Torqmotor ™

Series TF / TG / TH / TK max 49 kW

Low-speed hydraulic motor

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

Parker

ENGINEERING YOUR SUCCESS.

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Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

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Parker Hannifin
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Features

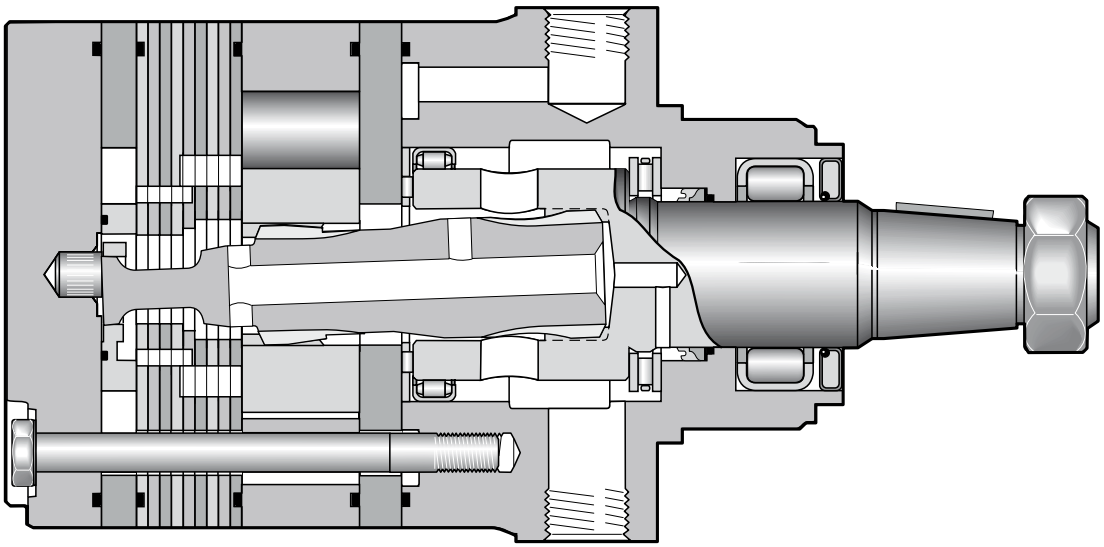
Series TF

- **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



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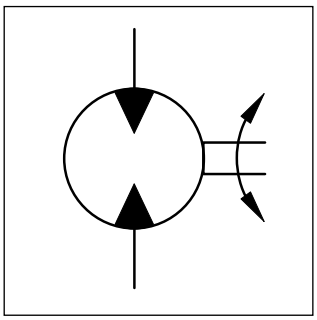
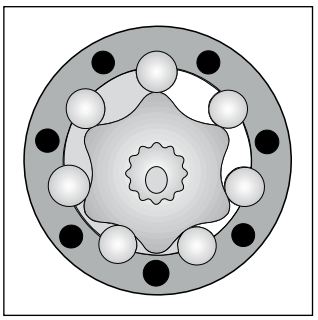
Drehzahl Speed Vitesse de rotation Velocità di rotazione	5...750 rev/min
Schluckstrom Oil flow Débit d`huile Portata	max. 100 l/min
Eingangsdruck Supply pressure Pression entrée Pressione in entrata	max. 300 bar
Drehmoment Torque Couple Coppia	max. 900 Nm
Seitenlast Side load Charges latérales Carico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

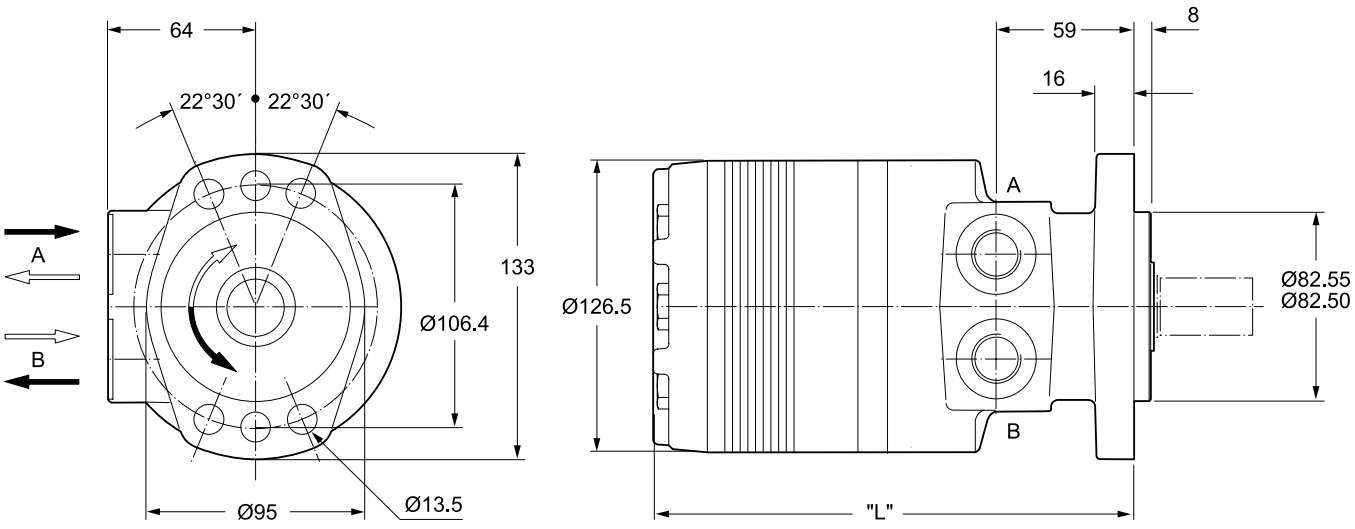




Motor series TF	Geom. Schluckvolumen / Geometric displacement / Cylindrée / Cilindrata cm³/U cm³/rev cm³/tr cm³/giro	Max. Drehzahl / Max. speed / Vitesse de rotation maxi / Velocità di rotazione max cont / int U/min rev/min tr/min giri/min	Max. Schluckstrom / Max. oil flow / Débit d`huile maxi / Portata 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 max. 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	200/280	300	215/295	19	172/236
TF 100	100	600/750	60/75	160/240	300	210/315	21	168/252
TF 130	128	470/580	60/75	140/200	300	240/350	19	192/280
TF 140	141	370/530	60/75	140/200	300	250/390	18	197/308
TF 170	169	355/440	60/75	140/200	300	330/485	19	264/388
TF 195	197	300/380	60/75	140/200	300	380/560	19	304/448
TF 240	238	320/420	75/100	140/200	300	460/685	24	368/548
TF 280	280	270/350	75/100	140/200	300	550/800	24	440/640
TF 360	364	200/260	75/100	130/200	300	590/910	24	510/780
TF 405	405	170/230	75/100	130/175	300	650/910	21	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.

Code E



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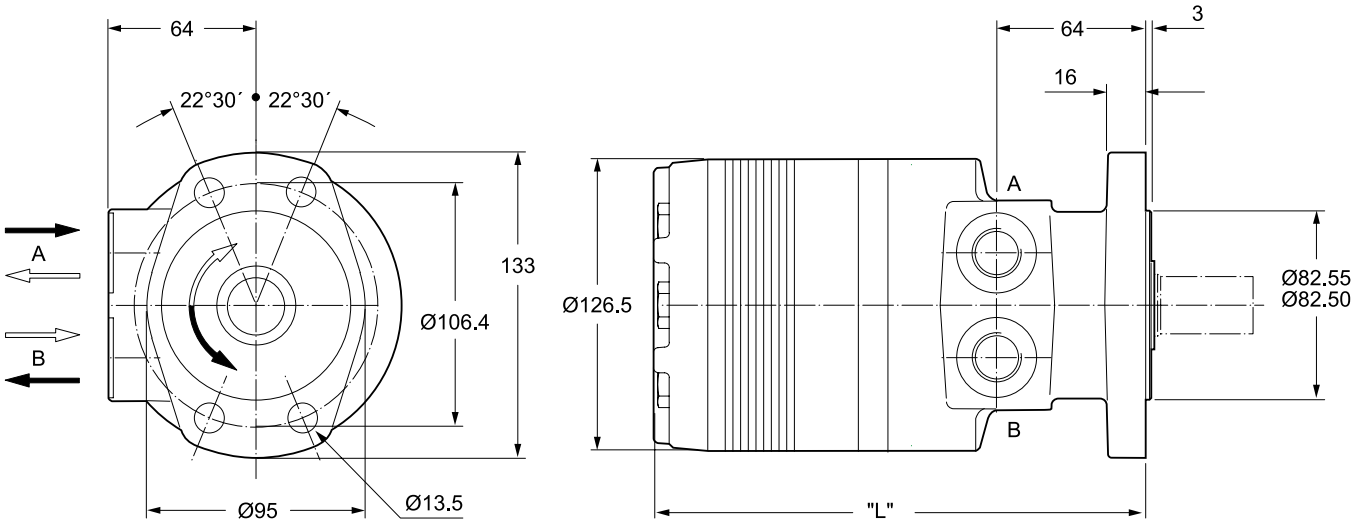
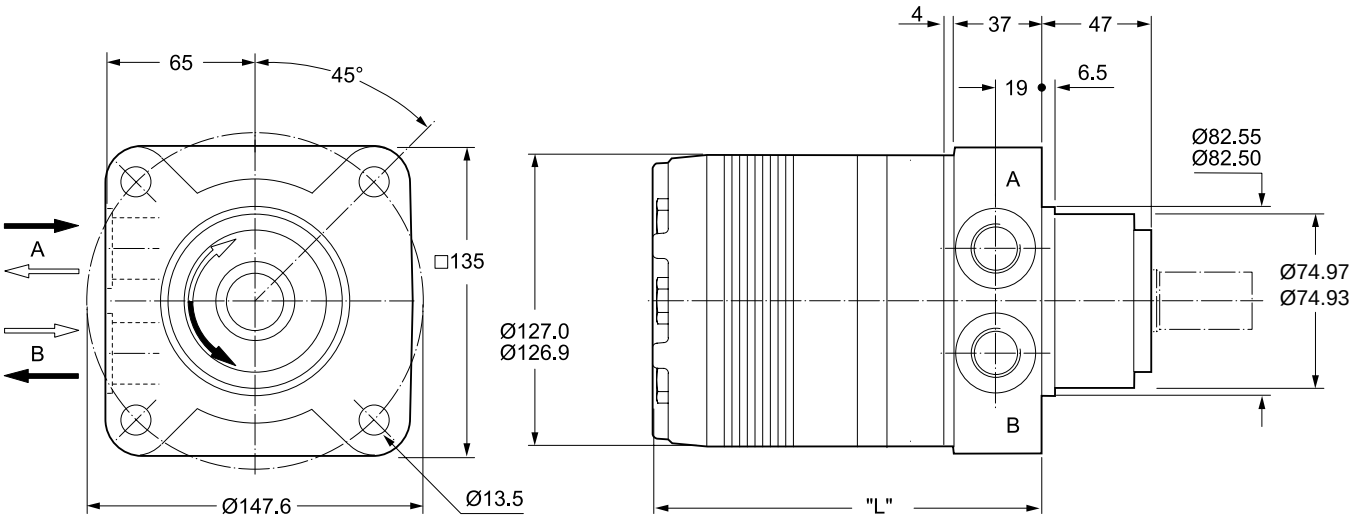
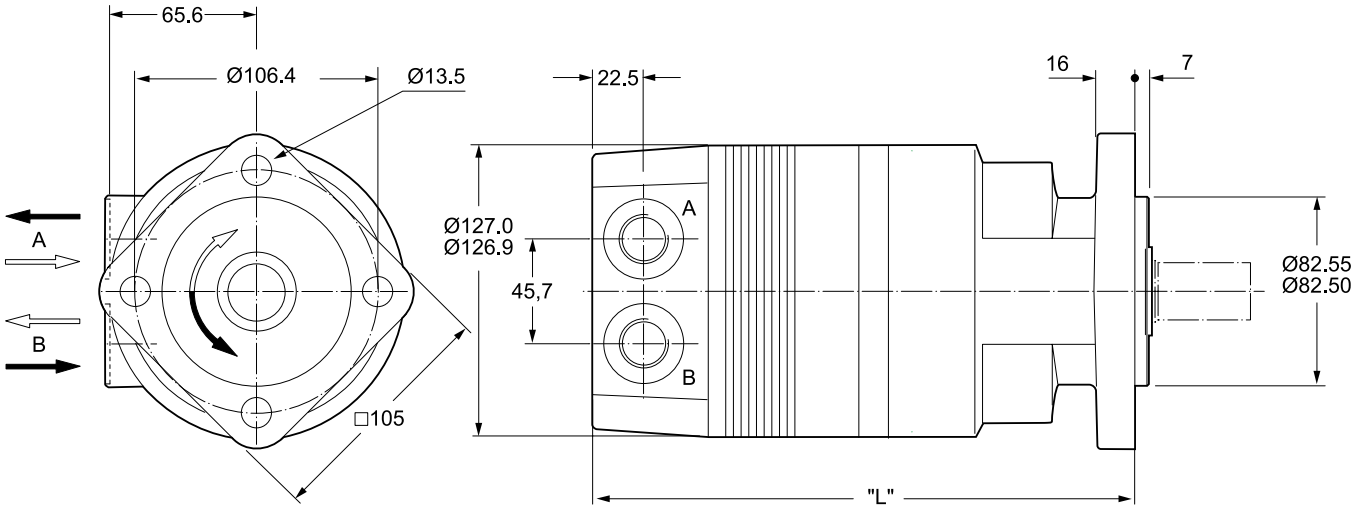


Gewicht / Weight		TF80	TF100	TF130	TF140	TF170	TF195	TF240	TF280	TF360	TF405	TF475
Poids / Peso	kg	13.6	13.7	13.9	14.0	14.2	14.7	15.0	15.5	16.0	16.5	17.5
Code E	”L” mm	186	186	189	191	194	197	202	206	215	220	229
Code M	”L” mm	191	191	194	196	199	202	207	212	220	225	234

Code H

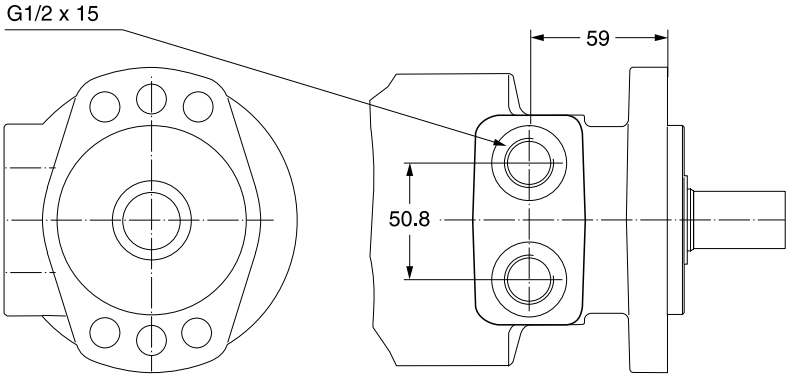


Code V



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



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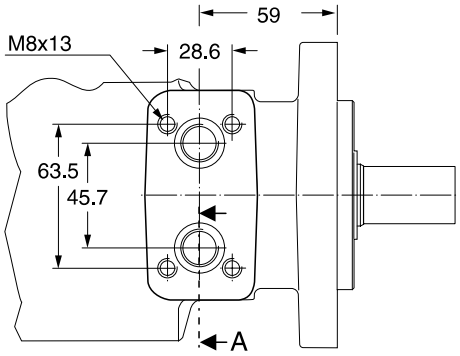

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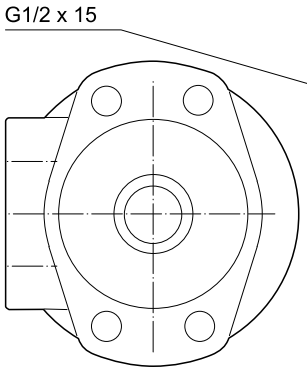

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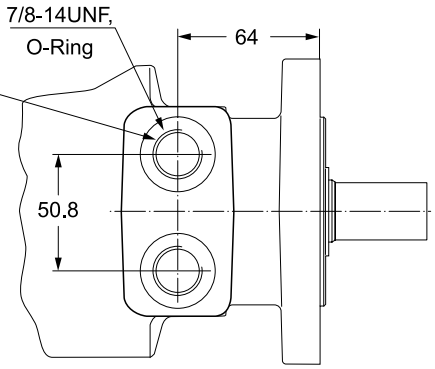

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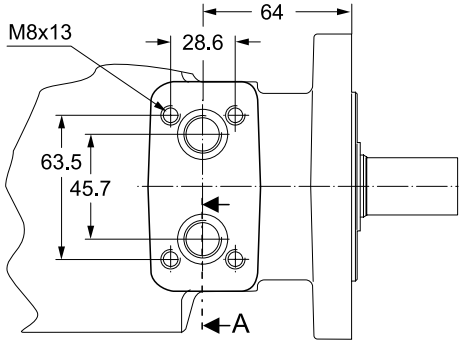

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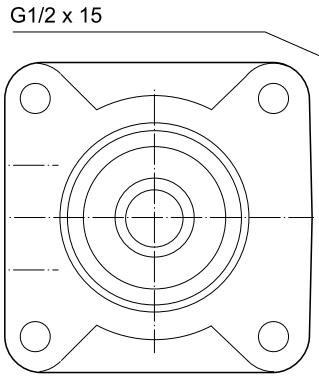

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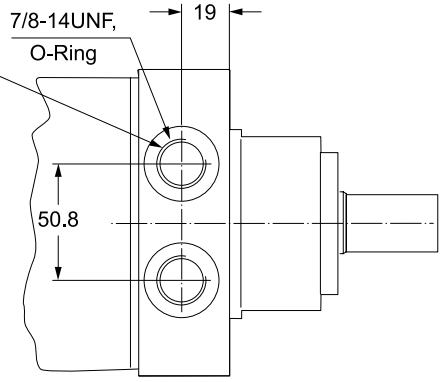

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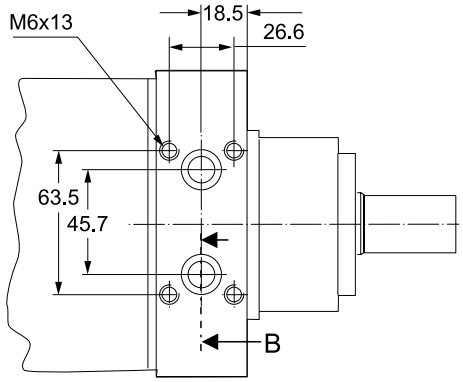
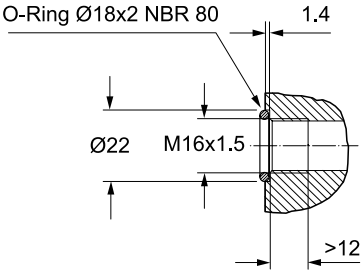
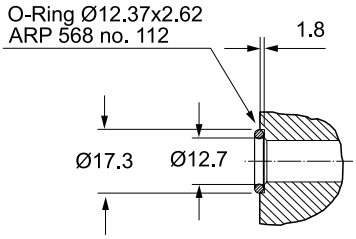


Section A



Section B



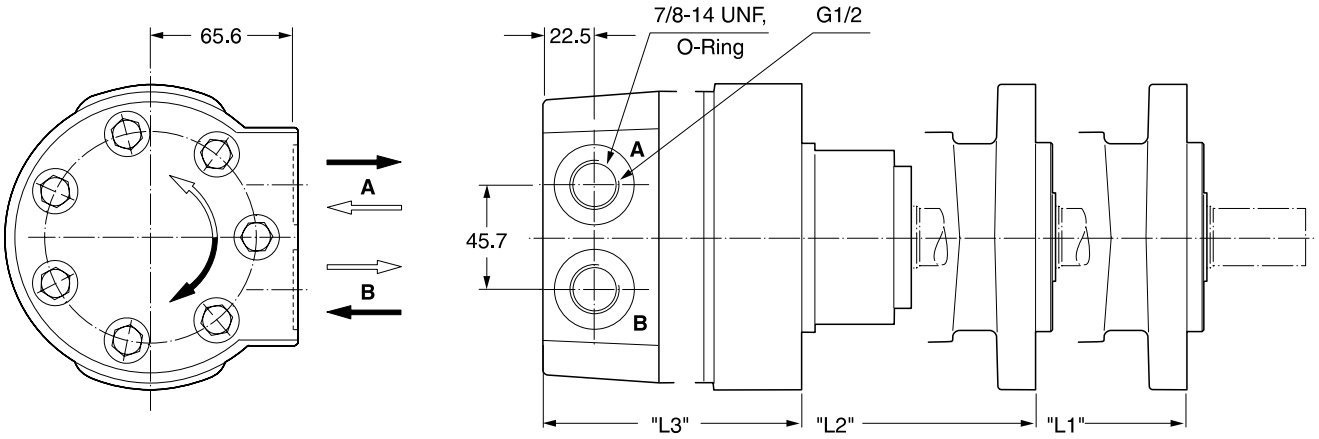
Zum Motor mit Universalanschluss werden 2 O-Ringe geliefert.

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



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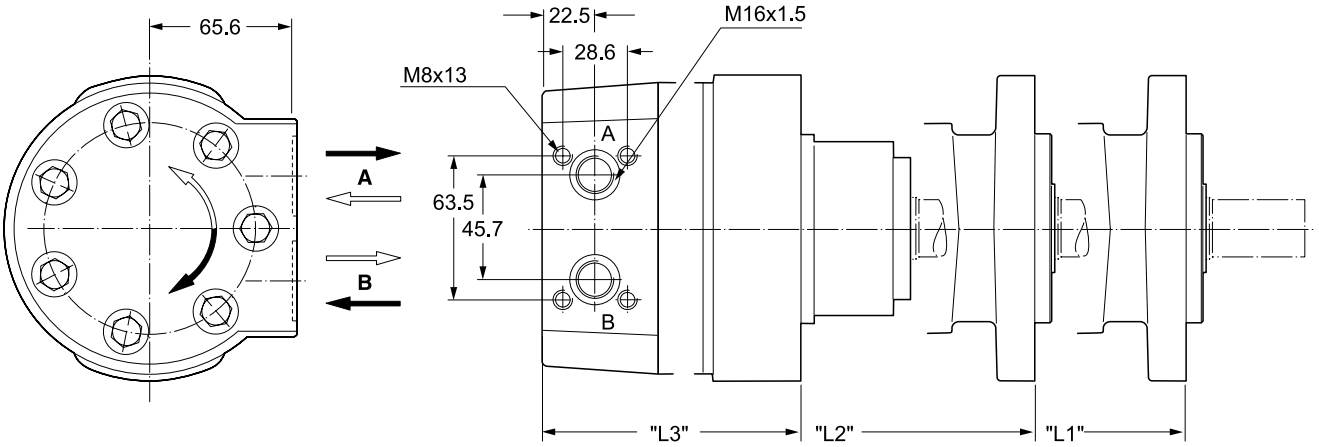
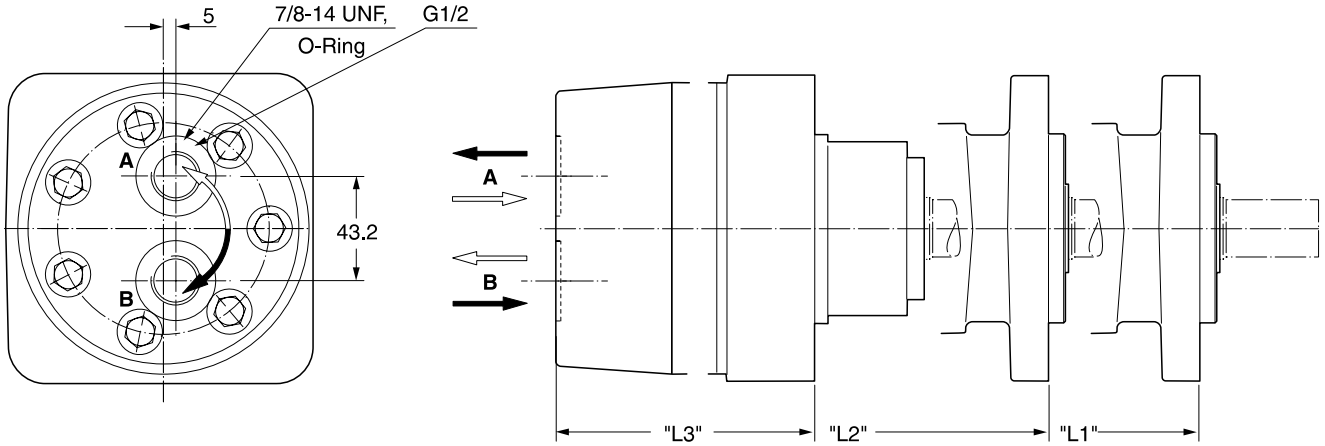
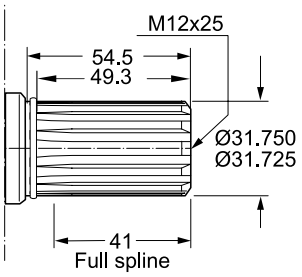


Code A 7/8-14UNF **Code Y** G 1/2



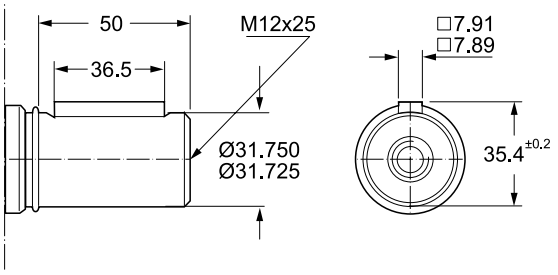
Gewicht / Weight		TF80	TF100	TF130	TF140	TF170	TF195	TF240	TF280	TF360	TF405	TF475
Poids / Peso	kg	15.3	15.4	15.6	15.7	16.0	16.3	16.7	17.0	17.8	18.3	19.0
Code	"L1" mm	211	211	214	216	219	222	227	231	240	245	254
B, X, L,	"L2" mm	216	216	219	221	224	227	232	236	246	250	259
A, Y	"L3" mm	170.2	170.2	173.3	175.1	178.1	181.4	186.0	190.8	200.5	204.5	213.2

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



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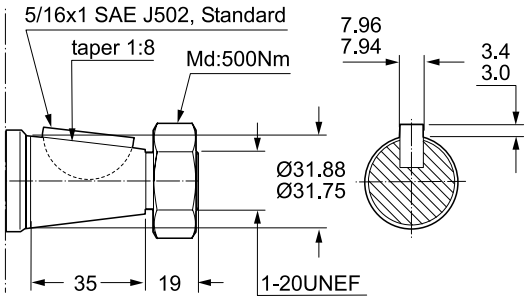

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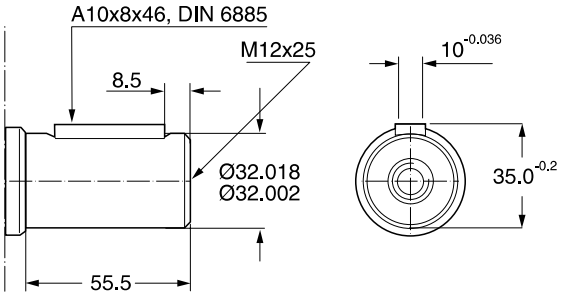

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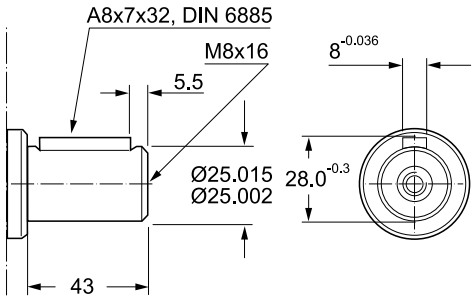

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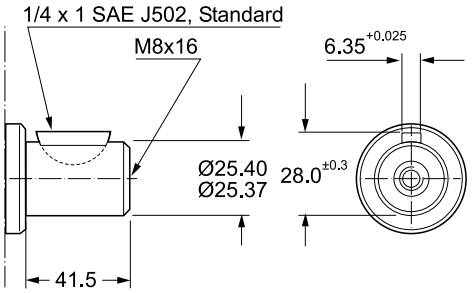
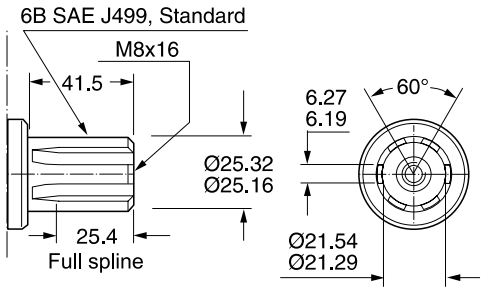
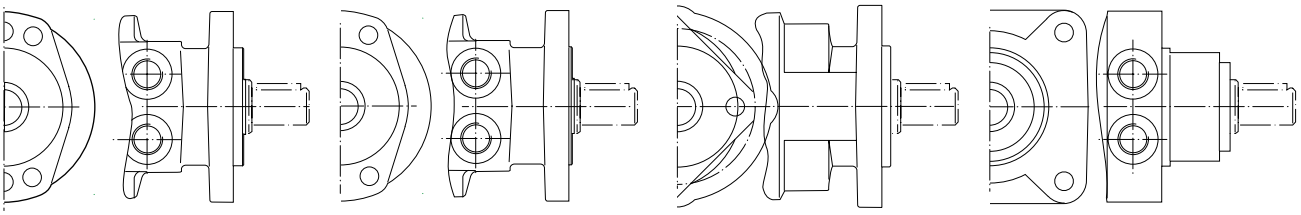


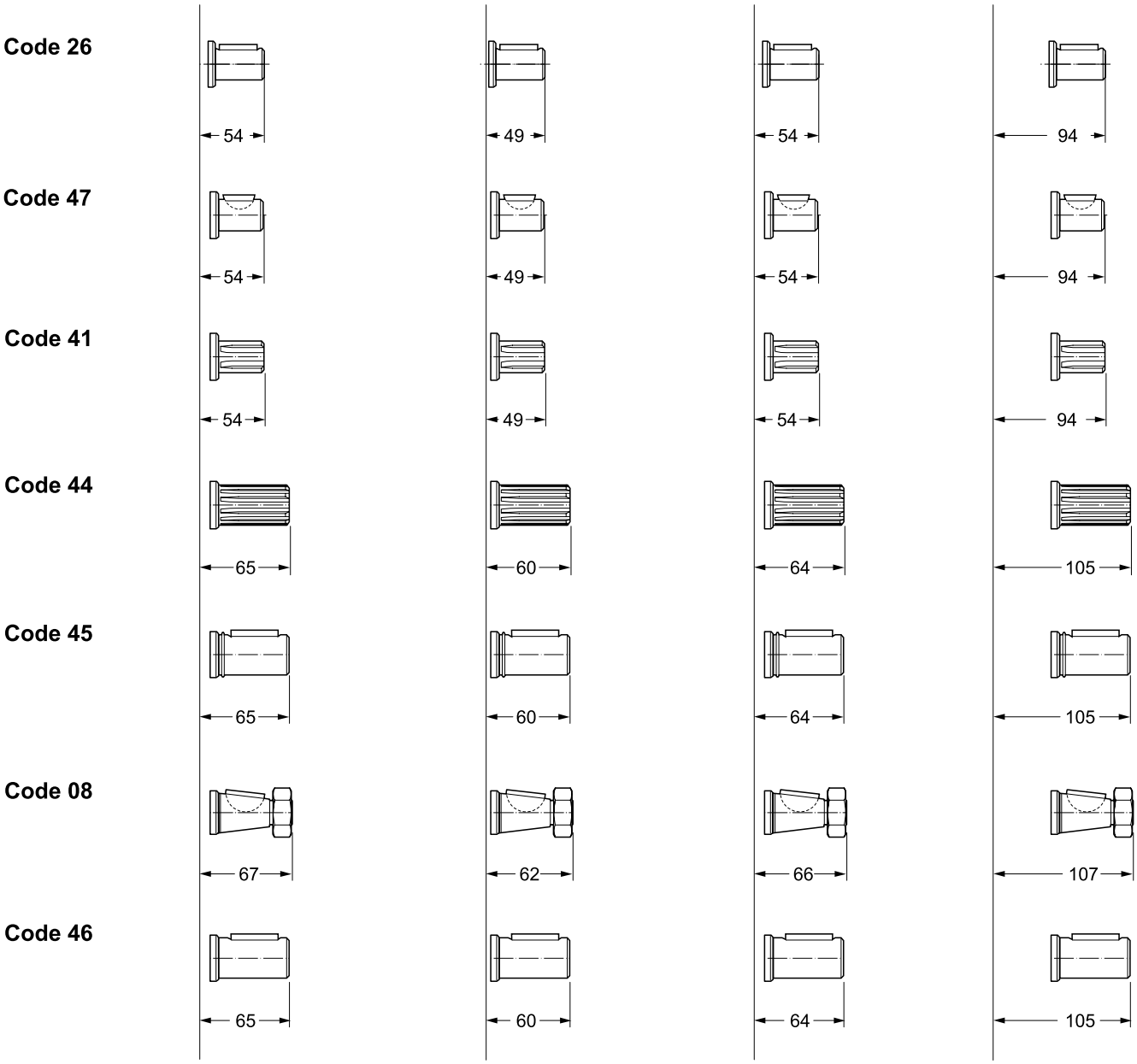
Code 41



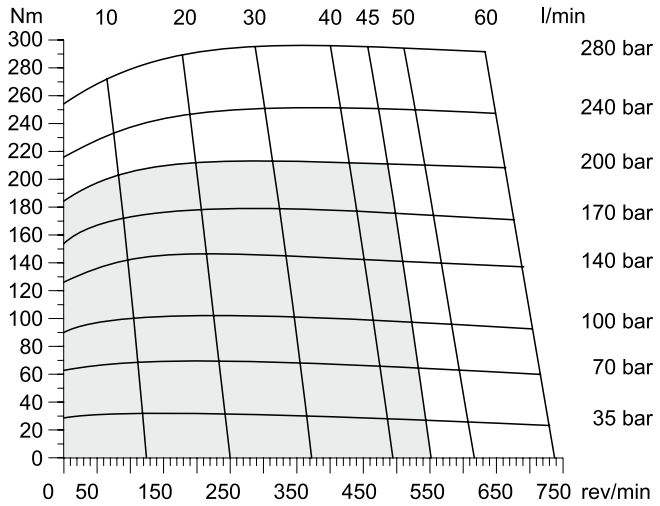
Codes 26, 41, 47

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.	

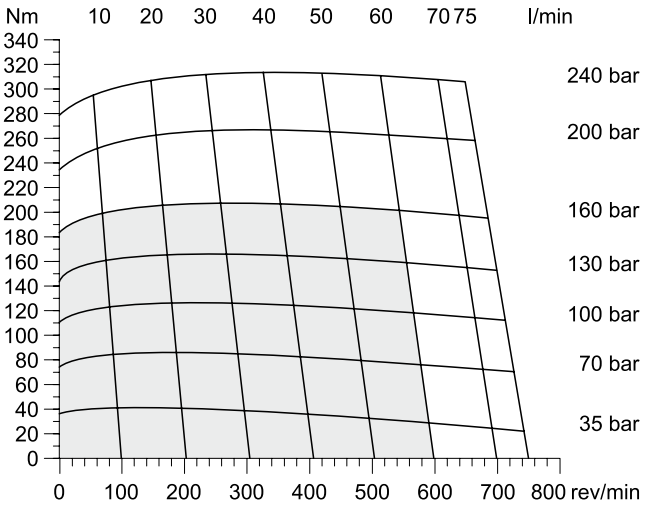



Code 26
54
49
54
94
Code 47
54
49
54
94
Code 41
54
49
54
94
Code 44
65
60
64
105
Code 45
65
60
64
105
Code 08
67
62
66
107
Code 46
65
60
64
105

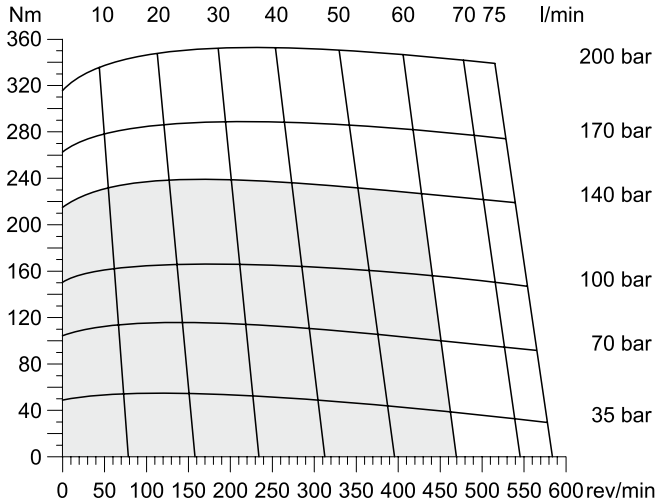
TF 80



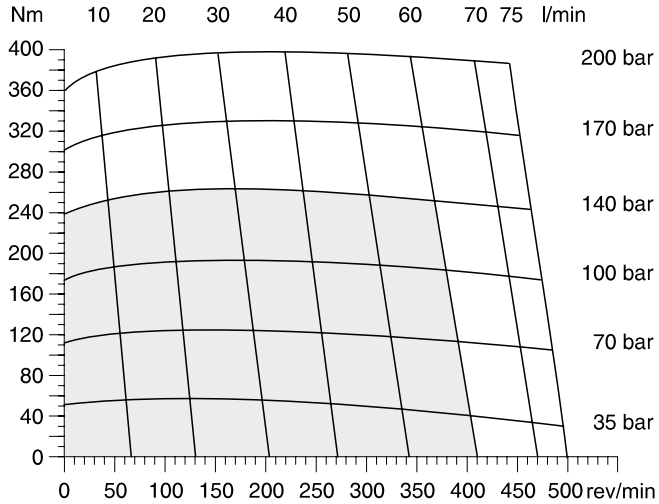
TF 100



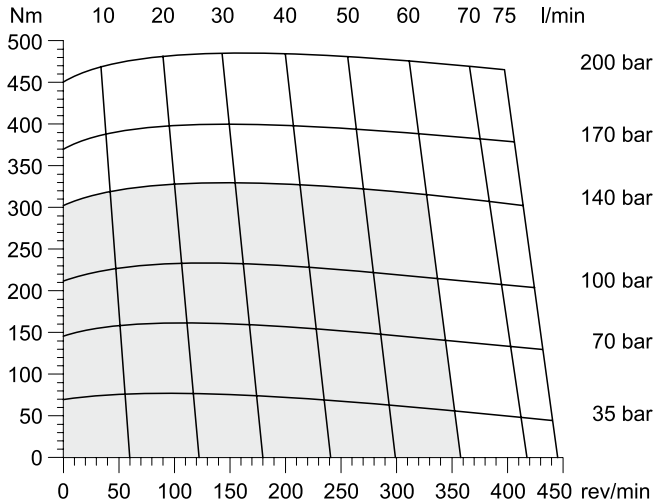
TF 130



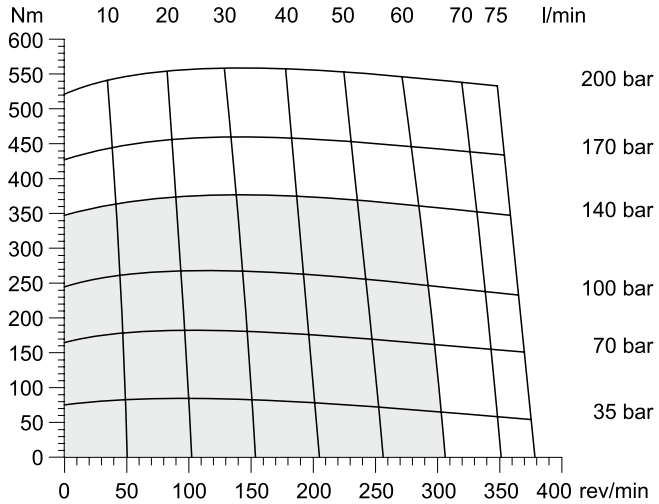
TF 140



TF 170



TF 195

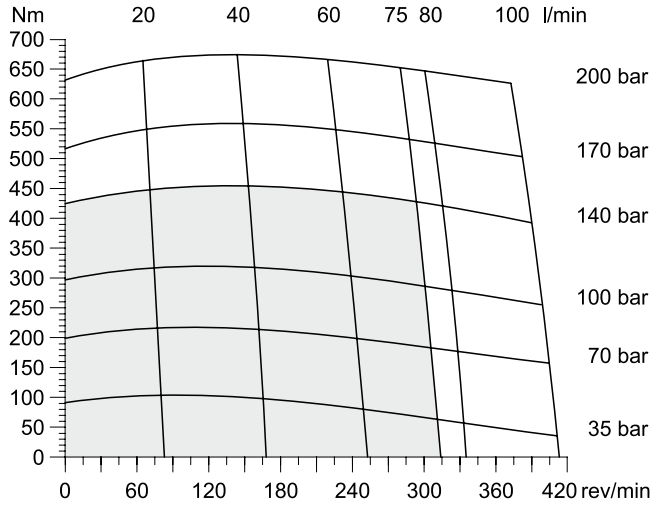


☐ Cont. ☐ Int.

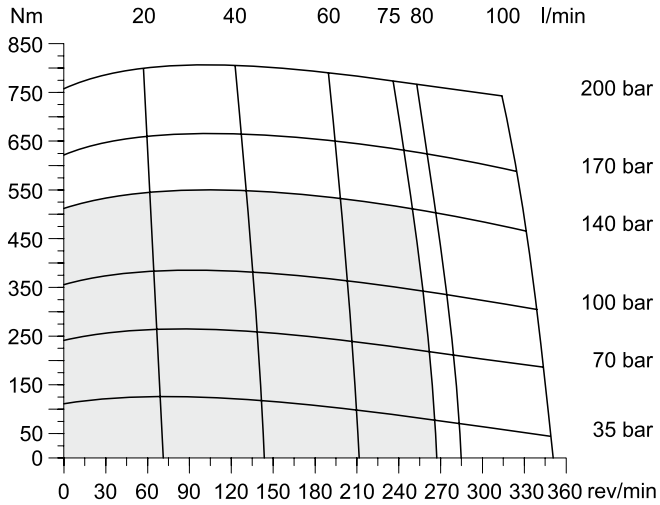
int. =
Intermittierende Werte maximal: 10% von jeder Betriebsminute.
Intermittent operation rating applies to 10% of every minute.
Fonctionnement interm.: 10% max. de chaque minute d`utilisation.
Servizio intermittente: 10% max di ogni minuto di utilizzazione.

Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

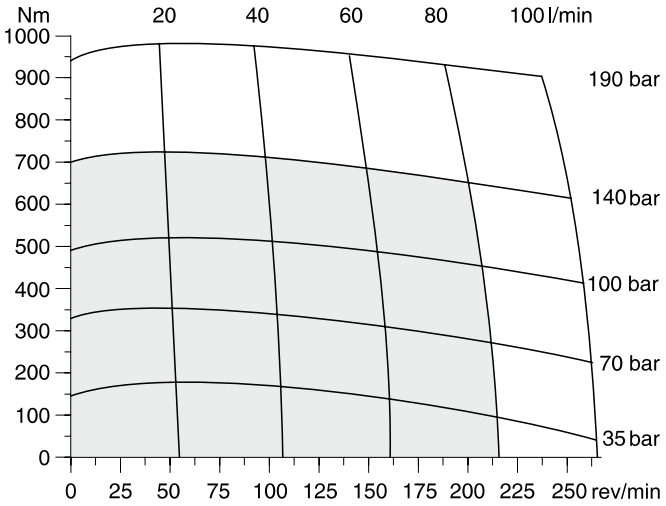
TF 240



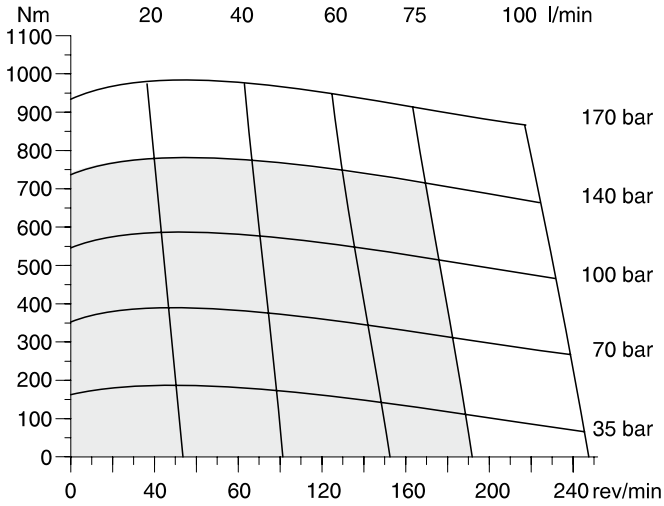
TF 280



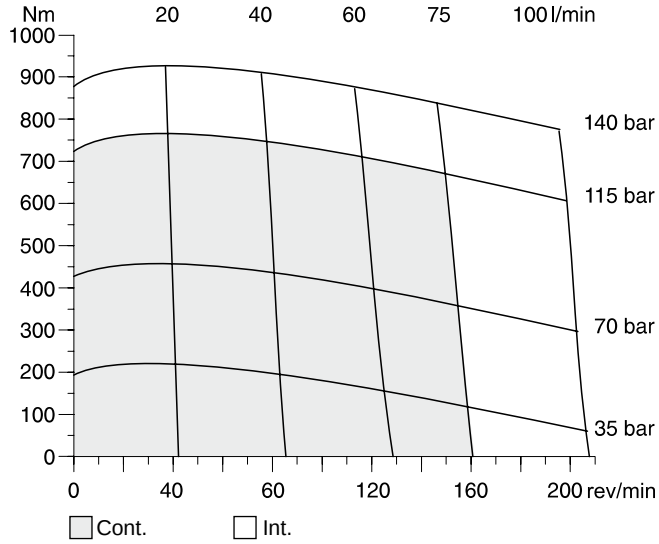
TF 360



TF 405



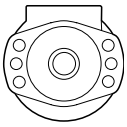
TF475



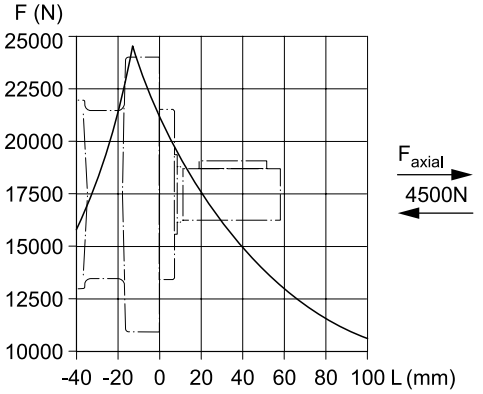
int. =
Intermittierende Werte maximal: 10% von jeder Betriebsminute.
Intermittent operation rating applies to 10% of every minute.
Fonctionnement interm.: 10% max. de chaque minute d`utilisation.
Servizio intermittente: 10% max di ogni minuto di utilizzazione.

Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

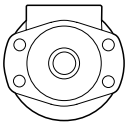
Code E



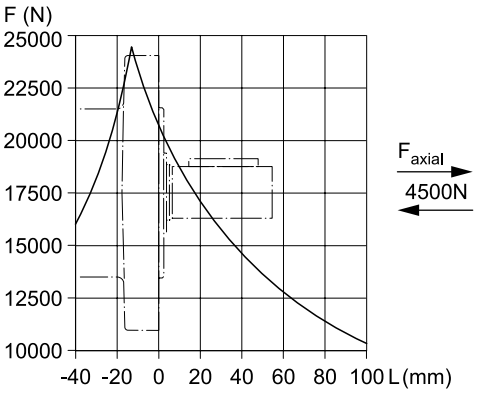
$$L_h = \frac{\left(\frac{670000}{F_R \cdot \left(1.10 + \frac{L}{88mm}\right)}\right)^{3.3}}{n}$$



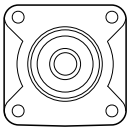
Code M



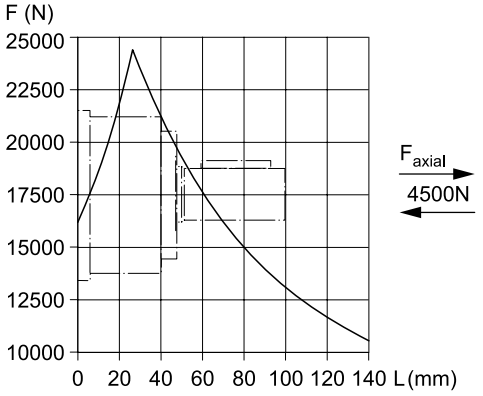
$$L_h = \frac{\left(\frac{670000}{F_R \cdot \left(1.16 + \frac{L}{88mm}\right)}\right)^{3.3}}{n}$$



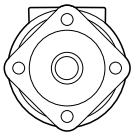
Code H



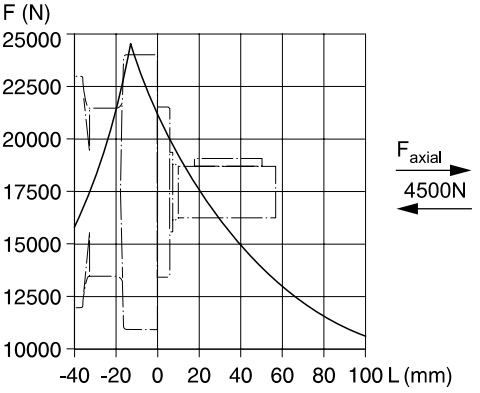
$$L_h = \frac{\left(\frac{670000}{F_R \cdot \left(0.56 + \frac{L}{88mm}\right)}\right)^{3.3}}{n}$$



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.	**F_R**	**=**	**F (N)**
Le formule precedenti sono valide per una durata della vita B10.	**n**	**=**	**rev/min**

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 57.

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	B A Standard
1	B A

Code	Rear port
0	B A Standard
1	B A

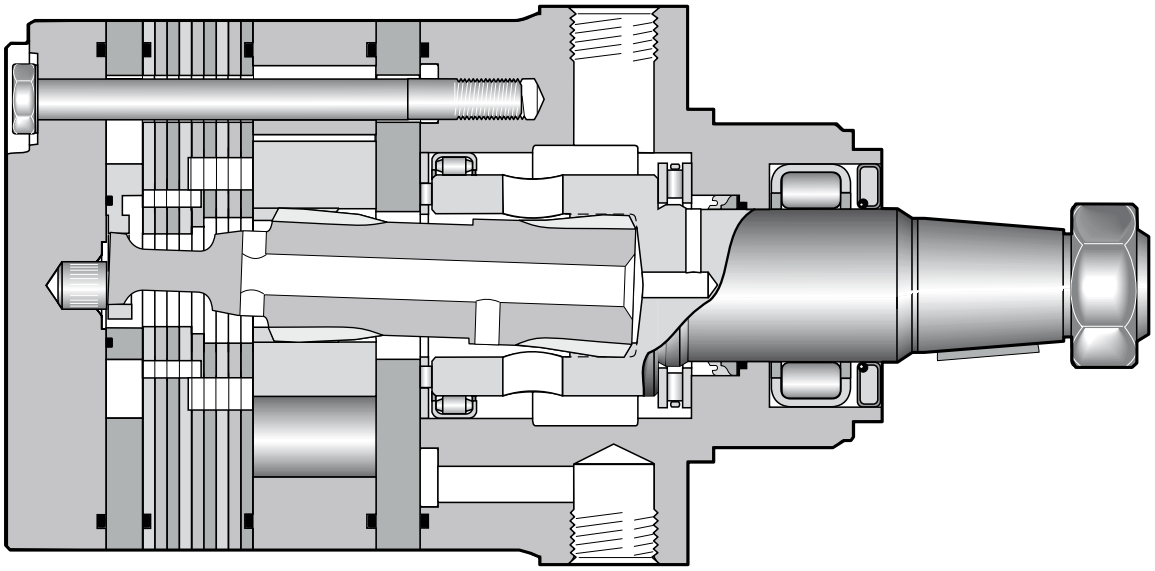
Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

- **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

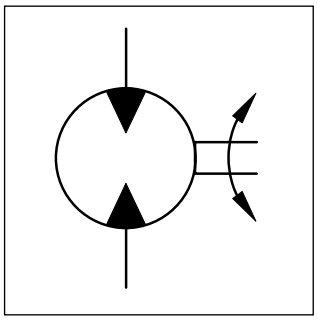
- **Low Speed Gerotor Motor**
- **Zero leak commutation valve**
  For greater, more consistent
  volumetric efficiency
- **Roller vane rotor set**
  Reduces friction and internal leakage
  Maintaining efficiency throughout the life of the motor
- **A patented high-pressure shaft seal**
  No check valves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

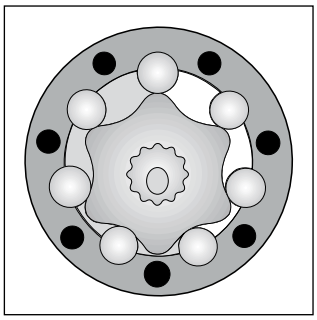
- **Moteur lent systéme Gerotor**
- **Une distribution orbitale particuliére assure**
  fuites internes minimales
  rendements volumàtriques élevés
- **Le rotor à rouleaux**
  réduit les frottements
  augmente la durée de vié
- **Par l`utilisation de joints d`arbre haute pression brevetés**
  pas de 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



Drehzahl Speed Vitesse de rotation Velocità di rotazione	5...710 rev/min
Schluckstrom Oil flow Débit d`huile Portata	max. 115 l/min
Eingangsdruck Supply pressure Pression entrée Pressione in entrata	max. 300 bar
Drehmoment Torque Couple Coppia	max. 1490 Nm
Seitenlast Side load Charges latérales Carico radiale	max. 16.000 N

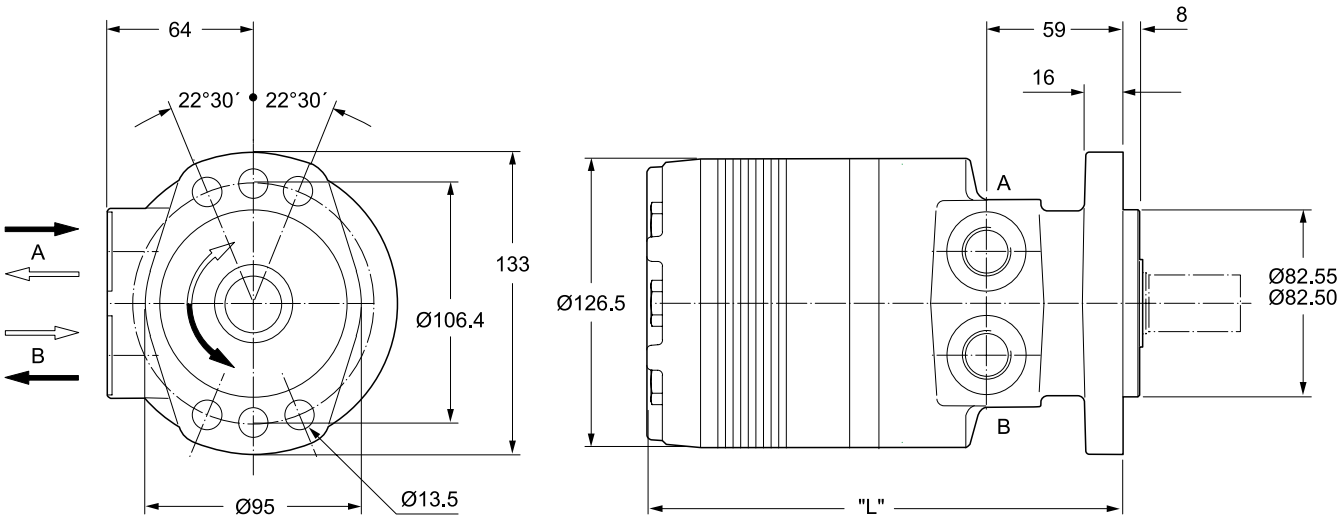




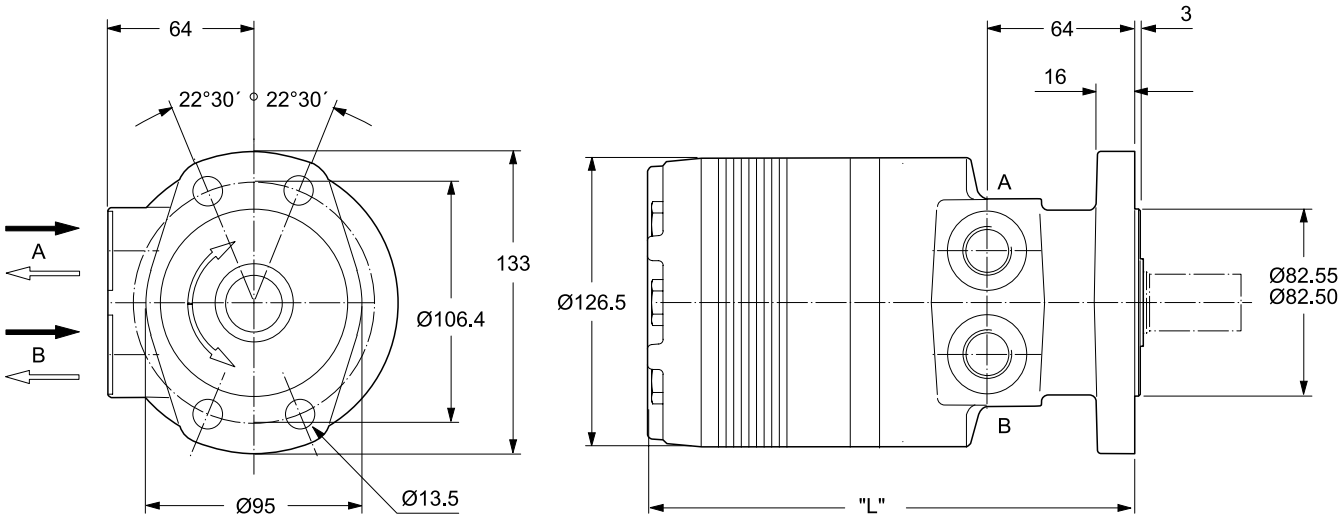
Motor series TG	Geom. Schluckvolumen / Geometric displacement / Cylindrée / Cilindrata cm³/U cm³/rev cm³/tr cm³/giro	Max. Drehzahl / Max. speed / Vitesse de rotation maxi / Velocità di rotazione max cont / int U/min rev/min tr/min giri/min	Max. Schluckstrom / Max. oil flow / Débit d´huile maxi / Portata 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 max. KW	Min. Anlaufmoment / Min. starting torque / Couple min. fourni au dé manrage / Coppia min. di spunto cont / int Nm
TG 140	140	530/710	75/100	200/280	300	400/ 545	33	320/436
TG 170	169	440/575	75/100	200/280	300	485/ 670	33	388/536
TG 195	195	380/510	75/100	200/280	300	560/ 770	33	448/616
TG 240	237	320/420	75/100	200/280	300	685/ 945	32	548/756
TG 280	280	270/350	75/100	200/280	300	800/1100	31	640/880
TG 335	337	225/290	75/100	200/280	300	980/1350	30	784/1080
TG 405	405	185/245	75/100	170/240	300	960/1350	27	768/1080
TG 475	476	160/240	75/115	140/200	300	960/1400	28	768/1120
TG 530	529	140/215	75/115	140/170	300	1050/1280	23	840/1024
TG 625	624	120/185	75/115	120/160	300	1040/1360	20	832/1088
TG 785	786	95/145	75/115	100/140	300	1150/1490	17	920/1192
TG 960	958	78/119	75/115	70/100	300	925/1390	12	740/1112

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

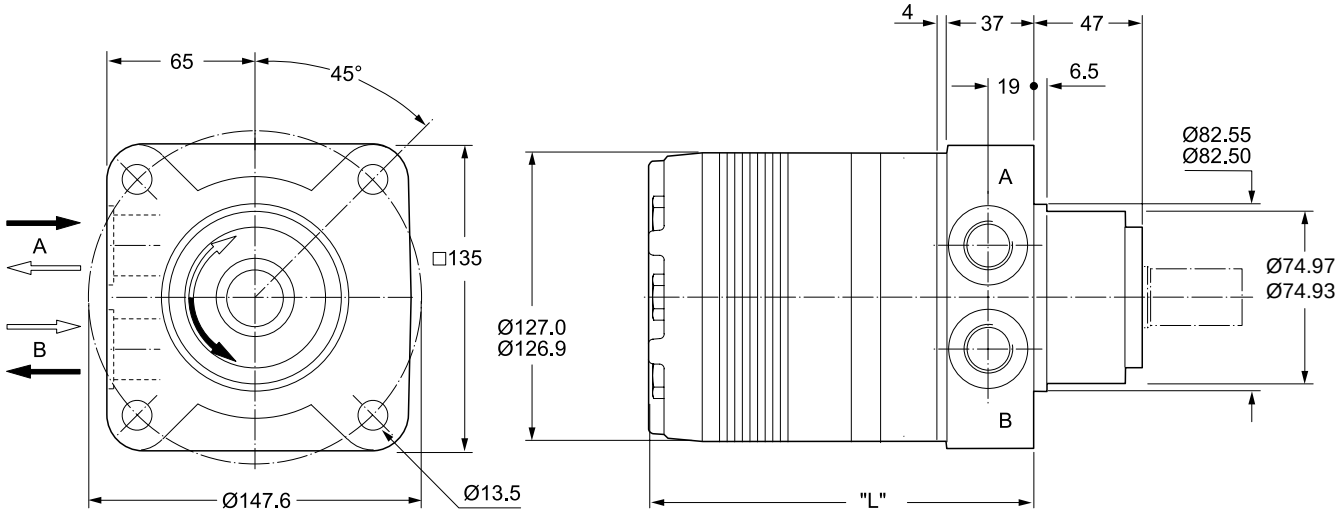


Code M

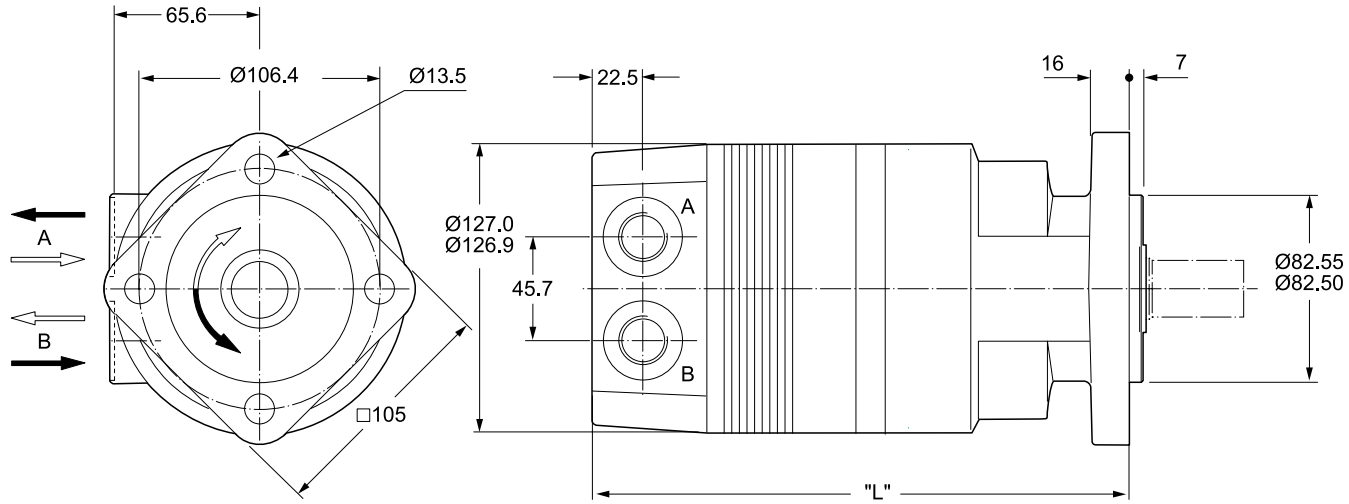


Gewicht / Weight		TG140	TG170	TG195	TG240	TG280	TG335	TG405	TG475	TG530	TG625	TG785	TG960
Poids / Peso	kg	14.2	14.5	14.7	15.1	15.5	15.9	16.5	17.2	17.9	18.6	20.2	22.0
Code E	”L” mm	191	194	197	202	207	213	220	229	235	245	264	283
Code M	”L” mm	196	199	202	208	212	218	225	234	240	250	269	288

Code H

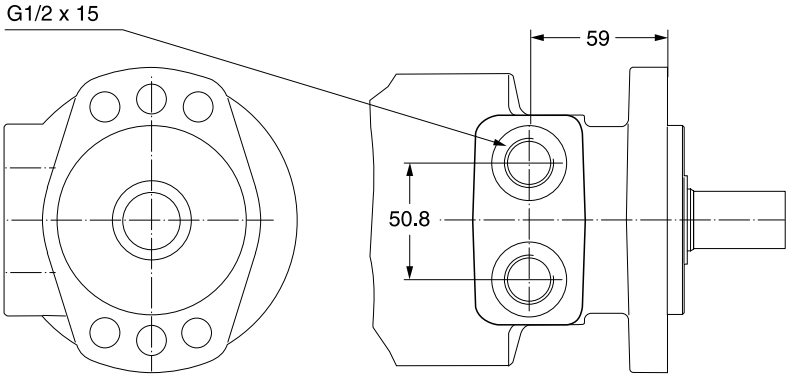


Code V

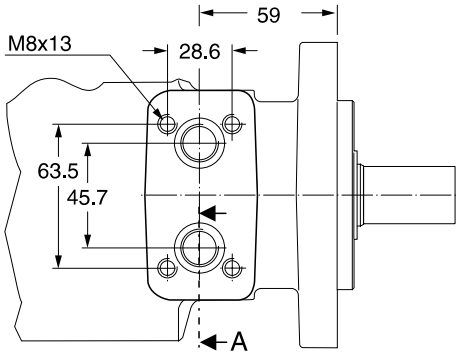


Gewicht / Weight		TG140	TG170	TG195	TG240	TG280	TG335	TG405	TG475	TG530	TG625	TG785	TG960
Poids / Peso	kg	16.1	16.3	16.6	17.0	17.4	17.8	18.4	19.0	19.8	20.5	22.0	23.7
Code H	”L” mm	150	154	157	162	166	173	180	188	195	204	223	242
Code V	”L” mm	217	220	224	228	233	238	246	255	262	272	290	309

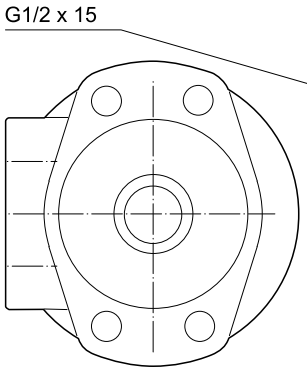
Code W



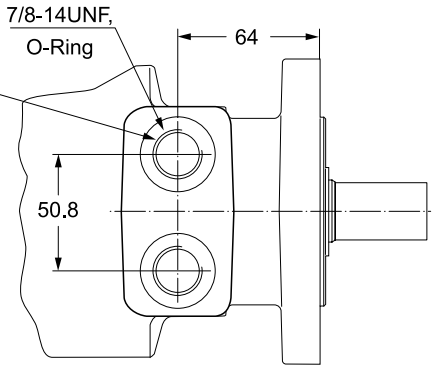
Code: N



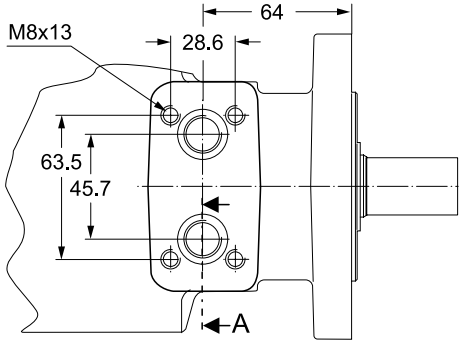
Code W



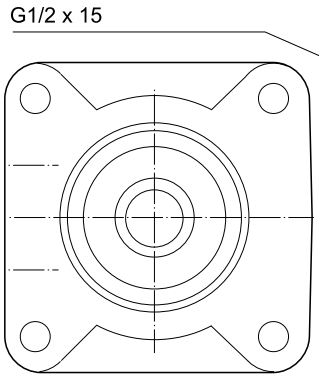
Code V



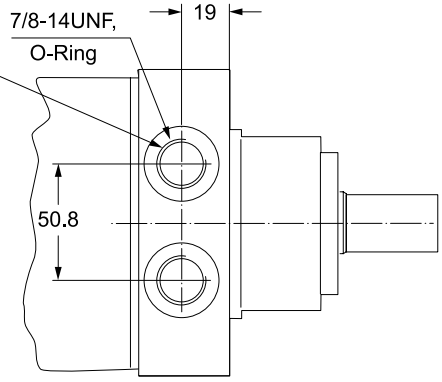
Code N



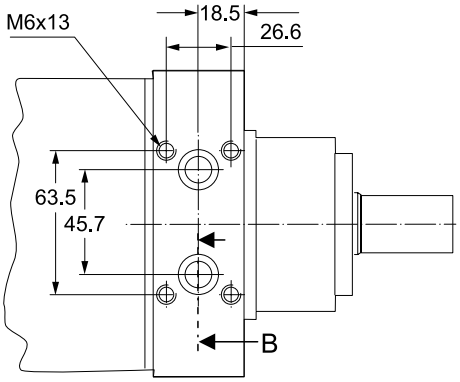
Code W



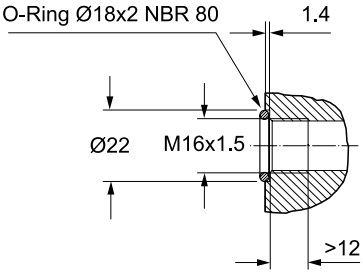
Code V



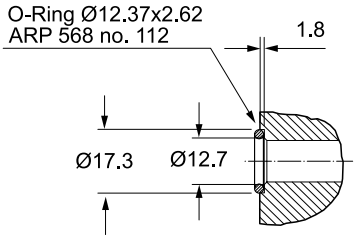
Code K



Section A



Section B



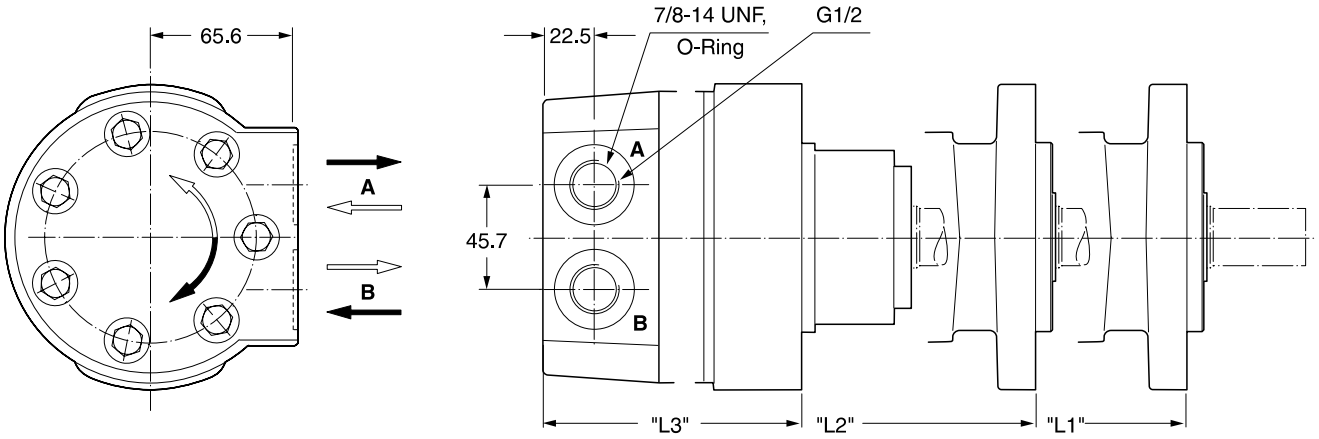
Zum Motor mit Universalanschluss werden 2 O-Ringe geliefert.

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

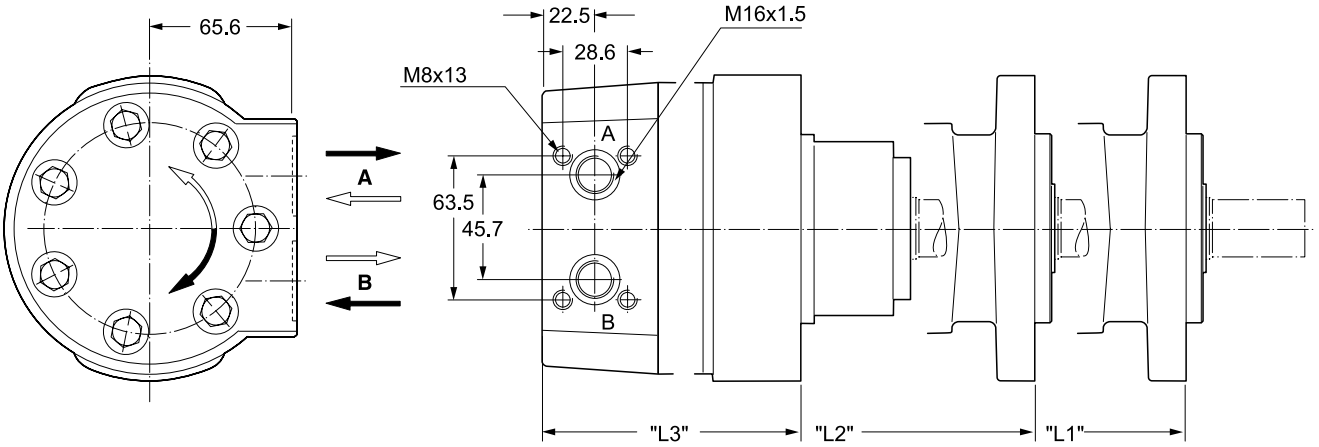
Deux joints toriques sont livrés avec les moteurs au plan de raccordement universel.

Il blocchetto connessioni è corredato da 2 OR.

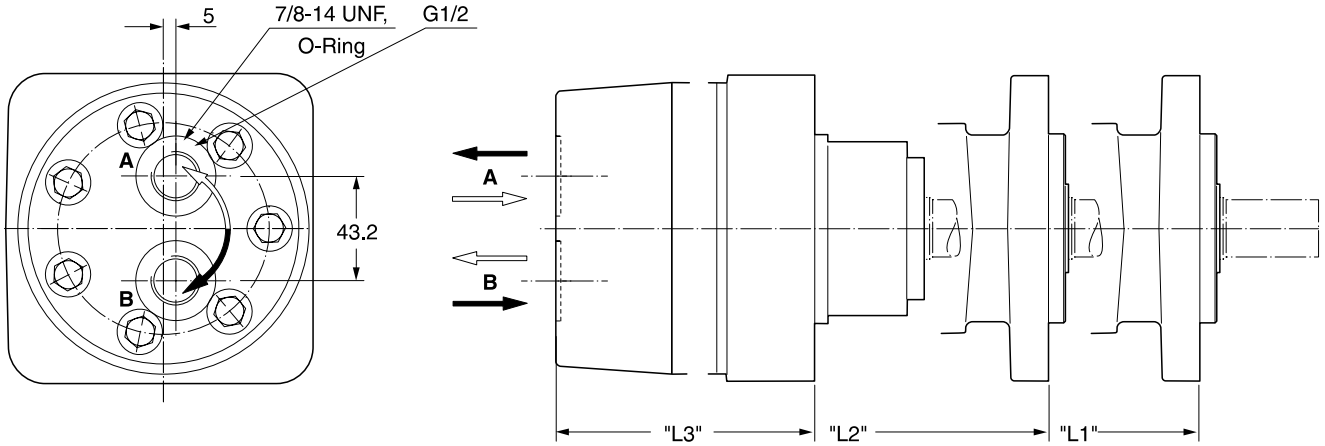
Code B 7/8-14UNF **Code X** G 1/2



Code L

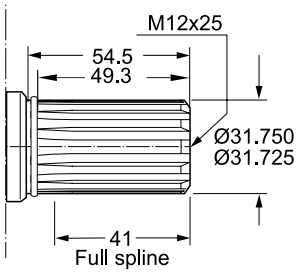


Code A 7/8-14UNF **Code Y** G 1/2



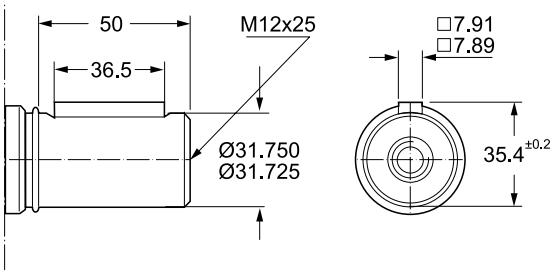
Gewicht / Weight		TG140	TG170	TG195	TG240	TG280	TG335	TG405	TG475	TG530	TG625	TG785	TG960
Poids / Peso	kg	16.1	16.3	16.6	17.0	17.4	17.8	18.4	19.0	19.8	20.5	22.0	23.7
Code	"L1" mm	216	219	222	227	232	238	245	254	260	270	289	308
B, X, L,	"L2" mm	221	224	227	232	237	243	250	259	265	275	294	313
A, Y	"L3" mm	175	179	182	187	191	198	205	213	220	229	247	267

Code 44

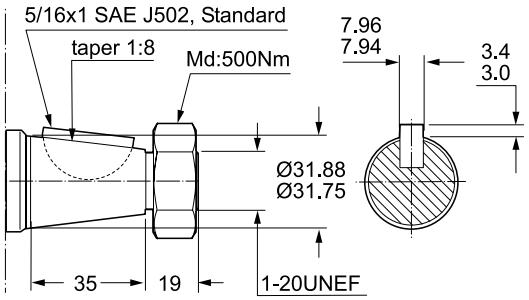


Involute spline
ANS B92.1-1970 Standard
Flat root side fit
Pitch 12/24
Teeth 14
Major diam. 1.25 in
Pressure angle 30°

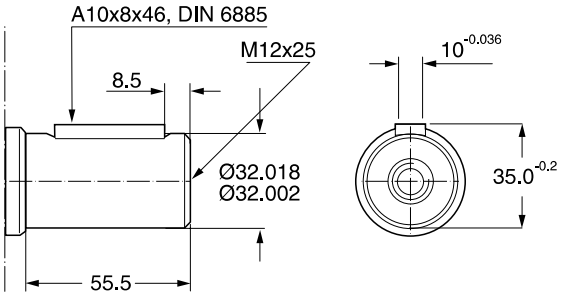
Code 45



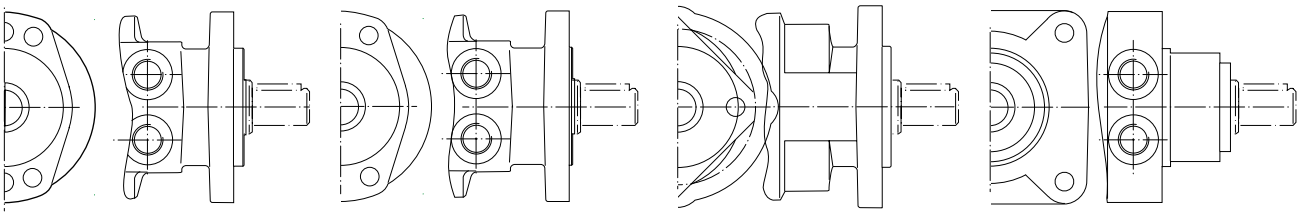
Code 08

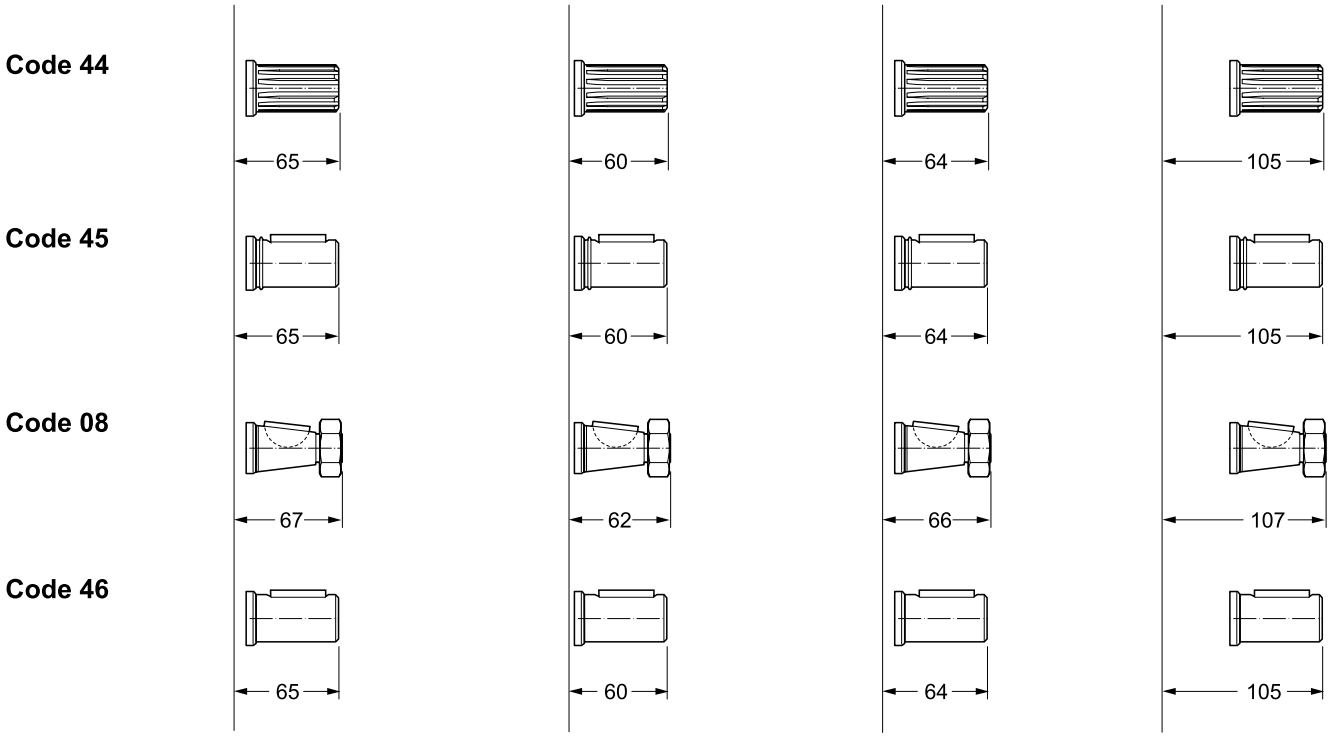


Code 46

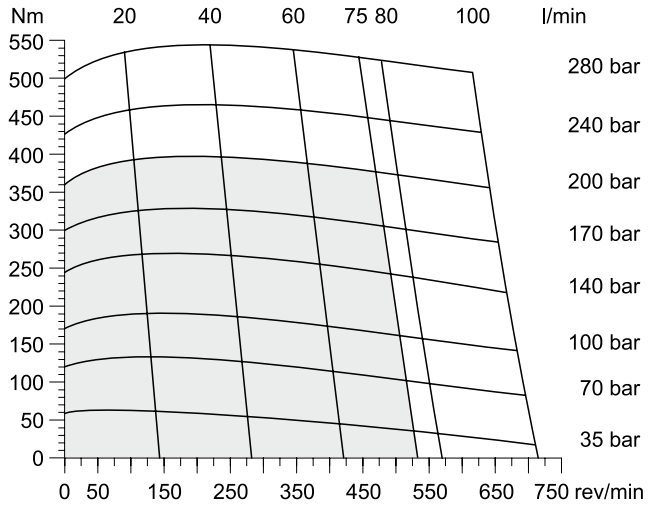


* On request shaft with 35mm diameter

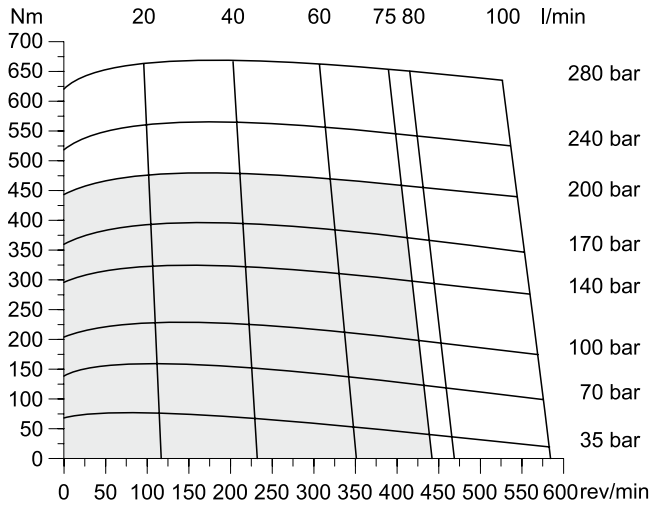




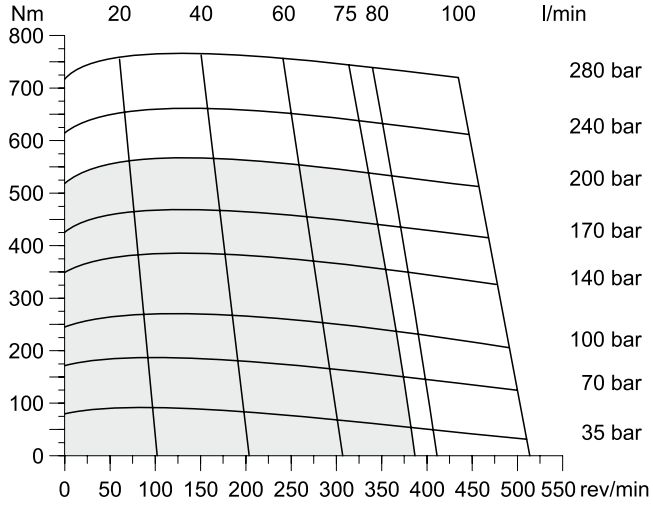
TG 140



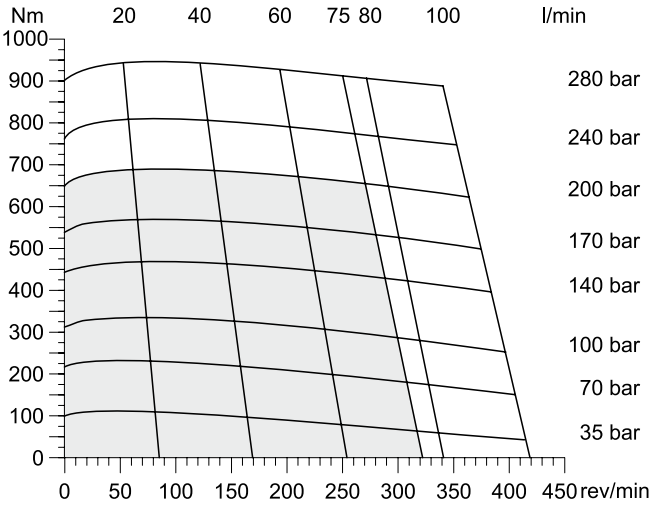
TG 170



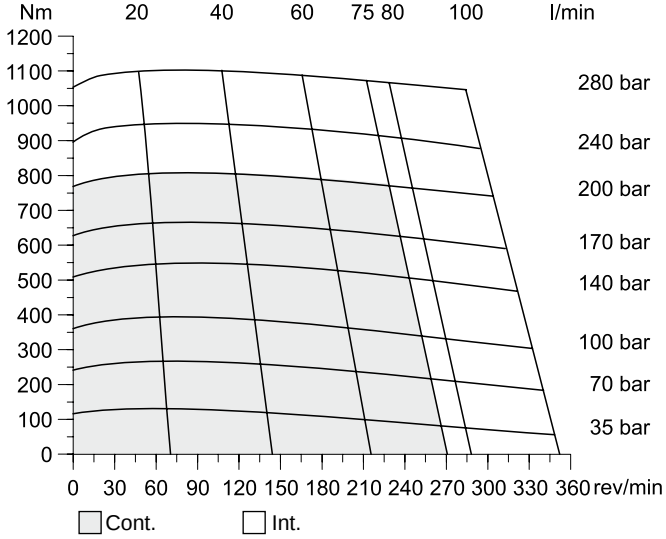
TG 195



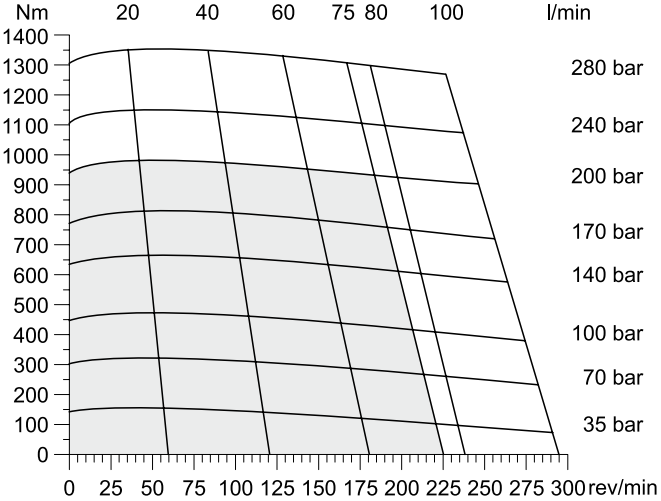
TG 240



TG 280

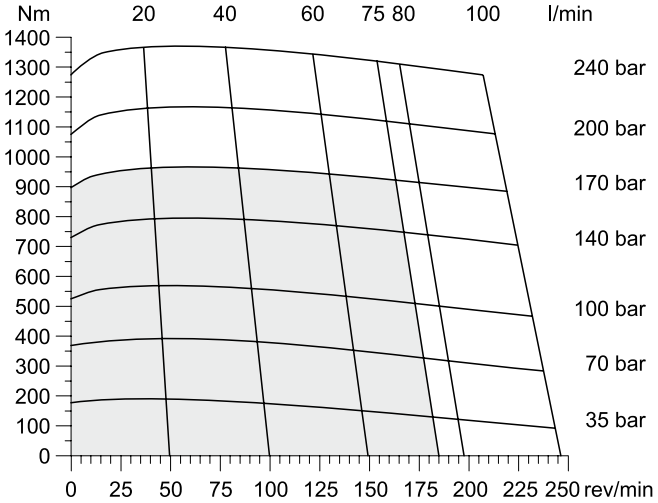


TG 335

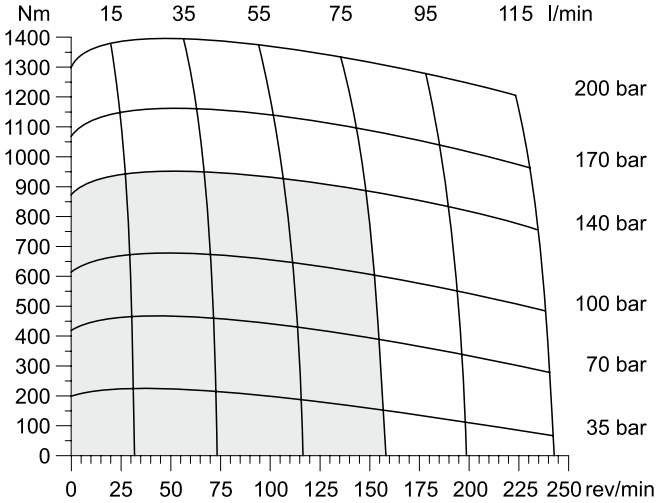


int. =
Intermittierende Werte maximal: 10% von jeder Betriebsminute.
Intermittent operation rating applies to 10% of every minute.
Fonctionnement interm.: 10% max. de chaque minute d`utilisation.
Servizio intermittente: 10% max di ogni minuto di utilizzazione.

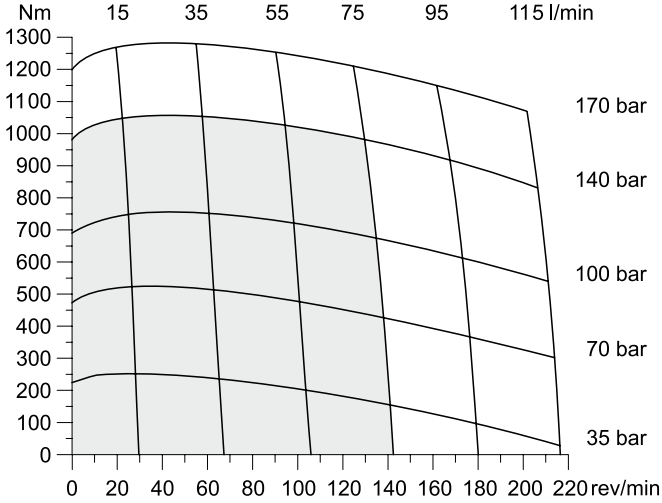
TG 405



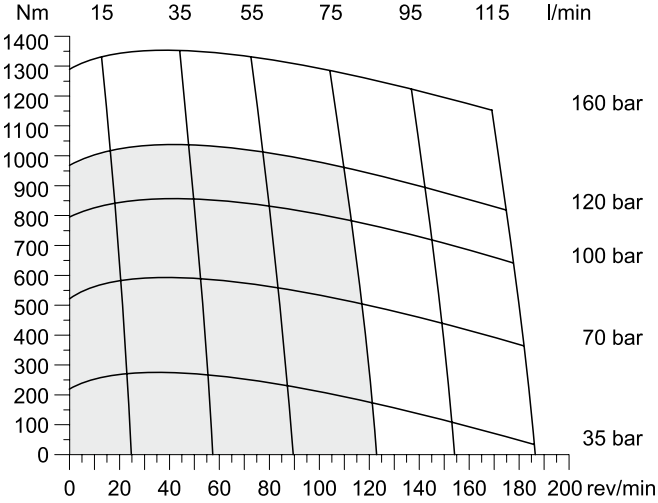
TG 475



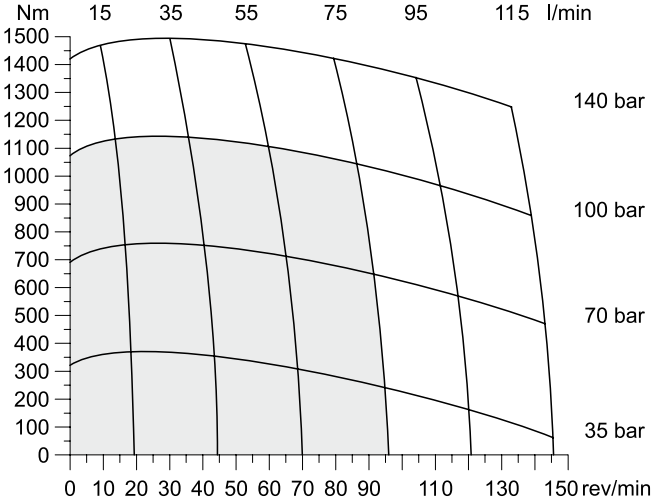
TG 530



TG 625

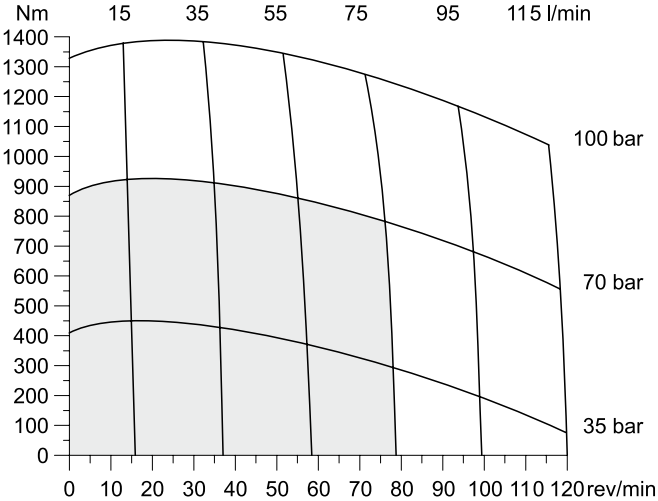


TG 785



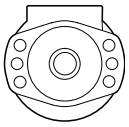
Cont. Int.

TG 960

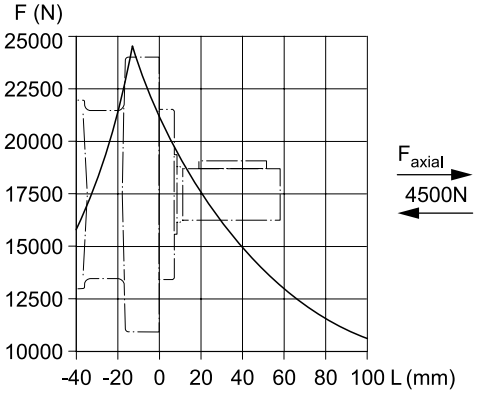


int. =
Intermittierende Werte maximal: 10% von jeder Betriebsminute.
Intermittent operation rating applies to 10% of every minute.
Fonctionnement interm.: 10% max. de chaque minute d`utilisation.
Servizio intermittente: 10% max di ogni minuto di utilizzazione.

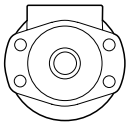
Code E



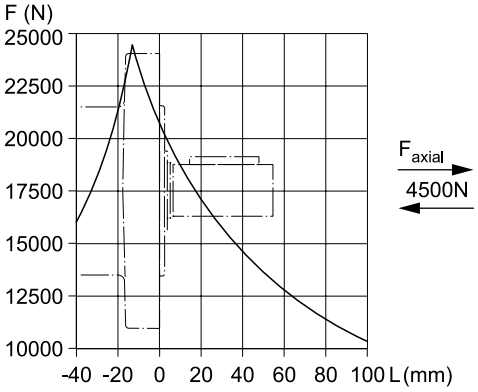
$$L_h = \frac{\left(\frac{670000}{F_R \cdot \left(1.10 + \frac{L}{88mm}\right)}\right)^{3.3}}{n}$$



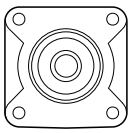
Code M



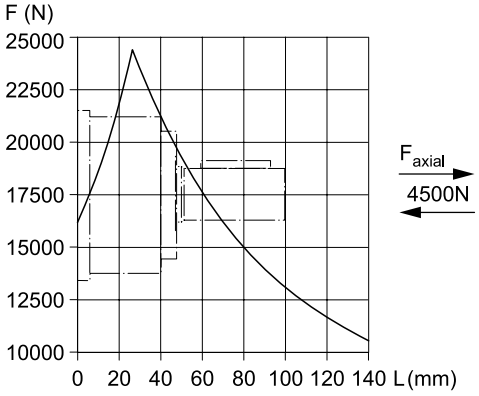
$$L_h = \frac{\left(\frac{670000}{F_R \cdot \left(1.16 + \frac{L}{88mm}\right)}\right)^{3.3}}{n}$$



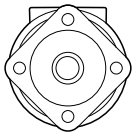
Code H



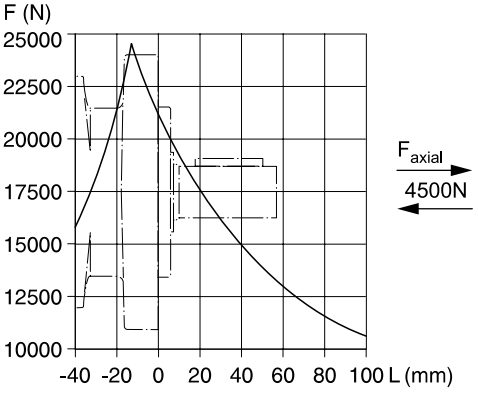
$$L_h = \frac{\left(\frac{670000}{F_R \cdot \left(0.56 + \frac{L}{88mm}\right)}\right)^{3.3}}{n}$$



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.

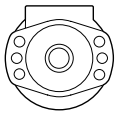
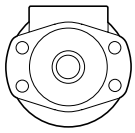
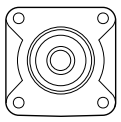
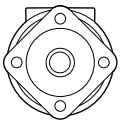
La durata dei cuscinetti (L_h in ore) può essere calcolata con la seguente formula. Il valore F_R è limitato dalla resistenza meccanica dell`albero (vedi diagramma). La quota "L" è la distanza tra la flangia del corpo ed il punto di applicazione della forza radiale F_R.

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.	**F_R**	**=**	**F (N)**
Le formule precedenti sono valide per una durata della vita B10.	**n**	**=**	**rev/min**

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

For further options different to standard 'AAAB' see page 57.

Code	cm³/rev
0140	140
0170	169
0195	195
0240	237
0280	280
0335	337
0405	405
0475	476
0530	529
0625	624
0785	786
0960	958

Code	Housing
E	
M	
H	
V [1]	

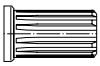
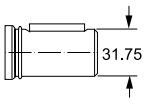
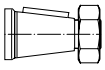
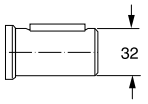
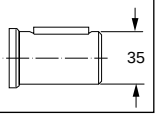
[1] Nur verfügbar mit Endanschluss
Only possible with rear port
Possible seulement avec orifice arrière
Possible solo con connessioni posteriori

Code	Front port
W	G 1/2
V	7/8-14 UNF O-Ring
N [2]	Universal M8x13
K [3]	Universal M6x13

[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
44	 Pitch 12/24
45	 31.75
08	
46	 32
On re-quest	 35

Code	Front port
0	Standard
1	

Code	Rear port
0	Standard
1	

Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

Features

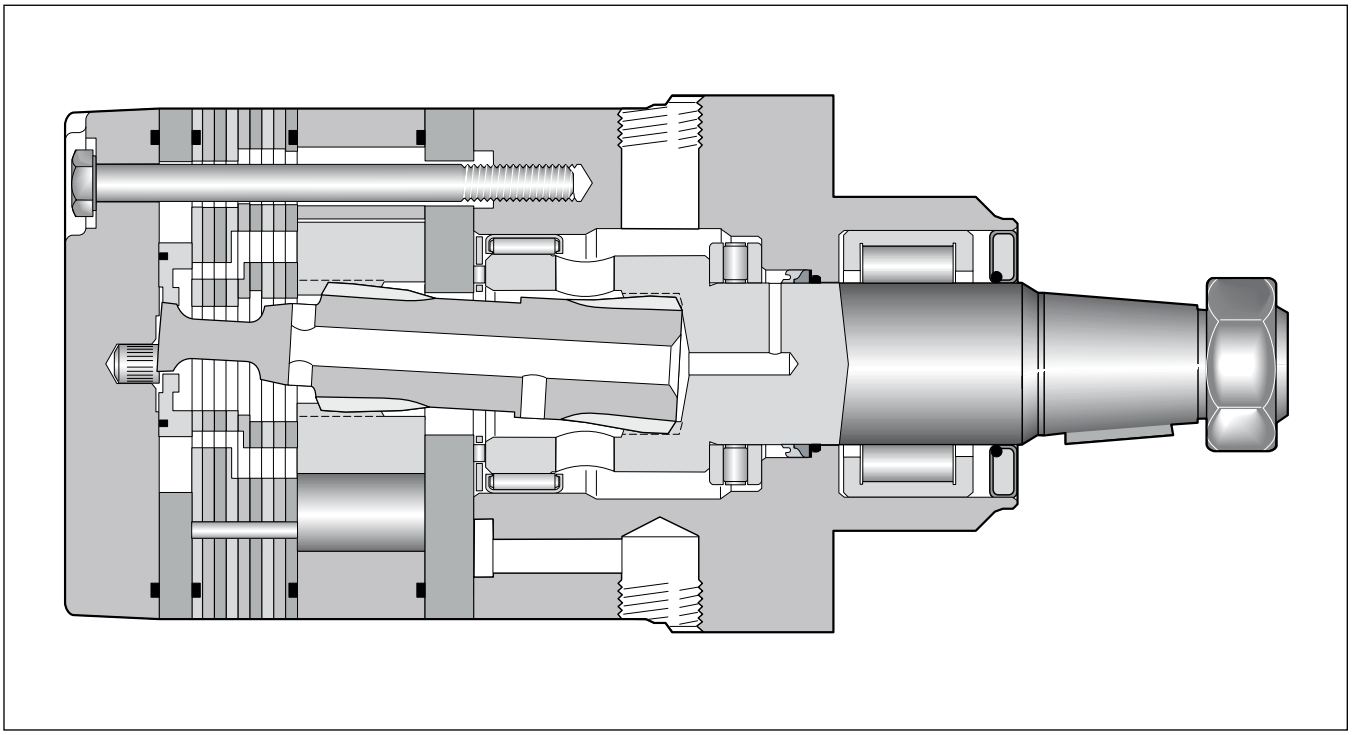
Series TH

- **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



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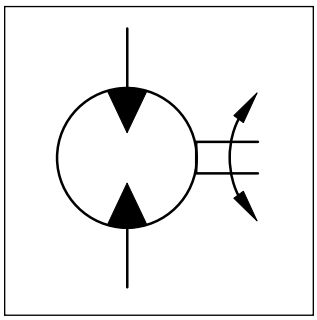
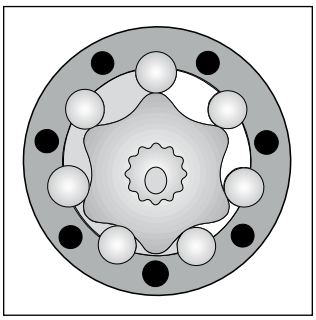
Drehzahl Speed Vitesse de rotation Velocità di rotazione	5...710 rev/min
Schluckstrom Oil flow Débit d`huile Portata	max. 115 l/min
Eingangsdruck Supply pressure Pression entrée Pressione in entrata	max. 300 bar
Drehmoment Torque Couple Coppia	max. 1490 Nm
Seitenlast Side load Charges latérales Carico radiale	max. 30.000 N

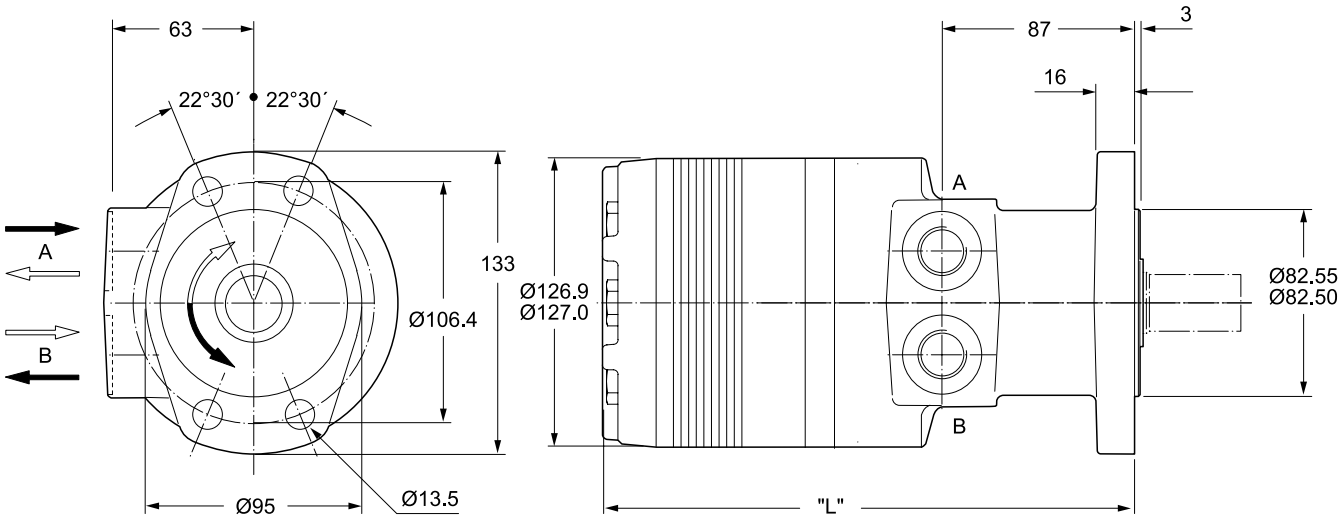




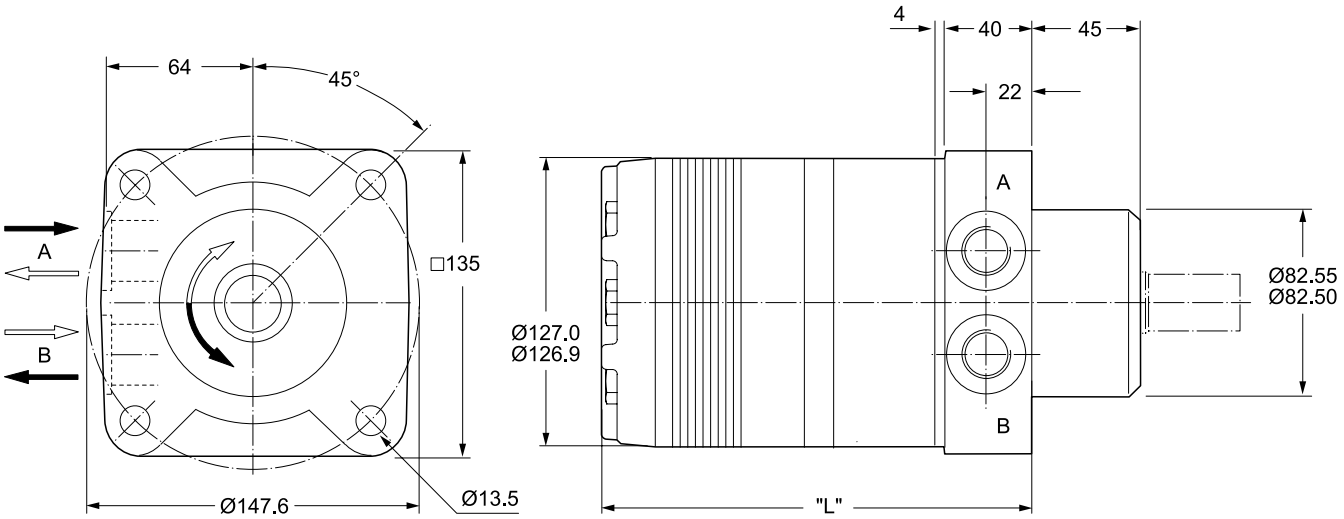
Motor series TH	Geom. Schluckvolumen Geometric displacement Cylindrée Cilindrata cm³/U cm³/rev cm³/tr cm³/giro	Max. Drehzahl Max. speed Vitesse de rotation maxi Velocità di rotazione max cont / int U/min rev/min tr/min giri/min	Max. Schluckstrom Max. oil flow Débit d'huile maxi Portata max cont / int 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 max. KW	Min. Anlaufmoment Min. starting torque Couple min. fourni au dé manrage Coppia min. di spunto cont / int Nm
TH 140	140	460/660	75/100	200/280	300	400/540	33	320/430
TH 170	169	400/560	75/100	200/280	300	485/650	33	380/540
TH 195	195	340/480	75/100	200/280	300	560/770	33	450/620
TH 240	237	270/400	75/100	200/280	300	685/920	32	550/740
TH 280	280	230/340	75/100	200/280	300	800/1100	31	640/880
TH 335	337	190/280	75/100	200/280	300	980/1350	30	790/1080
TH 405	405	170/240	75/100	170/240	300	960/1350	27	770/1080
TH 475	476	150/240	75/115	140/200	300	960/1400	28	770/1120
TH 530	529	130/220	75/115	140/170	300	1050/1280	23	840/1024
TH 625	624	110/190	75/115	120/160	300	1040/1360	20	830/1090
TH 785	786	90/150	75/115	100/140	300	1150/1490	17	920/1200
TH 960	958	80/120	75/115	70/100	300	925/1390	12	740/1110

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 M

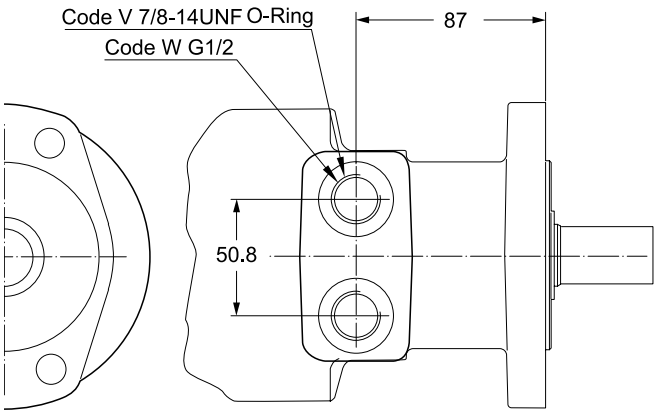


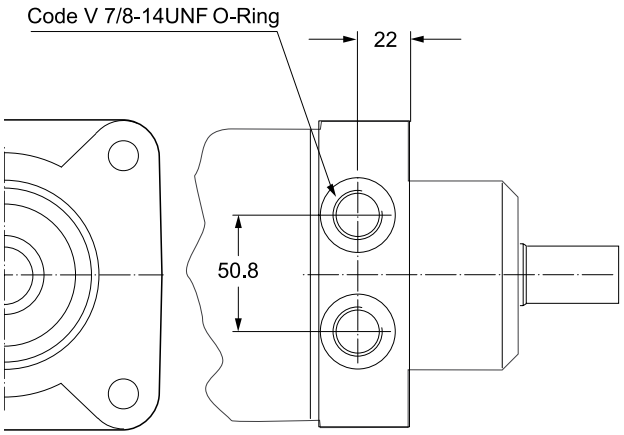
Code U



Gewicht / Weight		TH140	TH170	TH195	TH240	TH280	TH335	TH405	TH475	TH530	TH625	TH785	TH960
Poids / Peso	kg	17.0	17.2	17.4	17.8	18.2	18.6	19.2	19.8	20.6	21.3	22.9	24.5
Code M	”L” mm	216	219	222	227	232	238	245	254	260	270	289	308
Code U	”L” mm	173	177	180	184	189	196	203	212	218	227	246	265

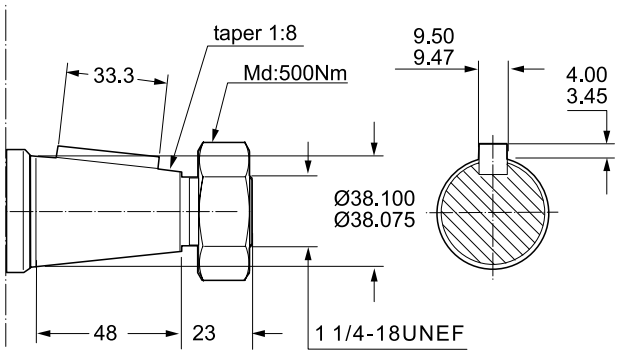
Ports



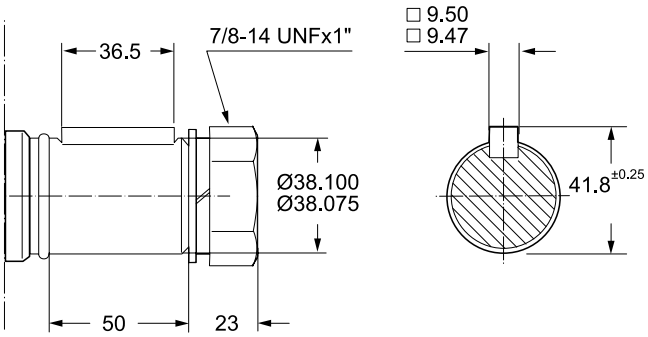


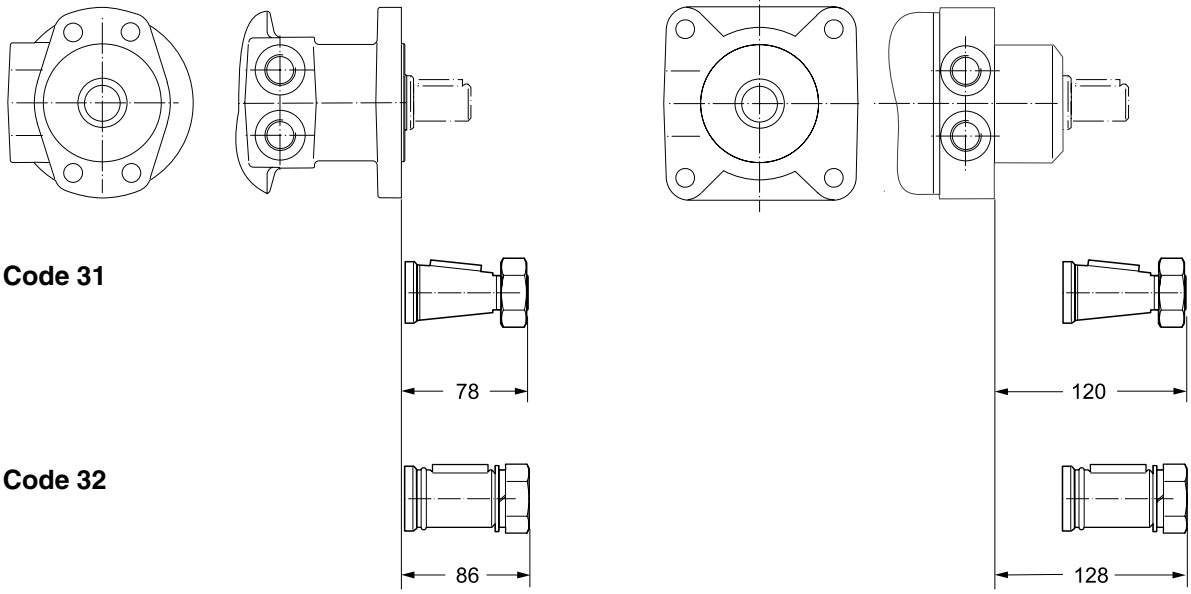
Coupling shaft

Code 31

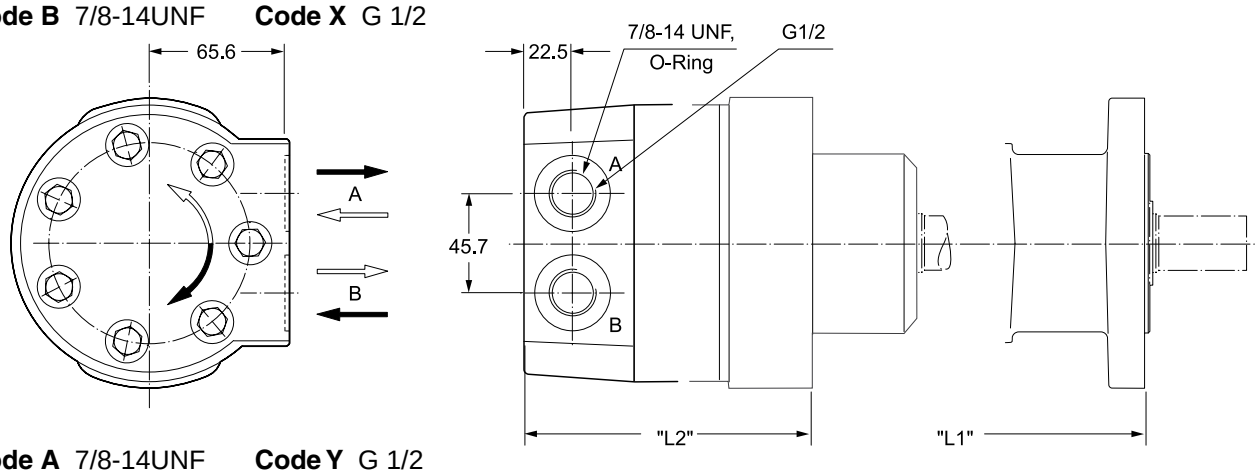


Code 32

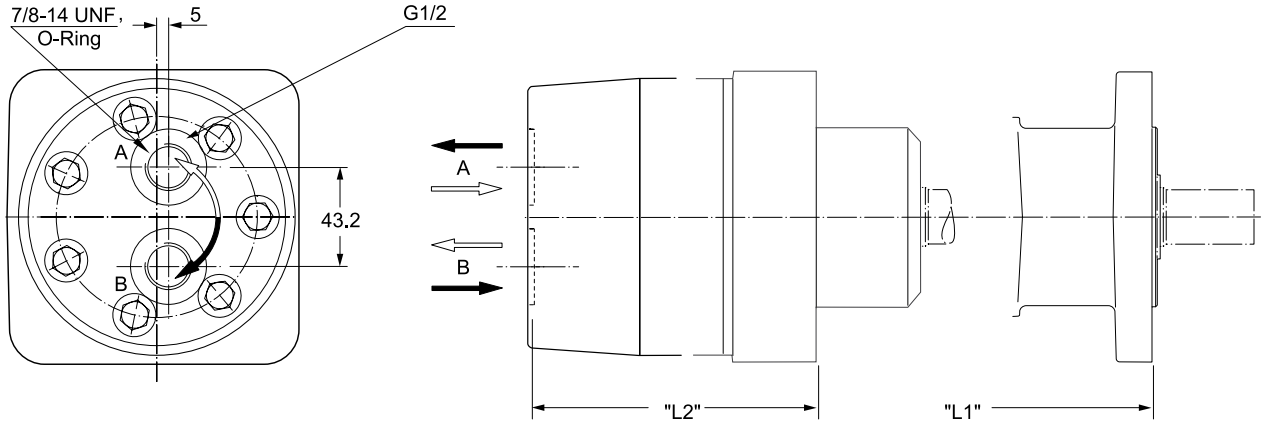




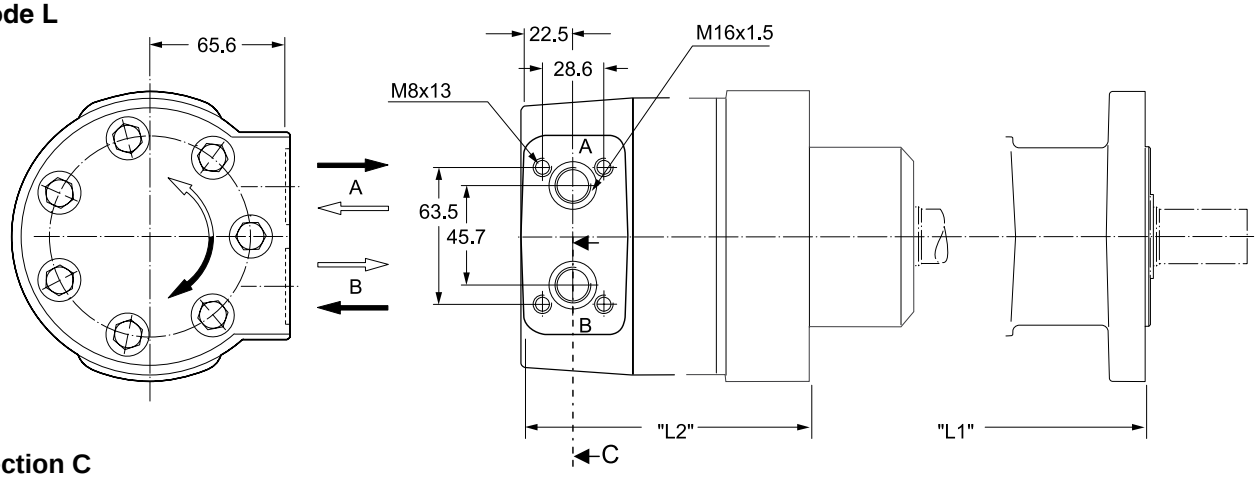
Code B 7/8-14UNF **Code X** G 1/2



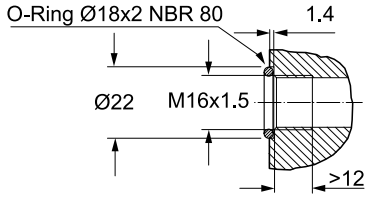
Code A 7/8-14UNF **Code Y** G 1/2



Code L



Section C



Zum Motor mit Universalanschluss werden 2 O-Ringe geliefert.

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

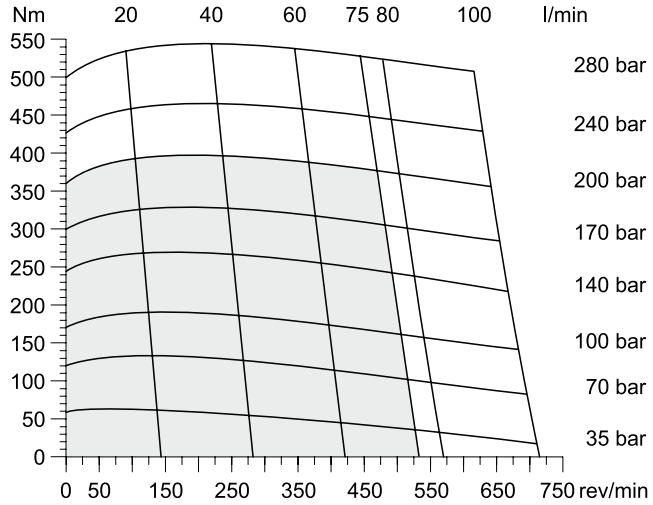
Deux joints toriques sont livrés avec les moteurs au plan de raccordement universel.

Il blocchetto connessioni è corredato da 2 OR.

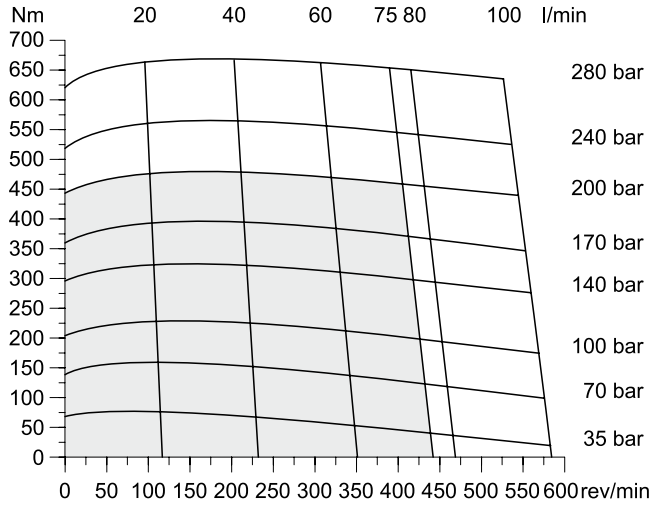
Gewicht / Weight		TH140	TH170	TH195	TH240	TH280	TH335	TH405	TH475	TH530	TH625	TH785	TH960
Poids / Peso	kg	18.6	18.8	19.0	19.4	19.8	20.2	20.8	21.4	22.2	22.9	24.5	26.1
Code	”L1” mm	241	244	247	252	257	263	270	279	285	295	314	333
B, X, L, A, Y	”L2” mm	198	202	205	209	214	221	228	237	243	252	271	290

Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

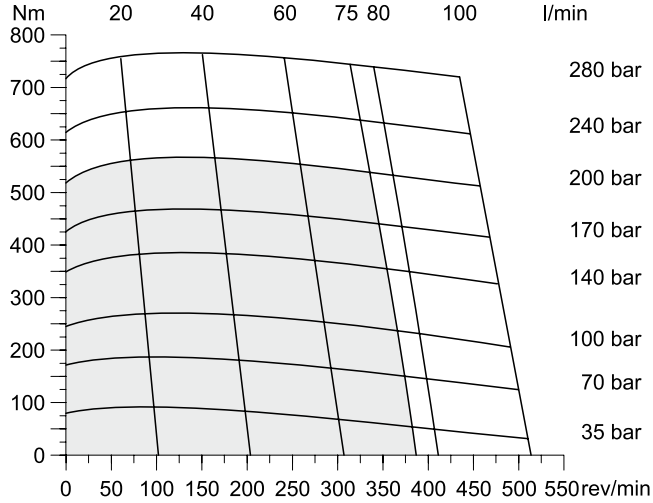
TH 140



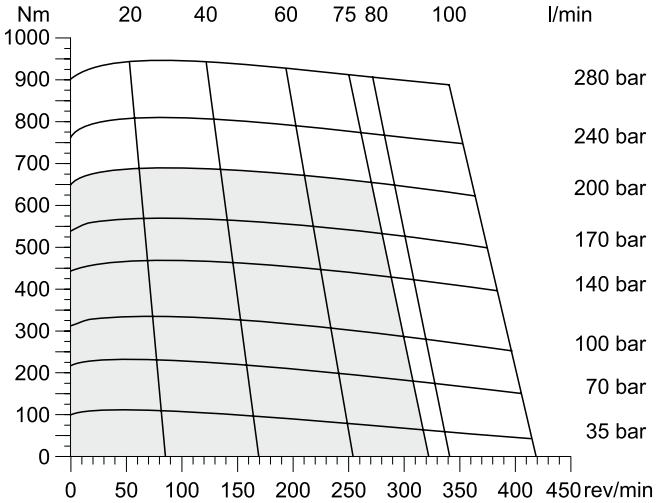
TH 170



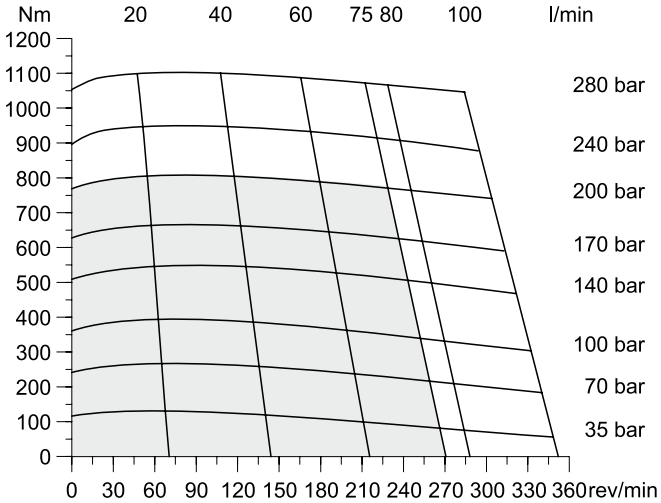
TH 195



TH 240

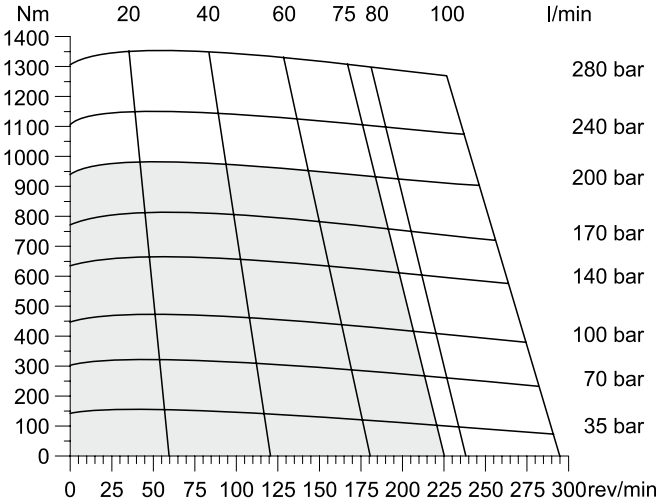


TH 280



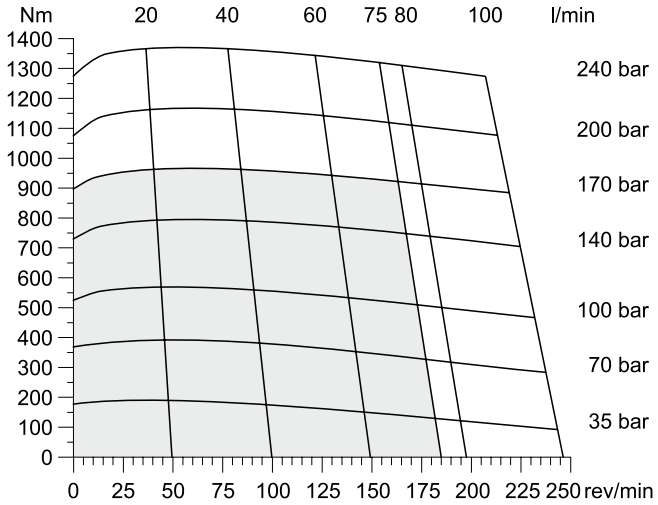
Cont. Int.

TH 335

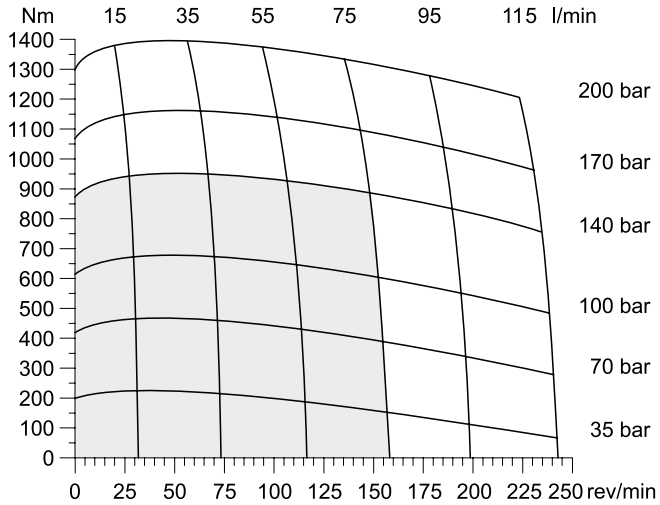


int. =
Intermittierende Werte maximal: 10% von jeder Betriebsminute.
Intermittent operation rating applies to 10% of every minute.
Fonctionnement interm.: 10% max. de chaque minute d`utilisation.
Servizio intermittente: 10% max di ogni minuto di utilizzazione.

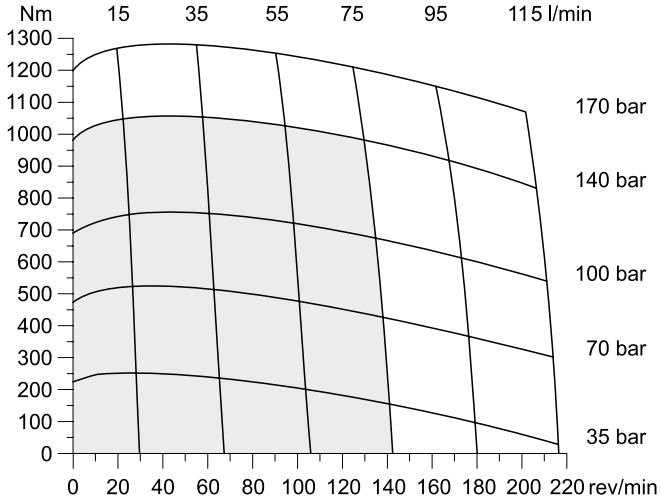
TH 405



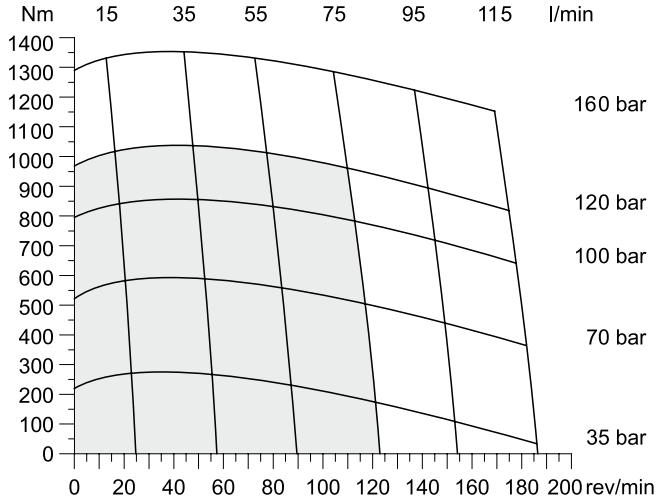
TH 475



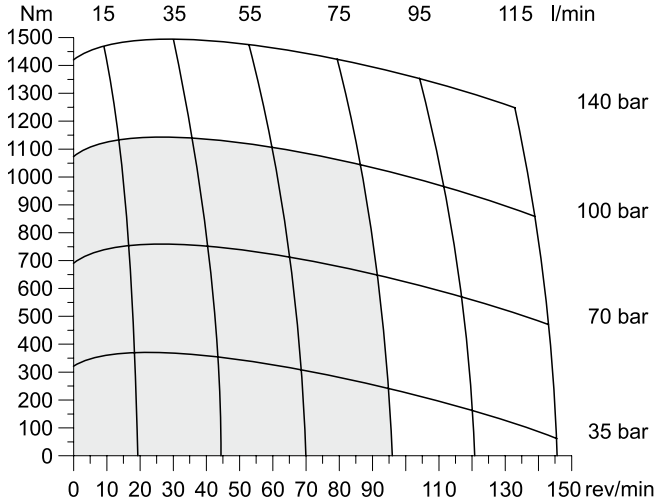
TH 530



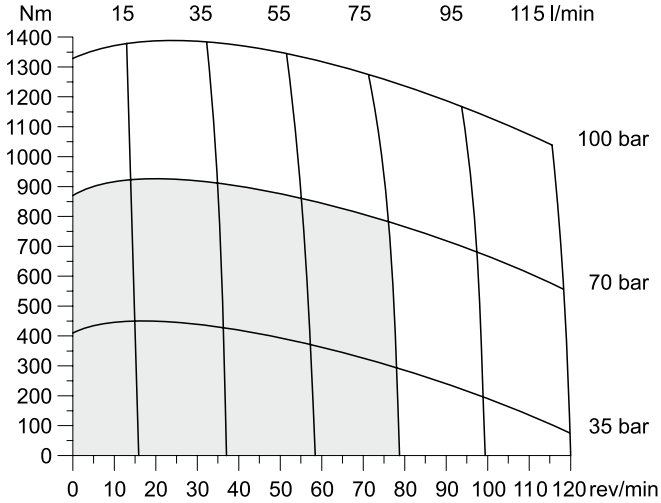
TH 625



TH 785



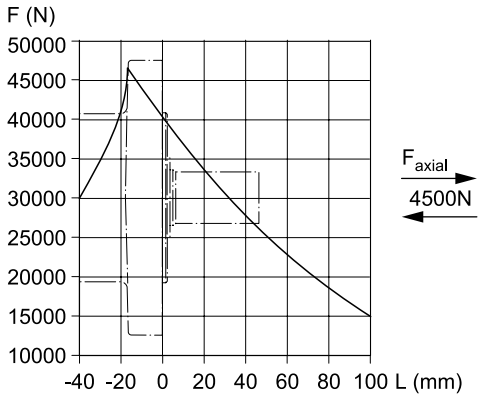
TH 960

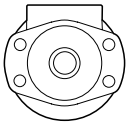


Cont. Int.

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.

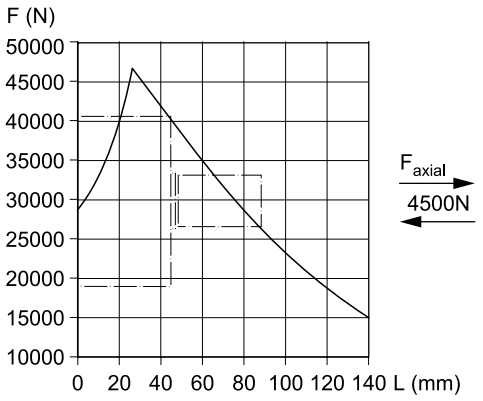
Code M

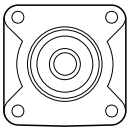




$$L_h = \frac{\left(\frac{1500000}{F_R \cdot \left(1.20 + \frac{L}{95mm}\right)}\right)^{3.3}}{n}$$

Code U





$$L_h = \frac{\left(\frac{1500000}{F_R \cdot \left(0.76 + \frac{L}{95mm}\right)}\right)^{3.3}}{n}$$

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.	**F_R**	**=**	**F (N)**
Le formule precedenti sono valide per una durata della vita B10.	**n**	**=**	**rev/min**

TH												A	A	A	B
Serie Series Série Serie	**Schluckvolumen Displacement Cylindrée Cilindrata**				**Gehäuse Housing Carter Corpo motore**	**Anschluss Ports Plan de raccorde-ment Connessioni**		**Welle Shaft Arbre Albero**		**Drehrichtung Direction of rotation Direction de rotation Direzione di rotazione**		**Option**			

Code	cm³/rev
0140	140
0170	169
0195	195
0240	237
0280	280
0335	337
0405	405
0475	476
0530	529
0625	624
0785	786
0960	958

Code	Housing
M	
U	

Code	Front port
S	7/8-14 UNF O-Ring
W [1]	G 1/2

[1] Nicht verfügbar für Gehäuse "U"
Not possible for housing "U"
Pas disponible pour carter "U"
Non Disponibile con il corpo codice "U"

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
31	
32	

For further options different to standard 'AAAB' see page 57.

Code	Front port
0	B A Standard
1	B A

Code	Rear port
0	B A Standard
1	B A

Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

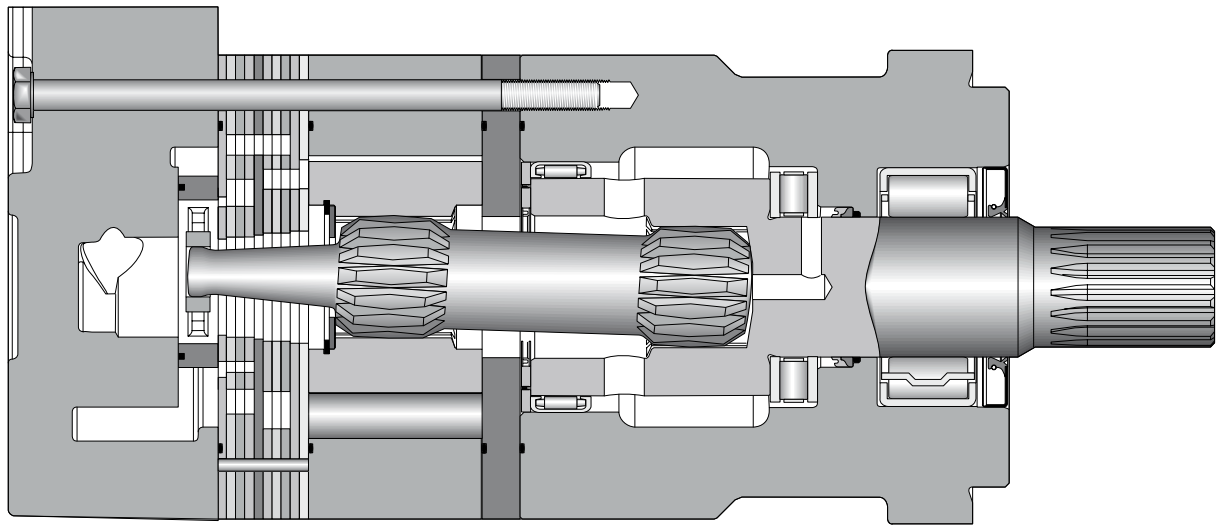
Features

- **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

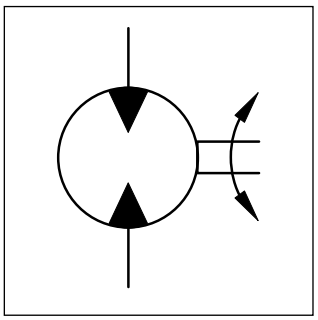
- **Moteur lent systéme Gerotor**
- **Une distribution orbitale particuliére assure**
  fuites internes minimales
  rendements volumàtriques élevés
- **Le rotor à rouleaux**
  réduit les frottements
  augmente la durée de vié
- **Par l`utilisation de joints d`arbre haute pression brevetés**
  pas de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

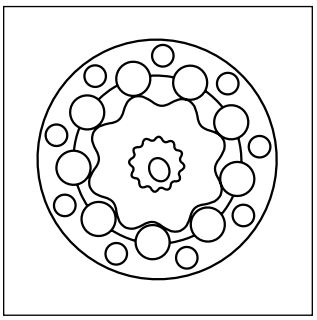
- **Motore orbitale a bassa velocità**
- **Una particolare distribuzione orbitale assicura**
  trafilamento ridotto
  elevato rendimento volumetrico
- **Con lo statore a rullini**
  si riduce l`attrito interno
  si mantiene nel tempo l`efficieza del motore
- **Una guarnizione di tenuta ad alta pressione 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



Parker Hannifin
Pump and Motor Division
Chemnitz, Germany

Drehzahl Speed Vitesse de rotation Velocità di rotazione	5...520 rev/min
Schluckstrom Oil flow Débit d`huile Portata	max. 225 l/min
Eingangsdruck Supply pressure Pression entrée Pressione in entrata	max. 330 bar
Drehmoment Torque Couple Coppia	max. 2700 Nm
Seitenlast Side load Charges latérales Carico radiale	max. 26.000 N

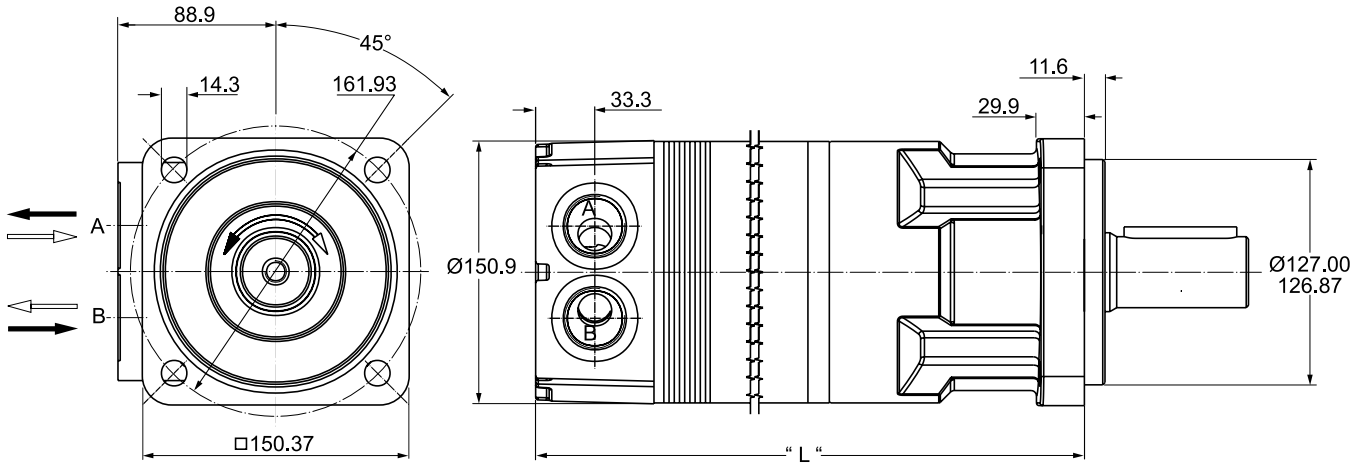




Motor series TK	Geom. Schluckvolumen / Geometric displacement / Cylindrée / Cilindrata cm³/U cm³/rev cm³/tr cm³/giro	Max. Drehzahl / Max. speed / Vitesse de rotation maxi / Velocità di rotazione max U/min rev/min tr/min giri/min	Max. Schluckstrom / Max. oil flow / Débit d´huile maxi / Portata max cont / 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 max. KW	Min. Anlaufmoment / Min. starting torque / Couple min. fourni au dé manrage / Coppia min. di spunto cont / int Nm
TK 250	251	520	114 / 133	240 / 310	330	815 / 1040	49	690 / 880
TK 315	315	410	114 / 133	240 / 310	330	1030 / 1315	47	950 / 1220
TK 400	400	370	114 / 151	205 / 275	330	1150 / 1525	49	1050 / 1410
TK 500	500	300	114 / 151	205 / 275	330	1440 / 1915	48	1320 / 1780
TK 630	629	240	114 / 151	205 / 225	330	1620 / 1715	34	1500 / 1620
TK 800	800	275	151 / 227	190 / 205	330	1915 / 2300	44	1740 / 1900
TK 1000	1000	220	151 / 227	175 / 190	330	2410 / 2660	35	1980 / 2180

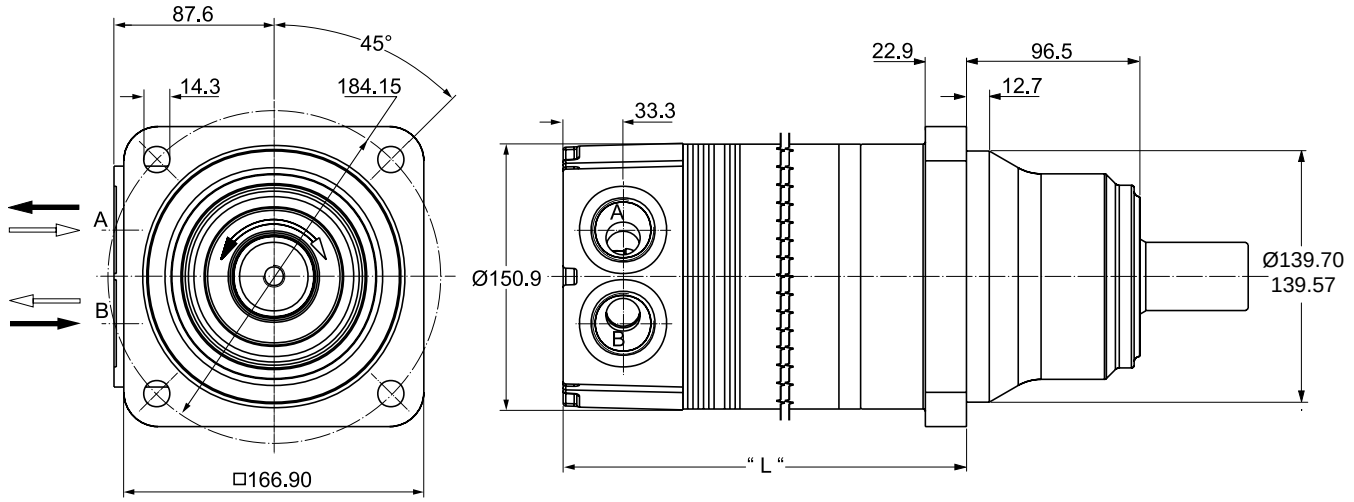
int. =
Intermittierende Werte maximal: 10% von jeder Betriebsminute.
Intermittent operation rating applies to 10% of every minute.
Fonctionnement interm.: 10% max. de chaque minute d`utilisation.
Servizio intermittente: 10% max di ogni minuto di utilizzazione.

Code K



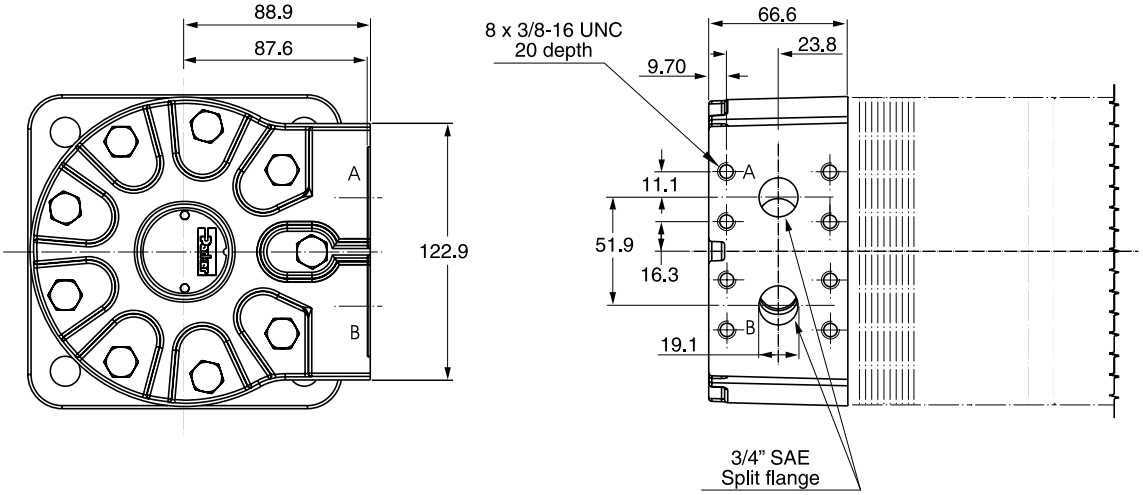
* On request with 125 mm pilot diameter

Code T

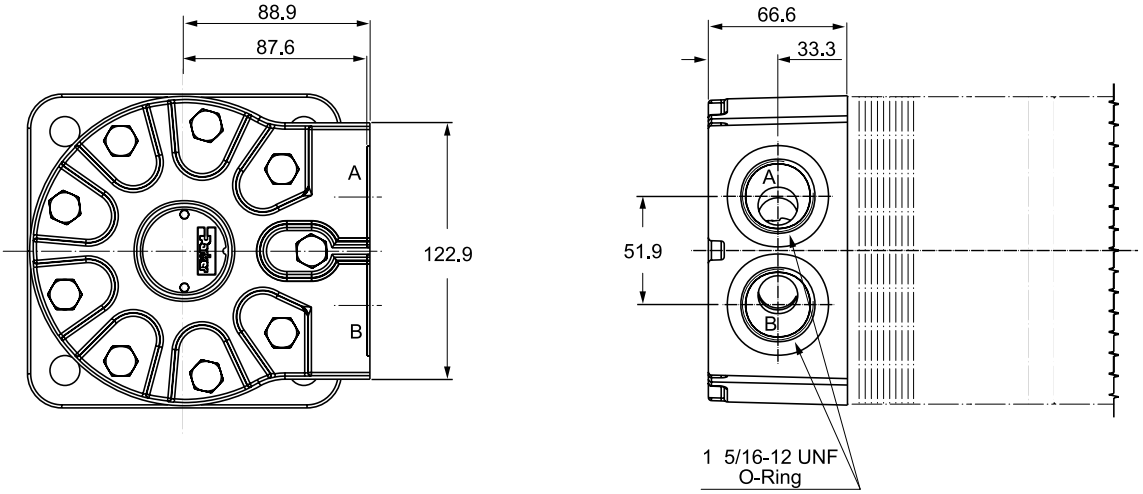


Gewicht / Weight / Poids / Peso		TK250	TK315	TK400	TK500	TK630	TK800	TK1000
Code K	kg	32.0	32.7	33.5	34.5	35.7	37.2	39.1
Code T		30.8	31.4	32.3	33.2	34.5	36.0	37.9
Code K	”L” mm	277	282	290	297	310	323	340
Code T		191	196	203	213	224	239	257

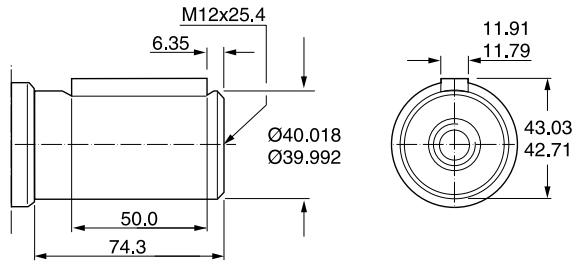
Code 4


88.9
87.6
A
B
122.9
8 x 3/8-16 UNC
20 depth
66.6
23.8
9.70
A
11.1
51.9
16.3
B
19.1
3/4" SAE
Split flange

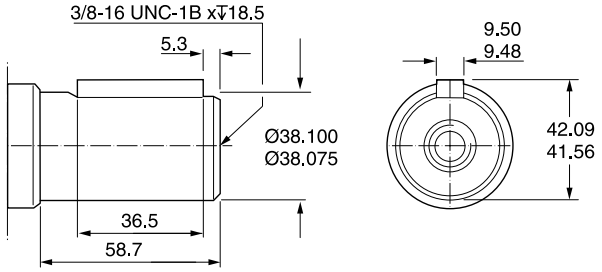
Code 5


88.9
87.6
A
B
122.9
66.6
33.3
A
51.9
B
1 5/16-12 UNF
O-Ring

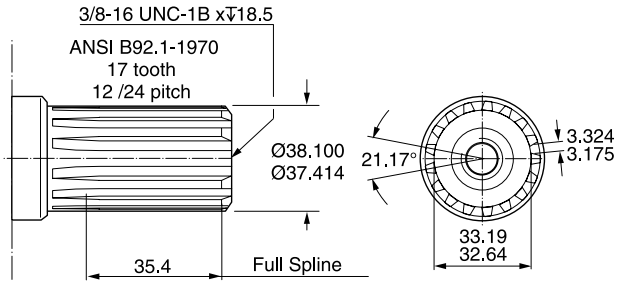
Code 64



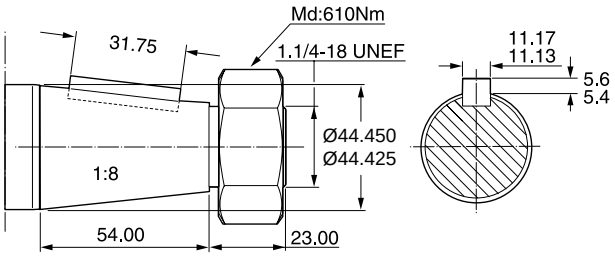
Code 32

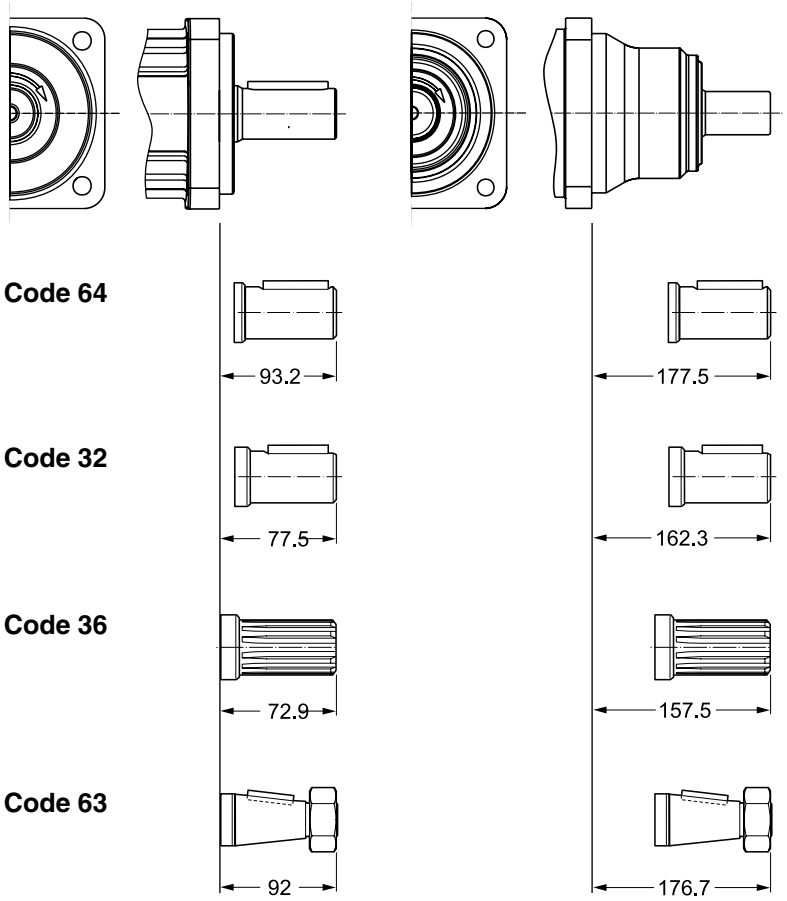


Code 36

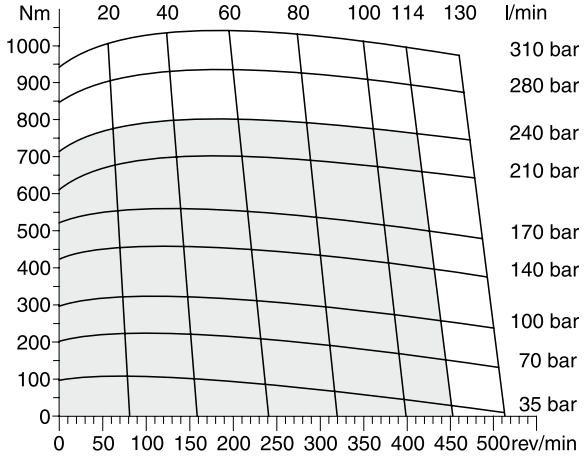


Code 63

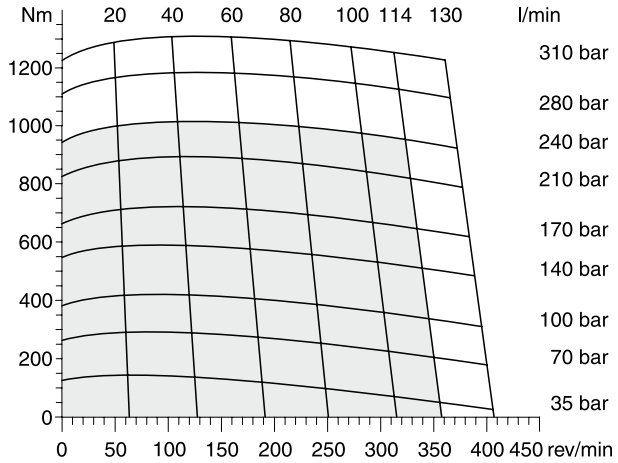




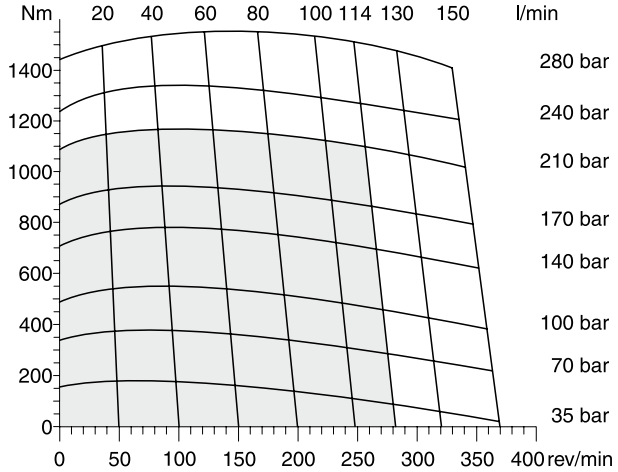
TK 250



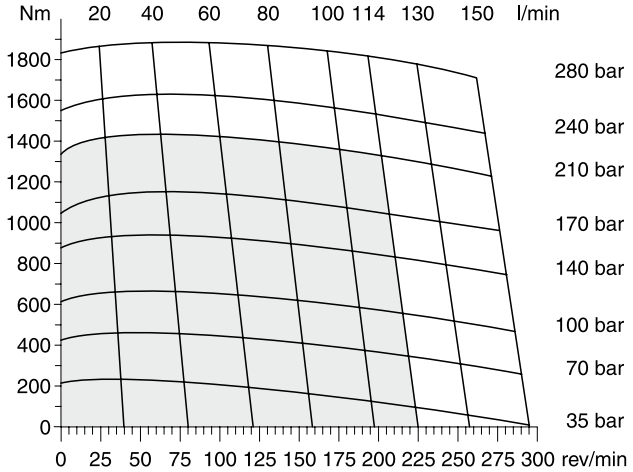
TK 315



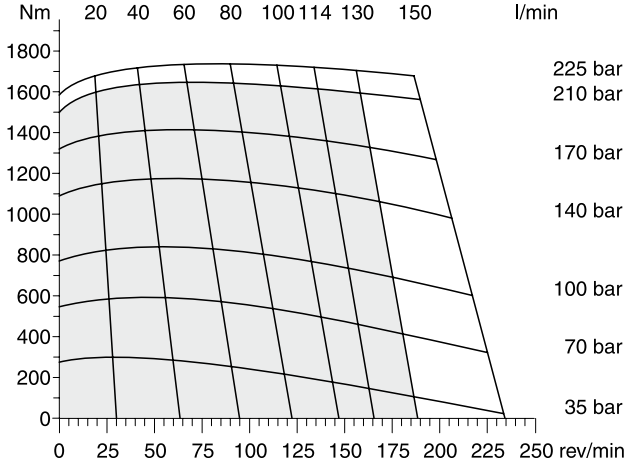
TK 400



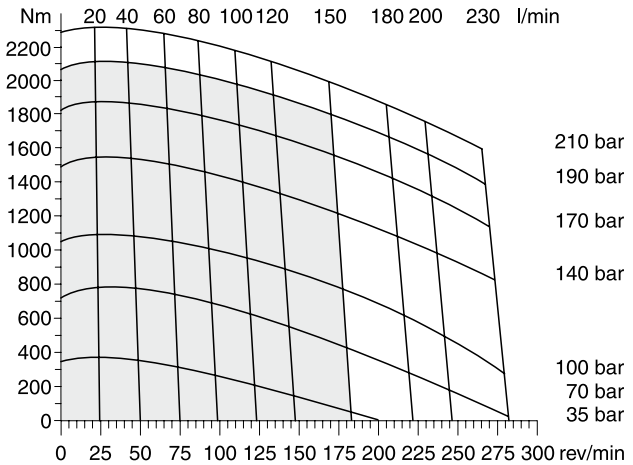
TK 500



TK 630



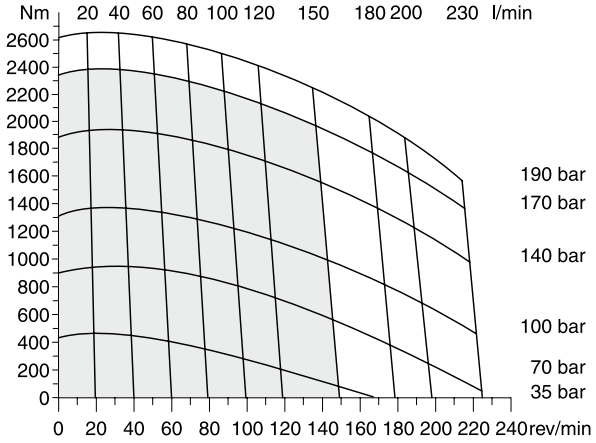
TK 800



☐ 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.

TK 1000



Life Time

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.

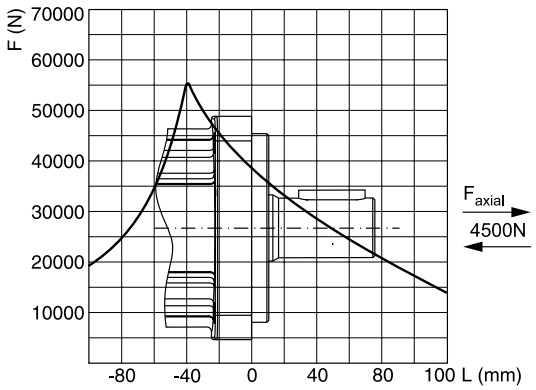
Life time (L_h in hours) of the radial bearings can be calculated with the following formula. The value F_R is limited by the mechanical strength of the shaft (see diagram). The measurement "L" is the length from the housing flange up to the point of impact of the radial force F_R.

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.

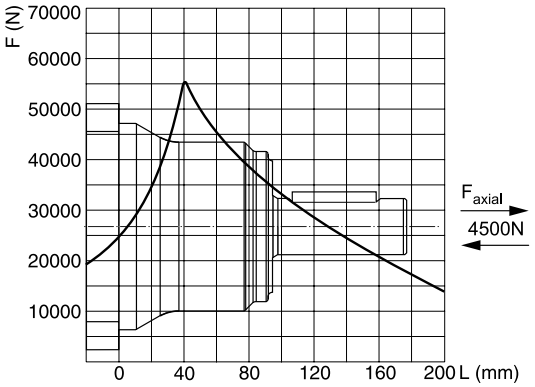
Code K

$$L_h = \frac{12 \cdot 10^6}{60 \cdot n} \left\{ \frac{F_a}{F_b} \right\}^{3.33}$$



Code T

$$L_h = \frac{12 \cdot 10^6}{60 \cdot n} \left\{ \frac{F_a}{F_b} \right\}^{3.33}$$



Life in hours / Lebensdauer in Stunden	L_h	=	**h**
Shaft speed / Abtriebswellendrehzahl	**n**	=	**rev/min**
Allowable side load defined by above curve at a distance from mounting flange / Erlaubte radiale Wellenbelastung als Funktion der Länge	F_a	=	**F (N)**
Application side load / Anwendungsseitige Wellenbelastung	F_b	=	**F (N)**

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

TK												A	A	A	B
Serie Series Série Serie	**Schluckvolumen Displacement Cylindrée Cilindrata**				**Gehäuse Housing Carter Corpo motore**	**Anschluss Ports Plan de raccorde- ment Connessioni**	**Welle Shaft Arbre Albero**		**Drehrichtung Direction of rotation Direction de rotation Direzione di rotazione**	**Option**				

Code	cm³/rev
0250	250
0315	315
0400	400
0500	500
0630	630
0800	800
1000	1000

Code	Housing
K[1)]	
T	

Code	Port
4	3/4 Split Flange Manifold
5	1 5/16-12 SAE

Code	Shaft
63	
32	38.1
36	
64	40

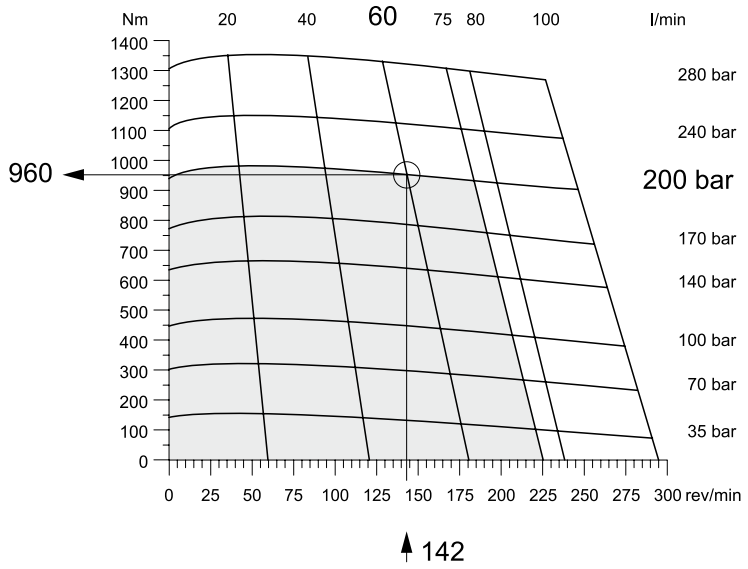
Code	Direction
0	Standard
1	

1) On request with 125 mm pilot diameter

Berechnung von Wirkungsgrad und Leistung
Calculation of efficiency and output power
Dètermination du rendement et de la puissance
Calcoli di rendimento e potenza utile

TG 335

Md = 960 Nm
n = 142 rev/min
Δp = 200 bar
V = 337 cm^3/rev
Q = 60 l/min



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

$$\eta_{hm} = \frac{Md \cdot 20 \cdot \pi}{\Delta p \cdot V} = \frac{960 \cdot 20 \cdot \pi}{200 \cdot 337}$$

$$\eta_{hm} = 0.89$$

Volumetrischer Wirkungsgrad (η_{vol})
Volumtric efficiency
Rendement volumètrique
Rendimento volumetrico

$$\eta_{vol} = \frac{n \cdot V}{Q \cdot 10^3} = \frac{142 \cdot 337}{60 \cdot 10^3}$$

$$\eta_{vol} = 0.80$$

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

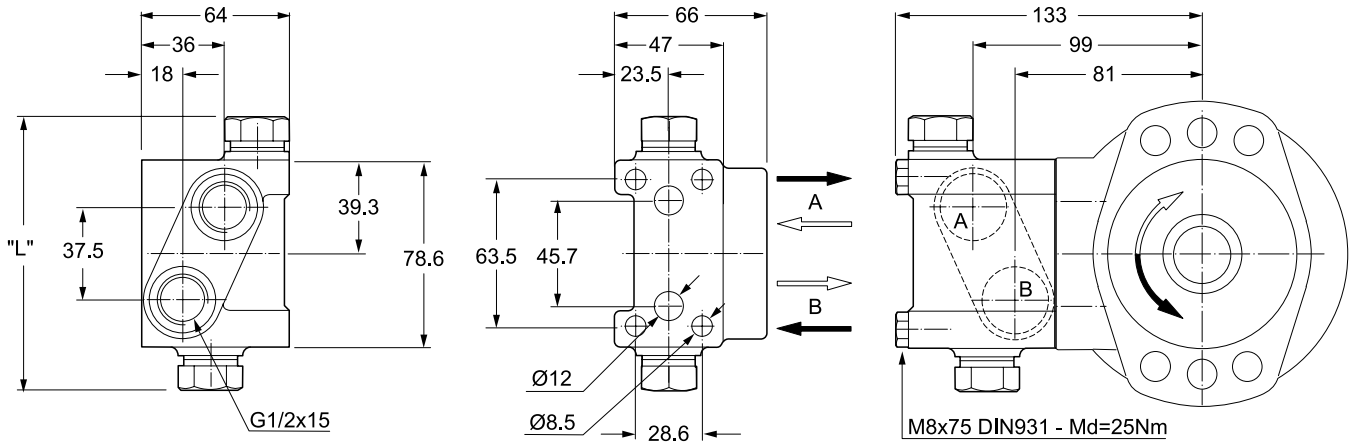
$$\eta_{ges} = \eta_{vol} \cdot \eta_{hm} = 0.80 \cdot 0.89$$

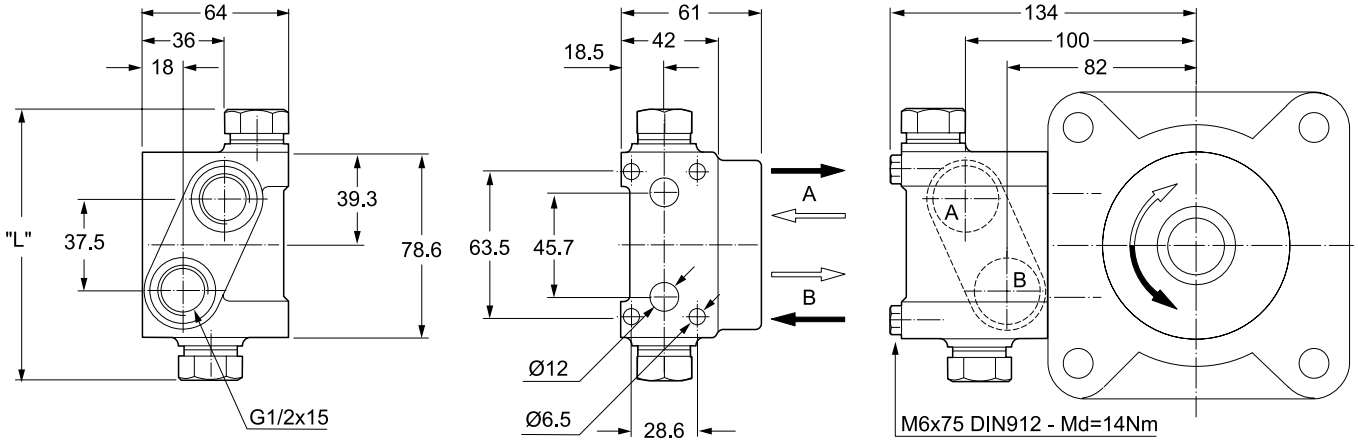
$$\eta_{ges} = 0.71$$

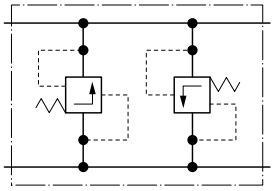
Leistung P (kW)
Power P
Puissance P
Potenza P

$$P = \frac{Md \cdot n \cdot \pi}{10^4 \cdot 3} = \frac{960 \cdot 142 \cdot \pi}{10^4 \cdot 3}$$

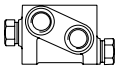
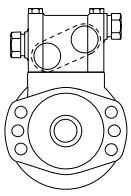
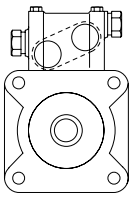
$$P = 14.3 \text{ kW}$$





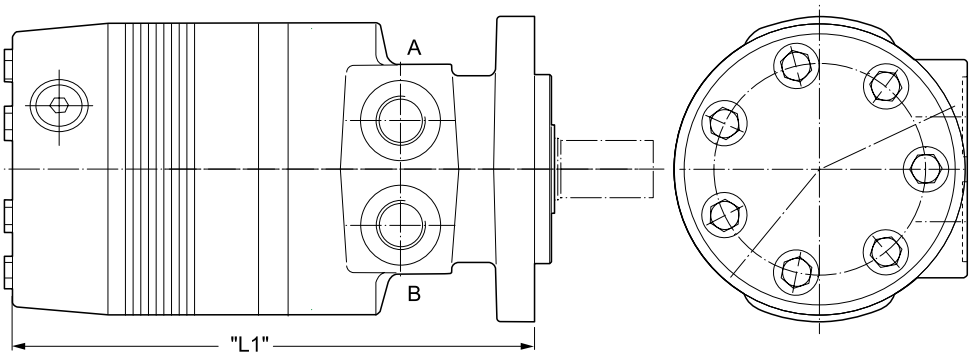


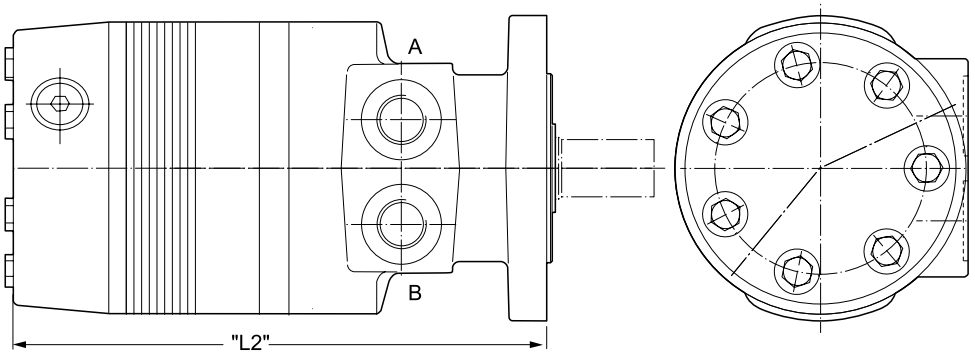
Bestellschlüssel / Ordering Code / Systéme de commande / Sistema di ordinazione

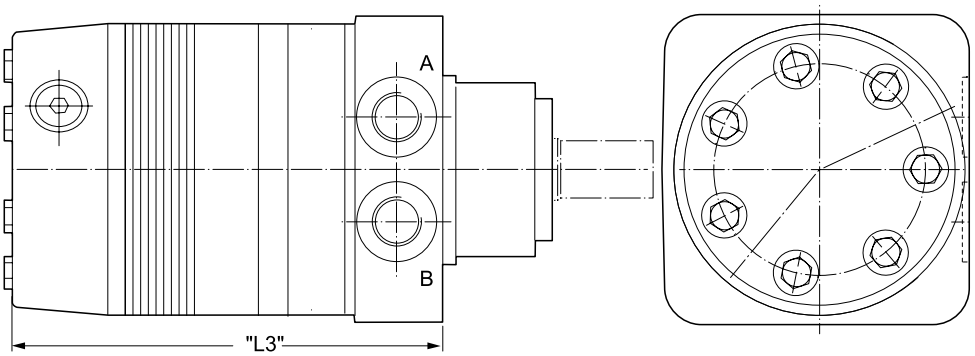
Opening pressure	Single valve 		 (M8)	 (M6)	
	Order no. (M8)	**Order no. (M6)**	**Option code**	**Option code**	**Length "L"**
100 bar	**410017-100**	**410018-100**	**HAAP**	**HAAF**	**110 mm**
140 bar	**410017-140**	**410018-140**	**HAAU**	**HAAH**	158 mm
170 bar	**410017-170**	**410018-170**	**HAAX**	**HAAK**	158 mm
200 bar	**410017-200**	**410018-200**	**HABA**	**HAAM**	158 mm

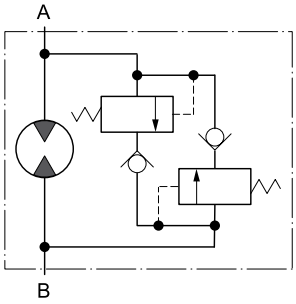
Zubehör / Fixtures / Fournitures / Part. di fissaggio
4 x M8 (M6) x 75mm ; 2 x O-Ring

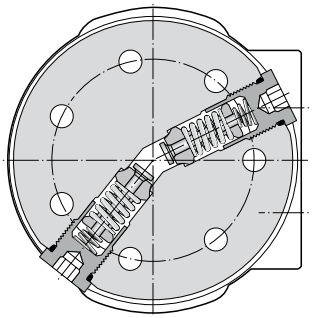
Parker Hannifin
Pump and Motor Division
Chemnitz, Germany









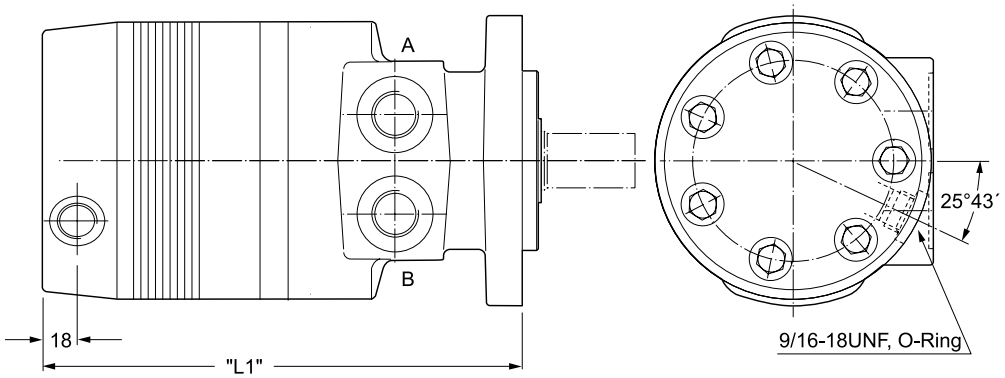


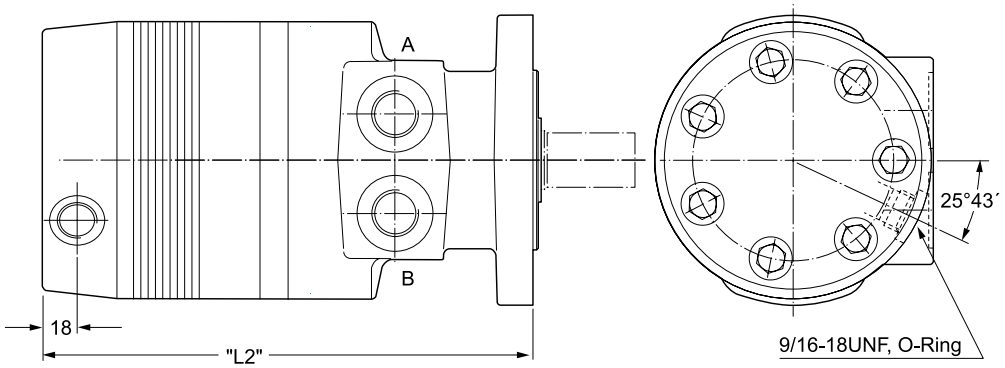
Motor Series	"L1" mm	"L2" mm	"L3" mm
TF80	213.5	218.5	173.2
TF100	213.5	218.5	173.2
TF130	216.5	221.5	176.3
TF140	218.3	223.3	178.1
TG140	218.3	223.3	178.1
TH140		243.6	201.2
TF170	221.3	226.3	181.1
TG170	221.6	226.6	180.4
TH170		246.9	204.3
TF195	224.6	229.6	184.4
TG195	224.6	229.6	184.4
TH195		250.0	207.6
TF240	229.2	234.2	189.0
TG240	229.2	234.2	189.0
TH240		254.8	212.2
TF280	234.0	239.0	193.8
TG280	234.0	239.0	193.8
TH280		259.6	217.0
TG330	240.4	245.4	200.2
TH330		266.0	223.3
TF365	243.7	248.7	203.5
TF405	247.7	252.7	207.5
TG405	247.7	252.7	207.5
TH405		275.3	230.7
TF475	256.4	261.4	216.2
TG475	256.4	261.4	216.2
TH475		281.7	239.3
TG530	262.7	267.7	222.5
TH530		288.1	245.7
TG620	272.1	277.1	231.9
TH620		297.8	255.1
TG790	291.2	296.2	251.0
TH790		316.8	274.1
TG960	310.2	315.2	270.0
TH960		335.9	293.2

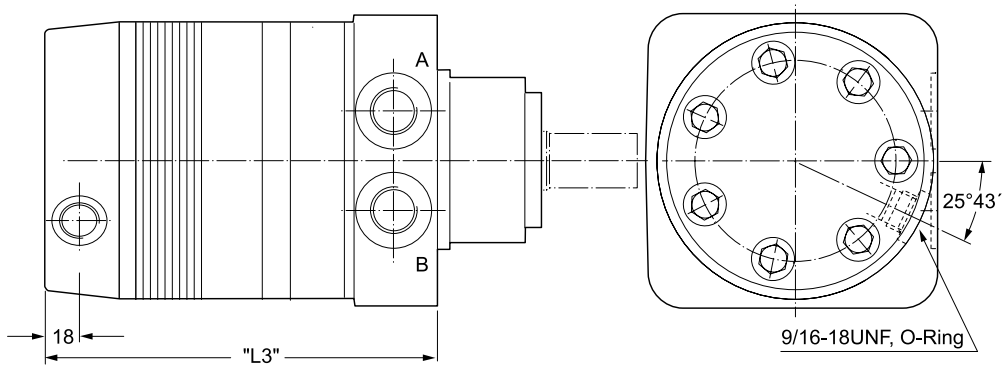
Bestellschlüssel / Ordering Code / Systéme de commande / Sistema di ordinazione

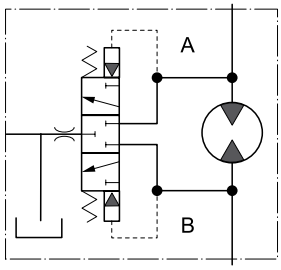
Option code	Opening pressure
BBBM	70 bar
BBBJ	100 bar
BBBN	140 bar
BBCG	170 bar
BBBF	210 bar

Code AAFX









Q=3.5 l p=8 bar ϑ=39 mm²/s

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

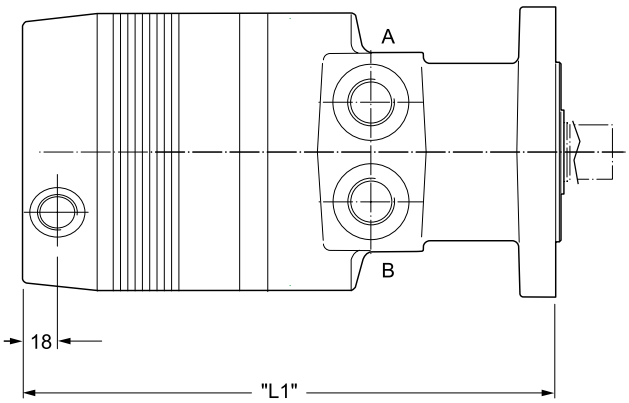
Valve de rincage pour systèmes fermés pour le retour d`un volume déter-miné de fluide basse pression vers le réservoir, un refroidisseur ou un filtre de réfrigération, dans le même circuit.

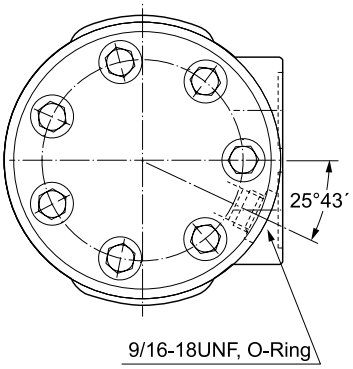
Una valvola selettice permette di deviare olio a bassa pressione direttamente al serbatoio o allo scambiatore di calore consentendo, nelle applicazioni a circuito chiuso, un miglior raffreddamento dell`olio.

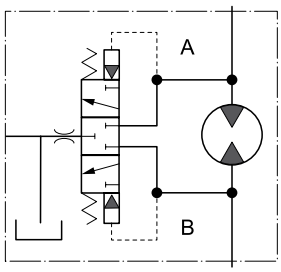
Gewicht / Weight		TG140	TG170	TG195	TG240	TG280	TG335	TG405	TG475	TG530	TG625	TG785	TG960
Poids / Peso	kg	16.0	16.3	16.5	16.9	17.3	17.7	18.3	19.0	19.7	20.4	22.0	23.7
Code AAFX	”L1” mm	210.5	213.8	216.8	221.4	226.2	232.6	239.9	248.6	254.9	264.3	283.4	302.4
Code AAFX	”L2” mm	215.5	218.8	221.8	226.4	231.2	237.6	244.9	253.6	259.9	269.3	288.4	307.4
Code AAFX	”L3” mm	170.3	173.6	176.6	181.2	186.0	192.4	199.7	208.4	214.7	224.1	243.2	262.2

Gewicht / Weight		TF80	TF100	TF130	TF140	TF170	TF195	TF240	TF280	TF360	TF405	TF475
Poids / Peso	kg	15.0	15.1	15.3	15.4	15.6	16.1	16.4	16.9	17.4	17.9	18.9
Code AAFX	”L1” mm	205.9	205.9	208.9	210.9	213.9	216.9	221.9	225.9	234.9	239.9	248.9
Code AAFX	”L2” mm	210.9	210.9	213.9	215.9	218.9	221.9	226.9	231.9	239.9	244.9	253.9
Code AAFX	”L3” mm	165.9	165.9	168.9	170.9	173.9	176.9	181.9	186.9	194.9	199.9	208.9

Code AAFX

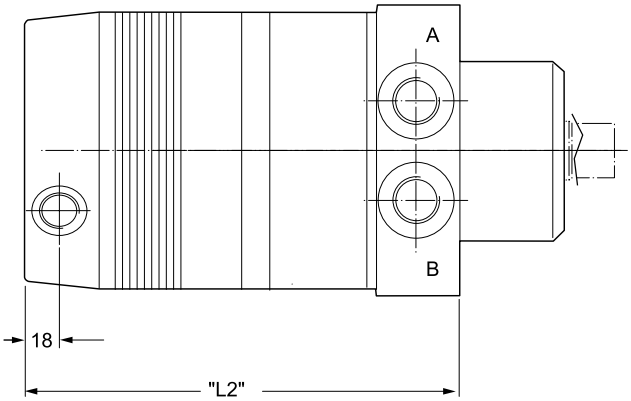


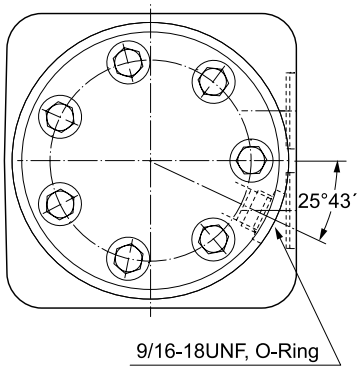




Q=3.5l p=8bar ϑ=39mm²/s

Spülventil für geschlos-sene Systeme zur Rückführung einer definierten Menge des Niederdrucköls in den Tank zur Abkühlung innerhalb desselben Kreislaufs.





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

Valve de rincage pour systèmes fermés pour le retour d`un volume déter-miné de fluide basse pression vers le réservoir, un refroidisseur ou un filtre de réfrigération, dans le même circuit.

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

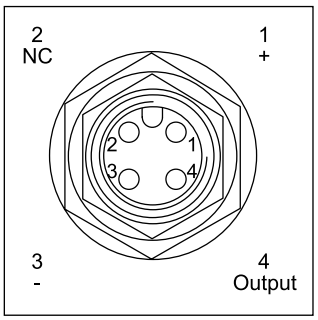
Gewicht / Weight		TH140	TH170	TH195	TH240	TH280	TH335	TH405	TH475	TH530	TH620	TH785	TH960
Poids / Peso	kg	18.4	18.6	18.9	19.2	19.6	20.0	20.6	21.3	22.0	22.7	24.3	26.0
Code AAFX	”L1” mm	235.8	239.1	242.2	247.0	251.8	258.2	265.5	273.9	280.3	290.0	309.0	328.1
Code AAFX	”L2” mm	193.4	196.5	200.0	204.4	209.2	215.5	222.9	231.5	237.9	247.3	266.3	285.4

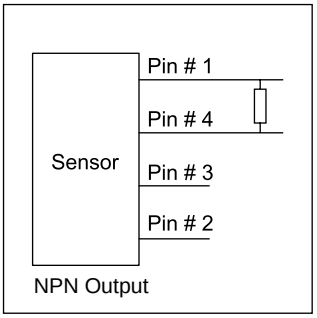
Dieser robuste, wetterfeste Drehzahlaufnehmer arbeitet nach dem Halleffekt. Es werden 30 Rechteckimpulse pro Abtriebswellenumdrehung erzeugt. Durch Erfassung der positiven und negativen Wellenflanken sind 60 Impulse pro Umdrehung möglich. Der Sensor führt zu keiner Leistungsbeschränkung des Motors. Die volle Radiallastkapazität bleibt erhalten.

This rugged, weather resistant speed sensor is a Hall effect device. When externally powered, 30 square wave digital pulses per output shaft revolution are produced. By signal multiplication, 60 pulses per revolution can be obtained. The installation of this economical sensor does not affect the torque or side load capability of the motor into which it is installed.

Un capteur économique pour mesure de la vitesse. Ce capteur robuste et résistant aux intempéries est a effet Hall. Alimenté par une source externe, il fournit 30 impulsions carrées par tour. Par multiplication électronique, on obtient 60 impulsions par tour. Son montage ne modifie pas le couple ni la charge radiale du moteur qui le reçoit.

Sensore di velocità ad effetto Hall, estremamente robusto e resistente alle condizioni ambientali. Genera 30 impulsi al giro, con uscita digitale ad onda quadra. Il numero di impulsi può essere elettronicamente raddoppiato.
L'utilizzo di questo sensore, non influisce sulle caratteristiche di coppia o di potenza del motore idraulico.





Versorgungsspannung Operating voltage range Courant d`alimentaion Tensione di alimentazione	4.5...24 V (DC)
Arbeitstemperatur Operating temperature Température Temperatura di funzionamento	-30°...100° C
Arbeitsfrequenz Operating frequency range Fréquence d`utilisation Frequenza di lavoro	0...10 KHZ
Erforderlicher Laststrom Sink current Courant depeau Corrente di alimentazione	0...20 mA (max.)
Anschluss Connection Raccordement Connessione elettrica	4 Pin (12mm) DIN Standard

Formel Pullup-Widerstand	(0.25 Watt, Tol. 5%)
Formula pull-up resistor value	(0.25 Watt, 5% tol.)
Formule valeur pull-up resistor	(0.25 Watt, tol. 5%)
Calcolo resistenza di carico	(0.25 Watt, toll. 5%)

Spannung/Voltage
Courant/Tensione 4.5...24 V
Laststrom/Sink current
Courant/Corrente 0...20 mA
= Widerstand / Resistor / Résistance / Resistenze k Ohm

Status: aus/State: off
Courant: off/Condizione: off
(95% +V)

+ V

Status: ein/State: on
Courant: on/Condizione: on
(max. 0.4 V DC)

0 V

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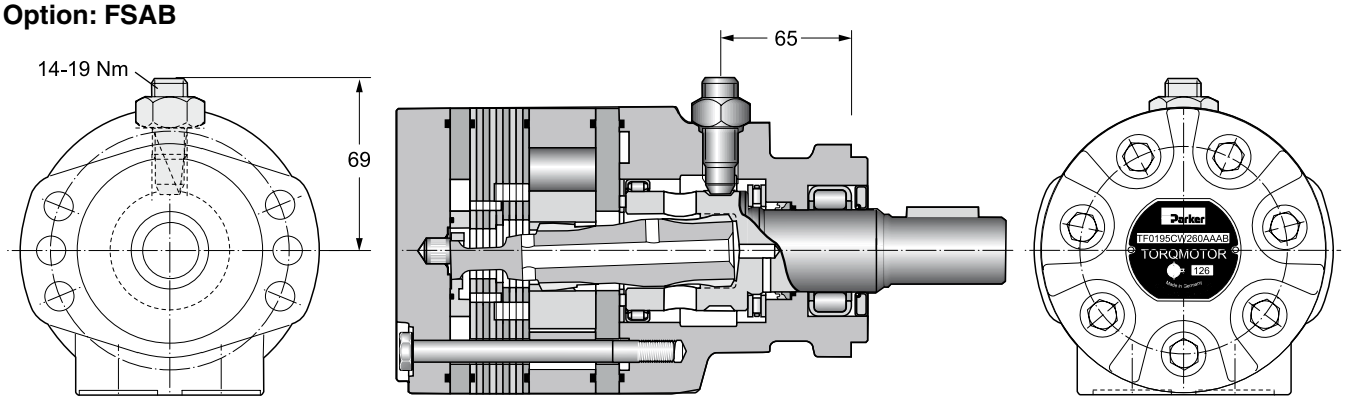
Pump and Motor Division
Chemnitz, Germany

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 polarite la tension d`alimentation, mais pas contre les courtcircuits.

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

Ordering Code

												F	S	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
TF
TG

Code TF	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 TG	cm³/rev
0140	140
0170	169
0195	195
0240	237
0280	280
0335	337
0405	405
0475	476
0530	529
0625	624
0785	786
0960	958

Code	Housing
E	

Code	Port
W	G 1/2

Code	Shaft
26[1]	25
08	
46	32

[1] Nur für TF Motoren
Only possible for TF motors
Possible seulement avec TF moteur
Possible solo con motore TF

Code	Direction
0	B A Standard
1	B A

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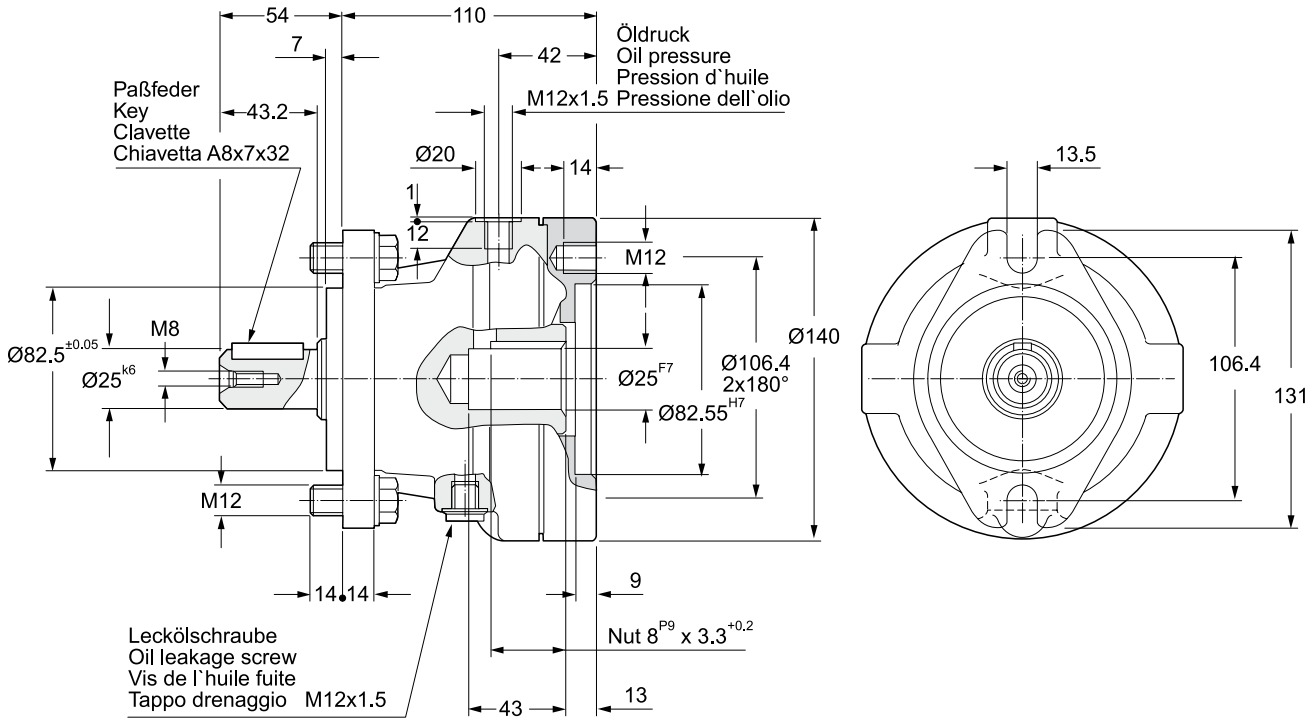
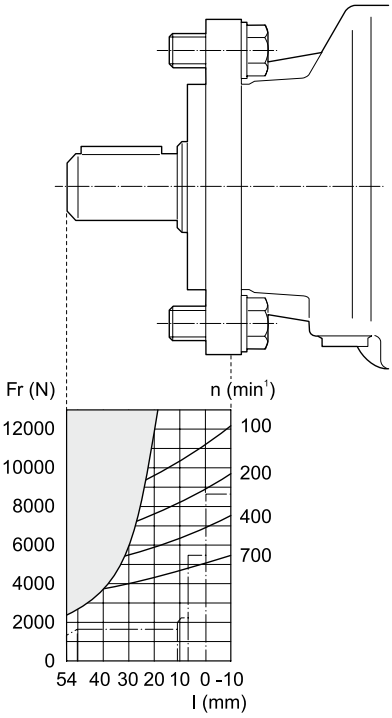
Chemnitz, Germany



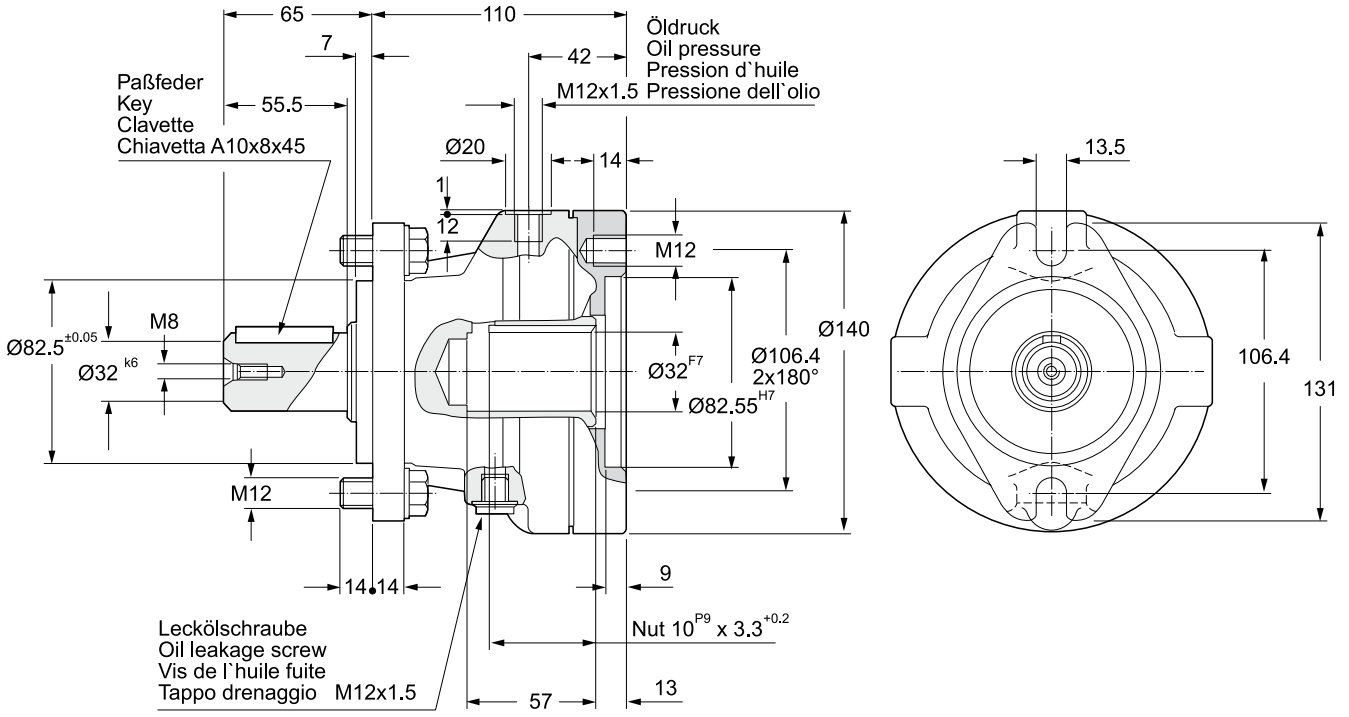
Bestellschlüssel / Ordering Code / Système de commande / Sistema di ordinazione

		Code		
Bremse einzeln / Single brake / Frein / Freno		**490111**	**490112**	**490113**
Motor-Bremse Motor-brake combination Combinaison moteur Assieme motore-freno		**JAAG**	**JAAD**	**JAAB**
Drehmoment (Trockenlauf)/Torque (dry operation) Couple/Coppia statica	stat. Mü Nm dyn. Ms Nm	580 450	400 320	270 215
Drehmoment (Nasslauf)/Torque (wet operation) Couple/Coppia statica	stat. Mü Nm dyn. Ms Nm	420 310	290 225	200 150
Luftüberdruck/Pressure rating/Pression de déblocage/Pressione sbloccaggio	p min. bar	22	16	11
	p max. bar	320		
Drehzahl/Speed Vitesse de rotation/Velocità di rotazione	n max. U/min n max. rev/min n max tr/min n maxi giri/min	2000		
Hubvolumen/Working stroke Cylindrée/Cilindrata	cm^3 min. cm^3 max.	5 14		
Massenträgheitsmoment/Mass moment of inertia/Moment m d`inertie de masse/Momento di inerzia	kgm^2	0.00065		
Gewicht/Weight/Poids/Peso	kg	8		



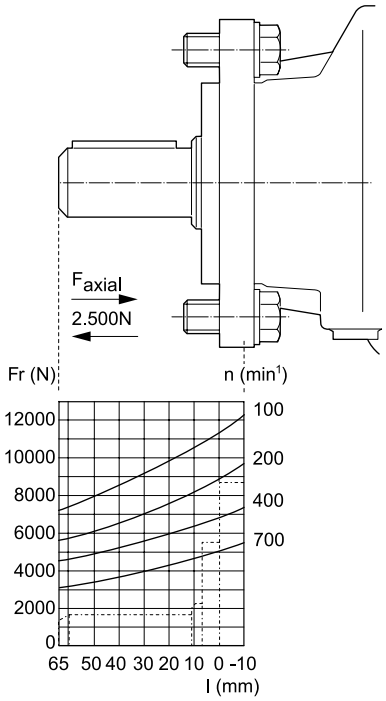
Zubehör / Fixtures / Fournitures / Part. di fissaggio

2 x M12x50 DIN 933



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

		Code		
Bremse einzeln / Single brake / Frein / Freno		**490114**	**490115**	**490116**
Motor-Bremse Motor-brake combination Combinaison moteur Assieme motore-freno		**JAAN**	**JAAL**	**JAAJ**
Drehmoment (Trockenlauf)/Torque (dry operation) Couple/Coppia statica	stat. Mü Nm dyn. Ms Nm	580 450	400 320	270 215
Drehmoment (Nasslauf)/Torque (wet operation) Couple/Coppia statica	stat. Mü Nm dyn. Ms Nm	420 310	290 225	200 150
Luftüberdruck / Pressure rating / Pression de déblocage / Pressione sbloccaggio	p min. bar	22	16	11
	p max. bar	320		
Drehzahl/Speed Vitesse de rotation/Velocità di rotazione	n max. U/min n max. rev/min n max tr/min n maxi giri/min	2000		
Hubvolumen/Working stroke Cylindrée/Cilindrata	cm^3 min. cm^3 max.	5 14		
Massenträgheitsmoment/Mass moment of inertia/Moment m d`inertie de masse/Momento di inerzia	kgm^2	0.00065		
Gewicht/Weight/Poids/Peso	kg	8		



Zubehör / Fixtures / Fournitures / Part. di fissaggio

2 x M12x50 DIN 933

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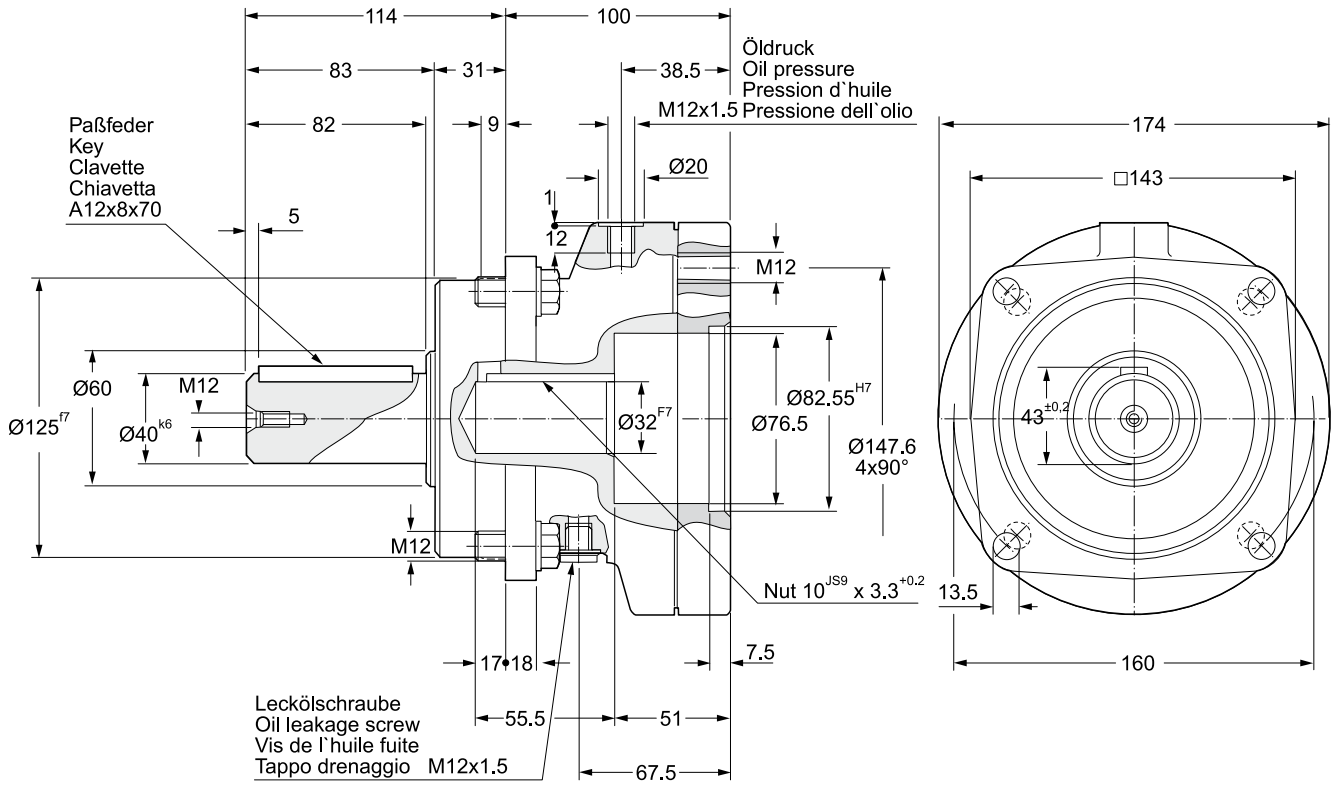
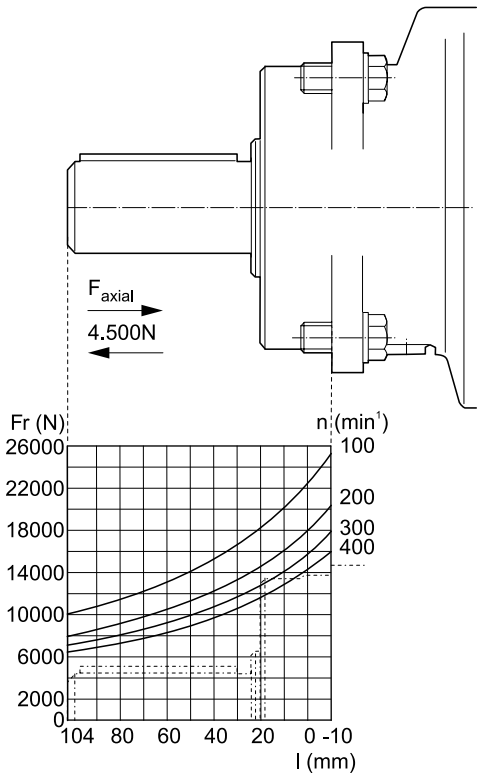
Pump and Motor Division
Chemnitz, Germany



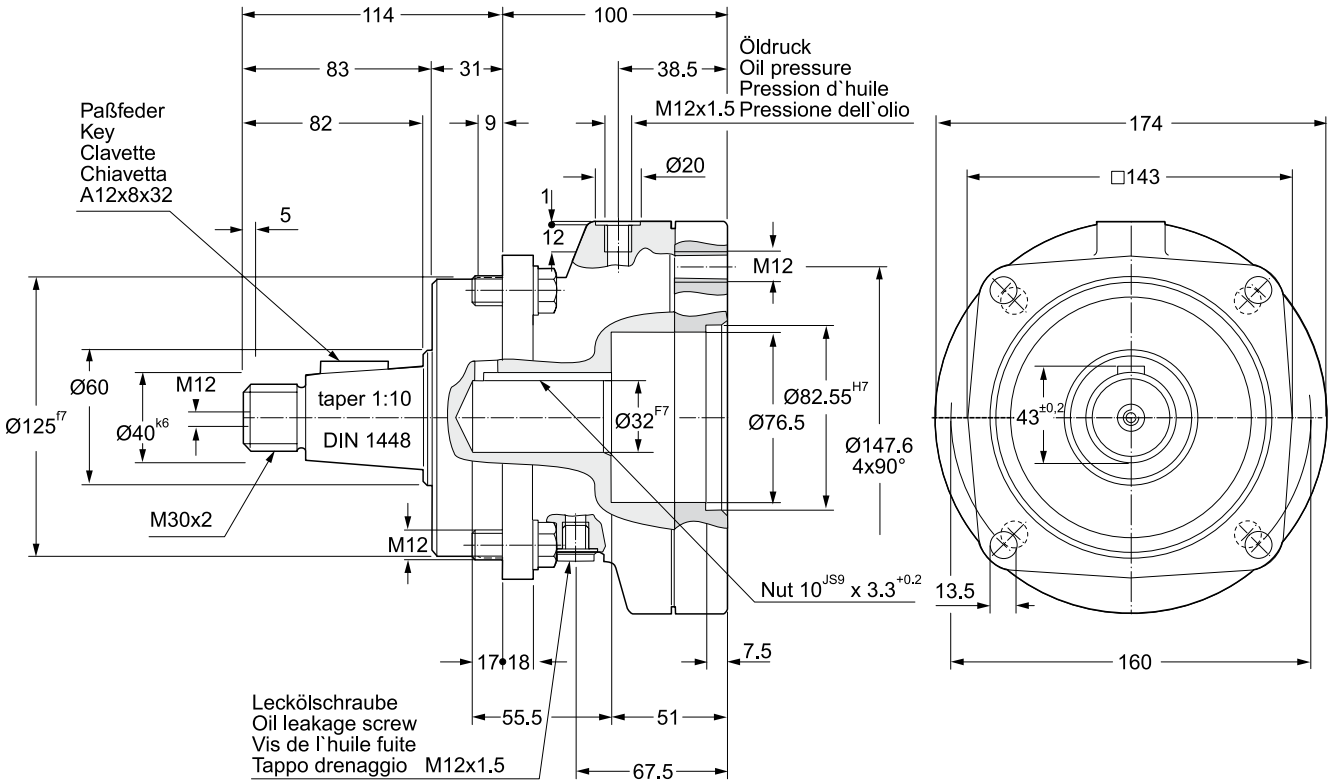
Bestellschlüssel / Ordering Code / Système de commande / Sistema di ordinazione

		Code
Bremse einzeln/Single brake Frein/Freno		**490117**
Motor-Bremse Motor-brake combination Combinaison moteur Assieme motore-freno		**JAAT**
Drehmoment (Trockenlauf)/Torque (dry operation) Couple/Coppia statica	stat. Mü Nm dyn. Ms Nm	1250 980
Drehmoment (Nasslauf)/Torque (wet operation) Couple/Coppia statica	stat. Mü Nm dyn. Ms Nm	900 680
Luftüberdruck/Pressure rating/Pression de débloca-ge/Pressione sbloccaggio	p min. bar	24
	p max. bar	320
Drehzahl/Speed Vitesse de rotation/Velocità di rotazione	n max. U/min n max. rev/min n max tr/min n maxi giri/min	4000
Hubvolumen/Working stroke Cylindrée/Cilindrata	cm^3 min. cm^3 max.	11 26
Massenträgheitsmoment/Mass moment of inertia/Mo-ment m d`inertie de masse/Momento di inerzia	kgm^2	0.00282
Gewicht/Weight/Poids/Peso	kg	15.3



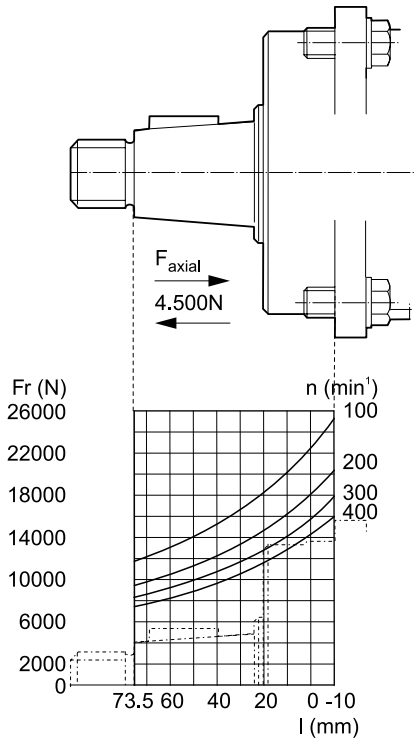
Zubehör / Fixtures / Fournitures / Part. di fissaggio

4 x M12x50 DIN 933



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

		Code
Bremse einzeln/Single brake Frein/Freno		**490118**
Motor-Bremse Motor-brake combination Combinaison moteur Assieme motore-freno		**JAAW**
Drehmoment (Trockenlauf)/Torque (dry operation) Couple/Coppia statica	stat. Mü Nm dyn. Ms Nm	1250 980
Drehmoment (Nasslauf)/Torque (wet operation) Couple/Coppia statica	stat. Mü Nm dyn. Ms Nm	900 680
Luftüberdruck/Pressure rating/Pression de débloca-ge/Pressione sbloccaggio	p min. bar	24
	p max. bar	320
Drehzahl/Speed Vitesse de rotation/Velocità di rotazione	n max. U/min n max. rev/min n max tr/min n maxi giri/min	4000
Hubvolumen/Working stroke Cylindrée/Cilindrata	cm^3 min. cm^3 max.	11 26
Massenträgheitsmoment/Mass Moment of inertia/Mo-ment m d`inertie de masse/Momento di inerzia	kgm^2	0.00282
Gewicht/Weight/Poids/Peso	kg	15.3

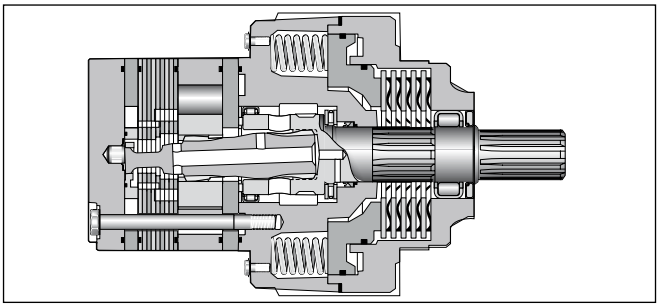


Zubehör / Fixtures / Fournitures / Part. di fissaggio

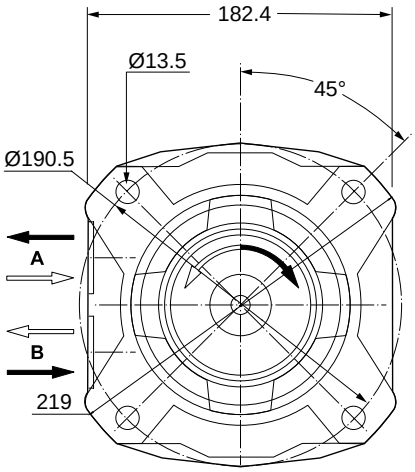
4 x M12x50 DIN 933

Kenndaten / Performance / Puissance / Potenza

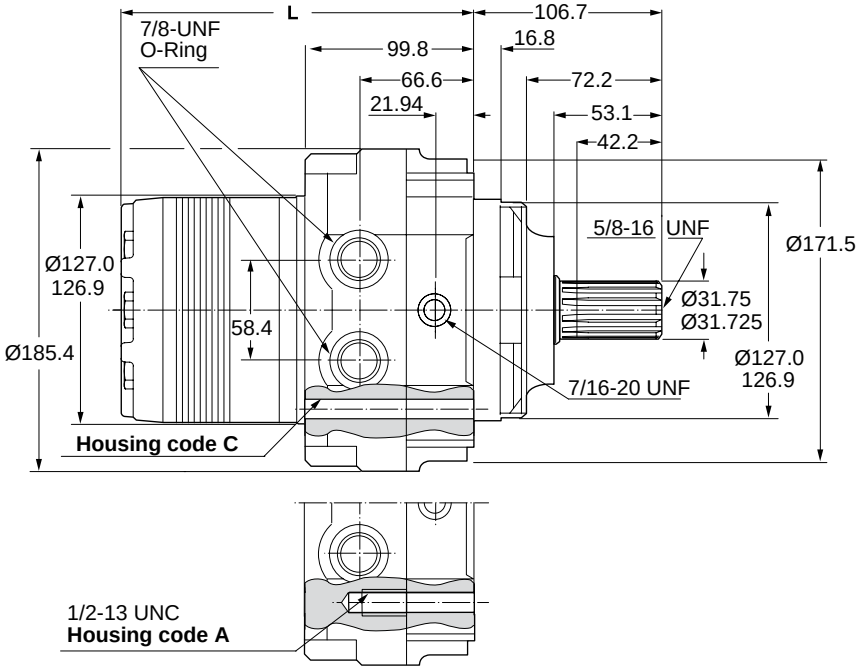
Drehmoment (Nasslauf)/Torque (wet operation)/Couple/Coppia statica	dyn. Ms Nm	1000
Luftüberdruck/Pressure rating/Pression de déblocage/Pressione sbloccaggio	p min. bar	19-21
	p max. bar	210
Drehzahl/Speed/ Vitesse de rotation/Velocità di rotazione	n max. U/min n max. rev/min n max tr/min n maxi giri/min	710
Hubvolumen/Working stroke Cylindrée/Cilindrata	cm^3 max.	22.5



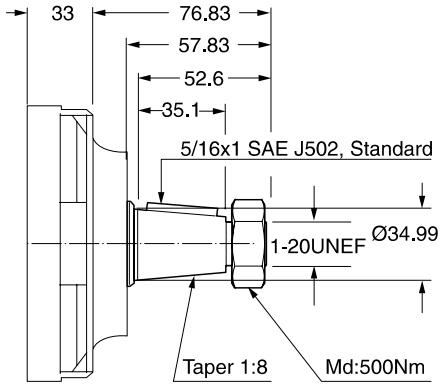
Gewicht / Weight		BG140	BG170	BG195	BG240	BG280	BG335	BG405	BG475	BG530	BG625	BG785	BG960
Poids / Peso	kg	27.3	27.5	27.8	28.1	28.5	28.9	29.5	30.2	30.9	31.7	33.2	34.9
Code A+C	"L" mm	192.3	195.3	198.6	203.2	208.0	214.4	221.7	230.4	236.7	246.1	265.2	284.2



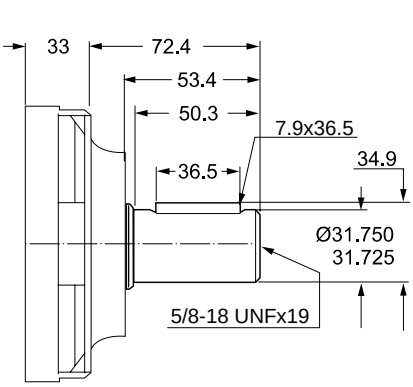
Shaft Code 05



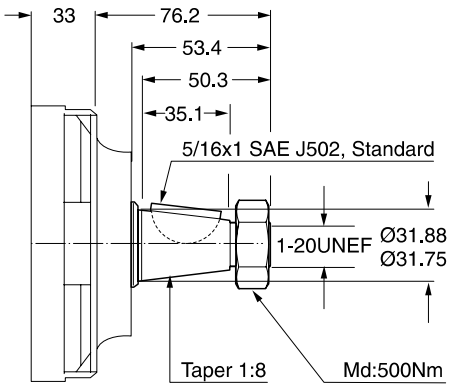
Shaft Code 19



Shaft Code 03



Shaft Code 08



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

Code	cm^3/rev
0140	140
0170	169
0195	195
0240	237
0280	280
0335	337
0405	405
0475	476
0530	529
0625	624
0785	786
0960	958

Code	Port
S	7/8-14 SAE O-Ring

Code	Direction
0	B A Standard
1	B A

Code	Shaft
05	Pitch 12/24
19	35.0
03	31.75
08	31.75

Code	Housing
A	
C	

Option Code	Discription Series	TF	TG	TH
AAAA	black paint	X	X	X
AAAH	FPM seals	X	X	
AABP	castle nut	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	
HAAH	external relief valve 140bar (M6)	X	X	
HAAU	external relief valve 140bar (M8)	X	X	
HAAK	external relief valve 170bar (M6)	X	X	
HAAX	external relief valve 170bar (M8)	X	X	
HAAM	external relief valve 200bar (M6)	X	X	
HABA	external relief valve 200bar (M8)	X	X	
JAAB	motor-brake combination 11bar	X		
JAAD	motor-brake combination 16bar	X		
JAAG	motor-brake combination 22bar	X		
JAAJ	motor-brake combination 11bar	X	X	
JAAL	motor-brake combination 16bar	X	X	
JAAN	motor-brake combination 22bar	X	X	
JAAT	motor-brake combination 22bar	X	X	
JAAW	motor-brake combination 22bar	X	X	

* For further options please contact the Parker sales organisation.

Empfohlen wird die Verwendung eines Hydrauliköls auf Mineralölbasis mit mindestens 0,1% Zinkadditiv als Antiverschleißzusatz. 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 mm^2/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).

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 120mm^2/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 couping 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).

Il est recommande 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 tempétrature 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 mm^2/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).

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 mm^2/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 / Geometric displacement / Cylindrée / Cilindrata	Max. Drehzahl / Max. speed / Vitesse de rotation maxi / Velocità di rotazione max	Max. Schluckstrom / Max. oil flow / Debit d'huile maxi / 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	
TE / TJ	**cm³/rev**	**rev/min**	**cont / int l/min**	**cont / int bar**	**bar**	**cont / int Nm**	**max KW**	Radiale Wellen-belastung Side loads Charges latérales Carico radiale
TE/TJ36	36	930 / 1160	35 / 42	140 / 190	200	55 / 70	8.5	
TE/TJ45	41	810 / 990	35 / 42	140 / 190	200	70 / 100	10	
TE/TJ50	50	725 / 935	35 / 45	140 / 175	200	90 / 115	11	
TE/TJ65	66	705 / 940	45 / 60	140 / 175	200	125 / 160	15	**TE 7.000 N** **TJ 14.000 N**
TE/TJ80	82	560 / 750	45 / 60	140 / 175	200	160 / 200	15	
TE/TJ100	98	470 / 630	45 / 60	140 / 175	200	190 / 240	15	
TE/TJ130	130	350 / 470	45 / 60	140 / 175	200	255 / 320	15	
TE/TJ165	163	280 / 375	45 / 60	140 / 175	200	310 / 395	15	
TE/TJ195	196	235 / 315	45 / 60	140 / 175	200	390 / 480	15	
TE/TJ230	228	265 / 330	60 / 75	120 / 150	200	380 / 480	15	
TE/TJ260	261	230 / 290	60 / 75	110 / 140	200	400 / 525	15	
TE/TJ295	293	200 / 255	60 / 75	100 / 130	200	410 / 520	13	
TE/TJ330	326	185 / 235	60 / 75	100 / 120	200	430 / 530	13	
TE/TJ365	370	150 / 200	60 / 75	95 / 110	200	467 / 558	11	
TE/TJ390	392	152 / 190	60 / 75	85 / 100	200	435 / 540	10	

TF	**cm³/rev**	**rev/min**	**cont / int l/min**	**cont / int bar**	**bar**	**cont / int Nm**	**max KW**	Radiale Wellen-belastung Side loads Charges latérales Carico radiale
TF 80	81	550/730	45/60	200/280	300	215/295	19	
TF 100	100	600/750	60/75	160/240	300	210/315	21	
TF 130	128	470/580	60/75	140/200	300	240/350	19	**TF 16.000 N**
TF 140	141	370/530	60/75	140/200	300	250/390	18	
TF 170	169	355/440	60/75	140/200	300	330/485	19	
TF 195	197	300/380	60/75	140/200	300	380/560	19	
TF 240	238	320/420	75/100	140/200	300	460/685	24	
TF 280	280	270/350	75/100	140/200	300	550/800	24	
TF 360	364	200/260	75/100	130/200	300	590/910	24	
TF 405	405	170/230	75/100	130/175	300	650/910	21	
TF 475	477	150/200	75/100	115/140	300	680/850	17	

TG/BG TH	**cm³/rev**	**rev/min**	**cont / int l/min**	**cont / int bar**	**bar**	**cont / int Nm**	**max KW**	Radiale Wellen-belastung Side loads Charges latérales Carico radiale
TG/BG, TH 140	140	530/710	75/100	200/280	300	400/ 545	33	
TG/BG, TH 170	169	440/575	75/100	200/280	300	485/ 670	33	
TG/BG, TH 195	195	380/510	75/100	200/280	300	560/ 770	33	
TG/BG, TH 240	237	320/420	75/100	200/280	300	685/ 945	32	**TG/BG 16.000 N** **TH 30.000 N**
TG/BG, TH 280	280	270/350	75/100	200/280	300	800/1100	31	
TG/BG, TH 335	337	225/290	75/100	200/280	300	980/1350	30	
TG/BG, TH 405	405	185/245	75/100	170/240	300	960/1350	27	
TG/BG, TH 475	476	160/240	75/115	140/200	300	960/1400	28	
TG/BG, TH 530	529	140/215	75/115	140/170	300	1050/1280	23	
TG/BG, TH 625	624	120/185	75/115	120/160	300	1040/1360	20	
TG/BG, TH 785	786	95/145	75/115	100/140	300	1150/1490	17	
TG/BG, TH 960	958	78/119	75/115	70/100	300	925/1390	12	

TK	**cm³/rev**	**rev/min**	**cont / int l/min**	**cont / int bar**	**bar**	**cont / int Nm**	**max KW**	Radiale Wellen-belastung Side loads Charges latérales Carico radiale
TK 250	251	520	114 / 133	240 / 310	330	815 / 1040	49	
TK 315	315	410	114 / 133	240 / 310	330	1030 / 1315	47	
TK 400	400	370	114 / 151	205 / 275	290	1150 / 1525	49	**TK 26.000 N**
TK 500	500	300	114 / 151	205 / 275	290	1440 / 1915	48	
TK 630	629	240	114 / 151	205 / 225	240	1620 / 1715	34	
TK 800	800	275	151 / 227	190 / 205	240	1915 / 2300	44	
TK 1000	1000	220	151 / 227	175 / 190	220	2410 / 2660	35	

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.

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