



PLANETENMOTOR HP ORBITAL MOTOR HP

ANWENDUNG

- Förderbänder
- Metallbearbeitungsmaschinen
- Textilmaschinen
- Landmaschinen
- Nahrungsmittelindustrie
- Grasschneidemaschinen

APPLICATION

- Conveyors
- Metal working machines
- Textile machines
- Agricultural machines
- Food industries
- Grass cutting machinery etc

BAUWEISE UND AUSFÜHRUNGEN

- Modell: Schieberventil, Rollgerotor
- Flanschbefestigung
- Seitliche Anschlüsse
- Wellen: Gerade, kegelförmig oder verzahnt
- SAE- und Verteileranschlüsse
- Drehzahlsensorik
- Sonderausführungen

CONSTRUCTION AND OPTIONS

- Model: Spool valve, roll-gerotor
- Flange mount
- Side ports
- Shafts: Straight, tapered or splined
- SAE and manifold ports
- Speed sensing
- Other special features

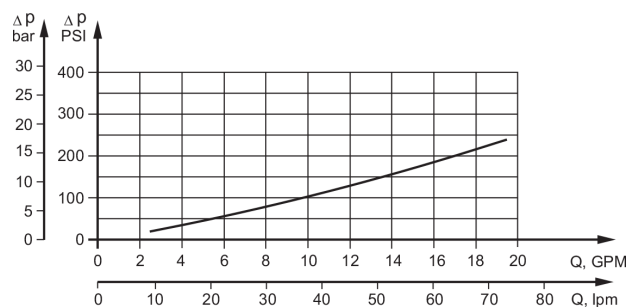
ÜBERSICHT OVERVIEW

Max. Schluckvolumen	Max. Displacement	cm ³ /U	ccm/rev	[in ³ /rev]	396 [24.16]
Max. Drehzahl	Max. Speed	U/min	rpm		1408
Max. Drehmoment	Max. Torque	daNm		[in/lb]	cont. 41,4 [3665] int. 51,1 [4520]
Max. Leistungsabgabe	Max. Output	kW		[HP]	12 [16.1]
Max. Druckgefälle	Max. Pressure drop	bar		[PSI]	cont. 125 [1815] int. 175 [2540]
Max. Ölstrom	Max. Oil flow	l/min	lpm	[GPM]	75 [19.8]
Min. Drehzahl	Min. Speed	U/min	rpm		10
Hydrauliköl	Pressure fluid				Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
Öltemperatur	Temperature range	° C		[° F]	-40÷140 [-40÷284]
Optimalviskosität	Optimal viscosity range	mm ² /s		[SUS]	20÷75 [98÷347]
Filtrierung	Filtration				ISO code 20/16 (min. empfohlene Filtrierung recommended filtration 25 µm)

ÖLSTROM LECKÖLLEITUNG OIL FLOW DRAIN LINE

Druckgefälle Pressure drop bar [PSI]	Viskosität Viscosity mm ² /s [SUS]	Ölstrom Oilflow l/min lpm [GPM]
100 [1450]	20 [98]	2,5 [.660]
	35 [164]	1,8 [.476]
2030 [140]	20 [98]	3,5 [925]
	35 [164]	2,8 [.740]

DRUCKVERLUST PRESSURE LOSSES



TECHNISCHE DATEN

TECHNICAL DATA

Typ Type		HP 25	HP 32	HP 40	HP 50	HP 80	HP 100
Schluckvolumen Displacement	cm ³ /U ccm/rev [in ³ /rev]	28,4 [1.73]	34,5 [2.11]	40,5 [2.47]	49,5 [3.02]	79,2 [4.83]	99,0 [6.04]
Max. Drehzahl Max. Speed U/min RPM	Dauerbetrieb Continuous	1055	1160	900	909	758	606
	Int. * Int. *	1600	1300	1110	1111	947	758
Max. Drehmoment Max. Torque daNm [lb-in]	Dauerbetrieb Continuous	3,3 [290]	5,2 [460]	6,5 [575]	8,1 [717]	12,9 [1141]	16,2 [1434]
	Int. * Int. *	4,5 [400]	7,0 [620]	9,0 [795]	11,2 [990]	17,9 [1585]	22,3 [1974]
	Spitze ** Peak **	6,9 [610]	8,8 [780]	11 [975]	13,7 [1210]	21,8 [1930]	27,3 [2420]
Max. Leistungsabgabe Max. Output kW [HP]	Dauerbetrieb Continuous	3,4 [4.60]	5,6 [7.5]	5,6 [7.5]	8,4 [11.3]	8,4 [11.3]	8,4 [11.3]
	Int. * Int. *	6,1 [8.2]	8,4 [11.3]	8,6 [11.5]	10,5 [14.1]	12 [16]	12 [16]
Max. Druckgefälle Max. Pressure drop bar [PSI]	Dauerbetrieb Continuous	100 [1450]	125 [1815]	125 [1815]	125 [1815]	125 [1815]	125 [1815]
	Int. * Int. *	140 [2030]	170 [2465]	175 [2540]	175 [2540]	175 [2540]	175 [2540]
	Spitze ** Peak **	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]
Max. Ölstrom Max. Oil flow l/min lpm [GPM]	Dauerbetrieb Continuous	30 [8]	40 [10.5]	40 [10.5]	45 [11.9]	60 [15.9]	60 [15.9]
	Int. * Int. *	40 [10.5]	45 [11.9]	45 [11.9]	55 [14.5]	75 [19.8]	75 [19.8]
Max. Eingangsdruck Max. Inlet pressure bar [PSI]	Dauerbetrieb Continuous	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]
	Int. * Int. *	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]
	Spitze ** Peak **	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]
Max. Rücklaufdruck mit Leckölleitung Max. Return pressure with drain line bar [PSI]	Dauerbetrieb Continuous	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]
	Int. * Int. *	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]
	Spitze ** Peak **	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]
Max. Anlaufdruck mit unbelasteter Welle Max. Starting pressure with unloaded shaft	bar [PSI]	10 [145]	10 [145]	10 [145]	10 [145]	10 [145]	10 [145]
Min. Anlaufmoment bei max. Druckgefälle Min. Starting torque at max. pressure drop daNm [lb-in]	Dauerbetrieb Continuous	3,0 [265]	4,8 [425]	6,4 [566]	7,4 [655]	11,8 [1045]	14,7 [1300]
	Int. * Int. *	4,1 [362]	6,4 [565]	8,2 [725]	10,2 [900]	16,3 [1440]	20,3 [1800]
Min. Drehzahl *** Min. Speed ***	U/min RPM	20	15	10	10	10	10
Gewicht Weight kg [lb]	HP	5,2 [11,5]	5,2 [11,5]	5,2 [11,5]	5,3 [11,7]	5,4 [11,9]	5,6 [12,3]
	HPQ	4,8 [10,6]	4,8 [10,6]	4,8 [10,6]	4,9 [10,8]	5,1 [11,25]	5,3 [11,69]

- * Intermittierend: Betrieb max. 10% pro Minute
- ** Spitze: max. 1% pro Minute
- *** Für Drehzahlen kleiner der min. Drehzahl sprechen Sie uns bitte an.
- Intermittierende Druckgefälle und Ölströme dürfen nicht gleichzeitig erreicht werden.
- Minimale Viskosität 13 mm²/s [70 SUS] bei 50 °C [122 °F]
- Maximale Öltemperatur während des Betriebs 82 °C [180 °F]
- Die Lebensdauer der Motoren kann erhöht werden, wenn die Antriebswelle 10-15 Minuten vor voller Belastung frei läuft.

- * Intermittent: Working max. 10% per minute
- ** Peak: max. 1% per minute
- *** For speeds lower than given, please consult us.
- Int. speed and pressure should not occur simultaneously.
- Recommended min. oil viscosity 13 mm²/s [70 SUS] at 50 °C [122 °F]
- Recommended max. system operating temperature is 82 °C [180 °F]
- To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 minutes.

TECHNISCHE DATEN

TECHNICAL DATA

Typ Type		HP 125	HP 160	HP 200	HP 250	HP 315	HP 400
Schluckvolumen Displacement	cm ³ /U ccm/rev [in ³ /rev]	123,8 [7.55]	158,4 [9.66]	198 [12.1]	247,5 [15.1]	316,8 [19.3]	396 [24.16]
Max. Drehzahl Max. Speed U/min RPM	Dauerbetrieb Continuous	485	379	303	242	189	152
	Int. * Int. *	606	473	379	303	237	189
Max. Drehmoment Max. Torque daNm [lb-in]	Dauerbetrieb Continuous	20,2 [1790]	23,8 [460]	27,1 [575]	32,3 [717]	37,2 [1141]	41,4 [1434]
	Int. * Int. *	27,9 [2470]	31,7 [2805]	38,3 [3390]	41,5 [3675]	49,0 [4340]	51,1 [4520]
	Spitze ** Peak **	34,2 [3025]	43,7 [3870]	54,6 [4830]	54,6 [4830]	62,1 [5500]	63,1 [5585]
Max. Leistungsabgabe Max. Output kW [HP]	Dauerbetrieb Continuous	8,4 [11.3]	7,7 [10.3]	7,1 [9.5]	6,7 [9]	6,1 [8.2]	5,4 [7.2]
	Int. * Int. *	12 [16]	12 [16]	12 [16]	10,7 [14.3]	9,8 [13.1]	8,2 [11]
Max. Druckgefälle Max. Pressure drop bar [PSI]	Dauerbetrieb Continuous	125 [1815]	115 [1670]	105 [1520]	100 [1450]	90 [1305]	80 [1160]
	Int. * Int. *	175 [2540]	155 [2250]	150 [2175]	130 [1885]	120 [1740]	100 [1450]
	Spitze ** Peak **	225 [3260]	225 [3260]	225 [3260]	180 [2610]	160 [2320]	130 [1885]
Max. Ölstrom Max. Oil flow l/min lpm [GPM]	Dauerbetrieb Continuous	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]
	Int. * Int. *	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]
Max. Eingangsdruck Max. Inlet pressure bar [PSI]	Dauerbetrieb Continuous	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]
	Int. * Int. *	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]
	Spitze ** Peak **	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]
Max. Rücklaufdruck mit Leckölleitung Max. Return pressure with drain line bar [PSI]	Dauerbetrieb Continuous	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]
	Int. * Int. *	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]
	Spitze ** Peak **	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]
Max. Anlaufdruck mit unbelasteter Welle Max. Starting pressure with unloaded shaft	bar [PSI]	10 [145]	10 [145]	7 [100]	7 [100]	7 [100]	7 [100]
Min. Anlaufmoment bei max. Druckgefälle Min. Starting torque at max. pressure drop daNm [lb-in]	Dauerbetrieb Continuous	18,4 [1630]	21,6 [565]	24,7 [2190]	29,4 [2600]	33,9 [3000]	37,6 [3330]
	Int. * Int. *	25,1 [2250]	28,8 [2550]	34,9 [3090]	37,8 [3345]	44,6 [3950]	46,5 [4115]
Min. Drehzahl *** Min. Speed ***	U/min RPM	10	10	10	10	10	10
Gewicht Weight kg [lb]	HP	5,7 [12.6]	5,9 [13.0]	6,1 [13.4]	6,3 [13.9]	6,6 [14.6]	7,1 [15.7]
	HPQ	5,4 [11.91]	5,6 [12.35]	5,8 [12.79]	6,0 [13.23]	6,3 [13.89]	6,7 [14.8]

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- Recommended min. oil viscosity 13 mm²/s [70 SUS] at 50 °C [122 °F]
- Recommended max. system operating temperature is 82 °C [180 °F]
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HP					U			
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1.	Montageflansch Mounting flange
frei omit	SAE, zwei Löcher SAE A, two holes
Q	Quadratisch, vier Schrauben Square, four bolts
V	Sehr kurzer Einbau Very short mount
W	Radflansch Wheel mount

2.	Schluckvolumen Displacement
25	28,4 cm /rev [1.73 in /rev]
32	34,5 cm /rev [2.11 in /rev]
40	40,5 cm /rev [2.47 in /rev]
50	49,5 cm /rev [3.02 in /rev]
80	79,2 cm /rev [4.83 in /rev]
100	99,0 cm /rev [6.04 in /rev]
125	123,8 cm /rev [9.66 in /rev]
160	158,4 cm /rev [9.74 in /rev]
200	198,0 cm /rev [12.10 in /rev]
250	247,5 cm /rev [15.10 in /rev]
315	316,8 cm /rev [19.30 in /rev]
400	396,0 cm /rev [24.16 in /rev]

3.	Abtriebswelle Shaft Extensions
C	1" [25,4] gerade, Scheibenfeder 1" [25,4] straight, Woodruff key
G	1" [25,4] SAE 6B Verzahnung 1" [25,4] SAE 6B Splined
H	1" [25,4] gerade, w/.315 [8] Querbohrung 1" [25,4] straight, w/.315 [8] Cross-hole
S	7/8" [22,2] 13T Keilverzahnung 7/8" [22,2] 13T Splined
T	1" [25,4] SAE J501 Kegelförmig 1" [25,4] SAE J501 Tapered
M	Gerade, ø Paßfeder A8x7x32 DIN 6885 Straight, ø Parallel key A8x7x32 DIN 6885
CP	Gerade, ø Paßfeder A8x7x32 DIN 6885 Straight, ø Parallel key A8x7x32 DIN 6885
CL	1" [25,4] gerade, Passfeder / "x / "x1 / " BS46 1" [25,4] straight, Parallel key / "x / "x1 / " BS46
CW	ø25 gerade, ø Paßfeder A8x7x32 DIN 6885 ø25 straight, ø Parallel key A8x7x32 DIN 6885
CH	ø25 gerade, Scheibenfeder ø / "x1" SAE J502 ø25 straight, Woodruff key ø / "x1" SAE J502
SH	1" [25,4], SAE 6B verzahnt 1" [25,4], SAE 6B Splined
SL	1" [25,4], SAE 6B verzahnt 1" [25,4], SAE 6B Splined

4.	Version Wellendichtung Shaft seal version
frei omit	Standard Wellendichtung Standard shaft seal
U	Hochdruck Wellendichtung High pressure shaft

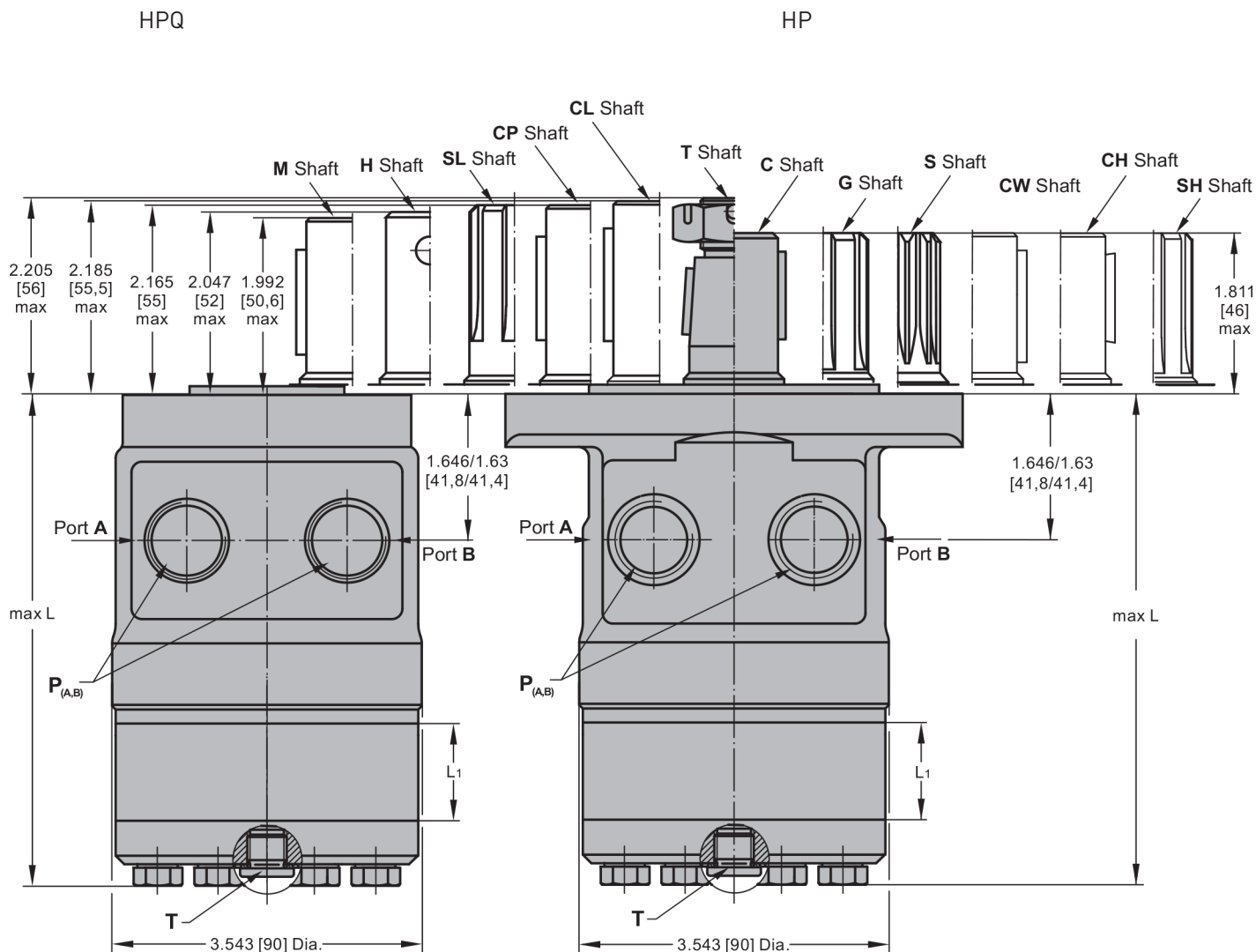
5.	Anschlüsse Ports
1	Standard Wellendichtung Side ports, Manifold [5/16-18 UNC Mounting Threads], 7/16-20 UNF Seitliche Anschlüsse, Verteiler [5/16-18 UNC Montage
2	seitliche Anschlüsse, 2xG1/2,G1/4 side ports, 2xG1/2,G1/4
3	seitliche Anschlüsse, Verteiler (M8 Montagegewinde), 7/16-20 UNF side ports, Manifold [M8 Mounting Threads], 7/16-20 UNF
4	seitliche Anschlüsse, 2x7/8-14 UNF, O-Ring, 7/16-20 UNF side ports, 2x7/8-14 UNF, O-ring, 7/16-20 UNF
5	seitliche Anschlüsse. 2x1/2-14 NPTF, 7/16.20 UNF side ports, 2x1/2-14 NPTF, 7/16-20 UNF

6.	Sonderausführungen Special features
RS	Drehzahlsensor Speed sensor
T	Tachowelle Tacho connection
LL	Geringeres Lecköl Low Leakage
LSV	Ventil für kleine Drehzahlen Low speed valve
R	Drehrichtung umgedreht Reverse rotation
P	Lackiert (Farbe auf Anfrage) Paint (colour on request)
PC	Korrosionsschutzfarbe (Farbe auf Anfrage) Corrosion protected paint (colour on request)
PS	Speziallackierung (Anschlussflächen blank / Farbe auf Anfrage) Paint (non painted feeding surfaces / colour on request)
PCS	Korrosionsschutzfarbe Spezial (Anschlussflächen blank / Farbe auf Anfrage) Corrosion prot. paint special (non painted feeding surfaces / on request)

7.	Design Serie Design Series
frei omit	Betriebsspezifisch Factory specified

ABMESSUNGEN UND MONTAGEDATEN FÜR HP

DIMENSIONS AND MOUNTING DATA FOR HP



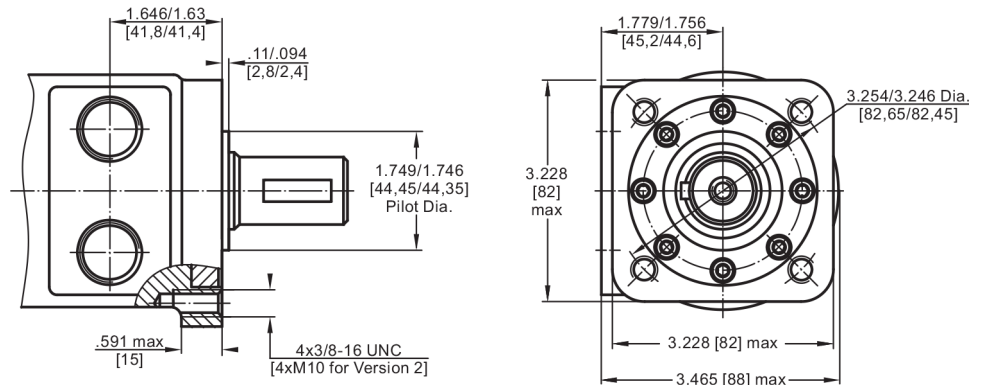
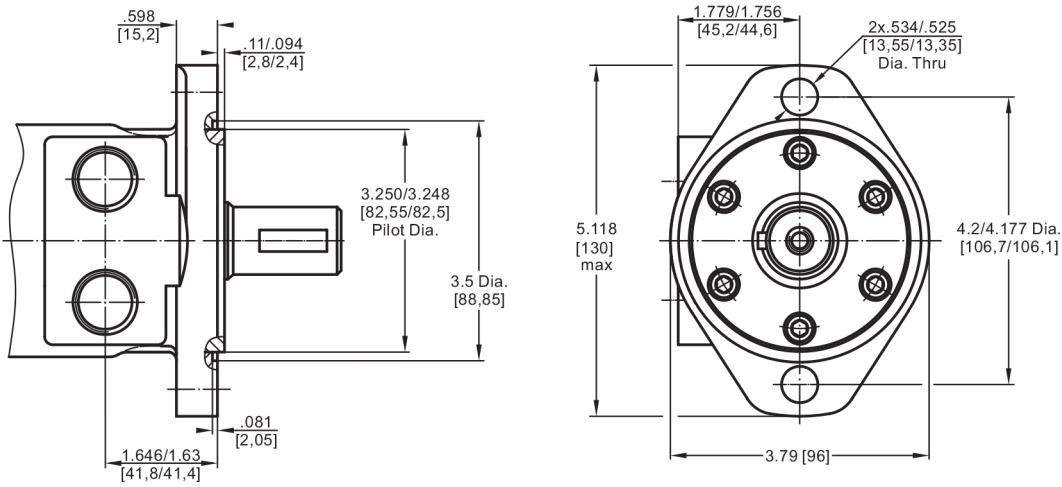
Type	Lmax, in [mm]	L1, in [mm]
HP(Q) 25	4.69 [119,0]	.21 [5,20]
HP(Q) 32	4.72 [120,0]	.25 [6,30]
HP(Q) 40	4.76 [121,0]	.29 [7,40]
HP(Q) 50	4.74 [120,5]	.26 [6,67]
HP(Q) 80	4.90 [124,5]	.42 [10,67]
HP(Q) 100	5.00 [127,0]	.52 [13,33]
HP(Q) 125	5.14 [130,5]	.66 [16,67]
HP(Q) 160	5.32 [135,0]	.84 [21,33]
HP(Q) 200	5.53 [140,5]	1.05 [26,67]
HP(Q) 250	5.79 [147,0]	1.31 [33,33]
HP(Q) 315	6.16 [156,5]	1.68 [42,67]
HP(Q) 400	6.57 [167,0]	2.10 [53,33]

Standard-Drehung
 Anschluss A rechtsdrehend
 Anschluss A CCW
 Vom Wellenende aus gesehen
 Standard Rotation
 Port A CW
 Port A CCW
 Viewed from Shaft End

Umgekehrte Drehung
 Anschluss A CCW
 Anschluss B rechtsdrehend
 Vom Wellenende aus gesehen
 Reverse Rotation
 Port A CCW
 Port B CW
 Viewed from Shaft End

Montage Mounting

SAE Flansch SAE Flange

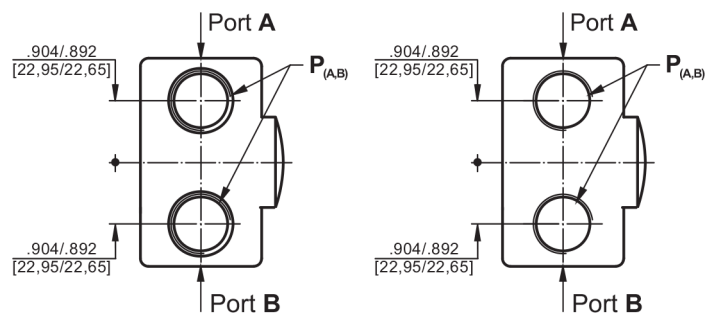
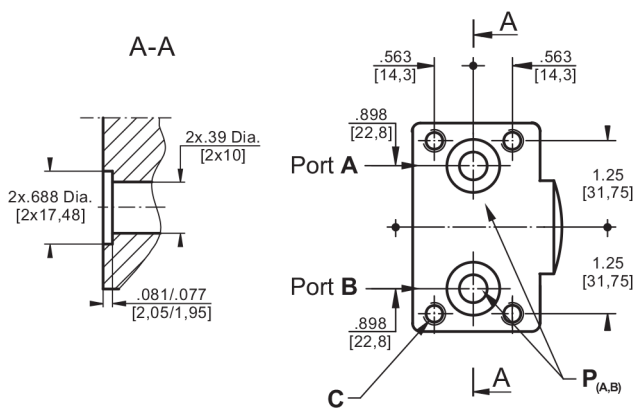


Seitliche Anschlüsse Side Ports

Version **1**, **3**

Version **4**

Version **2**, **5**

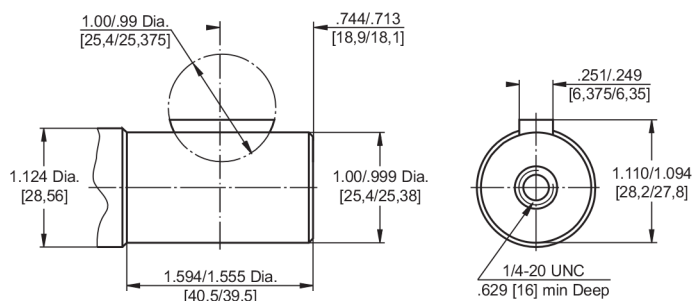


Versions					
	1	2	3	4	5
C	4x -18UNC		4x M8		
P (A,B)	2x.39 Dia. [2x10]	2XG1/2	2x.39 Dia. [2x10]	2x -14UNF	2x -14NPTF
T	7/16 -20UNF	G1/4	7/16 -20UNF	7/16 -20UNF	7/16 -20UNF

WELLENVERLÄNGERUNGEN FÜR HP- UND HR-MOTOREN SHAFT EXTENSIONS FOR HP AND HR MOTORS

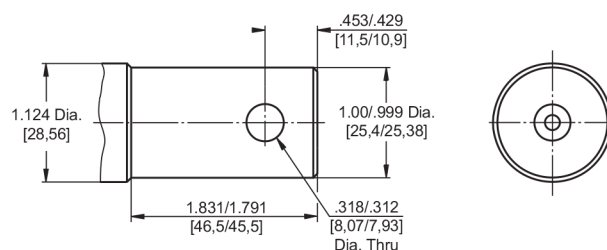
C

1" [25,4] gerade, Scheibenfeder 1/4 "x1" SAE J502
Max. Drehmoment 3009 lb-in [34 daNm]
1" [25,4] straight, Woodruff key 1/4"x1" SAE J502
Max. Torque 3009 lb-in [34 daNm]



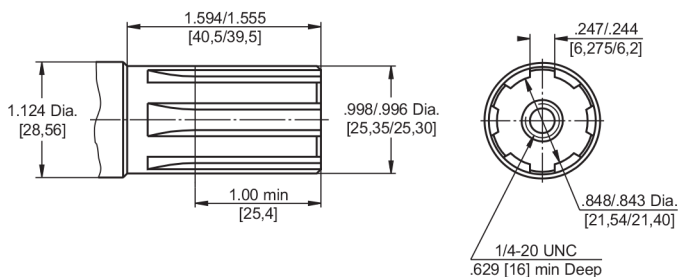
H

1" [25,4] gerade, mit .315 [8] Querloch
Max. Drehmoment 3009 lb-in [34 daNm]
1" [25,4] straight, w/ .315 [8] Crosshole
Max. Torque 3009 lb-in [34 daNm]



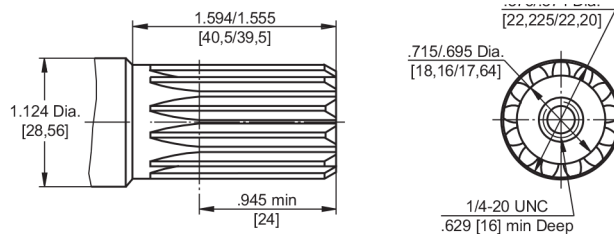
G

1" [25,4], SAE 6B Verzahnung
Max. Drehmoment 3540 lb-in [40 daNm]
1" [25,4], SAE 6B Splined
Max. Torque 3540 lb-in [40 daNm]

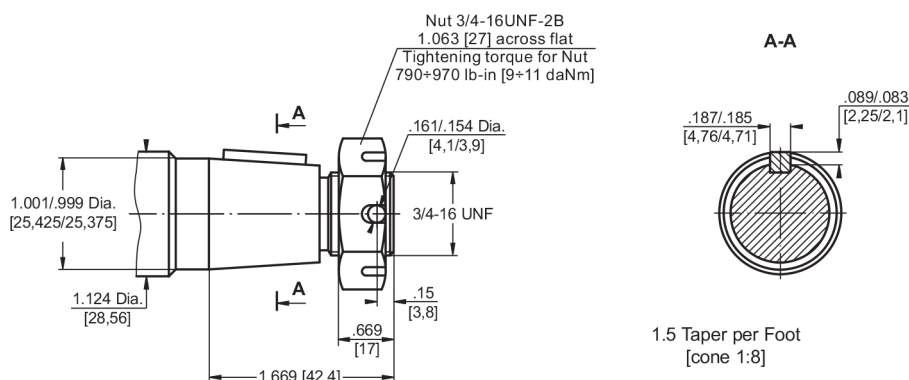


S

13Zahnkranz, 7/8" [22,2], ANS B 92.1-1976
Max. Drehmoment 3200 lb-in [36 daNm]
13T Splined, 7/8" [22,2], ANS B 92.1-1976
Max. Torque 3200 lb-in [36 daNm]

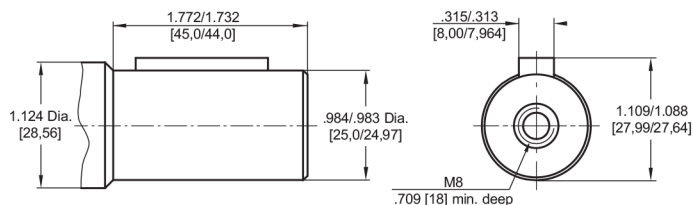


T



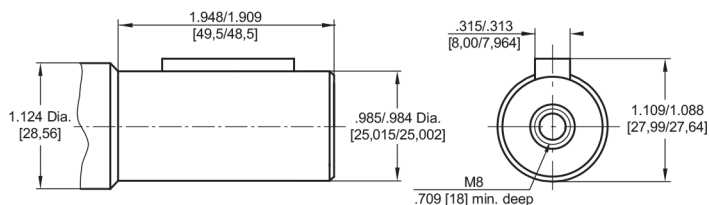
M

ø25 , Passfeder A8x7x32 DIN 6885
 Max. Drehmoment 3009 [34 daNm]
 gerade lb-in
 ø25 , Parallel key A8x7x32 DIN 6885
 Max. Torque 3009 [34 daNm]. straight
 lb-in



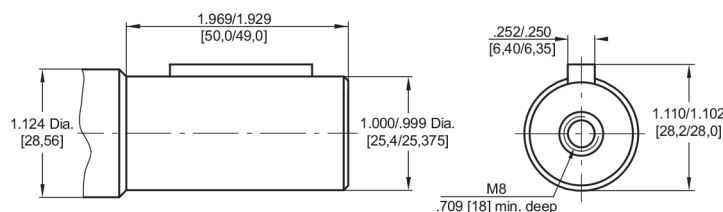
CP

ø25 , Passfeder A8x7x32 DIN 6885
 Max. Drehmoment 3009 [34 daNm]
 gerade, lb-in
 ø25 , Parallel key A8x7x32 DIN 6885
 Max. Torque 3009 [34 daNm], straight
 lb-in



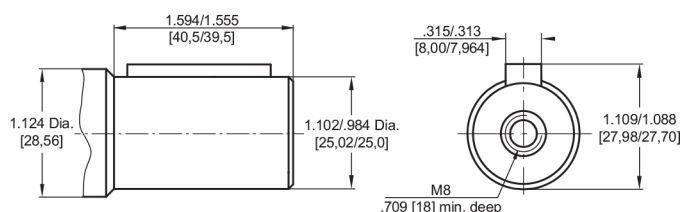
CL

1" [25,4] , Passfeder 1/4 "x1/4 "x1 1/4 " BS46
 Max. Drehmoment 3009 [34 daNm]
 1" [25,4] , Parallel key 1/4"x1/4 "x1 1/4 " BS46
 Max. Torque 3009 [34 daNm]



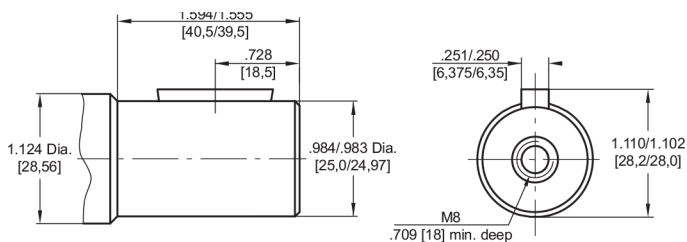
CW

ø25 , Passfeder A8x7x32 DIN 6885
 Max. Drehmoment 3009 [34 daNm]
 ø25 , Parallel key A8x7x32 DIN 6885
 Max. Torque 3009 [34 daNm]



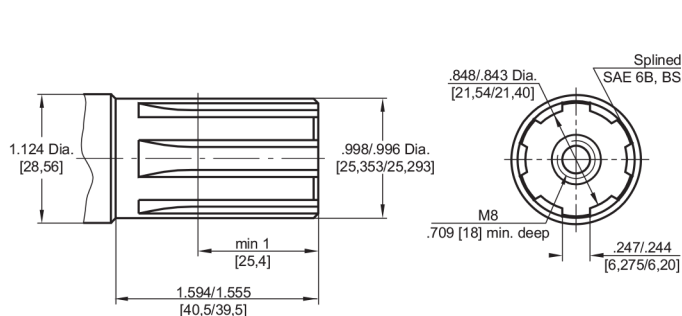
CH

ø25 gerade, Scheibenfeder 1/4 "x1" SAE J502
 Max. Drehmoment 3009 [34 daNm]
 ø25 straight, Woodruff key 1/4"x1" SAE J502
 Max. Torque 3009 [34 daNm]



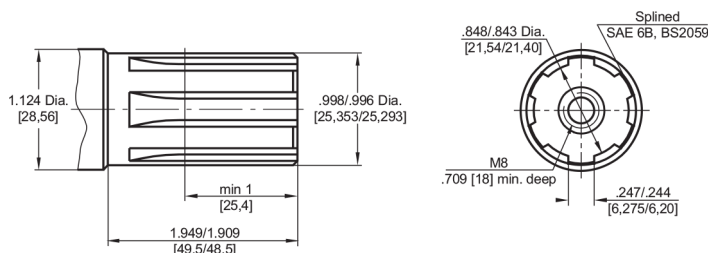
SH

1" [25,4] , SAE 6B Verzahnung
 Max. Drehmoment 3540 lb-in [40 daNm]
 1" [25,4] , SAE 6B Splined
 Max. Torque 3540 lb-in [40 daNm]



SL

1" [25,4] , SAE 6B Verzahnung
 Max. Drehmoment 3540 lb-in [40 daNm]
 1" [25,4] , SAE 6B Splined
 Max. Torque 3540 lb-in [40 daNm]



WELLENVERLÄNGERUNGEN FÜR HP- UND HR-MOTOREN

SHAFT EXTENSIONS FOR HP AND HR MOTORS

Die zulässige radiale Wellenbelastung ist abhängig von der Drehzahl RPM und dem Abstand des Lastpunktes zum Befestigungsflansch ab.

The permissible radial shaft load depends on the speed RPM and distance from the point of load to the mounting flange.

$$\text{Radiale Schattendruckbelastung } P_{\text{rad}} = \frac{650}{\text{RPM}} \times \frac{23200}{89+L} \text{ ,daN*}$$

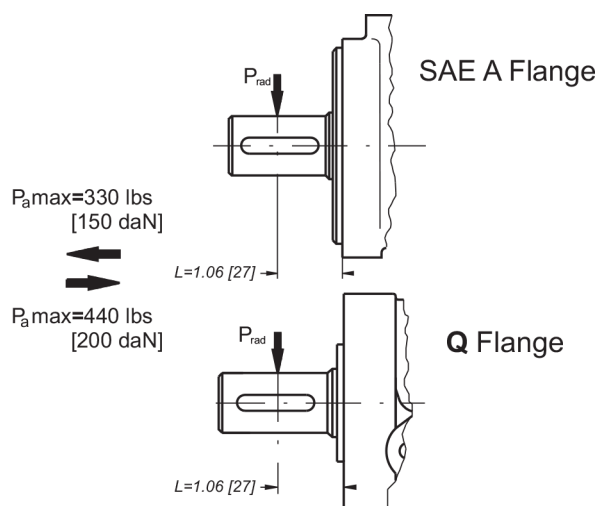
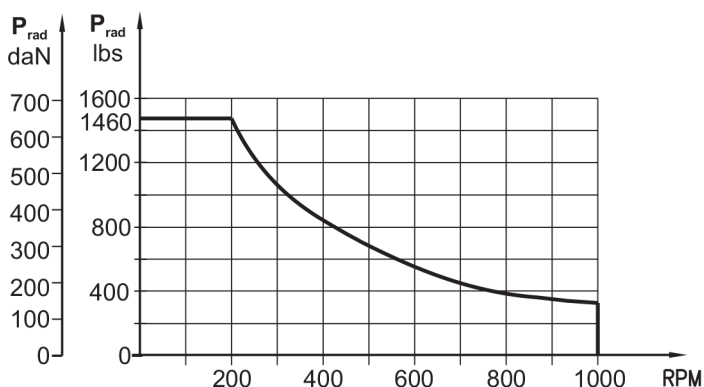
*L - in mm.

$$\text{Radiale Schattendruckbelastung } P_{\text{rad}} = \frac{1460}{\text{RPM}} \times \frac{913}{3.5+L} \text{ ,lbs*}$$

*L - in inch.

RPM < 200> max Prad=1460 lbs [650 daN]

RPM ≥200; L < 2.2 in. [55 mm]



MAX. ZULÄSSIGER WELLENDICHTUNGSDRUCK FÜR HP- UND HR-MOTOREN

MAX. PERMISSIBLE SHAFT SEAL PRESSURE FOR HP AND HR MOTORS

<p>HP...1 und HR...1 Motoren ohne Abwasseranschluss</p> <p>HP...1 and HR...1 motors without drain connection:</p>	<p>HP... und HR... Motoren mit Entleerungsanschluss:</p> <p>HP... and HR... motors with drain connection:</p>	<p>HP...K und HR...K Motoren mit Rückschlagventilen und Entleerungsanschluss:</p> <p>HP...K and HR...K motors with check valves and drain connection:</p>	<p>HP... und HR... mit Rückschlagventilen und K1 K1 Motoren ohne Entleerungsanschluss:</p> <p>HP... and HR... with check valves and K1 K1 motors without drain connection:</p>
<p>Der Druck der Wellendichtung entspricht dem Durchschnitt des Eingangsdrucks und des Rücklaufdrucks.</p> <p>The shaft seal pressure equals the average of input pressure and return pressure.</p> $P_{\text{seal}} = \frac{P_{\text{input}} + P_{\text{return}}}{2}$	<p>Der Druck der Wellendichtung ist gleich dem Druck in der der Ablassleitung.</p> <p>The shaft seal pressure equals the pressure in the drain line.</p>	<p>Der Druck der Wellendichtung ist gleich dem Druck in der der Ablassleitung.</p> <p>The shaft seal pressure equals the pressure in the drain line.</p>	<p>Der Druck der Wellendichtung übersteigt niemals den Druck in der Rücklaufleitung.</p> <p>The shaft seal pressure never exceeds the pressure in the return line.</p>

