

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.

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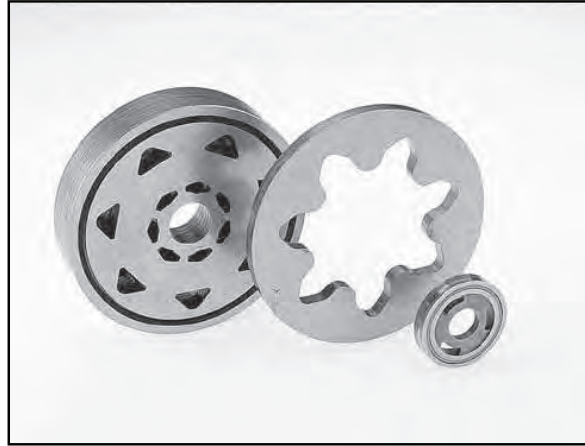
Excellence of Design

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.



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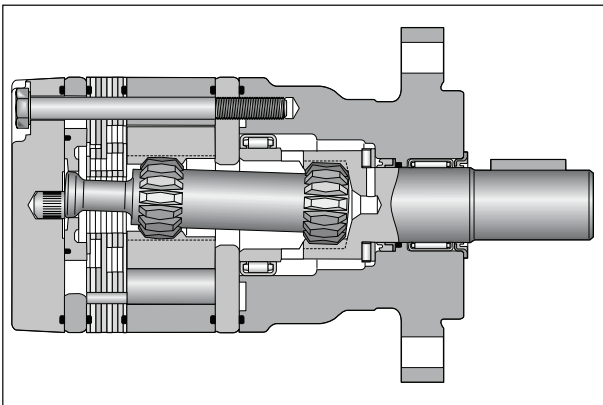
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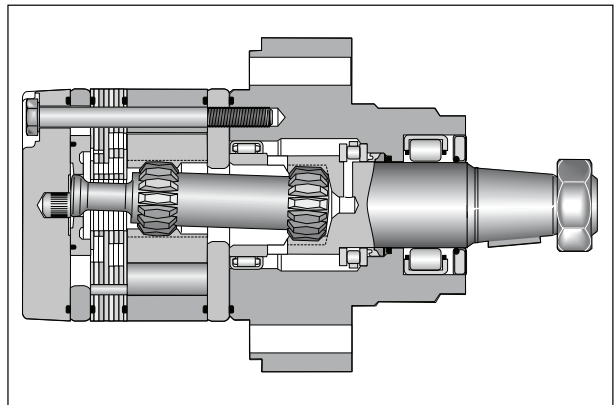
Features

- **Langsamlaufender Gerotor-Motor**
- **Spezielle Orbital-Steuerung**
Geringe interne Leckage
Hoher volumetrischer Wirkungsgrad
- **Rollen im Rotorsatz**
Reduzierte Reibung
Lange Lebensdauer
- **Patentierter 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



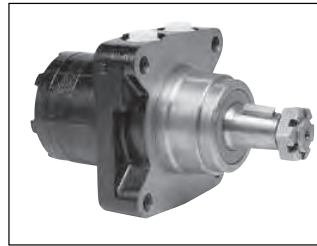
Series TJ



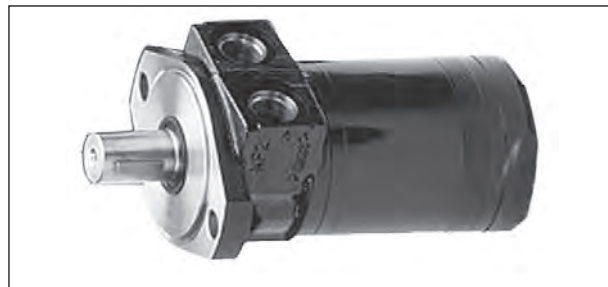
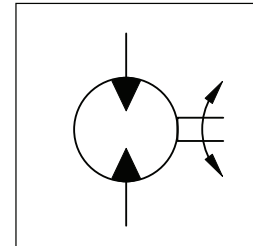
- **Moteur lent système Gerotor**
- **Une distribution orbitale particulière assure**
fuites internes minimales
rendements volumétriques élevés
- **Le rotor à rouleaux**
réduit les frottements
augmente la durée de vie
- **Par l'utilisation de joints d'arbre haute pression brevetés**
pas de conduite de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

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



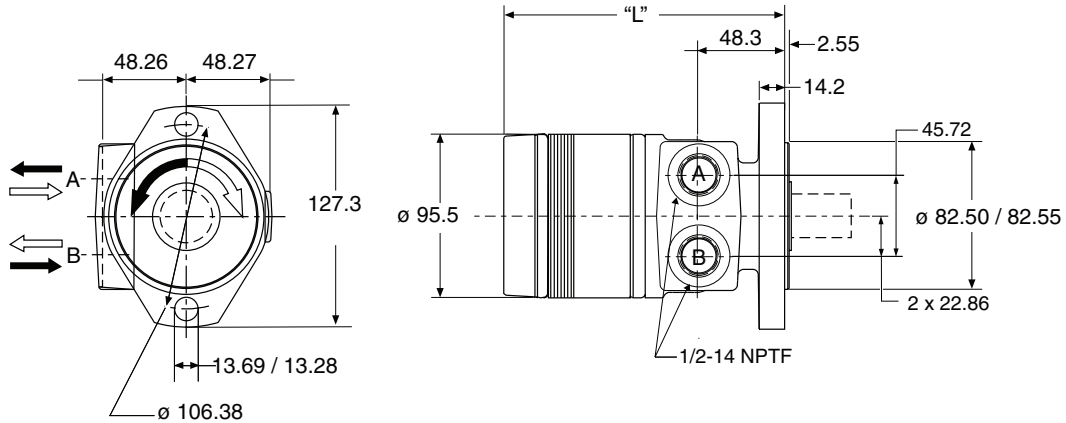
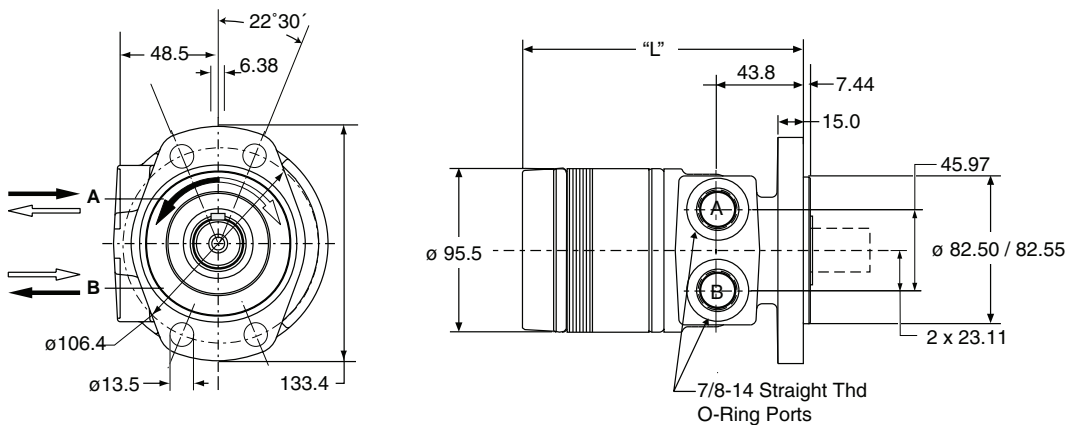
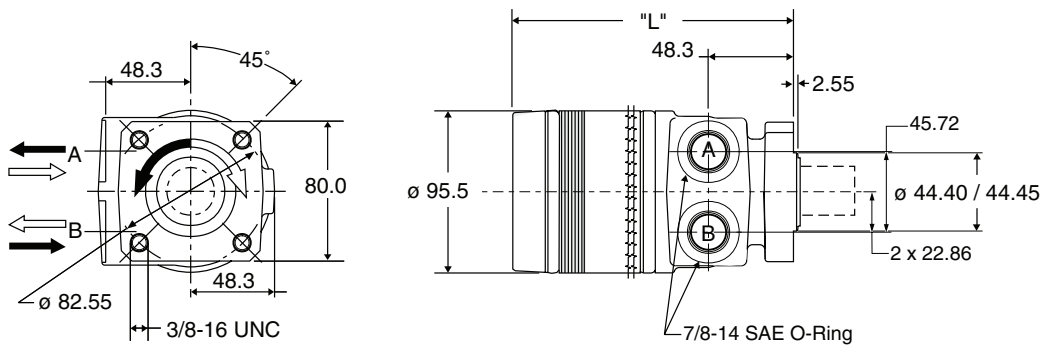
Series TE

Motor series TE / TJ	Geom. Schluckvolumen Geometric displacement Cilindrata	Max. Drehzahl Max. speed Vitesse de rotation maxi Velocità di rotazione max	Max. Schluckstrom Max. oil flow Débit d'huile max Portata max	Max. Druckdifferenz * Max. differential pressure * 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 Puissance de sortie maxi Potenza meccanica max	Min. Anlaufmoment Min. starting torque Couple min. fourni 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

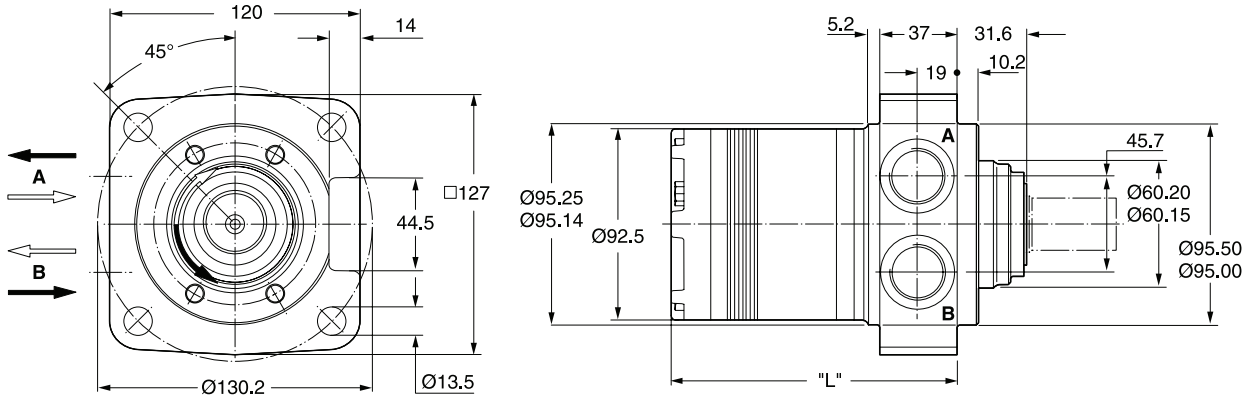
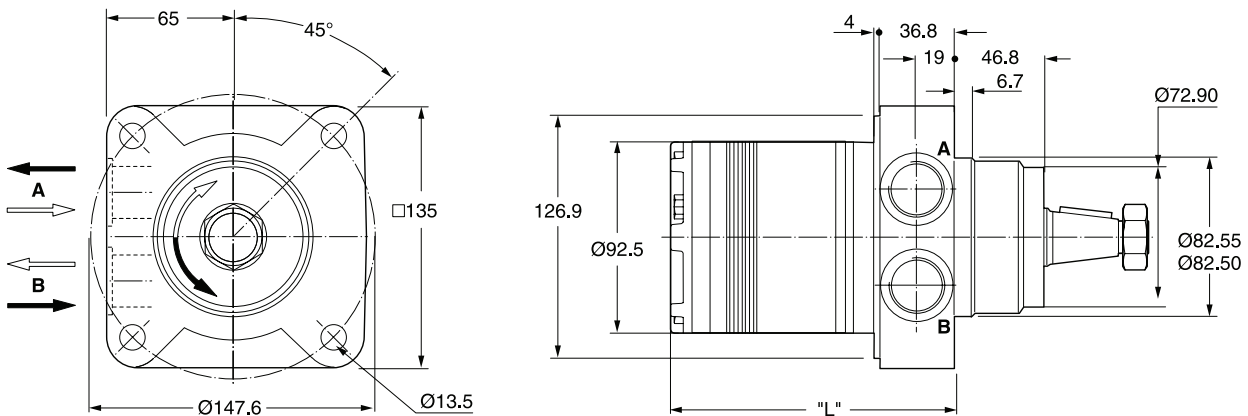
int. = Intermittierende Werte maximal: 10% von jeder Betriebsminute.
 Intermittent operation rating applies to 10% of every minute.
 Fonctionnement interm.: 10% max. de chaque minute d'utilisation.
 Servizio intermittente: 10% max di ogni minuto di utilizzazione.

* 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

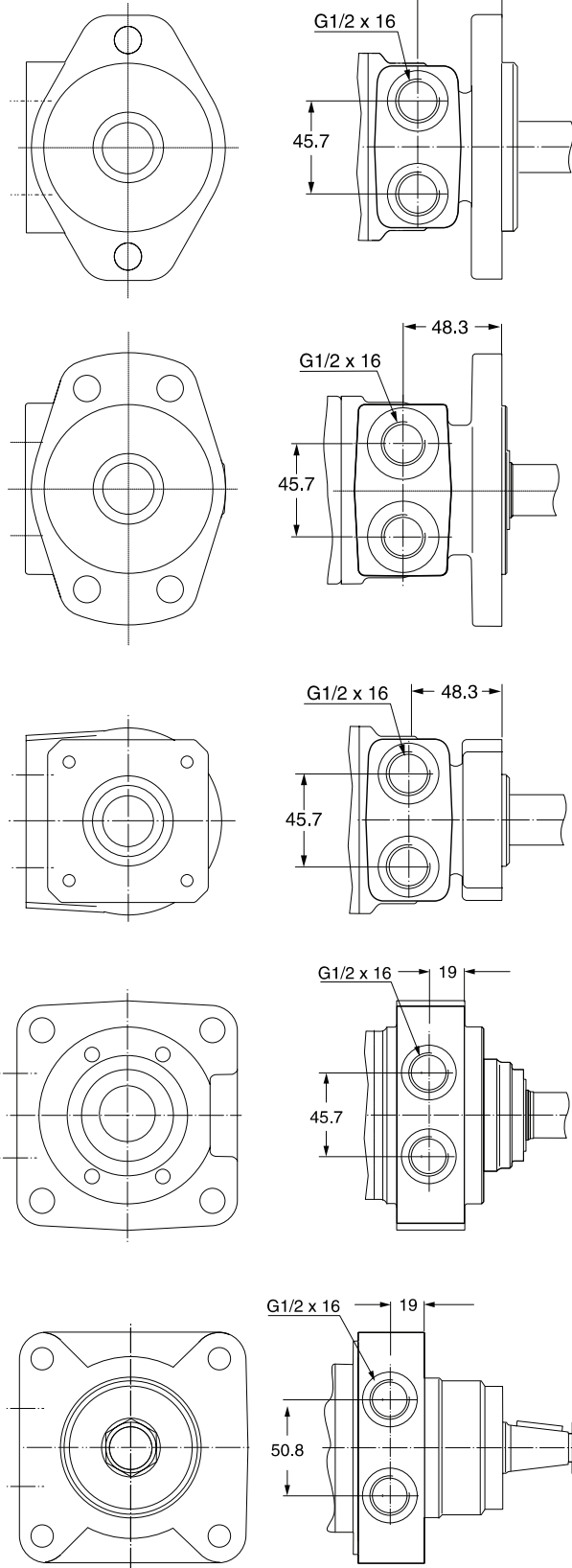
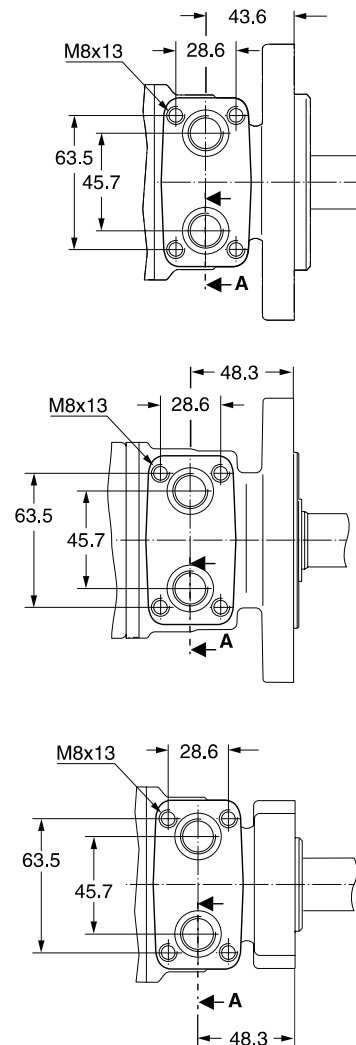
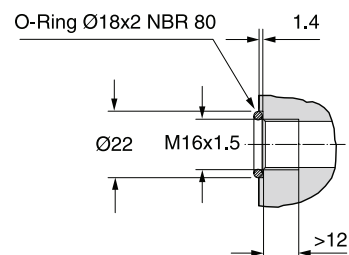
Achtung: Höhere Drücke auf Anfrage möglich.
 Notice: Higher pressures are possible on request.
 Remarque : des pressions supérieures sont possibles sur demande.
 Nota: Pressioni superiori possibili su richiesta.

Code C

Code M

Code D


Gewicht / Weight	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

Code L

Code U

7

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

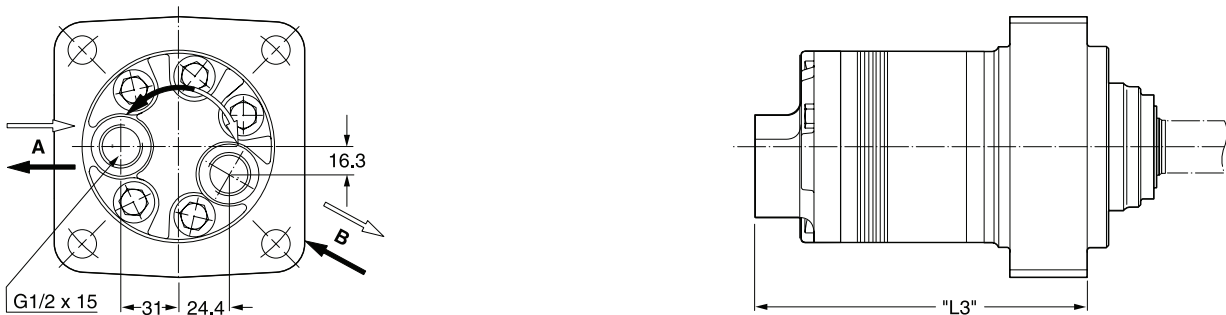
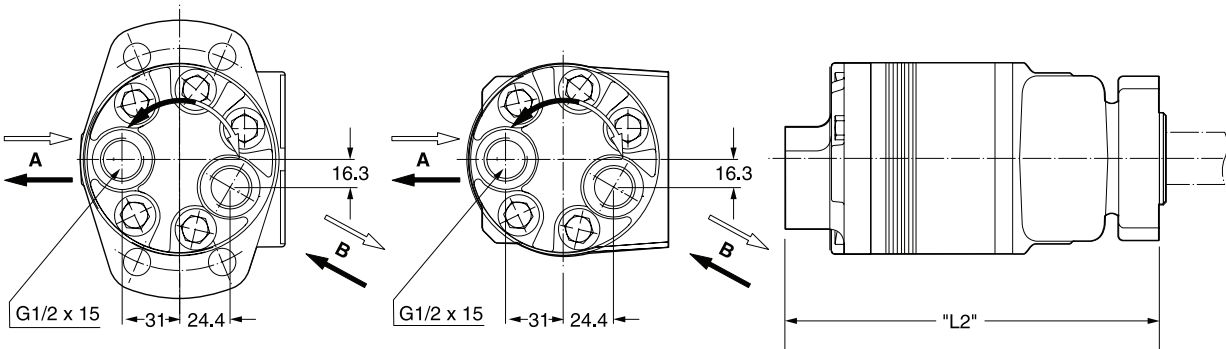
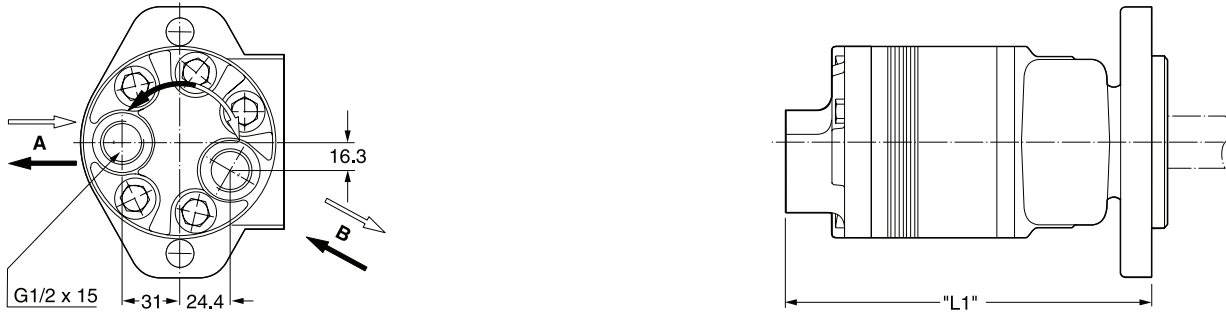
Code W

Code N

Section A


Zum Motor mit Universalanschluss werden 2 O-Ringe geliefert.

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

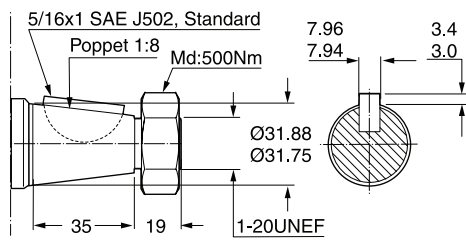
Deux joints toriques sont livrés avec les moteurs au plan de raccordement universel.

Il blocchetto connessioni è corredato da 2 OR.

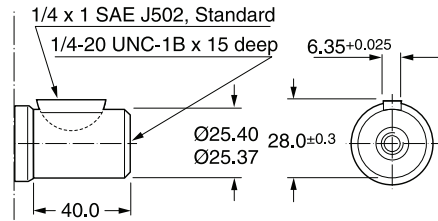
Code Y

7

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

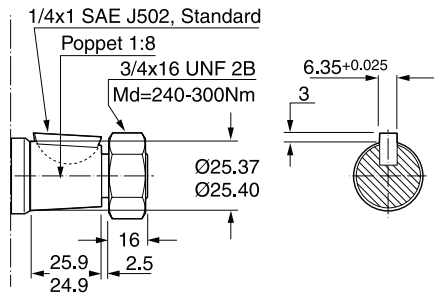
Code 08



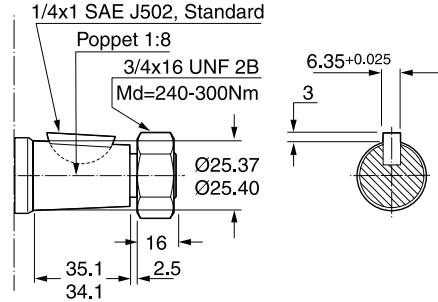
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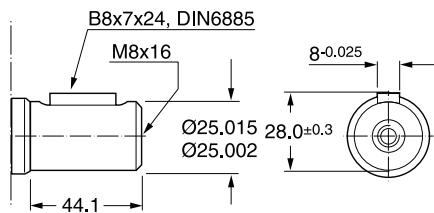
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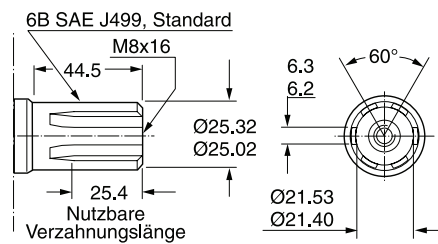
Code 25



Code 26²⁾

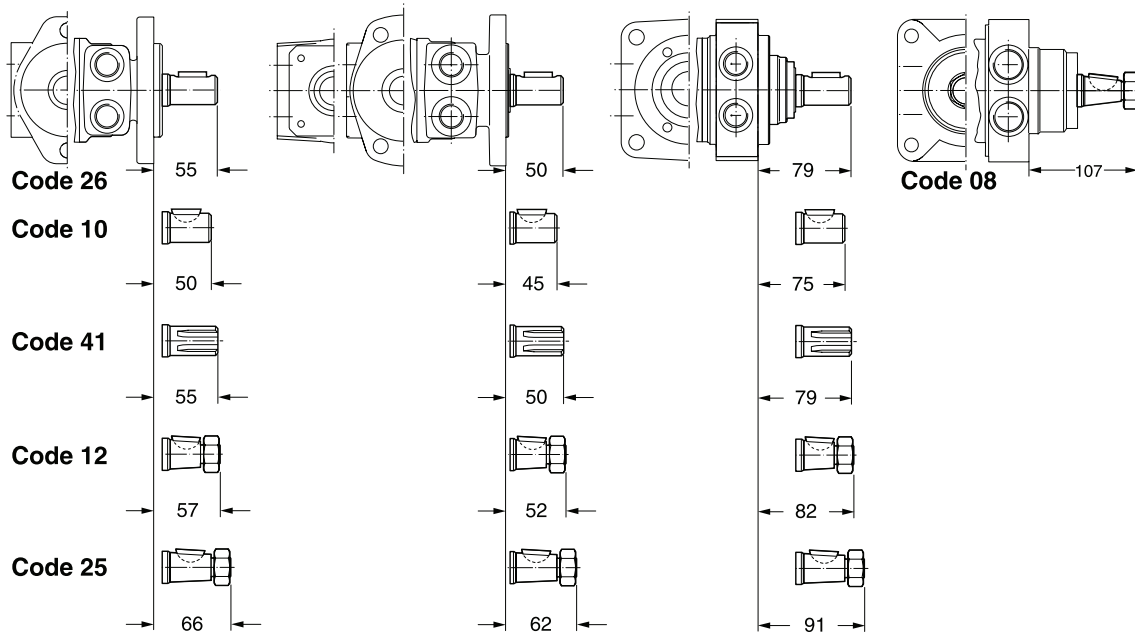


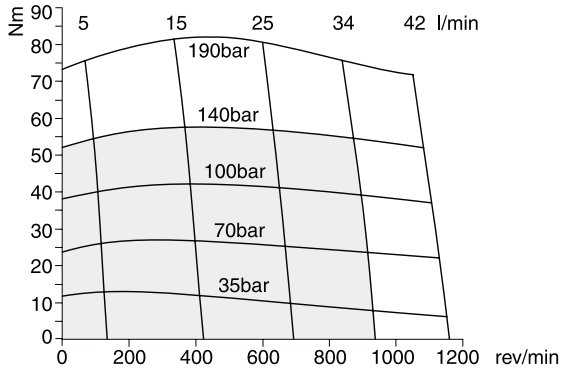
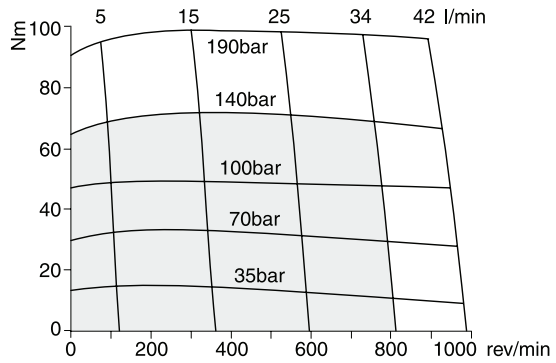
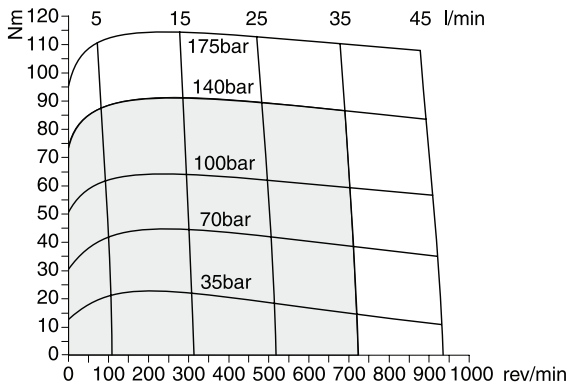
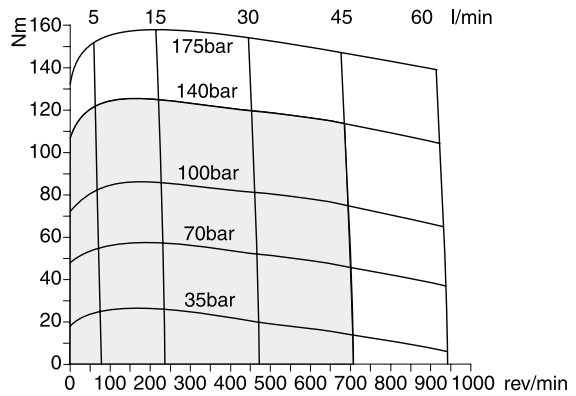
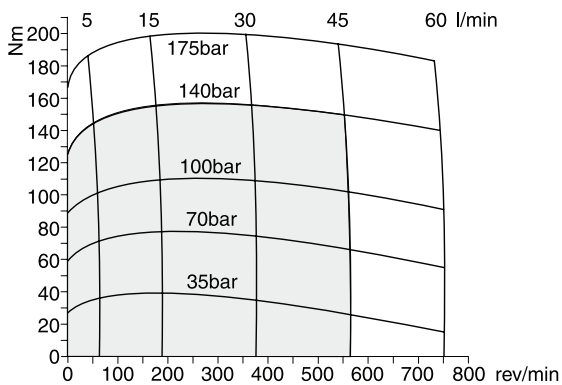
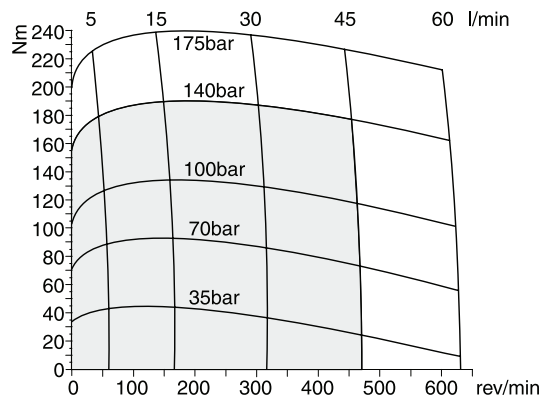
Code 41



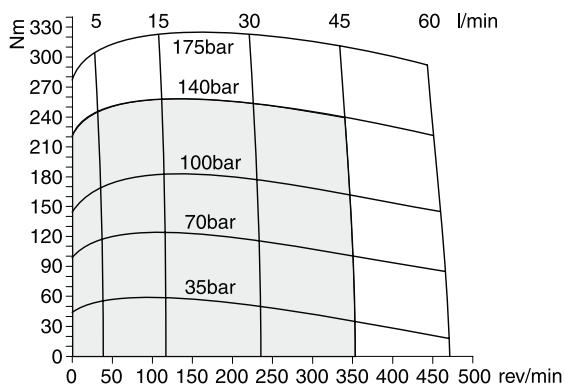
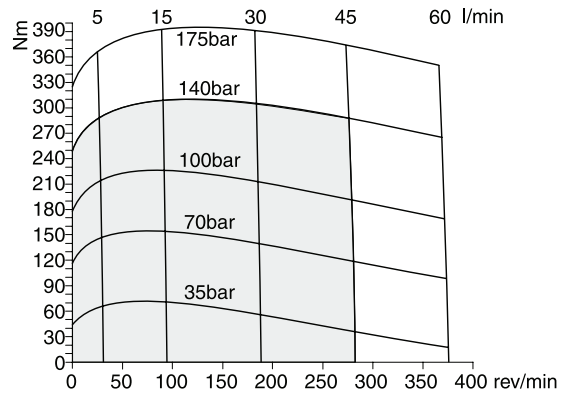
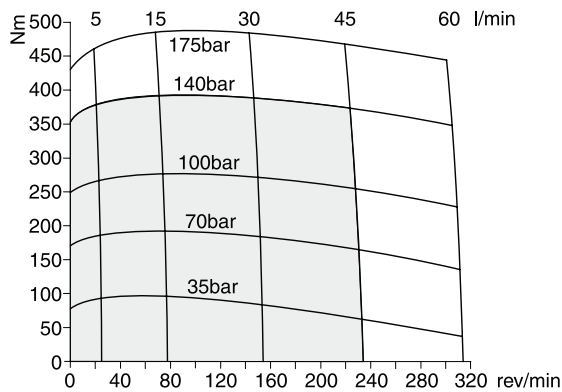
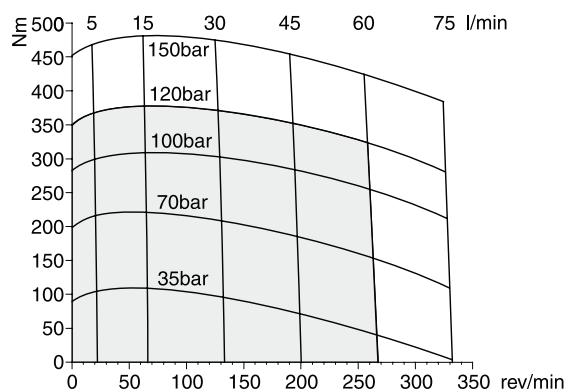
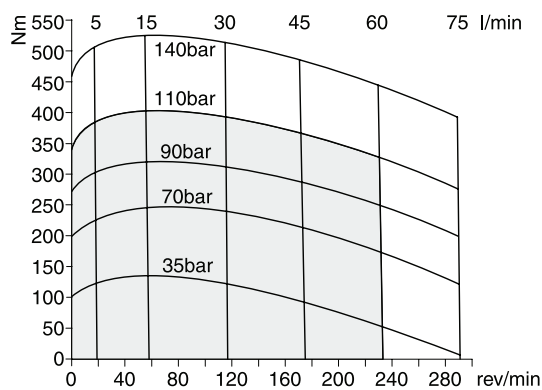
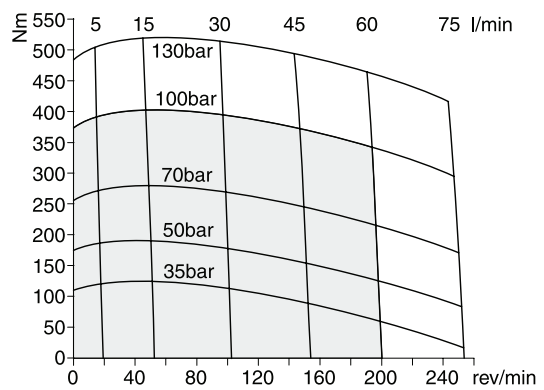
²⁾ **Code 69** = Rostfreie Ausführung
 Stainless steel version
 Version en acier inoxydable
 Versione in acciaio inossidabile
 230 Nm (2100lb in) Max. Drehmoment/
 Max Torque/ Couple maxi/ Coppia max

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.

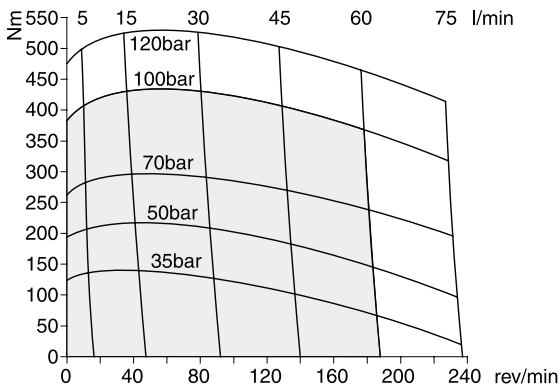
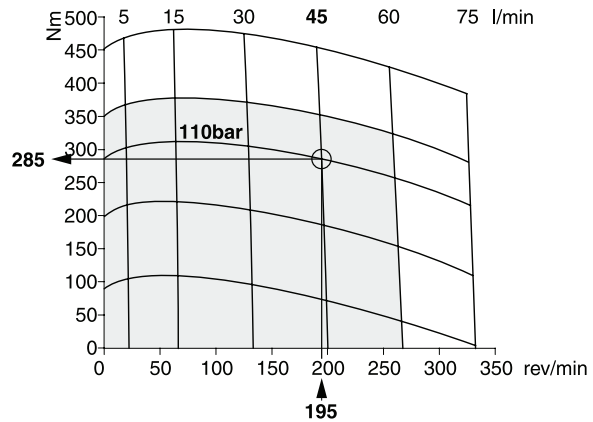
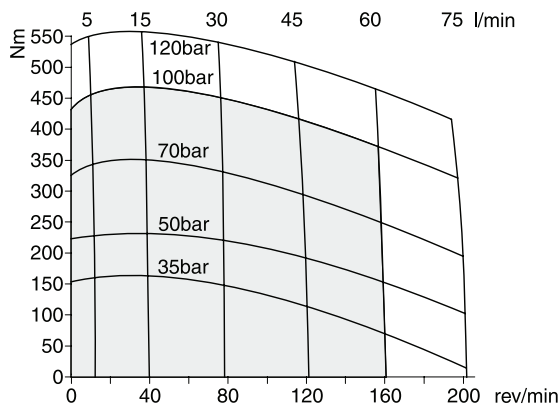
int. =
 Intermittierende Werte maximal 10% von jeder Betriebsminute.
 Fonctionnement interm. 10% max. de chaque minute d'utilisation.
 Intermittent operation rating applies to 10% of every minute.
 Servizio intermittente 10% max di ogni minuto di utilizzazione.

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


$$\begin{aligned}
 M_d &= 285 \text{ Nm} & V &= 229.4 \text{ cm}^3/\text{rev} \\
 n &= 195 \text{ rev/min} & Q &= 45 \text{ l/min} \\
 \Delta p &= 110 \text{ bar}
 \end{aligned}$$

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

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

$$\eta_{hm} = 0.71$$

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

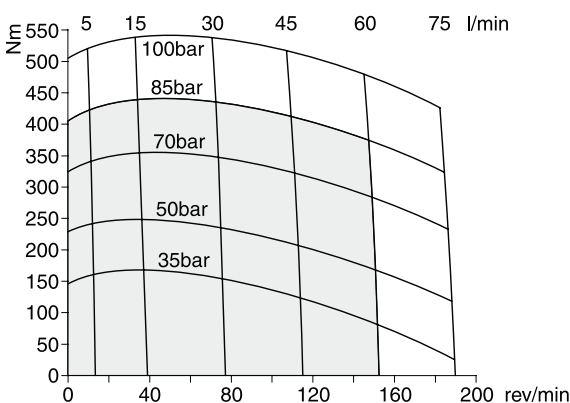
$$\eta_{ges} = \eta_{vol} \cdot \eta_{hm} = 0.99 \cdot 0.71$$

$$\eta_{ges} = 0.70$$

Leistung P (kW)
 Power P
 Puissance P
 Potenza P

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

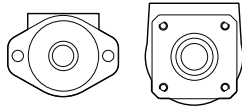
$$P = 5.8 \text{ kW}$$

TE/TJ 390


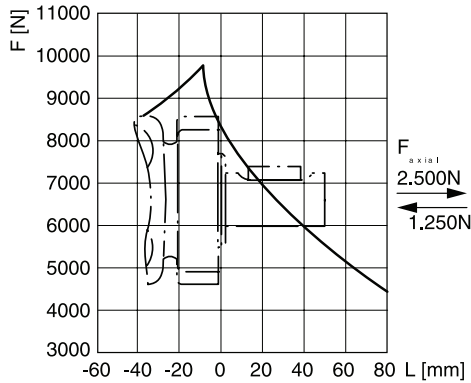
Cont. Int.

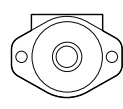
int. =
 Intermittierende Werte maximal 10% von jeder Betriebsminute.
 Fonctionnement interm. 10% max. de chaque minute d'utilisation.
 Intermittent operation rating applies to 10% of every minute.
 Servizio intermittente 10% max di ogni minuto di utilizzazione.

TE Code C/D

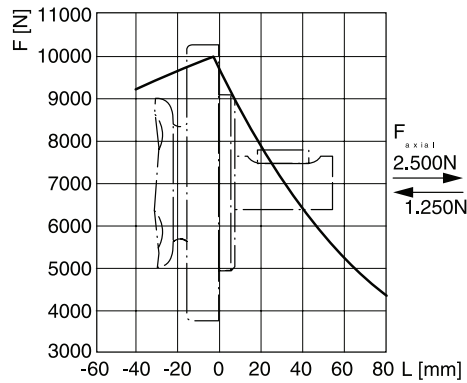


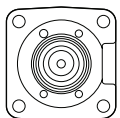
$$L_h = \frac{357300}{n \cdot \left(F_R \cdot \left(1.161 + \frac{L}{62\text{mm}} \right) \right)^{3.3}}$$


TE Code C

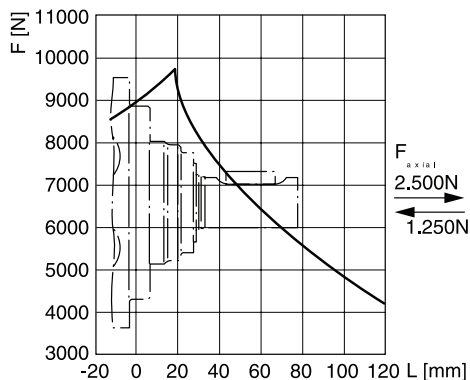


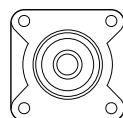
$$L_h = \frac{357300}{n \cdot \left(F_R \cdot \left(1.076 + \frac{L}{62\text{mm}} \right) \right)^{3.3}}$$


TE Code L

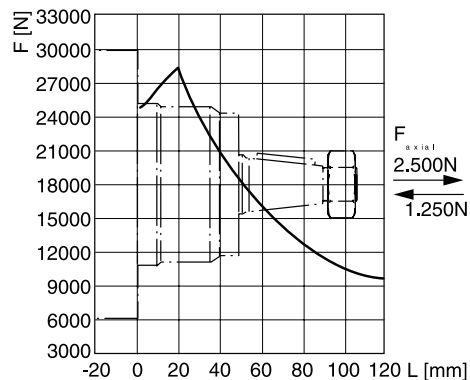


$$L_h = \frac{357300}{n \cdot \left(F_R \cdot \left(0.69 + \frac{L}{62\text{mm}} \right) \right)^{3.3}}$$


TJ Code U



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



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'application 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 .

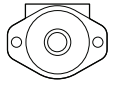
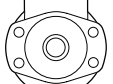
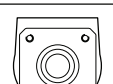
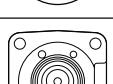
Vorstehende Formeln gelten für eine B10-Lebensdauer.
 The preceding formulas are valid for a B10 duration of life.
 Les formules précédentes sont valables pour une durée de vie B10.
 Le formule precedenti sono valide per una durata della vita B10.

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


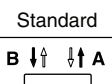
Catalogue HY02-8001/DE/UK/FR/IT
Ordering Code

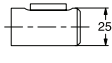


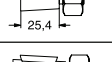
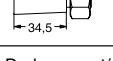
 Hydraulic Motors, Fixed, Torqmotor
Series TE-TJ

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	cm ³ /rev							Code	Option
0036	36							AAAB	standard
0045	41							AANC	shuttle valve
0050	50							BBCP ²⁾	internal relief valve 100 bar
0065	66							BBCN ²⁾	internal relief valve 140 bar
0080	82							HAAP	external relief valve 100 bar
0100	98							HAAU	external relief valve 140 bar
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	Direction	
0	 Standard	
1	 Standard	

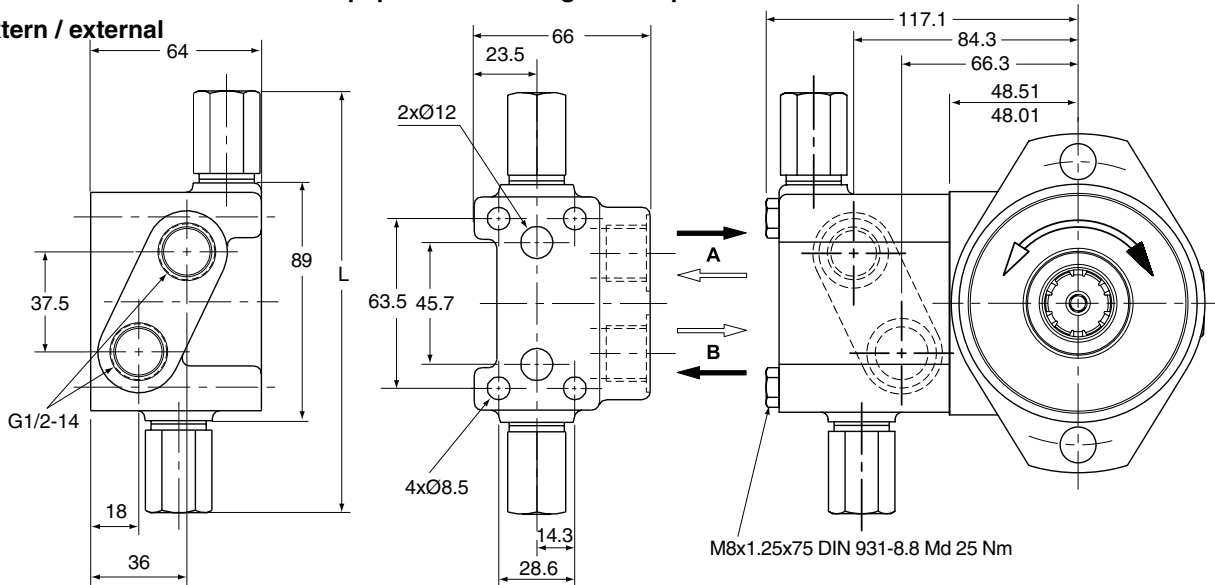
Code	Shaft	
26 69 ³⁾		
10 70 ³⁾		
41		
12		
25		

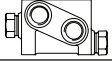
²⁾ Nicht verfügbar für Anschluss Y
 Not available for port code Y
 Pas disponible pour raccordement
 code Y
 Non Disponibile per connessioni
 codice Y

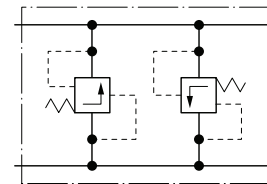
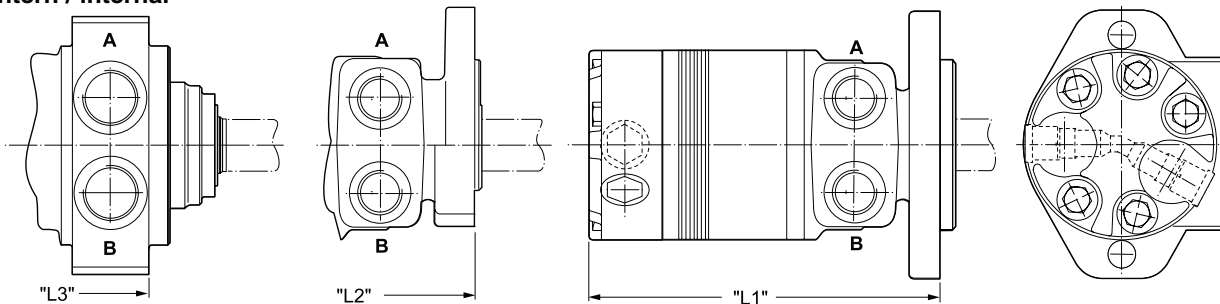
¹⁾ Nicht verfügbar für Ge-
 häuse L
 Not available for housing
 code L
 Pas disponible pour carter
 code L
 Non Disponibile per Allog-
 giamento codice L

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

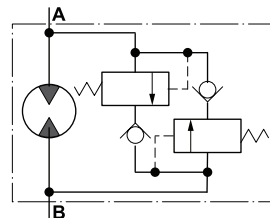
7

Schockventil / Relief valve / Soupape sécurité / Regolatrice pressione
Extern / external

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

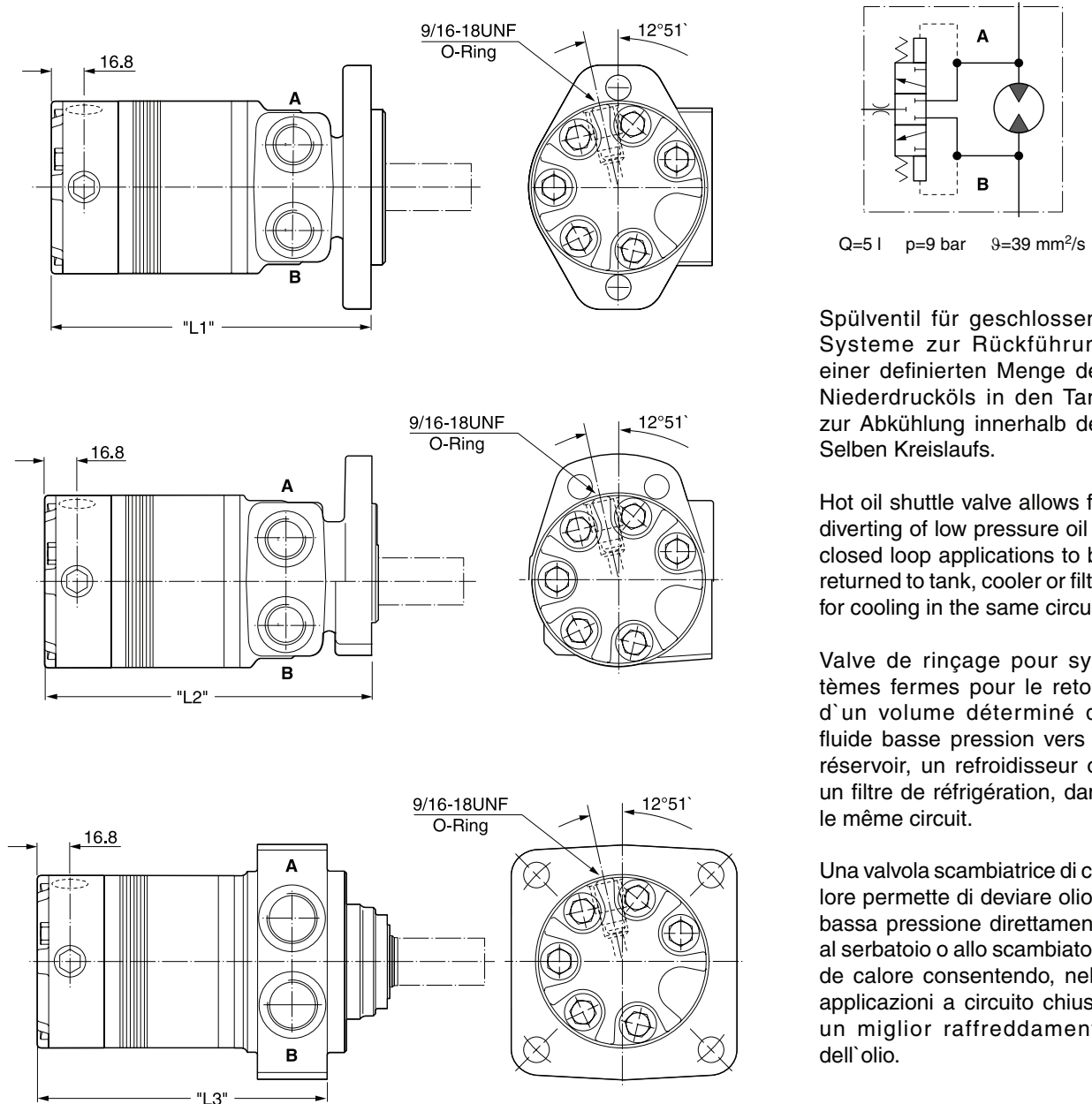
Option code	Shift pressure	Single valve	Single part order no.	Option code	Length "L"
HAAP	100 bar	 Zubehör / Fixtures 4 x M8 x 75mm 2 x O Ring	410017-100	HAAP	158 mm
HAAU	140 bar		410017-140	HAAU	158 mm


Intern / internal

7
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
	"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
	"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

Code AANC


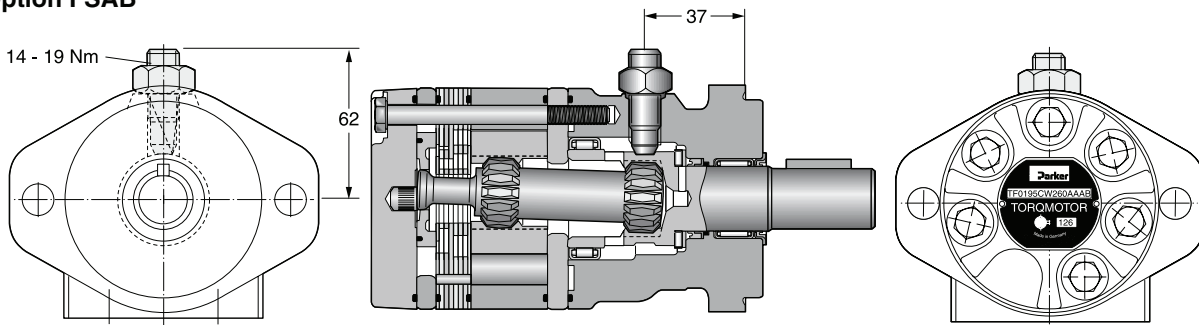
Spülventil für geschlossene Systeme zur Rückführung einer definierten Menge des Niederdrucköls in den Tank zur Abkühlung innerhalb des Selben Kreislaufs.

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
	"L2" [mm]	153	154	156	159	162	166	172	178	184	191	197	203	210	218
	"L3" [mm]	124	125	127	130	134	137	143	150	156	162	168	175	181	189

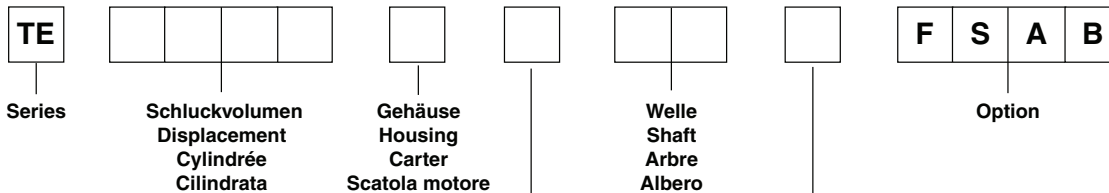
Option FSAB


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

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

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

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

Ordering code


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	

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

Option Code	Description	Series	TE/TJ	TF	TL	TG	TH	TK
AAAA	black paint		x	x		x	x	x
AAAH	FPM seals		x	x		x	x	x
AABP	castle nut		x	x		x	x	x
AAFX	shuttle valve			x		x	x	
BBBF	internal relief valve 200bar			x		x	x	
BBBJ	internal relief valve 100bar			x		x	x	
BBBM	internal relief valve 70bar			x		x	x	
BBBN	internal relief valve 140bar			x		x	x	
BBCG	internal relief valve 170bar			x		x	x	
HAAF	external relief valve 100bar (M6)			x		x		
HAAP	external relief valve 100bar (M8)		x	x		x	x	
HAAH	external relief valve 140bar (M6)			x		x		
HAAU	external relief valve 140bar (M8)		x	x		x	x	
HAAK	external relief valve 170bar (M6)			x		x		
HAAX	external relief valve 170bar (M8)		x	x		x	x	
HAAM	external relief valve 200bar (M6)			x		x		
HABA	external relief valve 200bar (M8)			x		x	x	
JAAB	motor-brake combination 11bar		x	x				
JAAD	motor-brake combination 16bar		x	x				
JAAG	motor-brake combination 22bar		x	x				
JAAJ	motor-brake combination 11bar			x		x		
JAAL	motor-brake combination 16bar			x		x		
JAAH	motor-brake combination 22bar			x		x		
JAAT	motor-brake combination 22bar			x		x		
JAAW	motor-brake combination 22bar			x		x		
FSAB	Speedsensor		x	x		x		
FSAH	Speedsensor + Lack		x	x		x		
FSBR	Speedsensor Detection of rotating direction		x	x		x		
FSAN	Int Short Speed Sensor, 1500 psi Int Bidirectional Relief, No paint			x		x		

Empfohlen wird die Verwendung eines Hydrauliköls auf Mineralölbasis mit mindestens 0,1% Zinkadditiv als Anti-verschleißzusatz. Vor Einsatz anderer Flüssigkeiten bitten wir um Rücksprache mit unserer Technik.

Die normale Arbeitstemperatur sollte im Bereich von +30 °C bis +60 °C liegen.

Die Maximaltemperatur darf +90 °C nicht überschreiten, während die Mindesttemperatur auf -30° C begrenzt ist.

Wird die normale Arbeitstemperatur wesentlich überschritten, wird die Lebensdauer des Öls stark verkürzt.

Die Viskosität im Arbeitstemperaturbereich sollte 20 bis 120 mm²/s betragen.

Zweckmäßig ist eine Filtereinheit von 20 - 50 µm.

Die im Katalog angegebenen technischen Daten gelten für den Motorbetrieb.

Arbeitet der Motor als Pumpe, ist das auf die Antriebswelle wirkende Moment auf den angegebenen kontinuierlichen Maximalwert zu begrenzen. Dabei muss ein Vorspanndruck von 5 - 10 bar, abhängig vom Förderstrom, vorhanden sein (Kavitationsgefahr).

Il est recommandé d'utiliser une huile hydraulique à base minérale contenant au minimum 0,1% d'additif zinc comme produit anti-usure.

La température normale d'utilisation devrait être située entre +30 °C à +60 °C.

La température maximale d'utilisation ne doit pas être supérieure à +90° C, alors que la température minimale est limitée à -30 °C.

Lorsque la température de service est largement dépassée, la durée de vie de l'huile est fortement diminuée.

Dans la plage de température de service, la viscosité devrait être située entre 20 et 120 mm²/s.

Dans ce but, la filtration est de 20 à 50 µm.

Les caractéristiques techniques indiquées dans le catalogue sont considérées pour une utilisation en fonction moteur.

Si le moteur fonctionne en pompe, il faut limiter le couple à la valeur maximale indiquée. Dans ce cas, en fonction du débit, il faut créer une contre-pression de 5 à 10 bar (danger de cavitation).

It is recommended to use a mineral based hydraulic oil with minimum 0.1% of zinc as anti-wear additive.

Before using other liquids, please consult our engineering department.

Normal working temperatures should be in the range of between +30 °C and +60 °C.

Maximum temperatures must not exceed +90 °C while minimum temperatures should be limited to -30 °C.

If normal working temperatures are substantially exceeded this will result in reduced life duration of the oil used.

Viscosity in the range of working temperatures should be 20 to 120mm²/s.

It is advisable to use a filtering fineness of 20 - 50 µm.

The technical data are applicable to motor operation.

If the motor is used as a pump, the input torque on the coupling shaft must be limited to the indicated continuous maximum value. For this, an inlet pressure of 5 -10 bar must be applied depending on oil flow (danger of cavitation).

Si consiglia l'impiego di olio idraulico a base di olio minerale con almeno 0,1% di zinco come additivo anti usura. Prima dell'impiego di altri liquidi si prega di contattare il nostro ufficio tecnico.

La temperatura normale di esercizio dovrebbe essere da +30 °C a +60 °C.

La temperatura massima non deve superare +90 °C, mentre la temperatura minima è limitata a -30 °C.

Se la temperatura normale di esercizio viene sostanzialmente superata, la durata dell'olio diminuisce sensibilmente.

La viscosità nel campo della temperatura di esercizio dovrebbe essere da 20 a 120 mm²/s.

Si deve prevedere un sistema filtrante per 20...50 micron.

I dati sopraesposti sono validi negli impieghi come motore. Se il motore viene usato come pompa, la coppia sull'albero deve essere limitata a quella massima ammessa. Pertanto il motore deve essere pressurizzato a 5...10 bar in funzione della portata d'olio per evitare cavitazione.

Produktübersicht Motor range Gamme de moteurs Serie di motori	Geom. Schluckvolumen Cylindric displacement Cilindrata	Max. Drehzahl Max. speed Vitesse de rotation maxi Velocità di rotazione maxi	Max. Schluckstrom Max. oil flow Débit d'huile maxi Portata max	Max. Druckdifferenz * Max. differential pressure * Chute de pression maxi * Caduta di pressione max *	Max. Eingangsdruck Max. supply pressure Pression max entrée Pressione max in entrata	Max. Drehmoment Max. torque Couple maxi Coppia max	Max. Leistungsabgabe Max. performance Puisissance de sortie maxi Potenza meccanica max
TE/TJ	cm ³ /rev	cont/int rev/min	cont / int l / min	cont / int bar	max bar	cont / int Nm	cont / int KW
TE/TJ 36	36	930/1160	35/40	140/190	200	55/71	9
TE/TJ 45	41	810/1024	35/41	140/190	200	70/100	10
TE/TJ 50	50	725/1020	35/50	140/190	200	90/127	13
TE/TJ 65	66	705/940	45/60	140/190	200	125/176	15
TE/TJ 80	82	560/750	45/60	140/190	200	160/220	17
TE/TJ 100	98	470/630	45/60	140/190	200	190/264	17
TE/TJ 130	130	350/470	45/60	140/1960	200	255/352	17
TE/TJ 165	163	280/375	45/60	140/190	200	310/436	17
TE/TJ 195	196	235/315	45/60	140/190	200	390/528	17
TE/TJ 230	228	265/330	60/75	120/165	200	380/514	18
TE/TJ 260	261	230/290	60/75	110/155	200	400/550	17
TE/TJ 295	293	200/255	60/75	100/145	200	428/582	16
TE/TJ 330	326	185/235	60/75	100/135	200	443/600	15
TE/TJ 365	370	150/200	60/75	95/125	200	467/648	14
TE/TJ 390	392	152/190	60/75	85/120	200	445/628	13

Radiale Wellenbelastung
 Side loads
 Charges latérales
 Carico radiale
TE 7.000 N
TJ 14.000 N

TF	cm ³ /rev	cont/int rev/min	cont / int l / min	cont / int bar	max bar	cont / int Nm	cont / int KW
TF 80	81	550/730	45/60	210/280	300	220/295	22
TF 100	100	600/750	60/75	160/240	300	200/320	25
TF 130	128	470/580	60/75	140/210	300	230/360	22
TF 140	141	370/530	60/75	140/210	300	250/390	22
TF 170	169	355/440	60/75	140/210	300	320/490	23
TF 195	197	300/380	60/75	140/210	300	365/560	22
TF 240	238	320/420	75/100	140/210	300	430/670	28
TF 280	280	270/350	75/100	140/210	300	550/800	28
TF 360	364	200/260	75/100	130/190	300	590/910	24
TF 405	405	170/230	75/100	130/175	300	660/920	22
TF 475	477	150/200	75/100	115/140	300	680/850	17

Radiale Wellenbelastung
 Side loads
 Charges latérales
 Carico radiale
TF 16.000 N

TL	cm ³ /rev	cont/int rev/min	cont / int l / min	cont / int bar	max bar	cont / int Nm	cont / int KW
TL 140	140	613	68/95	190/241	300	364/463	30
TL 170	169	512	68/95	190/241	300	449/570	31
TL 195	195	484	68/95	190/241	300	511/648	34
TL 240	238	399	68/95	190/241	300	620/790	34
TL 280	280	335	68/95	190/241	300	730/929	34
TL 310	310	310	68/95	190/241	300	847/1079	36
TL 360	364	255	68/95	172/224	300	890/1163	31

Radiale Wellenbelastung
 Side loads
 Charges latérales
 Carico radiale
TL 16.000 N

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.

Produktübersicht Motor range Serie di motori	Geom. Schluckvolumen Geometric displacement Cylindrée Cilindrata	Max. Drehzahl Max. speed Vitesse de rotation maxi Velocità di rotazione maxi	Max. Schluckstrom Max. oil flow Débit d'huile maxi Portata max	Max. Druckdifferenz * Max. differential pressure * Chute de pression maxi * Caduta di pressione max *	Max. Eingangsdruck Max. supply pressure Pressioni maxi entrée Pressione max in entrata	Max. Drehmoment Max. torque Couple maxi Coppia max	Max. Leistungabgabe Max. performance Puissance de sortie maxi Potenza meccanica max	
TG	cm ³ /rev	cont/int rev/min	cont / int l / min	cont / int bar	max bar	cont / int Nm	cont / int KW	Radiale Wellen- belastung Side loads Charges latérales Carico radiale TG/BG 16.000 N TH 30.000 N
TG 140	141	530/710	75/100	210/280	300	400/545	33	
TG 170	169	440/575	75/100	210/280	300	485/670	33	
TG 195	195	380/510	75/100	210/280	300	560/770	33	
TG 240	238	320/420	75/100	210/280	300	685/945	32	
TG 280	280	270/350	75/100	210/280	300	800/1100	31	
TG 335	337	225/290	75/100	210/280	300	980/1350	30	
TG 405	405	185/245	75/100	170/240	300	960/1350	27	
TG 475	477	160/240	75/115	140/210	300	960/1400	28	
TG 530	529	140/215	75/115	140/170	300	1050/1280	23	
TG 625	613	120/185	75/115	120/160	300	1040/1360	20	
TG 785	786	95/145	75/115	100/140	300	1150/1490	17	
TG 960	959	78/119	75/115	70/100	300	925/1390	12	

TH	cm ³ /rev	cont/int rev/min	cont / int l / min	cont / int bar	max bar	cont / int Nm	cont / int KW	Radiale Wellen- belastung Side loads Charges latérales Carico radiale TG/BG 16.000 N TH 30.000 N
TH 140	141	530/710	75/100	210/280	300	400/545	33	
TH 170	169	440/575	75/100	210/280	300	485/670	33	
TH 195	195	380/510	75/100	210/280	300	560/770	33	
TH 240	238	320/420	75/100	210/280	300	685/945	32	
TH 280	280	270/350	75/100	210/280	300	800/1100	31	
TH 335	337	225/290	75/100	210/280	300	980/1350	30	
TH 405	405	185/245	75/100	170/240	300	960/1350	27	
TH 475	477	160/240	75/115	140/210	300	960/1400	28	
TH 530	529	140/215	75/115	140/170	300	1050/1280	23	
TH 625	613	120/185	75/115	120/160	300	1040/1360	20	
TH 785	786	95/145	75/115	100/140	300	1150/1490	17	
TH 960	959	78/119	75/115	70/100	300	925/1390	12	

TK	cm ³ /rev	cont/int rev/min	cont / int l / min	cont / int bar	max bar	cont / int Nm	cont / int KW	Radiale Wellen- belastung Side loads Charges latérales Carico radiale TK 26.000 N
TK 250	250	523	114/133	240/310	330	815/1043	49	
TK 315	315	413	114/133	240/310	330	1030/1315	47	
TK 400	400	373	114/151	205/275	330	1150/1525	49	
TK 500	500	300	114/151	205/275	330	1440/1915	48	
TK 630	630	240	114/151	205/225	330	1620/1715	34	
TK 800	800	276	151/227	190/205	330	1915/2300	44	
TK 1000	1000	220	151/227	175/190	330	2410/2660	35	

int. =

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