



Torqmotor™

Series

TE / TJ / TF / TL / TG / TH / TK

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



ENGINEERING YOUR SUCCESS.

DE Hinweis

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Introduction

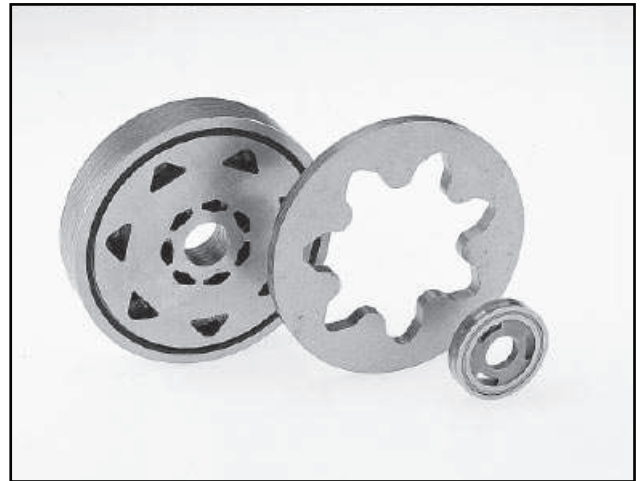
Excellence of Design

The producers of Parker Hannifin's **Torqmotor™** Series motors have a history of manufacturing reliable, precision parts that stretches back over a century. Milestones include the first patent on roller vane rotor sets for low speed, high torque hydraulic motors. That was forty years ago. Today the technological advances continue.

In the Development Laboratory, engineers continuously measure and analyze motor data to move existing products to even higher levels of performance and to develop new products to serve the ever changing needs of our customers. Design integrity is assured by exhaustive testing on endurance stands. To be sure that this translates into superior performance, advanced manufacturing techniques are employed as well.

Excellence of Manufacturing

Central to manufacturing excellence is the understanding that quality parts make quality motors. The instrumentation in our Quality Assurance laboratory includes devices such as coordinate measuring machines, to accurately measure the parts that we manufacture as well as those that we purchase. Quality cannot be inspected in, however. It must be manufactured. Each machine operator is responsible for the quality of the part that comes off that machine. Efficiency is enhanced by our cellular manufacturing techniques. Accuracy is assured by statistical process control methods. Micrometers and specialized gages are at the disposal of the operator. As a final check, every motor is tested before shipment to our customer. Parker understands that our customers cannot produce quality products unless we do.



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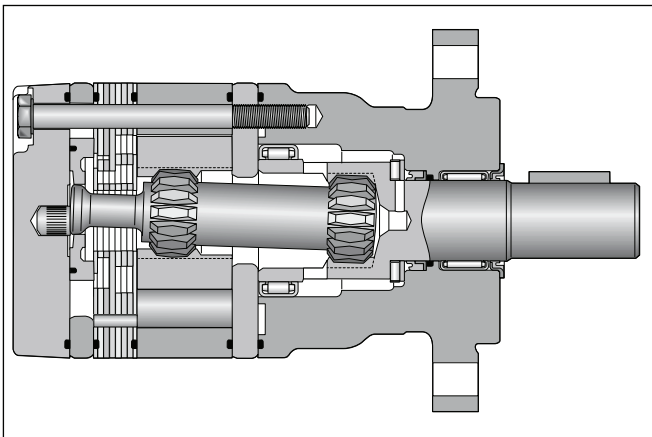
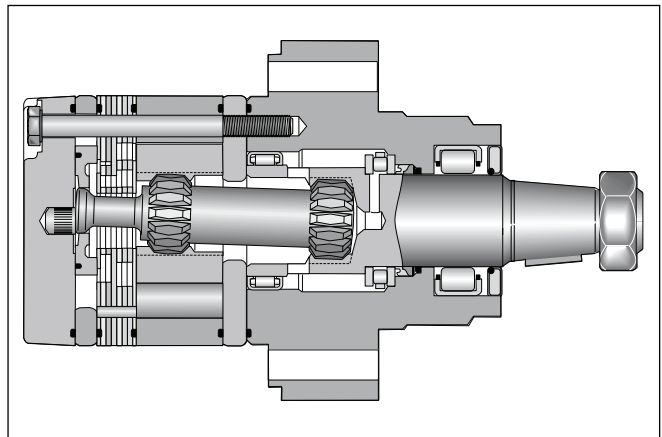
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Features

- **Langsamlaufender Gerotor-Motor**
- **Spezielle Orbital-Steuerung**
Geringe interne Leckage
Hoher volumetrischer Wirkungsgrad
- **Rollen im Rotorsatz**
Reduzierte Reibung
Lange Lebensdauer
- **Patentierte Hochdruckwellendichtung**
Keine Leckölleitung
Keine Rückschlagventile
- **Vielzahl von Varianten**
Großer Einsatzbereich

**Torqmotor
Series TE-TJ**

- **Low Speed Gerotor Motor**
- **Zero leak commutation valve**
For greater, more consistent
Volumetric efficiency
- **Roller vane rotor set**
Reduces friction and internal leakage
Maintaining efficiency throughout the life of the motor
- **Patented high-pressure shaft seal**
No check valves needed
No extra plumbing
- **Wide choice of displacement range, flange and shaft options**
Greater efficiency in systems design
to suit your application

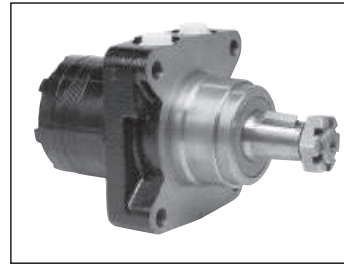
Series TE**Series TJ**

- **Moteur lent système Gerotor**
- **Une distribution orbitale particulière assure**
fuites internes minimales
rendements volumétriques élevés
- **Le rotor à rouleaux**
réduit les frottements
augmente la durée de vie
- **Par l'utilisation de joints d'arbre haute pression brevetés**
pas de conduite de drainage
pas de clapets anti-retour
- **Grâce à de nombreuses variantes**
larges domaines d'applications

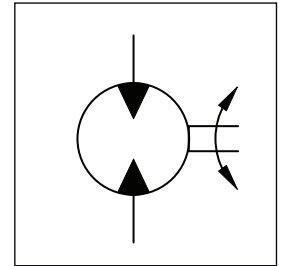
- **Motore orbitale a bassa velocità**
- **Una particolare distribuzione orbitale assicura**
trafilamento ridotto elevato rendimento volumetrico
- **Con lo statore a rullo**
si riduce l'attrito interno
si mantiene nel tempo l'efficienza del motore
- **Una guarnizione di tenuta ad alta pressione brevettata elimina la necessità**
di una linea di drenaggio esterna e di valvole non ritorno
- **Un'ampia gamma di cilindrate, flangiature ed alberi**
consentono scelte adeguate ad ogni esigenza costruttiva

Performance

Drehzahl Speed Vitesse de rotation Velocità di rotazione	5...1160 rev/min
Schluckstrom Oil flow Débit d'huile Portata	max. 75 l/min
Eingangsdruck Supply pressure Pression entrée Pressione in entrata	max. 200 bar
Drehmoment Torque Couple Coppia	max. 550 Nm
Seitenlast Side load Charges latérales Carico radiale	TE = max. 7000 N TJ = max. 14000 N



Series TJ



Series TE

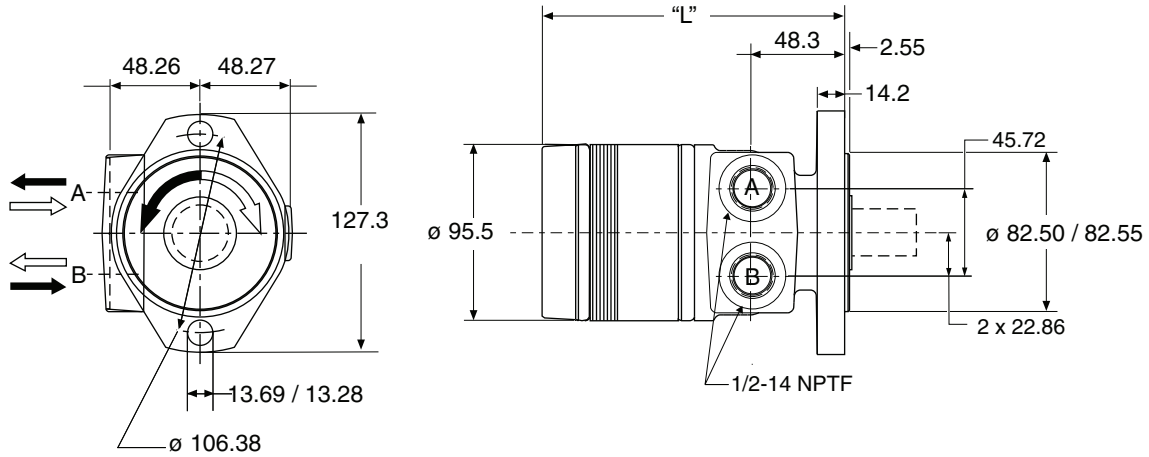
Motor series TE / TJ	Geom. Schluckvolumen Geometric displacement Cylindrée	Max. Drehzahl Max. speed Vitesse de rotation maxi Velocità di rotazione maxi	Max. Schluckstrom Max. oil flow Débit d'huile max Portata max	Max. Druckdifferenz * Chute de pression maxi * Caduta di pressione max *	Max. Eingangsdruck Max. supply pressure Pression maxi entrée Pressione max in entrata	Max. Drehmoment Max. torque Couple maxi Coppia max	Max. Leistungabgabe Max. performance Potenza meccanica max	Min. Anlaufmoment Min. starting torque Couple min. fourni au démarrage Coppia min. di spunto
	[cm ³ /U] [cm ³ /rev]	cont / int [U/min] [rev/min]	cont / int [l/min]	cont / int [bar]	max [bar]	cont / int [Nm]	cont / int [KW]	cont / int [Nm]
TE/TJ 36	36	930/1160	35/40	140/190	200	55/71	9	44/52
TE/TJ 45	41	810/1024	35/41	140/190	200	70/100	10	44/64
TE/TJ 50	50	725/1020	35/50	140/190	200	90/127	13	72/98
TE/TJ 65	66	705/940	45/60	140/190	200	125/176	15	100/137
TE/TJ 80	82	560/750	45/60	140/190	200	160/220	17	128/171
TE/TJ 100	98	470/630	45/60	140/190	200	190/264	17	152/205
TE/TJ 130	130	350/470	45/60	140/190	200	255/352	17	204/274
TE/TJ 165	163	280/375	45/60	140/190	200	310/436	17	248/338
TE/TJ 195	196	235/315	45/60	140/190	200	390/528	17	312/411
TE/TJ 230	228	265/330	60/75	120/165	200	380/514	18	304/411
TE/TJ 260	261	230/290	60/75	110/155	200	400/550	17	320/449
TE/TJ 295	293	200/255	60/75	100/145	200	428/582	16	328/445
TE/TJ 330	326	185/235	60/75	100/135	200	443/600	15	344/453
TE/TJ 365	370	150/200	60/75	95/125	200	467/648	14	373/477
TE/TJ 390	392	152/190	60/75	85/120	200	445/628	13	348/462

int. = Intermittierende Werte maximal: 10% von jeder Betriebsminute.
Intermittent operation rating applies to 10% of every minute.
Fonctionnement interm.: 10% max. de chaque minute d'utilisation.
Servizio intermittente: 10% max di ogni minuto di utilizzazione.

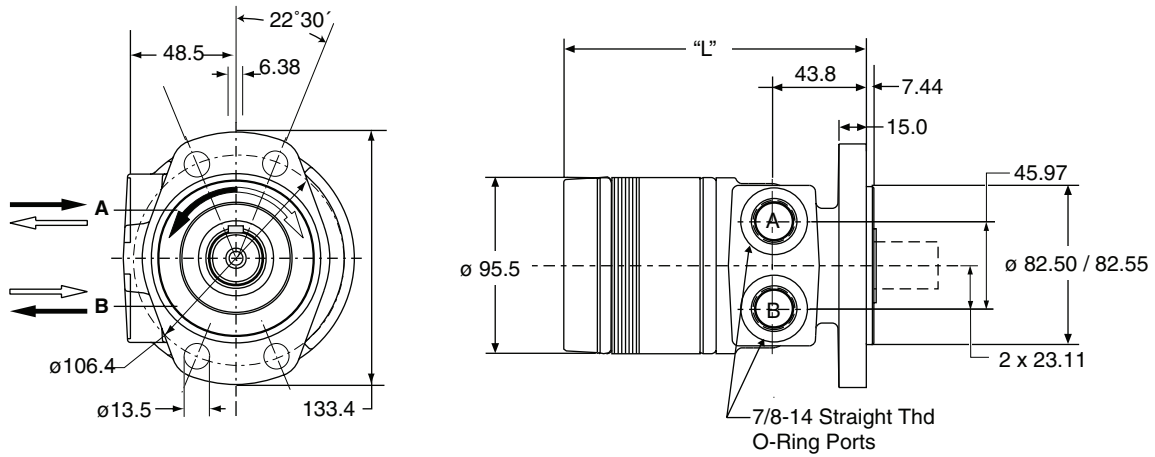
* Druckdifferenz Δp zwischen Ein- und Ausgang
* Pressure difference is Δp between input and output
* La différence de pression est Δp entre l'entrée et la sortie
* La differenza di pressione corrisponde al Δp tra ingresso e uscita

Achtung: Höhere Drücke auf Anfrage möglich.
Notice: Higher pressures are possible on request.
Remarque : des pressions supérieures sont possibles sur demande.
Nota: Pressioni superiori possibili su richiesta.

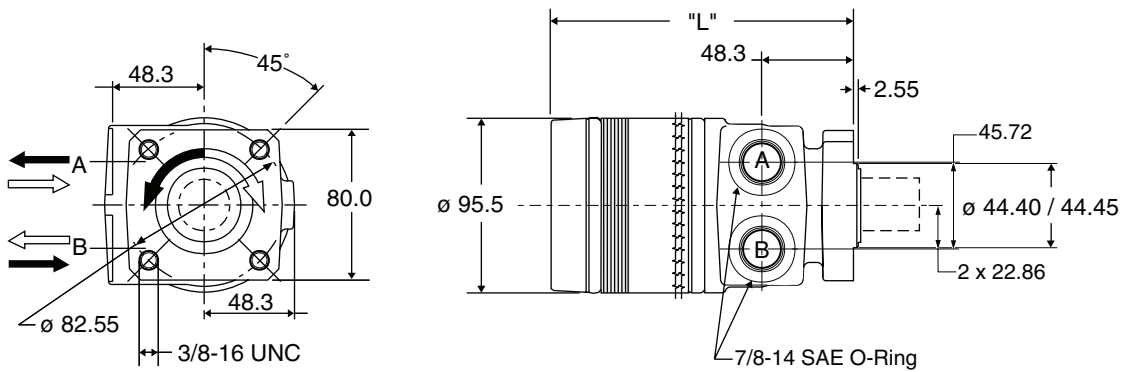
Code C



Code M

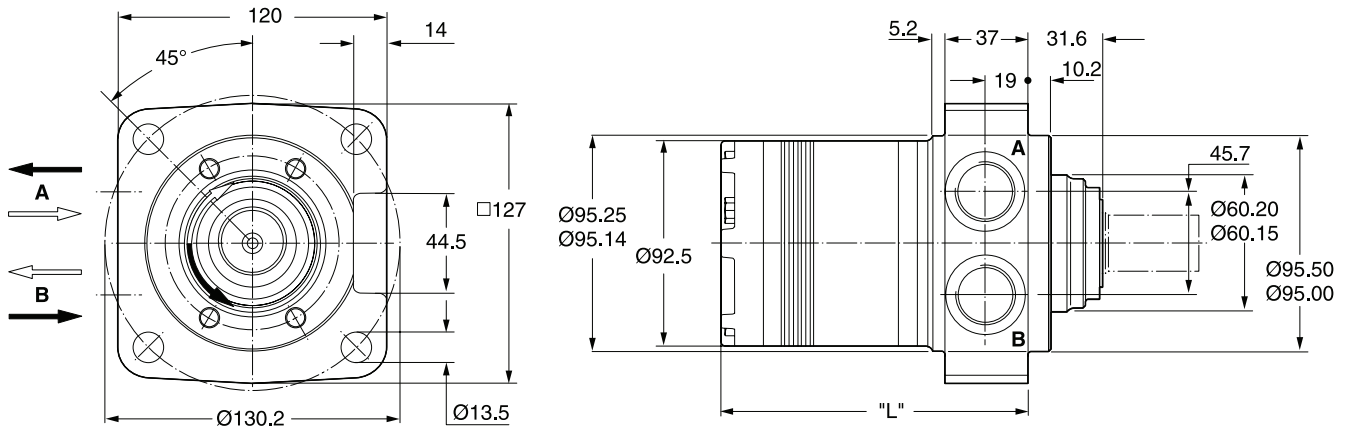


Code D

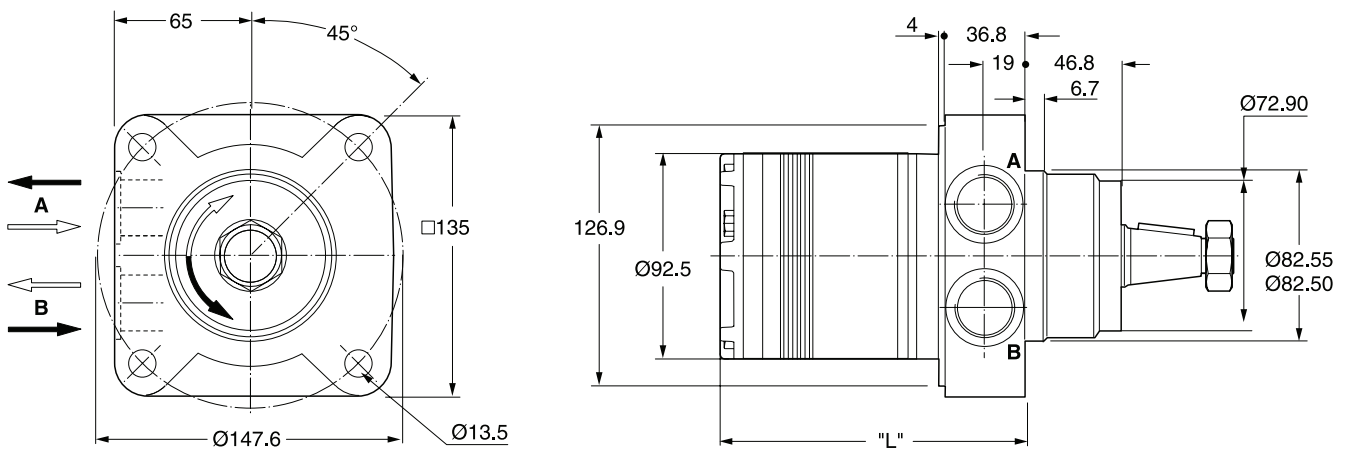


Gewicht / Weight Poids / Peso [kg]	TE36	TE45	TE50	TE65	TE80	TE100	TE130	TE165	TE195	TE230	TE260	TE295	TE330	TE365	TE390
Code C	128	131	133	136	140	143	149	155	162	168	174	181	170	195	200
Code M, D	134	136	138	141	144	147	153	160	166	173	179	185	192	200	205

Code L

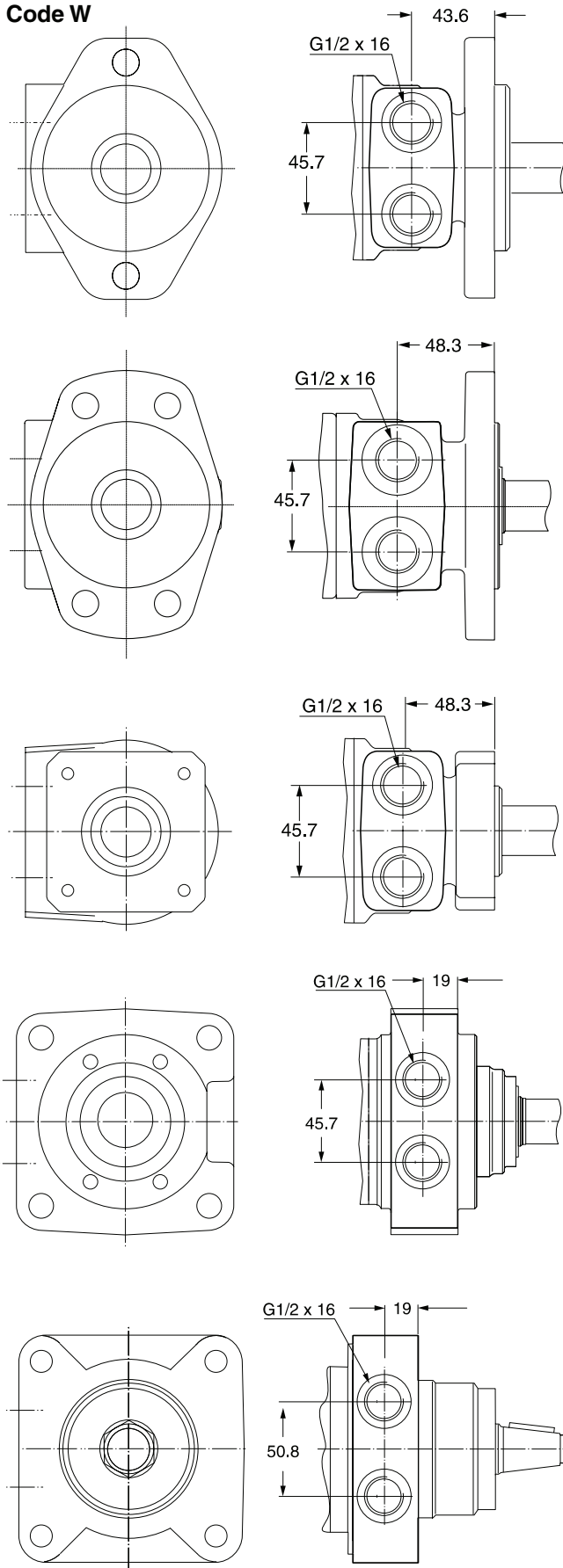


Code U

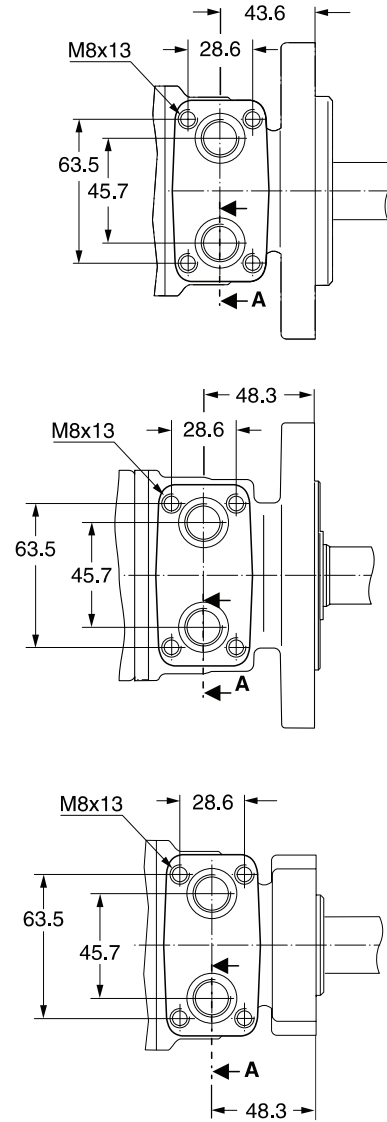


Gewicht / Weight Poids / Peso [kg]	TJ36	TJ45	TJ50	TJ65	TJ80	TJ100	TJ130	TJ165	TJ195	TJ230	TJ260	TJ295	TJ330	TJ365	TJ390	
		6,7	6,8	6,9	7,0	7,1	7,2	7,6	7,8	8,1	8,3	8,6	8,8	9,1	9,4	9,6
Code L, U	"L"[mm]	103	106	109	112	115	118	124	131	137	143	150	156	162	171	175

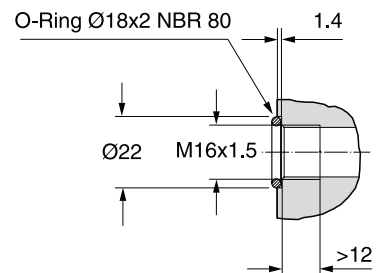
Code W



Code N



Section A

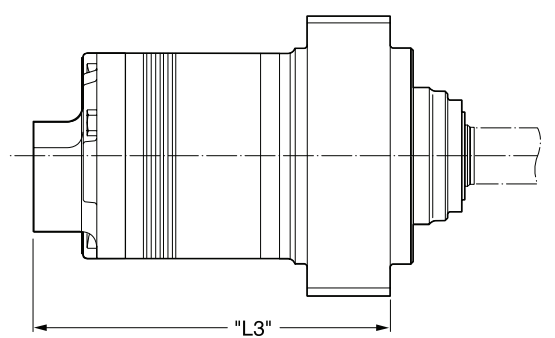
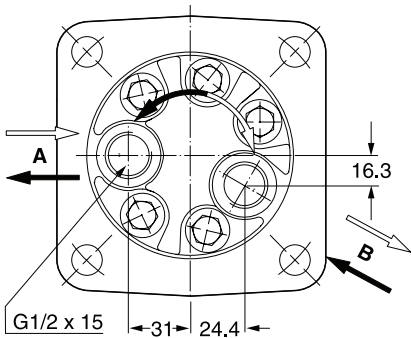
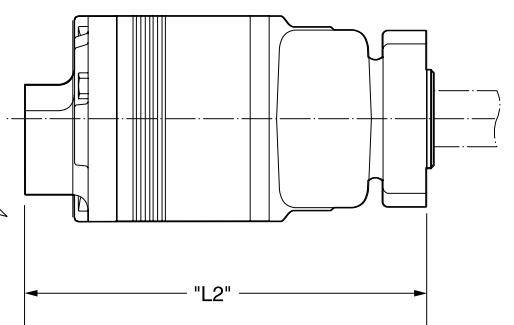
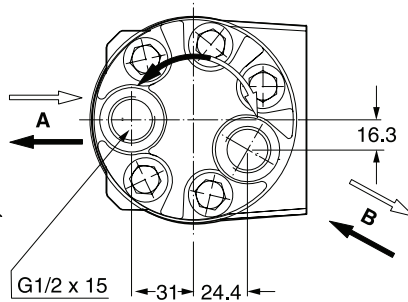
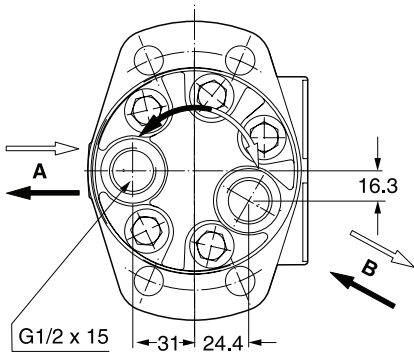
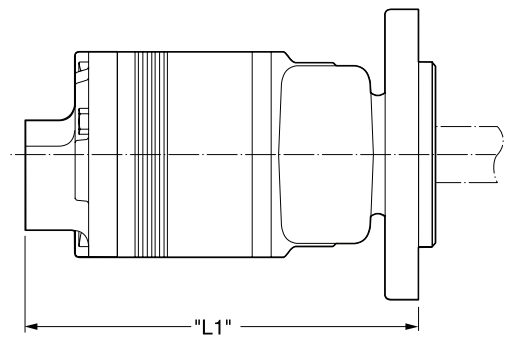
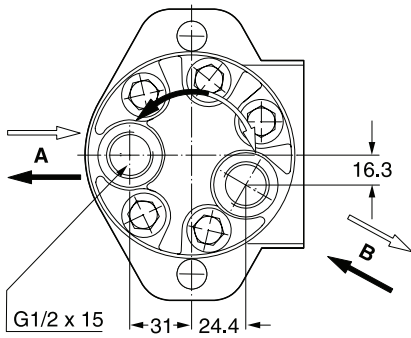


Zum Motor mit Universalanschluss werden 2 O-Ringe geliefert.

Motor with manifold mount is supplied with 2 O-rings.
 Deux joints toriques sont livrés avec les moteurs au plan de raccordement universel.

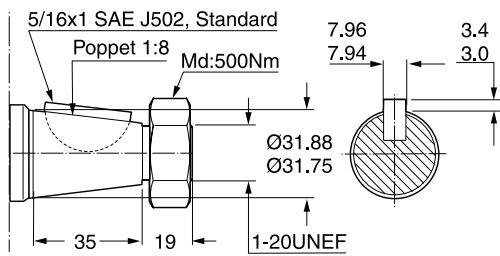
Il blocchetto connessioni è corredato da 2 OR.

Code Y

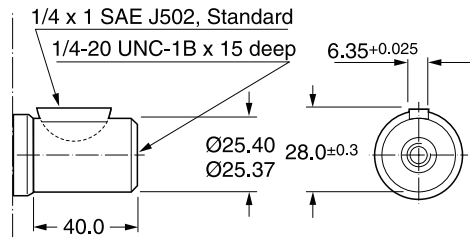


Gewicht / Weight	TE36	TE45	TE50	TE65	TE80	TE100	TE130	TE165	TE195	TE230	TE260	TE295	TE330	TE365	TE390
Poids / Peso [kg]	7,2	7,3	7,4	7,5	7,6	7,7	8,1	8,3	8,6	8,8	9,1	9,3	9,6	9,9	10,1
"L1"[mm]	151	152	154	157	160	164	170	177	183	189	196	202	208	215,5	221
Code Y "L2"[mm]	155	156	158	161	165	168	174	181	187	193	200	206	212	220	225
"L3"[mm]	127	128	130	132	136	139	145	152	158	164	171	177	183	191	196

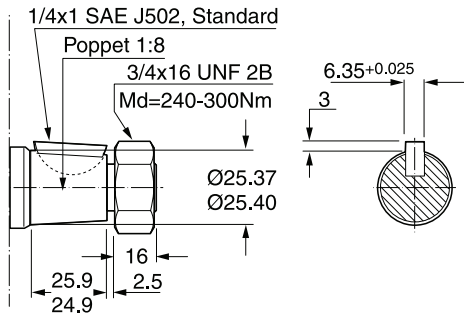
Code 08



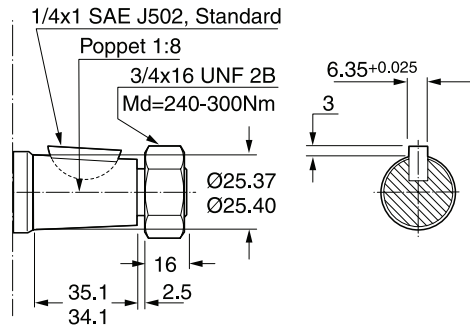
Code 10³⁾



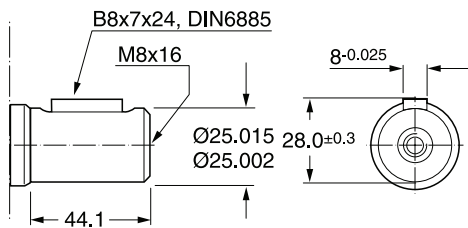
Code 12



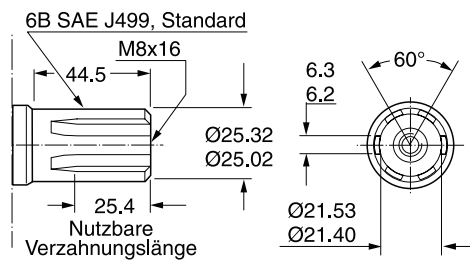
Code 25



Code 26²⁾

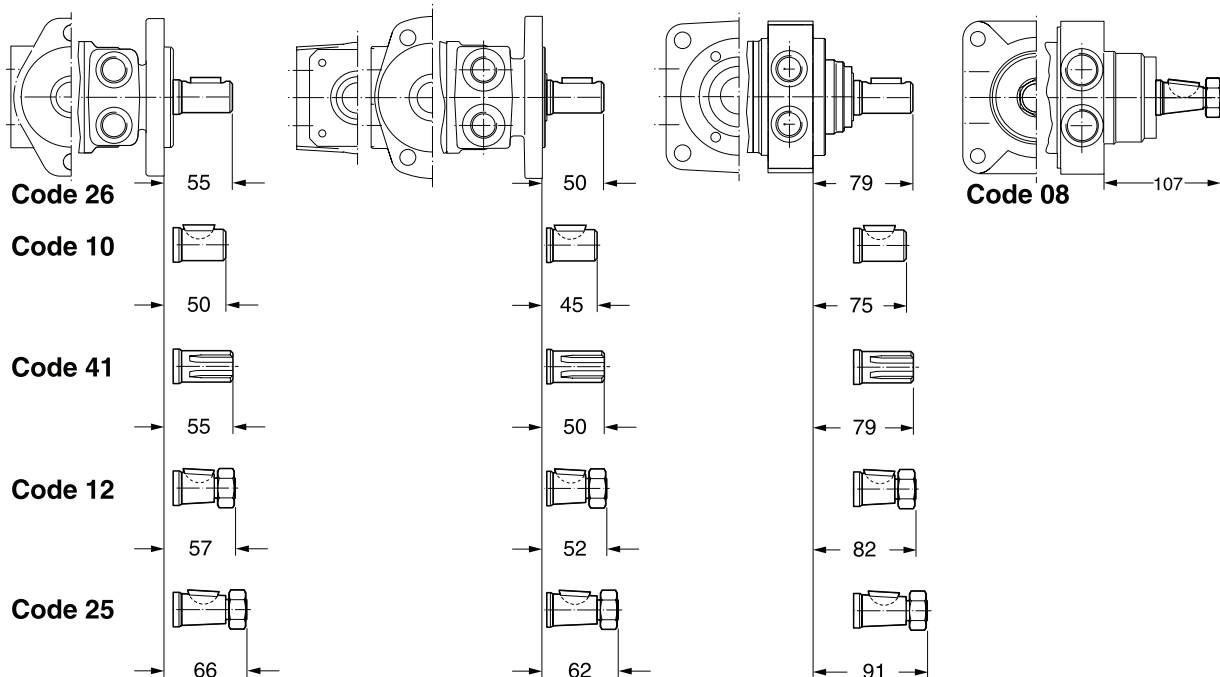


Code 41

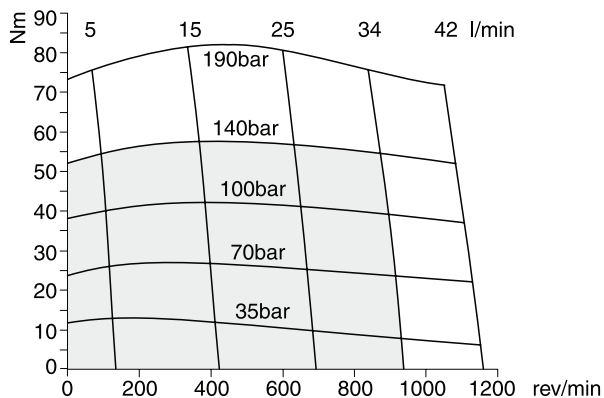


²⁾ **Code 69** = Rostfreie Ausführung
 Stainless steel version
 Version en acier inoxydable
 Versione in acciaio inossidabile
 230 Nm (2100lb in) Max. Drehmoment/
 Max Torque/ Couple maxi/ Coppia max

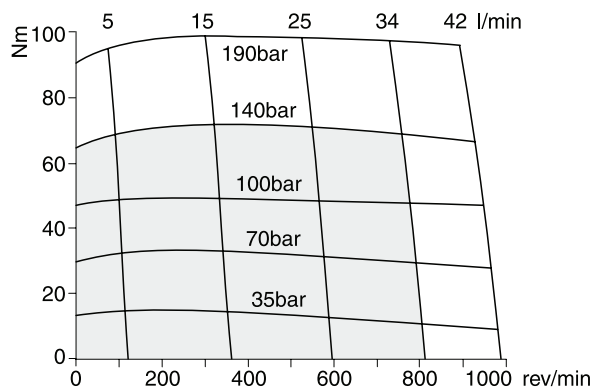
³⁾ **Code 70** = 25,4 mm - Rostfreie Ausführung
 25,4 mm - Stainless steel version
 25,4 mm - Version en acier inoxydable
 25,4 mm - Versione in acciaio inossidabile
 230 Nm (2100lb in) Max. Drehmoment/
 Max Torque/ Couple maxi/ Coppia max



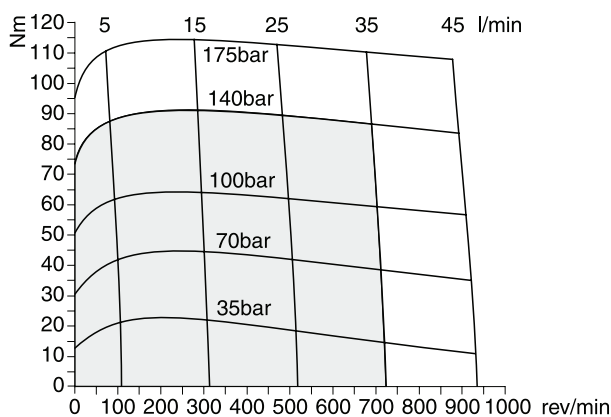
TE/TJ 36



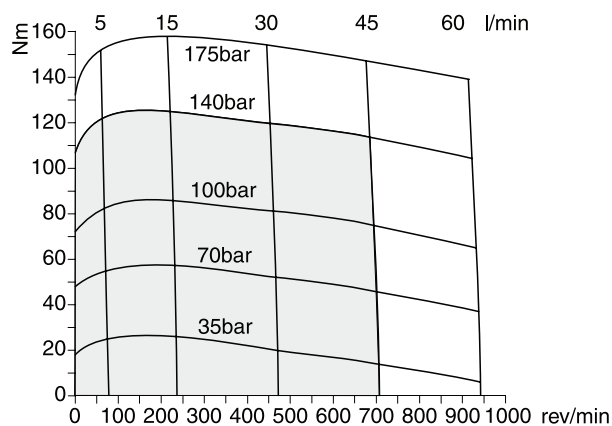
TE/TJ 45



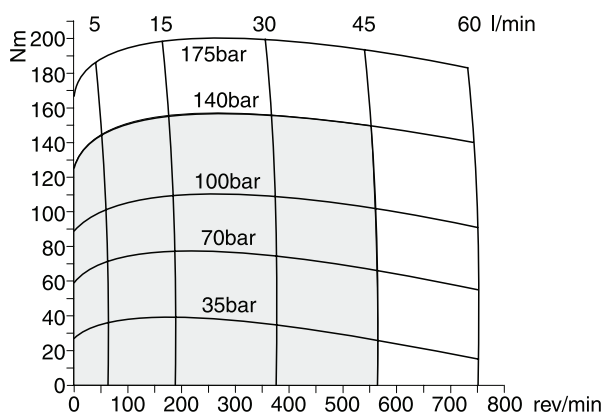
TE/TJ 50



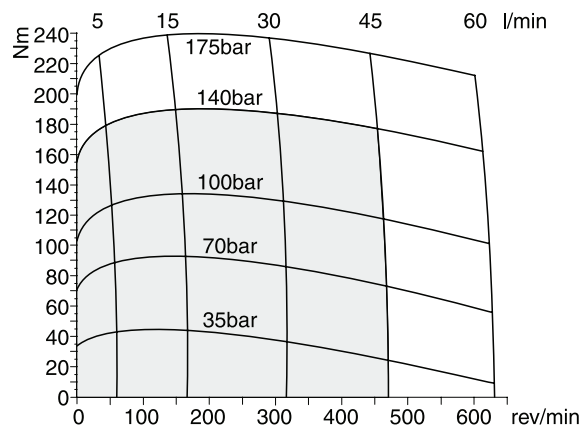
TE/TJ 65



TE/TJ 80



TE/TJ 100



□ Cont.

□ Int.

int. =

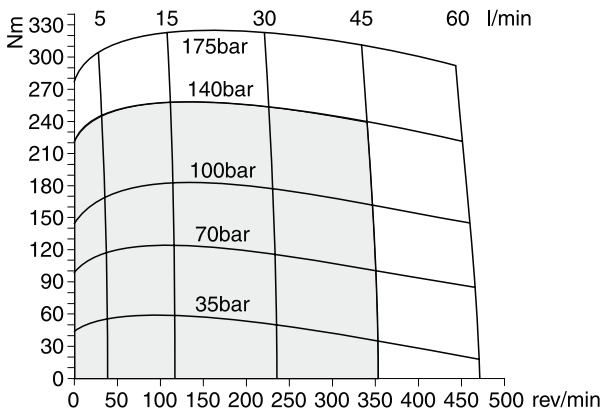
Intermittierende Werte maximal 10% von jeder Betriebsminute.

Fonctionnement interm. 10% max. de chaque minute d'utilisation.

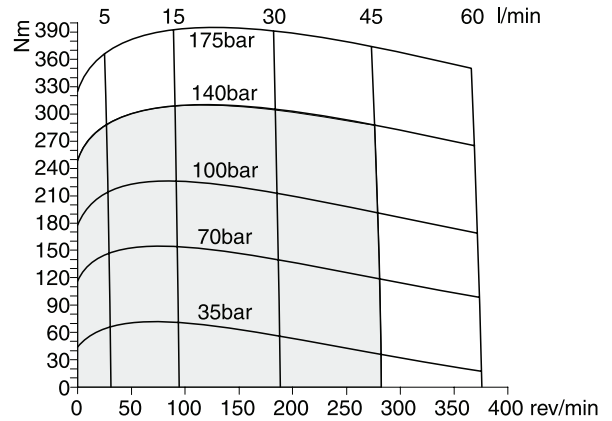
Intermittent operation rating applies to 10% of every minute.

Servizio intermittente 10% max di ogni minuto di utilizzazione.

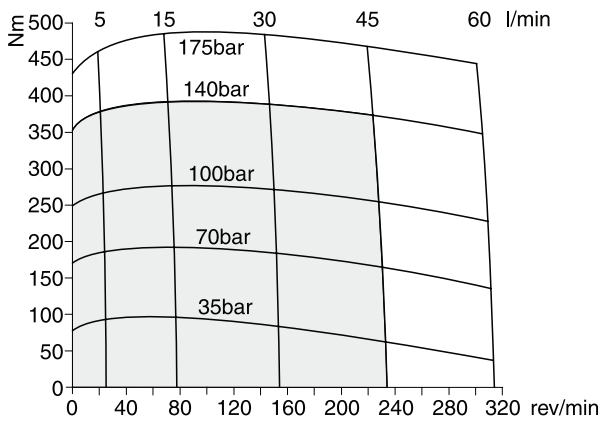
TE/TJ 130



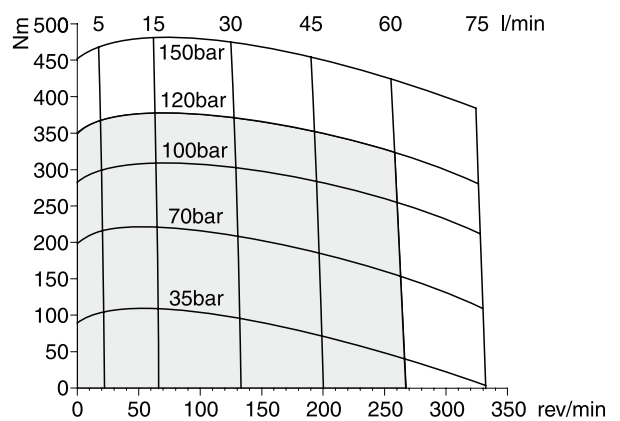
TE/TJ 165



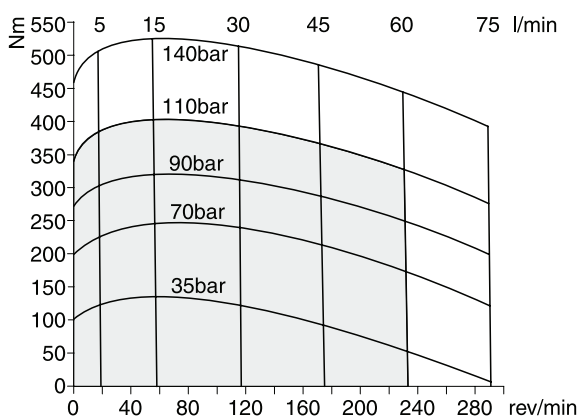
TE/TJ 195



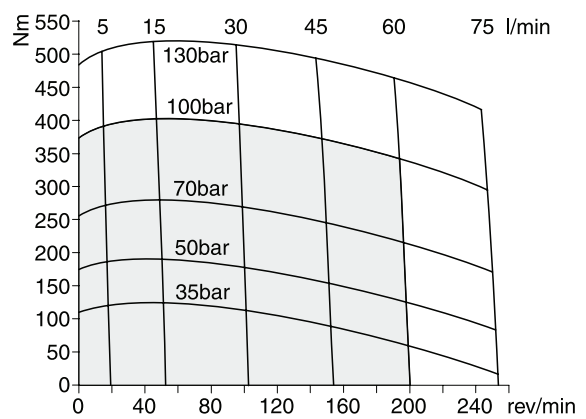
TE/TJ 230



TE/TJ 260



TE/TJ 295

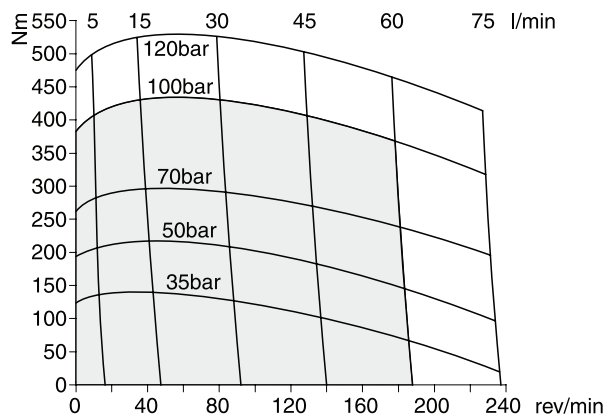


□ Cont.

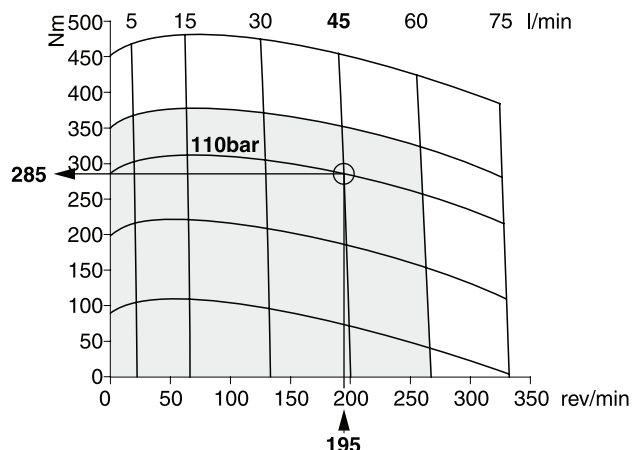
□ Int.

int. =
 Intermittierende Werte maximal 10% von jeder Betriebsminute.
 Fonctionnement interm. 10% max. de chaque minute d'utilisation.
 Intermittent operation rating applies to 10% of every minute.
 Servizio intermittente 10% max di ogni minuto di utilizzazione.

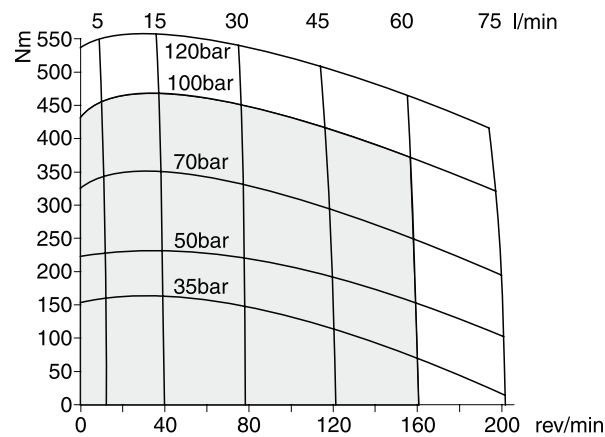
TE/TJ 330



Beispiel / Example Series TE / TJ230



TE/TJ 365



Md = 285 Nm V = 229.4 cm³/rev
 n = 195 rev/min Q = 45 l/min
 Δp = 110 bar

Volumetrischer Wirkungsgrad (η_{vol})
 Volumetric efficiency
 Rendement volumétrique
 Rendimento volumetrico

$$\eta_{vol} = \frac{n \cdot V}{Q \cdot 10^3} = \frac{195 \cdot 229.4}{45 \cdot 10^3}$$

η_{vol} = 0.99

Hydraulisch-mechanischer Wirkungsgrad (η_{hm})
 Hydraulic-mechanical efficiency
 Rendement hydro-mécanique
 Rendimento idro-meccanico

$$\eta_{hm} = \frac{Md \cdot 20 \cdot \pi}{\Delta p \cdot V} = \frac{285 \cdot 20 \cdot \pi}{110 \cdot 229.4}$$

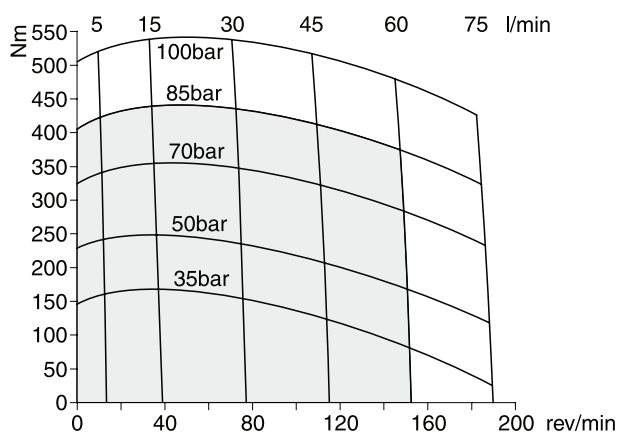
η_{hm} = 0.71

Gesamtwirkungsgrad (η_{ges})
 Overall efficiency
 Rendement global
 Rendimento totale

$$\eta_{ges} = \eta_{vol} \cdot \eta_{hm} = 0.99 \cdot 0.71$$

η_{ges} = 0.70

TE/TJ 390



□ Cont. □ Int.

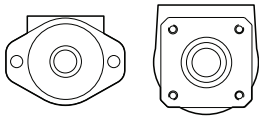
int. =
 Intermittierende Werte maximal 10% von jeder Betriebsminute.
 Fonctionnement interm. 10% max. de chaque minute d'utilisation.
 Intermittent operation rating applies to 10% of every minute.
 Servizio intermittente 10% max di ogni minuto di utilizzazione.

Leistung P (kW)
 Power P
 Puissance P
 Potenza P

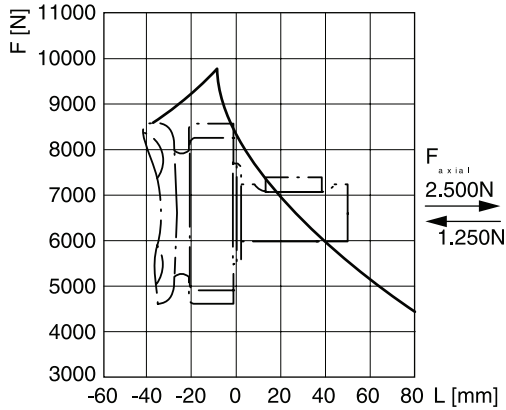
$$P = \frac{Md \cdot n \cdot \pi}{10^4 \cdot 3} = \frac{285 \cdot 195 \cdot \pi}{10^4 \cdot 3}$$

P = 5.8 kW

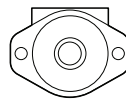
TE Code C/D



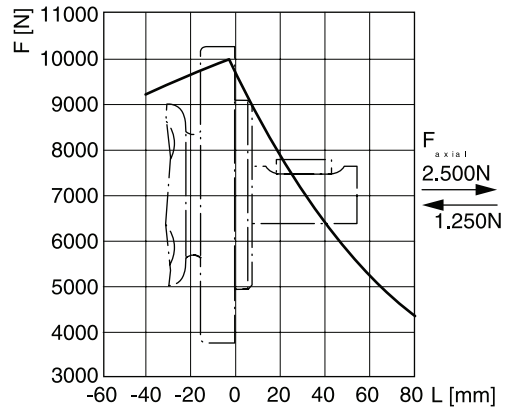
$$L_h = \frac{357300}{n \cdot F_R \cdot \left(1.161 + \frac{L}{62\text{mm}}\right)^{3.3}}$$



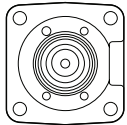
TE Code C



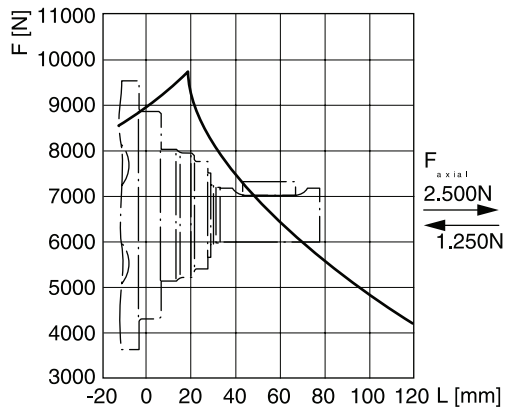
$$L_h = \frac{357300}{n \cdot F_R \cdot \left(1.076 + \frac{L}{62\text{mm}}\right)^{3.3}}$$



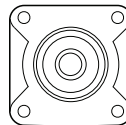
TE Code L



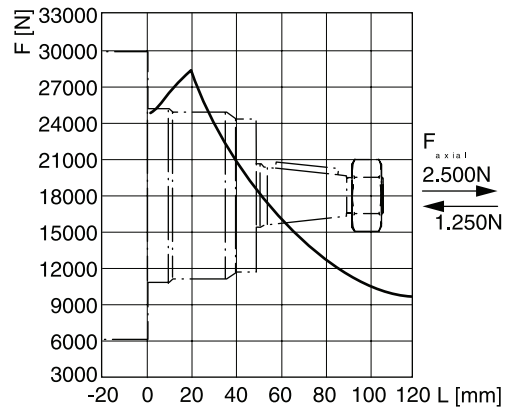
$$L_h = \frac{357300}{n \cdot F_R \cdot \left(0.69 + \frac{L}{62\text{mm}}\right)^{3.3}}$$



TJ Code U



$$L_h = \frac{840000}{n \cdot F_R \cdot \left(0.57 + \frac{L}{71\text{mm}}\right)^{3.3}}$$



Die Lebensdauer der Radiallager (L_h in Stunden) lässt sich nach folgender Formel berechnen. Die Größe F_R ist durch die mechanische Festigkeit der Abtriebswelle begrenzt (siehe Diagramm). Das Maß "L" ist das Längenmaß vom Gehäuseflansch bis zum Angriffspunkt der Radialkraft F_R .

Life time (L_h in hours) of the radial bearings can be calculated with the following formula. The value F_R is limited by the mechanical strength of the shaft (see diagram). The measurement "L" is the length from the housing flange up to the point of impact of the radial force F_R .

La durée de vie des roulements radiaux (L_h en heures) peut être calculée par les formules suivantes. La grandeur F_R est limitée par les résistances mécaniques de l'arbre de sortie (voir diagramme). La cote "L" est la longueur entre la bride du carter jusqu'au point d'appui de l'effort radial F_R .

La durata dei cuscinetti (L_h in ore) può essere calcolata con la seguente formula. Il valore F_R è limitato dalla resistenza meccanica dell'albero (vedi diagramma). La quota "L" è la distanza tra la flangia del corpo ed il punto di applicazione della forza radiale F_R .

Vorstehende Formeln gelten für eine B10-Lebensdauer.
The preceding formulas are valid for a B10 duration of life.
Les formules précédentes sont valables pour une durée de vie B10.
Le formule precedenti sono valide per una durata della vita B10.

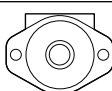

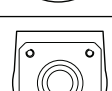
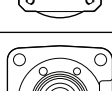
L_h = [h]
 L = [mm]
 n = [rev/min]

Ordering Code

Torqmotor Series TE-TJ

TE	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Series	Schluckvolumen Displacement Cylindrée Cilindrata	Gehäuse Housing Carter Scatola motore	Anschluss Ports Plan de raccordement Conessioni	Welle Shaft Arbre Albero	Drehrichtung Direction of rotation Direction de rotation Direzione di rotazione	Option	

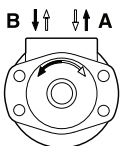

Code	cm ³ /rev
0036	36
0045	41
0050	50
0065	66
0080	82
0100	98
0130	130
0165	163
0195	196
0230	228
0260	261
0295	293
0330	326
0365	370
0390	392

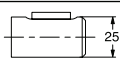
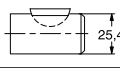
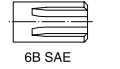


Code	Housing
C	
M	
D	
L	

Code	Port
W	G 1/2
N ¹⁾	universal port M8x13
Y	rear port G 1/2 axial

Code	Option
AAAB	standard
AANC	shuttle valve
BBCP ²⁾	internal relief valve 100 bar
BBCN ²⁾	internal relief valve 140 bar
HAAP	external relief valve 100 bar
HAAU	external relief valve 140 bar

²⁾ Nicht verfügbar für Anschluss Y
Not available for port code Y
Pas disponible pour raccordement code Y
Non Disponibile per connessioni codice Y

Code	Direction
0	 Standard
1	

Code	Shaft
26 69 ³⁾	
10 70 ³⁾	
41	 6B SAE
12	
25	

¹⁾ Nicht verfügbar für Gehäuse L
Not available for housing code L
Pas disponible pour carter code L
Non Disponibile per Alloggiamento codice L

³⁾ 230 Nm (2100lb in) Max. Drehmoment/
Max Torque/ Couple maxi/ Coppia max