	1.40	1.75	3.10
MP 130 1_7	380	600	1100	3200	4000	15'	10'	43.0	800	5500	6500	97	1.47	1.68	2.03	3.38
MP 130 1_10	215	400	800	3200	4000	15'	10'	43.0	800	5500	6500	97	1.04	1.25	1.60	2.95
MP 130 2_9	215	400	800	2100	3000	15'	10'	37.5	800	5500	6500	94	4.82	5.02	5.37	6.72
MP 130 2_12	450	700	1300	2100	3000	15'	10'	37.5	800	5500	6500	94	4.57	4.78	5.13	6.48
MP 130 2_15	450	700	1300	2100	3000	15'	10'	37.5	800	5500	6500	94	4.48	4.69	5.04	6.39
MP 130 2_16	450	700	1300	2400	3500	15'	10'	37.5	800	5500	6500	94	2.67	2.88	3.23	4.58
MP 130 2_20	450	700	1300	2900	3500	15'	10'	37.5	800	5500	6500	94	1.97	2.18	2.53	3.88
MP 130 2_25	450	700	1300	2900	3500	15'	10'	37.5	800	5500	6500	94	1.94	2.15	2.50	3.85
MP 130 2_28	450	700	1300	3200	4000	15'	10'	37.5	800	5500	6500	94	1.34	1.55	1.90	3.25
MP 130 2_30	215	400	800	3200	4000	15'	10'	37.5	800	5500	6500	94	1.00	1.21	1.56	2.91
MP 130 2_35	450	700	1300	3200	4000	15'	10'	37.5	800	5500	6500	94	1.33	1.53	1.88	3.24
MP 130 2_36	380	600	1100	2900	3500	15'	10'	37.5	800	5500	6500	94	1.05	1.26	1.61	2.96
MP 130 2_40	450	700	1300	3200	4000	15'	10'	37.5	800	5500	6500	94	0.98	1.19	1.54	2.89
MP 130 2_50	450	700	1300	3200	4000	15'	10'	37.5	800	5500	6500	94	0.97	1.18	1.53	2.88
MP 130 2_70	450	700	1300	3200	4000	15'	10'	37.5	800	5500	6500	94	0.96	1.17	1.52	2.87
MP 130 2_100	215	400	800	3200	4000	15'	10'	37.5	800	5500	6500	94	0.96	1.17	1.52	2.87
MP 130 3_48	450	700	1300	2400	3500	17'	12'	29.5	800	5500	6500	91	2.77	2.98	3.33	4.68
MP 130 3_64	450	700	1300	2400	3500	17'	12'	29.5	800	5500	6500	91	2.65	2.86	3.21	4.56
MP 130 3_75	450	700	1300	2900	3500	17'	12'	29.5	800	5500	6500	91	2.03	2.24	2.59	3.94
MP 130 3_80	450	700	1300	2400	3500	17'	12'	29.5	800	5500	6500	91	2.65	2.85	3.20	4.56
MP 130 3_84	450	700	1300	3200	4000	17'	12'	29.5	800	5500	6500	91	1.37	1.58	1.93	3.28
MP 130 3_90	215	400	800	3200	4000	17'	12'	29.5	800	5500	6500	91	1.00	1.20	1.55	2.91
MP 130 3_120	450	700	1300	3200	4000	17'	12'	29.5	800	5500	6500	91	0.99	1.20	1.55	2.90
MP 130 3_125	450	700	1300	2900	3500	17'	12'	29.5	800	5500	6500	91	1.93	2.13	2.48	3.84
MP 130 3_140	450	700	1300	3200	4000	17'	12'	29.5	800	5500	6500	91	1.34	1.54	1.89	3.25
MP 130 3_150	450	700	1300	3200	4000	17'	12'	29.5	800	5500	6500	91	0.99	1.20	1.55	2.90
MP 130 3_160	450	700	1300	3200	4000	17'	12'	29.5	800	5500	6500	91	0.98	1.18	1.53	2.89
MP 130 3_175	450	700	1300	3200	4000	17'	12'	29.5	800	5500	6500	91	1.32	1.53	1.88	3.23
MP 130 3_200	450	700	1300	3200	4000	17'	12'	29.5	800	5500	6500	91	0.97	1.18	1.53	2.88
MP 130 3_210	450	700	1300	3200	4000	17'	12'	29.5	800	5500	6500	91	0.99	1.20	1.55	2.90
MP 130 3_216	450	700	1300	2900	3500	17'	12'	29.5	800	5500	6500	91	1.05	1.26	1.61	2.96
MP 130 3_250	450	700	1300	3200	4000	17'	12'	29.5	800	5500	6500	91	0.97	1.18	1.53	2.88
MP 130 3_280	450	700	1300	3200	4000	17'	12'	29.5	800	5500	6500	91	0.96	1.17	1.52	2.87
MP 130 3_350	450	700	1300	3200	4000	17'	12'	29.5	800	5500	6500	91	0.96	1.17	1.52	2.87
MP 130 3_400	450	700	1300	3200	4000	17'	12'	29.5	800	5500	6500	91	0.96	1.17	1.52	2.87
MP 130 3_500	450	700	1300	3200	4000	17'	12'	29.5	800	5500	6500	91	0.96	1.17	1.52	2.87
MP 130 3_700	450	700	1300	3200	4000	17'	12'	29.5	800	5500	6500	91	0.96	1.17	1.52	2.87
MP 130 3_1000	215	400	800	3200	4000	17'	12'	29.5	800	5500	6500	91	0.96	1.17	1.52	2.87

MP G 130

55A1 ... 180A1

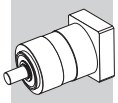


	Kg
MP G 130 2	16.0
MP G 130 3	19.5
MP G 130 4	22.5



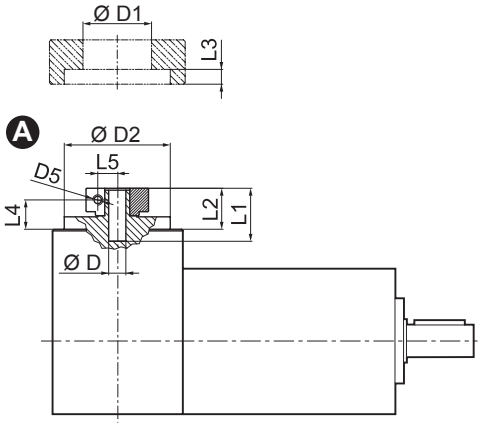
	D										N	N1	N2	N3	N4	N5	L_{max}
55A1	14	15.875	16	19	–	–	–	–	–	–	55.5	125.7	130	4	M6x15	39.5	50
80A2	14	15.875	16	19	–	–	–	–	–	–	80	100	130	4	M6x15	39.5	50
95A1	14	15.875	16	19	22	24	–	–	–	–	95	115	130	4	M8x20	39.5	50
110A1	14	15.875	16	19	22	24	–	–	–	–	110	130	130	4	M8x20	39.5	50
110B1	14	15.875	16	19	22	24	–	–	–	–	110	145	130	6.5	M8x20	49.5	60
114A0	14	15.875	16	19	22	24	–	–	–	–	114.3	200	170	5.5	M12x25	39.5	50
114A	14	15.875	16	19	22	24	28	32	35	38	114.3	200	170	5.5	M12x25	69.5	80
130A	14	15.875	16	19	22	24	–	–	–	–	130	165	140	4	M10x20	39.5	50
130A1	14	15.875	16	19	22	24	28	32	–	–	130	165	140	4	M10x20	49.5	60
180A	14	15.875	16	19	22	24	28	32	–	–	180	215	190	5.5	M14x25	49.5	60
180A1	14	15.875	16	19	22	24	28	32	35	38	180	215	190	5.5	M14x25	69.5	80

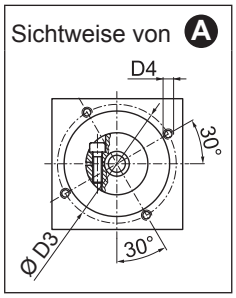
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



MP G 130

FM



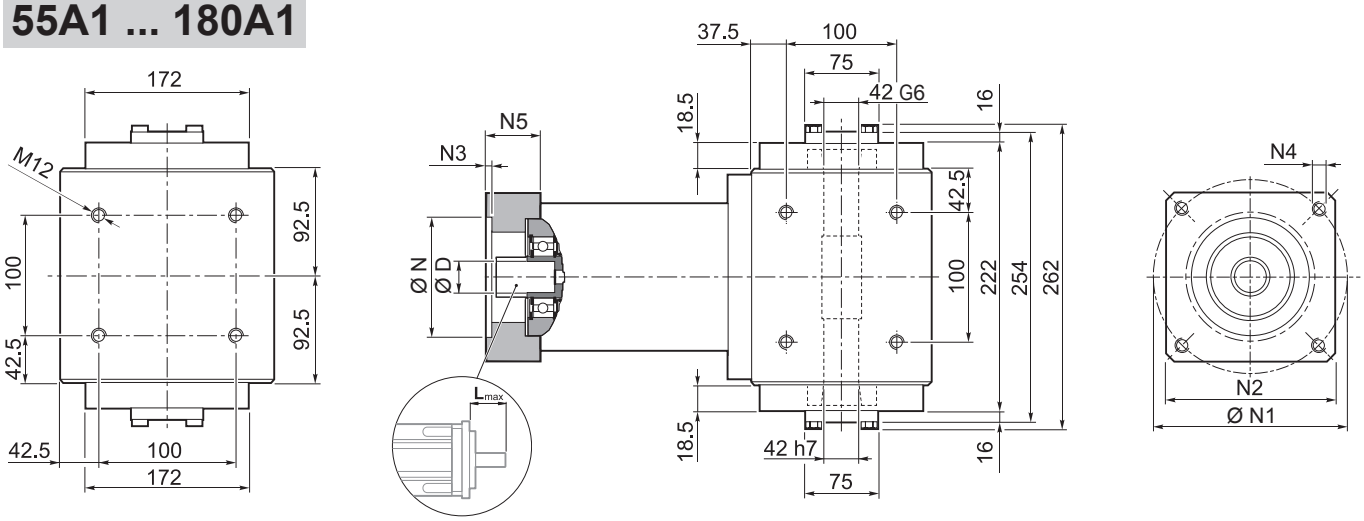


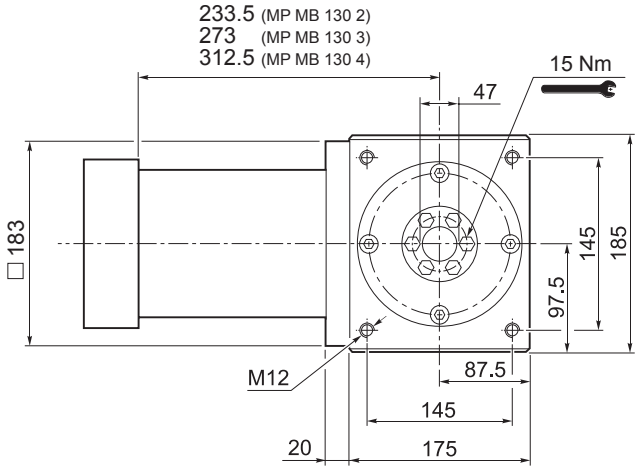
D			D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14	15.875	16	48	113	125.5	M8x15	M6	40	27.5	6	20	14.5
19			51	113	125.5	M8x15	M6	40	27.5	6	20	16.5
22	24		56.5	113	125.5	M8x15	M6	41	28.5	6	19.5	19
28			67	113	125.5	M8x15	M8	41	28.5	6	19.5	22.5
32			71	113	125.5	M8x15	M8	41	28.5	6	19.5	24.5
35			73	113	125.5	M8x15	M8	50	37.5	11.25	26	26
38			77.5	113	125.5	M8x15	M8	50	37.5	11.25	26	28

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 14 ... 19	22 - 24	28 - 32	35 - 38
MP G 130 2_3	215	400	800	2100	3000	15'	10'	43.0	5500	6500	94	7.09	7.28	7.66	10.37
MP G 130 2_4	380	600	1100	2400	3500	15'	10'	43.0	5500	6500	94	4.90	5.08	5.46	8.18
MP G 130 2_5	380	600	1100	2900	3500	15'	10'	43.0	5500	6500	94	4.81	4.99	5.38	8.10
MP G 130 2_6	380	600	1100	2900	3500	15'	10'	43.0	5500	6500	94	4.45	4.64	5.03	7.73
MP G 130 2_7	380	600	1100	3200	4000	15'	10'	43.0	5500	6500	94	4.73	4.92	5.31	8.01
MP G 130 2_10	215	400	800	3200	4000	15'	10'	43.0	5500	6500	94	4.68	4.88	5.26	7.97
MP G 130 3_9	215	400	800	2100	3000	15'	10'	37.5	5500	6500	91	6.66	6.84	7.22	9.93
MP G 130 3_12	450	700	1300	2100	3000	15'	10'	37.5	5500	6500	91	6.25	6.45	6.84	9.54
MP G 130 3_15	450	700	1300	2100	3000	15'	10'	37.5	5500	6500	91	6.25	6.44	6.83	9.53
MP G 130 3_16	450	700	1300	2400	3500	15'	10'	37.5	5500	6500	91	4.51	4.70	5.08	7.79
MP G 130 3_20	450	700	1300	2900	3500	15'	10'	37.5	5500	6500	91	4.56	5.36	5.75	8.45
MP G 130 3_25	450	700	1300	2900	3500	15'	10'	37.5	5500	6500	91	5.13	4.72	5.11	7.82
MP G 130 3_28	450	700	1300	3200	4000	15'	10'	37.5	5500	6500	91	4.60	4.79	5.18	7.88
MP G 130 3_30	215	400	800	3200	4000	15'	10'	37.5	5500	6500	91	4.64	4.84	5.22	7.93
MP G 130 3_35	450	700	1300	3200	4000	15'	10'	37.5	5500	6500	91	4.92	5.10	5.49	8.20
MP G 130 3_36	380	600	1100	2900	3500	15'	10'	37.5	5500	6500	91	4.31	4.50	4.89	7.59
MP G 130 3_40	450	700	1300	3200	4000	15'	10'	37.5	5500	6500	91	4.77	4.96	5.35	8.05
MP G 130 3_50	450	700	1300	3200	4000	15'	10'	37.5	5500	6500	91	4.76	4.96	5.34	8.05
MP G 130 3_70	450	700	1300	3200	4000	15'	10'	37.5	5500	6500	91	4.60	4.80	5.18	7.89
MP G 130 3_100	215	400	800	3200	4000	15'	10'	37.5	5500	6500	91	4.60	4.80	5.18	7.89
MP G 130 4_48	450	700	1300	2400	3500	17'	12'	29.5	5500	6500	89	4.61	4.81	5.18	7.89
MP G 130 4_64	450	700	1300	2400	3500	17'	12'	29.5	5500	6500	89	4.49	4.68	5.06	7.77
MP G 130 4_75	450	700	1300	2900	3500	17'	12'	29.5	5500	6500	89	4.62	4.81	5.20	7.91
MP G 130 4_80	450	700	1300	2400	3500	17'	12'	29.5	5500	6500	89	4.49	4.67	5.05	7.77
MP G 130 4_84	450	700	1300	3200	4000	17'	12'	29.5	5500	6500	89	4.63	4.82	5.21	7.91
MP G 130 4_90	215	400	800	3200	4000	17'	12'	29.5	5500	6500	89	4.64	4.83	5.21	7.93
MP G 130 4_120	450	700	1300	3200	4000	17'	12'	29.5	5500	6500	89	4.63	4.83	5.21	7.92
MP G 130 4_125	450	700	1300	2900	3500	17'	12'	29.5	5500	6500	89	4.52	4.70	5.09	7.81
MP G 130 4_140	450	700	1300	3200	4000	17'	12'	29.5	5500	6500	89	4.60	4.78	5.17	7.88
MP G 130 4_150	450	700	1300	3200	4000	17'	12'	29.5	5500	6500	89	4.63	4.83	5.21	7.92
MP G 130 4_160	450	700	1300	3200	4000	17'	12'	29.5	5500	6500	89	4.62	4.81	5.19	7.91
MP G 130 4_175	450	700	1300	3200	4000	17'	12'	29.5	5500	6500	89	4.58	4.77	5.16	7.86
MP G 130 4_200	450	700	1300	3200	4000	17'	12'	29.5	5500	6500	89	4.61	4.81	5.19	7.90
MP G 130 4_210	450	700	1300	3200	4000	17'	12'	29.5	5500	6500	89	4.63	4.83	5.21	7.92
MP G 130 4_216	450	700	1300	2900	3500	17'	12'	29.5	5500	6500	89	4.31	4.50	4.89	7.59
MP G 130 4_250	450	700	1300	3200	4000	17'	12'	29.5	5500	6500	89	4.61	4.81	5.19	7.90
MP G 130 4_280	450	700	1300	3200	4000	17'	12'	29.5	5500	6500	89	4.60	4.80	5.18	7.89
MP G 130 4_350	450	700	1300	3200	4000	17'	12'	29.5	5500	6500	89	4.60	4.80	5.18	7.89
MP G 130 4_400	450	700	1300	3200	4000	17'	12'	29.5	5500	6500	89	4.60	4.80	5.18	7.89
MP G 130 4_500	450	700	1300	3200	4000	17'	12'	29.5	5500	6500	89	4.60	4.80	5.18	7.89
MP G 130 4_700	450	700	1300	3200	4000	17'	12'	29.5	5500	6500	89	4.60	4.80	5.18	7.89
MP G 130 4_1000	215	400	800	3200	4000	17'	12'	29.5	5500	6500	89	4.60	4.80	5.18	7.89

MP MB 130

55A1 ... 180A1





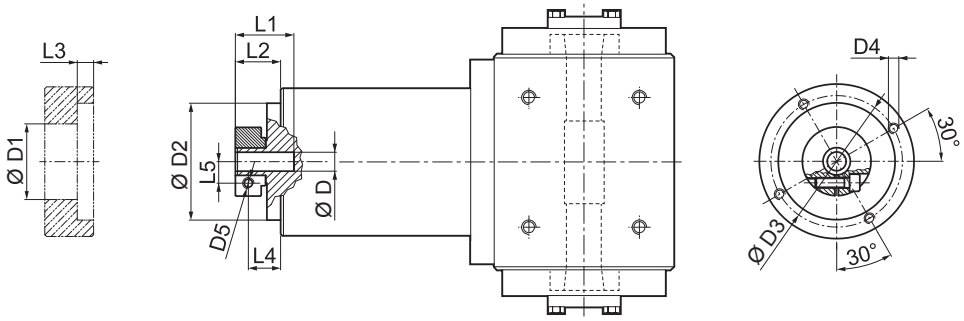
	Kg
MP MB 130 2	54
MP MB 130 3	58
MP MB 130 4	61

	D										N	N1	N2	N3	N4	N5	L_{max}
55A1	14	15.875	16	19	–	–	–	–	–	–	55.5	125.7	130	4	M6x15	39.5	50
80A2	14	15.875	16	19	–	–	–	–	–	–	80	100	130	4	M6x15	39.5	50
95A1	14	15.875	16	19	22	24	–	–	–	–	95	115	130	4	M8x20	39.5	50
110A1	14	15.875	16	19	22	24	–	–	–	–	110	130	130	4	M8x20	39.5	50
110B1	14	15.875	16	19	22	24	–	–	–	–	110	145	130	6.5	M8x20	49.5	60
114A0	14	15.875	16	19	22	24	–	–	–	–	114.3	200	170	5.5	M12x25	39.5	50
114A	14	15.875	16	19	22	24	28	32	35	38	114.3	200	170	5.5	M12x25	69.5	80
130A	14	15.875	16	19	22	24	–	–	–	–	130	165	140	4	M10x20	39.5	50
130A1	14	15.875	16	19	22	24	28	32	–	–	130	165	140	4	M10x20	49.5	60
180A	14	15.875	16	19	22	24	28	32	–	–	180	215	190	5.5	M14x25	49.5	60
180A1	14	15.875	16	19	22	24	28	32	35	38	180	215	190	5.5	M14x25	69.5	80

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

MP MB 130

FM

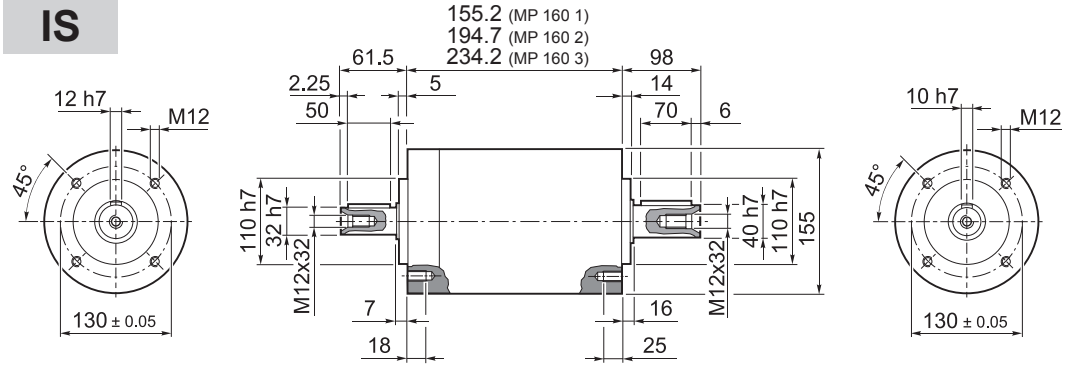


D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14 15.875 16	48	113	125.5	M8x15	M6	40	27.5	6	20	14.5
19	51	113	125.5	M8x15	M6	40	27.5	6	20	16.5
22 24	56.5	113	125.5	M8x15	M6	41	28.5	6	19.5	19
28	67	113	125.5	M8x15	M8	41	28.5	6	19.5	22.5
32	71	113	125.5	M8x15	M8	41	28.5	6	19.5	24.5
35	73	113	125.5	M8x15	M8	50	37.5	11.25	26	26
38	77.5	113	125.5	M8x15	M8	50	37.5	11.25	26	28

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	η %	J_G [kgcm^2] D 14 ... 19	22 - 24	28 - 32	35 - 38
MP MB 130 2_3	215	400	800	2100	3000	15'	10'	43.0	94	5.25	5.46	5.81	7.16
MP MB 130 2_4	380	600	1100	2400	3500	15'	10'	43.0	94	3.06	3.26	3.61	4.97
MP MB 130 2_5	380	600	1100	2900	3500	15'	10'	43.0	94	2.22	2.42	2.77	4.13
MP MB 130 2_6	380	600	1100	2900	3500	15'	10'	43.0	94	1.19	1.40	1.75	3.10
MP MB 130 2_7	380	600	1100	3200	4000	15'	10'	43.0	94	1.47	1.68	2.03	3.38
MP MB 130 2_10	215	400	800	3200	4000	15'	10'	43.0	94	1.04	1.25	1.60	2.95
MP MB 130 3_9	215	400	800	2100	3000	15'	10'	37.5	91	4.82	5.02	5.37	6.72
MP MB 130 3_12	450	700	1300	2100	3000	15'	10'	37.5	91	4.57	4.78	5.13	6.48
MP MB 130 3_15	450	700	1300	2100	3000	15'	10'	37.5	91	4.48	4.69	5.04	6.39
MP MB 130 3_16	450	700	1300	2400	3500	15'	10'	37.5	91	2.67	2.88	3.23	4.58
MP MB 130 3_20	450	700	1300	2900	3500	15'	10'	37.5	91	1.97	2.18	2.53	3.88
MP MB 130 3_25	450	700	1300	2900	3500	15'	10'	37.5	91	1.94	2.15	2.50	3.85
MP MB 130 3_28	450	700	1300	3200	4000	15'	10'	37.5	91	1.34	1.55	1.90	3.25
MP MB 130 3_30	215	400	800	3200	4000	15'	10'	37.5	91	1.00	1.21	1.56	2.91
MP MB 130 3_35	450	700	1300	3200	4000	15'	10'	37.5	91	1.33	1.53	1.88	3.24
MP MB 130 3_36	380	600	1100	2900	3500	15'	10'	37.5	91	1.05	1.26	1.61	2.96
MP MB 130 3_40	450	700	1300	3200	4000	15'	10'	37.5	91	0.98	1.19	1.54	2.89
MP MB 130 3_50	450	700	1300	3200	4000	15'	10'	37.5	91	0.97	1.18	1.53	2.88
MP MB 130 3_70	450	700	1300	3200	4000	15'	10'	37.5	91	0.96	1.17	1.52	2.87
MP MB 130 3_100	215	400	800	3200	4000	15'	10'	37.5	91	0.96	1.17	1.52	2.87
MP MB 130 4_48	450	700	1300	2400	3500	17'	12'	29.5	89	2.77	2.98	3.33	4.68
MP MB 130 4_64	450	700	1300	2400	3500	17'	12'	29.5	89	2.65	2.86	3.21	4.56
MP MB 130 4_75	450	700	1300	2900	3500	17'	12'	29.5	89	2.03	2.24	2.59	3.94
MP MB 130 4_80	450	700	1300	2400	3500	17'	12'	29.5	89	2.65	2.85	3.20	4.56
MP MB 130 4_84	450	700	1300	3200	4000	17'	12'	29.5	89	1.37	1.58	1.93	3.28
MP MB 130 4_90	215	400	800	3200	4000	17'	12'	29.5	89	1.00	1.20	1.55	2.91
MP MB 130 4_120	450	700	1300	3200	4000	17'	12'	29.5	89	0.99	1.20	1.55	2.90
MP MB 130 4_125	450	700	1300	2900	3500	17'	12'	29.5	89	1.93	2.13	2.48	3.84
MP MB 130 4_140	450	700	1300	3200	4000	17'	12'	29.5	89	1.34	1.54	1.89	3.25
MP MB 130 4_150	450	700	1300	3200	4000	17'	12'	29.5	89	0.99	1.20	1.55	2.90
MP MB 130 4_160	450	700	1300	3200	4000	17'	12'	29.5	89	0.98	1.18	1.53	2.89
MP MB 130 4_175	450	700	1300	3200	4000	17'	12'	29.5	89	1.32	1.53	1.88	3.23
MP MB 130 4_200	450	700	1300	3200	4000	17'	12'	29.5	89	0.97	1.18	1.53	2.88
MP MB 130 4_210	450	700	1300	3200	4000	17'	12'	29.5	89	0.99	1.20	1.55	2.90
MP MB 130 4_216	450	700	1300	2900	3500	17'	12'	29.5	89	1.05	1.26	1.61	2.96
MP MB 130 4_250	450	700	1300	3200	4000	17'	12'	29.5	89	0.97	1.18	1.53	2.88
MP MB 130 4_280	450	700	1300	3200	4000	17'	12'	29.5	89	0.96	1.17	1.52	2.87
MP MB 130 4_350	450	700	1300	3200	4000	17'	12'	29.5	89	0.96	1.17	1.52	2.87
MP MB 130 4_400	450	700	1300	3200	4000	17'	12'	29.5	89	0.96	1.17	1.52	2.87
MP MB 130 4_500	450	700	1300	3200	4000	17'	12'	29.5	89	0.96	1.17	1.52	2.87
MP MB 130 4_700	450	700	1300	3200	4000	17'	12'	29.5	89	0.96	1.17	1.52	2.87
MP MB 130 4_1000	215	400	800	3200	4000	17'	12'	29.5	89	0.96	1.17	1.52	2.87

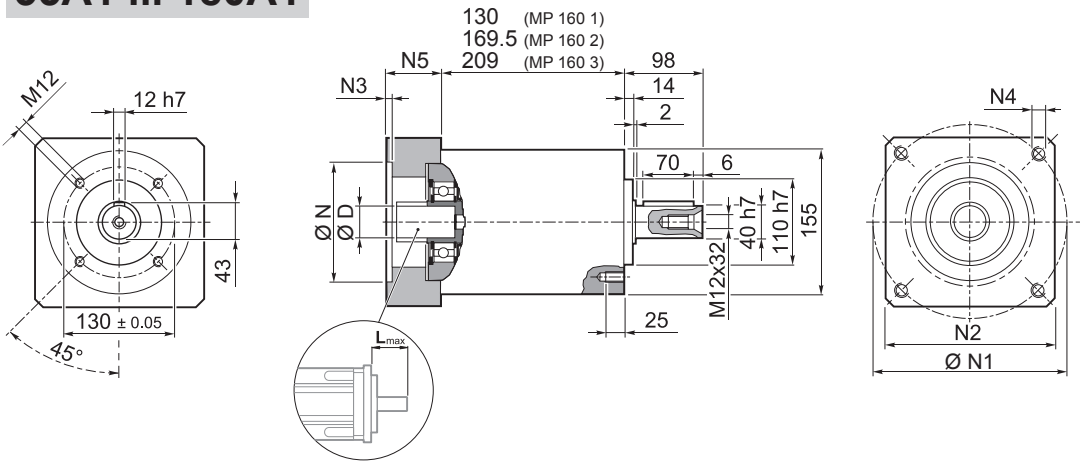
MP 160

IS



	Kg
MP 160 1	17.0
MP 160 2	21
MP 160 3	28

55A1 ... 180A1



	Kg
MP 160 1	17.0
MP 160 2	21
MP 160 3	28

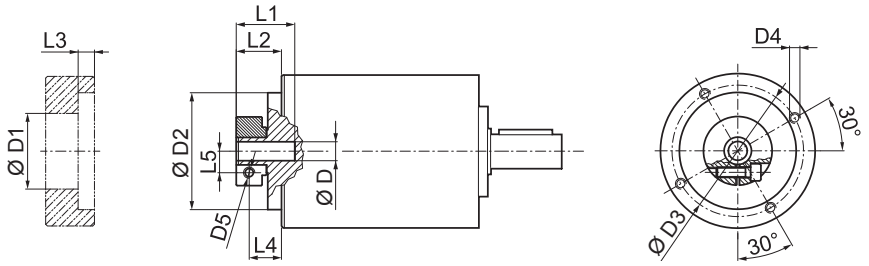
	D										N	N1	N2	N3	N4	N5	L_{max}
55A1	14	15.875	16	19	–	–	–	–	–	–	55.5	125.7	140	5	M6x15	39.5	50
80A2	14	15.875	16	19	–	–	–	–	–	–	80	100	140	5	M6x15	39.5	50
95A1	14	15.875	16	19	22	24	–	–	–	–	95	115	140	5	M8x20	39.5	50
110A1	14	15.875	16	19	22	24	–	–	–	–	110	130	140	5	M8x20	39.5	50
110B1	14	15.875	16	19	22	24	–	–	–	–	110	145	140	6.5	M8x20	49.5	60
114A	14	15.875	16	19	22	24	28	32	35	38	114.3	200	170	6.5	M12x25	69.5	80
130A	14	15.875	16	19	22	24	–	–	–	–	130	165	140	5	M10x20	39.5	50
130A1	14	15.875	16	19	22	24	28	32	–	–	130	165	140	5	M10x20	49.5	60
180A	14	15.875	16	19	22	24	28	32	–	–	180	215	190	6.5	M14x25	49.5	60
180A1	14	15.875	16	19	22	24	28	32	35	38	180	215	190	6.5	M14x25	69.5	80

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

Bonfiglioli Tecnoingranaggi

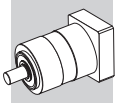
MP 160

FM



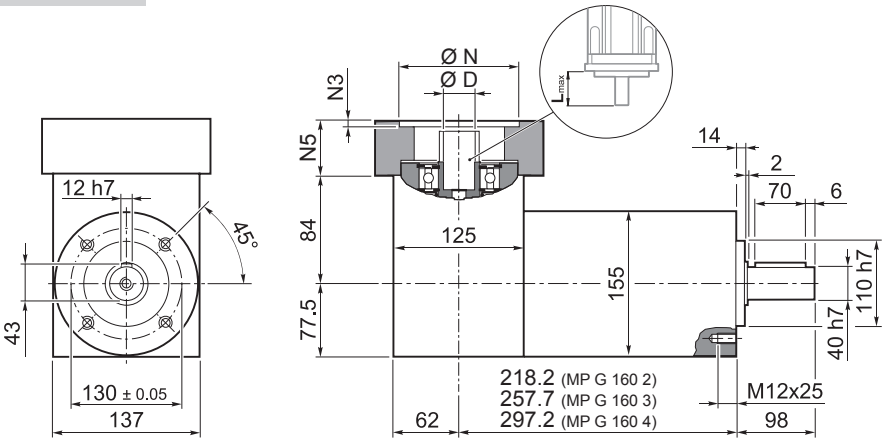
D			D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14	15.875	16	48	130	142.5	M8x16	M6	40	27.5	6	20	14.5
19			51	130	142.5	M8x16	M6	40	27.5	6	20	16.5
22	24		56.5	130	142.5	M8x16	M6	41	28.5	6	19.5	19
28			67	130	142.5	M8x16	M8	41	28.5	6	19.5	22.5
32			71	130	142.5	M8x16	M8	41	28.5	6	19.5	24.5
35			73	130	142.5	M8x16	M8	50	37.5	11.25	26	26
38			77.5	130	142.5	M8x16	M8	50	37.5	11.25	26	28

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{1\,max}$ [N]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 14 ... 19	22 - 24	28 - 32	35 - 38
MP 160 1_3	350	660	1200	1900	3000	15'	10'	90	1200	6500	7500	97	8.39	8.60	8.95	10.30
MP 160 1_4	500	750	1400	2200	3500	15'	10'	90	1200	6500	7500	97	4.68	4.89	5.24	6.59
MP 160 1_5	500	750	1400	2500	3500	15'	10'	90	1200	6500	7500	97	3.28	3.49	3.84	5.19
MP 160 1_6	500	750	1400	2500	3500	15'	10'	90	1200	6500	7500	97	1.32	1.53	1.88	3.23
MP 160 1_7	500	750	1400	3000	4000	15'	10'	90	1200	6500	7500	97	2.03	2.24	2.59	3.94
MP 160 1_10	350	660	1200	3000	4000	15'	10'	90	1200	6500	7500	97	1.33	1.53	1.88	3.24
MP 160 2_9	350	660	1200	1900	3000	15'	10'	83	1200	6500	7500	94	7.51	7.72	8.07	9.42
MP 160 2_12	700	950	1800	1900	3000	15'	10'	83	1200	6500	7500	94	7.10	7.30	7.65	9.01
MP 160 2_15	700	950	1800	1900	3000	15'	10'	83	1200	6500	7500	94	6.94	7.15	7.50	8.85
MP 160 2_16	700	950	1800	2200	3500	15'	10'	83	1200	6500	7500	94	3.95	4.16	4.51	5.86
MP 160 2_20	700	950	1800	2500	3500	15'	10'	83	1200	6500	7500	94	2.82	3.02	3.37	4.73
MP 160 2_25	700	950	1800	2500	3500	15'	10'	83	1200	6500	7500	94	2.76	2.97	3.32	4.67
MP 160 2_28	700	950	1800	3000	4000	15'	10'	83	1200	6500	7500	94	1.79	2.00	2.35	3.70
MP 160 2_30	350	660	1200	3000	4000	15'	10'	83	1200	6500	7500	94	1.25	1.46	1.81	3.16
MP 160 2_35	700	950	1800	3000	4000	15'	10'	83	1200	6500	7500	94	1.77	1.97	2.32	3.68
MP 160 2_36	500	750	1400	2500	3500	15'	10'	83	1200	6500	7500	94	1.06	1.27	1.62	2.97
MP 160 2_40	700	950	1800	3000	4000	15'	10'	83	1200	6500	7500	94	1.21	1.42	1.77	3.12
MP 160 2_50	700	950	1800	3000	4000	15'	10'	83	1200	6500	7500	94	1.20	1.40	1.75	3.11
MP 160 2_70	700	950	1800	3000	4000	15'	10'	83	1200	6500	7500	94	1.18	1.39	1.74	3.09
MP 160 2_100	350	660	1200	3000	4000	15'	10'	83	1200	6500	7500	94	1.18	1.38	1.73	3.09
MP 160 3_48	700	950	1800	2200	3500	17'	12'	60	1200	6500	7500	91	4.10	4.31	4.66	6.01
MP 160 3_64	700	950	1800	2200	3500	17'	12'	60	1200	6500	7500	91	3.90	4.11	4.46	5.81
MP 160 3_75	700	950	1800	2500	3500	17'	12'	60	1200	6500	7500	91	2.91	3.11	3.46	4.82
MP 160 3_80	700	950	1800	2200	3500	17'	12'	60	1200	6500	7500	91	3.90	4.11	4.46	5.81
MP 160 3_84	700	950	1800	3000	4000	17'	12'	60	1200	6500	7500	91	1.84	2.05	2.40	3.75
MP 160 3_90	350	660	1200	3000	4000	17'	12'	60	1200	6500	7500	91	1.24	1.45	1.80	3.15
MP 160 3_120	700	950	1800	3000	4000	17'	12'	60	1200	6500	7500	91	1.23	1.44	1.79	3.14
MP 160 3_125	700	950	1800	2500	3500	17'	12'	60	1200	6500	7500	91	2.74	2.95	3.30	4.65
MP 160 3_140	700	950	1800	3000	4000	17'	12'	60	1200	6500	7500	91	1.78	1.98	2.33	3.69
MP 160 3_150	700	950	1800	3000	4000	17'	12'	60	1200	6500	7500	91	1.23	1.44	1.79	3.14
MP 160 3_160	700	950	1800	3000	4000	17'	12'	60	1200	6500	7500	91	1.20	1.41	1.76	3.11
MP 160 3_175	700	950	1800	3000	4000	17'	12'	60	1200	6500	7500	91	1.76	1.96	2.31	3.67
MP 160 3_200	700	950	1800	3000	4000	17'	12'	60	1200	6500	7500	91	1.20	1.41	1.76	3.11
MP 160 3_210	700	950	1800	3000	4000	17'	12'	60	1200	6500	7500	91	1.23	1.44	1.79	3.14
MP 160 3_250	700	950	1800	3000	4000	17'	12'	60	1200	6500	7500	91	1.19	1.40	1.75	3.10
MP 160 3_280	700	950	1800	3000	4000	17'	12'	60	1200	6500	7500	91	1.18	1.39	1.74	3.09
MP 160 3_350	700	950	1800	3000	4000	17'	12'	60	1200	6500	7500	91	1.18	1.39	1.74	3.09
MP 160 3_400	700	950	1800	3000	4000	17'	12'	60	1200	6500	7500	91	1.18	1.38	1.73	3.09
MP 160 3_500	700	950	1800	3000	4000	17'	12'	60	1200	6500	7500	91	1.18	1.38	1.73	3.09
MP 160 3_700	700	950	1800	3000	4000	17'	12'	60	1200	6500	7500	91	1.18	1.38	1.73	3.09
MP 160 3_1000	350	660	1200	3000	4000	17'	12'	60	1200	6500	7500	91	1.18	1.38	1.73	3.09

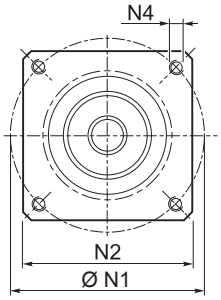


MP G 160

55A1 ... 180A1



	Kg
MP G 160 2	24
MP G 160 3	28
MP G 160 4	34



MP

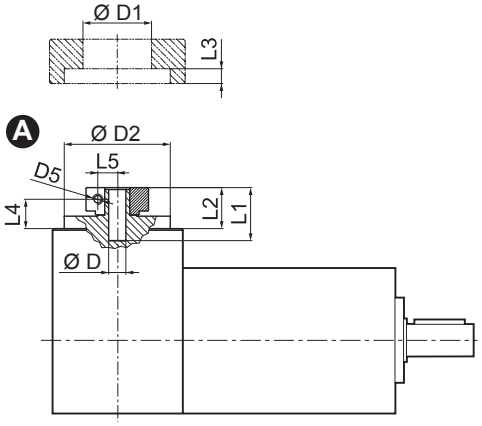
	D										N	N1	N2	N3	N4	N5	L_{max}
55A1	14	15.875	16	19	–	–	–	–	–	–	55.5	125.7	140	5	M6x15	39.5	50
80A2	14	15.875	16	19	–	–	–	–	–	–	80	100	140	5	M6x15	39.5	50
95A1	14	15.875	16	19	22	24	–	–	–	–	95	115	140	5	M8x20	39.5	50
110A1	14	15.875	16	19	22	24	–	–	–	–	110	130	140	5	M8x20	39.5	50
110B1	14	15.875	16	19	22	24	–	–	–	–	110	145	140	6.5	M8x20	49.5	60
114A	14	15.875	16	19	22	24	28	32	35	38	114.3	200	170	6.5	M12x25	69.5	80
130A	14	15.875	16	19	22	24	–	–	–	–	130	165	140	5	M10x20	39.5	50
130A1	14	15.875	16	19	22	24	28	32	–	–	130	165	140	5	M10x20	49.5	60
180A	14	15.875	16	19	22	24	28	32	–	–	180	215	190	6.5	M14x25	49.5	60
180A1	14	15.875	16	19	22	24	28	32	35	38	180	215	190	6.5	M14x25	69.5	80

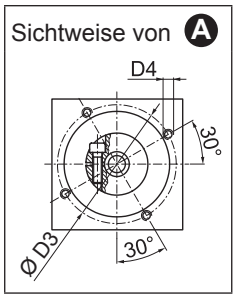
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

Bonfiglioli Tecnoingranaggi

MP G 160

FM



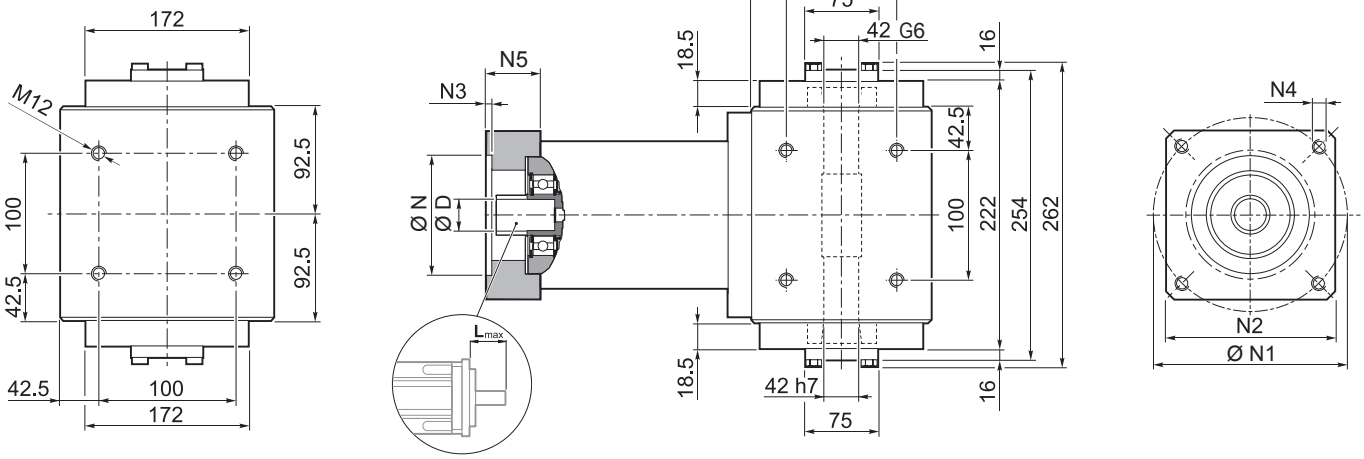


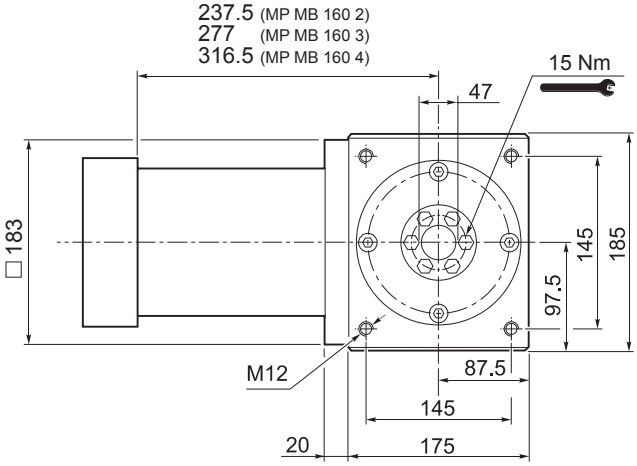
D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14 15.875 16	48	113	125.5	M8x15	M6	40	27.5	6	20	14.5
19	51	113	125.5	M8x15	M6	40	27.5	6	20	16.5
22 24	56.5	113	125.5	M8x15	M6	41	28.5	6	19.5	19
28	67	113	125.5	M8x15	M8	41	28.5	6	19.5	22.5
32	71	113	125.5	M8x15	M8	41	28.5	6	19.5	24.5
35	73	113	125.5	M8x15	M8	50	37.5	11.25	26	26
38	77.5	113	125.5	M8x15	M8	50	37.5	11.25	26	28

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 14 ... 19	22 - 24	28 - 32	35 - 38
MP G 160 2_3	350	660	1200	1900	3000	15'	10'	90	6500	7500	94	10.23	10.42	10.80	13.51
MP G 160 2_4	500	750	1400	2200	3500	15'	10'	90	6500	7500	94	6.52	6.71	7.09	9.80
MP G 160 2_5	500	750	1400	2500	3500	15'	10'	90	6500	7500	94	5.87	6.06	6.45	9.16
MP G 160 2_6	500	750	1400	2500	3500	15'	10'	90	6500	7500	94	4.58	4.77	5.16	7.86
MP G 160 2_7	500	750	1400	3000	4000	15'	10'	90	6500	7500	94	5.29	5.48	5.87	8.57
MP G 160 2_10	350	660	1200	3000	4000	15'	10'	90	6500	7500	94	4.97	5.16	5.54	8.25
MP G 160 3_9	350	660	1200	1900	3000	15'	10'	83	6500	7500	91	9.35	9.54	9.92	12.63
MP G 160 3_12	700	950	1800	1900	3000	15'	10'	83	6500	7500	91	8.78	8.97	9.36	12.07
MP G 160 3_15	700	950	1800	1900	3000	15'	10'	83	6500	7500	91	8.71	8.90	9.29	11.99
MP G 160 3_16	700	950	1800	2200	3500	15'	10'	83	6500	7500	91	5.79	5.98	6.36	9.07
MP G 160 3_20	700	950	1800	2500	3500	15'	10'	83	6500	7500	91	5.41	6.20	6.59	9.30
MP G 160 3_25	700	950	1800	2500	3500	15'	10'	83	6500	7500	91	5.95	5.54	5.93	8.64
MP G 160 3_28	700	950	1800	3000	4000	15'	10'	83	6500	7500	91	5.05	5.24	5.63	8.33
MP G 160 3_30	350	660	1200	3000	4000	15'	10'	83	6500	7500	91	4.89	5.09	5.47	8.18
MP G 160 3_35	700	950	1800	3000	4000	15'	10'	83	6500	7500	91	5.36	5.54	5.93	8.64
MP G 160 3_36	500	750	1400	2500	3500	15'	10'	83	6500	7500	91	4.32	4.51	4.90	7.60
MP G 160 3_40	700	950	1800	3000	4000	15'	10'	83	6500	7500	91	5.00	5.19	5.58	8.28
MP G 160 3_50	700	950	1800	3000	4000	15'	10'	83	6500	7500	91	4.99	5.18	5.56	8.27
MP G 160 3_70	700	950	1800	3000	4000	15'	10'	83	6500	7500	91	4.82	5.02	5.40	8.11
MP G 160 3_100	350	660	1200	3000	4000	15'	10'	83	6500	7500	91	4.82	5.01	5.39	8.10
MP G 160 4_48	700	950	1800	2200	3500	17'	12'	60	6500	7500	89	5.94	6.13	6.53	9.22
MP G 160 4_64	700	950	1800	2200	3500	17'	12'	60	6500	7500	89	5.74	5.93	6.31	9.02
MP G 160 4_75	700	950	1800	2500	3500	17'	12'	60	6500	7500	89	5.50	5.68	6.07	8.79
MP G 160 4_80	700	950	1800	2200	3500	17'	12'	60	6500	7500	89	5.74	5.93	6.31	9.02
MP G 160 4_84	700	950	1800	3000	4000	17'	12'	60	6500	7500	89	5.10	5.29	5.68	8.38
MP G 160 4_90	350	660	1200	3000	4000	17'	12'	60	6500	7500	89	4.88	5.08	5.46	8.17
MP G 160 4_120	700	950	1800	3000	4000	17'	12'	60	6500	7500	89	4.87	5.07	5.45	8.16
MP G 160 4_125	700	950	1800	2500	3500	17'	12'	60	6500	7500	89	5.33	5.52	5.91	8.62
MP G 160 4_140	700	950	1800	3000	4000	17'	12'	60	6500	7500	89	5.04	5.22	5.61	8.32
MP G 160 4_150	700	950	1800	3000	4000	17'	12'	60	6500	7500	89	4.87	5.07	5.45	8.16
MP G 160 4_160	700	950	1800	3000	4000	17'	12'	60	6500	7500	89	4.84	5.04	5.42	8.13
MP G 160 4_175	700	950	1800	3000	4000	17'	12'	60	6500	7500	89	5.02	5.20	5.59	8.30
MP G 160 4_200	700	950	1800	3000	4000	17'	12'	60	6500	7500	89	4.84	5.04	5.42	8.13
MP G 160 4_210	700	950	1800	3000	4000	17'	12'	60	6500	7500	89	4.87	5.07	5.45	8.16
MP G 160 4_250	700	950	1800	3000	4000	17'	12'	60	6500	7500	89	4.83	5.03	5.41	8.12
MP G 160 4_280	700	950	1800	3000	4000	17'	12'	60	6500	7500	89	4.82	5.02	5.40	8.11
MP G 160 4_350	700	950	1800	3000	4000	17'	12'	60	6500	7500	89	4.82	2.05	5.40	8.11
MP G 160 4_400	700	950	1800	3000	4000	17'	12'	60	6500	7500	89	4.82	5.01	5.39	8.11
MP G 160 4_500	700	950	1800	3000	4000	17'	12'	60	6500	7500	89	4.82	5.01	5.39	8.11
MP G 160 4_700	700	950	1800	3000	4000	17'	12'	60	6500	7500	89	4.82	5.01	5.39	8.11
MP G 160 4_1000	350	660	1200	3000	4000	17'	12'	60	6500	7500	89	4.82	5.01	5.39	8.11

MP MB 160

55A1 ... 180A1





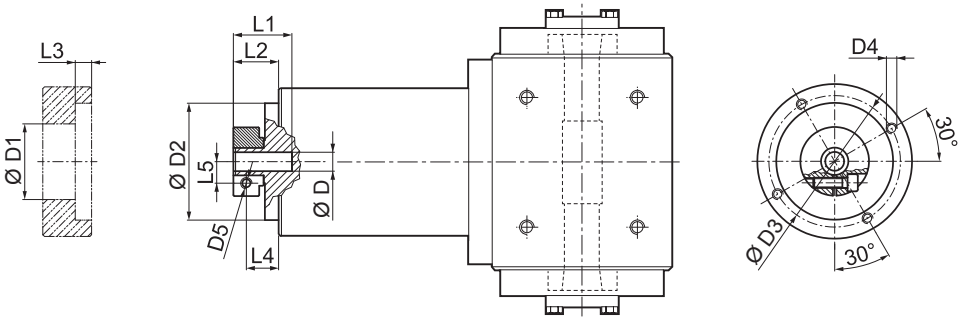
	Kg
MP MB 160 2	59
MP MB 160 3	63.5
MP MB 160 4	70.5

	D										N	N1	N2	N3	N4	N5	L_{max}
55A1	14	15.875	16	19	–	–	–	–	–	–	55.5	125.7	140	5	M6x15	39.5	50
80A2	14	15.875	16	19	–	–	–	–	–	–	80	100	140	5	M6x15	39.5	50
95A1	14	15.875	16	19	22	24	–	–	–	–	95	115	140	5	M8x20	39.5	50
110A1	14	15.875	16	19	22	24	–	–	–	–	110	130	140	5	M8x20	39.5	50
110B1	14	15.875	16	19	22	24	–	–	–	–	110	145	140	6.5	M8x20	49.5	60
114A	14	15.875	16	19	22	24	28	32	35	38	114.3	200	170	6.5	M12x25	69.5	80
130A	14	15.875	16	19	22	24	–	–	–	–	130	165	140	5	M10x20	39.5	50
130A1	14	15.875	16	19	22	24	28	32	–	–	130	165	140	5	M10x20	49.5	60
180A	14	15.875	16	19	22	24	28	32	–	–	180	215	190	6.5	M14x25	49.5	60
180A1	14	15.875	16	19	22	24	28	32	35	38	180	215	190	6.5	M14x25	69.5	80

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

MP MB 160

FM

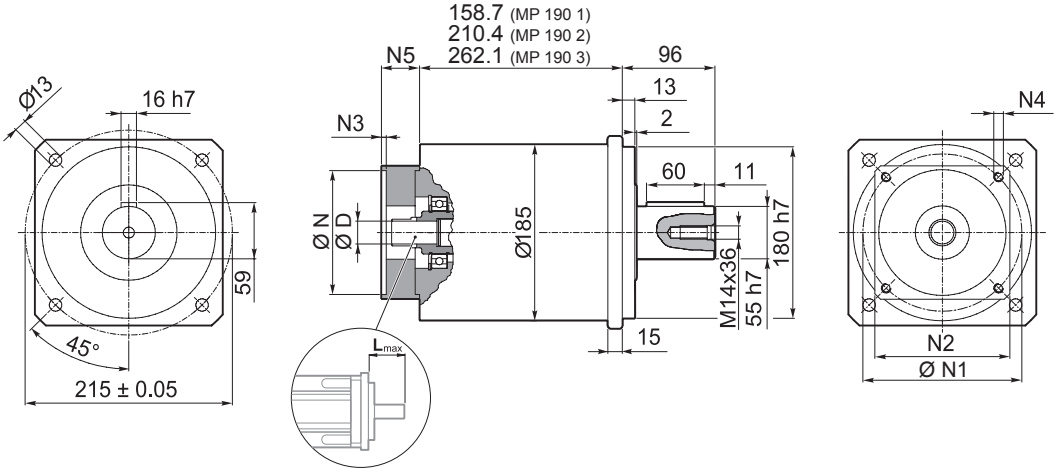


D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14 15.875 16	48	130	142.5	M8x16	M6	40	27.5	6	20	14.5
19	51	130	142.5	M8x16	M6	40	27.5	6	20	16.5
22 24	56.5	130	142.5	M8x16	M6	41	28.5	6	19.5	19
28	67	130	142.5	M8x16	M8	41	28.5	6	19.5	22.5
32	71	130	142.5	M8x16	M8	41	28.5	6	19.5	24.5
35	73	130	142.5	M8x16	M8	50	37.5	11.25	26	26
38	77.5	130	142.5	M8x16	M8	50	37.5	11.25	26	28

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min⁻¹]	$n_{1\,max}$ [min⁻¹]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	η %	J_G [kgcm²] D 14 ... 19	22 - 24	28 - 32	35 - 38
MP MB 160 2_3	350	660	1200	1900	3000	15'	10'	90	94	8.39	8.60	8.95	10.30
MP MB 160 2_4	500	750	1400	2200	3500	15'	10'	90	94	4.68	4.89	5.24	6.59
MP MB 160 2_5	500	750	1400	2500	3500	15'	10'	90	94	3.28	3.49	3.84	5.19
MP MB 160 2_6	500	750	1400	2500	3500	15'	10'	90	94	1.32	1.53	1.88	3.23
MP MB 160 2_7	500	750	1400	3000	4000	15'	10'	90	94	2.03	2.24	2.59	3.94
MP MB 160 2_10	350	660	1200	3000	4000	15'	10'	90	94	1.33	1.53	1.88	3.24
MP MB 160 3_9	350	660	1200	1900	3000	15'	10'	83	91	7.51	7.72	8.07	9.42
MP MB 160 3_12	700	950	1800	1900	3000	15'	10'	83	91	7.10	7.30	7.65	9.01
MP MB 160 3_15	700	950	1800	1900	3000	15'	10'	83	91	6.94	7.15	7.50	8.85
MP MB 160 3_16	700	950	1800	2200	3500	15'	10'	83	91	3.95	4.16	4.51	5.86
MP MB 160 3_20	700	950	1800	2500	3500	15'	10'	83	91	2.82	3.02	3.37	4.73
MP MB 160 3_25	700	950	1800	2500	3500	15'	10'	83	91	2.76	2.97	3.32	4.67
MP MB 160 3_28	700	950	1800	3000	4000	15'	10'	83	91	1.79	2.00	2.35	3.70
MP MB 160 3_30	350	660	1200	3000	4000	15'	10'	83	91	1.25	1.46	1.81	3.16
MP MB 160 3_35	700	950	1800	3000	4000	15'	10'	83	91	1.77	1.97	2.32	3.68
MP MB 160 3_36	500	750	1400	2500	3500	15'	10'	83	91	1.06	1.27	1.62	2.97
MP MB 160 3_40	700	950	1800	3000	4000	15'	10'	83	91	1.21	1.42	1.77	3.12
MP MB 160 3_50	700	950	1800	3000	4000	15'	10'	83	91	1.20	1.40	1.75	3.11
MP MB 160 3_70	700	950	1800	3000	4000	15'	10'	83	91	1.18	1.39	1.74	3.09
MP MB 160 3_100	350	660	1200	3000	4000	15'	10'	83	91	1.18	1.38	1.73	3.09
MP MB 160 4_48	700	950	1800	2200	3500	17'	12'	60	89	4.10	4.31	4.66	6.01
MP MB 160 4_64	700	950	1800	2200	3500	17'	12'	60	89	3.90	4.11	4.46	5.81
MP MB 160 4_75	700	950	1800	2500	3500	17'	12'	60	89	2.91	3.11	3.46	4.82
MP MB 160 4_80	700	950	1800	2200	3500	17'	12'	60	89	3.90	4.11	4.46	5.81
MP MB 160 4_84	700	950	1800	3000	4000	17'	12'	60	89	1.84	2.05	2.40	3.75
MP MB 160 4_90	350	660	1200	3000	4000	17'	12'	60	89	1.24	1.45	1.80	3.15
MP MB 160 4_120	700	950	1800	3000	4000	17'	12'	60	89	1.23	1.44	1.79	3.14
MP MB 160 4_125	700	950	1800	2500	3500	17'	12'	60	89	2.74	2.95	3.30	4.65
MP MB 160 4_140	700	950	1800	3000	4000	17'	12'	60	89	1.78	1.98	2.33	3.69
MP MB 160 4_150	700	950	1800	3000	4000	17'	12'	60	89	1.23	1.44	1.79	3.14
MP MB 160 4_160	700	950	1800	3000	4000	17'	12'	60	89	1.20	1.41	1.76	3.11
MP MB 160 4_175	700	950	1800	3000	4000	17'	12'	60	89	1.76	1.96	2.31	3.67
MP MB 160 4_200	700	950	1800	3000	4000	17'	12'	60	89	1.20	1.41	1.76	3.11
MP MB 160 4_210	700	950	1800	3000	4000	17'	12'	60	89	1.23	1.44	1.79	3.14
MP MB 160 4_250	700	950	1800	3000	4000	17'	12'	60	89	1.19	1.40	1.75	3.10
MP MB 160 4_280	700	950	1800	3000	4000	17'	12'	60	89	1.18	1.39	1.74	3.09
MP MB 160 4_350	700	950	1800	3000	4000	17'	12'	60	89	1.18	1.39	1.74	3.09
MP MB 160 4_400	700	950	1800	3000	4000	17'	12'	60	89	1.18	1.38	1.73	3.09
MP MB 160 4_500	700	950	1800	3000	4000	17'	12'	60	89	1.18	1.38	1.73	3.09
MP MB 160 4_700	700	950	1800	3000	4000	17'	12'	60	89	1.18	1.38	1.73	3.09
MP MB 160 4_1000	350	660	1200	3000	4000	17'	12'	60	89	1.18	1.38	1.73	3.09

MP 190

55A1 ... 180A1

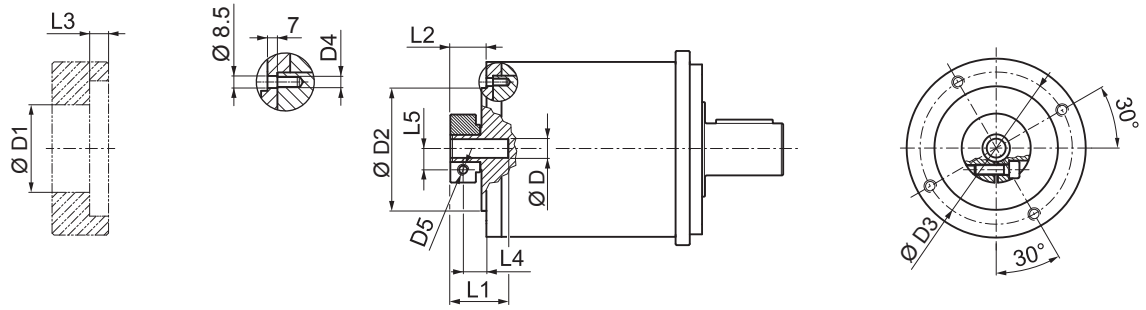


	Kg
MP 190 1	25
MP 190 2	29
MP 190 3	34

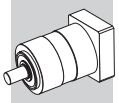
	D												N	N1	N2	N3	N4	N5	L_{max}
55A1	14	16	19	–	–	–	–	–	–	–	–	–	55.5	125.7	140	5	M6x15	39.5	50
80A2	14	16	19	–	–	–				–	–	–	80	100	140	5	M6x15	39.5	50
95A1	14	16	19	22	24	–	–	–	–	–	–	–	95	115	140	5	M8x20	39.5	50
110A1	14	16	19	22	24	–	–	–	–	–	–	–	110	130	140	5	M8x20	39.5	50
110B1	14	16	19	22	24	–	–	–	–	–	–	–	110	145	140	6.5	M8x20	49.5	60
114A	14	16	19	22	24	28	32	35	38	42	45	48	114.3	200	170	6.5	M12x25	69.5	80
130A	14	16	19	22	24	–	–	–	–	–	–	–	130	165	140	5	M10x20	39.5	50
130A1	14	16	19	22	24	28	32	–	–	–	–	–	130	165	140	5	M10x20	49.5	60
180A	14	16	19	22	24	28	32	–	–	–	–	–	180	215	190	6.5	M14x25	49.5	60
180A1	14	16	19	22	24	28	32	35	38	42	45	48	180	215	190	6.5	M14x25	69.5	80

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

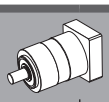
FM

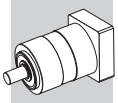


D		D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14	16	48	130	142.5	M8x14	M6	45.5	27.5	6	20	14.5
19		51	130	142.5	M8x14	M6	45.5	27.5	6	20	16.5
22	24	56.5	130	142.5	M8x14	M6	47	29	6	20	19
28		67	130	142.5	M8x14	M8	47	29	6	20	22.5
32		71	130	142.5	M8x14	M8	47	29	6	20	24.5
35		73	130	142.5	M8x14	M8	54.5	36.5	6	25	26
38		77.5	130	142.5	M8x14	M8	54.5	36.5	6	25	28
42		92	130	142.5	M8x14	M10	60.5	40	6	25	33
45		95	130	142.5	M8x14	M10	60.5	40	6	25	33
48		97	130	142.5	M8x14	M10	60.5	40	6	25	33



MP 190

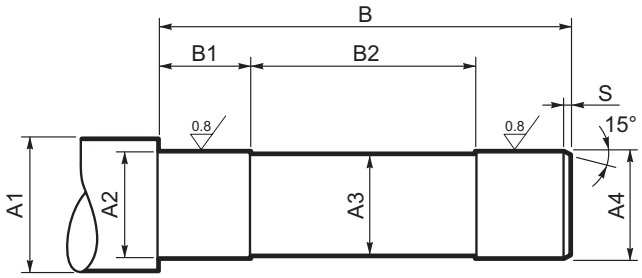
 i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min-1]	$n_{1\,max}$ [min-1]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm²] D 14 ... 24	28 - 32	35 - 35	42	45 - 48
MP 190 1_3	500	800	1400	1500	2500	15'	10'	130	14000	15000	97	24.20	24.88	25.65	29.30	29.90
MP 190 1_4	700	950	1800	2100	3000	15'	10'	130	14000	15000	97	13.41	14.09	14.85	18.51	19.11
MP 190 1_5	700	950	1800	2300	3000	15'	10'	130	14000	15000	97	9.32	10.00	10.77	14.42	15.02
MP 190 1_6	700	950	1800	2300	3000	15'	10'	130	14000	15000	97	2.88	3.56	4.33	7.98	8.58
MP 190 1_7	700	950	1800	2900	3500	15'	10'	130	14000	15000	97	5.68	6.36	7.13	10.78	11.38
MP 190 1_10	500	800	1400	2900	3500	15'	10'	130	14000	15000	97	3.57	4.25	5.02	8.67	9.27
MP 190 2_9	500	800	1400	1500	2500	15'	10'	100	14000	15000	94	23.23	23.91	24.67	28.33	28.93
MP 190 2_12	1000	1200	2200	1500	2500	15'	10'	100	14000	15000	94	22.03	22.71	23.48	27.13	27.73
MP 190 2_15	1000	1200	2200	1500	2500	15'	10'	100	14000	15000	94	21.58	22.25	23.02	26.68	27.27
MP 190 2_16	1000	1200	2200	2100	3000	15'	10'	100	14000	15000	94	12.19	12.86	13.63	17.29	17.89
MP 190 2_20	1000	1200	2200	2300	3000	15'	10'	100	14000	15000	94	8.54	9.22	9.98	13.64	14.24
MP 190 2_25	1000	1200	2200	2300	3000	15'	10'	100	14000	15000	94	8.37	9.05	9.82	13.48	14.07
MP 190 2_28	1000	1200	2200	2900	3500	15'	10'	100	14000	15000	94	5.28	5.96	6.73	10.38	10.98
MP 190 2_30	500	800	1400	2900	3500	15'	10'	100	14000	15000	94	3.48	4.16	4.93	8.58	9.18
MP 190 2_35	1000	1200	2200	2900	3500	15'	10'	100	14000	15000	94	5.20	5.87	6.64	10.30	10.90
MP 190 2_36	700	950	1800	2300	3000	15'	10'	100	14000	15000	94	2.18	2.86	3.63	7.28	7.88
MP 190 2_40	1000	1200	2200	2900	3500	15'	10'	100	14000	15000	94	3.37	4.05	4.82	8.48	9.07
MP 190 2_50	1000	1200	2200	2900	3500	15'	10'	100	14000	15000	94	3.33	4.01	4.78	8.44	9.03
MP 190 2_70	1000	1200	2200	2900	3500	15'	10'	100	14000	15000	94	3.30	3.97	4.74	8.40	9.00
MP 190 2_100	500	800	1400	2900	3500	15'	10'	100	14000	15000	94	3.28	3.95	4.72	8.38	8.98
MP 190 3_48	1000	1200	2200	2100	3000	17'	12'	90	14000	15000	91	12.73	13.40	14.17	17.83	18.43
MP 190 3_64	1000	1200	2200	2100	3000	17'	12'	90	14000	15000	91	12.10	12.78	13.55	17.21	17.80
MP 190 3_75	1000	1200	2200	2300	3000	17'	12'	90	14000	15000	91	8.86	9.54	10.31	13.97	14.56
MP 190 3_80	1000	1200	2200	2100	3000	17'	12'	90	14000	15000	91	12.09	12.76	13.53	17.19	17.79
MP 190 3_84	1000	1200	2200	2900	3500	17'	12'	90	14000	15000	91	5.46	6.13	6.90	10.56	11.16
MP 190 3_90	500	800	1400	2900	3500	17'	12'	90	14000	15000	91	3.47	4.15	4.92	8.57	9.17
MP 190 3_120	1000	1200	2200	2900	3500	17'	12'	90	14000	15000	91	3.46	4.14	4.91	8.56	9.16
MP 190 3_125	1000	1200	2200	2300	3000	17'	12'	90	14000	15000	91	8.34	9.01	9.78	13.44	14.04
MP 190 3_140	1000	1200	2200	2900	3500	17'	12'	90	14000	15000	91	5.25	5.92	6.69	10.35	10.95
MP 190 3_150	1000	1200	2200	2900	3500	17'	12'	90	14000	15000	91	3.46	4.13	4.90	8.56	9.15
MP 190 3_160	1000	1200	2200	2900	3500	17'	12'	90	14000	15000	91	3.36	4.04	4.81	8.46	9.06
MP 190 3_175	1000	1200	2200	2900	3500	17'	12'	90	14000	15000	91	5.18	5.85	6.62	10.28	10.88
MP 190 3_200	1000	1200	2200	2900	3500	17'	12'	90	14000	15000	91	3.36	4.03	4.80	8.46	9.06
MP 190 3_210	1000	1200	2200	2900	3500	17'	12'	90	14000	15000	91	3.45	4.13	4.90	8.55	9.15
MP 190 3_250	1000	1200	2200	2900	3500	17'	12'	90	14000	15000	91	3.32	4.00	4.77	8.42	9.02
MP 190 3_280	1000	1200	2200	2900	3500	17'	12'	90	14000	15000	91	3.29	3.97	4.74	8.39	8.99
MP 190 3_350	1000	1200	2200	2900	3500	17'	12'	90	14000	15000	91	3.29	3.97	4.74	8.39	8.99
MP 190 3_400	1000	1200	2200	2900	3500	17'	12'	90	14000	15000	91	3.27	3.95	4.72	8.38	8.97
MP 190 3_500	1000	1200	2200	2900	3500	17'	12'	90	14000	15000	91	3.27	3.95	4.72	8.38	8.97
MP 190 3_700	1000	1200	2200	2900	3500	17'	12'	90	14000	15000	91	3.27	3.95	4.72	8.38	8.97
MP 190 3_1000	500	800	1400	2900	3500	17'	12'	90	14000	15000	91	3.27	3.95	4.72	8.38	8.97

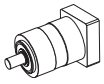


6.3.1 MASCHINENWELLE

Für die Welle der angetriebenen Maschine ist eine hochwertige Stahllegierung zu bevorzugen. Die Tabelle unten zeigt die empfohlenen Abmessungen, die vom Kunden bei der Konstruktion der Gegenwelle zu berücksichtigen sind. Weiterhin wird eine axiale Aufnahmevorrichtung für die Welle empfohlen (nicht gezeigt).
Anzahl und Größe der entsprechenden Gewindebohrungen am Wellenende sind von den Anwendungsanforderungen abhängig.

MB

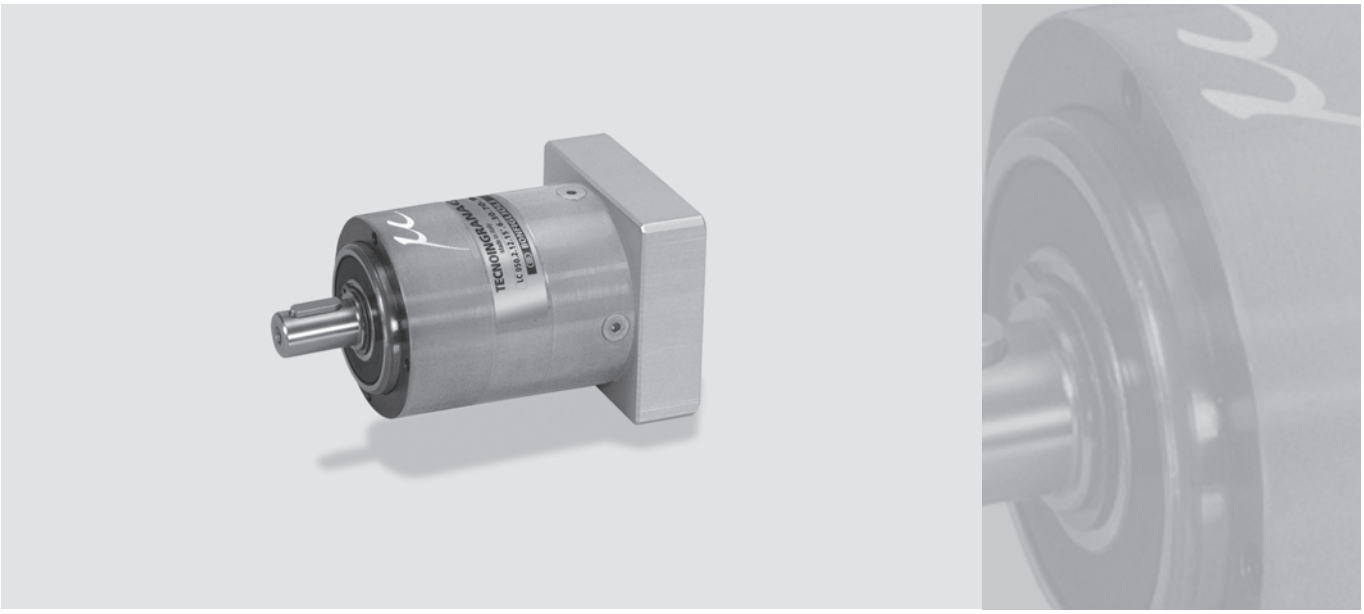


	A1	A2	A3	A4	B	B1	B2	S
MP MB 080	≥ 25	20 h7	18	20 h7	178	50	90	
MP MB 105	≥ 40	32 h7	30	32 h7	205	60	115	1
MP MB 130/160	≥ 50	42 h7	40	42 h7	259	70	140	

MP

LC
KOAXIALE PRÄZISIONSPLANETENGETRIEBE

LC-Präzisionsplanetengetriebe sind dank optimaler Leistungsfähigkeit und Zuverlässigkeit eine flexible Lösung und wirtschaftliche Alternative.
Verbesserte Leistungsfähigkeit als Schlüssel zum Downsizing.
Die verbesserte Leistungsfähigkeit unseres LC-Präzisionsgetriebes (neue Option "P") kann wichtige Downsizing-Optionen für zahlreiche Anwendungen eröffnen, bei denen es zuvor nicht möglich war, ein höheres übertragbares Abtriebsdrehmoment bereitrzustellen.
Ein weiterer Vorteil des Downsizing ist eine verbesserte Energieeffizienz, indem man ein kompakteres Getriebe mit höherer Drehmomentdichte wählen und dadurch die Beschleunigungsmasse deutlich reduzieren kann.
Das übertragbare Drehmoment wurde um bis zu 40% verbessert.



Produktmerkmale:
- Option "P" mit hoher Drehmomentdichte für eine größere Produktleistungsfähigkeit verfügbar
- Optimales Beschleunigungs- und Nenndrehmoment
- Optimale radiale und axiale Belastbarkeit
- Entwickelt für Zyklus- und Dauerbetrieb
- Optimale Verdrehsteifigkeit
- Verdrehflankenspiel – unter 6 arcmin
- Einsetzbar in beliebiger Montageaposition

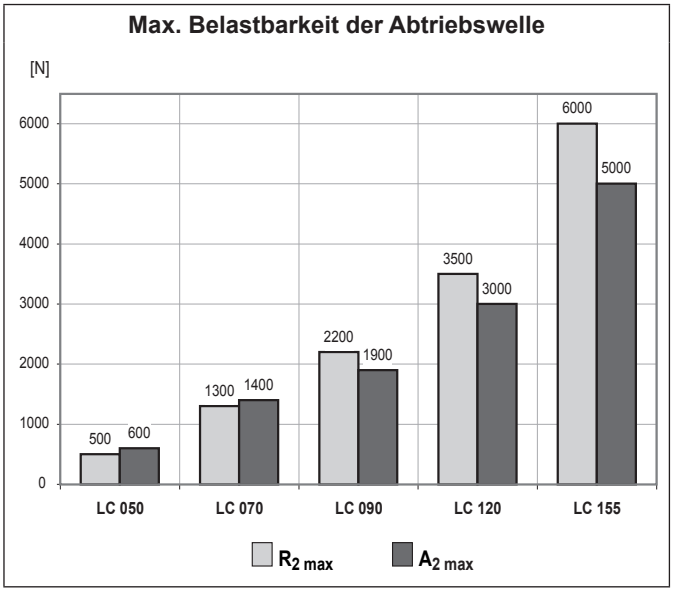
7 MERKMALE DER LC-REIHE

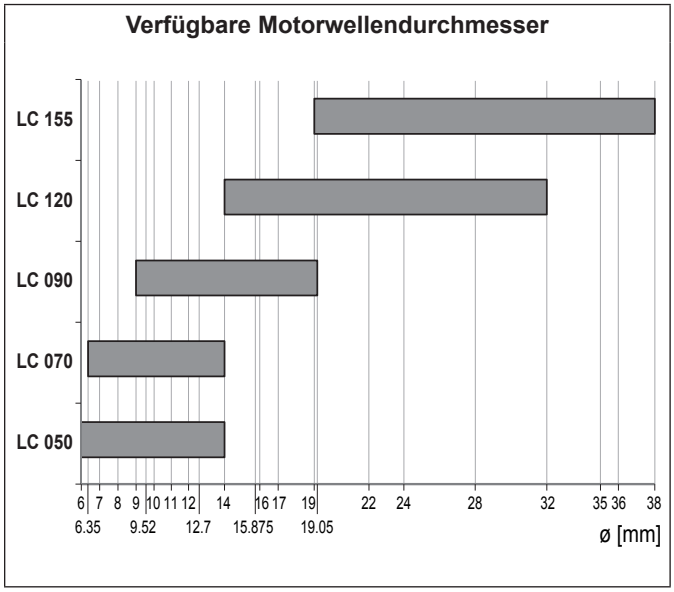
Die Planetengetriebe der LC-Reihe zeichnen sich durch geringes Verdrehspiel, hohes übertragbares Drehmoment und hohe Getriebeübersetzungen aus.
Alle Getriebe sind laufruhig und gewährleisten eine lange und wartungsarme Nutzungsdauer. Die Motormontage ist einfach und erfordert keinerlei Spezialwerkzeug.

- Erhältlich entweder mit standard (STD) oder reduziertem (LOW) Flankenspiel:
  1-stufige Getriebe: standard $\varphi_S \leq 12'$; reduziert $\varphi_R \leq 6'$
  2-stufige Getriebe: standard $\varphi_S \leq 15'$; reduziert $\varphi_R \leq 8'$
- Eine hohe IP-Schutzklasse (IP64) sorgt dafür, dass innenliegende Teile vor Staub- und Flüssigkeitseintritt geschützt sind.
- Serienmäßige Fluorelastomer-Wellendichtungen an der Eingangswelle
- Schalldruckpegel $L_P \leq 70$ dB(A). Gemessen in 1 m Abstand ohne Last und bei einer Eingangsdrehzahl von n_1 = 3000 min^{-1}; i=10.
- Große Auswahl an Motoradaptern sorgt für den Anschluss an die marktgängigsten Servomotoren.
- Die Getriebe sind werksseitig mit synthetischem Schmierfett gemäß NLGI-Konsistenzklasse 00 gefüllt; ohne Verunreinigung muss das Schmiermittel nicht regelmäßig gewechselt werden.
- Umgebungstemperatur min. -20°C, max. +30°C; bei Temperaturen höher als 30°C ist der Temperaturfaktor f_T zu berücksichtigen.
- Die Gehäusetemperatur darf Tmax = 90°C nicht übersteigen.
- Erhältlich als Version P mit höherem Abtriebsdrehmoment.

Übersicht der Nenndrehmomente M_{n2} [Nm]

[i]	3	4	5	7	9	10	12	15	16	20	25	28	30	35	36	40	45	50	70	81	100
LC 050	10	12	12	12	10	–	12	12	12	12	12	12	–	12	12	–	12	–	–	10	–
LC 070	18	25	25	25	18	18	25	25	25	25	25	25	18	25	–	25	–	25	25	–	18
LC 070P	29	30	25	25	29	18	29	29	30	30	30	30	29	30	-	30	-	30	30	-	18
LC 090	37	43	43	43	37	37	43	43	43	43	43	43	37	43	–	43	–	43	43	–	37
LC 090P	65	60	50	50	65	40	65	65	60	60	50	50	65	50	-	60	-	50	50	-	40
LC 120	95	110	110	110	95	95	110	110	110	110	110	110	95	110	–	110	–	110	110	–	95
LC 120P	155	155	125	125	155	100	155	155	155	155	125	125	155	125	-	155	-	125	125	-	100
LC 155	250	300	300	300	250	230	300	300	300	300	300	300	250	300	–	300	–	300	300	–	230
LC 155P	250	350	350	350	250	230	450	450	450	450	450	450	250	450	-	450	-	450	450	-	230





7.1 BESTELLBEZEICHNUNG

LC 120 1 3 STD 70D CD 19 KE UH1

SCHMIERSTOFF

- **–** Standard
- **UH1** Lebensmitteltaugliches Schmiermittel

ABTRIEBSWELLENKONFIGURATION

- **KL** Glatte Welle ohne Passfeder
- **KE** Welle mit Passfeder

BOHRUNGSDURCHMESSER EINGANGSWELLE

6 ... 38

MOTORKOPPLUNG

- **CD** Klemmnabe

ANTRIEBSFLANSCH

- **25AH ... 180A1** Motorflansch
- **FM** Ohne Motorflansch

VERDREHSPIEL

	1 Getriebestufe	2 Getriebestufen
STD	$\varphi_S \leq 12'$	$\varphi_S \leq 15'$
LOW	$\varphi_R \leq 6'$	$\varphi_R \leq 8'$

GETRIEBEÜBERSETZUNG

GETRIEBESTUFEN

1 2

BAUGRÖSSE

050 070 090 120 155
070P 090P 120P 155P

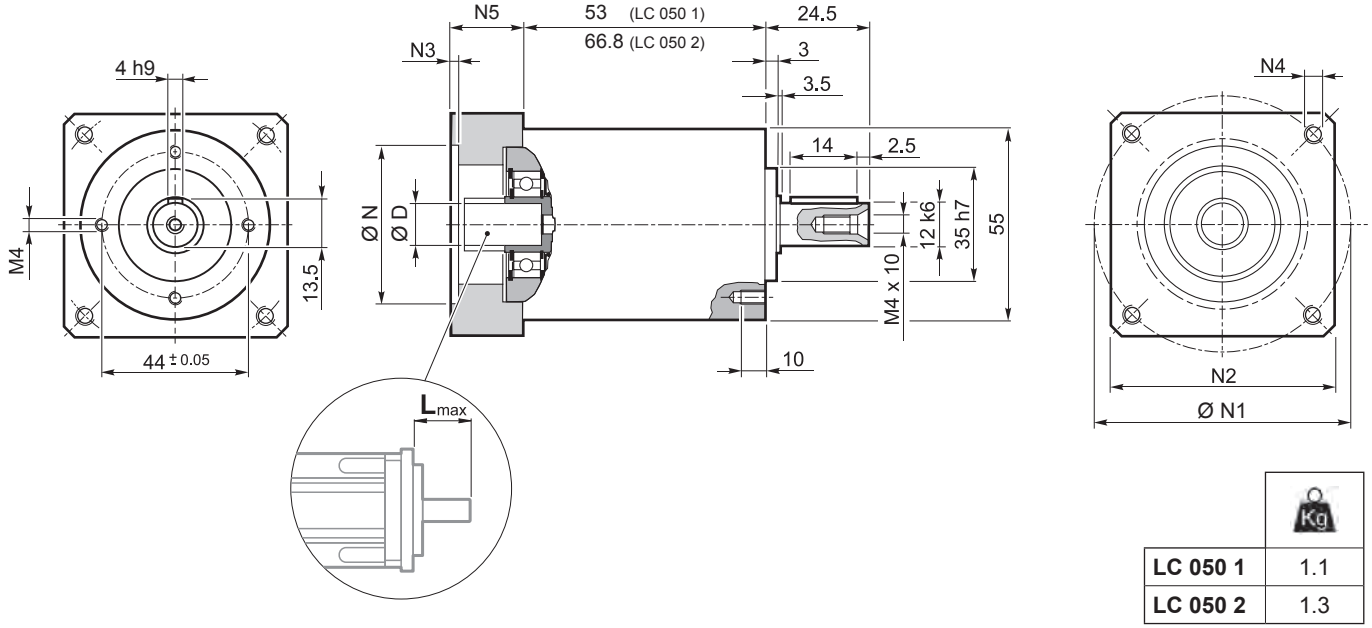
REIHE

LC

LC

LC 050

25AH ... 80A



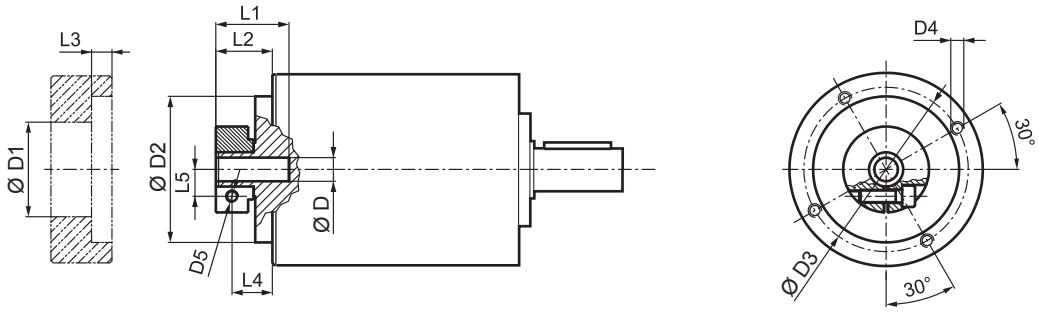
	Kg
LC 050 1	1.1
LC 050 2	1.3

	D											N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6	6.35	7	8	9	9.52	–	–	–	–	–	25	36	48	55	3.5	4.5	25	25
26AH	6	6.35	7	8	9	9.52	–	–	–	–	–	26	36	48					
28AH	6	6.35	7	8	9	9.52	–	–	–	–	–	28	36	48					
30AH	6	6.35	7	8	9	9.52	–	–	–	–	–	30	36	48					
32AH	6	6.35	7	8	9	9.52	–	–	–	–	–	32	38	48					
34AH	6	6.35	7	8	9	9.52	–	–	–	–	–	34	40	48					
36AH	6	6.35	7	8	9	9.52	–	–	–	–	–	36	42	48					
38AH	6	6.35	7	8	9	9.52	–	–	–	–	–	38	44	48					
40AH	6	6.35	7	8	9	9.52	–	–	–	–	–	40	46	48					
38B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	4	5.5	23	30
50C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
50MH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	65		55	4	5.5	16	23
60A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60AH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	5.5	18	25
60A1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60AH1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	5.5	23	30
60B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

LC 050

FM

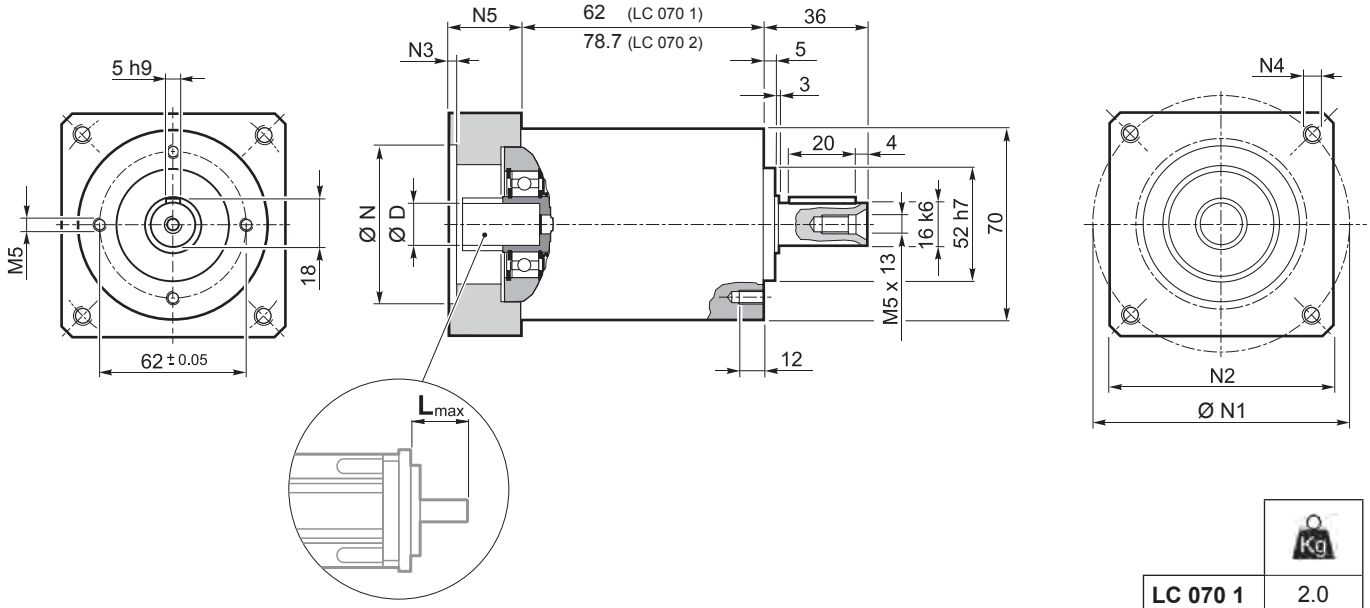


D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6	6.35	7		32.5	50	42.5	M4x8	M4	21.7	13.2	3	8.2	8
8	9	9.52	10	32.5	50	42.5	M4x8	M4	21.7	13.2	3	8.2	9
11	12	12.7		35.5	50	42.5	M4x8	M4	22	13.5	3	8.5	11
14				35.5	50	42.5	M4x8	M4	25	17	3	10.2	11.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 6 ... 9.52	J_G [kgcm^2] D 10 ... 14
LC 050 1_ 3	10	16	28	3300	4000	12’	6’	0.9	500	600	97	0.07	0.10
LC 050 1_ 4	12	20	30	3500	5000	12’	6’	0.9	500	600	97	0.06	0.08
LC 050 1_ 5	12	20	30	3500	5000	12’	6’	0.9	500	600	97	0.05	0.07
LC 050 1_ 7	12	20	30	4000	5000	12’	6’	0.9	500	600	97	0.04	0.06
LC 050 1_ 9	10	16	28	4000	6000	12’	6’	0.9	500	600	97	0.04	0.06
LC 050 2_ 12	12	20	30	3300	4000	15’	8’	0.75	500	600	94	0.07	0.09
LC 050 2_ 15	12	20	30	3300	4000	15’	8’	0.75	500	600	94	0.07	0.09
LC 050 2_ 16	12	20	30	3500	5000	15’	8’	0.75	500	600	94	0.05	0.07
LC 050 2_ 20	12	20	30	3500	5000	15’	8’	0.75	500	600	94	0.05	0.07
LC 050 2_ 25	12	20	30	3500	5000	15’	8’	0.75	500	600	94	0.05	0.07
LC 050 2_ 28	12	20	30	4000	5000	15’	8’	0.75	500	600	94	0.04	0.06
LC 050 2_ 35	12	20	30	4000	5000	15’	8’	0.75	500	600	94	0.04	0.06
LC 050 2_ 36	12	20	30	4000	6000	15’	8’	0.75	500	600	94	0.04	0.06
LC 050 2_ 45	12	20	30	4000	6000	15’	8’	0.75	500	600	94	0.04	0.06
LC 050 2_ 81	10	16	28	4000	6000	15’	8’	0.75	500	600	94	0.04	0.06

LC 070

25AH ... 80A



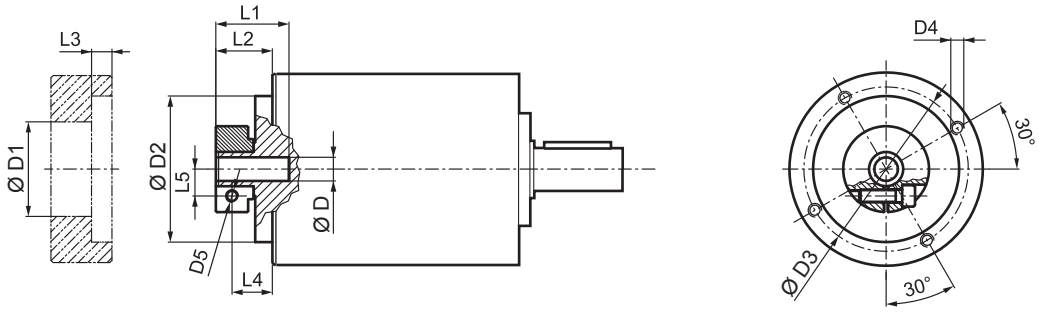
	Kg
LC 070 1	2.0
LC 070 2	2.3

	D										N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6.35	7	8	9	9.52	–	–	–	–	–	25	39	56					
26AH	6.35	7	8	9	9.52	–	–	–	–	–	26	39	56					
28AH	6.35	7	8	9	9.52	–	–	–	–	–	28	39	56					
30AH	6.35	7	8	9	9.52	–	–	–	–	–	30	39	56					
32AH	6.35	7	8	9	9.52	–	–	–	–	–	32	39	56	65	3.5	4.5	25	25
34AH	6.35	7	8	9	9.52	–	–	–	–	–	34	40	56					
36AH	6.35	7	8	9	9.52	–	–	–	–	–	36	42	56					
39AH	6.35	7	8	9	9.52	–	–	–	–	–	39	45	56					
40AH	6.35	7	8	9	9.52	–	–	–	–	–	40	46	56					
38B	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		65	3	5.5	25	32
50C	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
55MH	6.35	7	8	9	9.52	10	11	12	12.7	–	55	80		65	2	5.5	16	23
60A	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60A1	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60B	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

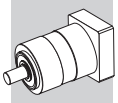
LC 070

FM



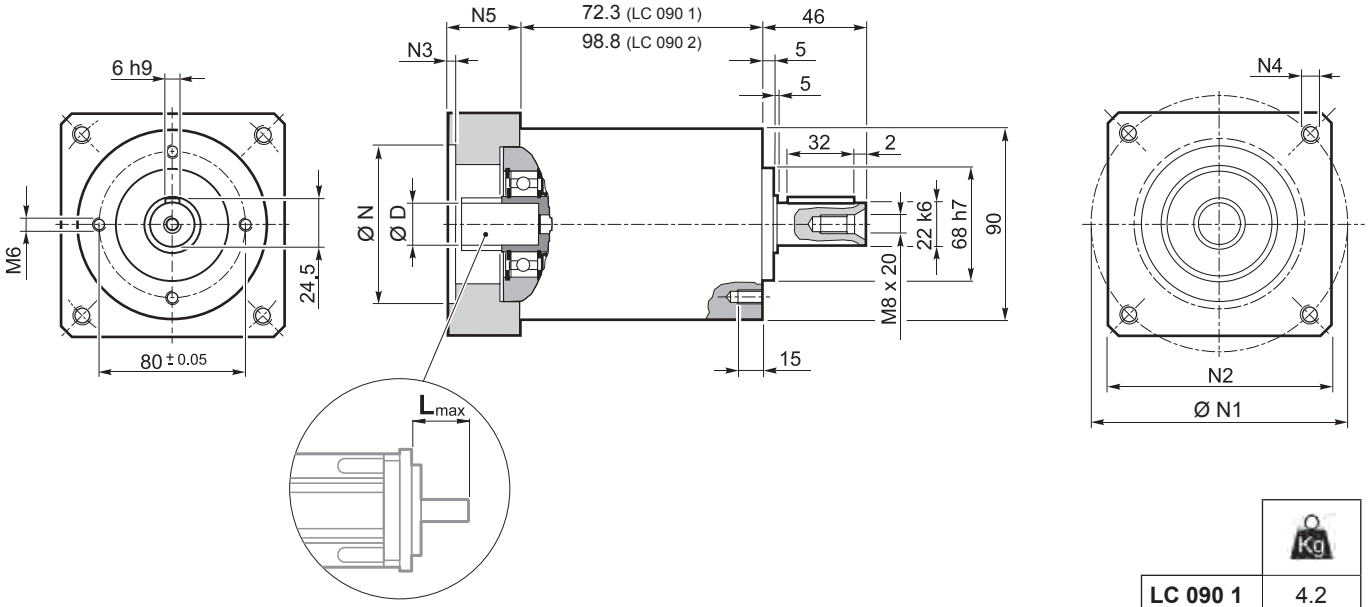
D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6.35 7	32.5	50	42.5	M4x8	M4	21.7	13.2	3	8.2	8
8 9 9.52 10	32.5	50	42.5	M4x8	M4	21.7	13.2	3	8.2	9
11 12 12.7	35.5	50	42.5	M4x8	M4	22	13.5	3	8.5	11
14	35.5	50	42.5	M4x8	M4	25	17	3	10.2	11.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 6.35 ... 9.52	J_G [kgcm^2] D 10 ... 14
LC 070 1_ 3	18	30	60	3300	4000	12’	6’	3	1300	1400	97	0.12	0.14
LC 070 1_ 4	25	35	70	3500	5000	12’	6’	3	1300	1400	97	0.08	0.10
LC 070 1_ 5	25	35	70	3500	5000	12’	6’	3	1300	1400	97	0.06	0.09
LC 070 1_ 7	25	35	70	4000	5000	12’	6’	3	1300	1400	97	0.05	0.07
LC 070 1_ 10	18	30	60	4000	6000	12’	6’	3	1300	1400	97	0.04	0.06
LC 070 2_ 9	18	30	60	3300	4000	15’	8’	2.5	1300	1400	94	0.11	0.13
LC 070 2_ 12	25	35	70	3300	4000	15’	8’	2.5	1300	1400	94	0.10	0.13
LC 070 2_ 15	25	35	70	3300	4000	15’	8’	2.5	1300	1400	94	0.10	0.12
LC 070 2_ 16	25	35	70	3500	5000	15’	8’	2.5	1300	1400	94	0.07	0.09
LC 070 2_ 20	25	35	70	3500	5000	15’	8’	2.5	1300	1400	94	0.06	0.08
LC 070 2_ 25	25	35	70	3500	5000	15’	8’	2.5	1300	1400	94	0.06	0.08
LC 070 2_ 28	25	35	70	4000	5000	15’	8’	2.5	1300	1400	94	0.05	0.07
LC 070 2_ 30	18	30	60	4000	6000	15’	8’	2.5	1300	1400	94	0.04	0.06
LC 070 2_ 35	25	35	70	4000	5000	15’	8’	2.5	1300	1400	94	0.05	0.07
LC 070 2_ 40	25	35	70	4000	6000	15’	8’	2.5	1300	1400	94	0.04	0.06
LC 070 2_ 50	25	35	70	4000	6000	15’	8’	2.5	1300	1400	94	0.04	0.06
LC 070 2_ 70	25	35	70	4000	6000	15’	8’	2.5	1300	1400	94	0.04	0.06
LC 070 2_ 100	18	30	60	4000	6000	15’	8’	2.5	1300	1400	94	0.04	0.06



LC 090

40B1 ... 110B1



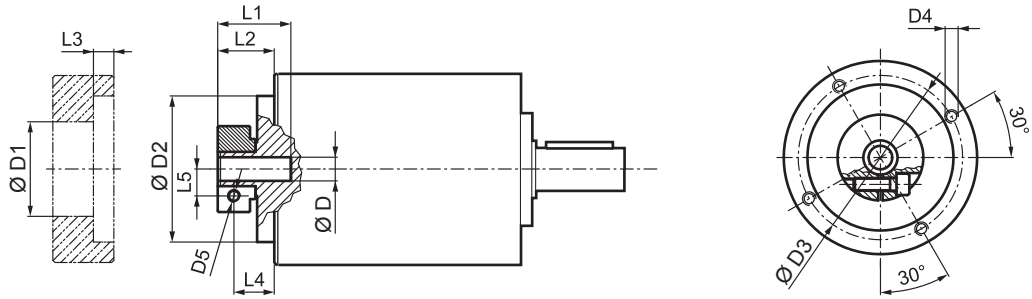
	Kg
LC 090 1	4.2
LC 090 2	5.3

	D											N	N1	N2	N3	N4	N5	L_{max}
40B1	9	9.52	11	12	12.7	14	–	–	–	–	–	40	63	80	4	M4x10	34	40
45A	9	9.52	11	12	12.7	–	–	–	–	–	–	45	63	80	4	M4x10	34	40
50B1	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	M5x16	34	40
50BH1	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	5.5	34	40
50C1	9	9.52	11	12	12.7	14	–	–	–	–	–	50	70	80	4	M4x10	34	40
50D	9	9.52	11	12	12.7	14	–	–	–	–	–	50	95	80	4	M6x10	34	40
55A	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	55.5	125.7	105	4	M6x16	34	40
60A2	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	80	4	M5x16	34	40
60AH2	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	90	4	5.5	34	40
60B1	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	85	80	4	M5x16	34	40
60C1	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	90	80	4	M5x16	34	40
70A1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	80	4	M6x20	34	40
70AH1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	90	4	6.5	34	40
70B1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	90	80	4	M5x16	34	40
73A1	9	9.52	11	12	12.7	14	–	–	–	–	–	73	98.4	85	4	M5x16	34	40
80A1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	80	100	90	4	M6x16	34	40
95A	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	115	100	4	M8x20	34	40
95B	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	130	115	4	M8x20	34	40
110A	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	130	115	4	M8x20	34	40
110B	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	44	50
110B1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	54	60

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

LC 090

FM

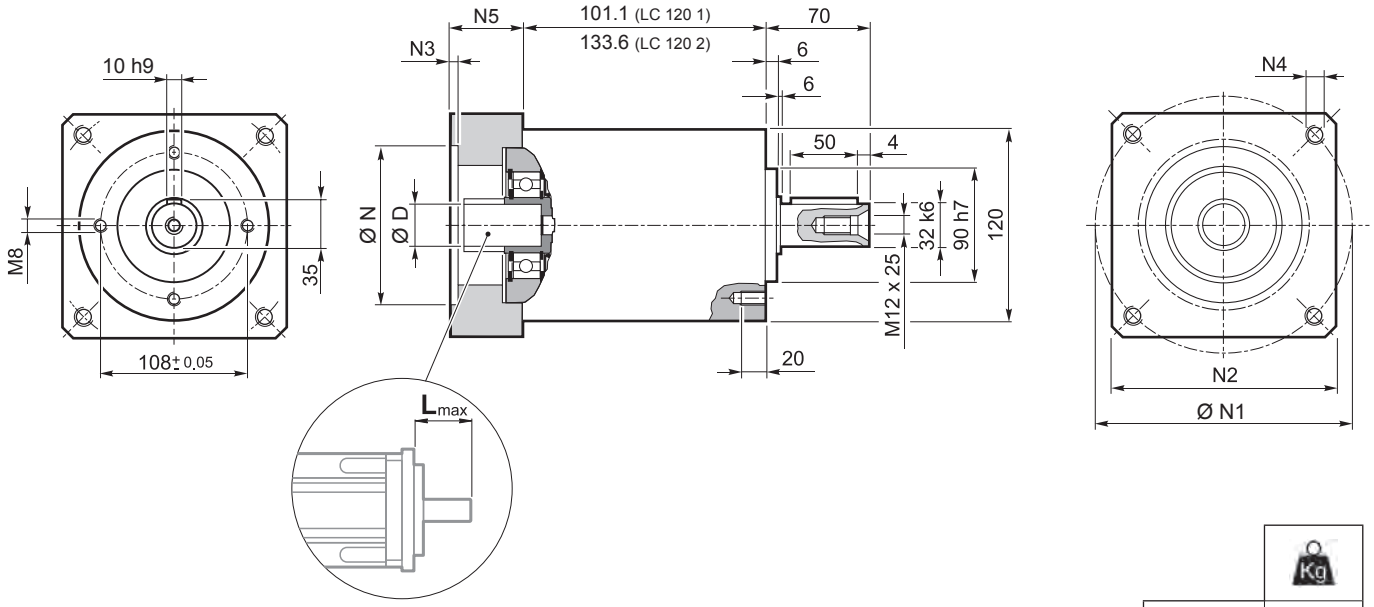


D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
9 9.52	38	68	76.5	M6x10	M6	34	26.8	9.5	18.8	10.5
11 12 12.7	43	68	76.5	M6x10	M6	34	26.8	9.5	18.8	12.5
14 15.875 16 17	48	68	76.5	M6x10	M6	34	26.8	9.5	18.8	14.5
19 19.05	51	68	76.5	M6x10	M6	34	26.8	9.5	18.8	16.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 9 ... 12.7	J_G [kgcm^2] D 14 ... 19.05
LC 090 1_ 3	37	70	150	2900	3500	12’	6’	9	2200	1900	97	0.62	0.77
LC 090 1_ 4	43	80	160	3100	4500	12’	6’	9	2200	1900	97	0.41	0.55
LC 090 1_ 5	43	80	160	3200	4500	12’	6’	9	2200	1900	97	0.33	0.47
LC 090 1_ 7	43	80	160	4000	4500	12’	6’	9	2200	1900	97	0.26	0.40
LC 090 1_ 10	37	70	150	4000	6000	12’	6’	9	2200	1900	97	0.21	0.35
LC 090 2_ 9	37	70	150	2900	3500	15’	8’	8.5	2200	1900	94	0.47	0.61
LC 090 2_ 12	43	80	160	2900	3500	15’	8’	8.5	2200	1900	94	0.44	0.58
LC 090 2_ 15	43	80	160	2900	3500	15’	8’	8.5	2200	1900	94	0.43	0.57
LC 090 2_ 16	43	80	160	3100	4500	15’	8’	8.5	2200	1900	94	0.31	0.45
LC 090 2_ 20	43	80	160	3200	4500	15’	8’	8.5	2200	1900	94	0.26	0.40
LC 090 2_ 25	43	80	160	3200	4500	15’	8’	8.5	2200	1900	94	0.26	0.40
LC 090 2_ 28	43	80	160	4000	4500	15’	8’	8.5	2200	1900	94	0.22	0.36
LC 090 2_ 30	37	70	150	4000	6000	15’	8’	8.5	2200	1900	94	0.20	0.34
LC 090 2_ 35	43	80	160	4000	4500	15’	8’	8.5	2200	1900	94	0.22	0.36
LC 090 2_ 40	43	80	160	4000	6000	15’	8’	8.5	2200	1900	94	0.20	0.34
LC 090 2_ 50	43	80	160	4000	6000	15’	8’	8.5	2200	1900	94	0.20	0.34
LC 090 2_ 70	43	80	160	4000	6000	15’	8’	8.5	2200	1900	94	0.20	0.34
LC 090 2_ 100	37	70	150	4000	6000	15’	8’	8.5	2200	1900	94	0.19	0.34

LC 120

50D ... 130A1



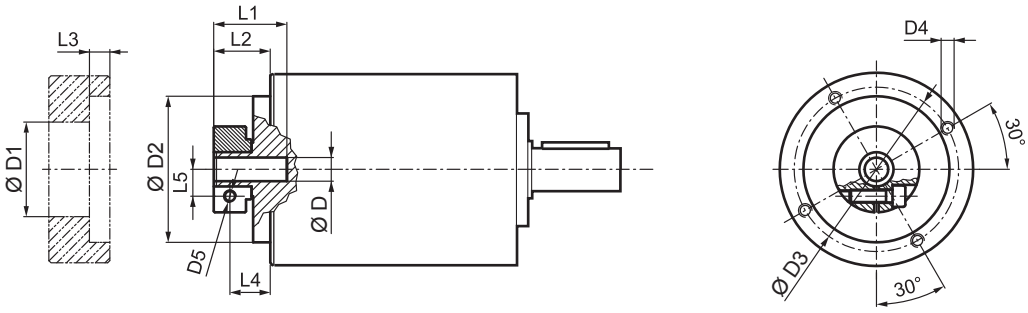
	Kg
LC 120 1	9.6
LC 120 2	12.1

	D									N	N1	N2	N3	N4	N5	L_{max}
50D	14	15	15.875	16	19	–	–	–	–	50	95	100	5	M6x14	28	40
55A	14	15	15.875	16	19	–	–	–	–	55.5	125.7	105	5	M6x16	28	40
60A2	14	15	15.875	16	19	–	–	–	–	60	75	100	5	M5x14	28	40
60AH2	14	15	15.875	16	19	–	–	–	–	60	75	100	5	6.5	33	40
60B1	14	15	15.875	16	19	–	–	–	–	60	85	100	6.5	M5x14	28	40
70A1	14	15	15.875	16	19	–	–	–	–	70	85	100	5	M6x14	28	40
70AH1	14	15	15.875	16	19	–	–	–	–	70	85	100	5	6	33	40
70B1	14	15	15.875	16	19	–	–	–	–	70	90	100	5	M5x12	28	40
80A1	14	15	15.875	16	19	–	–	–	–	80	100	100	5	M6x16	28	40
80AH1	14	15	15.875	16	19	–	–	–	–	80	100	100	5	6.5	28	40
95A	14	15	15.875	16	19	–	–	–	–	95	115	100	5	M8x18	28	40
95A1	14	15	15.875	16	19	22	24	–	–	95	115	100	5	M8x18	38	50
95B	14	15	15.875	16	19	–	–	–	–	95	130	115	5	M8x18	28	40
110A	14	15	15.875	16	19	–	–	–	–	110	130	115	5	M8x18	28	40
110A1	14	15	15.875	16	19	22	24	–	–	110	130	115	6.5	M8x20	38	50
110B	14	15	15.875	16	19	22	24	–	–	110	145	120	6.5	M8x20	38	50
110B1	14	15	15.875	16	19	22	24	28	–	110	145	120	6.5	M8x20	48	60
130A	14	15	15.875	16	19	22	24	–	–	130	165	140	6.5	M10x20	38	50
130A1	14	15	15.875	16	19	22	24	28	32	130	165	140	6.5	M10x25	48	60

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

LC 120

FM

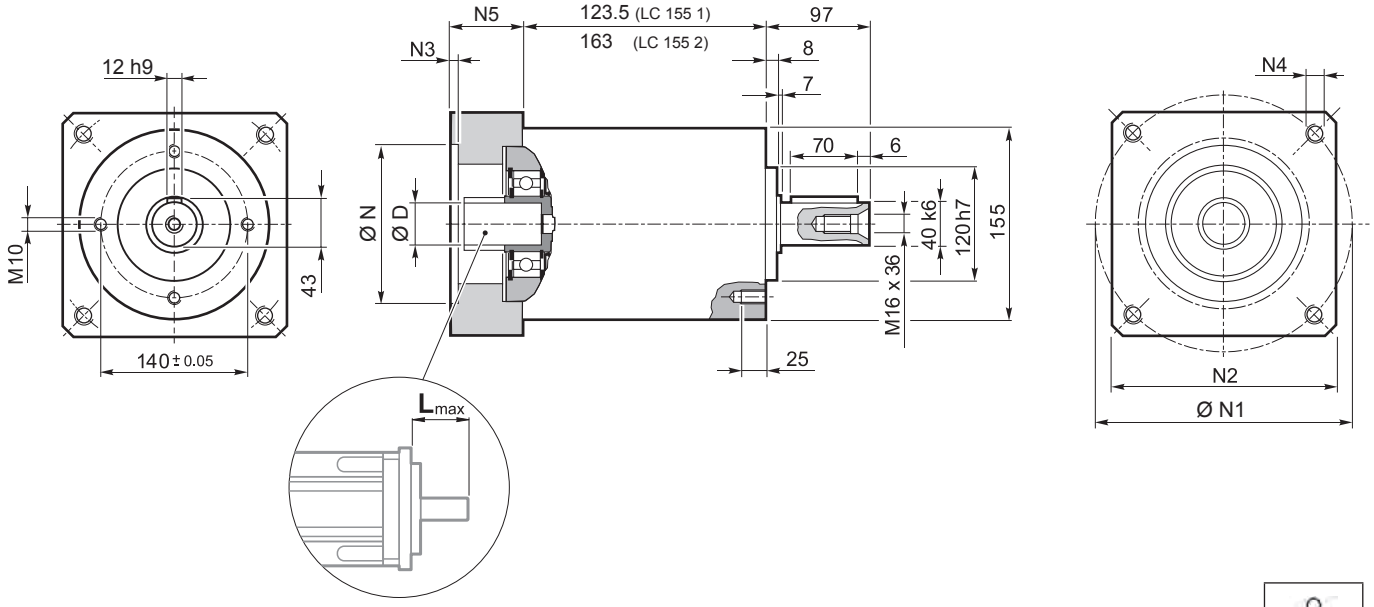


D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14 15 15.875 16	48	90	98	M6x15	M6	33.5	20	7.6	12.5	14.5
19	51	90	98	M6x15	M6	33.5	20	7.6	12.5	16.5
22 24	56.5	90	98	M6x15	M6	36.5	23	7.6	14	19
28	67	90	98	M6x15	M8	36.5	23	7.6	14	22.5
32	71	90	98	M6x15	M8	38	24.5	7.6	15.5	24.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 14 ... 19	22 ; 24	28 ; 32
LC 120 1_ 3	95	160	300	2500	3500	12’	6’	25	3500	3000	97	2.17	2.77	3.13
LC 120 1_ 4	110	190	360	2800	4500	12’	6’	25	3500	3000	97	1.30	1.89	2.26
LC 120 1_ 5	110	190	360	3000	4500	12’	6’	25	3500	3000	97	0.96	1.56	1.92
LC 120 1_ 7	110	190	360	3500	4500	12’	6’	25	3500	3000	97	0.66	1.26	1.62
LC 120 1_ 10	95	160	300	3500	5000	12’	6’	25	3500	3000	97	0.49	1.09	1.45
LC 120 2_ 9	95	160	300	2500	3500	15’	8’	22.5	3500	3000	94	1.61	2.20	2.57
LC 120 2_ 12	110	190	360	2500	3500	15’	8’	22.5	3500	3000	94	1.51	2.10	2.47
LC 120 2_ 15	110	190	360	2500	3500	15’	8’	22.5	3500	3000	94	1.47	2.06	2.43
LC 120 2_ 16	110	190	360	2800	4500	15’	8’	22.5	3500	3000	94	0.92	1.52	1.88
LC 120 2_ 20	110	190	360	3000	4500	15’	8’	22.5	3500	3000	94	0.90	1.50	1.86
LC 120 2_ 25	110	190	360	3000	4500	15’	8’	22.5	3500	3000	94	0.71	1.30	1.67
LC 120 2_ 28	110	190	360	3500	4500	15’	8’	22.5	3500	3000	94	0.54	1.13	1.50
LC 120 2_ 30	95	160	300	3500	5000	15’	8’	22.5	3500	3000	94	0.44	1.04	1.40
LC 120 2_ 35	110	190	360	3500	4500	15’	8’	22.5	3500	3000	94	0.53	1.13	1.49
LC 120 2_ 40	110	190	360	3500	5000	15’	8’	22.5	3500	3000	94	0.43	1.03	1.39
LC 120 2_ 50	110	190	360	3500	5000	15’	8’	22.5	3500	3000	94	0.43	1.02	1.39
LC 120 2_ 70	110	190	360	3500	5000	15’	8’	22.5	3500	3000	94	0.42	1.02	1.38
LC 120 2_ 100	95	160	300	3500	5000	15’	8’	22.5	3500	3000	94	0.42	1.02	1.38

LC 155

55A1 ... 180A1



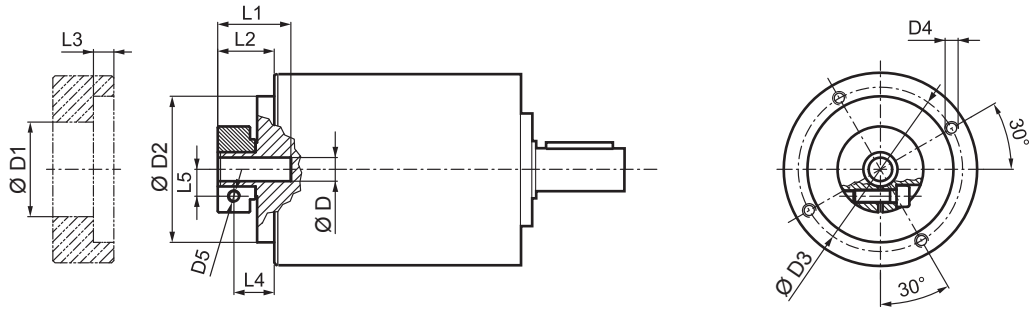
	Kg
LC 155 1	19.3
LC 155 2	24.3

	D							N	N1	N2	N3	N4	N5	L_{max}
55A1	19	–	–	–	–	–	–	55.5	125.7	130	4	M6x15	39.5	50
80A2	19	–	–	–	–	–	–	80	100	130	4	M6x15	39.5	50
95A1	19	22	24	–	–	–	–	95	115	130	4	M8x20	39.5	50
110A1	19	22	24	–	–	–	–	110	130	130	4	M8x20	39.5	50
110B1	19	22	24	–	–	–	–	110	145	130	6.5	M8x20	49.5	60
114A	19	22	24	28	32	35	38	114.3	200	170	5.5	M12x25	69.5	80
130A	19	22	24	–	–	–	–	130	165	140	4	M10x20	39.5	50
130A1	19	22	24	28	32	–	–	130	165	140	4	M10x20	49.5	60
180A	19	22	24	28	32	–	–	180	215	190	5.5	M14x25	49.5	60
180A1	19	22	24	28	32	35	38	180	215	190	5.5	M14x25	69.5	80

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

LC 155

FM

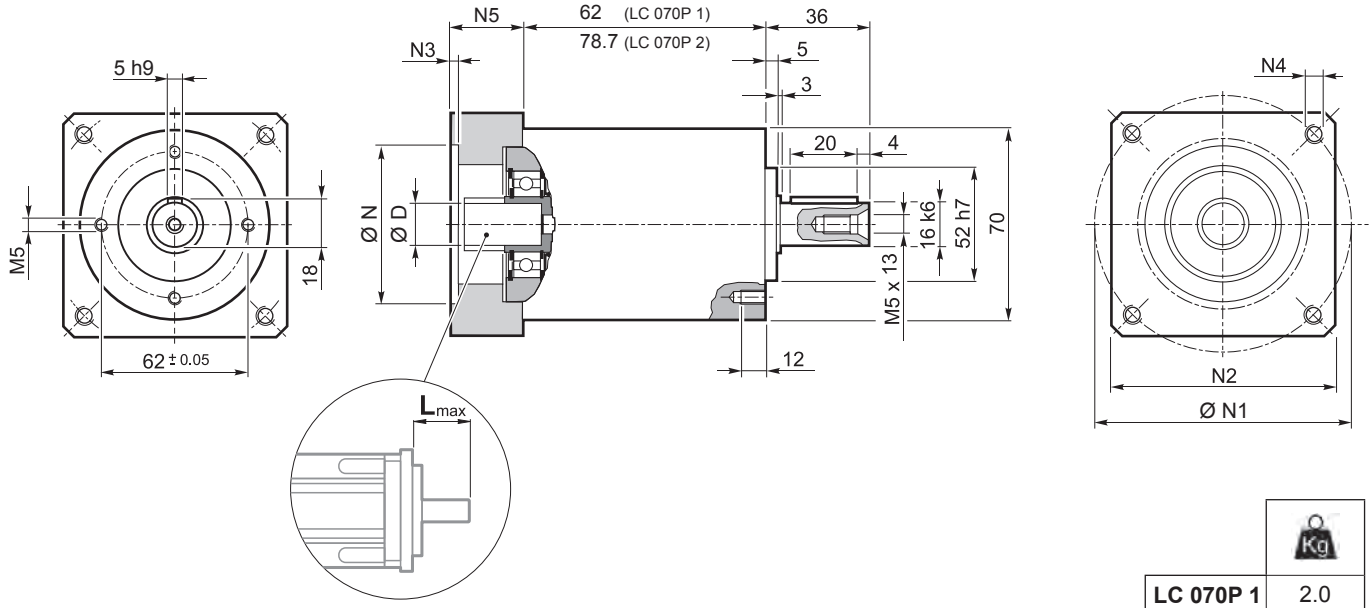


D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
19	51	113	125.5	M8x15	M6	40	27.5	6	20	16.5
22 24	56.5	113	125.5	M8x15	M6	41	28.5	6	19.5	19
28	67	113	125.5	M8x15	M8	41	28.5	6	19.5	22.5
32	71	113	125.5	M8x15	M8	41	28.5	6	18.5	24.5
35	73	113	125.5	M8x15	M8	50	37.5	11.25	26	26
38	77.5	113	125.5	M8x15	M8	50	37.5	11.25	26	28

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 19	22 ; 24	28 ; 32	35 ; 38
LC 155 1 _ 3	250	380	600	2100	3600	12’	6’	43	6000	5000	97	7.99	8.19	8.54	9.90
LC 155 1 _ 4	300	450	700	2400	3600	12’	6’	43	6000	5000	97	4.66	4.87	5.23	6.57
LC 155 1 _ 5	300	450	900	2900	3600	12’	6’	43	6000	5000	97	3.32	3.53	3.88	5.23
LC 155 1 _ 7	300	450	900	3200	3600	12’	6’	43	6000	5000	97	2.14	2.35	2.70	4.05
LC 155 1 _ 10	230	350	750	3200	3600	12’	6’	43	6000	5000	97	1.45	1.66	2.01	3.36
LC 155 2 _ 9	250	380	600	2100	3600	15’	8’	37.5	6000	5000	94	5.30	5.51	5.86	7.21
LC 155 2 _ 12	300	450	700	2100	3600	15’	8’	37.5	6000	5000	94	4.93	5.14	5.49	6.84
LC 155 2 _ 15	300	450	900	2100	3600	15’	8’	37.5	6000	5000	94	4.79	4.99	5.34	6.70
LC 155 2 _ 16	300	450	700	2400	3600	15’	8’	37.5	6000	5000	94	2.97	3.18	3.53	4.88
LC 155 2 _ 20	300	450	900	2900	3600	15’	8’	37.5	6000	5000	94	2.23	2.44	2.79	4.14
LC 155 2 _ 25	300	450	900	2900	3600	15’	8’	37.5	6000	5000	94	2.18	2.39	2.74	4.09
LC 155 2 _ 28	300	450	900	3200	3600	15’	8’	37.5	6000	5000	94	1.58	1.79	2.14	3.49
LC 155 2 _ 30	250	380	600	3200	3600	15’	8’	37.5	6000	5000	94	1.23	1.44	1.79	3.14
LC 155 2 _ 35	300	450	900	3200	3600	15’	8’	37.5	6000	5000	94	1.55	1.76	2.11	3.46
LC 155 2 _ 40	300	450	700	3200	3600	15’	8’	37.5	6000	5000	94	1.20	1.41	1.76	3.11
LC 155 2 _ 50	300	450	900	3200	3600	15’	8’	37.5	6000	5000	94	1.19	1.39	1.74	3.10
LC 155 2 _ 70	300	450	900	3200	3600	15’	8’	37.5	6000	5000	94	1.17	1.38	1.73	3.08
LC 155 2 _ 100	230	350	750	3200	3600	15’	8’	37.5	6000	5000	94	1.17	1.38	1.73	3.08

LC 070P

25AH ... 80A



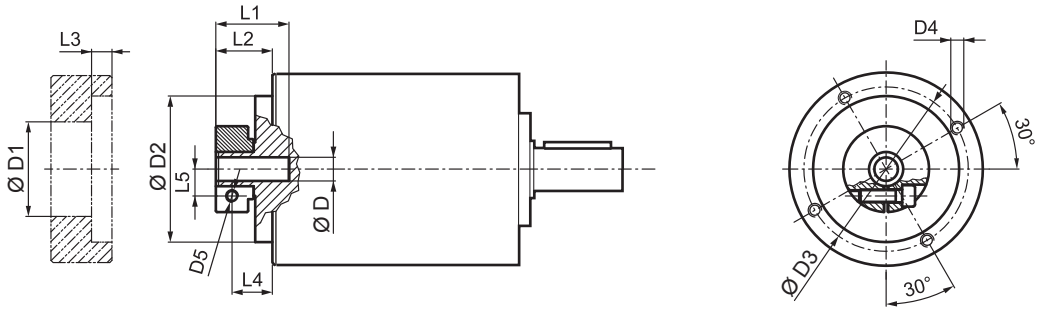
	Kg
LC 070P 1	2.0
LC 070P 2	2.3

	D										N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6.35	7	8	9	9.52	–	–	–	–	–	25	39	56					
26AH	6.35	7	8	9	9.52	–	–	–	–	–	26	39	56					
28AH	6.35	7	8	9	9.52	–	–	–	–	–	28	39	56					
30AH	6.35	7	8	9	9.52	–	–	–	–	–	30	39	56					
32AH	6.35	7	8	9	9.52	–	–	–	–	–	32	39	56	65	3.5	4.5	25	25
34AH	6.35	7	8	9	9.52	–	–	–	–	–	34	40	56					
36AH	6.35	7	8	9	9.52	–	–	–	–	–	36	42	56					
39AH	6.35	7	8	9	9.52	–	–	–	–	–	39	45	56					
40AH	6.35	7	8	9	9.52	–	–	–	–	–	40	46	56					
38B	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		65	3	5.5	25	32
50C	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
55MH	6.35	7	8	9	9.52	10	11	12	12.7	–	55	80		65	2	5.5	16	23
60A	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60A1	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60B	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

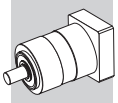
LC 070P

FM



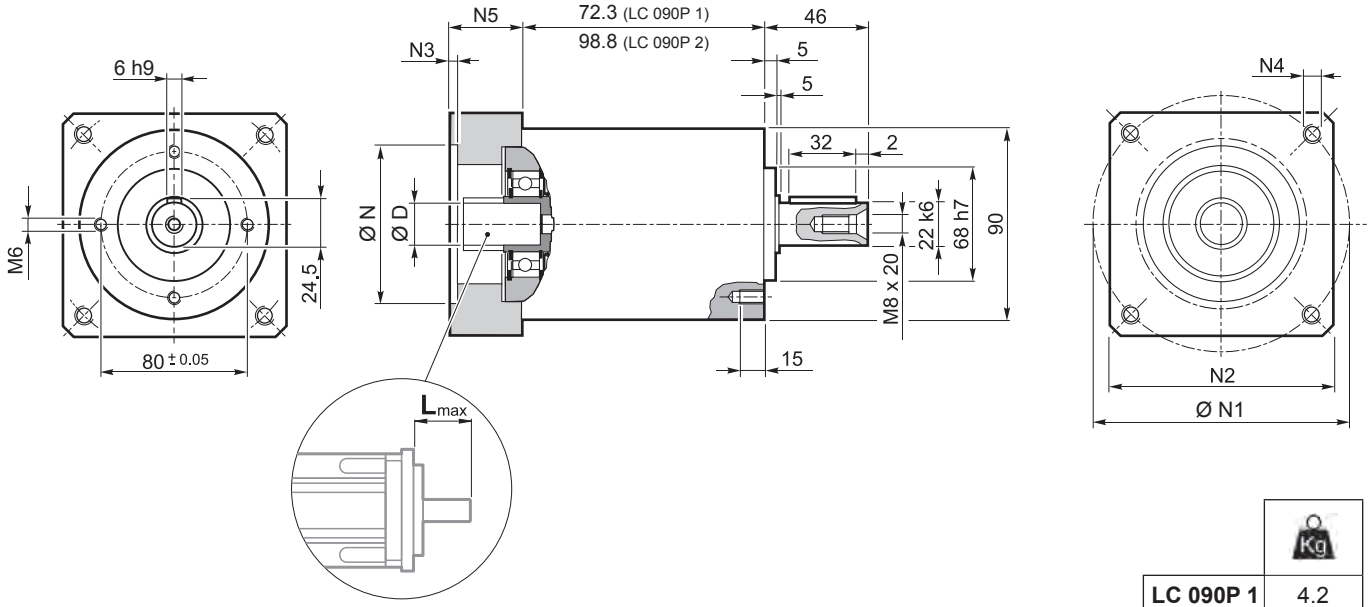
D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6.35 7	32.5	50	42.5	M4x8	M4	21.7	13.2	3	8.2	8
8 9 9.52 10	32.5	50	42.5	M4x8	M4	21.7	13.2	3	8.2	9
11 12 12.7	35.5	50	42.5	M4x8	M4	22	13.5	3	8.5	11
14	35.5	50	42.5	M4x8	M4	25	17	3	10.2	11.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 6 ... 9.52	J_G [kgcm^2] D 11 ... 14
LC 070P 1_ 3	29	55	60	3300	4000	12'	6'	3	1300	1400	97	0.12	0.14
LC 070P 1_ 4	30	45	70	3500	5000	12'	6'	3	1300	1400	97	0.08	0.10
LC 070P 1_ 5	25	40	70	3500	5000	12'	6'	3	1300	1400	97	0.06	0.09
LC 070P 1_ 7	25	40	70	4000	5000	12'	6'	3	1300	1400	97	0.05	0.07
LC 070P 1_ 10	18	30	60	4000	6000	12'	6'	3	3500	1400	97	0.04	0.06
LC 070P 2_ 9	29	55	60	3300	4000	15'	8'	2.5	1300	1400	94	0.11	0.13
LC 070P 2_ 12	29	55	70	3300	4000	15'	8'	2.5	1300	1400	94	0.10	0.13
LC 070P 2_ 15	29	55	70	3300	4000	15'	8'	2.5	1300	1400	94	0.10	0.12
LC 070P 2_ 16	30	45	70	3500	5000	15'	8'	2.5	1300	1400	94	0.07	0.09
LC 070P 2_ 20	30	45	70	3500	5000	15'	8'	2.5	1300	1400	94	0.06	0.08
LC 070P 2_ 25	30	45	70	3500	5000	15'	8'	2.5	1300	1400	94	0.06	0.08
LC 070P 2_ 28	30	45	70	4000	6000	15'	8'	2.5	1300	1400	94	0.05	0.07
LC 070P 2_ 30	29	55	60	4000	6000	15'	8'	2.5	1300	1400	94	0.04	0.06
LC 070P 2_ 35	30	45	70	4000	6000	15'	8'	2.5	1300	1400	94	0.05	0.07
LC 070P 2_ 40	30	45	70	4000	6000	15'	8'	2.5	1300	1400	94	0.04	0.06
LC 070P 2_ 50	30	45	70	4000	6000	15'	8'	2.5	1300	1400	94	0.04	0.06
LC 070P 2_ 70	30	45	70	4000	6000	15'	8'	2.5	1300	1400	94	0.04	0.06
LC 070P 2_ 100	18	30	60	4000	6000	15'	8'	2.5	1300	1400	94	0.04	0.06



LC 090P

40B1 ... 110B1



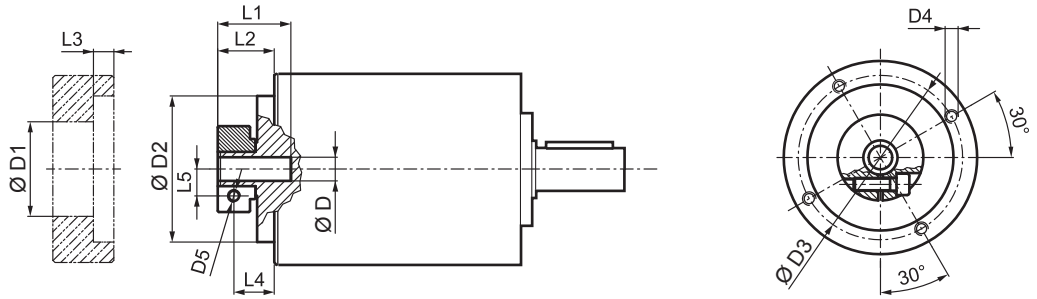
	Kg
LC 090P 1	4.2
LC 090P 2	5.3

	D											N	N1	N2	N3	N4	N5	L_{max}
40B1	9	9.52	11	12	12.7	14	–	–	–	–	–	40	63	80	4	M4x10	34	40
45A	9	9.52	11	12	12.7	–	–	–	–	–	–	45	63	80	4	M4x10	34	40
50B1	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	M5x16	34	40
50BH1	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	5.5	34	40
50C1	9	9.52	11	12	12.7	14	–	–	–	–	–	50	70	80	4	M4x10	34	40
50D	9	9.52	11	12	12.7	14	–	–	–	–	–	50	95	80	4	M6x10	34	40
55A	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	55.5	125.7	105	4	M6x16	34	40
60A2	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	80	4	M5x16	34	40
60AH2	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	90	4	5.5	34	40
60B1	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	85	80	4	M5x16	34	40
60C1	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	90	80	4	M5x16	34	40
70A1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	80	4	M6x20	34	40
70AH1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	90	4	6.5	34	40
70B1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	90	80	4	M5x16	34	40
73A1	9	9.52	11	12	12.7	14	–	–	–	–	–	73	98.4	85	4	M5x16	34	40
80A1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	80	100	90	4	M6x16	34	40
95A	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	115	100	4	M8x20	34	40
95B	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	130	115	4	M8x20	34	40
110A	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	130	115	4	M8x20	34	40
110B	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	44	50
110B1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	54	60

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

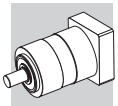
LC 090P

FM



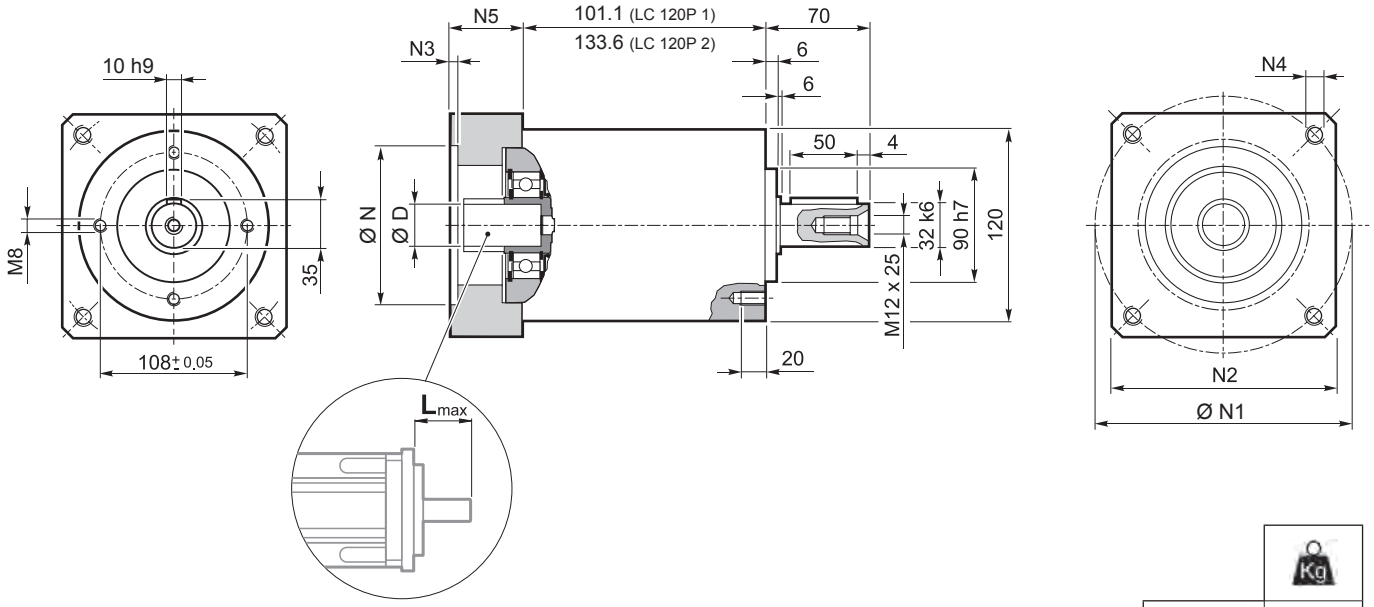
D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
9 9.52	38	68	76.5	M6x10	M6	34	26.8	9.5	18.8	10.5
11 12 12.7	43	68	76.5	M6x10	M6	34	26.8	9.5	18.8	12.5
14 15.875 16 17	48	68	76.5	M6x10	M6	34	26.8	9.5	18.8	14.5
19 19.05	51	68	76.5	M6x10	M6	34	26.8	9.5	18.8	16.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm²] D 8 ... 12.7	J_G [kgcm²] D 14 ... 19
LC 090P 1_ 3	65	120	150	3500	4000	12'	6'	12	2200	1900	97	0.62	0.77
LC 090P 1_ 4	60	110	160	3500	4000	12'	6'	12	2200	1900	97	0.41	0.55
LC 090P 1_ 5	50	100	160	3200	4500	12'	6'	9	2200	1900	97	0.33	0.47
LC 090P 1_ 7	50	100	160	4000	6000	12'	6'	9	2200	1900	97	0.26	0.40
LC 090P 1_ 10	40	70	150	4000	6000	12'	6'	9	2200	1900	97	0.21	0.35
LC 090P 2_ 9	65	120	150	3500	4000	15'	8'	12	2200	1900	94	0.47	0.61
LC 090P 2_ 12	65	120	160	3500	4000	15'	8'	12	2200	1900	94	0.44	0.58
LC 090P 2_ 15	65	120	160	3500	4000	15'	8'	12	2200	1900	94	0.43	0.57
LC 090P 2_ 16	60	110	160	3500	4500	15'	8'	12	2200	1900	94	0.31	0.45
LC 090P 2_ 20	60	110	160	3500	4500	15'	8'	12	2200	1900	94	0.26	0.40
LC 090P 2_ 25	50	100	160	3200	4500	15'	8'	9	2200	1900	94	0.26	0.40
LC 090P 2_ 28	50	100	160	4000	6000	15'	8'	9	2200	1900	94	0.22	0.36
LC 090P 2_ 30	65	120	150	4000	6000	15'	8'	12	2200	1900	94	0.20	0.34
LC 090P 2_ 35	50	100	160	4000	6000	15'	8'	9	2200	1900	94	0.22	0.36
LC 090P 2_ 40	60	110	160	4000	6000	15'	8'	12	2200	1900	94	0.20	0.34
LC 090P 2_ 50	50	100	160	4000	6000	15'	8'	9	2200	1900	94	0.20	0.34
LC 090P 2_ 70	50	100	160	4000	6000	15'	8'	9	2200	1900	94	0.20	0.34
LC 090P 2_ 100	40	70	150	4000	6000	15'	8'	9	2200	1900	94	0.19	0.34



LC 120P

50D ... 130A1



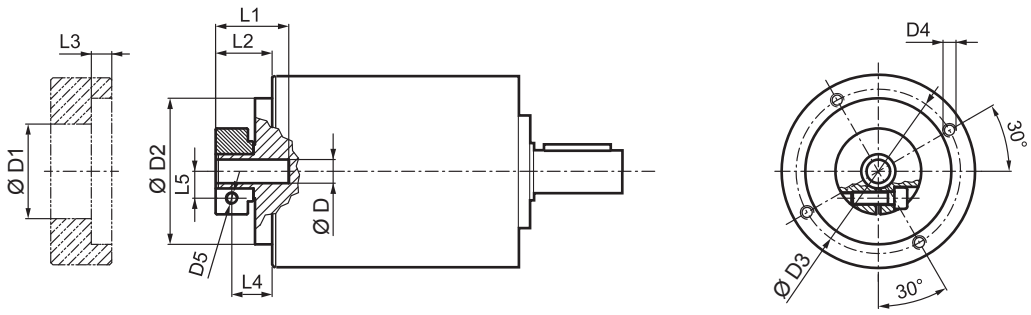
	Kg
LC 120P 1	9.6
LC 120P 2	12.1

	D									N	N1	N2	N3	N4	N5	L_{max}
50D	14	15	15.875	16	19	–	–	–	–	50	95	100	5	M6x14	28	40
55A	14	15	15.875	16	19	–	–	–	–	55.5	125.7	105	5	M6x16	28	40
60A2	14	15	15.875	16	19	–	–	–	–	60	75	100	5	M5x14	28	40
60AH2	14	15	15.875	16	19	–	–	–	–	60	75	100	5	6.5	33	40
60B1	14	15	15.875	16	19	–	–	–	–	60	85	100	6.5	M5x14	28	40
70A1	14	15	15.875	16	19	–	–	–	–	70	85	100	5	M6x14	28	40
70AH1	14	15	15.875	16	19	–	–	–	–	70	85	100	5	6	33	40
70B1	14	15	15.875	16	19	–	–	–	–	70	90	100	5	M5x12	28	40
80A1	14	15	15.875	16	19	–	–	–	–	80	100	100	5	M6x16	28	40
80AH1	14	15	15.875	16	19	–	–	–	–	80	100	100	5	6.5	28	40
95A	14	15	15.875	16	19	–	–	–	–	95	115	100	5	M8x18	28	40
95A1	14	15	15.875	16	19	22	24	–	–	95	115	100	5	M8x18	38	50
95B	14	15	15.875	16	19	–	–	–	–	95	130	115	5	M8x18	28	40
110A	14	15	15.875	16	19	–	–	–	–	110	130	115	5	M8x18	28	40
110A1	14	15	15.875	16	19	22	24	–	–	110	130	115	6.5	M8x20	38	50
110B	14	15	15.875	16	19	22	24	–	–	110	145	120	6.5	M8x20	38	50
110B1	14	15	15.875	16	19	22	24	28	–	110	145	120	6.5	M8x20	48	60
130A	14	15	15.875	16	19	22	24	–	–	130	165	140	6.5	M10x20	38	50
130A1	14	15	15.875	16	19	22	24	28	32	130	165	140	6.5	M10x25	48	60

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

LC 120P

FM

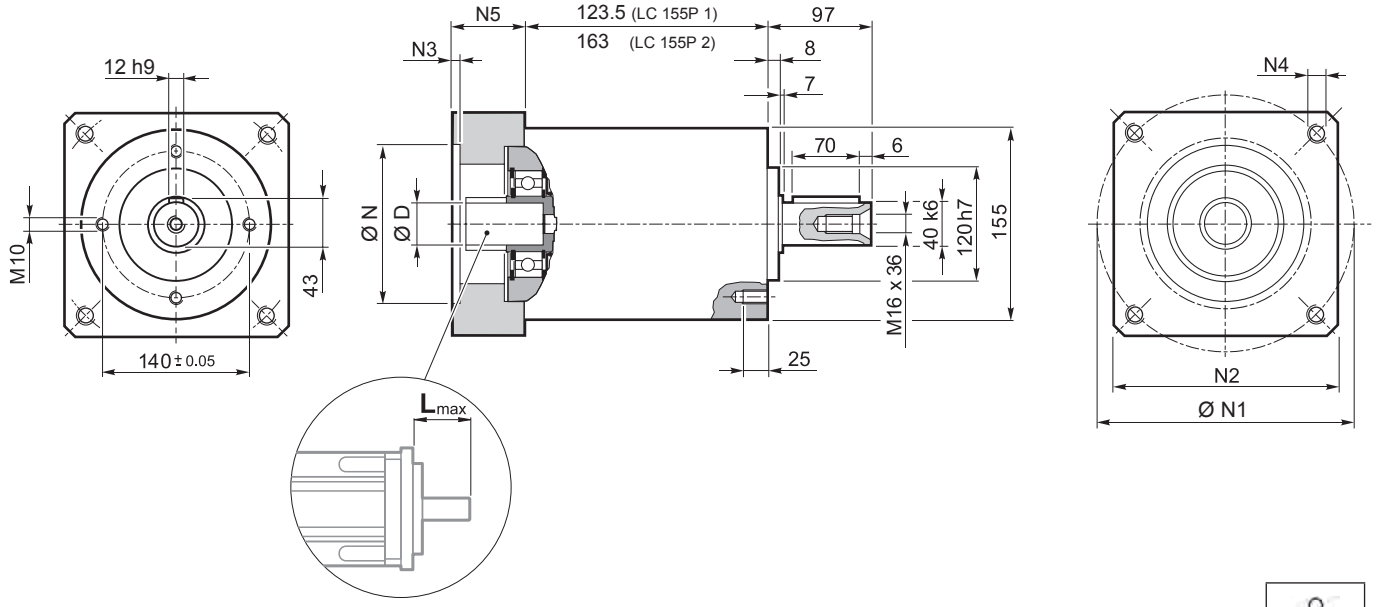


D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14 15 15.875 16	48	90	98	M6x15	M6	33.5	20	7.6	12.5	14.5
19	51	90	98	M6x15	M6	33.5	20	7.6	12.5	16.5
22 24	56.5	90	98	M6x15	M6	36.5	23	7.6	14	19
28	67	90	98	M6x15	M8	36.5	23	7.6	14	22.5
32	71	90	98	M6x15	M8	38	24.5	7.6	15.5	24.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 14 ... 19	22 ; 24	28 ; 32
LC 120P 1_ 3	155	280	300	3000	4000	12'	6'	30	3500	3000	97	2.17	2.77	3.13
LC 120P 1_ 4	155	300	360	3000	4500	12'	6'	30	3500	3000	97	1.30	1.89	2.26
LC 120P 1_ 5	125	240	360	3000	4500	12'	6'	25	3500	3000	97	0.96	1.56	1.92
LC 120P 1_ 7	125	240	360	3500	4500	12'	6'	25	3500	3000	97	0.66	1.26	1.62
LC 120P 1_ 10	100	160	300	3500	5000	12'	6'	25	3500	3000	97	0.49	1.09	1.45
LC 120P 2_ 9	155	280	300	3000	4000	15'	8'	30	3500	3000	94	1.61	2.20	2.57
LC 120P 2_ 12	155	300	360	3000	4000	15'	8'	30	3500	3000	94	1.51	2.10	2.47
LC 120P 2_ 15	155	300	360	3000	4000	15'	8'	30	3500	3000	94	1.47	2.06	2.43
LC 120P 2_ 16	155	300	360	3000	4500	15'	8'	30	3500	3000	94	0.92	1.52	1.88
LC 120P 2_ 20	155	300	360	3000	4500	15'	8'	30	3500	3000	94	0.90	1.50	1.86
LC 120P 2_ 25	125	240	360	3000	4500	15'	8'	22.5	3500	3000	94	0.71	1.30	1.67
LC 120P 2_ 28	125	240	360	3500	5000	15'	8'	22.5	3500	3000	94	0.54	1.13	1.50
LC 120P 2_ 30	155	300	300	3500	5000	15'	8'	30	3500	3000	94	0.44	1.04	1.40
LC 120P 2_ 35	125	240	360	3500	5000	15'	8'	22.5	3500	3000	94	0.53	1.13	1.49
LC 120P 2_ 40	155	300	360	3500	5000	15'	8'	30	3500	3000	94	0.43	1.03	1.39
LC 120P 2_ 50	125	240	360	3500	5000	15'	8'	22.5	3500	3000	94	0.43	1.02	1.39
LC 120P 2_ 70	125	240	360	3500	5000	15'	8'	22.5	3500	3000	94	0.42	1.02	1.38
LC 120P 2_ 100	100	160	300	3500	5000	15'	8'	22.5	3500	3000	94	0.42	1.02	1.38

LC 155P

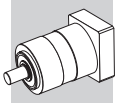
55A1 ... 180A1



	Kg
LC 155P 1	19.3
LC 155P 2	24.3

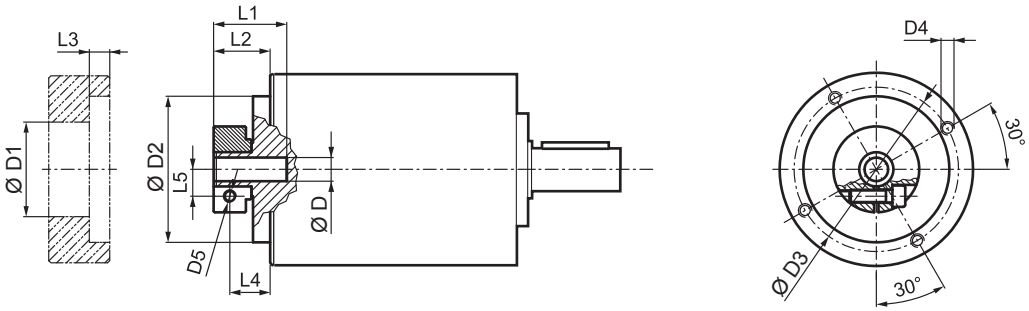
	D							N	N1	N2	N3	N4	N5	L_{max}
55A1	19	–	–	–	–	–	–	55.5	125.7	130	4	M6x15	39.5	50
80A2	19	–	–	–	–	–	–	80	100	130	4	M6x15	39.5	50
95A1	19	22	24	–	–	–	–	95	115	130	4	M8x20	39.5	50
110A1	19	22	24	–	–	–	–	110	130	130	4	M8x20	39.5	50
110B1	19	22	24	–	–	–	–	110	145	130	6.5	M8x20	49.5	60
114A	19	22	24	28	32	35	38	114.3	200	170	5.5	M12x25	69.5	80
130A	19	22	24	–	–	–	–	130	165	140	4	M10x20	39.5	50
130A1	19	22	24	28	32	–	–	130	165	140	4	M10x20	49.5	60
180A	19	22	24	28	32	–	–	180	215	190	5.5	M14x25	49.5	60
180A1	19	22	24	28	32	35	38	180	215	190	5.5	M14x25	69.5	80

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



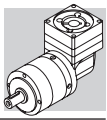
LC 155P

FM



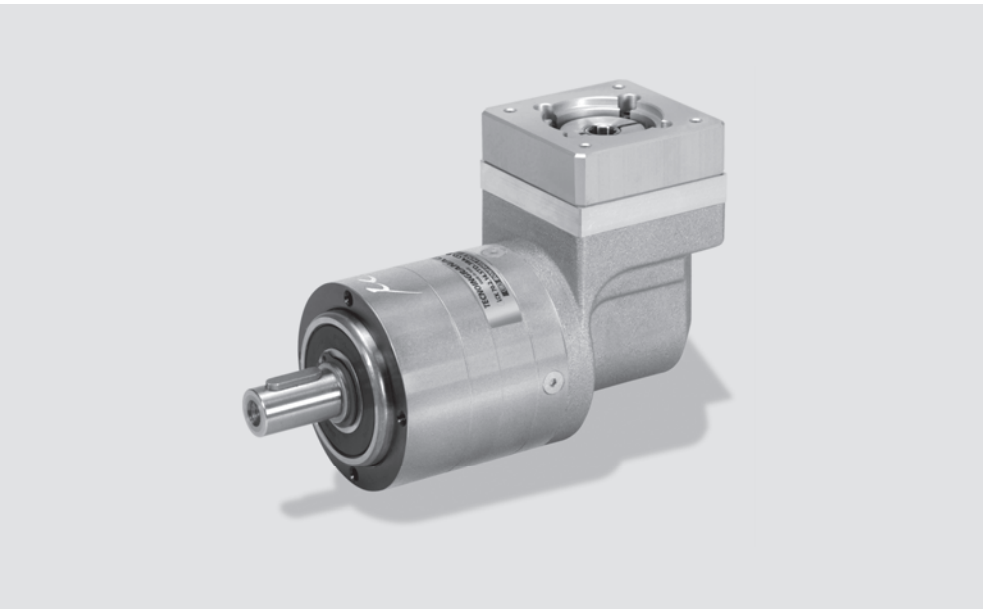
D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
19	51	113	125.5	M8x15	M6	40	27.5	6	20	16.5
22 24	56.5	113	125.5	M8x15	M6	41	28.5	6	19.5	19
28	67	113	125.5	M8x15	M8	41	28.5	6	19.5	22.5
32	71	113	125.5	M8x15	M8	41	28.5	6	18.5	24.5
35	73	113	125.5	M8x15	M8	50	37.5	11.25	26	26
38	77.5	113	125.5	M8x15	M8	50	37.5	11.25	26	28

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 19	22 ; 24	28 ; 32	35 ; 38
LC 155P 1 _ 3	250	380	600	2100	3600	12'	6'	50	6000	5000	97	7.99	8.19	8.54	9.90
LC 155P 1 _ 4	350	500	1000	2400	3600	12'	6'	50	6000	5000	97	4.66	4.87	5.23	6.57
LC 155P 1 _ 5	350	500	1000	2900	3600	12'	6'	50	6000	5000	97	3.32	2.53	3.53	5.23
LC 155P 1 _ 7	350	500	1000	3200	3600	12'	6'	50	6000	5000	97	2.14	2.35	2.70	4.05
LC 155P 1 _ 10	230	350	750	3200	3600	12'	6'	50	6000	5000	97	1.14	1.66	2.01	3.36
LC 155P 2 _ 9	250	380	600	2100	3600	15'	8'	48	6000	5000	94	5.30	5.51	5.86	7.21
LC 155P 2 _ 12	450	700	1000	2100	3600	15'	8'	48	6000	5000	94	4.93	5.14	5.49	6.84
LC 155P 2 _ 15	450	700	1000	2100	3600	15'	8'	48	6000	5000	94	4.79	4.99	5.34	6.70
LC 155P 2 _ 16	450	700	1000	2400	3600	15'	8'	48	6000	5000	94	2.97	3.18	3.53	4.88
LC 155P 2 _ 20	450	700	1000	2900	3600	15'	8'	48	6000	5000	94	2.23	2.44	2.79	4.14
LC 155P 2 _ 25	450	700	1000	2900	3600	15'	8'	48	6000	5000	94	2.18	2.39	2.74	4.09
LC 155P 2 _ 28	450	700	1000	3200	3600	15'	8'	48	6000	5000	94	1.58	1.79	2.14	3.49
LC 155P 2 _ 30	250	380	750	3200	3600	15'	8'	48	6000	5000	94	1.23	1.44	1.79	3.14
LC 155P 2 _ 35	450	700	1000	3200	3600	15'	8'	48	6000	5000	94	1.55	1.76	2.11	3.46
LC 155P 2 _ 40	450	700	1000	3200	3600	15'	8'	48	6000	5000	94	1.20	1.41	1.76	3.11
LC 155P 2 _ 50	450	700	1000	3200	3600	15'	8'	48	6000	5000	94	1.19	1.39	1.74	3.10
LC 155P 2 _ 70	450	700	1000	3200	3600	15'	8'	48	6000	5000	94	1.17	1.38	1.73	3.08
LC 155P 2 _ 100	230	350	750	3200	3600	15'	8'	48	6000	5000	94	1.17	1.38	1.73	3.08



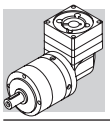
LCK
ABGEWINKELTES PRÄZISIONSPLANETENGETRIEBE

Die LCK-Reihe bietet in Winkelbauform die gleichen Merkmale der LC-Reihe. Die Winkelbauweise erleichtert dabei die Installation an Stellen, an denen der Platz beschränkt ist.
Diese Getriebe sind dank optimaler Leistungsfähigkeit und Zuverlässigkeit eine flexible Lösung und wirtschaftliche Alternative.
Verbesserte Leistungsfähigkeit als Schlüssel zum Downsizing.
Die verbesserte Leistungsfähigkeit unseres LC-Präzisionsgetriebes (neue Option "P") kann wichtige Downsizing-Optionen für zahlreiche Anwendungen eröffnen, bei denen es zuvor nicht möglich war, ein höheres übertragbares Abtriebsdrehmoment bereitrzustellen.
Ein weiterer Vorteil des Downsizing ist eine verbesserte Energieeffizienz, indem man ein kompakteres Getriebe mit höherer Drehmomentdichte wählen und dadurch die Beschleunigungsmasse deutlich reduzieren kann.
Das übertragbare Drehmoment wurde um bis zu 40% verbessert.



LCK

Produktmerkmale:
- Option "P" mit hoher Drehmomentdichte für eine größere Produktleistungsfähigkeit verfügbar
- Optimales Beschleunigungs- und Nenndrehmoment
- Optimale radiale und axiale Belastbarkeit
- Entwickelt für Zyklus- und Dauerbetrieb
- Optimale Verdrehsteifigkeit
- Verdrehflankenspiel – unter 6 arcmin
- Einsetzbar in beliebiger Montageaposition



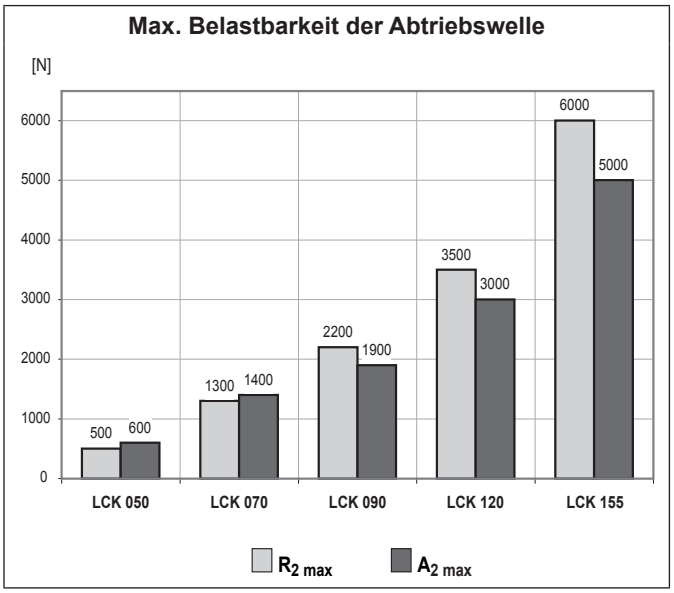
8 MERKMALE DER LCK-REIHE

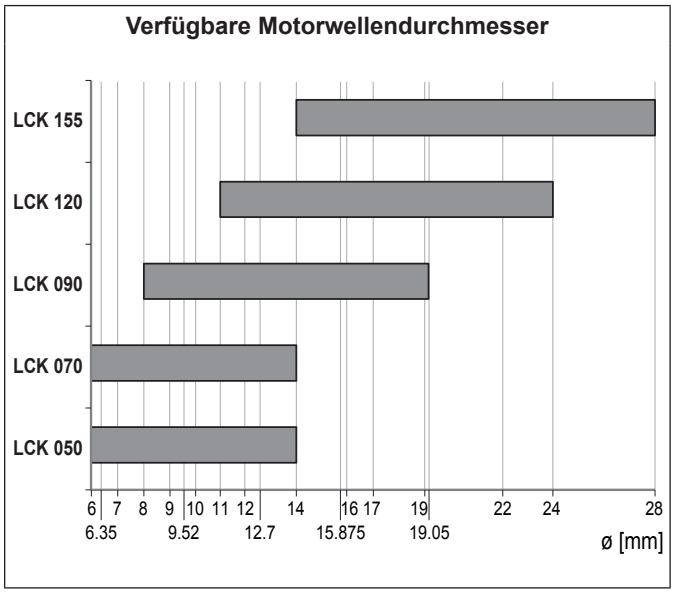
Die LCK-Reihe bietet in Winkelbauform die gleichen Merkmale der LC-Reihe, sowie den zusätzlichen Vorteil einer einfacheren Installation bei eingeschränkten Platzverhältnissen.

- Erhältlich mit standard Flankenspiel:
  2-stufige Getriebe: standard $\varphi_s \leq 6'$;
  3-stufige Getriebe: standard $\varphi_s \leq 8'$;
- Eine hohe IP-Schutzklasse (IP64) sorgt dafür, dass innenliegende Teile vor Staub- und Flüssigkeitseintritt geschützt sind.
- Serienmäßige Fluorelastomer-Wellendichtungen an der Eingangswelle
- Schalldruckpegel $L_P \leq 70$ dB(A). Gemessen in 1 m Abstand ohne Last und bei einer Eingangsdrehzahl von n_1 = 3000 min^{-1}; i=10.
- Große Auswahl an Motoradaptern sorgt für den Anschluss an die marktgängigsten Servomotoren.
- Die Getriebe sind werksseitig mit synthetischem Schmierfett gemäß NLGI-Konsistenzklasse 00 gefüllt; ohne Verunreinigung muss das Schmiermittel nicht regelmäßig gewechselt werden.
- Umgebungstemperatur min. -20°C, max. +30°C; bei Temperaturen höher als 30°C ist der Temperaturfaktor f_T zu berücksichtigen.
- Die Gehäusetemperatur darf T_{max} = 90°C nicht übersteigen.
- Erhältlich als Version P mit höherem Abtriebsdrehmoment.

Übersicht der Nenndrehmomente M_{n2} [Nm]

[i]	6	8	10	14	20	24	30	50	70	80	90	100
LCK 050	10	12	12	12	–	12	12	12	12	–	12	–
LCK 070	18	25	25	25	18	25	25	25	25	25	–	25
LCK 070P	25	30	25	25	18	29	29	30	30	30	–	30
LCK 090	37	43	43	43	37	43	43	43	43	43	–	43
LCK 090P	45	60	50	50	40	60	60	50	50	60	–	50
LCK 120	95	110	110	110	95	110	110	110	110	110	–	110
LCK 120P	110	140	125	125	100	155	155	125	125	155	–	125
LCK 155	250	300	300	300	230	300	300	300	300	300	–	300
LCK 155P	250	350	350	350	230	450	450	450	450	450	–	450





8.1 BESTELLBEZEICHNUNG

LCK 120 2 20 STD 100A CD 14 KE UH1

SCHMIERSTOFF

- **–** Standard
- **UH1** Lebensmitteltaugliches Schmiermittel

ABTRIEBSWELLENKONFIGURATION

- **KL** Glatte Welle ohne Passfeder
- **KE** Welle mit Passfedert

BOHRUNGSDURCHMESSER EINGANGSWELLE

- **6 ... 28**

MOTORKOPPLUNG

- **CD** Klemmnabe

ANTRIEBSFLANSCH

- **25AH ... 180A1** Motorflansch
- **FM** Ohne Motorflansch

VERDREHSPIEL

	2 Getriebestufen	3 Getriebestufen
STD	$\varphi s \leq 6'$	$\varphi s \leq 8'$

GETRIEBEÜBERSETZUNG

GETRIEBESTUFEN

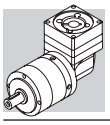
- **2** **3**

BAUGRÖSSE

- **050** **070** **090** **120** **155**
- **070P** **090P** **120P** **155P**

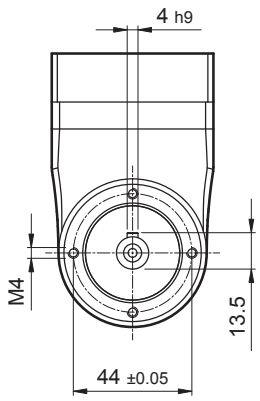
REIHE

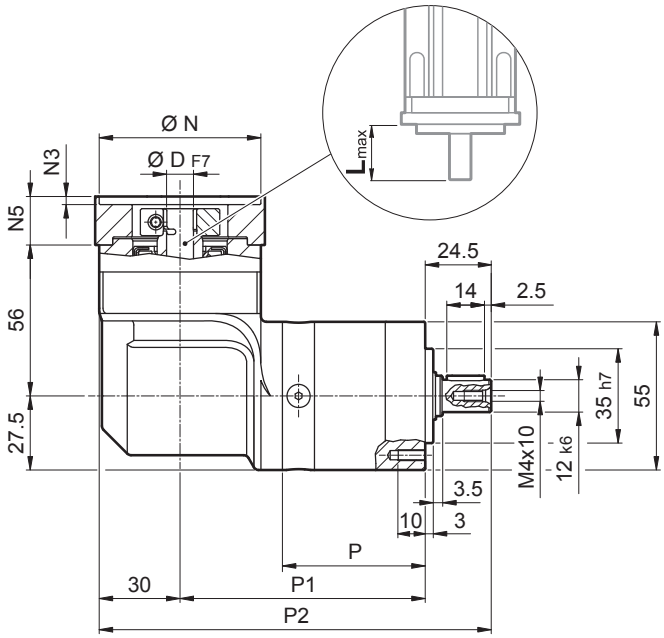
- **LCK**



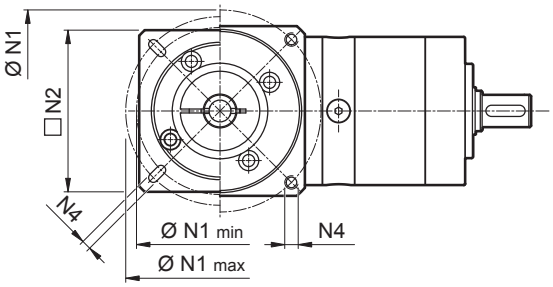
LCK 050

25AH ... 80A



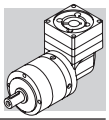


	P	P1	P2	Kg
LCK 050 2	53	91	145.5	1.6
LCK 050 3	66.8	104.8	159.3	1.8



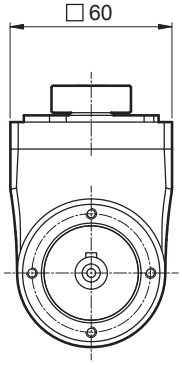
	D											N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6	6.35	7	8	9	9.52	–	–	–	–	–	25	39	56					
26AH	6	6.35	7	8	9	9.52	–	–	–	–	–	26	39	56					
28AH	6	6.35	7	8	9	9.52	–	–	–	–	–	28	39	56					
30AH	6	6.35	7	8	9	9.52	–	–	–	–	–	30	39	56					
32AH	6	6.35	7	8	9	9.52	–	–	–	–	–	32	39	56	65	3.5	4.5	25	25
34AH	6	6.35	7	8	9	9.52	–	–	–	–	–	34	40	56					
36AH	6	6.35	7	8	9	9.52	–	–	–	–	–	36	42	56					
38AH	6	6.35	7	8	9	9.52	–	–	–	–	–	39	45	56					
40AH	6	6.35	7	8	9	9.52	–	–	–	–	–	40	46	56					
38B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		65	3	5.5	25	32
50C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
50MH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	55	80		65	2	5.5	16	23
60A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60A1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

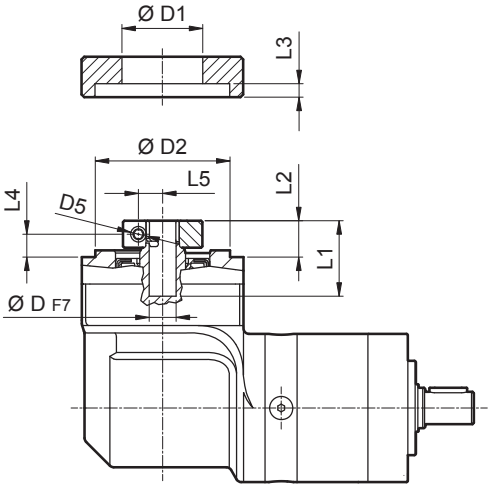
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

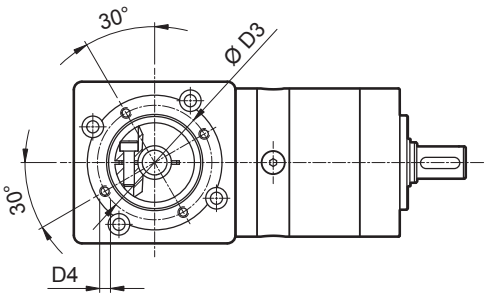


LCK 050

FM

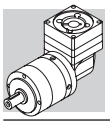






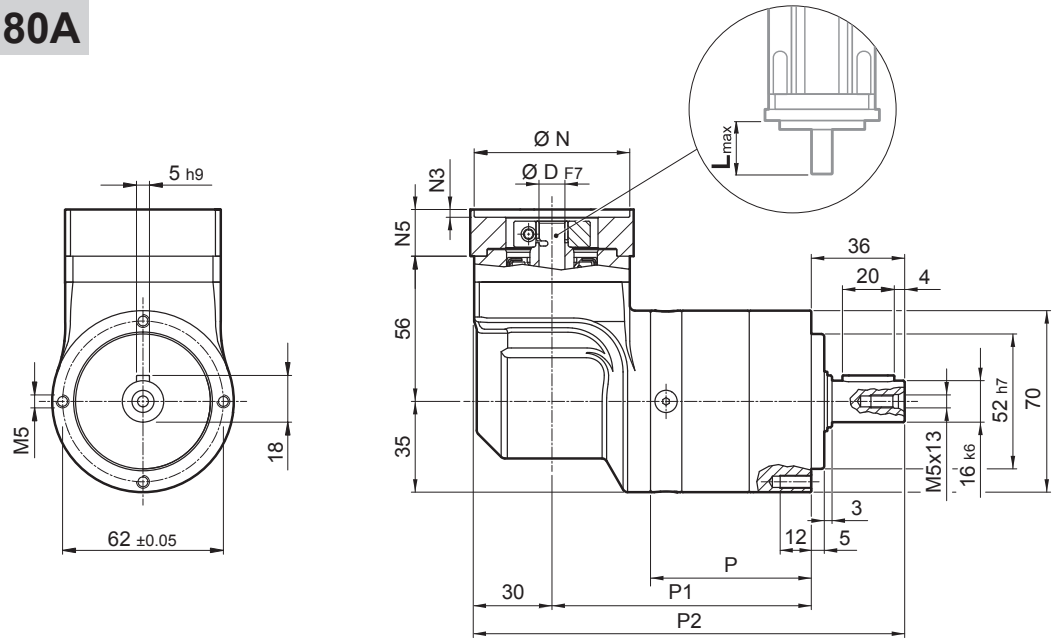
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6	6.35	7		32.5	50	42.5	M4x8	M4	28	13.5	3	8.5	8
8	9	9.52	10	32.5	50	42.5	M4x8	M4	28	13.5	3	8.5	9
11	12	12.7		35.5	50	42.5	M4x8	M4	23	13.5	3	8.5	11
14				35.5	50	42.5	M4x8	M4	25	15.5	3	8.9	11.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 6 ... 9.52	J_G [kgcm^2] D 10 ... 14
LCK 050 2_6	10	16	28	2500	5000	6'	0.9	500	600	94	0.23	0.25
LCK 050 2_8	12	20	30	2500	5000	6'	0.9	500	600	94	0.23	0.24
LCK 050 2_10	12	20	30	2500	5000	6'	0.9	500	600	94	0.23	0.24
LCK 050 2_14	12	20	30	2500	5000	6'	0.9	500	600	94	0.23	0.24
LCK 050 3_24	12	20	30	2500	5000	8'	0.7	500	600	91	0.23	0.25
LCK 050 3_30	12	20	30	2500	5000	8'	0.7	500	600	91	0.23	0.25
LCK 050 3_50	12	20	30	2500	5000	8'	0.7	500	600	91	0.23	0.24
LCK 050 3_70	12	20	30	2500	5000	8'	0.7	500	600	91	0.23	0.24
LCK 050 3_90	12	20	30	2500	5000	8'	0.7	500	600	91	0.22	0.24

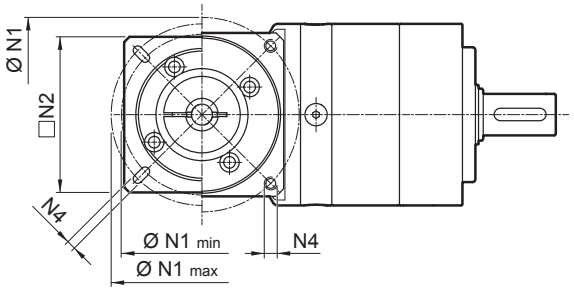


LCK 070

25AH ... 80A

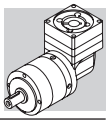


	P	P1	P2	Kg
LCK 070 2	62	100	166	2.7
LCK 070 3	78.7	116.7	182.7	3.0



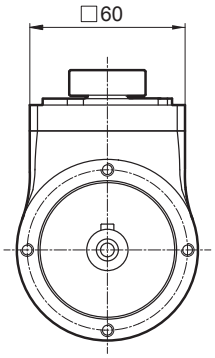
	D											N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6	6.35	7	8	9	9.52	–	–	–	–	–	25	39	56					
26AH	6	6.35	7	8	9	9.52	–	–	–	–	–	26	39	56					
28AH	6	6.35	7	8	9	9.52	–	–	–	–	–	28	39	56					
30AH	6	6.35	7	8	9	9.52	–	–	–	–	–	30	39	56					
32AH	6	6.35	7	8	9	9.52	–	–	–	–	–	32	39	56	65	3.5	4.5	25	25
34AH	6	6.35	7	8	9	9.52	–	–	–	–	–	34	40	56					
36AH	6	6.35	7	8	9	9.52	–	–	–	–	–	36	42	56					
39AH	6	6.35	7	8	9	9.52	–	–	–	–	–	39	45	56					
40AH	6	6.35	7	8	9	9.52	–	–	–	–	–	40	46	56					
38B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		65	3	5.5	25	32
50C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
55MH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	55	80		65	2	5.5	16	23
60A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60A1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

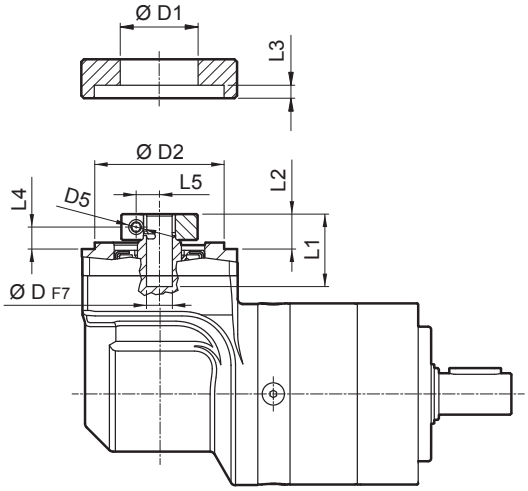
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

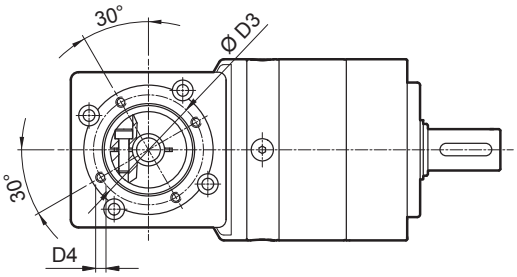


LCK 070

FM

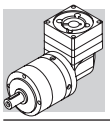






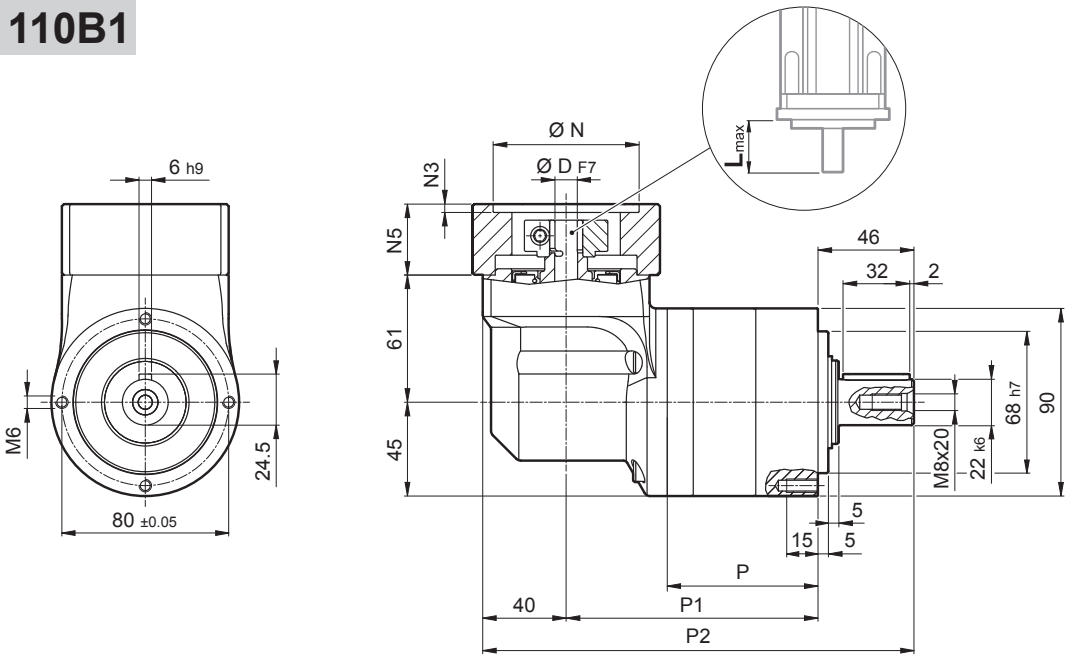
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6	6.35	7		32.5	50	42.5	M4x8	M4	28	13.5	3	8.5	8
8	9	9.52	10	32.5	50	42.5	M4x8	M4	28	13.5	3	8.5	9
11	12	12.7		35.5	50	42.5	M4x8	M4	23	13.5	3	8.5	11
14				35.5	50	42.5	M4x8	M4	25	15.5	3	8.9	11.5

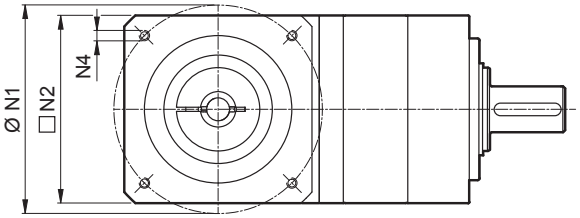
i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 6 ... 9.52	J_G [kgcm^2] D 10 ... 14
LCK 070 2_6	18	30	45	2500	5000	6'	2.8	1300	1400	94	0.25	0.26
LCK 070 2_8	25	35	60	2500	5000	6'	2.8	1300	1400	94	0.24	0.25
LCK 070 2_10	25	35	70	2500	5000	6'	2.8	1300	1400	94	0.23	0.25
LCK 070 2_14	25	35	70	2500	5000	6'	2.8	1300	1400	94	0.23	0.24
LCK 070 2_20	18	30	60	2500	5000	6'	2.8	1300	1400	94	0.23	0.24
LCK 070 3_24	25	35	70	2500	5000	8'	2.5	1300	1400	91	0.24	0.26
LCK 070 3_30	25	35	70	2500	5000	8'	2.5	1300	1400	91	0.24	0.26
LCK 070 3_50	25	35	70	2500	5000	8'	2.5	1300	1400	91	0.23	0.24
LCK 070 3_70	25	35	70	2500	5000	8'	2.5	1300	1400	91	0.23	0.24
LCK 070 3_80	25	35	70	2500	5000	8'	2.5	1300	1400	91	0.23	0.24
LCK 070 3_100	25	35	70	2500	5000	8'	2.5	1300	1400	91	0.23	0.24



LCK 090

40B1 ... 110B1

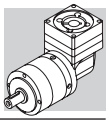




	P	P1	P2	Kg
LCK 090 2	72.3	120.8	206.8	5.2
LCK 090 3	98.8	147.3	233.3	6.3

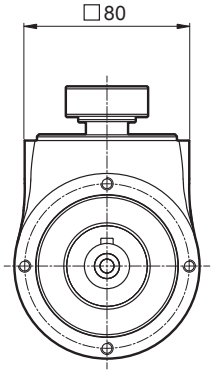
	D												N	N1	N2	N3	N4	N5	L_{max}
40B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	40	63	80	4	M4x10	34	40
45A	8	9	9.52	11	12	12.7	–	–	–	–	–	–	45	63	80	4	M4x10	34	40
50B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	M5x16	34	40
50BH1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	5.5	34	40
50C1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	70	80	4	M4x10	34	40
50D	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	95	80	4	M6x10	34	40
55A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	55.5	125.7	105	4	M6x16	34	40
60A2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	80	4	M5x16	34	40
60AH2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	90	4	5.5	34	40
60B1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	85	80	4	M5x16	34	40
60C1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	90	80	4	M5x16	34	40
70A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	80	4	M6x20	34	40
70AH1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	90	4	6.5	34	40
70B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	90	80	4	M5x16	34	40
73A1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	73	98.4	85	4	M5x16	34	40
80A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	80	100	90	4	M6x16	34	40
95A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	115	100	4	M8x20	34	40
95B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	130	115	4	M8x20	34	40
110A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	130	115	4	M8x20	34	40
110B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	44	50
110B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	54	60

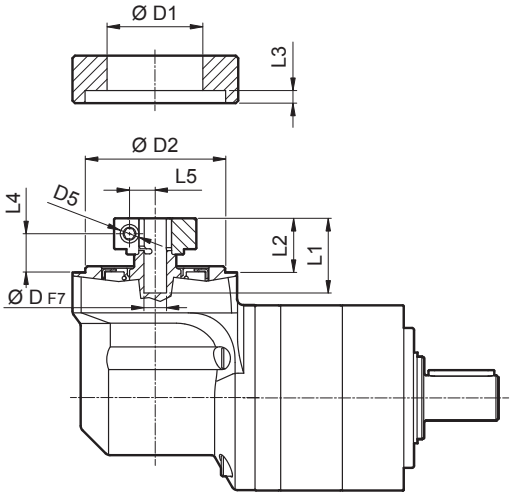
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

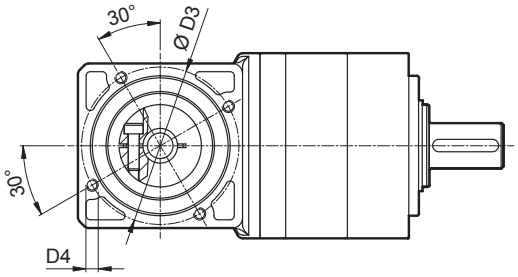


LCK 090

FM

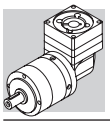






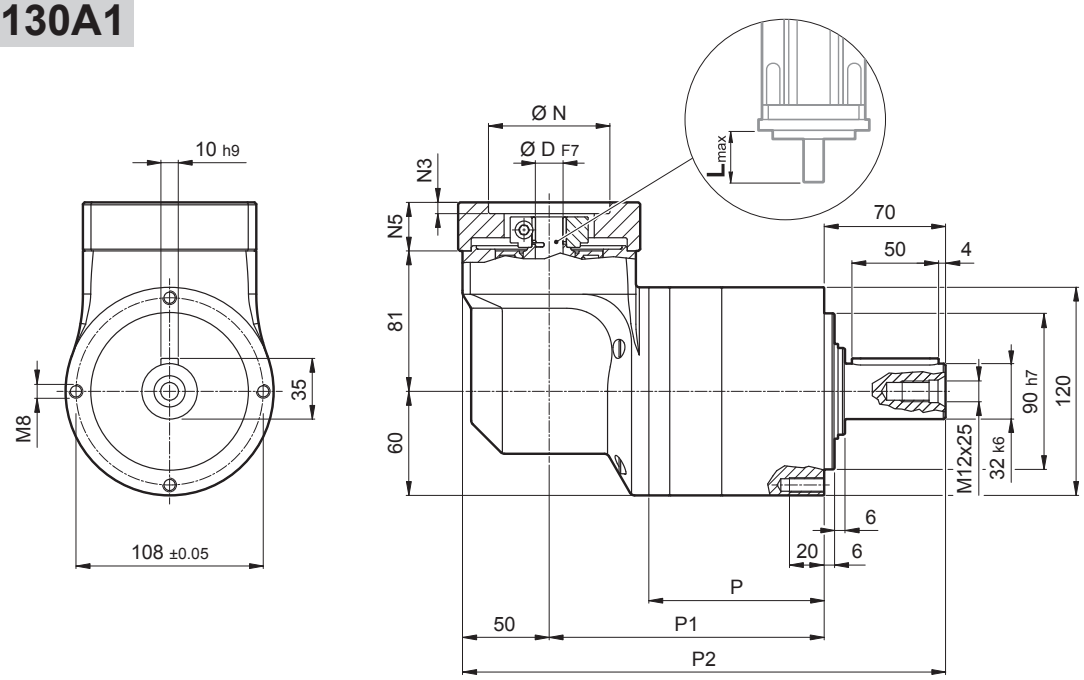
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
8	9	9.52		38	68	76.5	M6x10	M6	36.3	26.3	9.5	18.8	10.5
11	12	12.7		43	68	76.5	M6x10	M6	36.3	26.3	9.5	18.8	12.5
14	15.875	16	17	48	68	76.5	M6x10	M6	36.3	26.3	9.5	18.8	14.5
19	19.05			51	68	76.5	M6x10	M6	36.3	26.3	9.5	18.8	16.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 8 ... 12.7	J_G [kgcm^2] D 14 ... 19.05
LCK 090 2_6	37	63	90	2500	5000	6'	8	2200	1900	94	0.85	1.03
LCK 090 2_8	43	80	120	2500	5000	6'	8	2200	1900	94	0.79	0.98
LCK 090 2_10	43	80	150	2500	5000	6'	8	2200	1900	94	0.77	0.96
LCK 090 2_14	43	80	160	2500	5000	6'	8	2200	1900	94	0.75	0.94
LCK 090 2_20	37	70	150	2500	5000	6'	8	2200	1900	94	0.74	0.93
LCK 090 3_24	43	80	160	2500	5000	8'	7.8	2200	1900	91	0.81	1.00
LCK 090 3_30	43	80	160	2500	5000	8'	7.8	2200	1900	91	0.81	1.00
LCK 090 3_50	43	80	160	2500	5000	8'	7.8	2200	1900	91	0.76	0.94
LCK 090 3_70	43	80	160	2500	5000	8'	7.8	2200	1900	91	0.74	0.93
LCK 090 3_80	43	80	160	2500	5000	8'	7.8	2200	1900	91	0.74	0.93
LCK 090 3_100	43	80	160	2500	5000	8'	7.8	2200	1900	91	0.74	0.93

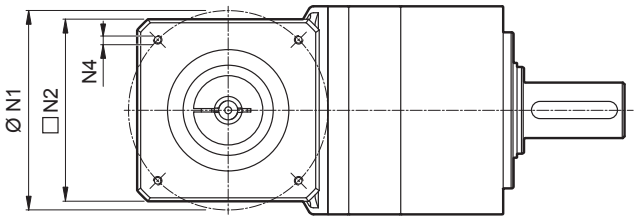


LCK 120

50D ... 130A1

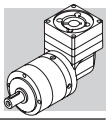


	P	P1	P2	Kg
LCK 120 2	101.1	158.6	278.6	11.3
LCK 120 3	133.6	191.1	311.1	13.8



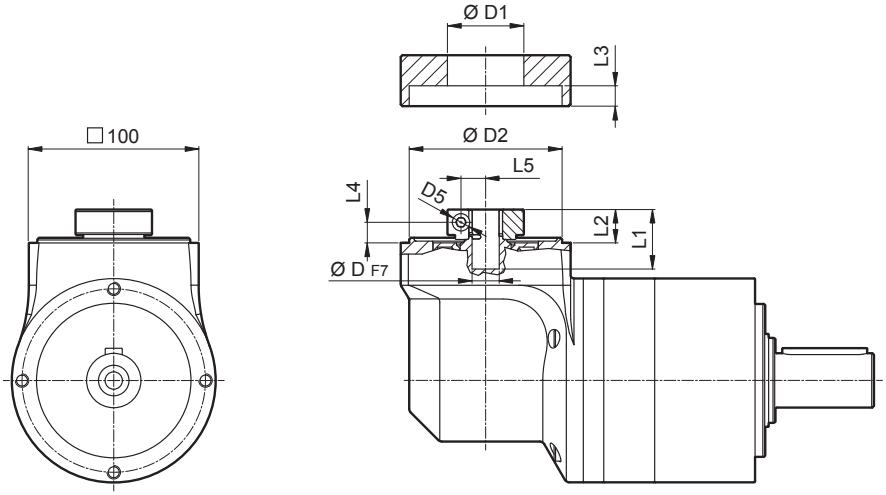
	D										N	N1	N2	N3	N4	N5	L_{max}
50D	11	12	12.7	14	15	15.875	16	19	–	–	50	95	100	5	M6x14	28	40
55A	11	12	12.7	14	15	15.875	16	19	–	–	55.5	125.7	105	5	M6x16	28	40
60A2	11	12	12.7	14	15	15.875	16	19	–	–	60	75	100	5	M5x14	28	40
60AH2	11	12	12.7	14	15	15.875	16	19	–	–	60	75	100	5	6.5	33	40
60B1	11	12	12.7	14	15	15.875	16	19	–	–	60	85	100	6.5	M5x14	28	40
70A1	11	12	12.7	14	15	15.875	16	19	–	–	70	85	100	5	M6x14	28	40
70AH1	11	12	12.7	14	15	15.875	16	19	–	–	70	85	100	5	6	33	40
70B1	11	12	12.7	14	15	15.875	16	19	–	–	70	90	100	5	M5x12	28	40
80A1	11	12	12.7	14	15	15.875	16	19	–	–	80	100	100	5	M6x16	28	40
80AH1	11	12	12.7	14	15	15.875	16	19	–	–	80	100	100	5	6.5	28	40
95A	11	12	12.7	14	15	15.875	16	19	–	–	95	115	100	5	M8x18	28	40
95A1	11	12	12.7	14	15	15.875	16	19	22	24	95	115	100	5	M8x18	38	50
95B	11	12	12.7	14	15	15.875	16	19	–	–	95	130	115	5	M8x18	28	40
110A	11	12	12.7	14	15	15.875	16	19	–	–	110	130	115	5	M8x18	28	40
110A1	11	12	12.7	14	15	15.875	16	19	22	24	110	130	115	6.5	M8x20	38	50
110B	11	12	12.7	14	15	15.875	16	19	22	24	110	145	120	6.5	M8x20	38	50
110B1	11	12	12.7	14	15	15.875	16	19	22	24	110	145	120	6.5	M8x20	48	60
130A	11	12	12.7	14	15	15.875	16	19	22	24	130	165	140	6.5	M10x20	38	50
130A1	11	12	12.7	14	15	15.875	16	19	22	24	130	165	140	6.5	M10x25	48	60

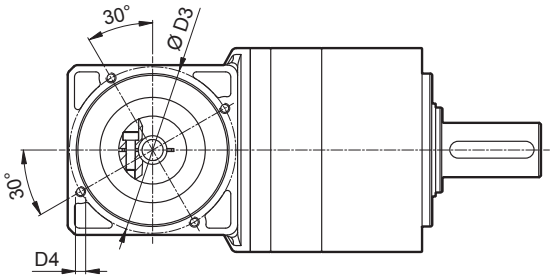
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



LCK 120

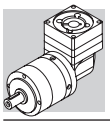
FM





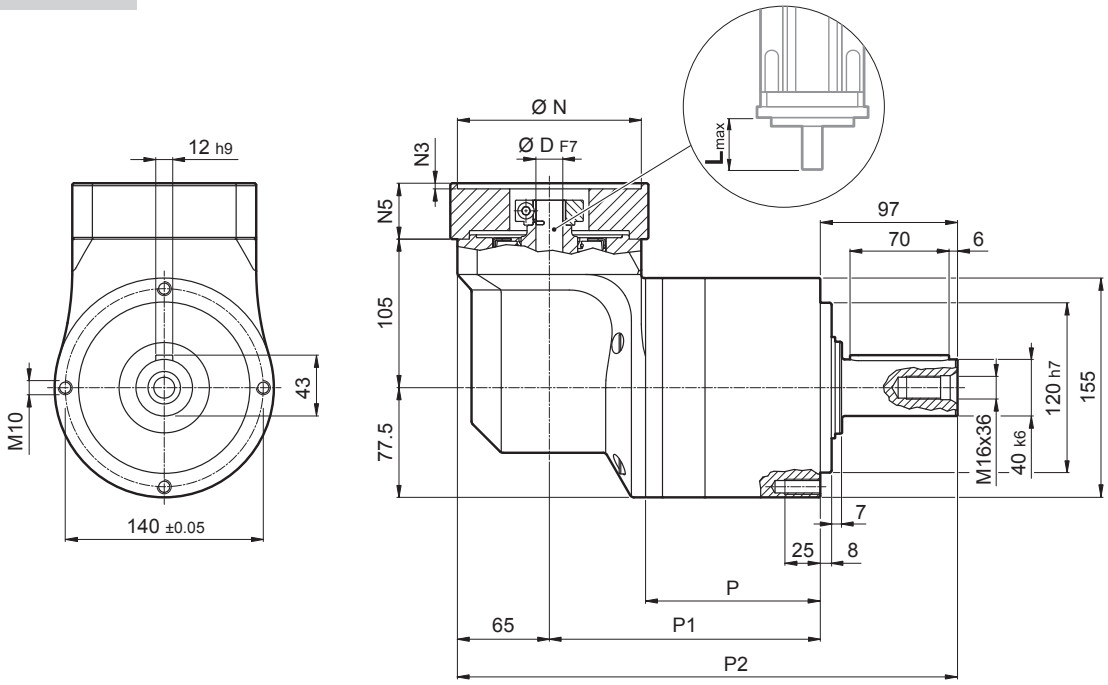
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
11	12	12.7		43	90	98	M6x15	M6	35	19.5	7.6	12.1	12.5
14	15	15.875	16	48	90	98	M6x15	M6	35	19.5	7.6	12.1	14.5
19				51	90	98	M6x15	M6	35	19.5	7.6	12.1	16.5
22	24			56.5	90	98	M6x15	M6	37	21.5	7.6	12.1	19

	$M_{n\,2}$	$M_{a\,2}$	$M_{p\,2}$	n_1	$n_{1\,max}$	φ_S	C_t	$R_{2\,max}$	$A_{2\,max}$	η	J_G [kgcm²] D		
i	[Nm]	[Nm]	[Nm]	[min⁻¹]	[min⁻¹]	[arcmin]	[Nm/arcmin]	[N]	[N]	%	11 ... 12.7	14 ... 19	22 ; 24
LCK 120 2_6	95	160	225	2000	4500	6'	23.4	3500	3000	94	1.74	1.82	2.01
LCK 120 2_8	110	190	300	2000	4500	6'	23.4	3500	3000	94	1.52	1.60	1.79
LCK 120 2_10	110	190	360	2000	4500	6'	23.4	3500	3000	94	1.44	1.52	1.71
LCK 120 2_14	110	190	360	2000	4500	6'	23.4	3500	3000	94	1.37	1.45	1.63
LCK 120 2_20	95	160	300	2000	4500	6'	23.4	3500	3000	94	1.32	1.40	1.59
LCK 120 3_24	110	190	360	2000	4500	8'	22.9	3500	3000	91	1.64	1.72	1.90
LCK 120 3_30	110	190	360	2000	4500	8'	22.9	3500	3000	91	1.63	1.71	1.89
LCK 120 3_50	110	190	360	2000	4500	8'	22.9	3500	3000	91	1.40	1.48	1.67
LCK 120 3_70	110	190	360	2000	4500	8'	22.9	3500	3000	91	1.34	1.42	1.61
LCK 120 3_80	110	190	360	2000	4500	8'	22.9	3500	3000	91	1.31	1.39	1.58
LCK 120 3_100	110	190	360	2000	4500	8'	22.9	3500	3000	91	1.31	1.39	1.58

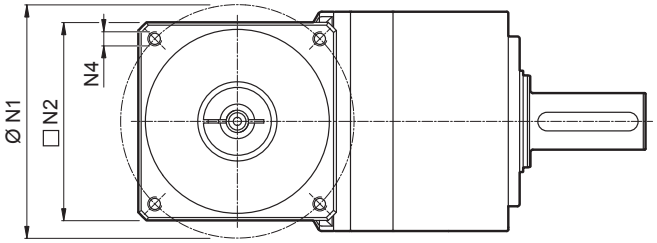


LCK 155

55A1 ... 180A1

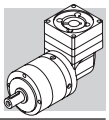


	P	P1	P2	Kg
LCK 155 2	123.5	191.5	353.5	27.8
LCK 155 3	163	231	393	32.8



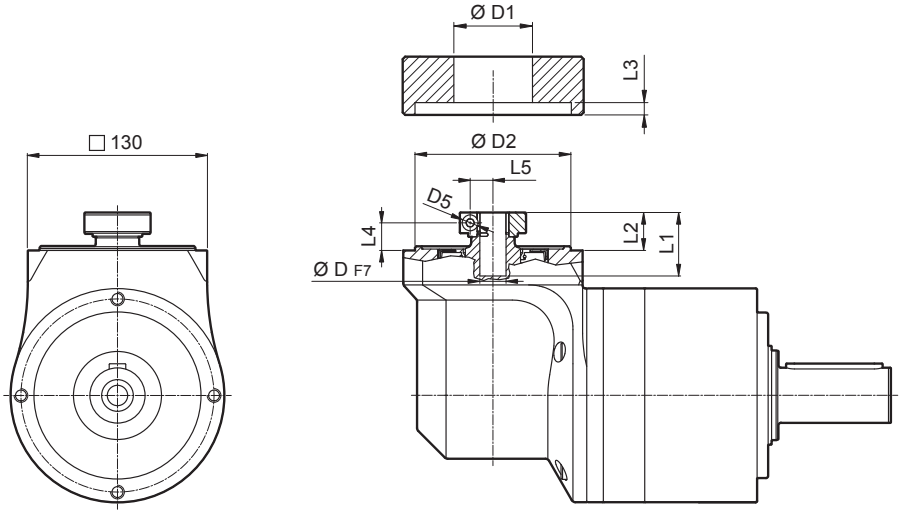
	D							N	N1	N2	N3	N4	N5	L_{max}
55A1	14	15.875	16	19	–	–	–	55.5	125.7	130	4	M6x15	39.5	50
80A2	14	15.875	16	19	–	–	–	80	100	130	4	M6x15	39.5	50
95A1	14	15.875	16	19	22	24	–	95	115	130	4	M8x20	39.5	50
110A1	14	15.875	16	19	22	24	–	110	130	130	4	M8x20	39.5	50
110B1	14	15.875	16	19	22	24	–	110	145	130	6.5	M8x20	49.5	60
114A	14	15.875	16	19	22	24	28	114.3	200	170	5.5	M12x25	69.5	80
130A	14	15.875	16	19	22	24	–	130	165	140	4	M10x20	39.5	50
130A1	14	15.875	16	19	22	24	28	130	165	140	4	M10x20	49.5	60
180A	14	15.875	16	19	22	24	28	180	215	190	5.5	M14x25	49.5	60
180A1	14	15.875	16	19	22	24	28	180	215	190	5.5	M14x25	69.5	80

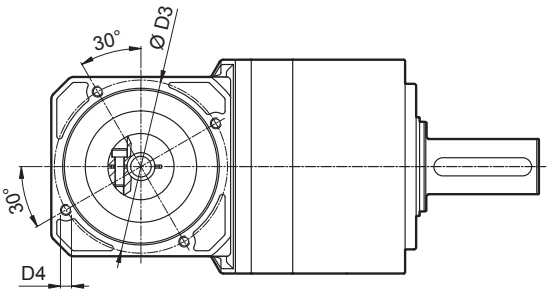
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



LCK 155

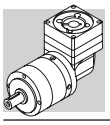
FM





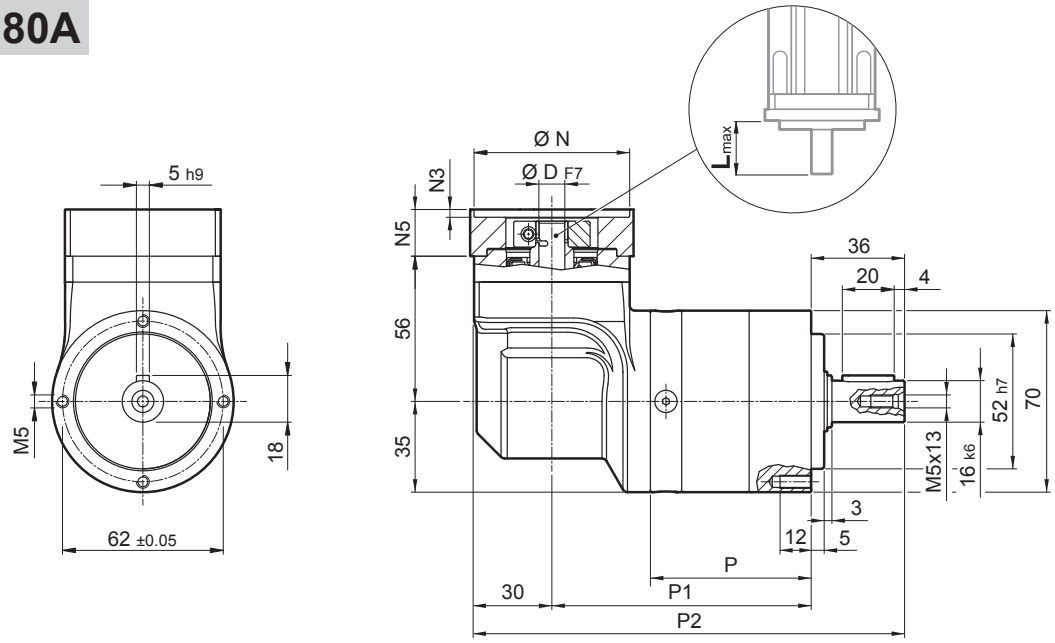
D			D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14	15.875	16	48	113	125.5	M8x15	M6	46	27.5	6	20	14.5
19			51	113	125.5	M8x15	M6	46	27.5	6	20	16.5
22	24		56.5	113	125.5	M8x15	M6	47.5	29	6	20	19
28			67	113	125.5	M8x15	M8	47.5	29	6	20	22.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 14 ... 19	22 ; 24	28
LCK 155 2_6	250	360	510	2000	4500	6'	40.7	6000	5000	94	7.94	8.13	8.53
LCK 155 2_8	300	450	680	2000	4500	6'	40.7	6000	5000	94	7.11	7.30	7.70
LCK 155 2_10	300	450	850	2000	4500	6'	40.7	6000	5000	94	6.78	6.96	7.36
LCK 155 2_14	300	450	900	2000	4500	6'	40.7	6000	5000	94	6.48	6.67	7.07
LCK 155 2_20	230	350	750	2000	4500	6'	40.7	6000	5000	94	6.31	6.49	6.90
LCK 155 3_24	300	450	900	2000	4500	8'	37.4	6000	5000	91	7.18	7.37	7.77
LCK 155 3_30	300	450	900	2000	4500	8'	37.4	6000	5000	91	7.14	7.33	7.73
LCK 155 3_50	300	450	900	2000	4500	8'	37.4	6000	5000	91	6.49	6.68	7.08
LCK 155 3_70	300	450	900	2000	4500	8'	37.4	6000	5000	91	6.33	6.52	6.92
LCK 155 3_80	300	450	700	2000	4500	8'	37.4	6000	5000	91	6.25	6.43	6.83
LCK 155 3_100	300	450	900	2000	4500	8'	37.4	6000	5000	91	6.24	6.43	6.83

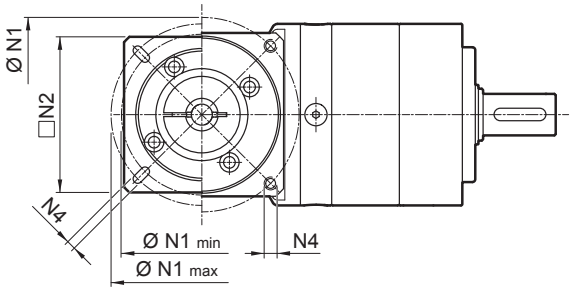


LCK 070P

25AH ... 80A

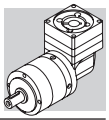


	P	P1	P2	Kg
LCK 070P 2	62	100	166	2.7
LCK 070P 3	78.7	116.7	182.7	3.0



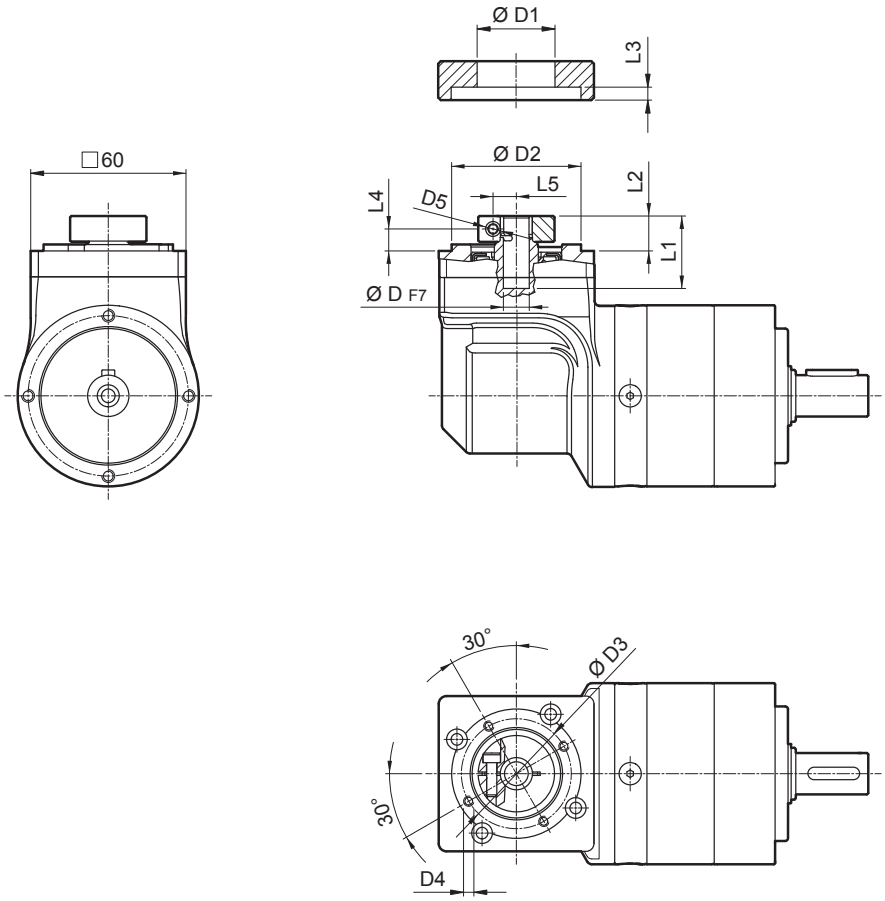
	D											N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6	6.35	7	8	9	9.52	–	–	–	–	–	25	39	56					
26AH	6	6.35	7	8	9	9.52	–	–	–	–	–	26	39	56					
28AH	6	6.35	7	8	9	9.52	–	–	–	–	–	28	39	56					
30AH	6	6.35	7	8	9	9.52	–	–	–	–	–	30	39	56					
32AH	6	6.35	7	8	9	9.52	–	–	–	–	–	32	39	56	65	3.5	4.5	25	25
34AH	6	6.35	7	8	9	9.52	–	–	–	–	–	34	40	56					
36AH	6	6.35	7	8	9	9.52	–	–	–	–	–	36	42	56					
39AH	6	6.35	7	8	9	9.52	–	–	–	–	–	39	45	56					
40AH	6	6.35	7	8	9	9.52	–	–	–	–	–	40	46	56					
38B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		65	3	5.5	25	32
50C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
55MH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	55	80		65	2	5.5	16	23
60A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60A1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



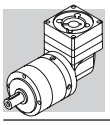
LCK 070P

FM



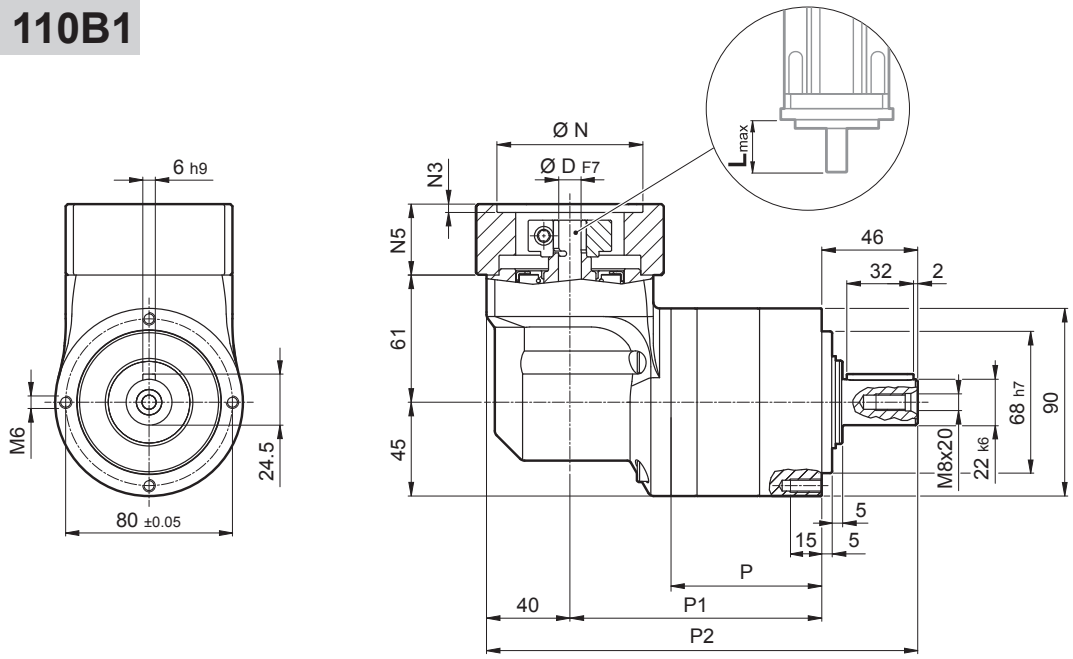
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6	6.35	7		32.5	50	42.5	M4x8	M4	28	13.5	3	8.5	8
8	9	9.52	10	32.5	50	42.5	M4x8	M4	28	13.5	3	8.5	9
11	12	12.7		35.5	50	42.5	M4x8	M4	23	13.5	3	8.5	11
14				35.5	50	42.5	M4x8	M4	25	15.5	3	8.9	11.5

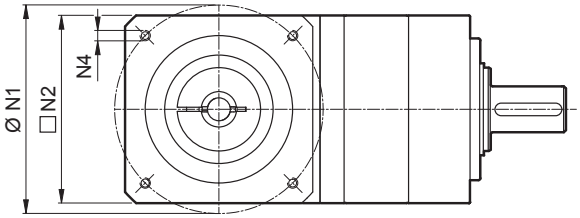
i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 6 ... 9.52	J_G [kgcm^2] D 11 ... 14
LCK 070P 2_6	25	38	45	2500	5000	6'	2.8	1300	1400	94	0.25	0.26
LCK 070P 2_8	30	40	60	2500	5000	6'	2.8	1300	1400	94	0.24	0.25
LCK 070P 2_10	25	40	70	2500	5000	6'	2.8	1300	1400	94	0.23	0.25
LCK 070P 2_14	25	40	70	2500	5000	6'	2.8	1300	1400	94	0.23	0.24
LCK 070P 2_20	18	30	60	2500	5000	6'	2.8	1300	1400	94	0.23	0.24
LCK 070P 3_24	29	45	70	2500	5000	8'	2.5	1300	1400	91	0.24	0.26
LCK 070P 3_30	29	45	70	2500	5000	8'	2.5	1300	1400	91	0.24	0.26
LCK 070P 3_50	30	45	70	2500	5000	8'	2.5	1300	1400	91	0.23	0.24
LCK 070P 3_70	30	45	70	2500	5000	8'	2.5	1300	1400	91	0.23	0.24
LCK 070P 3_80	30	45	70	2500	5000	8'	2.5	1300	1400	91	0.23	0.24
LCK 070P 3_100	30	45	70	2500	5000	8'	2.5	1300	1400	91	0.23	0.24



LCK 090P

40B1 ... 110B1

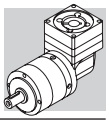




	P	P1	P2	Kg
LCK 090P 2	72.3	120.8	206.8	5.2
LCK 090P 3	98.8	147.3	233.3	6.3

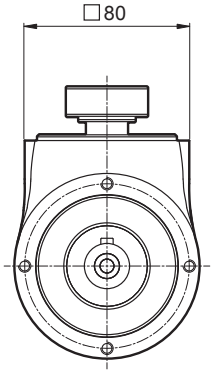
	D												N	N1	N2	N3	N4	N5	L_{max}
40B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	40	63	80	4	M4x10	34	40
45A	8	9	9.52	11	12	12.7	–	–	–	–	–	–	45	63	80	4	M4x10	34	40
50B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	M5x16	34	40
50BH1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	5.5	34	40
50C1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	70	80	4	M4x10	34	40
50D	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	95	80	4	M6x10	34	40
55A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	55.5	125.7	105	4	M6x16	34	40
60A2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	80	4	M5x16	34	40
60AH2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	90	4	5.5	34	40
60B1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	85	80	4	M5x16	34	40
60C1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	90	80	4	M5x16	34	40
70A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	80	4	M6x20	34	40
70AH1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	90	4	6.5	34	40
70B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	90	80	4	M5x16	34	40
73A1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	73	98.4	85	4	M5x16	34	40
80A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	80	100	90	4	M6x16	34	40
95A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	115	100	4	M8x20	34	40
95B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	130	115	4	M8x20	34	40
110A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	130	115	4	M8x20	34	40
110B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	44	50
110B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	54	60

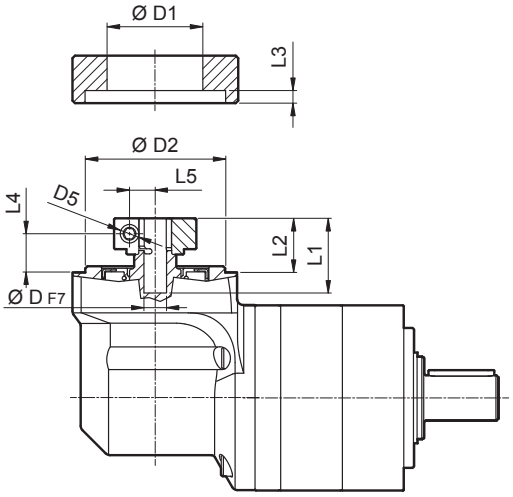
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

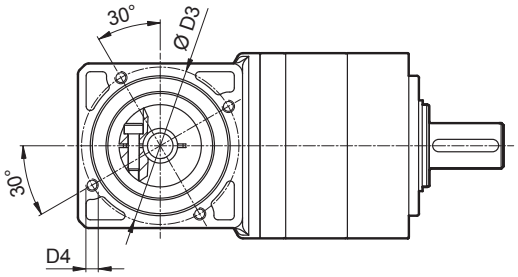


LCK 090P

FM

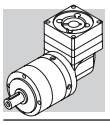






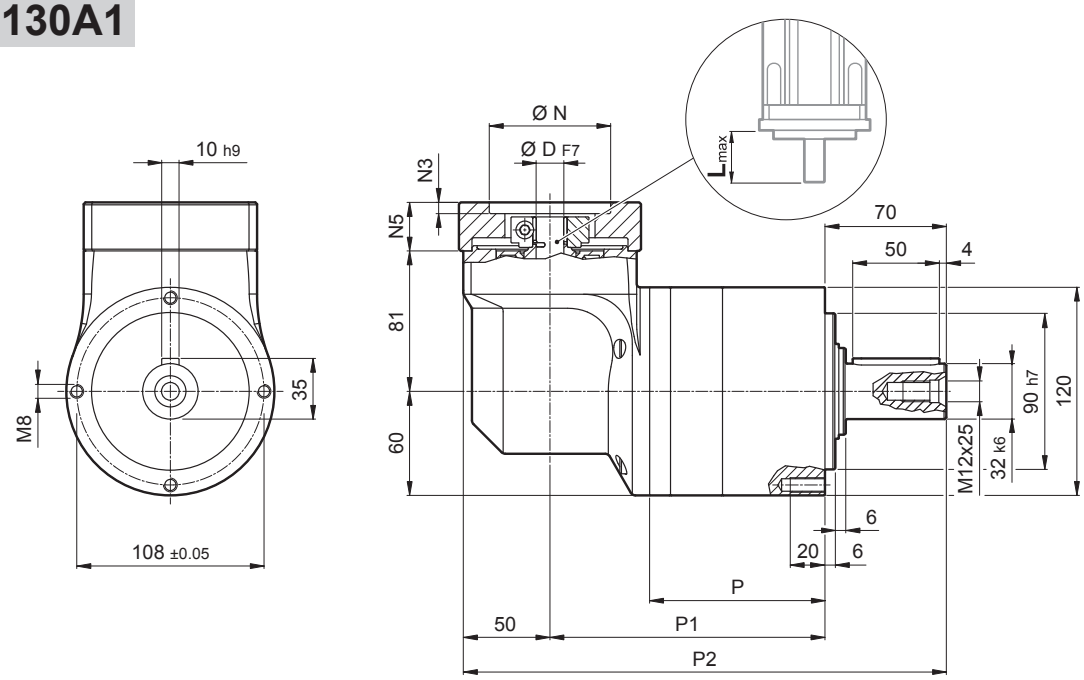
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
8	9	9.52		38	68	76.5	M6x10	M6	36.3	26.3	9.5	18.8	10.5
11	12	12.7		43	68	76.5	M6x10	M6	36.3	26.3	9.5	18.8	12.5
14	15.875	16	17	48	68	76.5	M6x10	M6	36.3	26.3	9.5	18.8	14.5
19	19.05			51	68	76.5	M6x10	M6	36.3	26.3	9.5	18.8	16.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 8 ... 12.7	J_G [kgcm^2] D 14 ... 19
LCK 090P 2_6	45	70	90	2500	5000	6'	11	2200	1900	94	0.85	1.03
LCK 090P 2_8	60	90	120	2500	5000	6'	11	2200	1900	94	0.79	0.98
LCK 090P 2_10	50	90	150	2500	5000	6'	8	2200	1900	94	0.77	0.96
LCK 090P 2_14	50	90	160	2500	5000	6'	8	2200	1900	94	0.75	0.94
LCK 090P 2_20	40	70	150	2500	5000	6'	8	2200	1900	94	0.74	0.93
LCK 090P 3_24	60	90	160	2500	5000	8'	10.8	2200	1900	91	0.81	1.00
LCK 090P 3_30	60	90	160	2500	5000	8'	10.8	2200	1900	91	0.81	1.00
LCK 090P 3_50	50	90	160	2500	5000	8'	7.8	2200	1900	91	0.76	0.94
LCK 090P 3_70	50	90	160	2500	5000	8'	7.8	2200	1900	91	0.74	0.93
LCK 090P 3_80	60	90	160	2500	5000	8'	10.8	2200	1900	91	0.74	0.93
LCK 090P 3_100	50	90	160	2500	5000	8'	7.8	2200	1900	91	0.74	0.93

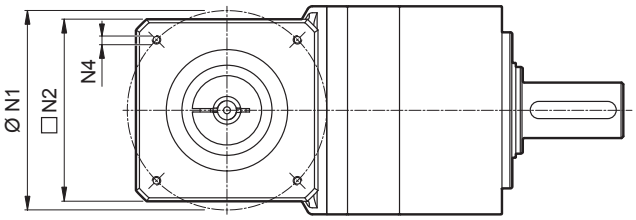


LCK 120P

50D ... 130A1

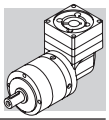


	P	P1	P2	Kg
LCK 120P 2	101.1	158.6	278.6	11.3
LCK 120P 3	133.6	191.1	311.1	13.8



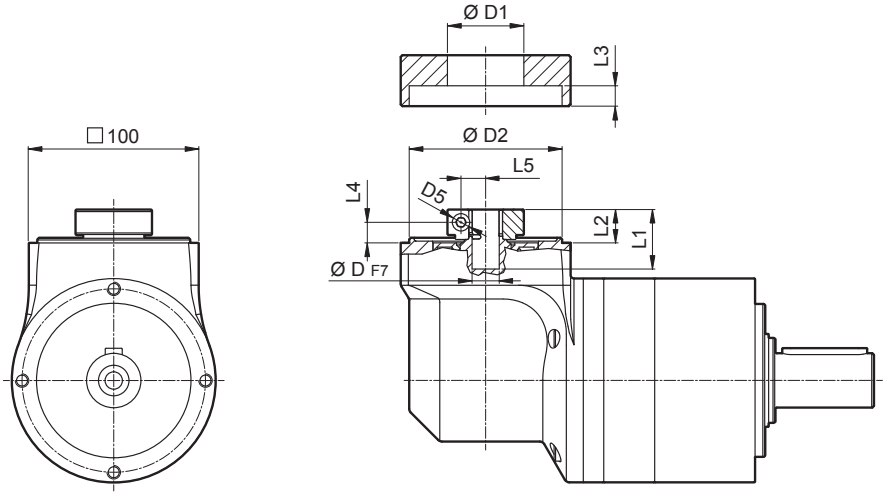
	D										N	N1	N2	N3	N4	N5	L_{max}
50D	11	12	12.7	14	15	15.875	16	19	–	–	50	95	100	5	M6x14	28	40
55A	11	12	12.7	14	15	15.875	16	19	–	–	55.5	125.7	105	5	M6x16	28	40
60A2	11	12	12.7	14	15	15.875	16	19	–	–	60	75	100	5	M5x14	28	40
60AH2	11	12	12.7	14	15	15.875	16	19	–	–	60	75	100	5	6.5	33	40
60B1	11	12	12.7	14	15	15.875	16	19	–	–	60	85	100	6.5	M5x14	28	40
70A1	11	12	12.7	14	15	15.875	16	19	–	–	70	85	100	5	M6x14	28	40
70AH1	11	12	12.7	14	15	15.875	16	19	–	–	70	85	100	5	6	33	40
70B1	11	12	12.7	14	15	15.875	16	19	–	–	70	90	100	5	M5x12	28	40
80A1	11	12	12.7	14	15	15.875	16	19	–	–	80	100	100	5	M6x16	28	40
80AH1	11	12	12.7	14	15	15.875	16	19	–	–	80	100	100	5	6.5	28	40
95A	11	12	12.7	14	15	15.875	16	19	–	–	95	115	100	5	M8x18	28	40
95A1	11	12	12.7	14	15	15.875	16	19	22	24	95	115	100	5	M8x18	38	50
95B	11	12	12.7	14	15	15.875	16	19	–	–	95	130	115	5	M8x18	28	40
110A	11	12	12.7	14	15	15.875	16	19	–	–	110	130	115	5	M8x18	28	40
110A1	11	12	12.7	14	15	15.875	16	19	22	24	110	130	115	6.5	M8x20	38	50
110B	11	12	12.7	14	15	15.875	16	19	22	24	110	145	120	6.5	M8x20	38	50
110B1	11	12	12.7	14	15	15.875	16	19	22	24	110	145	120	6.5	M8x20	48	60
130A	11	12	12.7	14	15	15.875	16	19	22	24	130	165	140	6.5	M10x20	38	50
130A1	11	12	12.7	14	15	15.875	16	19	22	24	130	165	140	6.5	M10x25	48	60

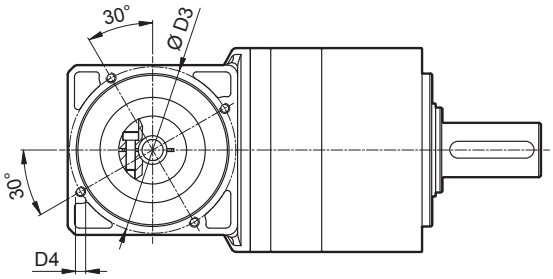
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



LCK 120P

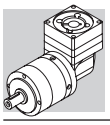
FM





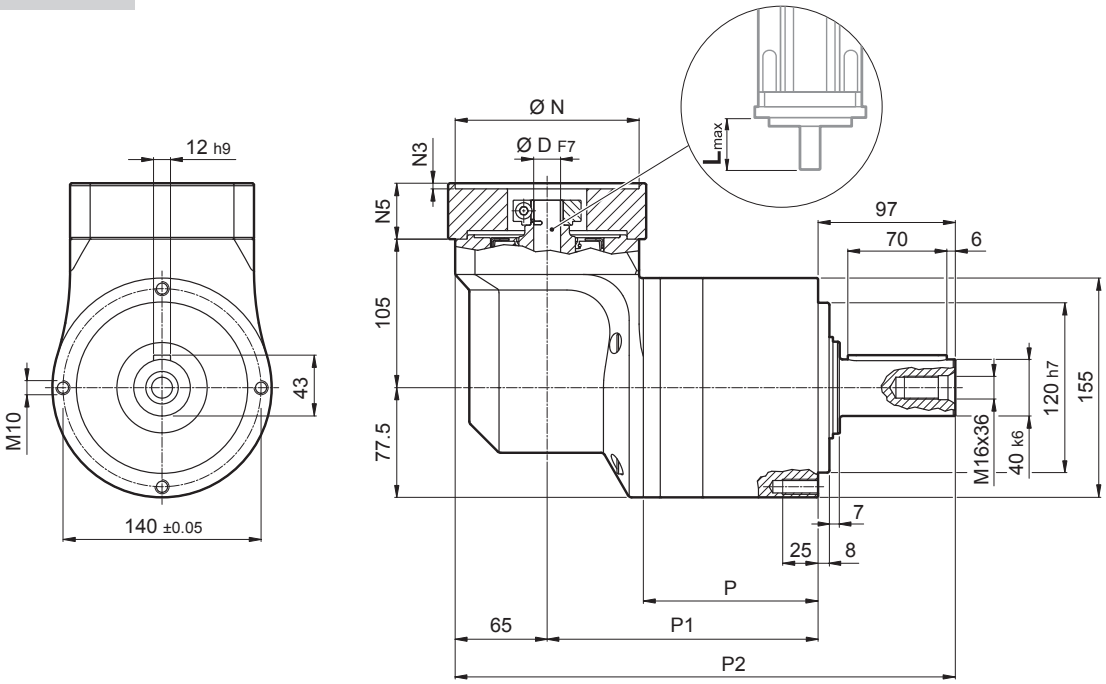
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
11	12	12.7		43	90	98	M6x15	M6	35	19.5	7.6	12.1	12.5
14	15	15.875	16	48	90	98	M6x15	M6	35	19.5	7.6	12.1	14.5
19				51	90	98	M6x15	M6	35	19.5	7.6	12.1	16.5
22	24			56.5	90	98	M6x15	M6	37	21.5	7.6	12.1	19

	$M_{n\,2}$	$M_{a\,2}$	$M_{p\,2}$	n_1	$n_{1\,max}$	φ_S	C_t	$R_{2\,max}$	$A_{2\,max}$	η	J_G [kgcm²] D		
i	[Nm]	[Nm]	[Nm]	[min⁻¹]	[min⁻¹]	[arcmin]	[Nm/arcmin]	[N]	[N]	%	14 ... 19	22 ; 24	28 ; 32
LCK 120P 2_6	110	160	225	2000	4500	6'	28.4	3500	3000	94	1.74	1.82	2.01
LCK 120P 2_8	140	220	300	2000	4500	6'	28.4	3500	3000	94	1.52	1.60	1.79
LCK 120P 2_10	125	220	360	2000	4500	6'	28.4	3500	3000	94	1.44	1.52	1.71
LCK 120P 2_14	125	220	360	2000	4500	6'	28.4	3500	3000	94	1.37	1.45	1.63
LCK 120P 2_20	100	160	300	2000	4500	6'	28.4	3500	3000	94	1.32	1.40	1.59
LCK 120P 3_24	155	220	360	2000	4500	8'	28.4	3500	3000	91	1.64	1.72	1.90
LCK 120P 3_30	155	220	360	2000	4500	8'	28.4	3500	3000	91	1.63	1.71	1.89
LCK 120P 3_50	125	220	360	2000	4500	8'	22.9	3500	3000	91	1.40	1.48	1.67
LCK 120P 3_70	125	220	360	2000	4500	8'	22.9	3500	3000	91	1.34	1.42	1.61
LCK 120P 3_80	155	220	360	2000	4500	8'	28.4	3500	3000	91	1.31	1.39	1.58
LCK 120P 3_100	125	220	360	2000	4500	8'	22.9	3500	3000	91	1.31	1.39	1.58

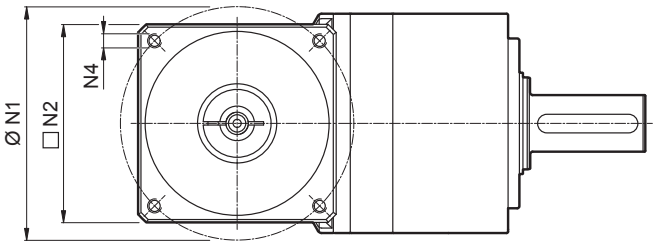


LCK 155P

55A1 ... 180A1

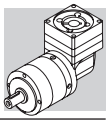


	P	P1	P2	Kg
LCK 155P 2	123.5	191.5	353.5	27.8
LCK 155P 3	163	231	393	32.8



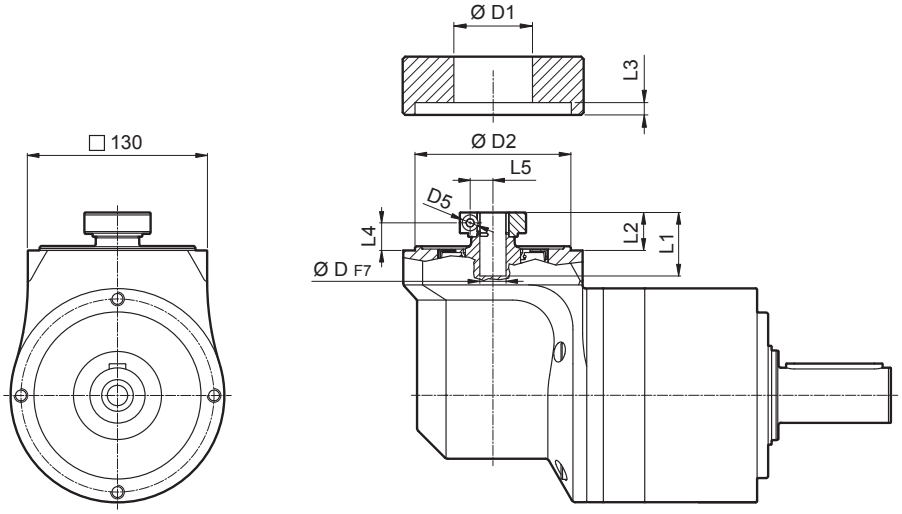
	D							N	N1	N2	N3	N4	N5	L_{max}
55A1	14	15.875	16	19	–	–	–	55.5	125.7	130	4	M6x15	39.5	50
80A2	14	15.875	16	19	–	–	–	80	100	130	4	M6x15	39.5	50
95A1	14	15.875	16	19	22	24	–	95	115	130	4	M8x20	39.5	50
110A1	14	15.875	16	19	22	24	–	110	130	130	4	M8x20	39.5	50
110B1	14	15.875	16	19	22	24	–	110	145	130	6.5	M8x20	49.5	60
114A	14	15.875	16	19	22	24	28	114.3	200	170	5.5	M12x25	69.5	80
130A	14	15.875	16	19	22	24	–	130	165	140	4	M10x20	39.5	50
130A1	14	15.875	16	19	22	24	28	130	165	140	4	M10x20	49.5	60
180A	14	15.875	16	19	22	24	28	180	215	190	5.5	M14x25	49.5	60
180A1	14	15.875	16	19	22	24	28	180	215	190	5.5	M14x25	69.5	80

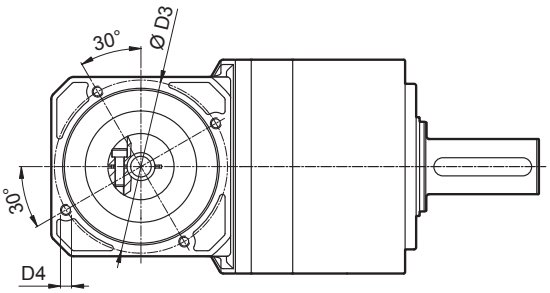
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



LCK 155P

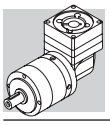
FM





D			D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14	15.875	16	48	113	125.5	M8x15	M6	46	27.5	6	20	14.5
19			51	113	125.5	M8x15	M6	46	27.5	6	20	16.5
22	24		56.5	113	125.5	M8x15	M6	47.5	29	6	20	19
28			67	113	125.5	M8x15	M8	47.5	29	6	20	22.5

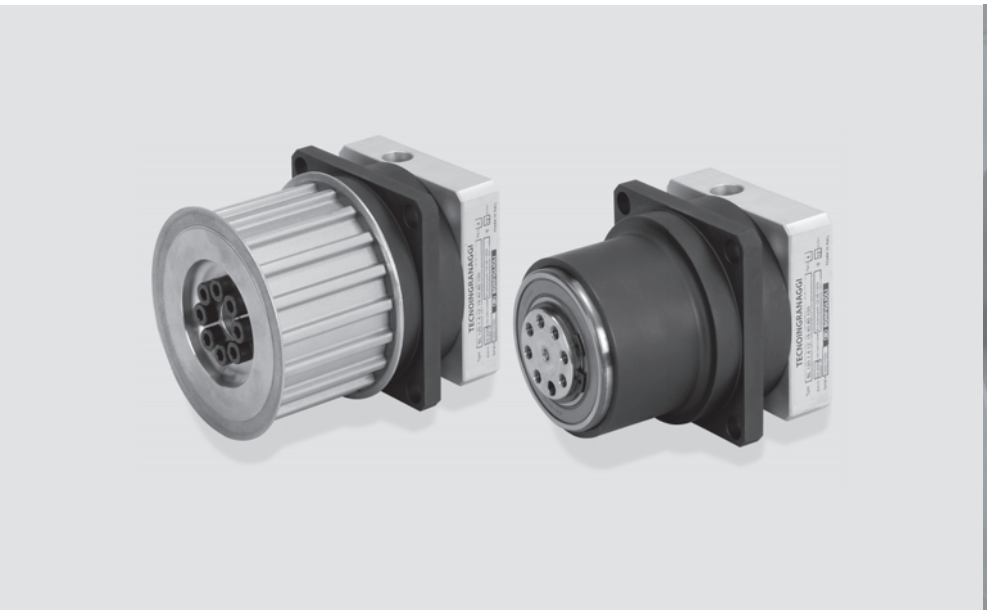
i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min^{-1}]	$n_{1\,max}$ [min^{-1}]	φ_S [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm^2] D 14 ... 19	22 ; 24	28
LCK 155P 2_6	250	380	600	2000	4500	6'	47.9	6000	5000	94	7.94	8.13	8.53
LCK 155P 2_8	350	500	1000	2000	4500	6'	47.9	6000	5000	94	7.11	7.30	7.70
LCK 155P 2_10	350	500	1000	2000	4500	6'	47.9	6000	5000	94	6.78	6.96	7.36
LCK 155P 2_14	350	500	1000	2000	4500	6'	47.9	6000	5000	94	6.48	6.67	7.07
LCK 155P 2_20	230	350	750	2000	4500	6'	47.9	6000	5000	94	6.31	6.49	6.90
LCK 155P 3_24	450	700	1000	2000	4500	8'	44.6	6000	5000	91	7.18	7.37	7.77
LCK 155P 3_30	450	700	1000	2000	4500	8'	44.6	6000	5000	91	7.14	7.33	7.73
LCK 155P 3_50	450	700	1000	2000	4500	8'	44.6	6000	5000	91	6.49	6.68	7.08
LCK 155P 3_70	450	700	1000	2000	4500	8'	44.6	6000	5000	91	6.33	6.52	6.92
LCK 155P 3_80	450	700	1000	2000	4500	8'	44.6	6000	5000	91	6.25	6.43	6.83
LCK 155P 3_100	450	700	1000	2000	4500	8'	44.6	6000	5000	91	6.24	6.43	6.83



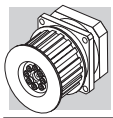
LCK

SL
PRÄZISIONSPLANETENGETRIEBE FÜR RIEMENANTRIEBE

Das SL-Präzisionsplanetengetriebe für Riemenantriebe ist konkurrenzlos, wenn es um Kompaktheit, Effizienz und optimale Eignung für den Einsatz mit Zahnriemenantrieben geht.
Diese Getriebe sind die ideale Ergänzung für Servoantriebssysteme in Anwendungen, die eine Kombination aus Präzision und hohen Querkräften mit extrem kompakten Abmessungen erfordern.
Verbesserte Leistungsfähigkeit als Schlüssel zum Downsizing.
Die verbesserte Leistungsfähigkeit unseres LC-Präzisionsgetriebes (neue Option "P") kann wichtige Downsizing-Optionen für zahlreiche Anwendungen eröffnen, bei denen es zuvor nicht möglich war, ein höheres übertragbares Abtriebsdrehmoment bereitrzustellen.
Ein weiterer Vorteil des Downsizing ist eine verbesserte Energieeffizienz, indem man ein kompakteres Getriebe mit höherer Drehmomentdichte wählen und dadurch die Beschleunigungsmasse deutlich reduzieren kann. Das übertragbare Drehmoment wurde um bis zu 40% verbessert.



Produktmerkmale:
- Option "P" mit hoher Drehmomentdichte für eine größere Produktleistungsfähigkeit verfügbar
- Hohes Beschleunigungs- und Nenndrehmoment
- Hohe radiale und axiale Belastbarkeit
- Entwickelt für Zyklus- und Dauerbetrieb
- Hohe Verdrehsteifigkeit
- Niedriges Verdrehflankenspiel – unter 6 arcmin
- Optional mit Zahnriemenscheibe erhältlich
- Laufruhig
- Einsetzbar in beliebiger Montageaposition



9 MERKMALE DER SL-REIHE

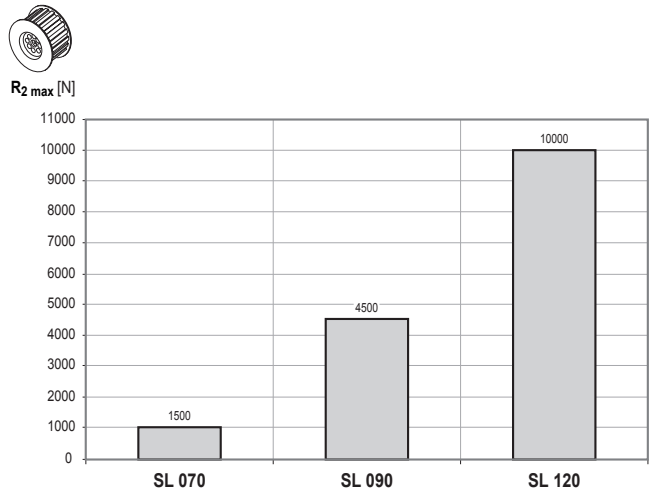
Die SL-Reihe ist konkurrenzlos, wenn es um Kompaktheit, Effizienz und optimale Eignung für den Einsatz mit Zahnriemenantrieben geht. Die spielarmen Getriebe der SL-Reihe sind die ideale Ergänzung für Servoantriebssysteme in Anwendungen, die eine Kombination aus Präzision und hohen Querkräften mit extrem kompakten Abmessungen erfordern.

- Erhältlich entweder mit standard (STD) oder reduziertem (LOW) Flankenspiel:
  1-stufige Getriebe: standard $\varphi_S \leq 12'$; reduziert $\varphi_R \leq 6'$
  2-stufige Getriebe: standard $\varphi_S \leq 15'$; reduziert $\varphi_R \leq 8'$
- Eine hohe IP-Schutzklasse (IP64) sorgt dafür, dass innenliegende Teile vor Staub- und Flüssigkeitseintritt geschützt sind.
- Serienmäßige Fluorelastomer-Wellendichtungen an der Eingangswelle.
- Schalldruckpegel $L_P \leq 70$ dB(A). Gemessen in 1 m Abstand ohne Last und bei einer Eingangsdrehzahl von n_1 = 3000 min^{-1}; i=10.
- Die Getriebe sind werksseitig mit synthetischem Schmierfett gemäß NLGI-Konsistenzklasse 00 gefüllt; ohne Verunreinigung muss das Schmiermittel nicht regelmäßig gewechselt werden.
- AUmgebungstemperatur min. -20°C, max. +30°C; bei Temperaturen höher als 30°C ist der Temperaturfaktor f_T zu berücksichtigen.
- Die Gehäusetemperatur darf T_{max} = 90°C nicht übersteigen
- Erhältlich als Version P mit höherem Abtriebsdrehmoment.

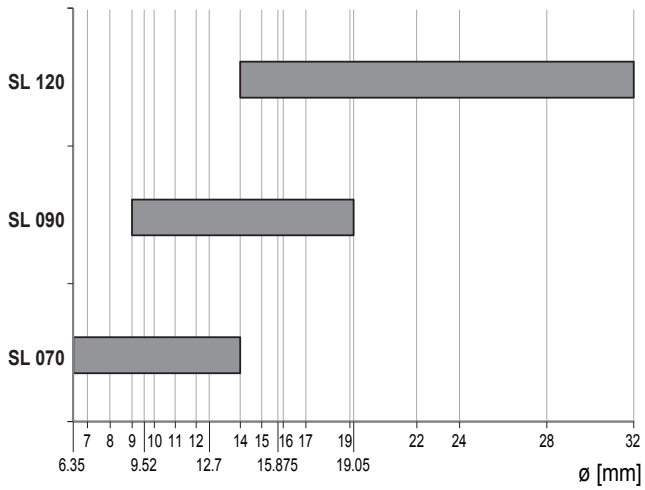
Übersicht der Nenndrehmomente M_{n2} [Nm]

[i]	3	4	5	7	9	10	12	15	16	20	25	28	30	35	40	50	70	100
SL 070	18	25	25	25	18	18	25	25	25	25	25	25	18	25	25	25	25	18
SL 070P	29	30	25	25	29	18	29	29	30	30	30	30	29	30	30	30	30	18
SL 090	37	43	43	43	37	37	43	43	43	43	43	43	37	43	43	43	43	37
SL 090P	65	60	50	50	65	40	65	65	60	60	50	50	65	50	60	50	50	40
SL 120	95	110	110	110	95	95	110	110	110	110	110	110	95	110	110	110	110	95
SL 120P	155	155	125	125	155	100	155	155	155	155	125	125	155	125	155	125	125	100

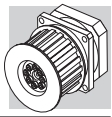
Max. Belastbarkeit der Abtriebswelle



Verfügbare Motorwellendurchmesser



SL



9.1 BESTELLBEZEICHNUNG

SL 120 1 5 STD 80A CD 19 YP UH1

SCHMIERSTOFF

- **–** Standard
- **UH1** Lebensmitteltaugliches Schmiermittel

ZAHNRIEMENSCHEIBE

- **YP** Mit Zahnriemenscheibe
- **NP** Ohne Zahnriemenscheibe

BOHRUNGSDURCHMESSER EINGANGSWELLE

6.35 ... 32

MOTORKOPPLUNG

- **CD** Klemmnabe

ANTRIEBSFLANSCH

- **25AH ... 130A1** Motorflansch
- **FM** Ohne Motorflansch

VERDREHSPIEL

	1 Getriebestufe	2 Getriebestufen
STD	$\varphi_S \leq 12'$	$\varphi_S \leq 15'$
LOW	$\varphi_R \leq 6'$	$\varphi_R \leq 8'$

GETRIEBEÜBERSETZUNG

GETRIEBESTUFEN

1 **2**

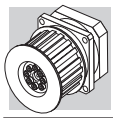
BAUGRÖSSE

070 **090** **120**
070P **090P** **120P**

REIHE

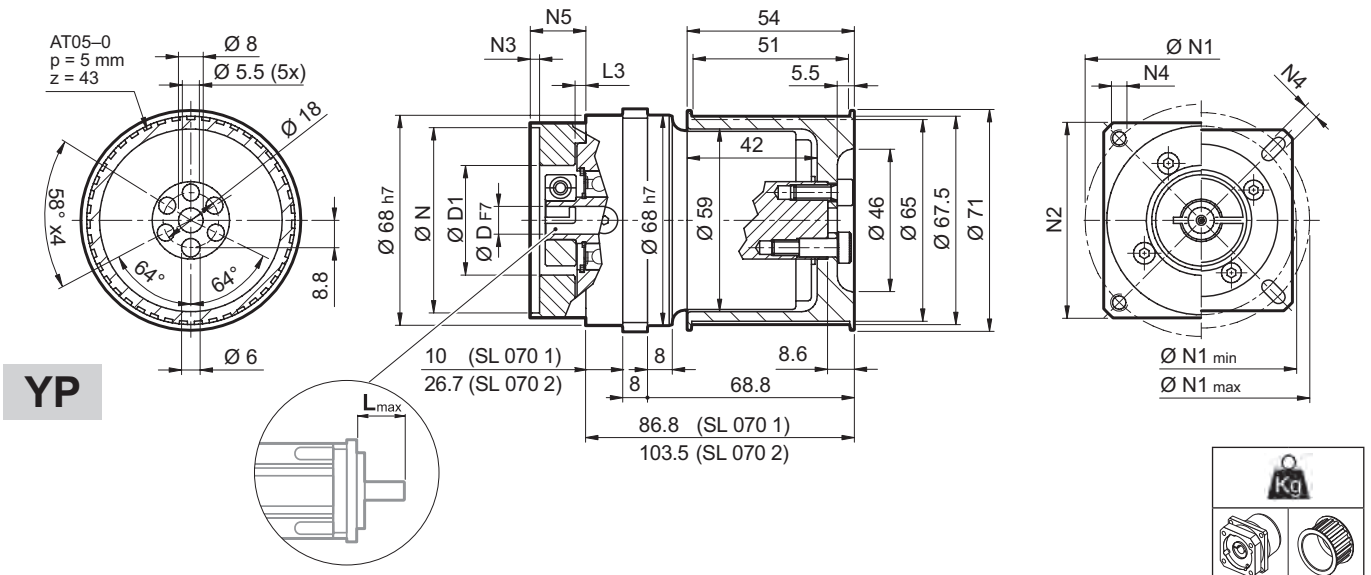
SL

SL



9.2 ABMESSUNGEN UND TECHNISCHE DATEN

SL 070



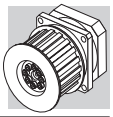
YP

	Kg	
SL 070 1	2.0	0.5
SL 070 2	2.3	0.5

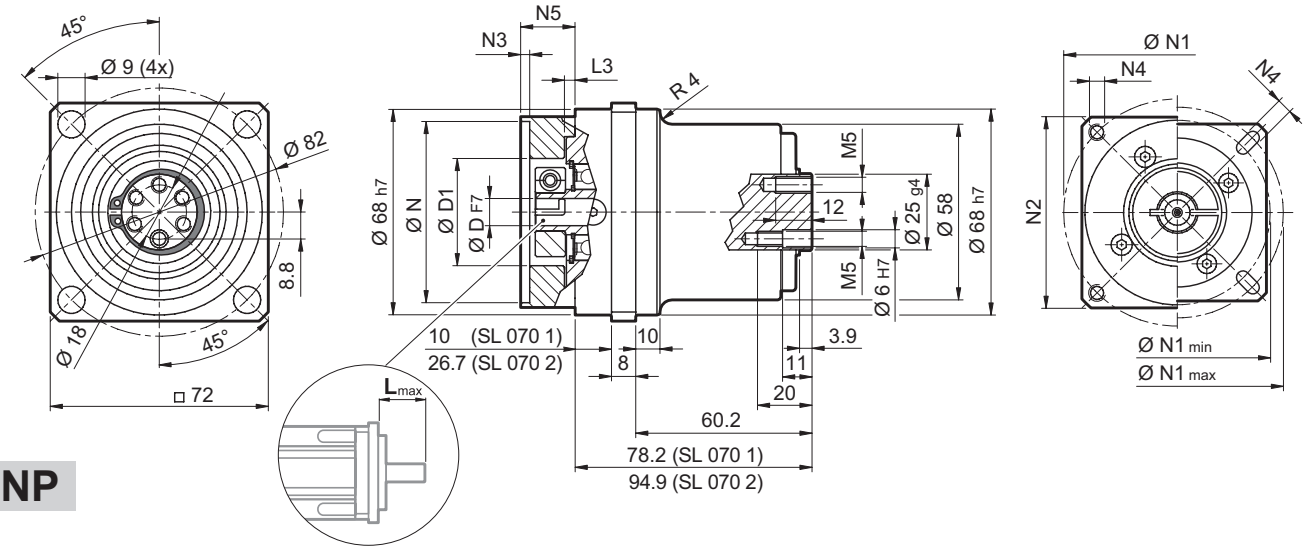
	D										N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6.35	7	8	9	9.52	–	–	–	–	–	25	39	56					
26AH	6.35	7	8	9	9.52	–	–	–	–	–	26	39	56					
28AH	6.35	7	8	9	9.52	–	–	–	–	–	28	39	56					
30AH	6.35	7	8	9	9.52	–	–	–	–	–	30	39	56					
32AH	6.35	7	8	9	9.52	–	–	–	–	–	32	39	56	65	3.5	4.5	25	25
34AH	6.35	7	8	9	9.52	–	–	–	–	–	34	40	56					
36AH	6.35	7	8	9	9.52	–	–	–	–	–	36	42	56					
39AH	6.35	7	8	9	9.52	–	–	–	–	–	39	45	56					
40AH	6.35	7	8	9	9.52	–	–	–	–	–	40	46	56					
38B	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		65	3	5.5	25	32
50C	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
55MH	6.35	7	8	9	9.52	10	11	12	12.7	–	55	80		65	2	5.5	16	23
60A	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60A1	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60B	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

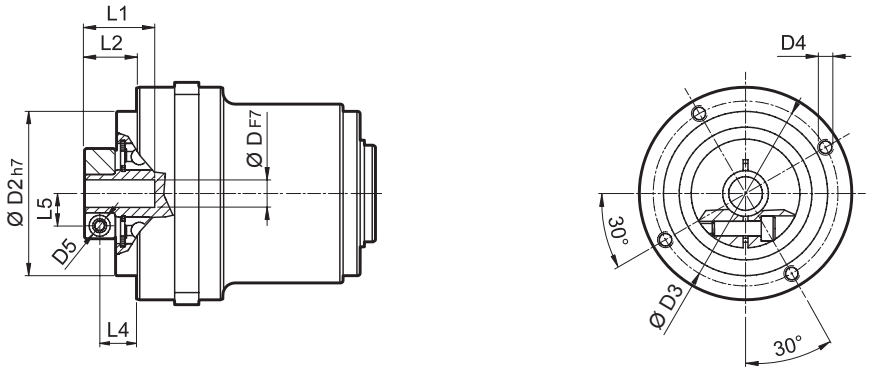
SL



SL 070



NP

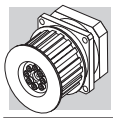


FM

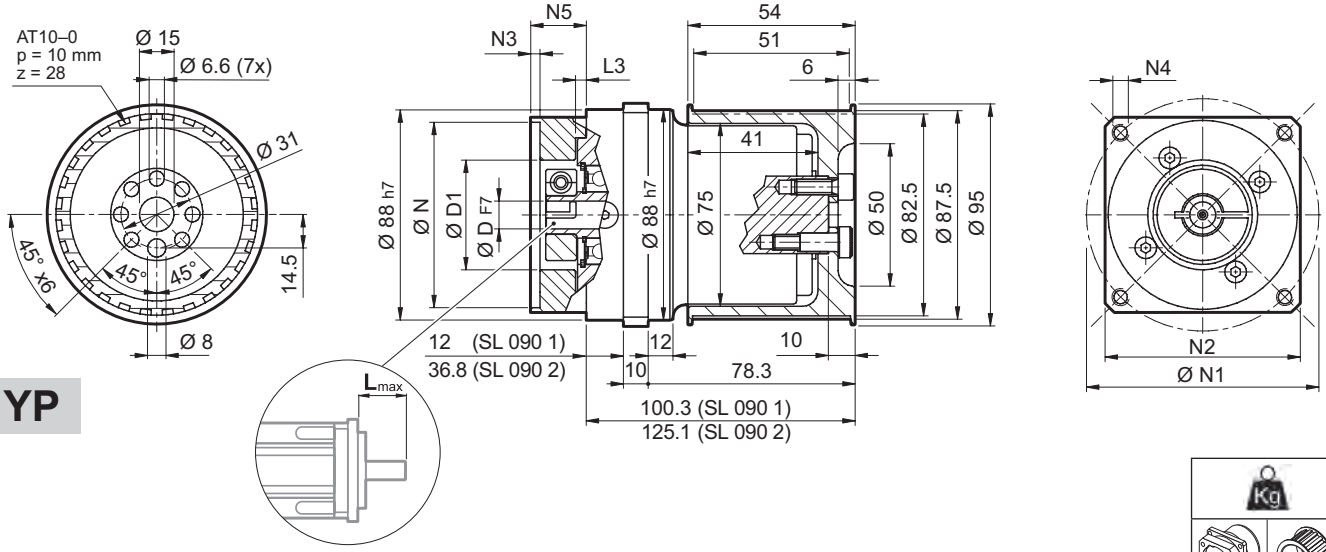
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6.35	7			32.5	50	42.5	M4x8	M4	21.7	13.2	3	8.2	8
8	9	9.52	10	32.5	50	42.5	M4x8	M4	21.7	13.2	3	8.2	9
11	12	12.7		35.5	50	42.5	M4x8	M4	22	13.5	3	8.5	11
14				35.5	50	42.5	M4x8	M4	25	17	3	10.2	11.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min⁻¹]	$n_{1\,max}$ [min⁻¹]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ * [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm²] D 6 ... 9.52	J_G [kgcm²] D 11 ... 14	
SL 070 1_3	18	30	60	3300	4000	12'	6'	6.5	3500	1600	97	0.14	0.16	3.86
SL 070 1_4	25	35	70	3500	5000	12'	6'	6.5	3500	1600	97	0.09	0.11	
SL 070 1_5	25	35	70	3500	5000	12'	6'	6.5	3500	1600	97	0.07	0.09	
SL 070 1_7	25	35	70	3500	5000	12'	6'	6.5	3500	1600	97	0.05	0.07	
SL 070 1_10	18	30	60	4000	6000	12'	6'	6.5	3500	1600	97	0.04	0.06	
SL 070 2_9	18	30	60	3300	4000	15'	8'	6	3500	1600	94	0.11	0.13	
SL 070 2_12	25	35	70	3300	4000	15'	8'	6	3500	1600	94	0.10	0.13	
SL 070 2_15	25	35	70	3300	4000	15'	8'	6	3500	1600	94	0.10	0.12	
SL 070 2_16	25	35	70	3500	5000	15'	8'	6	3500	1600	94	0.07	0.09	
SL 070 2_20	25	35	70	3500	5000	15'	8'	6	3500	1600	94	0.06	0.08	
SL 070 2_25	25	35	70	3500	5000	15'	8'	6	3500	1600	94	0.06	0.08	
SL 070 2_28	25	35	70	4000	6000	15'	8'	6	3500	1600	94	0.05	0.07	
SL 070 2_30	18	30	60	4000	6000	15'	8'	6	3500	1600	94	0.04	0.06	
SL 070 2_35	25	35	70	4000	6000	15'	8'	6	3500	1600	94	0.05	0.07	
SL 070 2_40	25	35	70	4000	6000	15'	8'	6	3500	1600	94	0.04	0.06	
SL 070 2_50	25	35	70	4000	6000	15'	8'	6	3500	1600	94	0.04	0.06	
SL 070 2_70	25	35	70	4000	6000	15'	8'	6	3500	1600	94	0.04	0.06	
SL 070 2_100	18	30	60	4000	6000	15'	8'	6	3500	1600	94	0.04	0.06	

* Gilt für Zahnriemenanwendungen



SL 090

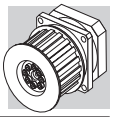


YP

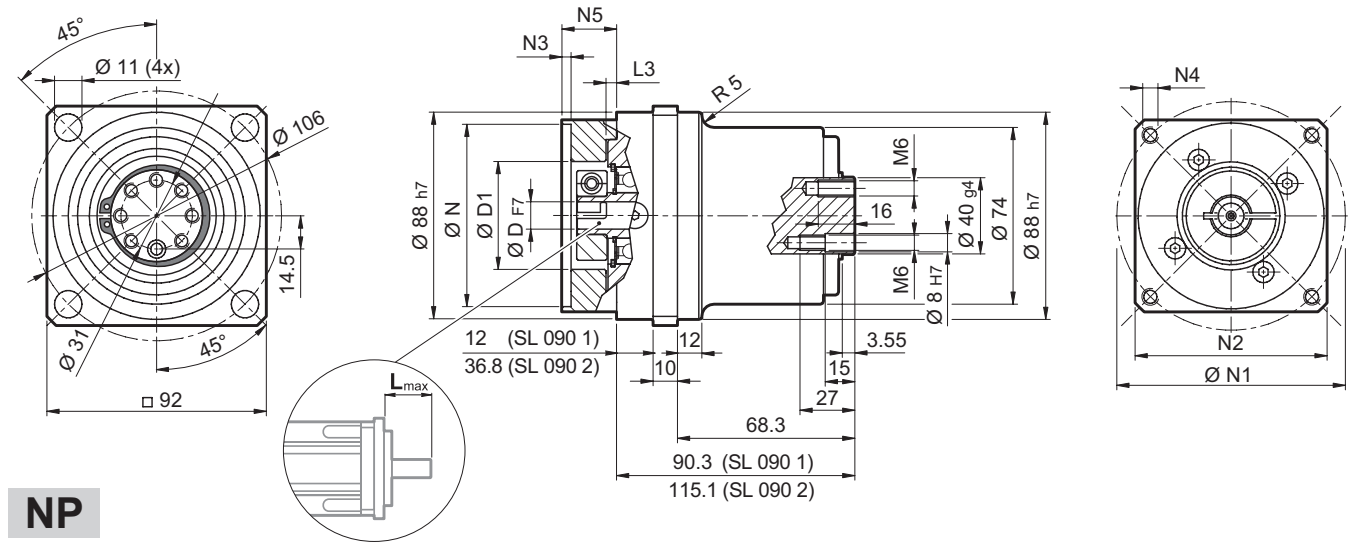
	Kg	
SL 090 1	3.6	0.8
SL 090 2	4.7	0.8

	D											N	N1	N2	N3	N4	N5	L_{max}
40B1	9	9.52	11	12	12.7	14	–	–	–	–	–	40	63	80	4	M4x10	34	40
45A	9	9.52	11	12	12.7	–	–	–	–	–	–	45	63	80	4	M4x10	34	40
50B1	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	M5x16	34	40
50BH1	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	5.5	34	40
50C1	9	9.52	11	12	12.7	14	–	–	–	–	–	50	70	80	4	M4x10	34	40
50D	9	9.52	11	12	12.7	14	–	–	–	–	–	50	95	80	4	M6x10	34	40
55A	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	55.5	125.7	105	4	M6x16	34	40
60A2	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	80	4	M5x16	34	40
60AH2	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	90	4	5.5	34	40
60B1	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	85	80	4	M5x16	34	40
60C1	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	90	80	4	M5x16	34	40
70A1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	80	4	M6x20	34	40
70AH1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	90	4	6.5	34	40
70B1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	90	80	4	M5x16	34	40
73A1	9	9.52	11	12	12.7	14	–	–	–	–	–	73	98.4	85	4	M5x16	34	40
80A1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	80	100	90	4	M6x16	34	40
95A	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	115	100	4	M8x20	34	40
95B	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	130	115	4	M8x20	34	40
110A	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	130	115	4	M8x20	34	40
110B	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	44	50
110B1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	54	60

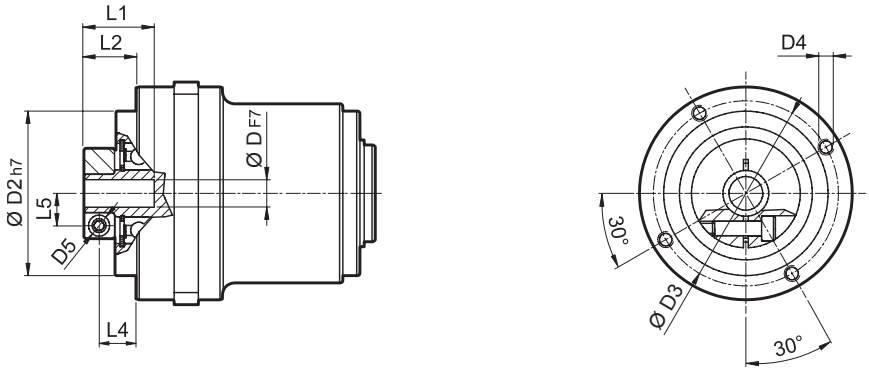
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



SL 090



NP

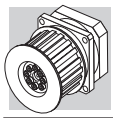


FM

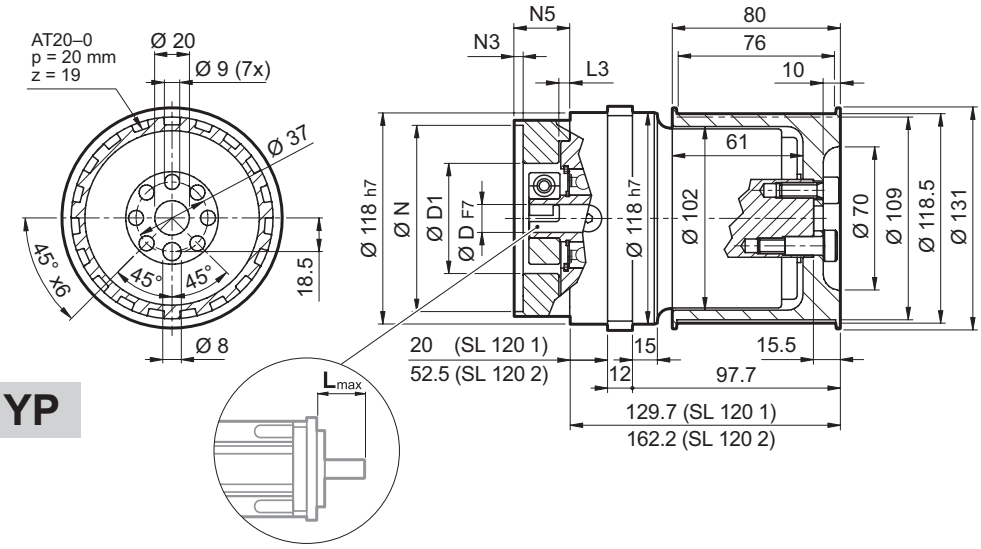
D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
9 9.52	38	68	76.5	M6x10	M6	34	26.8	9.5	18.8	10.5
11 12 12.7	52	68	76.5	M6x10	M6	34	26.8	9.5	18.8	12.5
14 15.875 16 17	48	68	76.5	M6x10	M6	34	26.8	9.5	18.8	14.5
19 19.05	51	68	76.5	M6x10	M6	34	26.8	9.5	18.8	16.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min⁻¹]	$n_{1\,max}$ [min⁻¹]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ * [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm²] D 9 ... 12.7	J_G [kgcm²] D 14 ... 19	
SL 090 1_3	37	70	150	2900	3500	12'	6'	12	4500	2000	97	0.72	0.81	10.95
SL 090 1_4	43	80	160	3100	4500	12'	6'	12	4500	2000	97	0.49	0.58	
SL 090 1_5	43	80	160	3200	4500	12'	6'	12	4500	2000	97	0.39	0.48	
SL 090 1_7	43	80	160	4000	6000	12'	6'	12	4500	2000	97	0.31	0.40	
SL 090 1_10	37	70	150	4000	6000	12'	6'	12	4500	2000	97	0.27	0.35	
SL 090 2_9	37	70	150	2900	3500	15'	8'	11.5	4500	2000	94	0.47	0.61	
SL 090 2_12	43	80	160	2900	3500	15'	8'	11.5	4500	2000	94	0.44	0.58	
SL 090 2_15	43	80	160	2900	3500	15'	8'	11.5	4500	2000	94	0.43	0.57	
SL 090 2_16	43	80	160	3100	4500	15'	8'	11.5	4500	2000	94	0.31	0.45	
SL 090 2_20	43	80	160	3200	4500	15'	8'	11.5	4500	2000	94	0.26	0.40	
SL 090 2_25	43	80	160	3200	4500	15'	8'	11.5	4500	2000	94	0.26	0.40	
SL 090 2_28	43	80	160	4000	6000	15'	8'	11.5	4500	2000	94	0.22	0.36	
SL 090 2_30	37	70	150	4000	6000	15'	8'	11.5	4500	2000	94	0.20	0.34	
SL 090 2_35	43	80	160	4000	6000	15'	8'	11.5	4500	2000	94	0.22	0.36	
SL 090 2_40	43	80	160	4000	6000	15'	8'	11.5	4500	2000	94	0.20	0.34	
SL 090 2_50	43	80	160	4000	6000	15'	8'	11.5	4500	2000	94	0.20	0.34	
SL 090 2_70	43	80	160	4000	6000	15'	8'	11.5	4500	2000	94	0.20	0.34	
SL 090 2_100	37	70	150	4000	6000	15'	8'	11.5	4500	2000	94	0.19	0.34	

* Gilt für Zahnriemenanwendungen



SL 120

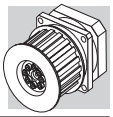


YP

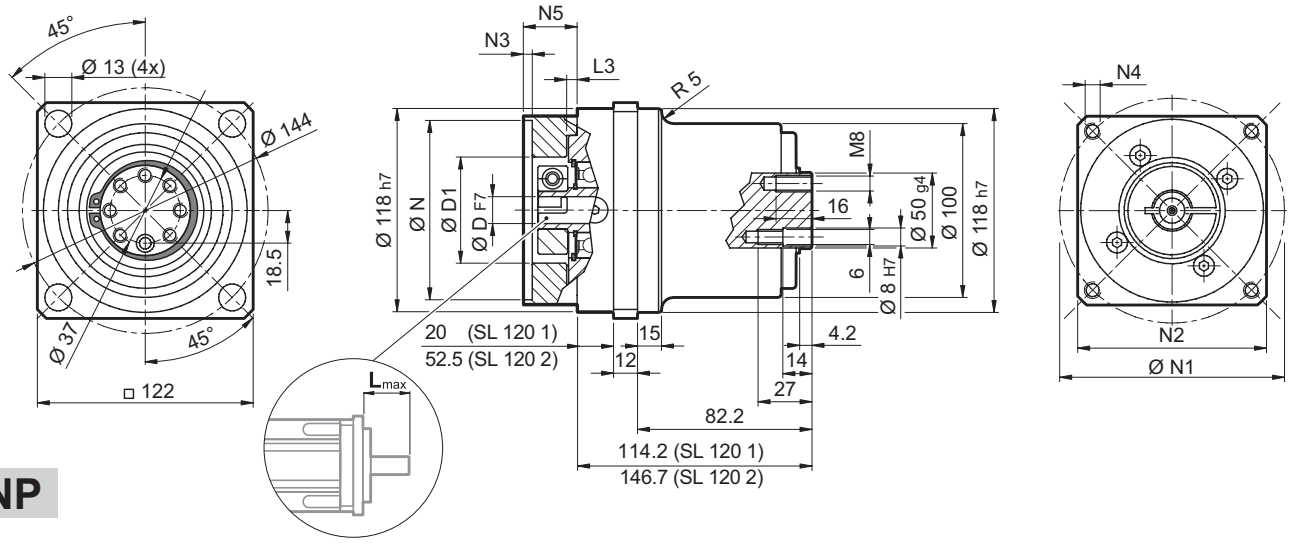
	Kg	
SL 120 1	8.4	2.6
SL 120 2	10.9	2.6

	D									N	N1	N2	N3	N4	N5	L_{max}
50D	14	15	15.875	16	19	–	–	–	–	50	95	100	5	M6x14	28	40
55A	14	15	15.875	16	19	–	–	–	–	55.5	125.7	105	5	M6x16	28	40
60A2	14	15	15.875	16	19	–	–	–	–	60	75	100	5	M5x14	28	40
60AH2	14	15	15.875	16	19	–	–	–	–	60	75	100	5	6.5	33	40
60B1	14	15	15.875	16	19	–	–	–	–	60	85	100	6.5	M5x14	28	40
70A1	14	15	15.875	16	19	–	–	–	–	70	85	100	5	M6x14	28	40
70AH1	14	15	15.875	16	19	–	–	–	–	70	85	100	5	6	33	40
70B1	14	15	15.875	16	19	–	–	–	–	70	90	100	5	M5x12	28	40
80A1	14	15	15.875	16	19	–	–	–	–	80	100	100	5	M6x16	28	40
80AH1	14	15	15.875	16	19	–	–	–	–	80	100	100	5	6.5	28	40
95A	14	15	15.875	16	19	–	–	–	–	95	115	100	5	M8x18	28	40
95A1	14	15	15.875	16	19	22	24	–	–	95	115	100	5	M8x18	38	50
95B	14	15	15.875	16	19	–	–	–	–	95	130	115	5	M8x18	28	40
110A	14	15	15.875	16	19	–	–	–	–	110	130	115	5	M8x18	28	40
110A1	14	15	15.875	16	19	22	24	–	–	110	130	115	6.5	M8x20	38	50
110B	14	15	15.875	16	19	22	24	–	–	110	145	120	6.5	M8x20	38	50
110B1	14	15	15.875	16	19	22	24	28	–	110	145	120	6.5	M8x20	48	60
130A	14	15	15.875	16	19	22	24	–	–	130	165	140	6.5	M10x20	38	50
130A1	14	15	15.875	16	19	22	24	28	32	130	165	140	6.5	M10x25	48	60

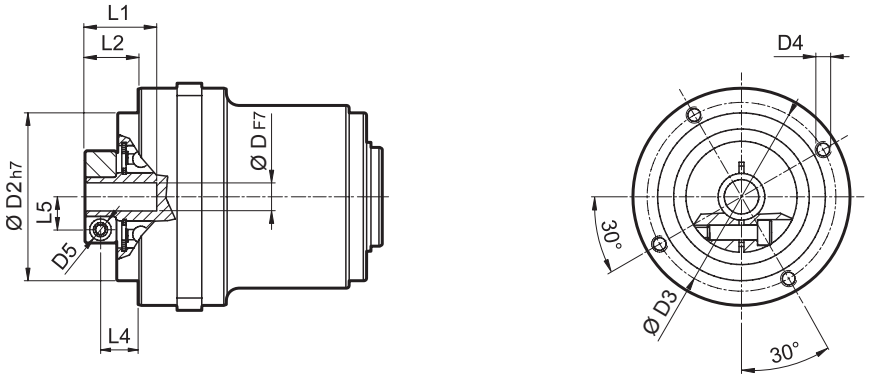
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



SL 120



NP

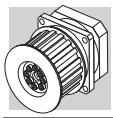


FM

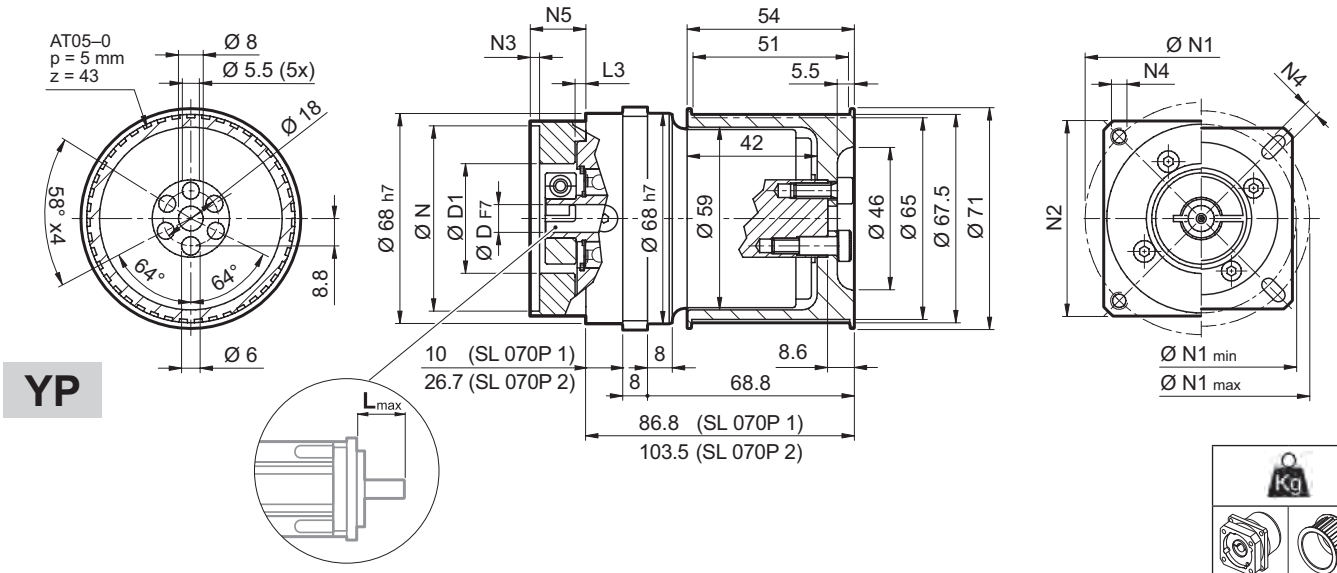
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14	15	15.875	16	48	90	98	M6x15	M6	33.5	20	7.6	12.5	14.5
19				51	90	98	M6x15	M6	33.5	20	7.6	12.5	16.5
22	24			56.5	90	98	M6x15	M6	36.5	23	7.6	14	19
28				70	90	98	M6x15	M8	36.5	23	7.6	14	22.5
32				71	90	98	M6x15	M8	38	24.5	7.6	15.5	24.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min⁻¹]	$n_{1\,max}$ [min⁻¹]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$* [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm²] D 14 ... 19	22 ; 24	28 ; 32	
SL 120 1_3	95	160	300	2500	3500	12'	6'	45	10000	4500	97	2.18	2.81	3.25	50.62
SL 120 1_4	110	190	360	2800	4500	12'	6'	45	10000	4500	97	1.30	1.93	2.37	
SL 120 1_5	110	190	360	3000	4500	12'	6'	45	10000	4500	97	0.96	1.59	2.03	
SL 120 1_7	110	190	360	3500	4500	12'	6'	45	10000	4500	97	0.66	1.28	1.72	
SL 120 1_10	95	160	300	3500	5000	12'	6'	45	10000	4500	97	0.49	1.11	1.55	
SL 120 2_9	95	160	300	2500	3500	15'	8'	40	10000	4500	94	1.61	2.20	2.57	
SL 120 2_12	110	190	360	2500	3500	15'	8'	40	10000	4500	94	1.51	2.10	2.47	
SL 120 2_15	110	190	360	2500	3500	15'	8'	40	10000	4500	94	1.47	2.06	2.43	
SL 120 2_16	110	190	360	2800	4500	15'	8'	40	10000	4500	94	0.92	1.52	1.88	
SL 120 2_20	110	190	360	3000	4500	15'	8'	40	10000	4500	94	0.90	1.50	1.86	
SL 120 2_25	110	190	360	3000	4500	15'	8'	40	10000	4500	94	0.71	1.30	1.67	
SL 120 2_28	110	190	360	3500	5000	15'	8'	40	10000	4500	94	0.54	1.13	1.50	
SL 120 2_30	95	160	300	3500	5000	15'	8'	40	10000	4500	94	0.44	1.04	1.40	
SL 120 2_35	110	190	360	3500	5000	15'	8'	40	10000	4500	94	0.53	1.13	1.49	
SL 120 2_40	110	190	360	3500	5000	15'	8'	40	10000	4500	94	0.43	1.03	1.39	
SL 120 2_50	110	190	360	3500	5000	15'	8'	40	10000	4500	94	0.43	1.02	1.39	
SL 120 2_70	110	190	360	3500	5000	15'	8'	40	10000	4500	94	0.42	1.02	1.38	
SL 120 2_100	95	160	300	3500	5000	15'	8'	40	10000	4500	94	0.42	1.02	1.38	

* Gilt für Zahnriemenanwendungen



SL 070P



YP

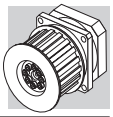
	Kg	
SL 070P 1	2.0	0.5
SL 070P 2	2.3	0.5

	D										N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6.35	7	8	9	9.52	–	–	–	–	–	25	39	56					
26AH	6.35	7	8	9	9.52	–	–	–	–	–	26	39	56					
28AH	6.35	7	8	9	9.52	–	–	–	–	–	28	39	56					
30AH	6.35	7	8	9	9.52	–	–	–	–	–	30	39	56					
32AH	6.35	7	8	9	9.52	–	–	–	–	–	32	39	56	65	3.5	4.5	25	25
34AH	6.35	7	8	9	9.52	–	–	–	–	–	34	40	56					
36AH	6.35	7	8	9	9.52	–	–	–	–	–	36	42	56					
39AH	6.35	7	8	9	9.52	–	–	–	–	–	39	45	56					
40AH	6.35	7	8	9	9.52	–	–	–	–	–	40	46	56					
38B	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		65	3	5.5	25	32
50C	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
55MH	6.35	7	8	9	9.52	10	11	12	12.7	–	55	80		65	2	5.5	16	23
60A	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60A1	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60B	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

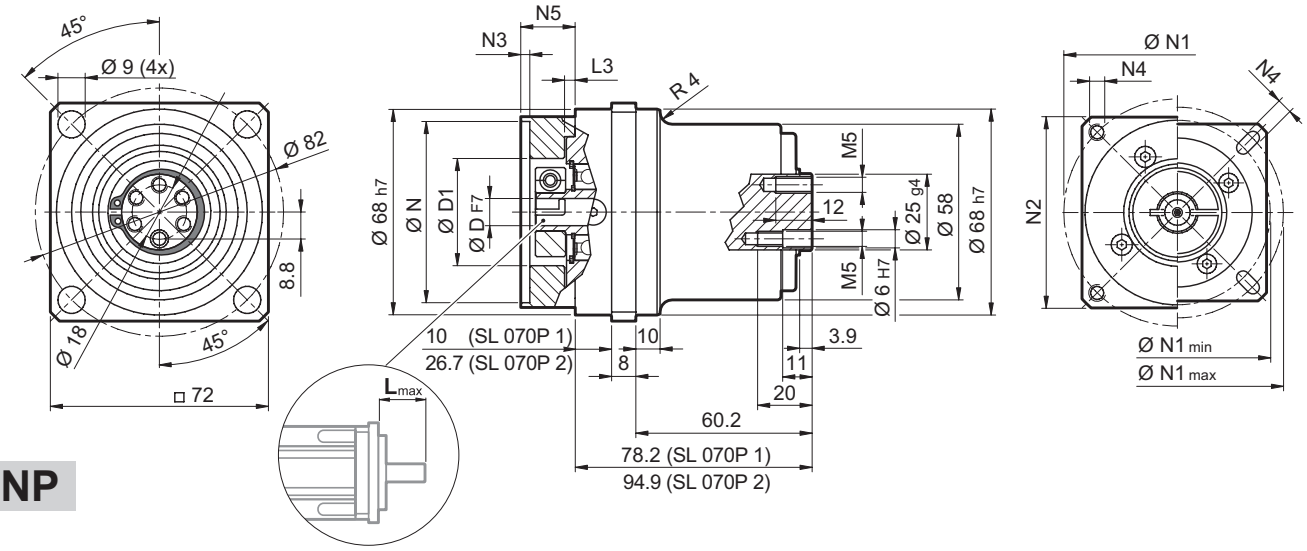
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

SL

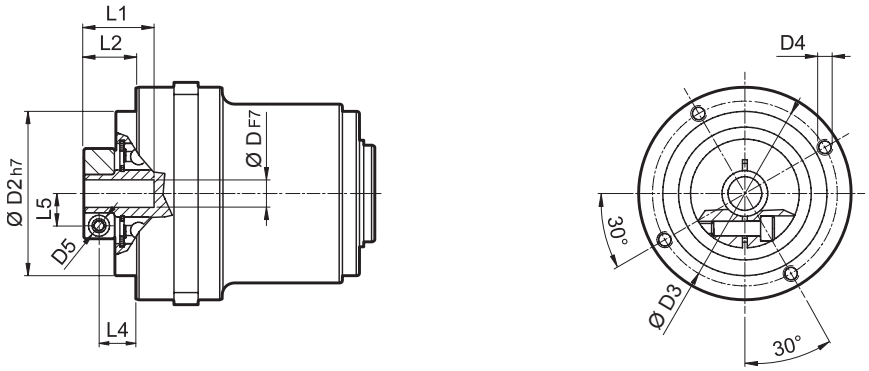
Bonfiglioli Tecnoingranaggi



SL 070P



NP

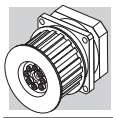


FM

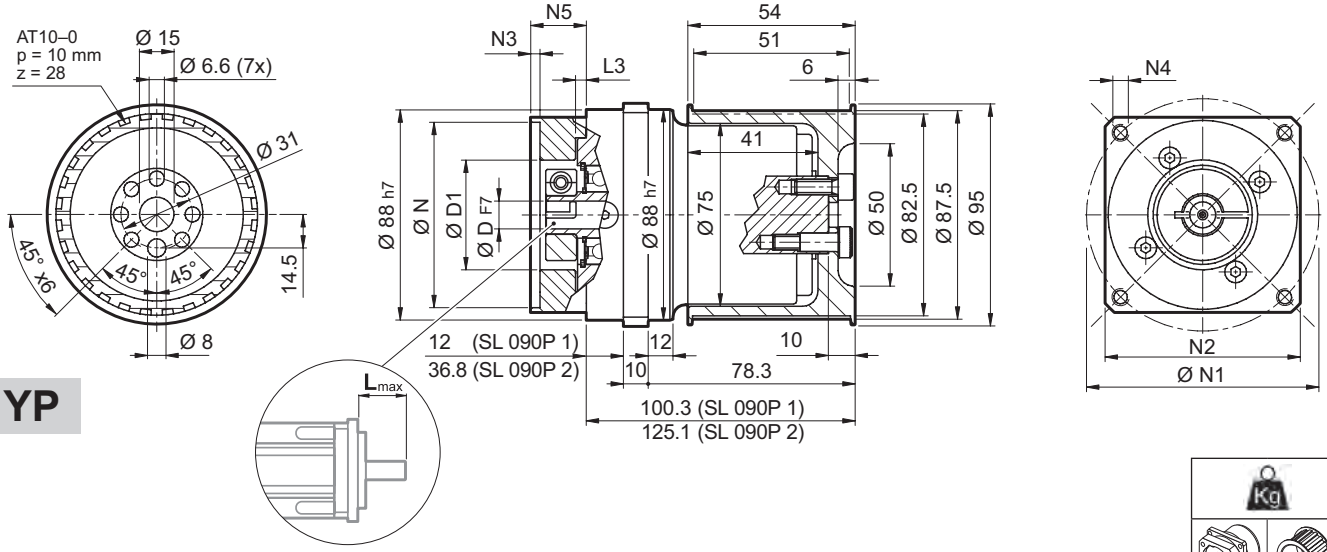
D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
6.35	7			32.5	50	42.5	M4x8	M4	21.7	13.2	3	8.2	8
8	9	9.52	10	32.5	50	42.5	M4x8	M4	21.7	13.2	3	8.2	9
11	12	12.7		35.5	50	42.5	M4x8	M4	22	13.5	3	8.5	11
14				35.5	50	42.5	M4x8	M4	25	17	3	10.2	11.5

	$M_{n\,2}$	$M_{a\,2}$	$M_{p\,2}$	n_1	$n_{1\,max}$	φ_S	φ_R	C_t	$R_{2\,max}$ *	$A_{2\,max}$	η	J_G [kgcm²] D 6 ... 9.52	J_G [kgcm²] D 11 ... 14	
i	[Nm]	[Nm]	[Nm]	[min⁻¹]	[min⁻¹]	[arcmin]		[Nm/arcmin]	[N]	[N]	%			
SL 070P 1_3	29	55	60	3300	4000	12'	6'	6.5	3500	1600	97	0.14	0.16	3.86
SL 070P 1_4	30	45	70	3500	5000	12'	6'	6.5	3500	1600	97	0.09	0.11	
SL 070P 1_5	25	40	70	3500	5000	12'	6'	6.5	3500	1600	97	0.07	0.09	
SL 070P 1_7	25	40	70	4000	5000	12'	6'	6.5	3500	1600	97	0.05	0.07	
SL 070P 1_10	18	30	60	4000	6000	12'	6'	6.5	3500	1600	97	0.04	0.06	
SL 070P 2_9	29	55	60	3300	4000	15'	8'	6	3500	1600	94	0.11	0.13	
SL 070P 2_12	29	55	70	3300	4000	15'	8'	6	3500	1600	94	0.10	0.13	
SL 070P 2_15	29	55	70	3300	4000	15'	8'	6	3500	1600	94	0.10	0.12	
SL 070P 2_16	30	45	70	3500	5000	15'	8'	6	3500	1600	94	0.07	0.09	
SL 070P 2_20	30	45	70	3500	5000	15'	8'	6	3500	1600	94	0.06	0.08	
SL 070P 2_25	30	45	70	3500	5000	15'	8'	6	3500	1600	94	0.06	0.08	
SL 070P 2_28	30	45	70	4000	6000	15'	8'	6	3500	1600	94	0.05	0.07	
SL 070P 2_30	29	55	60	4000	6000	15'	8'	6	3500	1600	94	0.04	0.06	
SL 070P 2_35	30	45	70	4000	6000	15'	8'	6	3500	1600	94	0.05	0.07	
SL 070P 2_40	30	45	70	4000	6000	15'	8'	6	3500	1600	94	0.04	0.06	
SL 070P 2_50	30	45	70	4000	6000	15'	8'	6	3500	1600	94	0.04	0.06	
SL 070P 2_70	30	45	70	4000	6000	15'	8'	6	3500	1600	94	0.04	0.06	
SL 070P 2_100	18	30	60	4000	6000	15'	8'	6	3500	1600	94	0.04	0.06	

* Gilt für Zahnriemenanwendungen



SL 090P

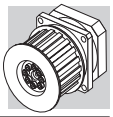


YP

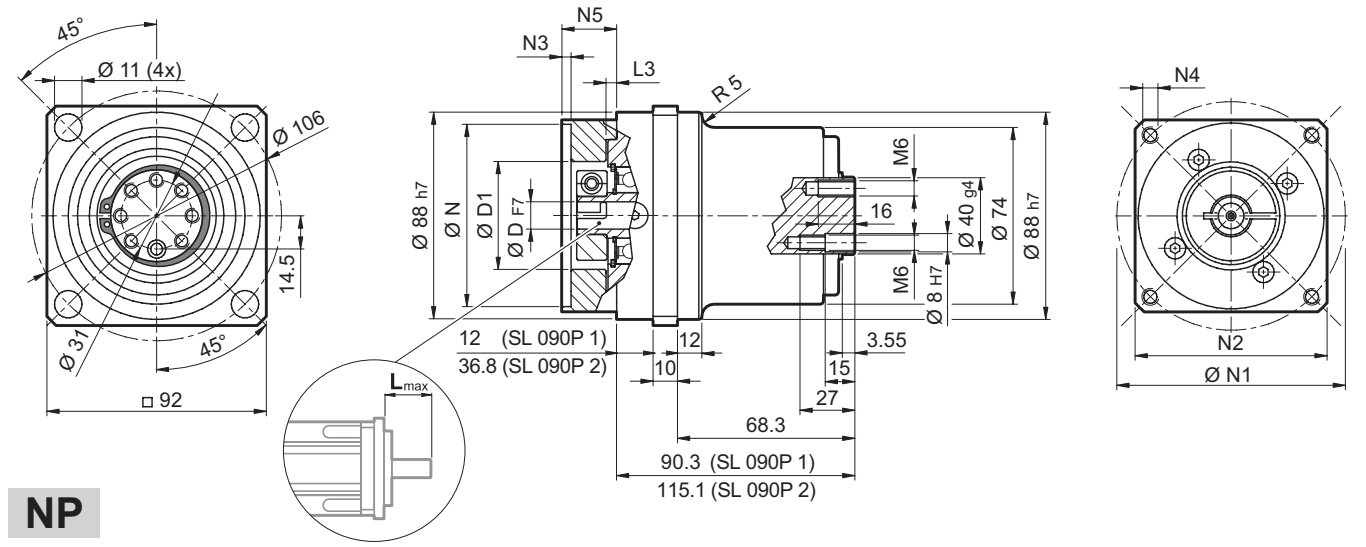
	Kg	
SL 090P 1	3.6	0.8
SL 090P 2	4.7	0.8

	D											N	N1	N2	N3	N4	N5	L_{max}
40B1	9	9.52	11	12	12.7	14	–	–	–	–	–	40	63	80	4	M4x10	34	40
45A	9	9.52	11	12	12.7	–	–	–	–	–	–	45	63	80	4	M4x10	34	40
50B1	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	M5x16	34	40
50BH1	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	5.5	34	40
50C1	9	9.52	11	12	12.7	14	–	–	–	–	–	50	70	80	4	M4x10	34	40
50D	9	9.52	11	12	12.7	14	–	–	–	–	–	50	95	80	4	M6x10	34	40
55A	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	55.5	125.7	105	4	M6x16	34	40
60A2	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	80	4	M5x16	34	40
60AH2	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	90	4	5.5	34	40
60B1	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	85	80	4	M5x16	34	40
60C1	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	90	80	4	M5x16	34	40
70A1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	80	4	M6x20	34	40
70AH1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	90	4	6.5	34	40
70B1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	90	80	4	M5x16	34	40
73A1	9	9.52	11	12	12.7	14	–	–	–	–	–	73	98.4	85	4	M5x16	34	40
80A1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	80	100	90	4	M6x16	34	40
95A	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	115	100	4	M8x20	34	40
95B	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	130	115	4	M8x20	34	40
110A	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	130	115	4	M8x20	34	40
110B	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	44	50
110B1	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	54	60

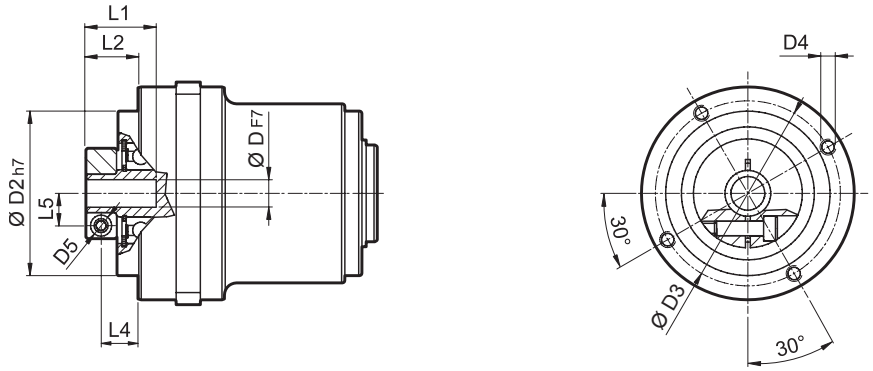
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



SL 090P



NP

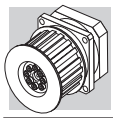


FM

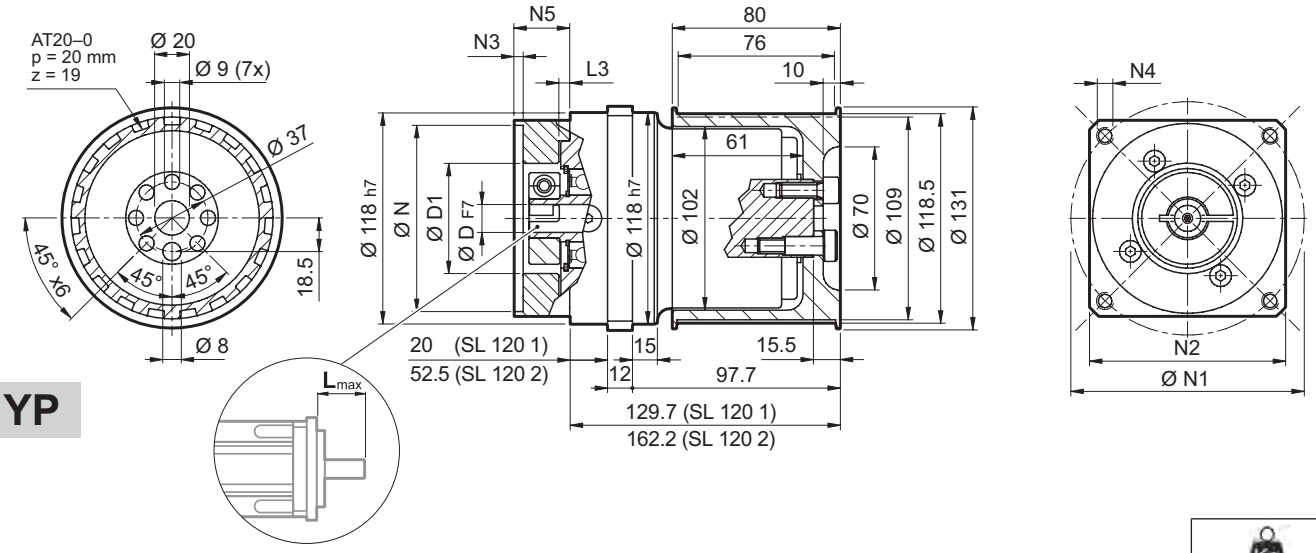
D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
9 9.52	38	68	76.5	M6x10	M6	34	26.8	9.5	18.8	10.5
11 12 12.7	52	68	76.5	M6x10	M6	34	26.8	9.5	18.8	12.5
14 15.875 16 17	48	68	76.5	M6x10	M6	34	26.8	9.5	18.8	14.5
19 19.05	51	68	76.5	M6x10	M6	34	26.8	9.5	18.8	16.5

i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min-1]	$n_{1\,max}$ [min-1]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$ * [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm²] D 9 ... 12.7	J_G [kgcm²] D 14 ... 19	
SL 090P 1_3	65	120	150	3500	4000	12'	6'	12	4500	2000	97	0.72	0.81	10.95
SL 090P 1_4	60	110	160	3500	4000	12'	6'	12	4500	2000	97	0.49	0.58	
SL 090P 1_5	50	100	160	3200	4500	12'	6'	12	4500	2000	97	0.39	0.48	
SL 090P 1_7	50	100	160	4000	6000	12'	6'	12	4500	2000	97	0.31	0.40	
SL 090P 1_10	40	70	150	4000	6000	12'	6'	12	4500	2000	97	0.27	0.35	
SL 090P 2_9	65	120	150	3500	4000	15'	8'	11.5	4500	2000	94	0.47	0.61	
SL 090P 2_12	65	120	160	3500	4000	15'	8'	11.5	4500	2000	94	0.44	0.58	
SL 090P 2_15	65	120	160	3500	4000	15'	8'	11.5	4500	2000	94	0.43	0.57	
SL 090P 2_16	60	110	160	3500	4500	15'	8'	11.5	4500	2000	94	0.31	0.45	
SL 090P 2_20	60	110	160	3500	4500	15'	8'	11.5	4500	2000	94	0.26	0.40	
SL 090P 2_25	50	100	160	3200	4500	15'	8'	11.5	4500	2000	94	0.26	0.40	
SL 090P 2_28	50	100	160	4000	6000	15'	8'	11.5	4500	2000	94	0.22	0.36	
SL 090P 2_30	65	120	150	4000	6000	15'	8'	11.5	4500	2000	94	0.20	0.34	
SL 090P 2_35	50	100	160	4000	6000	15'	8'	11.5	4500	2000	94	0.22	0.36	
SL 090P 2_40	60	110	160	4000	6000	15'	8'	11.5	4500	2000	94	0.20	0.34	
SL 090P 2_50	50	100	160	4000	6000	15'	8'	11.5	4500	2000	94	0.20	0.34	
SL 090P 2_70	50	100	160	4000	6000	15'	8'	11.5	4500	2000	94	0.20	0.34	
SL 090P 2_100	40	70	150	4000	6000	15'	8'	11.5	4500	2000	94	0.19	0.34	

* Gilt für Zahnriemenanwendungen



SL 120P

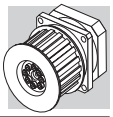


YP

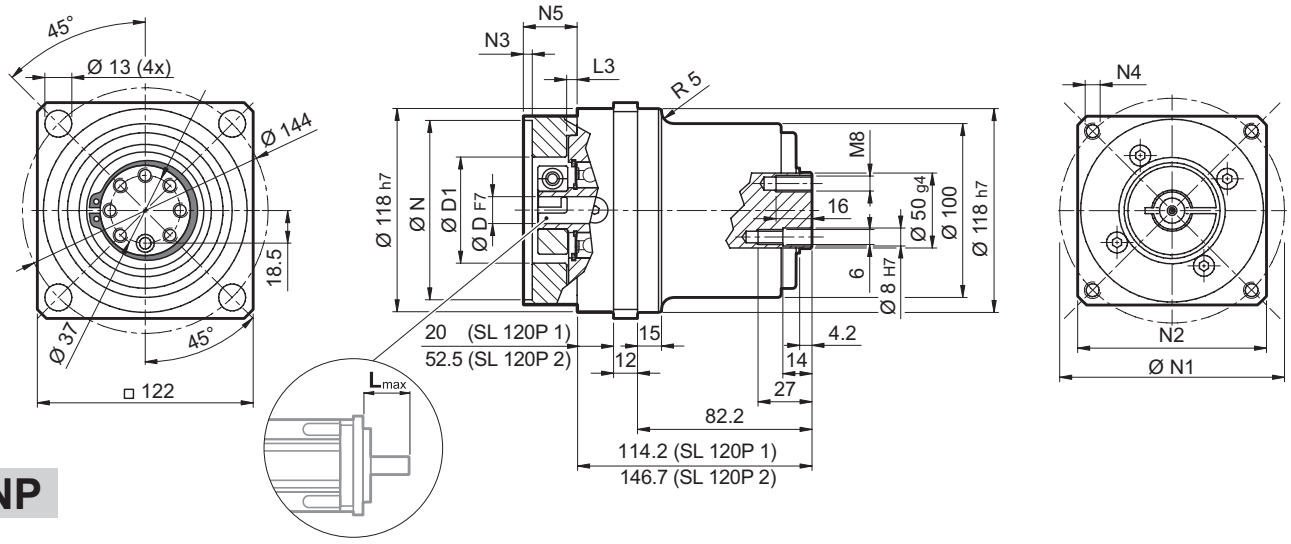
	Kg	
SL 120P 1	8.4	2.6
SL 120P 2	10.9	2.6

	D									N	N1	N2	N3	N4	N5	L_{max}
50D	14	15	15.875	16	19	–	–	–	–	50	95	100	5	M6x14	28	40
55A	14	15	15.875	16	19	–	–	–	–	55.5	125.7	105	5	M6x16	28	40
60A2	14	15	15.875	16	19	–	–	–	–	60	75	100	5	M5x14	28	40
60AH2	14	15	15.875	16	19	–	–	–	–	60	75	100	5	6.5	33	40
60B1	14	15	15.875	16	19	–	–	–	–	60	85	100	6.5	M5x14	28	40
70A1	14	15	15.875	16	19	–	–	–	–	70	85	100	5	M6x14	28	40
70AH1	14	15	15.875	16	19	–	–	–	–	70	85	100	5	6	33	40
70B1	14	15	15.875	16	19	–	–	–	–	70	90	100	5	M5x12	28	40
80A1	14	15	15.875	16	19	–	–	–	–	80	100	100	5	M6x16	28	40
80AH1	14	15	15.875	16	19	–	–	–	–	80	100	100	5	6.5	28	40
95A	14	15	15.875	16	19	–	–	–	–	95	115	100	5	M8x18	28	40
95A1	14	15	15.875	16	19	22	24	–	–	95	115	100	5	M8x18	38	50
95B	14	15	15.875	16	19	–	–	–	–	95	130	115	5	M8x18	28	40
110A	14	15	15.875	16	19	–	–	–	–	110	130	115	5	M8x18	28	40
110A1	14	15	15.875	16	19	22	24	–	–	110	130	115	6.5	M8x20	38	50
110B	14	15	15.875	16	19	22	24	–	–	110	145	120	6.5	M8x20	38	50
110B1	14	15	15.875	16	19	22	24	28	–	110	145	120	6.5	M8x20	48	60
130A	14	15	15.875	16	19	22	24	–	–	130	165	140	6.5	M10x20	38	50
130A1	14	15	15.875	16	19	22	24	28	32	130	165	140	6.5	M10x25	48	60

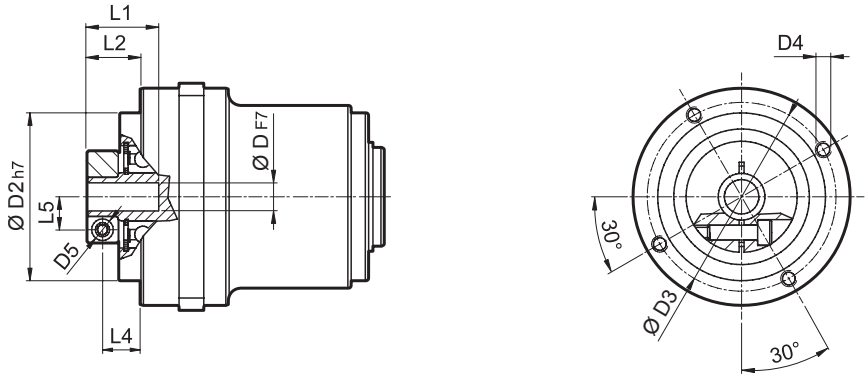
Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.



SL 120P



NP



FM

D	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
14 15 15.875 16	48	90	98	M6x15	M6	33.5	20	7.6	12.5	14.5
19	51	90	98	M6x15	M6	33.5	20	7.6	12.5	16.5
22 24	56.5	90	98	M6x15	M6	36.5	23	7.6	14	19
28	70	90	98	M6x15	M8	36.5	23	7.6	14	22.5
32	71	90	98	M6x15	M8	38	24.5	7.6	15.5	24.5

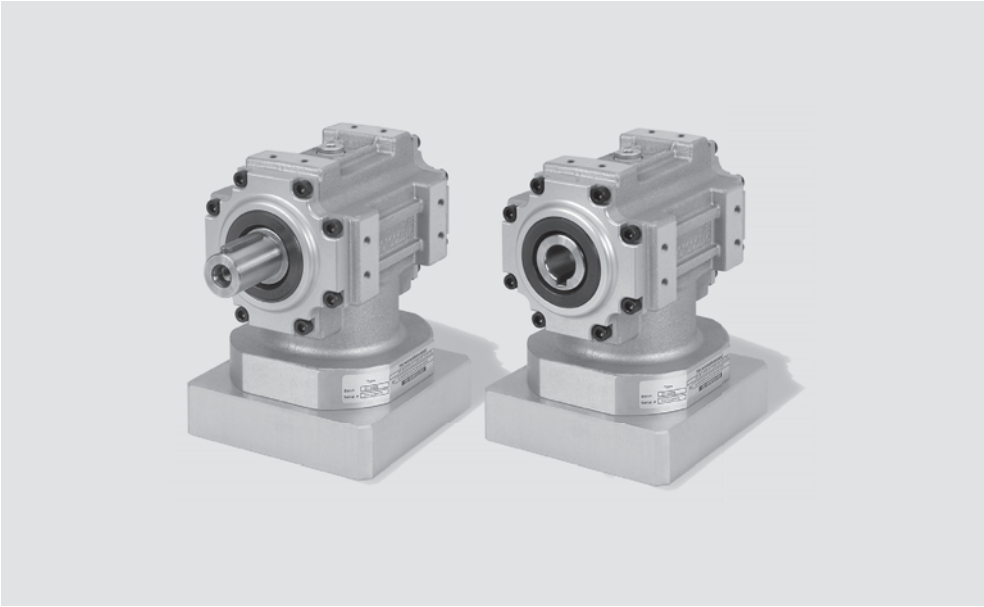
	i	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	n_1 [min⁻¹]	$n_{1\,max}$ [min⁻¹]	φ_S [arcmin]	φ_R [arcmin]	C_t [Nm/arcmin]	$R_{2\,max}$* [N]	$A_{2\,max}$ [N]	η %	J_G [kgcm²] D 14 ... 19	22 ; 24	28 ; 32	
SL 120P 1_3		155	280	300	3000	4000	12'	6'	45	10000	4500	97	2.18	2.81	3.25	50.62
SL 120P 1_4		155	300	360	3000	4500	12'	6'	45	10000	4500	97	1.30	1.93	2.37	
SL 120P 1_5		125	240	360	3000	4500	12'	6'	45	10000	4500	97	0.96	1.59	2.03	
SL 120P 1_7		125	240	360	3500	4500	12'	6'	45	10000	4500	97	0.66	1.28	1.72	
SL 120P 1_10		100	160	300	3500	5000	12'	6'	45	10000	4500	97	0.49	1.11	1.55	
SL 120P 2_9		155	280	300	3000	4000	15'	8'	40	10000	4500	94	1.61	2.20	2.57	
SL 120P 2_12		155	300	360	3000	4000	15'	8'	40	10000	4500	94	1.51	2.10	2.47	
SL 120P 2_15		155	300	360	3000	4000	15'	8'	40	10000	4500	94	1.47	2.06	2.43	
SL 120P 2_16		155	300	360	3000	4500	15'	8'	40	10000	4500	94	0.92	1.52	1.88	
SL 120P 2_20		155	300	360	3000	4500	15'	8'	40	10000	4500	94	0.90	1.50	1.86	
SL 120P 2_25		125	240	360	3000	4500	15'	8'	40	10000	4500	94	0.71	1.30	1.67	
SL 120P 2_28		125	240	360	3500	5000	15'	8'	40	10000	4500	94	0.54	1.13	1.50	
SL 120P 2_30		155	300	300	3500	5000	15'	8'	40	10000	4500	94	0.44	1.04	1.40	
SL 120P 2_35		125	240	360	3500	5000	15'	8'	40	10000	4500	94	0.53	1.13	1.49	
SL 120P 2_40		155	300	360	3500	5000	15'	8'	40	10000	4500	94	0.43	1.03	1.39	
SL 120P 2_50		125	240	360	3500	5000	15'	8'	40	10000	4500	94	0.43	1.02	1.39	
SL 120P 2_70		125	240	360	3500	5000	15'	8'	40	10000	4500	94	0.42	1.02	1.38	
SL 120P 2_100		100	160	300	3500	5000	15'	8'	40	10000	4500	94	0.42	1.02	1.38	

* Gilt für Zahnriemenanwendungen

KR
PRÄZISIONSKEGELRADGETRIEBE

Die flexible, effiziente und wirtschaftliche Lösung für Anwendungen, die platzsparende Winkelgetriebe mit minimalem Spiel erfordern.

Erhältlich in verschiedenen Ausführungen mit zahlreichen An- und Abtriebskonfigurationen.



Produktmerkmale:

- Optimale Kombination von Dynamik, Kompaktheit und Präzision
- Entwickelt für Zyklus- und Dauerbetrieb
- Gute Verdrehsteifigkeit
- Niedriges Verdrehflankenspiel – unter 8 arcmin

10 MERKMALE DER KR-REIHE

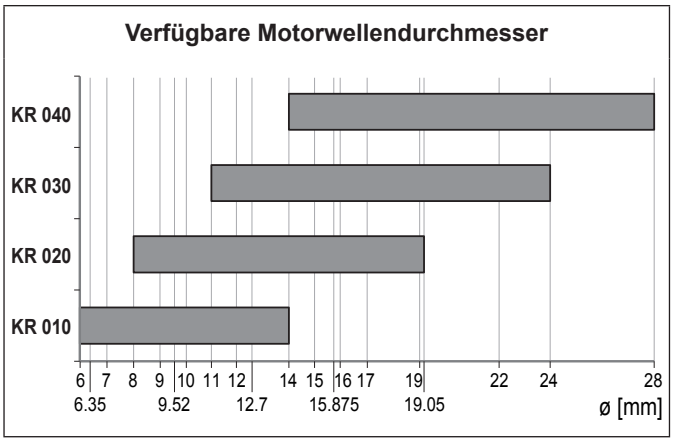
Die Präzisionskegelradgetriebe der KR-Reihe werden nach den strengsten Qualitätskriterien gefertigt und sind für Anwendungen konzipiert, deren Dynamik- und Präzisionsanforderungen geringes Gewicht und kompakte Abmaße verlangen.
Der Reihe enthält zahlreiche Optionen, Motoradapter und Abtriebswellenkonfigurationen, um die Installation in der angetriebenen Vorrichtung zu ermöglichen.

- Erhältlich mit Flankenspiel ($\varphi_S \leq 8'$)
- Übersetzung i = 1, 2, 5
- Radialkugellager (SB) als Standard; optional können Kegelrollenlager (HB) für besonders anspruchsvolle Belastungsbedingungen ausgewählt werden
- Schutzart IP65
- Serienmäßige Fluorelastomer-Wellendichtungen
- Schalldruckpegel $L_P \leq 70$ dB(A). Gemessen in 1 m Abstand ohne Last und bei einer Eingangsdrehzahl von $n_1 = 3000$ min^{-1}
- Schmierung optimiert für die gewünschte Betriebsart.
  Ohne Verunreinigung muss das Schmiermittel nicht regelmäßig gewechselt werden.

Betrieb	KR 010 ... KR 040
S1 (kontinuierlich)	Synthetiköl Viskositätsklasse ISO VG 220
S5 (unterbrochen)	NLGI Fettkonsistenz 00

- Umgebungstemperatur min. -20°C, max. +30°C; bei Temperaturen höher als 30°C ist der Temperaturfaktor f_T zu berücksichtigen.
- Die Gehäusetemperatur darf Tmax = 90°C nicht übersteigen.

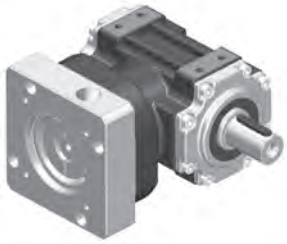
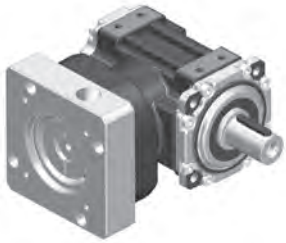
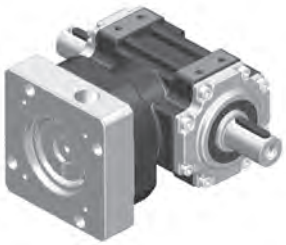
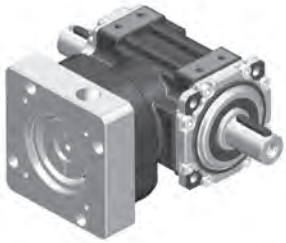
Übersicht der Nenndrehmomente	M_{n2} [Nm]		
[i]	**1**	**2**	**5**
KR 010	10	7	3
KR 020	24	15	10
KR 030	55	37	22
KR 040	120	85	45



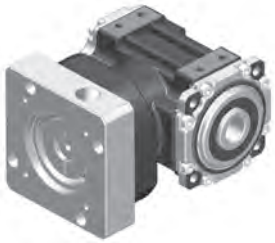
KR

10.1 VERSIONEN

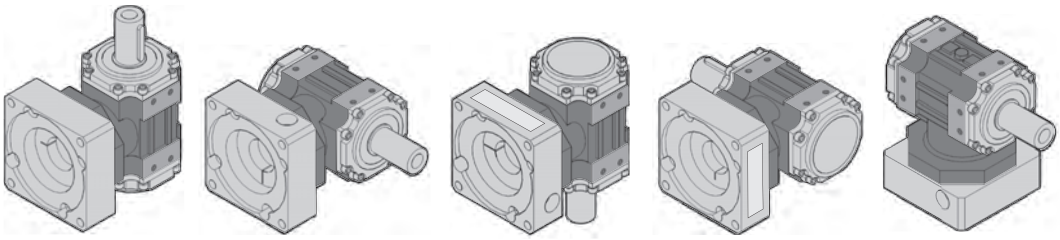
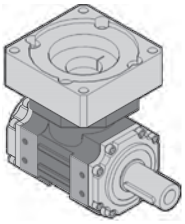
Vollwelle

LP	LPF	LD	LDF
			
Einfache Abtriebswelle	Einfache Abtriebswelle + Flansch	Doppelte Abtriebswelle	Doppelte Abtriebswelle + Flansch

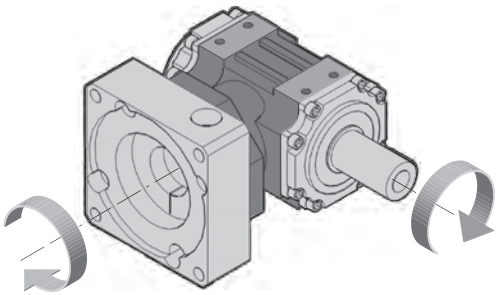
Hohlwelle

H	HF	S	SF
			
Passfedernut (KR 030...KR 040)	Passfedernut + Flansch (KR 030...KR 040)	Schrumpfscheibe	Schrumpfscheibe + Flansch

10.2 MONTAGEPOSITIONEN

U	VA
	

10.3 WELLENDREHRICHTUNG



KR

10.4 BESTELLBEZEICHNUNG

KR 030 1 STD LP 60A CD 14 S1 U SB UH1

SCHMIERSTOFF
- **–** Standard
- **UH1** Lebensmitteltaugliches Schmiermittel

LAGER DER ABTRIEBSWELLE
- **SB** Standard
- **HB** Verstärkt (KR 020 ... KR 040)

MONTAGEPOSITION
- **U** **VA**

BETRIEBSART
- **S1** Dauerbetrieb
- **S5** Kurzzeitbetrieb

BOHRUNGSDURCHMESSER EINGANGSWELLE
- **6 ... 28**

MOTORKOPPLUNG
- **CD** Klemmnabe

ANTRIEBSFLANSCH
- **25AH ... 180A1** Motorflansch
- **FM** Ohne Motorflansch

VERSION
- Vollwelle: **LP** **LPF** **LD** **LDF**
- Hohlwelle: **H** (KR 030 ... KR 040) **HF** (KR 030 ... KR 040) **S** **SF**

VERDREHSPIEL
- **STD** $\varphi_s \leq 8'$

GETRIEBEÜBERSETZUNG
- **1** **2** **5**

BAUGRÖSSE
- **010** **020** **030** **040**

REIHE
- **KR**

KR

10.5 TECHNISCHE DATEN

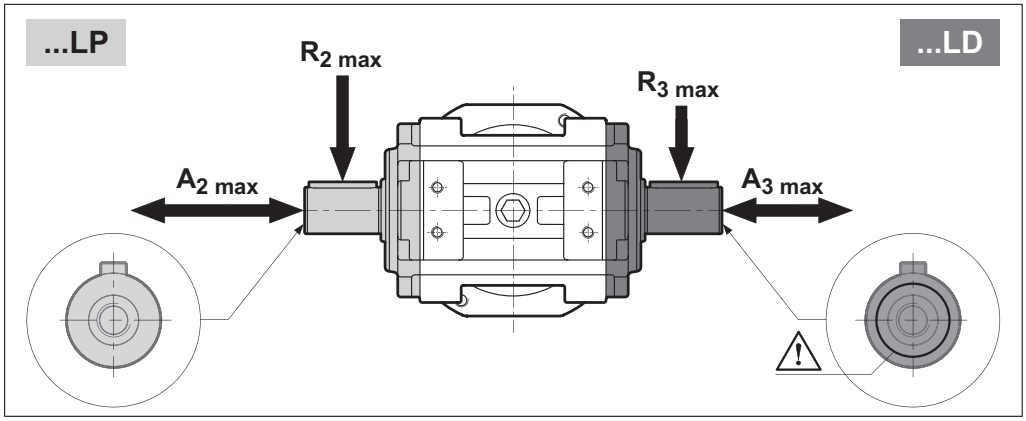
KR 010	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	C_t [Nm/arcmin]	n_1 [min-1]	$n_{1\,max}$ [min-1]	φ_s [arcmin]	η %
i = 1	10	14	20	0.5	2000	4000	8’	97
i = 2	7	10	15	0.4	2500	5000		
i = 5	3	4	6	0.2	3000	5000		

KR 020	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	C_t [Nm/arcmin]	n_1 [min-1]	$n_{1\,max}$ [min-1]	φ_s [arcmin]	η %
i = 1	24	35	50	1.4	2000	4000	8’	97
i = 2	15	21	30	1.1	2500	5000		
i = 5	10	13	20	0.7	3000	5000		

KR 030	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	C_t [Nm/arcmin]	n_1 [min-1]	$n_{1\,max}$ [min-1]	φ_s [arcmin]	η %
i = 1	55	75	110	4	1500	3500	8’	97
i = 2	37	52	75	3	2000	4500		
i = 5	22	29	45	2	2800	4500		

KR 040	$M_{n\,2}$ [Nm]	$M_{a\,2}$ [Nm]	$M_{p\,2}$ [Nm]	C_t [Nm/arcmin]	n_1 [min-1]	$n_{1\,max}$ [min-1]	φ_s [arcmin]	η %
i = 1	120	170	240	11	1500	3500	8’	97
i = 2	85	120	170	9	2000	4500		
i = 5	45	60	90	5	2500	4500		

Der angegebene Steifigkeit bezieht sich auf die LP-Version



		$R_{2\,max}$ [N]	$A_{2\,max}$ [N]	$A_2'_{max}$ [N]	$R_{3\,max}$ [N]	$A_{3\,max}$ [N]	$A_3'_{max}$ [N]
KR 010	**SB**	1000	—	200	500	—	100
KR 020	**SB**	1500	—	300	750	—	150
	HB	3000	1500	600	3000	1500	600
KR 030	**SB**	2000	—	400	1000	—	200
	HB	4000	2000	800	4000	2000	800
KR 040	**SB**	3000	—	600	1500	—	300
	HB	5500	2750	1100	5500	2750	1100

KR

10.6 MASSENTRÄGHEITSMOMENT

10.6.1 KR 010...KR 040 mit standard Kugellagern - SB

KR 010			
		J_G [kgcm²]	
	SB	6 ≤ D ≤ 9.52	10 ≤ D ≤ 14
i = 1	S, SF	0.52	0.52
	LP, LPF	0.38	0.38
	LD, LDF	0.39	0.39
i = 2	S, SF	0.27	0.29
	LP, LPF	0.24	0.25
	LD, LDF	0.24	0.25
i = 5	S, SF	0.20	0.21
	LP, LPF	0.19	0.21
	LD, LDF	0.19	0.21

KR 020			
		J_G [kgcm²]	
	SB	8 ≤ D ≤ 12.7	14 ≤ D ≤ 19.05
i = 1	S, SF	1.61	1.80
	LP, LPF	1.34	1.52
	LD, LDF	1.37	1.55
i = 2	S, SF	0.86	1.05
	LP, LPF	0.80	0.98
	LD, LDF	0.80	0.99
i = 5	S, SF	0.66	0.84
	LP, LPF	0.64	0.83
	LD, LDF	0.65	0.83

KR 030				
		J_G [kgcm²]		
	SB	11 ≤ D ≤ 12.7	14 ≤ D ≤ 19	22 ≤ D ≤ 24
i = 1	H, HF	4.37	4.45	4.64
	S, SF	5.00	5.08	5.27
	LP, LPF	4.70	4.78	4.97
	LD, LDF	4.63	4.71	4.90
i = 2	H, HF	2.04	2.12	2.31
	S, SF	2.20	2.28	2.47
	LP, LPF	2.12	2.20	2.39
	LD, LDF	2.11	2.19	2.37
i = 5	H, HF	1.47	1.55	1.74
	S, SF	1.50	1.57	1.76
	LP, LPF	1.48	1.56	1.75
	LD, LDF	1.48	1.56	1.75

KR 040				
		J_G [kgcm²]		
	SB	14 ≤ D ≤ 19	22 ≤ D ≤ 24	D = 28
i = 1	H, HF	17.19	17.37	17.77
	S, SF	20.46	20.65	21.05
	LP, LPF	18.21	18.40	18.80
	LD, LDF	18.90	19.08	19.48
i = 2	H, HF	4.47	4.65	5.06
	S, SF	5.29	5.47	5.87
	LP, LPF	4.73	4.91	5.31
	LD, LDF	4.90	5.08	5.48
i = 5	H, HF	5.23	5.42	5.82
	S, SF	5.36	5.55	5.95
	LP, LPF	5.27	5.46	5.86
	LD, LDF	5.30	5.49	5.89

10.6.2 KR 020...KR 040 mit Kegelrollenlagern - HB

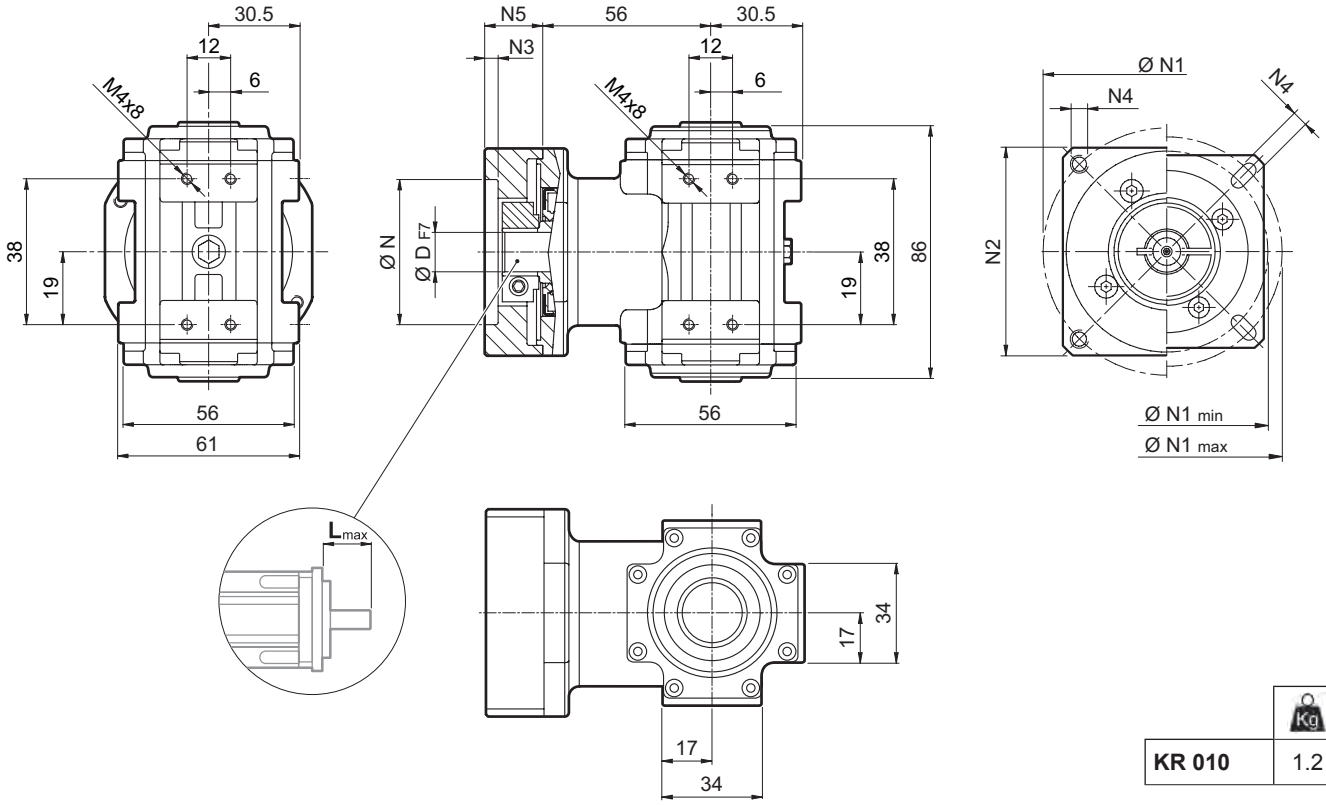
KR 020			
		J_G [kgcm^2]	
	HB	8 ≤ D ≤ 12.7	14 ≤ D ≤ 19.05
i = 1	S, SF	1.87	2.06
	LP, LPF	1.60	1.78
	LD, LDF	1.62	1.81
i = 2	S, SF	0.93	1.12
	LP, LPF	0.86	1.05
	LD, LDF	0.87	1.05
i = 5	S, SF	0.67	0.85
	LP, LPF	0.66	0.84
	LD, LDF	0.66	0.84

KR 030				
		J_G [kgcm^2]		
	HB	11 ≤ D ≤ 12.7	14 ≤ D ≤ 19	22 ≤ D ≤ 24
i = 1	H, HF	5.48	5.56	5.75
	S, SF	6.11	6.19	6.38
	LP, LPF	5.81	5.89	6.08
	LD, LDF	5.74	5.82	6.01
i = 2	H, HF	2.92	3.00	3.19
	S, SF	3.08	3.16	3.35
	LP, LPF	3.01	3.09	3.27
	LD, LDF	2.99	3.07	3.26
i = 5	H, HF	1.51	1.59	1.78
	S, SF	1.54	1.62	1.81
	LP, LPF	1.53	1.61	1.80
	LD, LDF	1.53	1.60	1.79

KR 040				
		J_G [kgcm^2]		
	HB	14 ≤ D ≤ 19	22 ≤ D ≤ 24	D = 28
i = 1	H, HF	18.82	19.01	19.41
	S, SF	22.10	22.28	22.69
	LP, LPF	19.85	20.04	20.44
	LD, LDF	20.53	20.72	21.12
i = 2	H, HF	4.88	5.06	5.47
	S, SF	5.70	6.28	6.28
	LP, LPF	5.13	5.72	5.72
	LD, LDF	5.31	5.89	5.89
i = 5	H, HF	5.30	5.48	5.89
	S, SF	5.43	6.02	6.02
	LP, LPF	5.34	5.93	5.93
	LD, LDF	5.37	5.95	5.95

KR 010

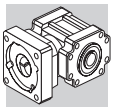
25AH ... 80A



	Kg
KR 010	1.2

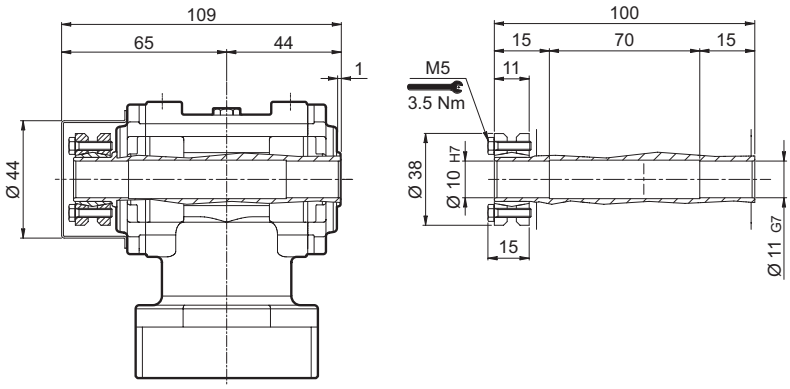
	D											N	N1 min	N1 max	N2	N3	N4	N5	L_{max}
25AH	6	6.35	7	8	9	9.52	–	–	–	–	–	25	39	56					
26AH	6	6.35	7	8	9	9.52	–	–	–	–	–	26	39	56					
28AH	6	6.35	7	8	9	9.52	–	–	–	–	–	28	39	56					
30AH	6	6.35	7	8	9	9.52	–	–	–	–	–	30	39	56					
32AH	6	6.35	7	8	9	9.52	–	–	–	–	–	32	39	56	65	3.5	4.5	25	25
34AH	6	6.35	7	8	9	9.52	–	–	–	–	–	34	40	56					
36AH	6	6.35	7	8	9	9.52	–	–	–	–	–	36	42	56					
39AH	6	6.35	7	8	9	9.52	–	–	–	–	–	39	45	56					
40AH	6	6.35	7	8	9	9.52	–	–	–	–	–	40	46	56					
38B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	38.1	66.6		60	3	M4x10	18	25
40B	6	6.35	7	8	9	9.52	10	11	12	12.7	–	40	63		60	3	M4x10	18	25
50A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	50	60		60	3	M4x10	18	25
50B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		60	3	M5x12	23	30
50BH	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65		65	3	5.5	25	32
50C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70		60	3	M4x10	23	30
55MH	6	6.35	7	8	9	9.52	10	11	12	12.7	–	55	80		65	2	5.5	16	23
60A	6	6.35	7	8	9	9.52	10	11	12	12.7	–	60	75		65	3	M5x12	18	25
60A1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75		65	3	M5x12	23	30
60B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85		75	3	M5x12	23	30
60C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90		75	3	M5x12	23	30
70A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85		75	3	M6x15	23	30
70B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90		75	3	M5x12	23	30
73A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4		85	3	M5x12	25	32
80A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100		85	3	M6x15	23	30

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

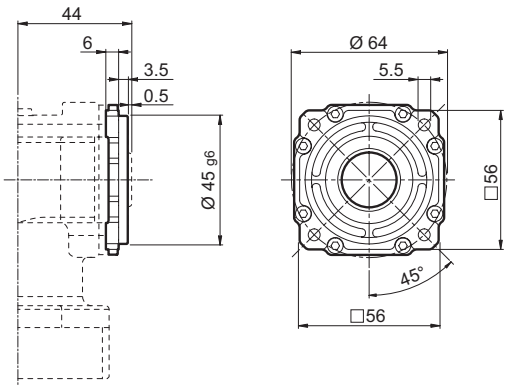


KR 010

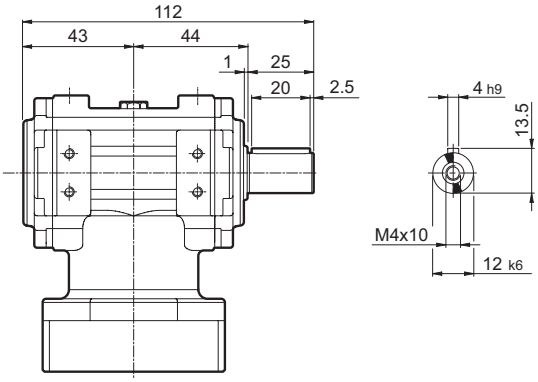
KR 010... S



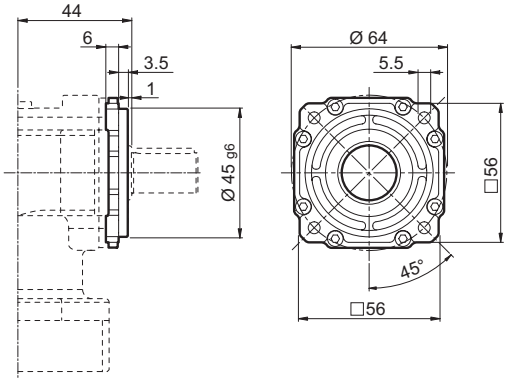
KR 010... SF



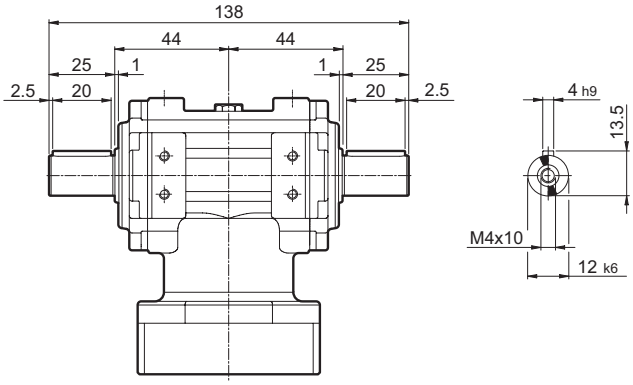
KR 010... LP



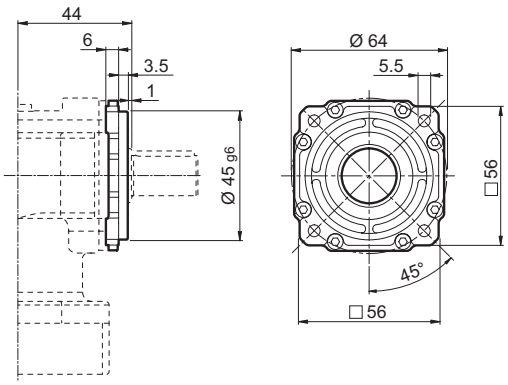
KR 010... LPF



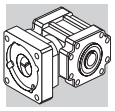
KR 010... LD



KR 010... LDF

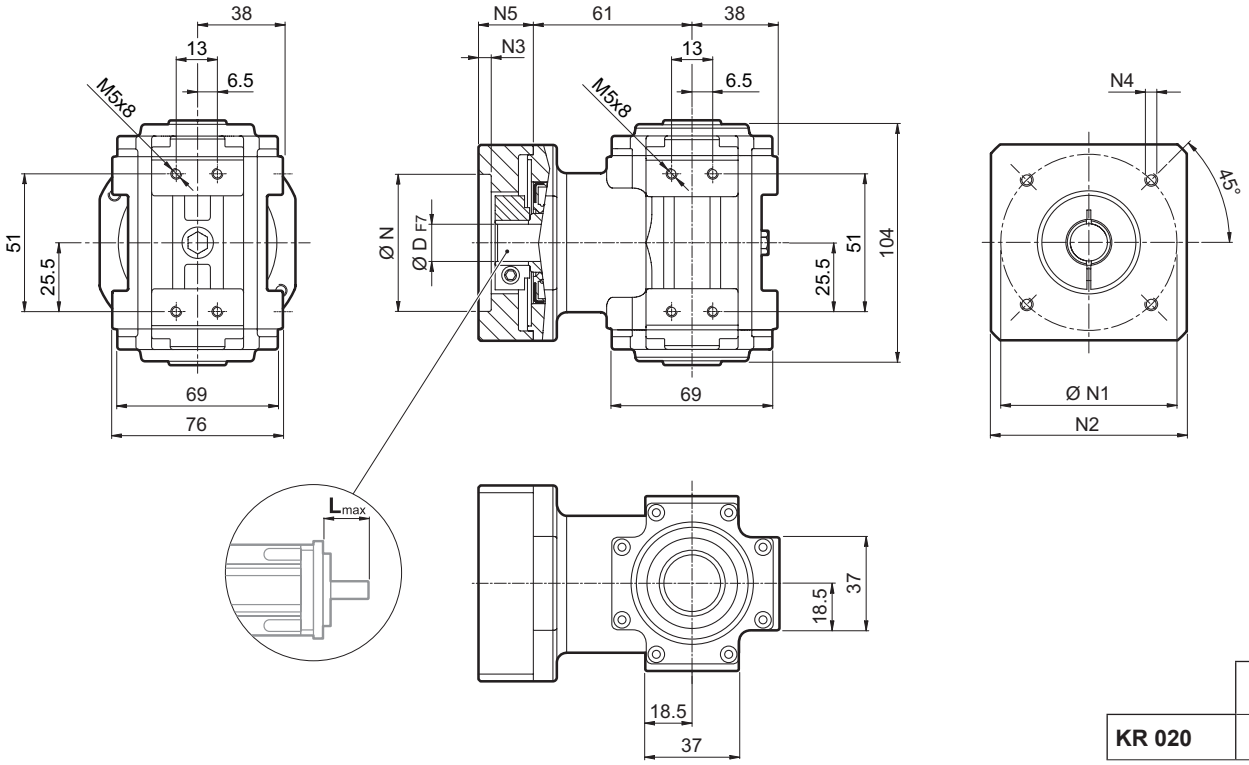


KR



KR 020

40B1 ... 110B1

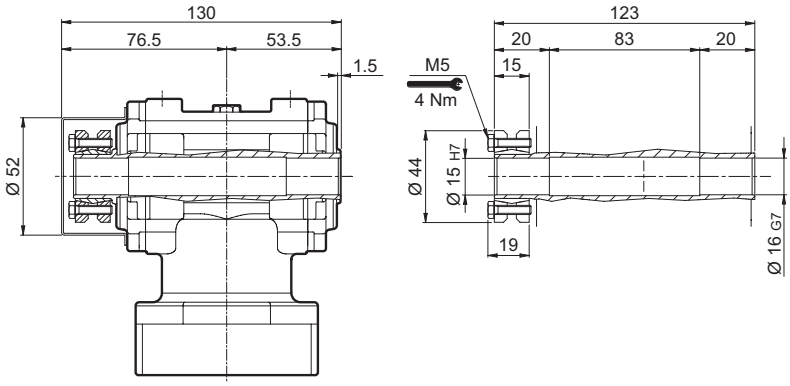


	Kg
KR 020	2.6

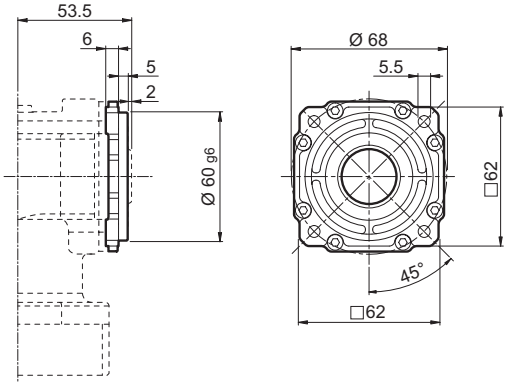
	D												N	N1	N2	N3	N4	N5	L_{max}
40B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	40	63	80	4	M4x10	34	40
45A	8	9	9.52	11	12	12.7	–	–	–	–	–	–	45	63	80	4	M4x10	34	40
50B1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	M5x16	34	40
50BH1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	65	80	4	5.5	34	40
50C1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	70	80	4	M4x10	34	40
50D	8	9	9.52	11	12	12.7	14	–	–	–	–	–	50	95	80	4	M6x10	34	40
55A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	55.5	125.7	105	4	M6x16	34	40
60A2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	80	4	M5x16	34	40
60AH2	8	9	9.52	11	12	12.7	14	–	–	–	–	–	60	75	90	4	5.5	34	40
60B1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	85	80	4	M5x16	34	40
60C1	8	9	9.52	11	12	12.7	14	15.875	16	–	–	–	60	90	80	4	M5x16	34	40
70A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	80	4	M6x20	34	40
70AH1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	90	4	6.5	34	40
70B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	90	80	4	M5x16	34	40
73A1	8	9	9.52	11	12	12.7	14	–	–	–	–	–	73	98.4	85	4	M5x16	34	40
80A1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	80	100	90	4	M6x16	34	40
95A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	115	100	4	M8x20	34	40
95B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	130	115	4	M8x20	34	40
110A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	130	115	4	M8x20	34	40
110B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	44	50
110B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	54	60

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

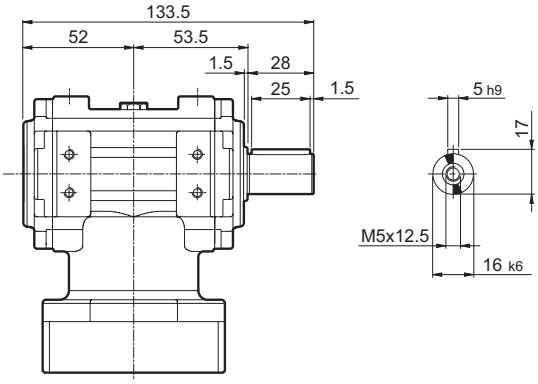
KR 020... S



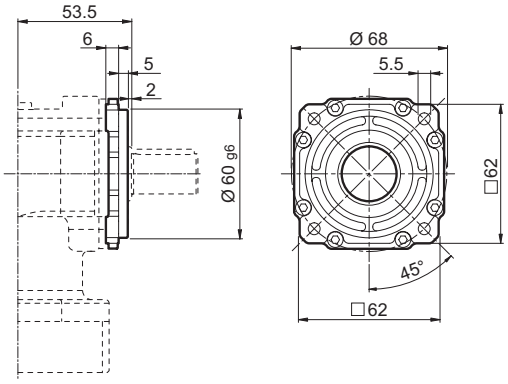
KR 020... SF



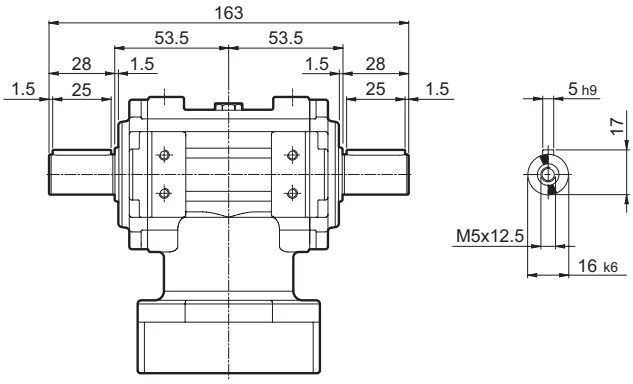
KR 020... LP



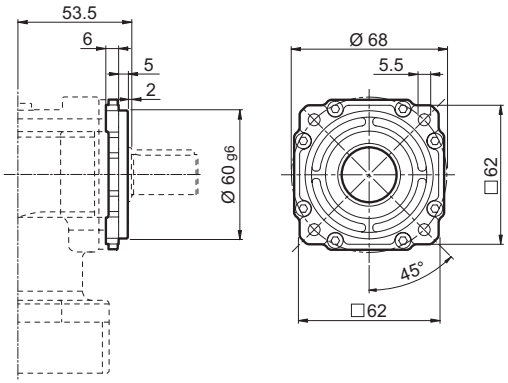
KR 020... LPF

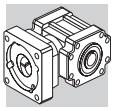


KR 020... LD



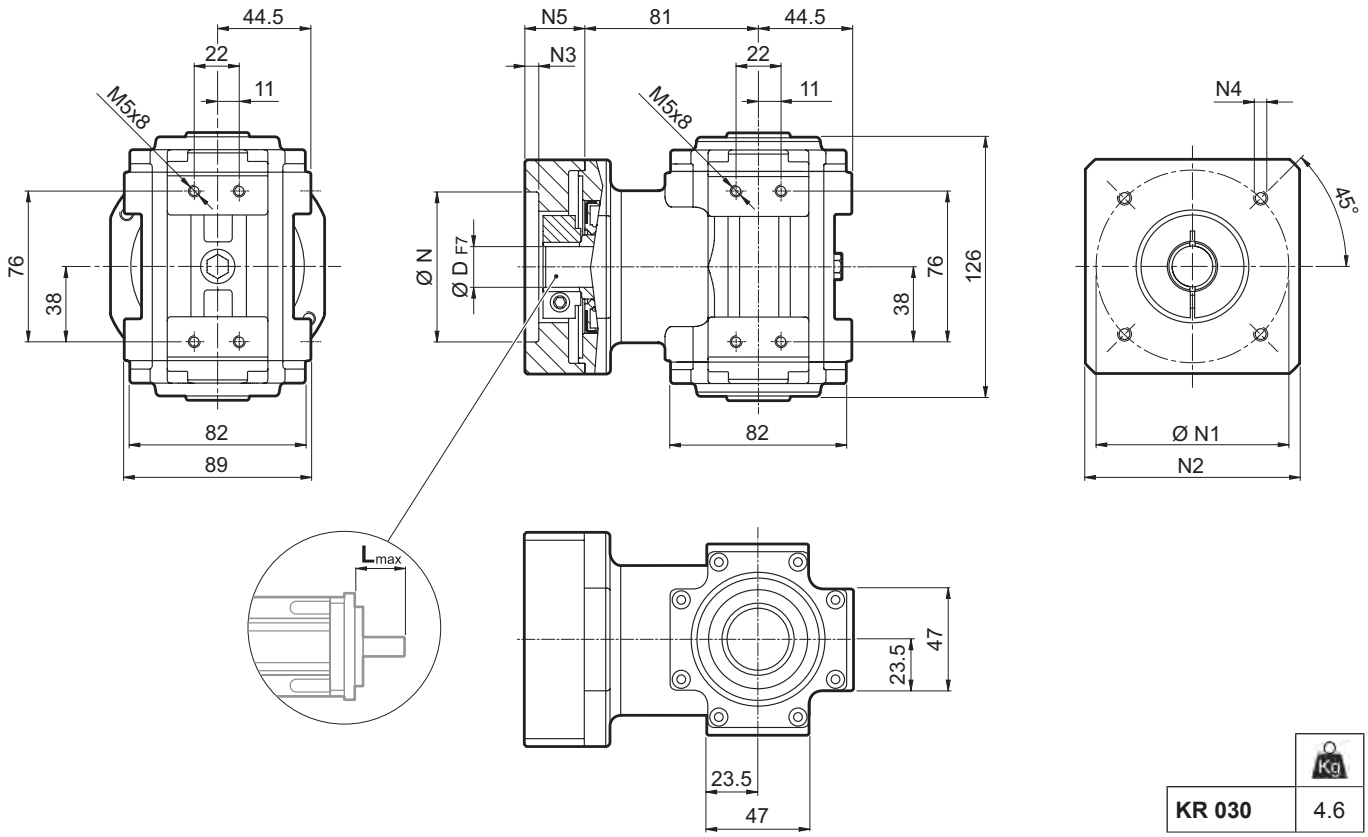
KR 020... LDF





KR 030

50D ... 130A1

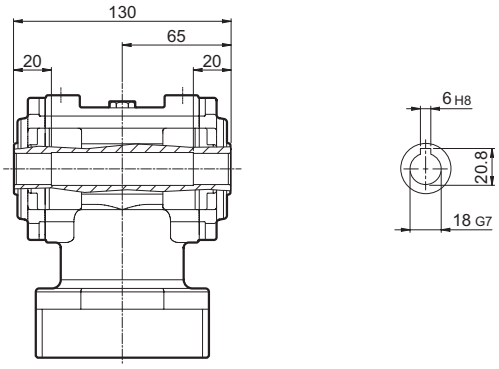


	Kg
KR 030	4.6

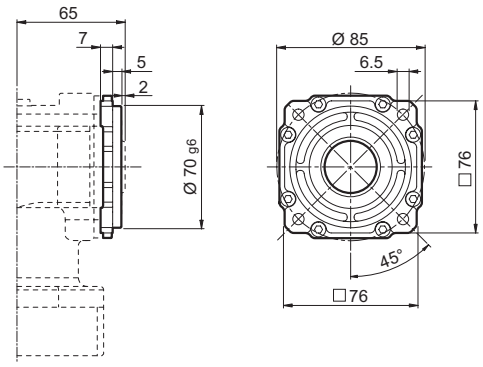
	D										N	N1	N2	N3	N4	N5	L_{max}
50D	11	12	12.7	14	15	15.875	16	19	–	–	50	95	100	5	M6x14	28	40
55A	11	12	12.7	14	15	15.875	16	19	–	–	55.5	125.7	105	5	M6x16	28	40
60A2	11	12	12.7	14	15	15.875	16	19	–	–	60	75	100	5	M5x14	28	40
60AH2	11	12	12.7	14	15	15.875	16	19	–	–	60	75	100	5	6.5	33	40
60B1	11	12	12.7	14	15	15.875	16	19	–	–	60	85	100	6.5	M5x14	28	40
70A1	11	12	12.7	14	15	15.875	16	19	–	–	70	85	100	5	M6x14	28	40
70AH1	11	12	12.7	14	15	15.875	16	19	–	–	70	85	100	5	6	33	40
70B1	11	12	12.7	14	15	15.875	16	19	–	–	70	90	100	5	M5x12	28	40
80A1	11	12	12.7	14	15	15.875	16	19	–	–	80	100	100	5	M6x16	28	40
80AH1	11	12	12.7	14	15	15.875	16	19	–	–	80	100	100	5	6.5	28	40
95A	11	12	12.7	14	15	15.875	16	19	–	–	95	115	100	5	M8x18	28	40
95A1	11	12	12.7	14	15	15.875	16	19	22	24	95	115	100	5	M8x18	38	50
95B	11	12	12.7	14	15	15.875	16	19	–	–	95	130	115	5	M8x18	28	40
110A	11	12	12.7	14	15	15.875	16	19	–	–	110	130	115	5	M8x18	28	40
110A1	11	12	12.7	14	15	15.875	16	19	22	24	110	130	115	6.5	M8x20	38	50
110B	11	12	12.7	14	15	15.875	16	19	22	24	110	145	120	6.5	M8x20	38	50
110B1	11	12	12.7	14	15	15.875	16	19	22	24	110	145	120	6.5	M8x20	48	60
130A	11	12	12.7	14	15	15.875	16	19	22	24	130	165	140	6.5	M10x20	38	50
130A1	11	12	12.7	14	15	15.875	16	19	22	24	130	165	140	6.5	M10x25	48	60

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

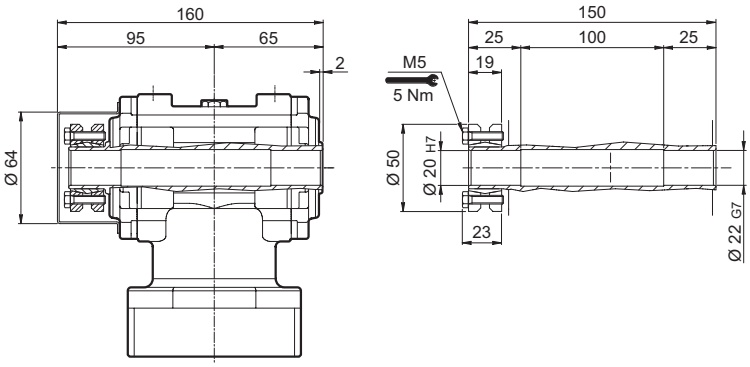
KR 030... H



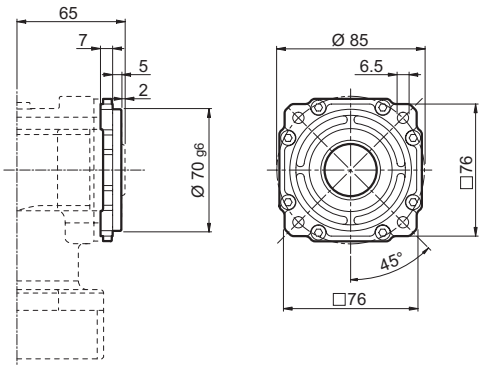
KR 030... HF



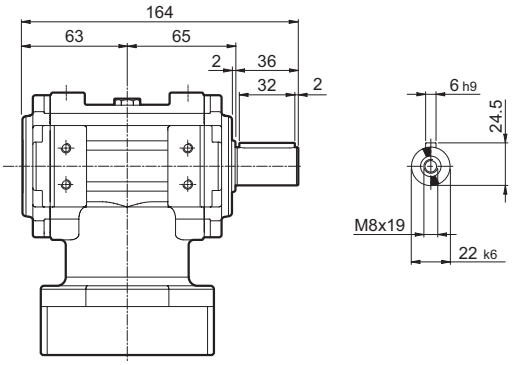
KR 030... S



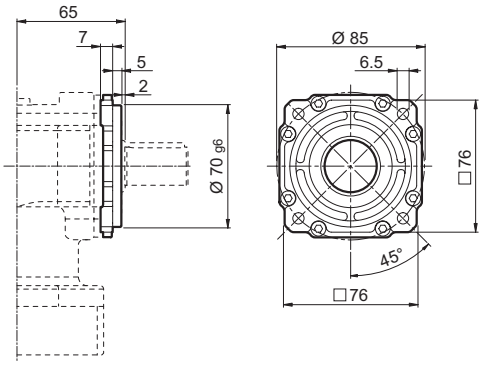
KR 030... SF



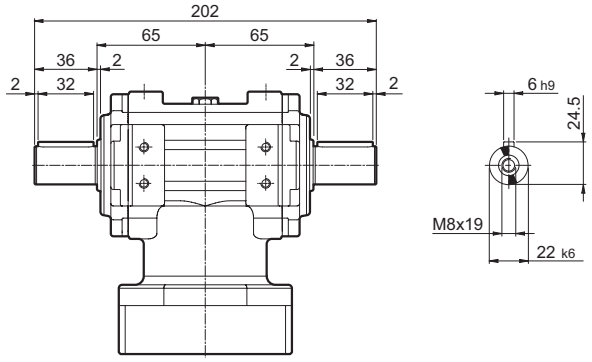
KR 030... LP



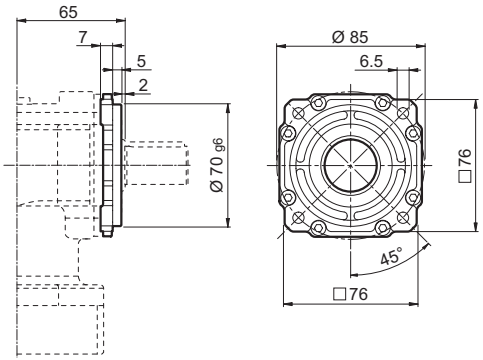
KR 030... LPF

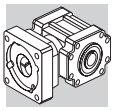


KR 030... LD



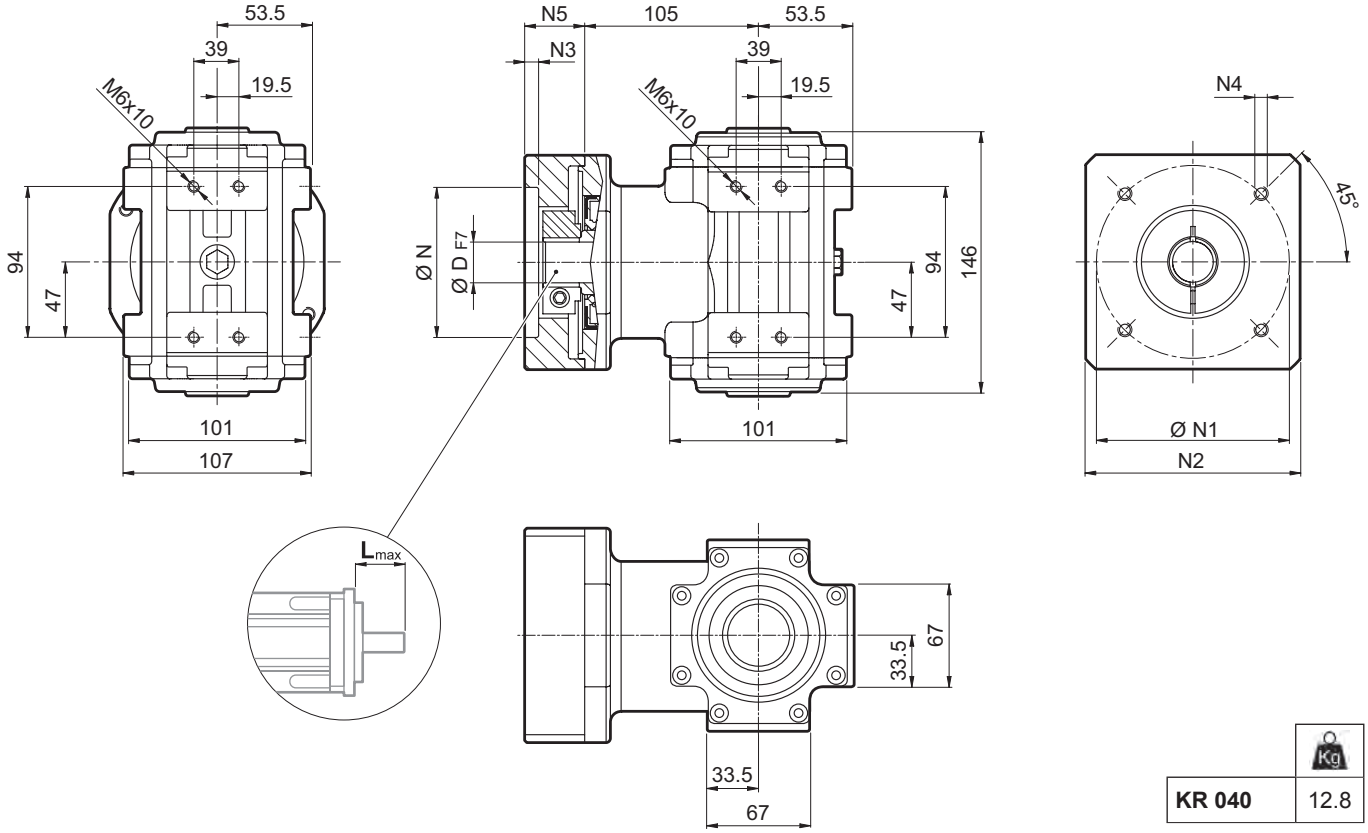
KR 030... LDF





KR 040

55A1 ... 180A1

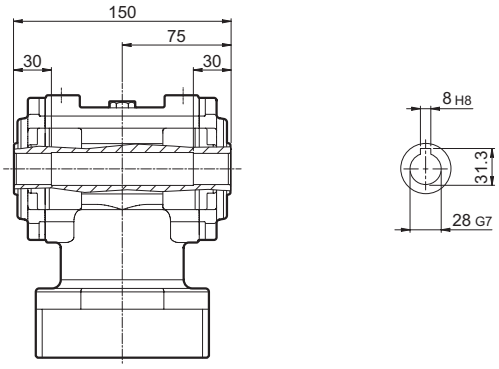


	Kg
KR 040	12.8

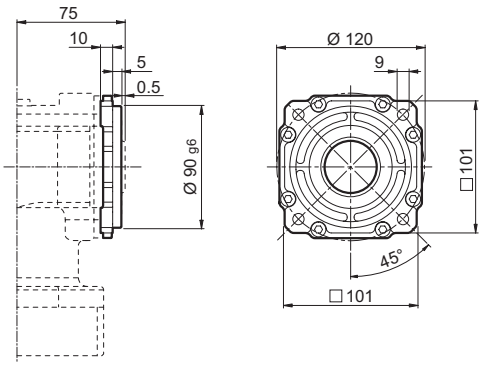
	D							N	N1	N2	N3	N4	N5	L_{max}
55A1	14	15.875	16	19	–	–	–	55.5	125.7	130	4	M6x15	39.5	50
80A2	14	15.875	16	19	–	–	–	80	100	130	4	M6x15	39.5	50
95A1	14	15.875	16	19	22	24	–	95	115	130	4	M8x20	39.5	50
110A1	14	15.875	16	19	22	24	–	110	130	130	4	M8x20	39.5	50
110B1	14	15.875	16	19	22	24	–	110	145	130	6.5	M8x20	49.5	60
114A	14	15.875	16	19	22	24	28	114.3	200	170	5.5	M12x25	69.5	80
130A	14	15.875	16	19	22	24	–	130	165	140	4	M10x20	39.5	50
130A1	14	15.875	16	19	22	24	28	130	165	140	4	M10x20	49.5	60
180A	14	15.875	16	19	22	24	28	180	215	190	5.5	M14x25	49.5	60
180A1	14	15.875	16	19	22	24	28	180	215	190	5.5	M14x25	69.5	80

Für weitere Motoradapter und Antriebswellenbohrungen bitte nachfragen.

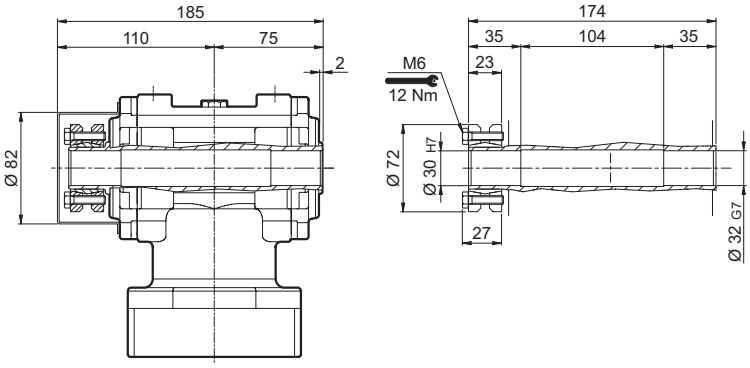
KR 040... H



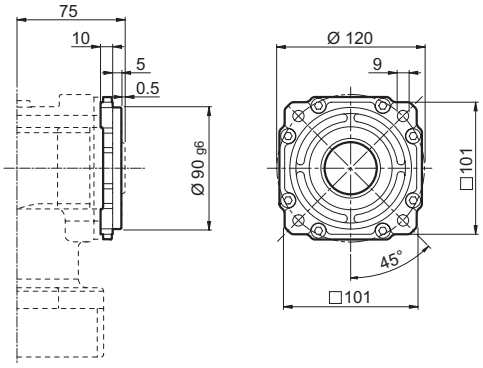
KR 040... HF



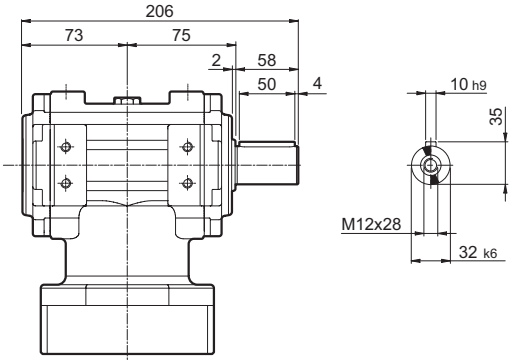
KR 040... S



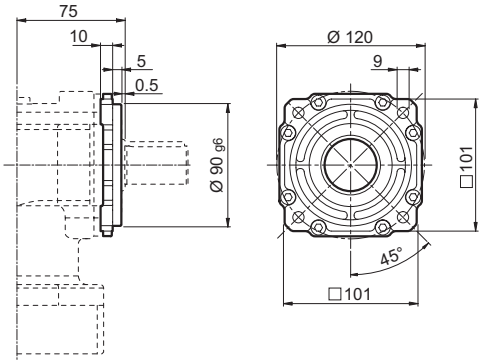
KR 040... SF



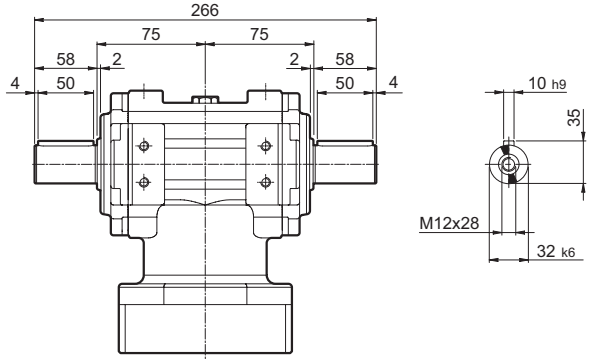
KR 040... LP



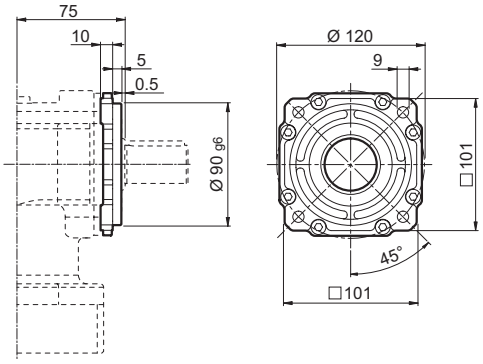
KR 040... LPF



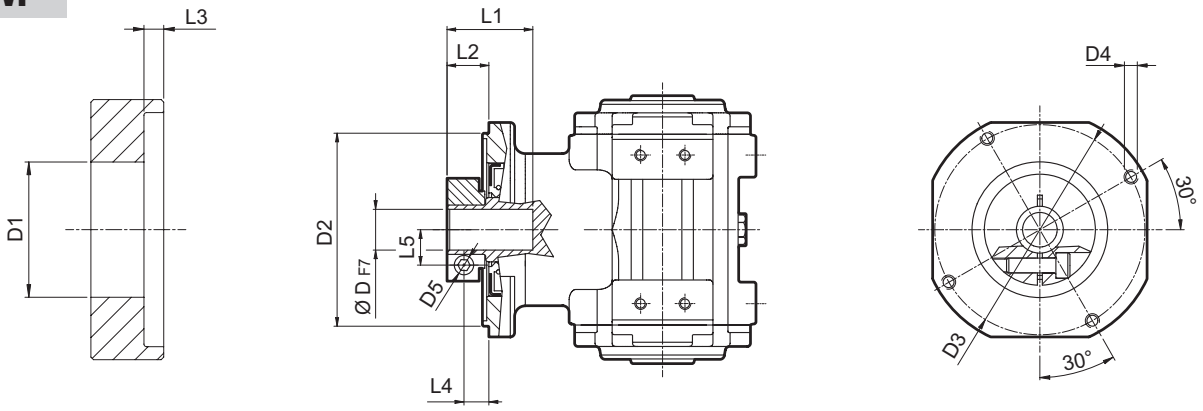
KR 040... LD



KR 040... LDF



FM

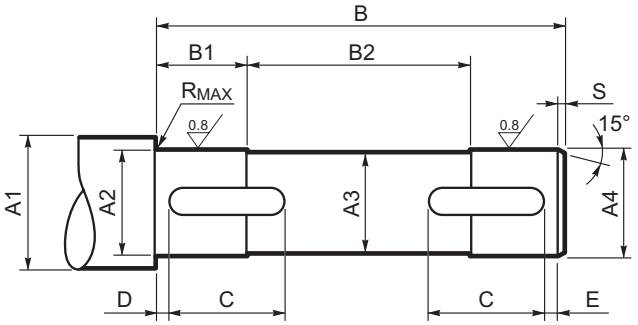


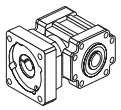
	D				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5	Kg
KR 010	6	6.35	7		32.5	50	42.5	M4x8	M4	28	13.5	3	8.5	8	1.0
	8	9	9.52	10	32.5	50	42.5	M4x8	M4	28	13.5	3	8.5	9	
	11	12	12.7		35.5	50	42.5	M4x8	M4	23	13.5	3	8.5	11	
	14				35.5	50	42.5	M4x8	M4	25	15.5	3	8.9	11.5	
KR 020	8	9	9.52		38	68	76.5	M6x10	M6	36.3	26.3	9.5	18.8	10.5	2.0
	11	12	12.7		43	68	76.5	M6x10	M6	36.3	26.3	9.5	18.8	12.5	
	14	15.875	16	17	48	68	76.5	M6x10	M6	36.3	26.3	9.5	18.8	14.5	
	19	19.05			51	68	76.5	M6x10	M6	36.3	26.3	9.5	18.8	16.5	
KR 030	11	12	12.7		43	90	98	M6x15	M6	35	19.5	7.6	12.1	12.5	3.5
	14	15	15.875	16	48	90	98	M6x15	M6	35	19.5	7.6	12.1	14.5	
	19				51	90	98	M6x15	M6	35	19.5	7.6	12.1	16.5	
	22	24			56.5	90	98	M6x15	M6	37	21.5	7.6	12.1	19	
KR 040	14	15.875	16		48	113	125.5	M8x15	M6	46	27.5	6	20	14.5	10.0
	19				51	113	125.5	M8x15	M6	46	27.5	6	20	16.5	
	22	24			56.5	113	125.5	M8x15	M6	47.5	29	6	20	19	
	28				67	113	125.5	M8x15	M8	47.5	29	6	20	22.5	

10.7.2 MASCHINENWELLE

Für die Welle der angetriebenen Maschine ist eine hochwertige Stahllegierung zu bevorzugen. Die Tabelle unten zeigt die empfohlenen Abmessungen, die vom Kunden bei der Konstruktion der Gegenwelle zu berücksichtigen sind. Weiterhin wird eine axiale Aufnahmevorrichtung für die Welle empfohlen (nicht gezeigt).
Anzahl und Größe der entsprechenden Gewindebohrungen am Wellenende sind von den Anwendungsanforderungen abhängig.

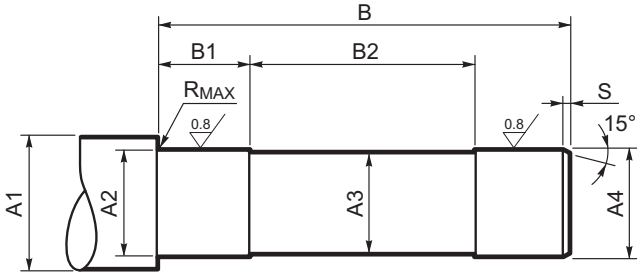
H

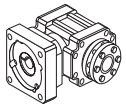


	A1	A2	A3	A4	B	B1	B2	C	D	E	R_{MAX}	UNI 6604	S
KR 030	≥ 26	18 h7	17	18 h7	129	18	90	32	2	2	0.5	6x6x25 A	1
KR 040	≥ 36	28 h7	27	28 h7	149	28	90	50	2	2	0.5	8x7x35 A	

Hinweis: Bei Verbindung der Welle mit Passfeder wie oben beschrieben erhöht sich das Flankenspiel in der Anwendung.(φ_S ≤ 8').

S



	A1	A2	A3	A4	B	B1	B2	R_{MAX}	S
KR 010	≥ 15	11 h7	9.5	10 h6	99	13	70	0.5	1
KR 020	≥ 20	16 h7	14.5	15 h6	122	18	83	0.2	
KR 030	≥ 30	22 h7	19.5	20 h6	149	23	100	0.5	
KR 040	≥ 40	32 h7	29.5	30 h6	173	33	104	0.5	

REVISIONSSINDEX

	TI_CAT_TIR_STD_DEU_R03_0
	Beschreibung
...	Überarbeitung einiger technischer Daten.

2016 06 20

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