Torqmotor ™

Series

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

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

Parker

ENGINEERING YOUR SUCCESS.

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FR **Note**

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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.

Contents

Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

Contents

Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

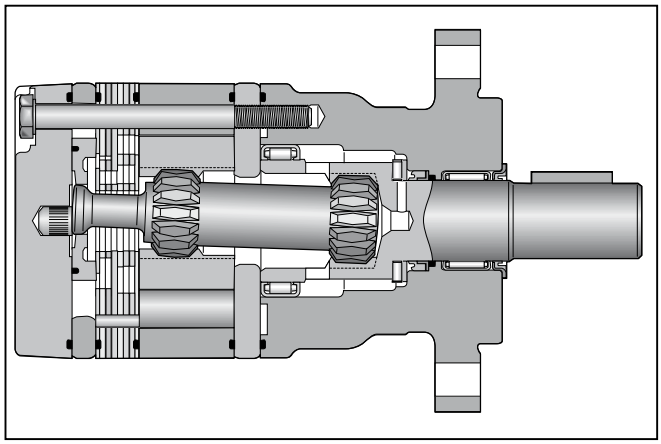
Features

Series TE-TJ

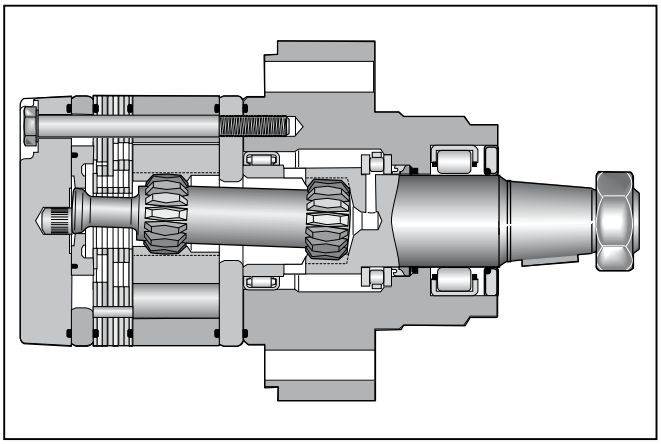
- **Langsamlaufender Gerotor-Motor**
- **Spezielle Orbital-Steuerung**
  Geringe interne Leckage
  Hoher volumetrischer Wirkungsgrad
- **Rollen im Rotorsatz**
  Reduzierte Reibung
  Lange Lebensdauer
- **Patentierte Hochdruckwellendichtung**
  Keine Leckölleitung
  Keine Rückschlagventile
- **Vielzahl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

- **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

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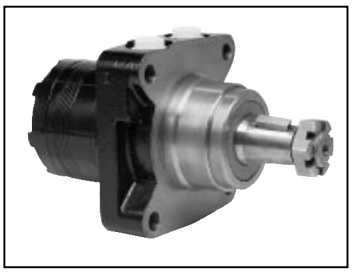
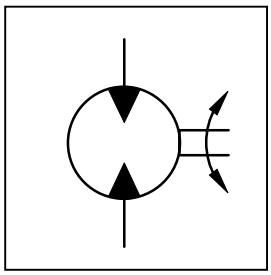
Drehzahl Speed Vitesse de rotation Velocità di rotazione	5...1160 rev/min
Schluckstrom Oil flow Débit d`huile Portata	max. 75 l/min
Eingangsdruck Supply pressure Pression entrée Pressione in entrata	max. 200 bar
Drehmoment Torque Couple Coppia	max. 550 Nm
Seitenlast Side load Charges latérales Carico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





Series TJ

Series TE

Motor series TE / TJ	Geom. Schluckvolumen / Geometric displacement / Cylindrée / Cilindrata [cm³/U] [cm³/rev]	Max. Drehzahl / Max. speed / Vitesse de rotation maxi / Velocità di rotazione max cont / int [U/min] [rev/min]	Max. Schluckstrom / Max. oil flow / Débit d`huile maxi / Portata max cont / int [l/min]	Max. Druckdifferenz * / Max. differential pressure * / Chute de pression maxi * / Caduta di pressione max * cont / int [bar]	Max. Eingangsdruck / Max. supply pressure / Pression maxi entrée / Pressione max in entrata max [bar]	Max. Drehmoment / Max. torque / Couple maxi / Coppia max cont / int [Nm]	Max. Leistungabgabe / Max. performance / Puissance de sortie maxi / Potenza meccanica max cont / int [KW]	Min. Anlaufmoment / Min. starting torque / Couple min. fourni au dé manrage / Coppia min. di spunto 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.

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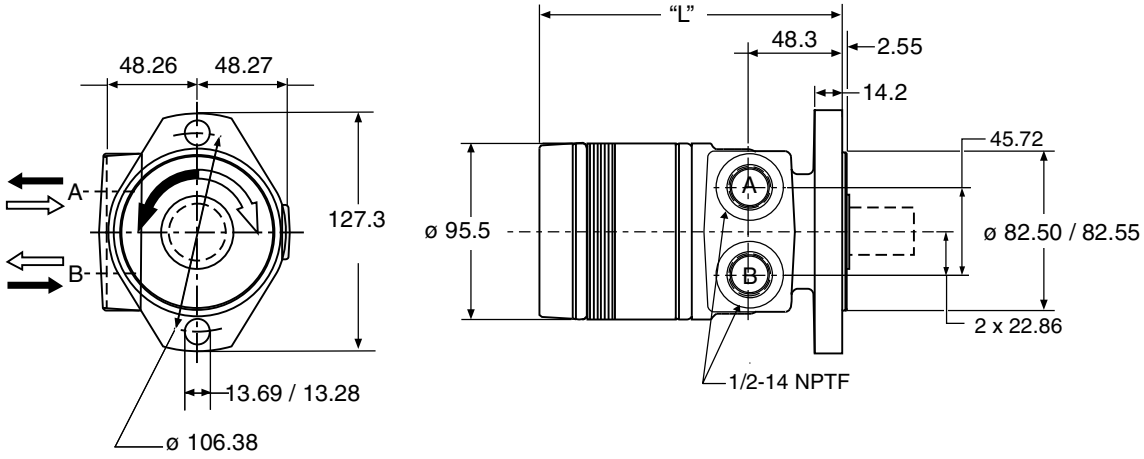
Code C



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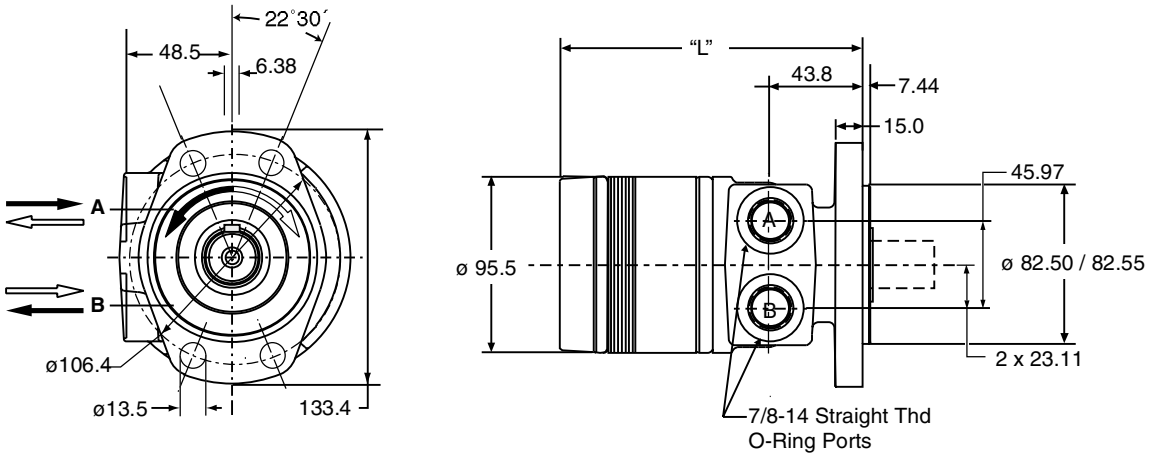

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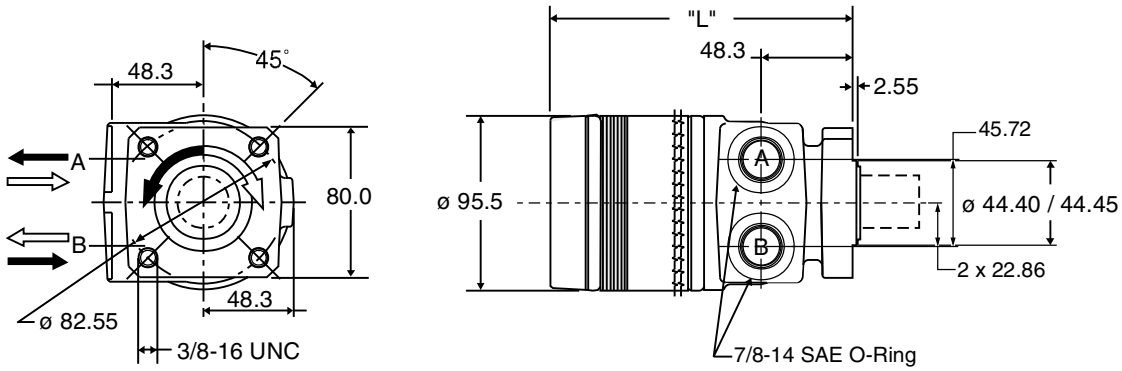

Gewicht	/ Weight	TE36	TE45	TE50	TE65	TE80	TE100	TE130	TE165	TE195	TE230	TE260	TE295	TE330	TE365	TE390
Poids	/ Peso [kg]	5,8	6,3	6,5	6,6	6,7	6,8	7,1	7,4	7,7	7,9	8,2	8,3	8,7	9,0	9,2
Code C	"L"[mm]	128	131	133	136	140	143	149	155	162	168	174	181	170	195	200
Code M, D	"L"[mm]	134	136	138	141	144	147	153	160	166	173	179	185	192	200	205

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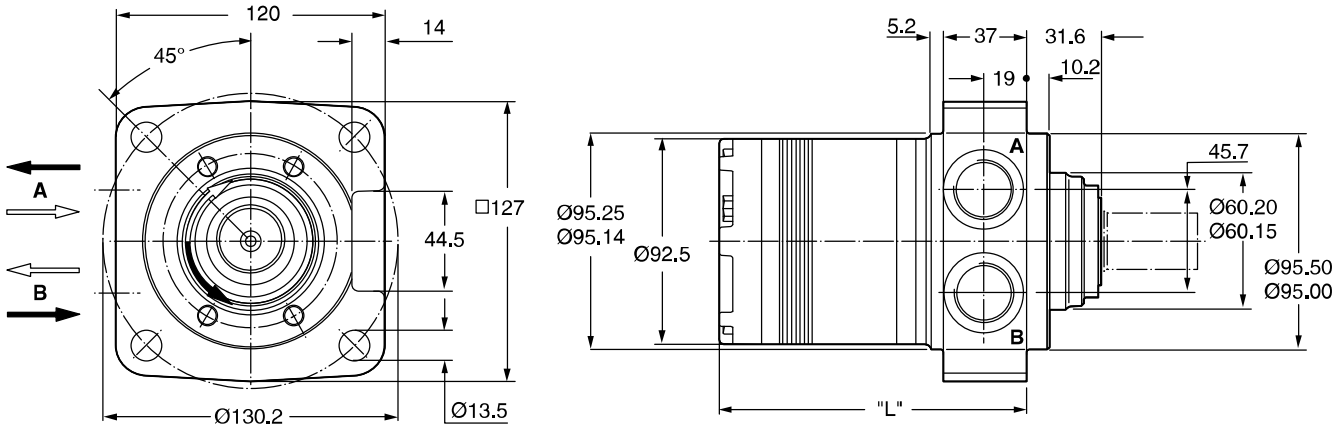
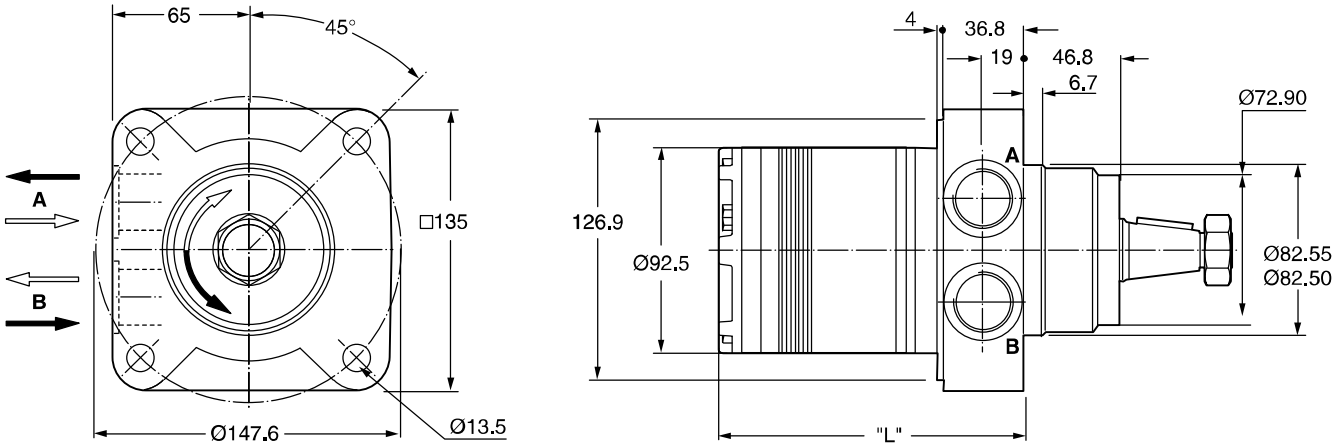
Chemnitz, Germany

Code L

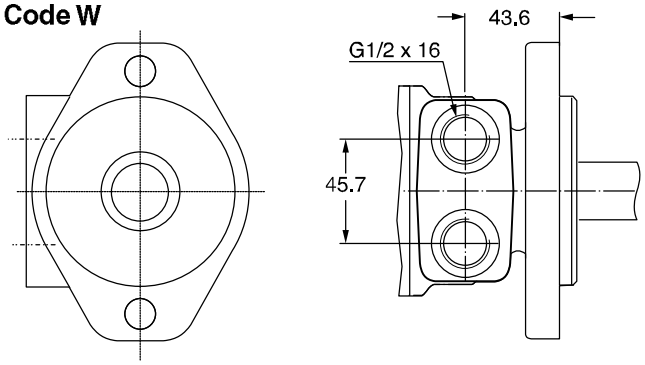


Code U



Gewicht / Weight	TJ36	TJ45	TJ50	TJ65	TJ80	TJ100	TJ130	TJ165	TJ195	TJ230	TJ260	TJ295	TJ330	TJ365	TJ390
Poids / Peso [kg]	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



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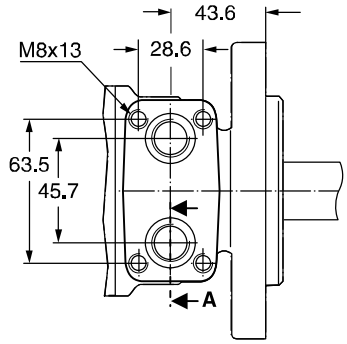
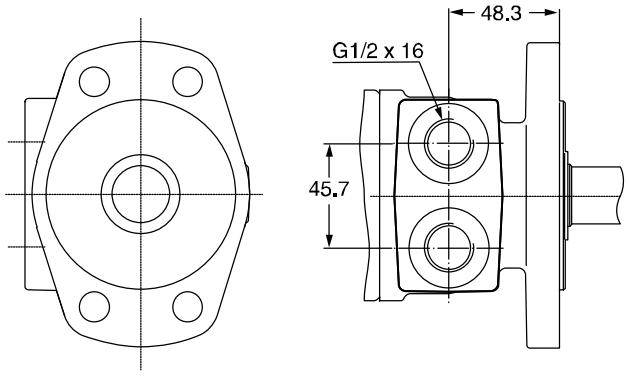
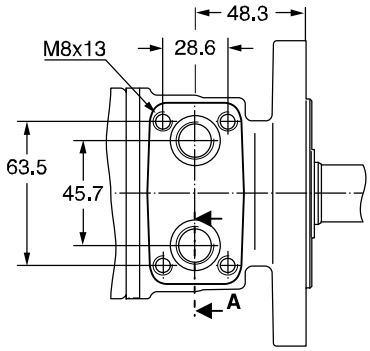
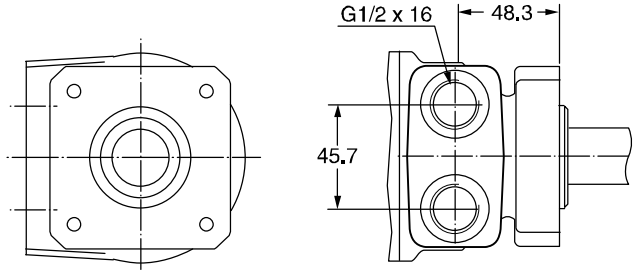
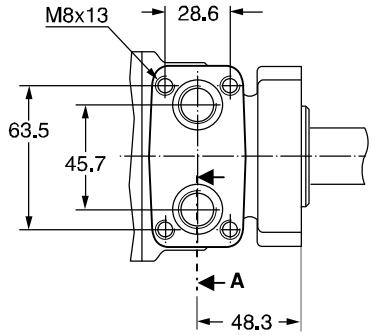
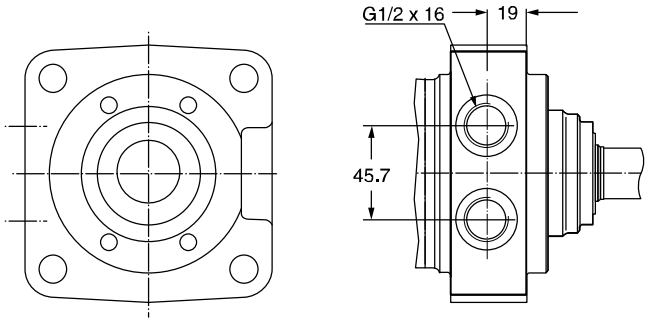




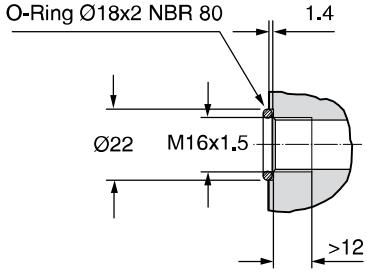


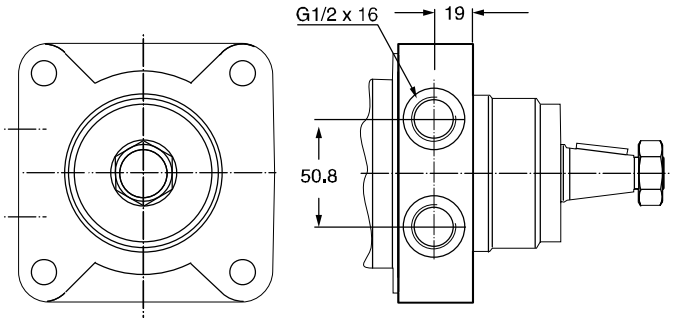






Section A





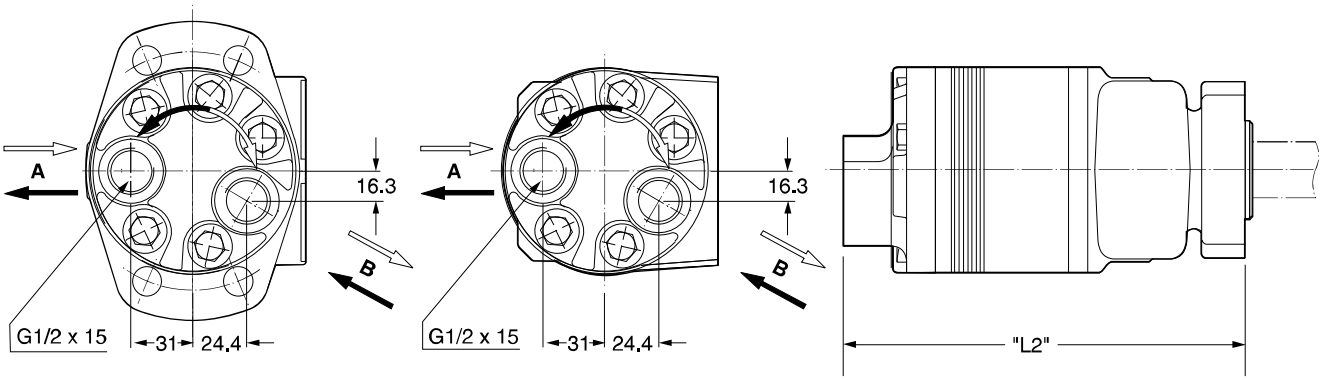
Zum Motor mit Universalanschluss werden 2 O-Ringe geliefert.

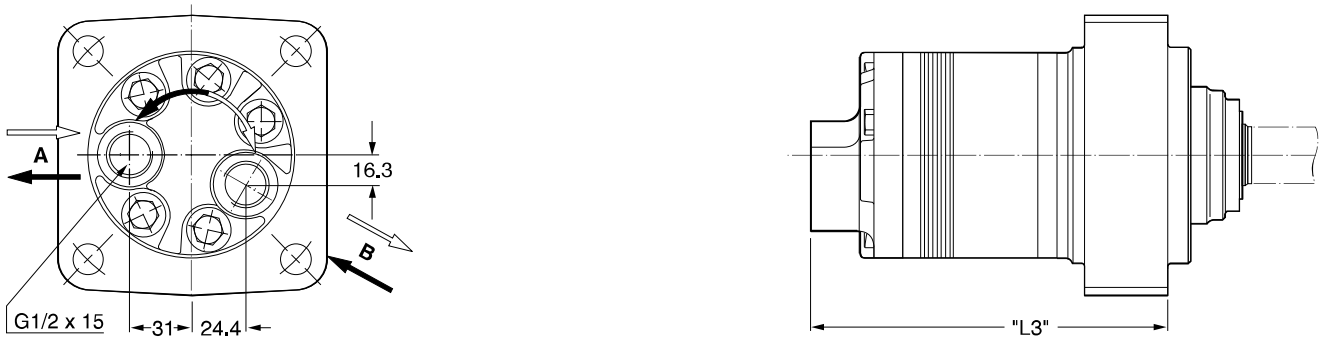
Motor with manifold mount is supplied with 2 O-rings.

Deux joints toriques sont livrés avec les moteurs au plan de raccordement universel.

Il blocchetto connessioni è corredato da 2 OR.

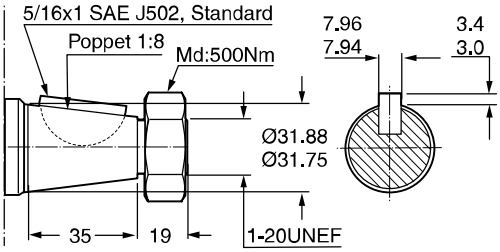
Code Y





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



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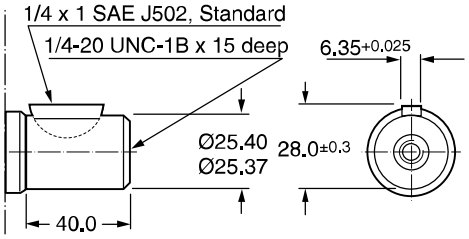

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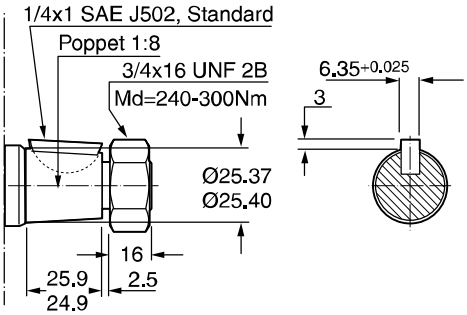

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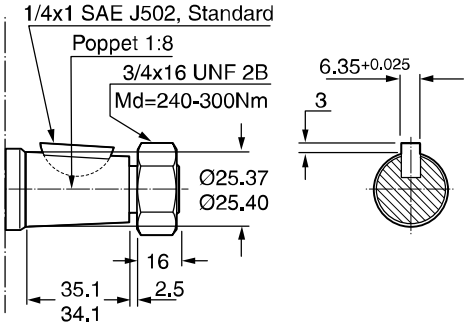

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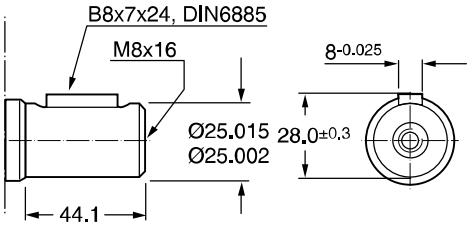

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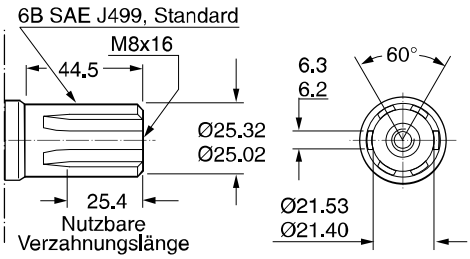
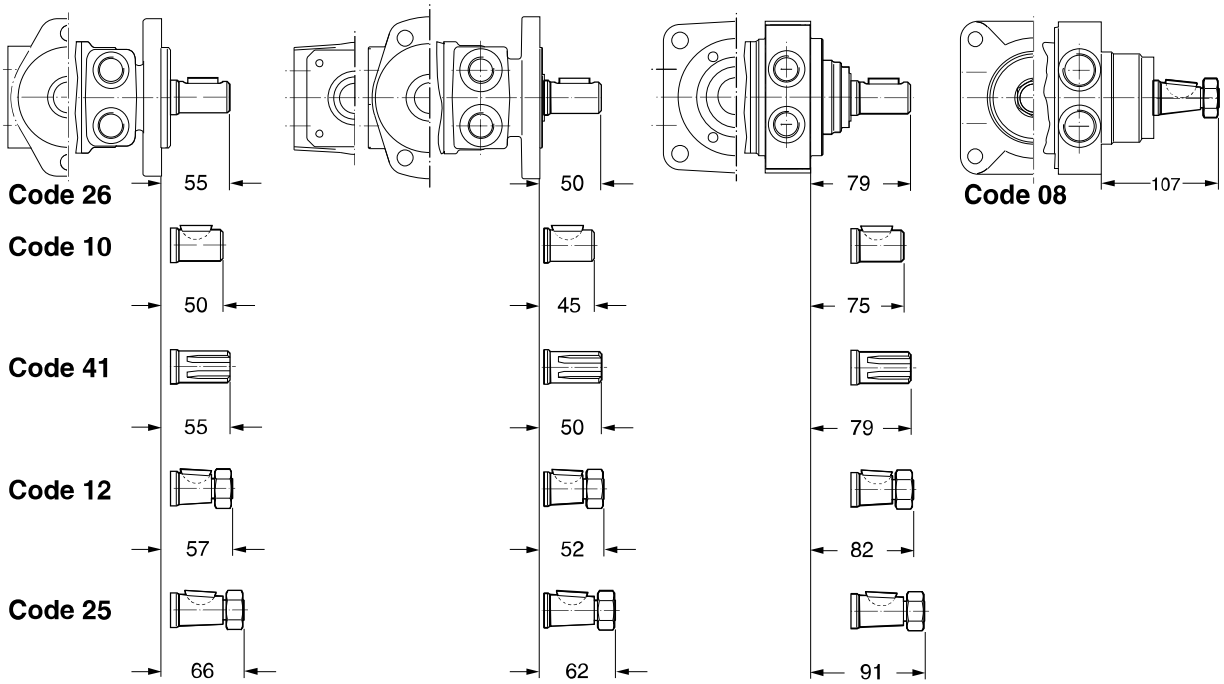


[2]) **Code 69** = Rostfreie Ausführung
Stainless steel version
Version en acier inoxydable
Versione in acciaio inossidabile
230 Nm (2100lb in) Max. Drehmomentt/
Max Torque/ Couple maxi/ Coppia max

[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. Drehmomentt/
Max Torque/ Couple maxi/ Coppia max



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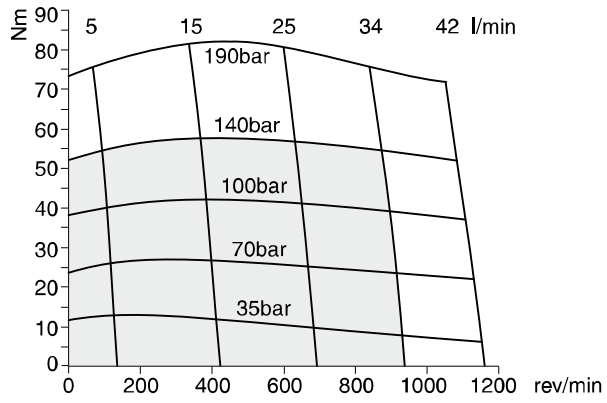
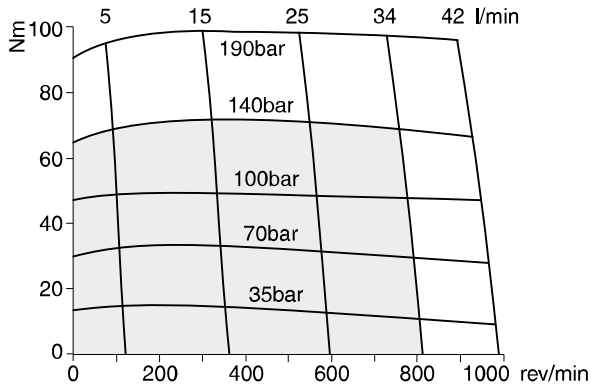
Pump and Motor Division
Chemnitz, Germany

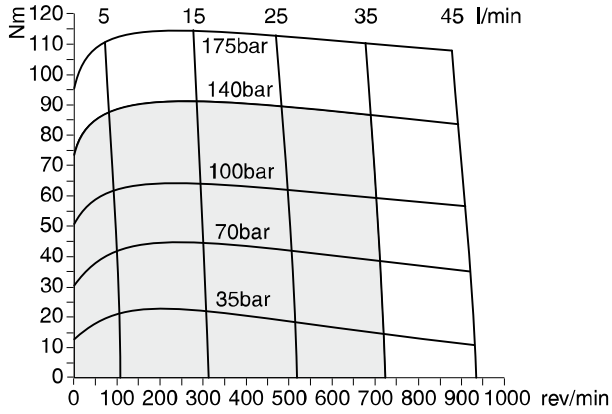
TE/TJ 36



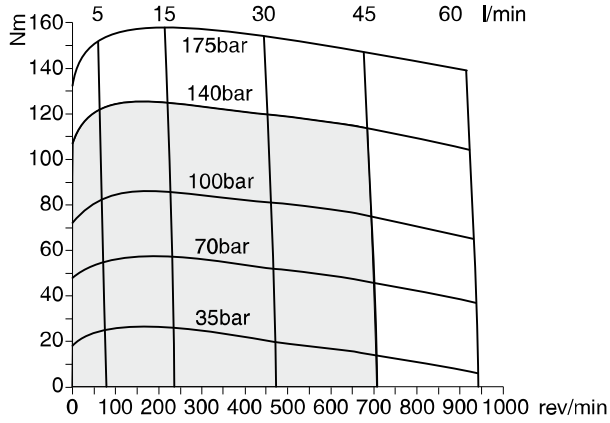
TE/TJ 45



TE/TJ 50



TE/TJ 65



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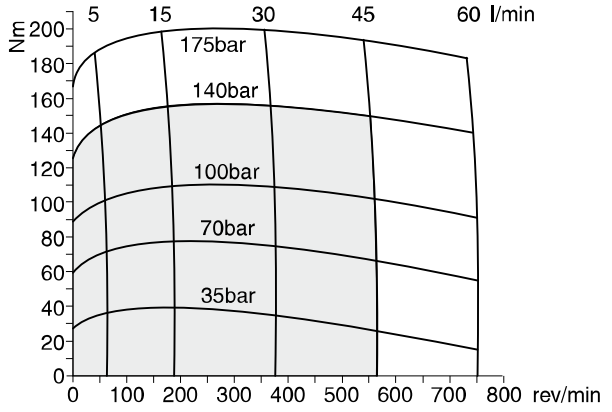
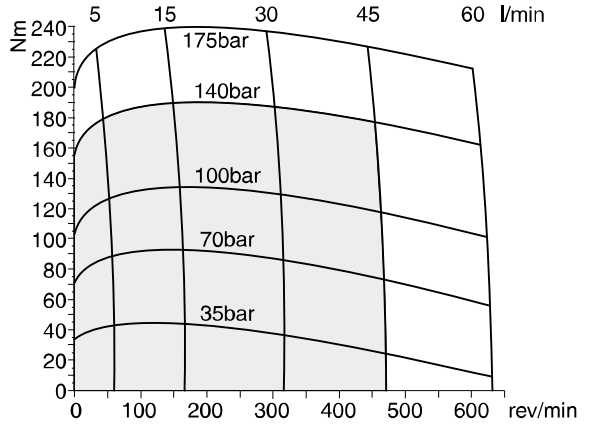


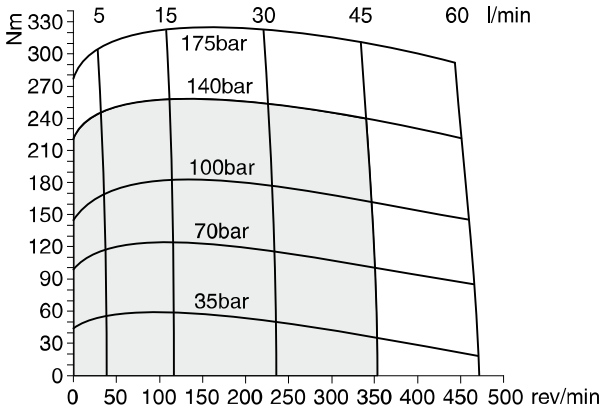
TE/TJ 100



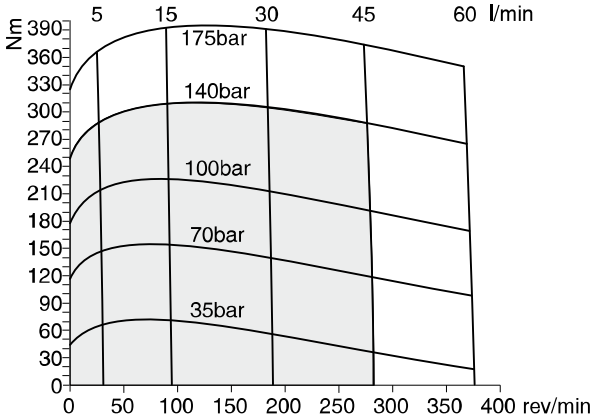
☐ Cont. ☐ Int.

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.

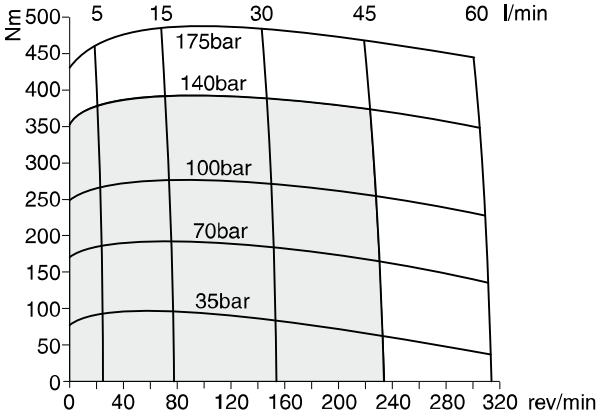
TE/TJ 130



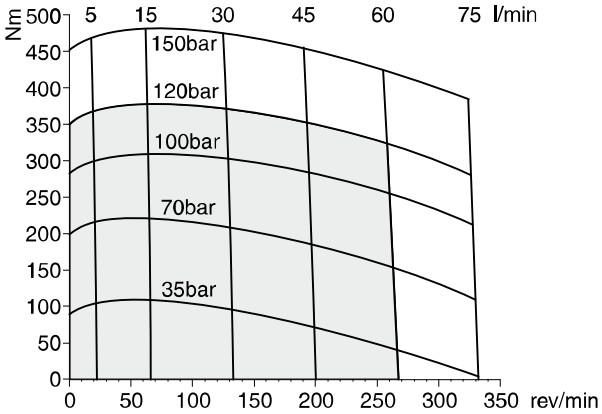
TE/TJ 165



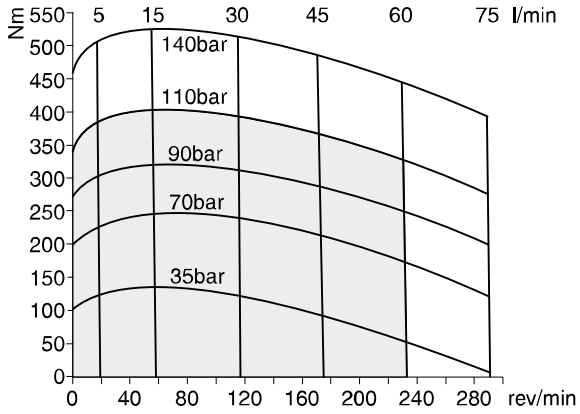
TE/TJ 195



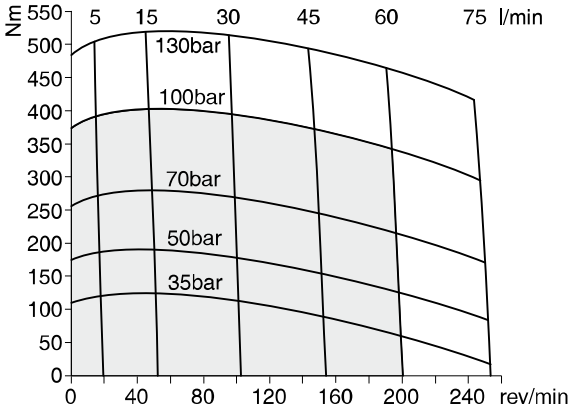
TE/TJ 230



TE/TJ 260



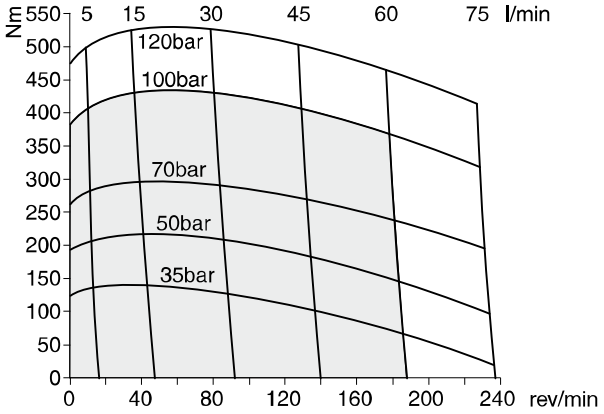
TE/TJ 295



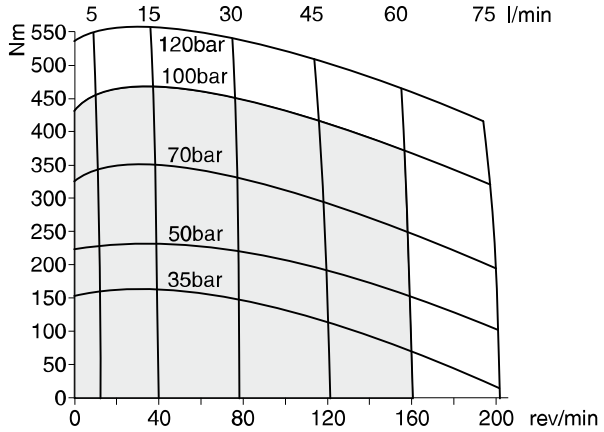
☐ Cont. ☐ Int.

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.

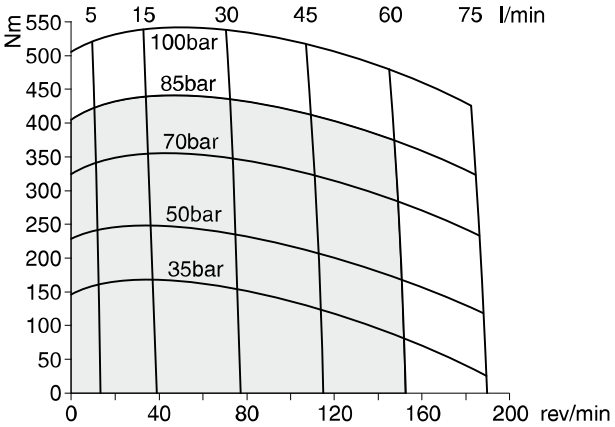
TE/TJ 330



TE/TJ 365



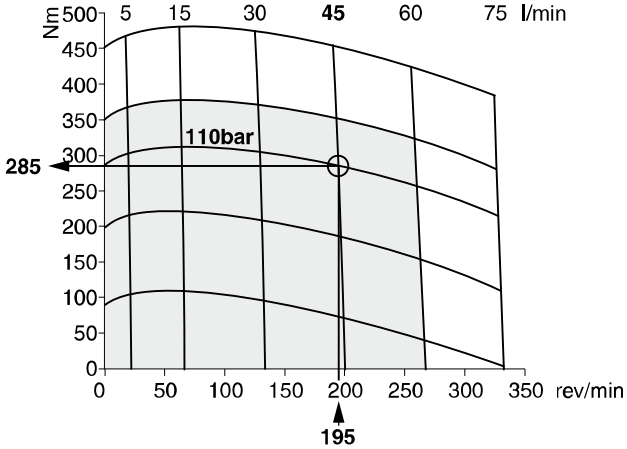
TE/TJ 390



☐ 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.

Beispiel / Example Series TE / TJ230



Md	=	285 Nm	V	=	229.4 cm^3/rev
n	=	195 rev/min	Q	=	45 l/min
Δp	=	110 bar			

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

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

$$\eta_{vol} = 0.99$$

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

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

$$\eta_{hm} = 0.71$$

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

$$\eta_{ges} = \eta_{vol} \cdot \eta_{hm} = 0{,}99 \cdot 0{,}71$$

$$\eta_{ges} = 0.70$$

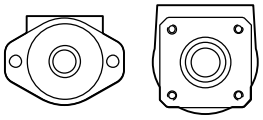
Leistung P (kW)
Power P
Puissance P
Potenza P

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

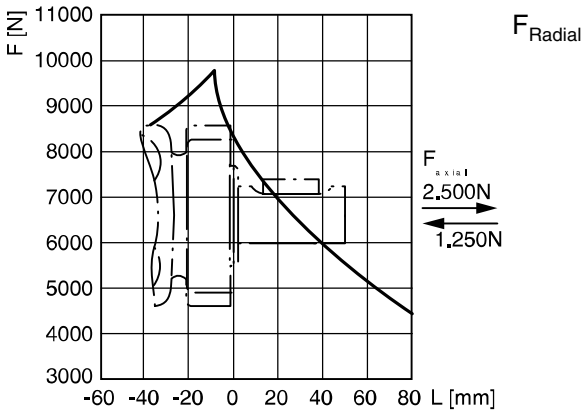
$$P = 5.8 \text{ kW}$$

Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

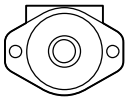
TE Code C/D



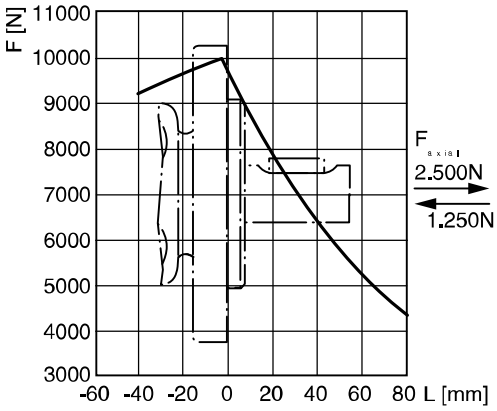
$$L_h = \frac{\left(\frac{357300}{F_R \cdot \left(1.161 + \frac{L}{62mm}\right)}\right)^{3.3}}{n}$$



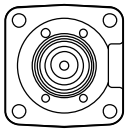
TE Code C



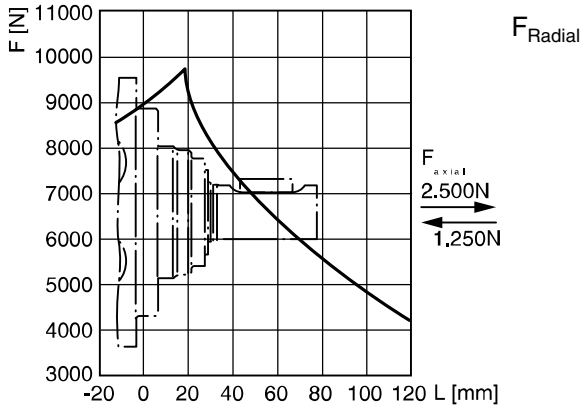
$$L_h = \frac{\left(\frac{357300}{F_R \cdot \left(1.076 + \frac{L}{62mm}\right)}\right)^{3.3}}{n}$$



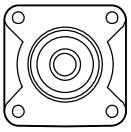
TE Code L



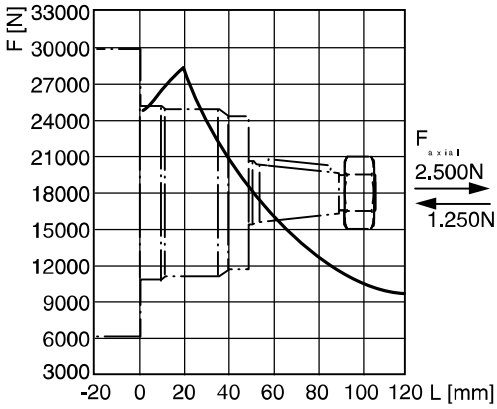
$$L_h = \frac{\left(\frac{357300}{F_R \cdot \left(0.69 + \frac{L}{62mm}\right)}\right)^{3.3}}{n}$$



TJ Code U



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



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.	**L_h**	**=**	**[h]**
The preceding formulas are valid for a B10 duration of life.	**L**	**=**	**[mm]**
Les formules précédentes sont valables pour une durée de vie B10.	**n**	**=**	**[rev/min]**
Le formule precedenti sono valide per una durata della vita B10.			

Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

Ordering Code

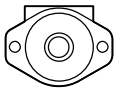
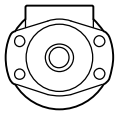
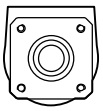
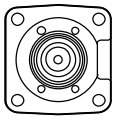
Series TE-TJ

TE															
Series	Schluckvolumen Displacement Cylindrée Cilindrata				Gehäuse Housing Carter Scatola motore	Anschluss Ports Plan de raccordement Connessioni	Welle Shaft Arbre Albero		Drehrichtung Direction of rotation Direction de rotation Direzione di rotazione	Option			

Code	cm³/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	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

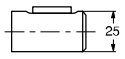
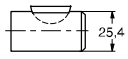
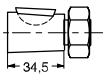
[2] Nicht verfügbar für Anschluss Y
Not availble for port code Y
Pas disponible pour raccordement code Y
Non Disponibile per connessioni codice Y

Code	Housing
C	
M	
D	
L	

Code	Direction
0	 Standard
1	

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

[1] Nicht verfügbar für Gehäuse L
Not availble for housing code L
Pas disponible pour carter code L
Non Disponibile per Alloggiamento codice L

Code	Shaft
26 69[3]	
10 70[3]	
41	
12	
25	

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

Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

Ordering Code

Series TE-TJ

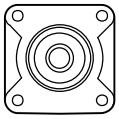
TJ															

Series

Schluckvolumen
Displacement
Cylindrée
Cilindrata

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

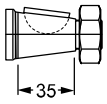
Gehäuse
Housing
Carter
Scatola motore

Code	Housing
U	

Anschluss
Ports
Plan de raccordement
Connessioni

Code	Port
W	G 1/2

Welle
Shaft
Arbre
Albero

Code	Shaft
08	

Drehrichtung
Direction of rotation
Direction de rotation
Direzione di rotazione

Code	Direction
0	 Standard
1	

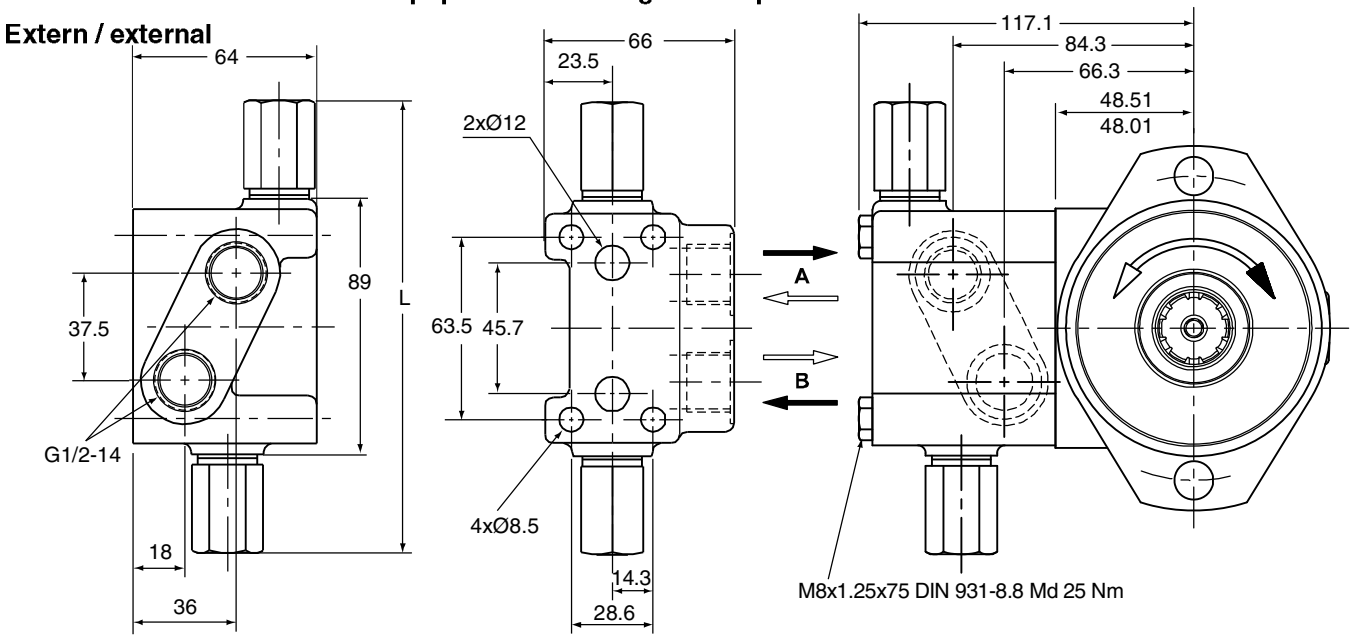
Option

Code	Option
AAAB	Standard

Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

Schockventil / Relief valve / Soupape sécurité / Regolatrice pressione

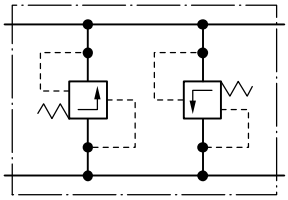
Extern / external



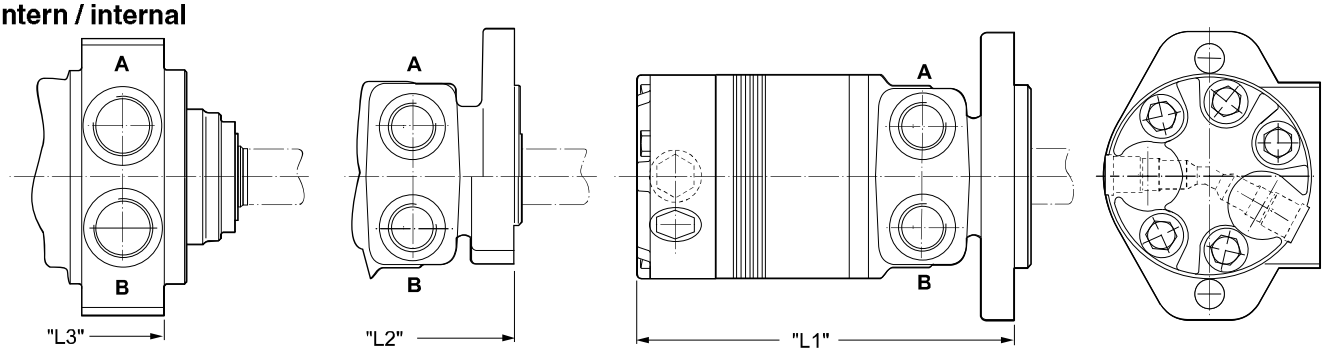
Bestellschlüssel / Ordering code / Système de commande / Sistema di ordinazione

Option code	Shift pressure	Single valve	Single part order no.
HAAP	100 bar	Zubehör / Fixtures 4 x M8 x 75mm 2 x O Ring	410017-100
HAAU	140 bar		410017-140

Option code		Length "L"
HAAP		158 mm
HAAU		158 mm

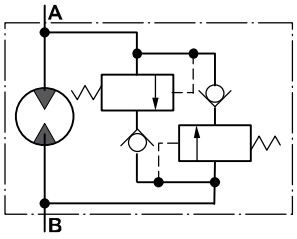


Intern / internal



Bestellschlüssel / Ordering code / Système de commande / Sistema di ordinazione

Option code			Shift pressure
BBCP			100 bar
BBCN			140 bar

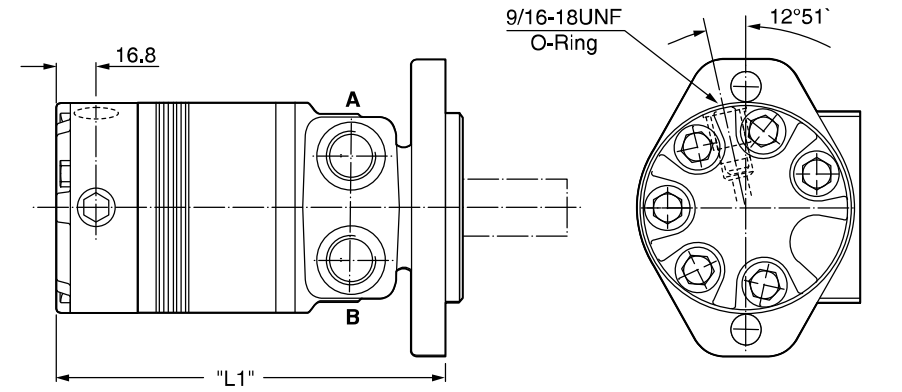


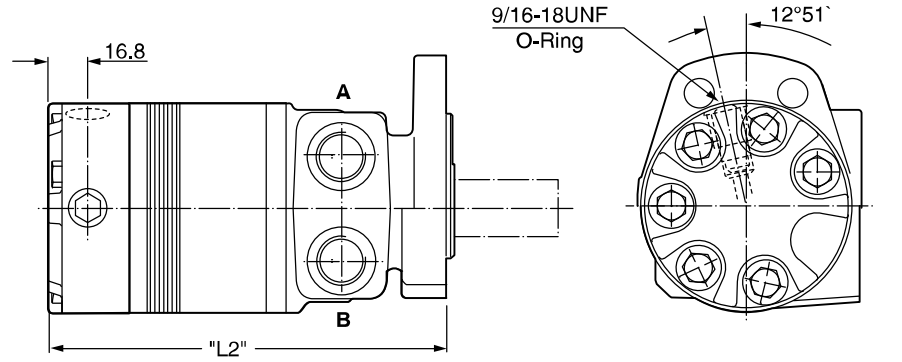
Ventilkurve auf Anfrage
Valve curve available on request
La courbe caractéristique de la vanne est disponible sur demande
Curva della valvola disponibile su richiesta

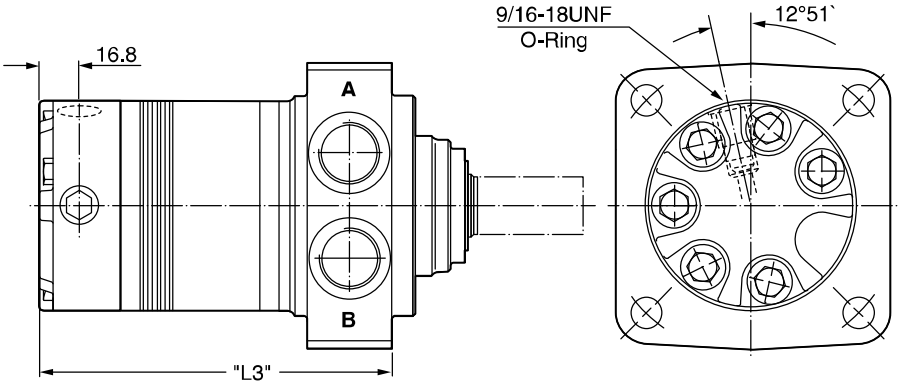
Gewicht / Weight		TE36	TE45	TE50	TE65	TE80	TE100	TE130	TE165	TE195	TE230	TE260	TE295	TE330	TE365	TE390
Poids / Peso [kg]		7.8	7.9	8.0	8.1	8.2	8.3	8.6	8.9	9.2	9.4	9.7	9.8	10.2	10.5	10.7
Code	"L1" [mm]	157	159.8	161.8	164.8	168.2	171.2	177.5	183.9	190.2	196.6	202.9	209.3	215.6	223.8	228.
	"L2" [mm]	163	164.4	166.4	169.4	172.7	175.7	182.1	188.5	194.8	201.2	207.5	213.9	220.2	228.2	233.2
	"L3" [mm]	134	135.5	137.5	140.5	143.5	146.7	153.2	159.5	165.8	172.3	178.6	185.0	191.3	199.4	204.3

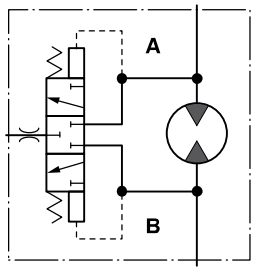
Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

Code AANC









Q=5 l p=9 bar ϑ=39 mm²/s

Spülventil für geschlossene Systeme zur Rückführung einer definierten Menge des Niederdrucköls in den Tank zur Abkühlung innerhalb des Selben Kreislaufs.

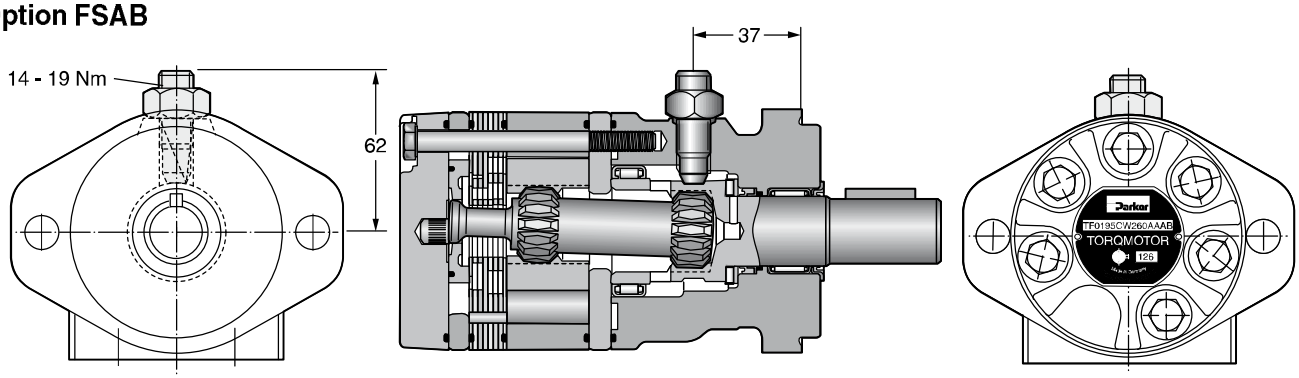
Hot oil shuttle valve allows for diverting of low pressure oil in closed loop applications to be returned to tank, cooler or filter for cooling in the same circuit.

Valve de rinçage pour systèmes fermes pour le retour d`un volume déterminé de fluide basse pression vers le réservoir, un refroidisseur ou un filtre de réfrigération, dans le même circuit.

Una valvola scambiatrice di calore permette di deviare olio a bassa pressione direttamente al serbatoio o allo scambiatore de calore consentendo, nelle applicazioni a circuito chiuso, un miglior raffreddamento dell`olio.

Gewicht / Weight		TE36	TE45	TE50	TE65	TE80	TE100	TE130	TE165	TE195	TE230	TE260	TE295	TE330	TE365	TE390
Poids /	Peso [kg]	7.4	7.5	7.6	7.7	7.8	7.9	8.3	8.5	8.8	9.0	9.3	9.5	9.8	10.0	10.3
Code	”L1” [mm]	149	150	152	155	158	161	168	174	180	187	193	199	206	214	219
	”L2” [mm]	153	154	156	159	162	166	172	178	184	191	197	203	210	218	222
	”L3” [mm]	124	125	127	130	134	137	143	150	156	162	168	175	181	189	194

Option FSAB



Der Sensor ist gegen Verpolung der Versorgungsspannung, jedoch nicht gegen Kurzschluss geschützt.

The sensor has reverse polarity protection but no short circuit protection.

Le capteur est protégé contre l`inversion de polarité de la tension d`alimentation, mais pas contre les courts circuits.

Il sensore è protetto contro l' inversione della polarità della tensione di alimentazione, ma non contro il corto circuito.

Ordering code

TE											F	S	A	B
Series	Schluckvolumen Displacement Cylindrée Cilindrata				Gehäuse Housing Carter Scatola motore	Anschluss Ports Plan de raccordement Connessioni	Welle Shaft Arbre Albero		Drehrichtung Direction of rotation Direction de rotation Direzione di rotazione		Option			

Code	cm³/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	

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

Code	Direction
0	B A Standard
1	B A

Code	Shaft
26	25
10	25,4
41	6B SAE

Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

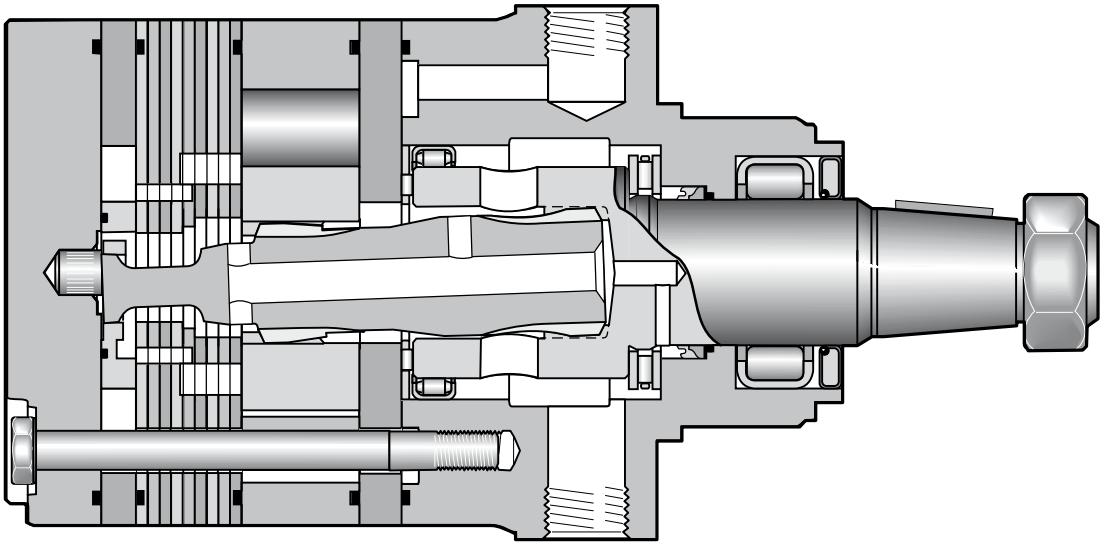
Features

- **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

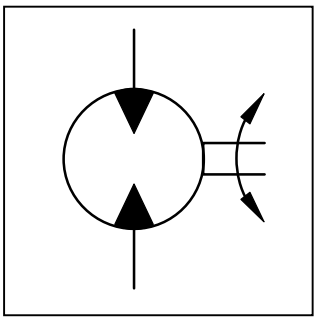
- **Low Speed Gerotor Motor**
- **Zero leak commutation valve**
  For greater, more consistent
  volumetric efficiency
- **Roller vane rotor set**
  Reduces friction and internal leakage
  Maintaining efficiency throughout
  the life of the motor
- **A patented high-pressure shaft seal**
  No check valves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

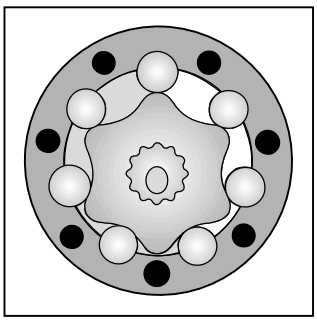
- **Moteur lent système Gerotor**
- **Une distribution orbitale particulière assure**
  fuites internes minimales
  rendements volumétriques élevés
- **Le rotor à rouleaux**
  réduit les frottements
  augmente la durée de vié
- **Par l`utilisation de joints d`arbre haute pression brevetés**
  pas de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

- **Motore orbitale a bassa velocità**
- **Una particolare distribuzione orbitale assicura**
  trafilamento ridotto
  elevato rendimento volumetrico
- **Con lo statore a rullini**
  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 di non ritorno
- **Un`ampia gamma di cilindrate, flange ed alberi**
  consentono scelte adeguate ad
  ogni esigenza costruttiva



Drehzahl Speed Vitesse de rotation Velocità di rotazione	5...750 rev/min
Schluckstrom Oil flow Débit d`huile Portata	max. 100 l/min
Eingangsdruck Supply pressure Pression entrée Pressione in entrata	max. 300 bar
Drehmoment Torque Couple Coppia	max. 900 Nm
Seitenlast Side load Charges latérales Carico radiale	max. 16.000 N





Motor series TF	Geom. Schluckvolumen / Geometric displacement / Cylindrée / Cilindrata [cm³/U] [cm³/rev]	Max. Drehzahl / Max. speed / Vitesse de rotation maxi / Velocità di rotazione max cont / int [U/min] [rev/min]	Max. Schluckstrom / Max. oil flow / Débit d`huile maxi / Portata max cont / int [l/min]	Max. Druckdifferenz * / Max. differential pressure * / Chute de pression maxi * / Caduta di pressione max * cont / int [bar]	Max. Eingangsdruck / Max. supply pressure / Pression maxi entrée / Pressione max in entrata max [bar]	Max. Drehmoment / Max. torque / Couple maxi / Coppia max cont / int [Nm]	Max. Leistungabgabe / Max. performance / Puissance de sortie maxi / Potenza meccanica max cont / int [KW]	Min. Anlaufmoment / Min. starting torque / Couple min. fourni au dé manrage / Coppia min. di spunto cont / int [Nm]
TF 80	81	550/730	45/60	210/280	300	220/295	22	172/236
TF 100	100	600/750	60/75	160/240	300	200/320	25	168/252
TF 130	128	470/580	60/75	140/210	300	230/360	22	192/280
TF 140	141	370/530	60/75	140/210	300	250/390	22	197/308
TF 170	169	355/440	60/75	140/210	300	320/490	23	264/388
TF 195	197	300/380	60/75	140/210	300	365/560	22	304/448
TF 240	238	320/420	75/100	140/210	300	430/670	28	368/548
TF 280	280	270/350	75/100	140/210	300	550/800	28	440/672
TF 360	364	200/260	75/100	130/190	300	590/910	24	517/779
TF 405	405	170/230	75/100	130/175	300	660/920	22	575/789
TF 475	477	150/200	75/100	115/140	300	680/850	17	603/740

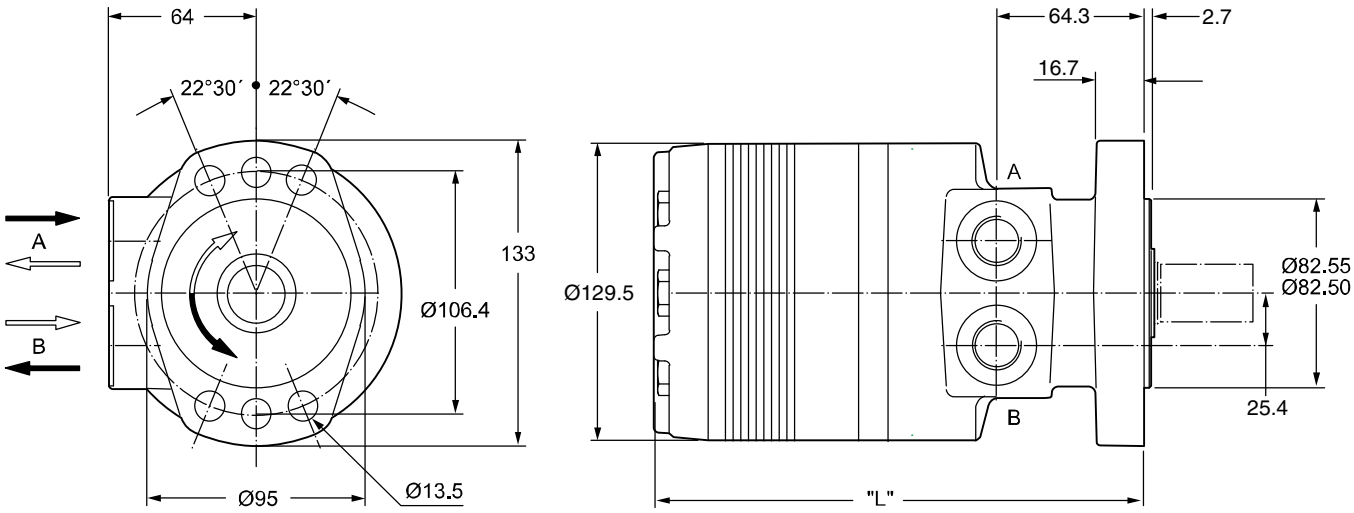
int. =
Intermittierende Werte maximal: 10% von jeder Betriebsminute.
Intermittent operation rating applies to 10% of every minute.
Fonctionnement interm.: 10% max. de chaque minute d`utilisation.
Servizio intermittente: 10% max di ogni minuto di utilizzazione.

* 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

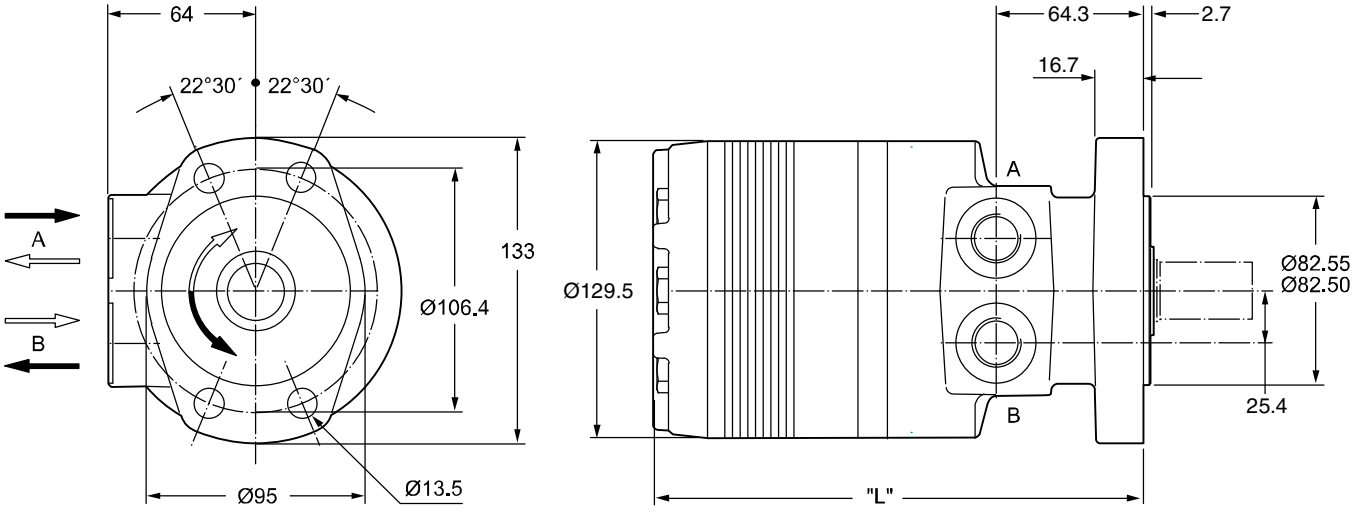
Achtung: Höhere Drücke auf Anfrage möglich.
Notice: Higher pressures are possible on request.
Remarque : des pressions supérieures sont possibles sur demande.
Nota: Pressioni superiori possibili su richiesta.

* Druckdifferenz ist Δp zwischen Ein- und Ausgang
Notice: Höhere Drücke auf Anfrage möglich.

Code E

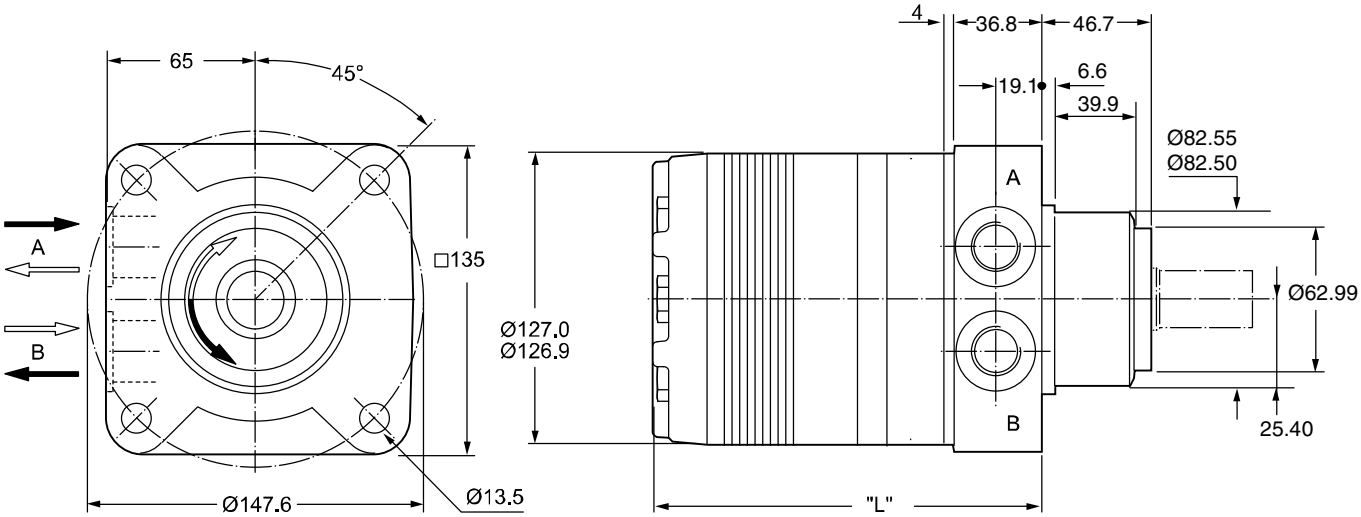


Code M

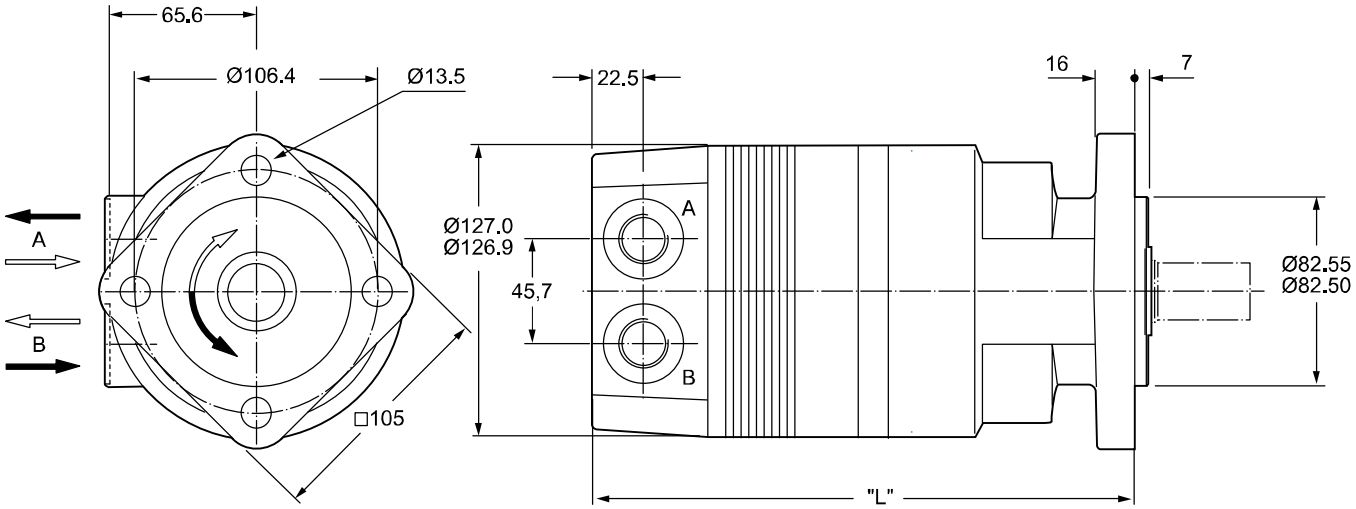


Gewicht /	Weight	TF80	TF100	TF130	TF140	TF170	TF195	TF240	TF280	TF360	TF405	TF475
Poids /	Peso [kg]	13.6	13.7	13.9	14.0	14.2	14.7	15.0	15.5	16.0	16.5	17.5
Code E	”L” [mm]	186	186	189	191	194	197	202	206	215	220	229
Code M	”L” [mm]	191	191	194	196	199	202	207	212	220	225	234

Code H

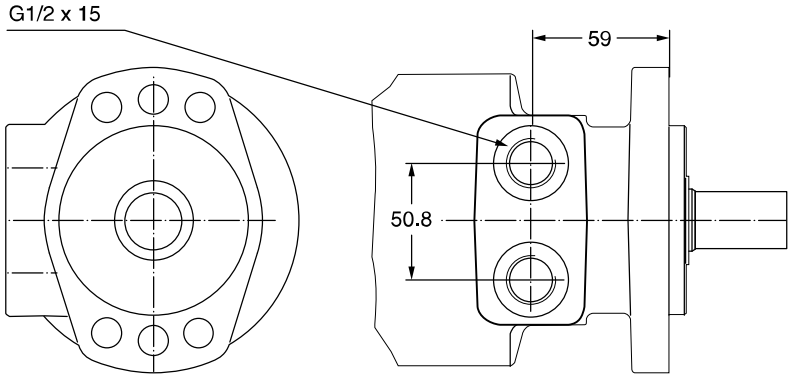


Code V

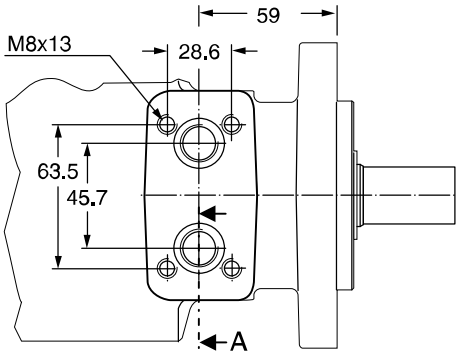


Gewicht / Weight	TF80	TF100	TF130	TF140	TF170	TF195	TF240	TF280	TF360	TF405	TF475
Poids / Peso [kg]	14.0	14.0	14.2	14.3	14.6	14.9	15.3	15.6	16.3	17.0	17.5
Code H "L" [mm]	146	146	149	151	154	157	162	167	175	180	189
Code V "L" [mm]	213	213	216	218	221	224	229	233	242	247	256

Code W



Code N



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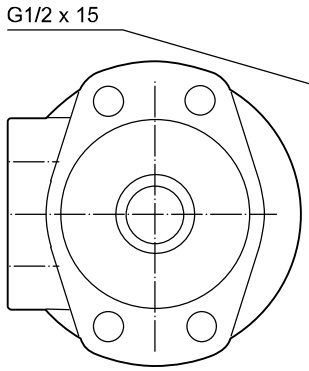

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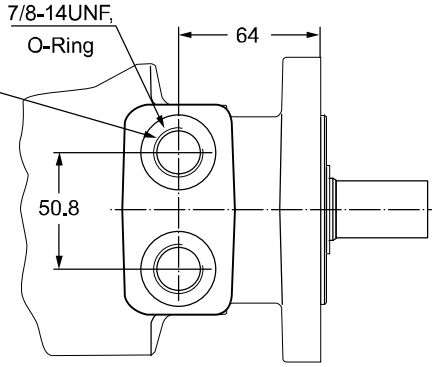

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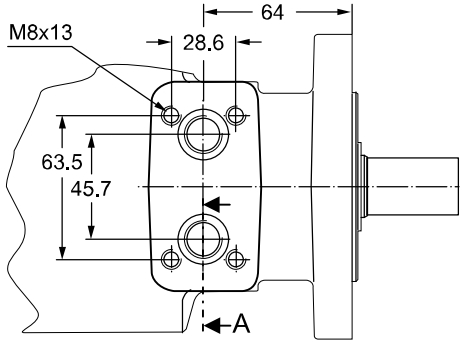
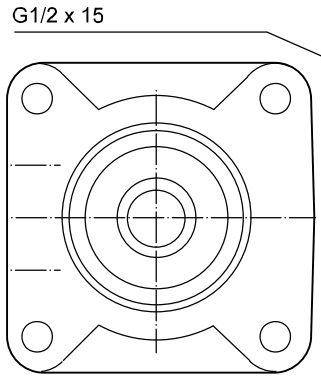
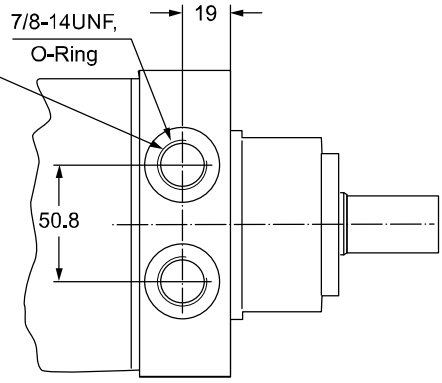


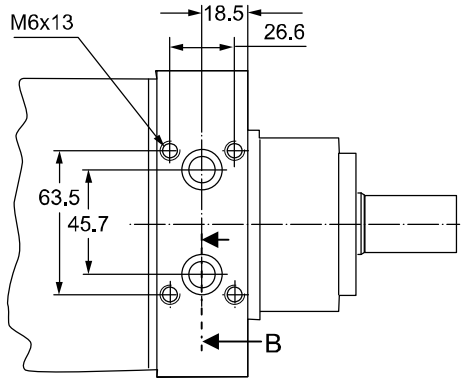
Code W



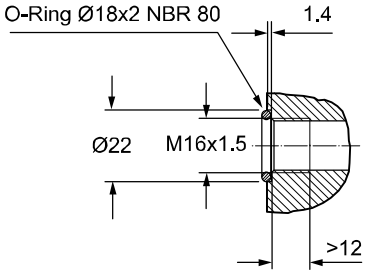
Code V



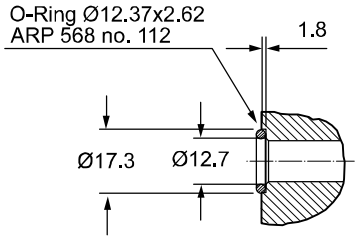
Code K



Section A



Section B



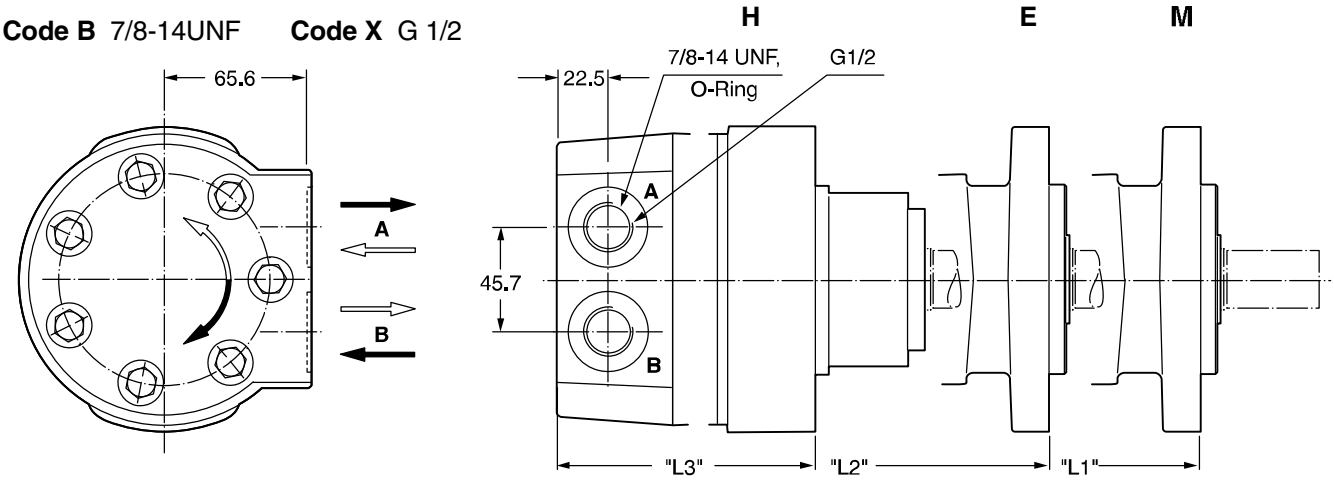
Zum Motor mit Universalanschluss werden 2 O-Ringe geliefert.

Motor with manifold mount is supplied with 2 O-rings.

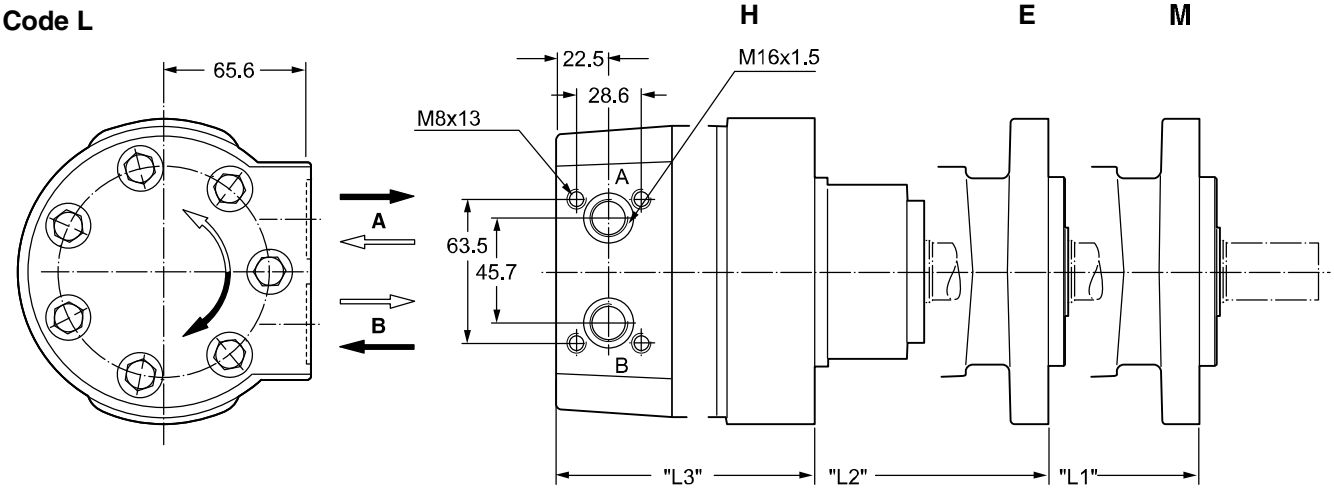
Deux joints toriques sont livrés avec les moteurs au plan de raccordement universel.

Il blocchetto connessioni è corredato da 2 OR.

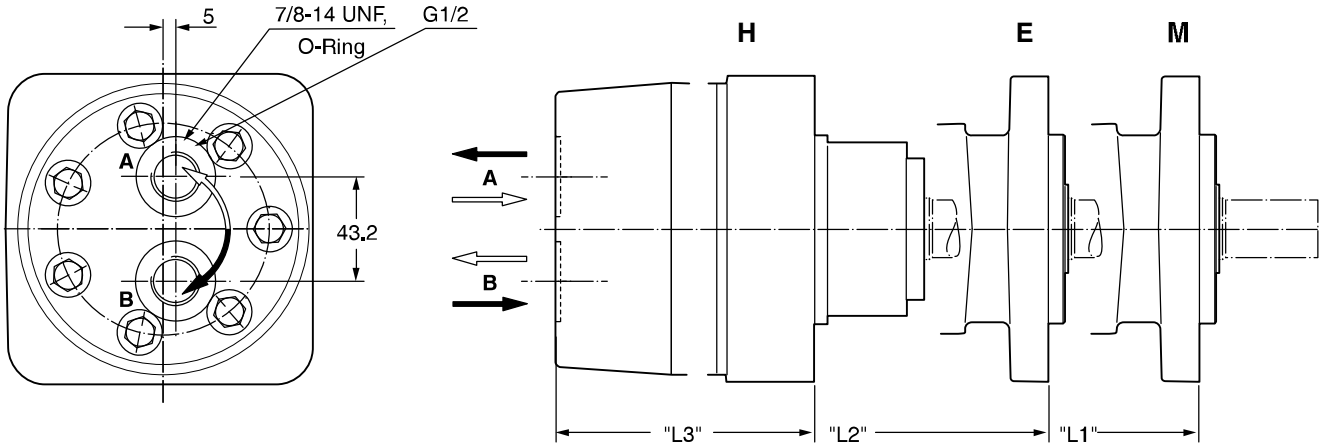
Code B 7/8-14UNF **Code X** G 1/2



Code L

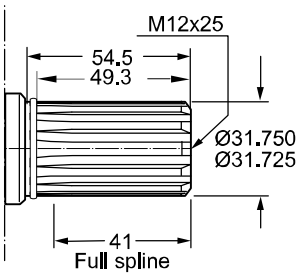


Code A 7/8-14UNF **Code Y** G 1/2



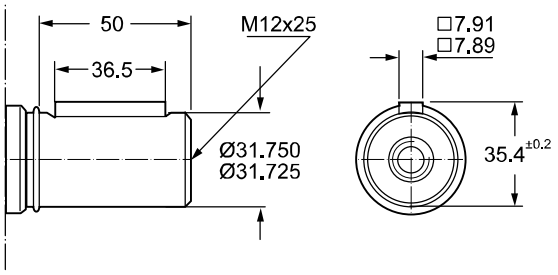
Gewicht / Weight		TF 80	TF100	TF130	TF140	TF170	TF195	TF240	TF280	TF360	TF405	TF475
Poids /	Peso [kg]	15,3	15,4	15,6	15,7	16,0	16,3	16,7	17,0	17,8	18,3	19,0
Code B,	"L1"[mm]	211	211	214	216	219	222	227	231	240	245	254
A, X, Y,	"L2"[mm]	216	216	219	221	224	227	232	236	246	250	259
L	"L3"[mm]	170	170	173	175	178	181	186	191	201	205	213

Code 44

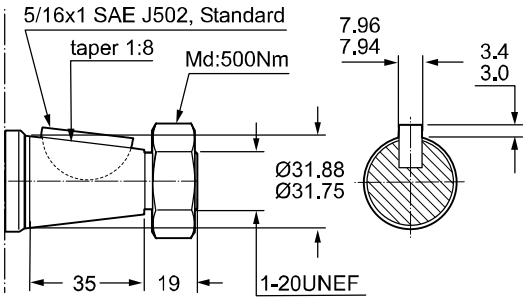


Involute spline
ANS B92.1-1970 Standard
Flat root side fit
Pitch 12/24
Teeth 14
Major diam. 1.25 in
Pressure angle 30°

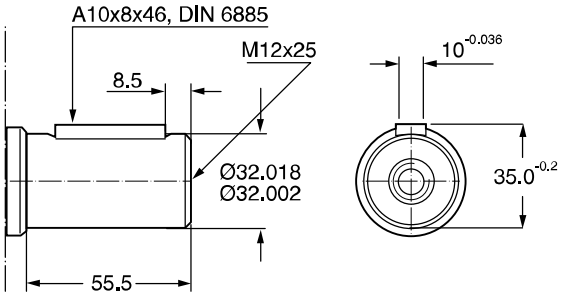
Code 45



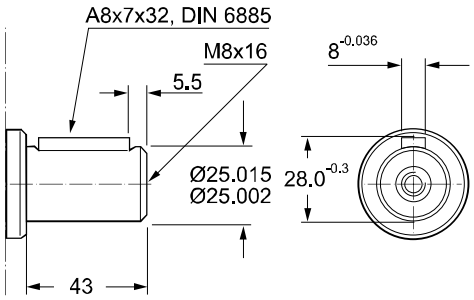
Code 08



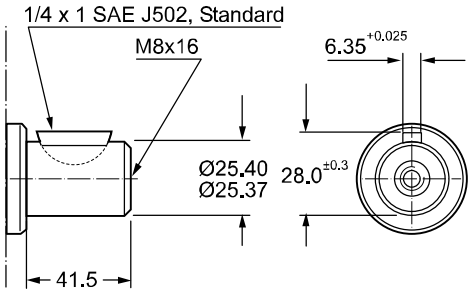
Code 46



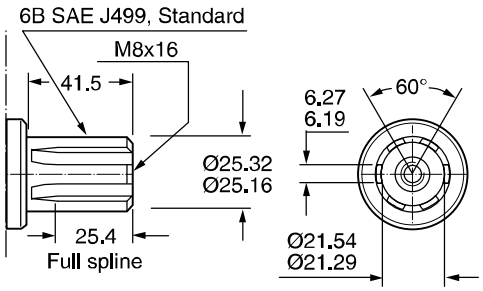
Code 26



Code 47

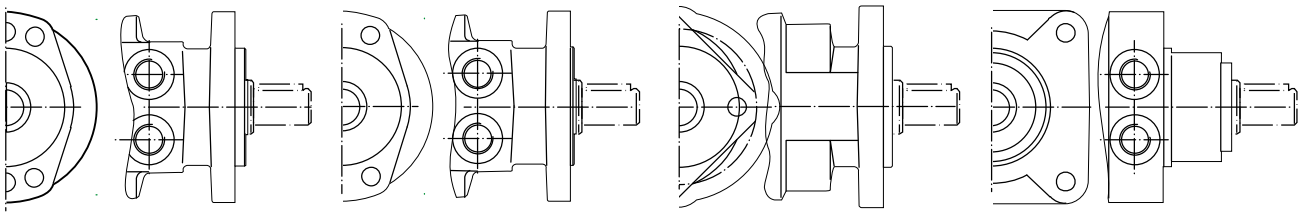


Code 41

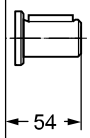


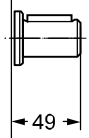
Codes 26, 41, 47

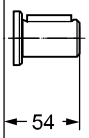
Abtriebswelle	Ø 25mm	Max. Moment cont./int.	450/550 Nm
Coupling shaft	Ø 1 inch	Max. torque cont./int.	
Arbre	6B SAE	Couple maxi cont./int.	
Albero		Coppia max cont./int.	

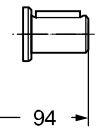


Code 26

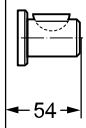


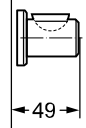


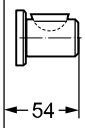


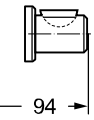


Code 47

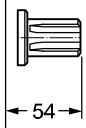


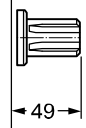


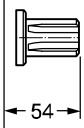


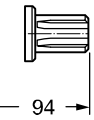


Code 41

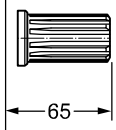


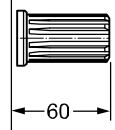


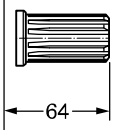


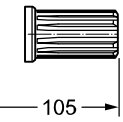


Code 44

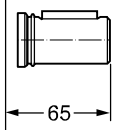


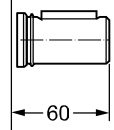


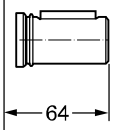


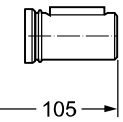


Code 45

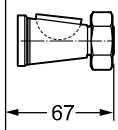


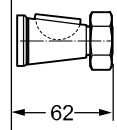


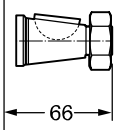


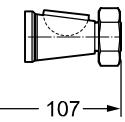


Code 08

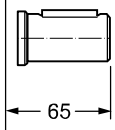


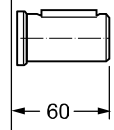


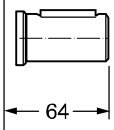


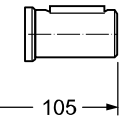


Code 46

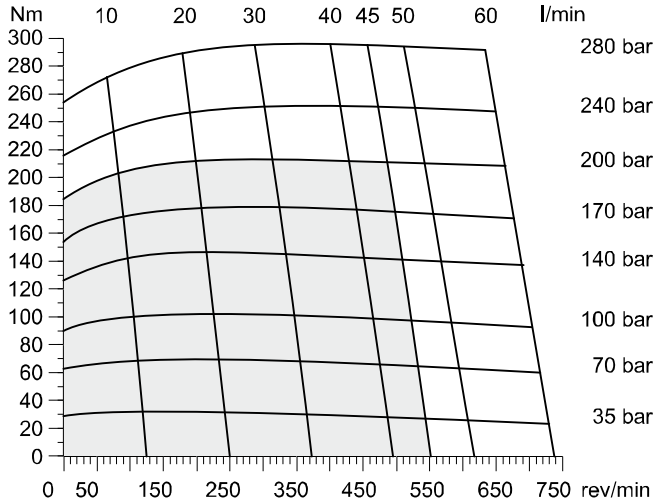




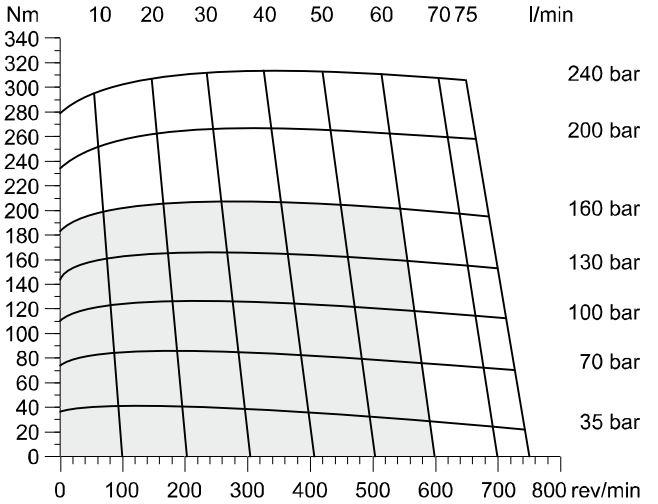




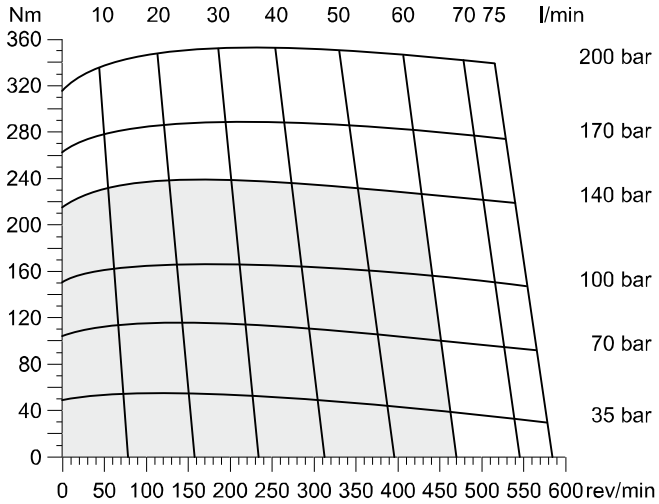
TF 80



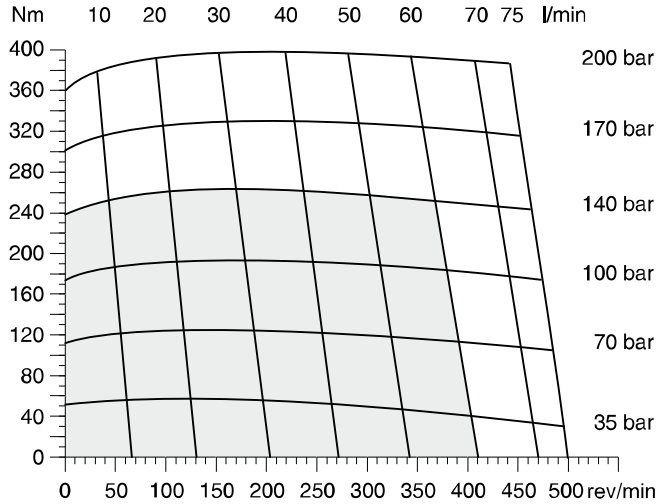
TF 100



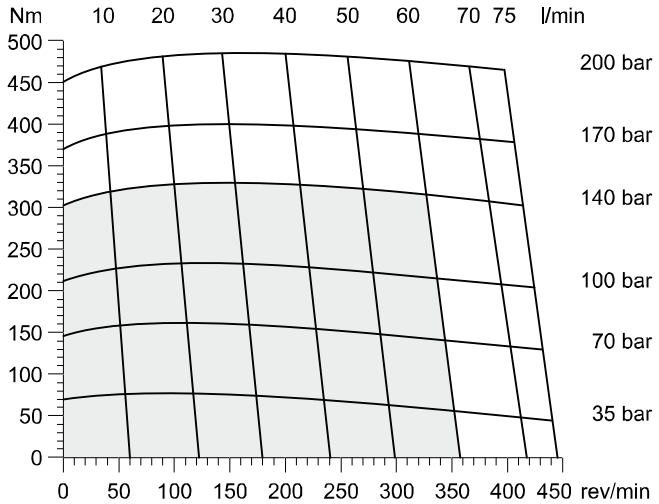
TF 130



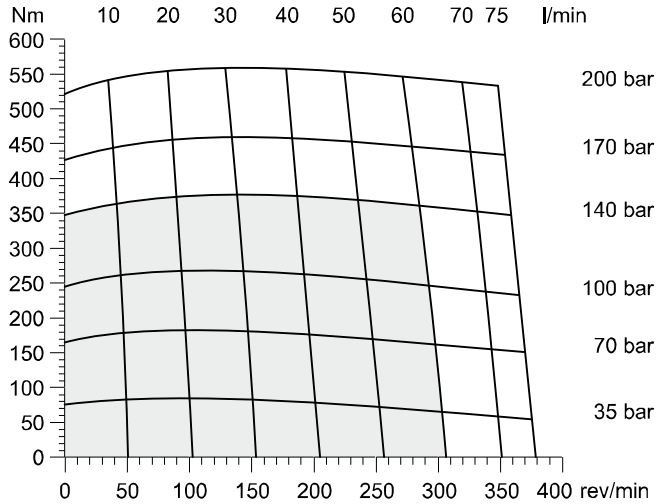
TF 140



TF 170



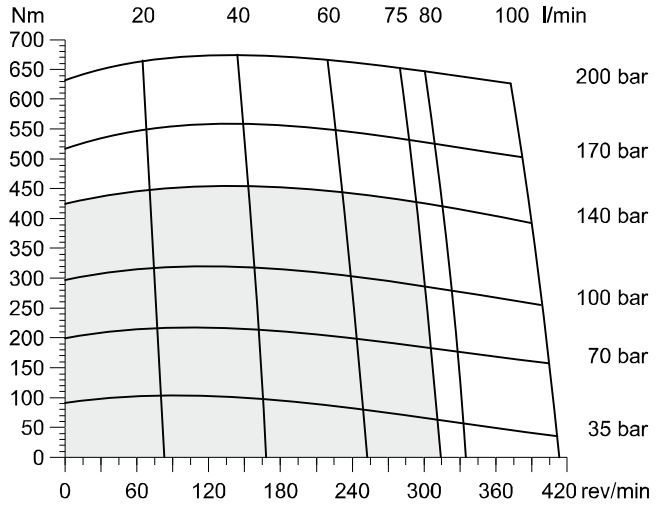
TF 195



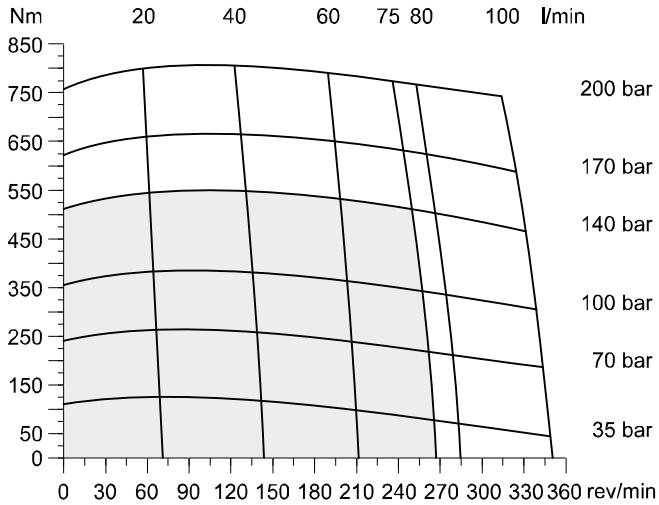
☐ Cont. ☐ Int.

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.

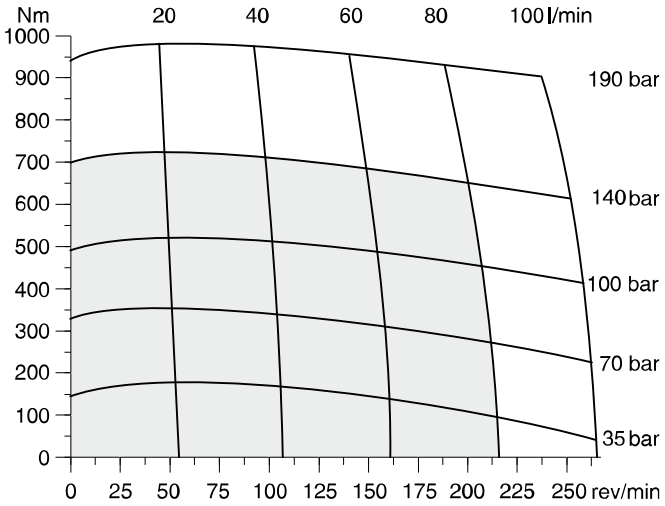
TF 240



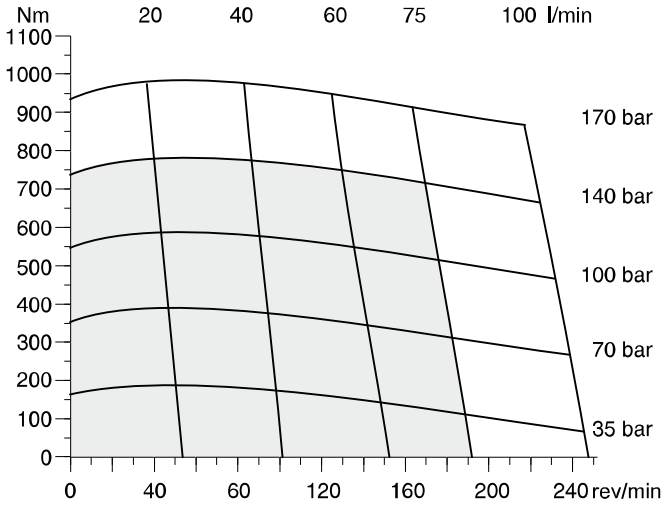
TF 280



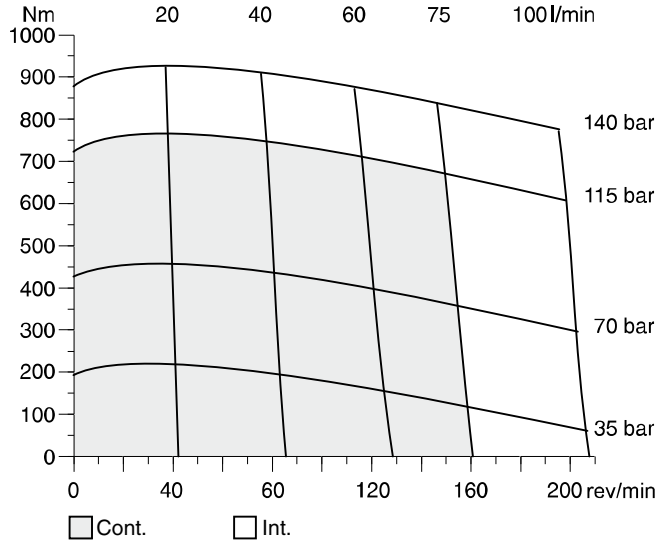
TF 360



TF 405

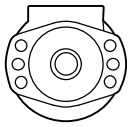


TF475

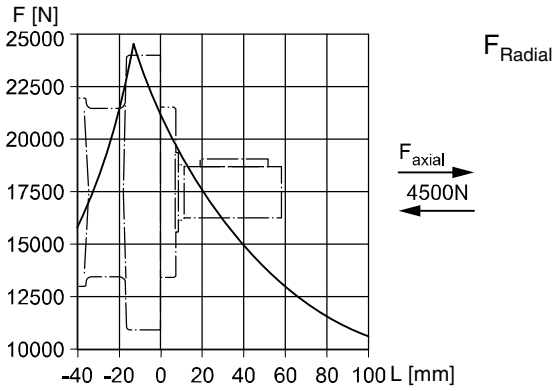


int. =
Intermittierende Werte maximal: 10% von jeder Betriebsminute.
Intermittent operation rating applies to 10% of every minute.
Fonctionnement interm.: 10% max. de chaque minute d`utilisation.
Servizio intermittente: 10% max di ogni minuto di utilizzazione.

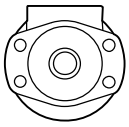
Code E



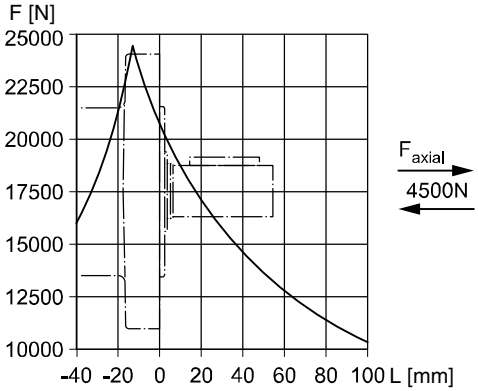
$$L_h = \frac{\left(\frac{670000}{F_R \cdot \left(1.10 + \frac{L}{88mm}\right)}\right)^{3.3}}{n}$$



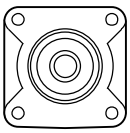
Code M



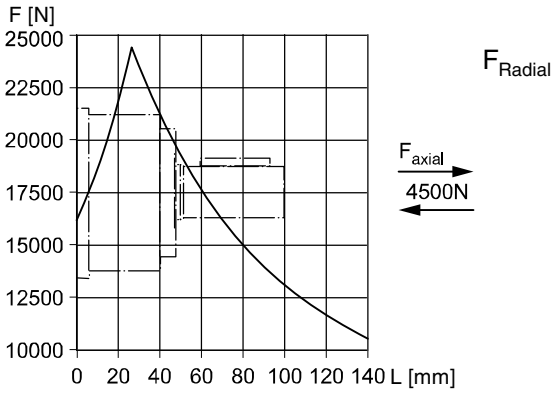
$$L_h = \frac{\left(\frac{670000}{F_R \cdot \left(1.16 + \frac{L}{88mm}\right)}\right)^{3.3}}{n}$$



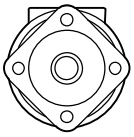
Code H



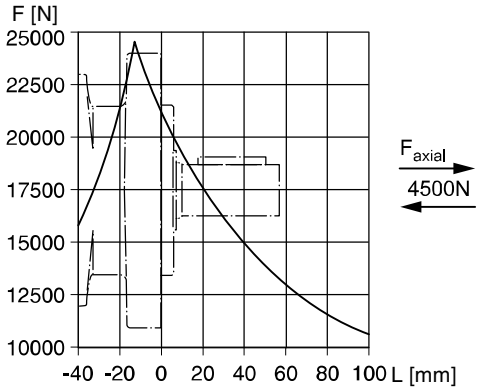
$$L_h = \frac{\left(\frac{670000}{F_R \cdot \left(0.56 + \frac{L}{88mm}\right)}\right)^{3.3}}{n}$$



Code V



$$L_h = \frac{\left(\frac{670000}{F_R \cdot \left(1.11 + \frac{L}{88mm}\right)}\right)^{3.3}}{n}$$



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.

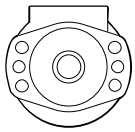
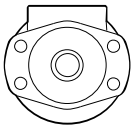
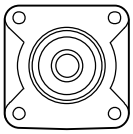
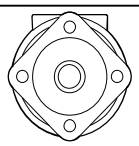
Vorstehende Formeln gelten für eine B10-Lebensdauer.	**L_h**	**=**	**[h]**
The preceding formulas are valid for a B10 duration of life.	**L**	**=**	**[mm]**
Les formules prècèdentes sont valables pour une durèe de vie B10.	**n**	**=**	**[rev/min]**
Le formule precedenti sono valide per una durata della vita B10.			

Ordering Code

TF												A	A	A	B
Serie Series Série Serie	Schluckvolumen Displacement Cylindrée Cilindrata				Gehäuse Housing Carter Corpo motore	Anschluss Ports Plan de raccordement Connessioni	Welle Shaft Arbre Albero		Drehrichtung Direction of rotation Direction de rotation Direzione di rotazione	Option code					

For further options different to standard 'AAAB' see page 84

Code	cm³/rev
0080	81
0100	100
0130	128
0140	141
0170	169
0195	195
0240	237
0280	280
0360	364
0405	405
0475	477

Code	Housing
E	
M	
H	
V [1]	

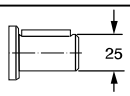
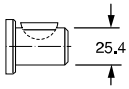
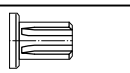
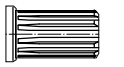
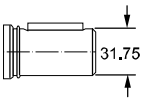
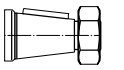
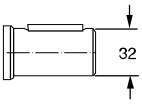
[1] Nur verfügbar mit Endanschluss
Only possible with rear port
Possible seulement avec orifice arrière
Possible solo con connessioni Posteriori

Code	Front port
W	G 1/2
V	7/8-14 UNF O-Ring
N [2]	Universal-M8x13
K [3]	Universal-M6x12

[2] Nicht verfügbar für Gehäuse "H"
Not possible for housing "H"
Pas disponible pour carter "H"
Non disponibile con il corpo codice "H"

[3] Nicht verfügbar für Gehäuse "M, E, V"
Not possible for housing "M, E, V"
Pas disponible pour carter "M, E, V"
Non disponibile con il corpo codice "M, E, V"

Code	Rear port
Y	G 1/2 Axial
A	7/8-14 UNF Axial
X	G 1/2 Radial
B	7/8-14 UNF Radial
L	Universal Radial M8x13

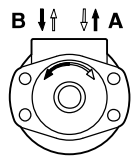
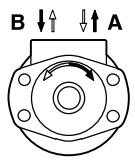
Code	Shaft
26 [4]	 25
47 [4][5]	 25.4
41 [4][5]	 6B SAE
44	 Pitch 12/24
45	 31.75
08	
46	 32

4) Codes 26, 41, 47

Abtriebswelle	ø 25 mm	Max. Moment cont./int.	450/550 Nm
Coupling shaft	ø 1 inch	Max. torque cont./int.	450/550 Nm
Arbre	6B SAE	Couple maxi cont./int.	450/550 Nm
Albero		Coppia max cont./int.	450/550 Nm

5) ≤TF0280

Code	Front port
0	 Standard
1	

Code	Rear port
0	 Standard
1	

Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

Exceptional Power Density and Durability

The heart of the new compact Torqmotor™ is the strongest drive train in its class. Coupled with this extra heavy-duty drive train are the high efficiencies and low speed performance for which the Parker Torqmotor™ is known. As with all Torqmotors™, high speed valving and full flow drive train lubrication are standard. Case drains are not required. Roller vanes and a sealed commutator maintain high efficiencies and provide smooth low speed performance.

- **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

- **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
- **A 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

- **Moteur lent systéme Gerotor**
- **Une distribution orbitale particuliére assure**
  fuites internes minimales
  rendements volumàtriques élevés
- **Le rotor à rouleaux**
  réduit les frottements
  augmente la durée de vié
- **Par l`utilisation de joints d`arbre haute pression brevetés**
  pas de conduite de drainage
  pas de clapets anti-retour
- **Gràce à de nombreuses variantes**
  larges domaines d`application

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