



PLANETENMOTOR SP ORBITAL MOTOR SP

ANWENDUNG

- o Förderbänder
- o Metallbearbeitungsmaschinen
- o Fördertechnik für Roboter
- o Landmaschinen
- o Nahrungsmittelindustrie
- o Textilmaschinen
- o u.a.

APPLICATION

- o Conveyors
- o Metal working machines
- o Feeding mechanism of robots and maipulators
- o Agricultural machines
- o Food industries
- o Textile machines
- o etc.

BAUWEISE UND AUSFÜHRUNGEN

- o Modell: Längsschieberventil, Planetensatz
- o Ovalflansch oder Quadratflansch
- o Anschlüsse: Seitlich, BSPP Gewinde
- o Wellen: Zylindrisch oder verzahnt

CONSTRUCTION AND OPTIONS

- o Model: Spool valve, gerotor
- o Ovalflange or squareflange
- o Ports: Side ports, BSPP threaded
- o Shafts: Straight or splined

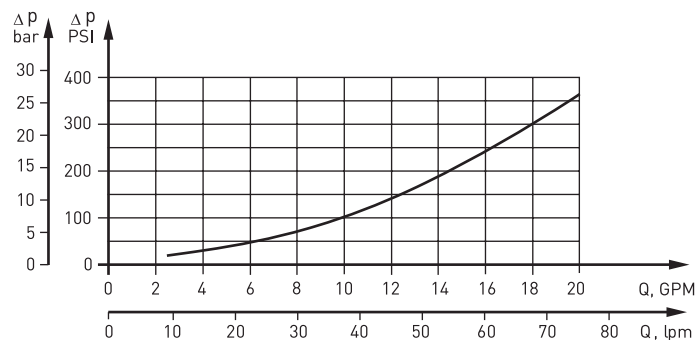
ÜBERSICHT OVERVIEW

Max. Schluckvolumen	Max. Displacement	cm ³ /U	ccm/rev	[in ³ /rev]	396,0 [24.16]
Max. Drehzahl	Max. Speed	U/min	rpm		1515
Max. Drehmoment	Max. Torque	daNm		[in/lb]	46,0 [3240]
Max. Leistungsabgabe	Max. Output	kW		[HP]	17,5 [23.5]
Max. Druckgefälle	Max. Pressure drop	bar		[PSI]	175 [2540]
Max. Ölstrom	Max. Oil flow	l/min	lpm	[GPM]	75 [20]
Min. Drehzahl	Min. Speed	U/min	rpm		10
Hydrauliköl	Pressure fluid				HLP (DIN 51524) oder 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]
140 [2030]	20 [98]	3,5 [.925]
	35 [164]	2,8 [.740]

DRUCKVERLUST PRESSURE LOSSES



TECHNISCHE DATEN TECHNICAL DATA

Wellenoption C und CO Shaft option C and CO

Typ Type		SP 50	SP 80	SP 100	SP 125	SP 160	SP 200	SP 250	SP 315	SP 400
Schluckvolumen Displacement	cm ³ /U ccm/rev [in ³ /rev]	49,5 [3.02]	79,2 [4.83]	99,0 [6.04]	123,8 [7.55]	158,4 [9.66]	198,0 [12.10]	247,5 [15.10]	316,8 [19.30]	396,0 [24.16]
Max. Drehzahl Max. Speed U/min RPM	Dauerbetrieb Continuous	1210	755	605	486	378	303	242	190	150
	Int. * Int. *	1515	945	755	605	472	378	303	236	189
Max. Drehmoment Max. Torque daNm [lb-in]	Dauerbetrieb Continuous	9,4 [832]	15,1 [1336]	19,3 [1708]	23,7 [2100]	30,0 [2655]	30,0 [2655]	27,6 [2442]	29,5 [2610]	28,5 [2522]
	Int. * Int. *	11,9 [1054]	19,5 [1725]	23,7 [2097]	29,8 [2637]	37,8 [3345]	36,5 [3230]	35,5 [3142]	36,6 [4070]	36,0 [3185]
	Spitze ** Peak **	14,0 [1240]	22,0 [1947]	27,0 [2390]	36,5 [3230]	42,0 [3717]	53,0 [4700]	54,0 [4780]	59,0 [5222]	59,0 [5222]
Max. Leistungsabgabe Max. Output kW [HP]	Dauerbetrieb Continuous	9,9 [13.30]	9,9 [13.30]	9,9 [13.30]	9,9 [13.30]	9,9 [13.30]	9,5 [12.70]	6,0 [8.10]	4,0 [5.40]	3,0 [4.00]
	Int. * Int. *	12,5 [16.80]	12,5 [16.80]	12,5 [16.80]	12,5 [16.80]	12,5 [16.80]	12,5 [16.80]	13,2 [17.70]	5,8 [7.80]	5,0 [6.70]
Max. Druckgefälle Max. Pressure drop bar [PSI]	Dauerbetrieb Continuous	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	115 [1670]	85 [1233]	70 [1015]	55 [798]
	Int. * Int. *	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	140 [2030]	110 [1450]	90 [1305]	70 [1015]
	Spitze ** Peak **	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	180 [2610]	160 [2320]	130 [1885]
Max. Ölstrom Max. Oil flow l/min lpm [GPM]	Dauerbetrieb Continuous	60 [16.0]	60 [16.0]	60 [16.0]	60 [16.0]	60 [16.0]	60 [16.0]	60 [16.0]	60 [16.0]	60 [16.0]
	Int. * Int. *	75 [20.0]	75 [20.0]	75 [20.0]	75 [20.0]	75 [20.0]	75 [20.0]	75 [20.0]	75 [20.0]	75 [20.0]
Max. Eingangsdruck Max. Inlet pressure bar [PSI]	Dauerbetrieb Continuous	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]
	Int. * Int. *	200 [2900]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	200 [2900]
	Spitze ** Peak **	225 [3260]	225 [3260]	225 [3260]	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]	9 [131]	8 [116]	7 [100]	6 [87]	5 [73]	5 [73]
Min. Anlaufmoment Min. Starting torque	daNm [lb-in]	7,7 [681]	14,0 [1240]	16,8 [1487]	21,0 [1860]	28,0 [2478]	28,5 [2522]	26,5 [2345]	26,5 [2345]	26,5 [2345]

* Intermittierend: Betrieb max. 10% pro Minute

** Spitze: max. 1% pro Minute

○ 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

○ 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

Wellenoption SH Shaft option SH

Typ Type		SP 50	SP 80	SP 100	SP 125	SP 160	SP 200	SP 250	SP 315	SP 400
Schluckvolumen Displacement	cm ³ /U ccm/rev [in ³ /rev]	49,5 [3.02]	79,2 [4.83]	99,0 [6.04]	123,8 [7.55]	158,4 [9.66]	198,0 [12.10]	247,5 [15.10]	316,8 [19.30]	396,0 [24.16]
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Max. Drehmoment Max. Torque daNm [lb-in]	Dauerbetrieb Continuous	9,4 [832]	15,1 [1336]	19,3 [1708]	23,7 [2100]	30,0 [2655]	36,6 [3240]	38,0 [3360]	38,0 [3360]	36,0 [3190]
	Int. * Int. *	11,9 [1054]	19,5 [1725]	23,7 [2097]	29,8 [2637]	37,8 [3345]	45,6 [4035]	45,0 [3980]	46,0 [4035]	46,0 [4035]
	Spitze ** Peak **	14,0 [1240]	22,0 [1947]	27,0 [2390]	36,5 [3230]	42,0 [3717]	53,0 [4700]	67,0 [5930]	85,0 [7523]	85,0 [7523]
Max. Leistungsabgabe Max. Output kW [HP]	Dauerbetrieb Continuous	9,9 [13.30]	9,9 [13.30]	9,9 [13.30]	9,9 [13.30]	9,9 [13.30]	10,3 [13.80]	8,0 [10.70]	6,0 [8.10]	4,8 [6.40]
	Int. * Int. *	12,5 [16.80]	12,5 [16.80]	12,5 [16.80]	12,5 [16.80]	12,5 [16.80]	15,3 [20.50]	17,5 [23.50]	8,2 [10.90]	9,2 [12.30]
Max. Druckgefälle Max. Pressure drop bar [PSI]	Dauerbetrieb Continuous	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	110 [1450]	90 [1305]	70 [1015]
	Int. * Int. *	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	140 [2030]	140 [2030]	90 [1305]
	Spitze ** Peak **	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	180 [2610]
Max. Ölstrom Max. Oil flow l/min lpm [GPM]	Dauerbetrieb Continuous	60 [16.0]	60 [16.0]	60 [16.0]	60 [16.0]	60 [16.0]	60 [16.0]	60 [16.0]	60 [16.0]	60 [16.0]
	Int. * Int. *	75 [20.0]	75 [20.0]	75 [20.0]	75 [20.0]	75 [20.0]	75 [20.0]	75 [20.0]	75 [20.0]	75 [20.0]
Max. Eingangsdruck Max. Inlet pressure bar [PSI]	Dauerbetrieb Continuous	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]
	Int. * Int. *	200 [2900]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	200 [2900]
	Spitze ** Peak **	225 [3260]	225 [3260]	225 [3260]	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]	9 [131]	8 [116]	7 [100]	6 [87]	5 [73]	5 [73]
Min. Anlaufmoment Min. Starting torque	daNm [lb-in]	7,7 [681]	14,0 [1240]	16,8 [1487]	21,0 [1860]	28,0 [2478]	34,6 [3062]	34,5 [3050]	35,0 [3098]	35,0 [3098]

- * Intermittierend: Betrieb max. 10% pro Minute
 ** Spitze: max. 1% pro Minute
- 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
- 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.

BESTELLCODE ORDER CODE

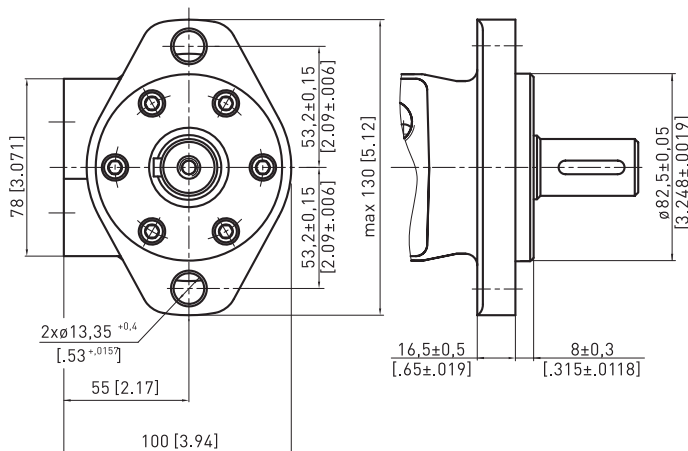
SP	1	2	3	4	5	6
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1.	Montageflansch Mounting flange
frei omit	Ovalflansch, zwei Befestigungslöcher Oval mount two holes
Q	Quadratflansch, vier Gewindebohrungen Square mount four bolts
2.	Schluckvolumen Displacement
50	49,5 cm ³ /U ccm/rev. [3.02 in ³ /rev]
80	79,2 cm ³ /U ccm/rev. [4.83 in ³ /rev]
100	99,0 cm ³ /U ccm/rev. [6.04 in ³ /rev]
125	123,8 cm ³ /U ccm/rev. [7.55 in ³ /rev]
160	158,4 cm ³ /U ccm/rev. [9.66 in ³ /rev]
200	198,0 cm ³ /U ccm/rev. [12.10 in ³ /rev]
250	247,5 cm ³ /U ccm/rev. [15,10 in ³ /rev]
315	316,8 cm ³ /U ccm/rev. [19.30 in ³ /rev]
400	396,0 cm ³ /U ccm/rev. [24.16 in ³ /rev]

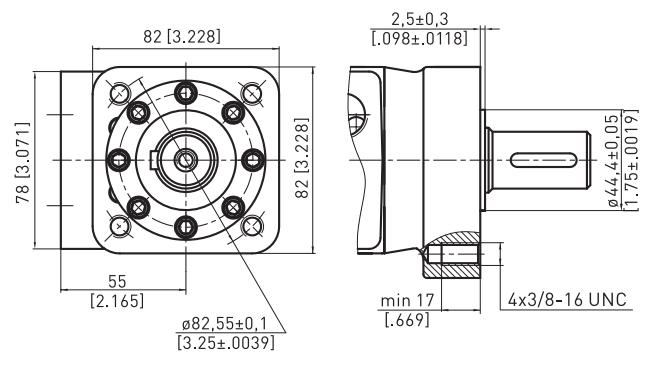
3.	Abtriebswelle (Zul. Momentabgabe darf nicht überschritten werden) Shaft (Permissible output torque should not be exceeded)
C	Zylindrisch Ø25, Passfeder A8x7x30 DIN6885 Straight Ø25, parallel key A8x7x30 DIN6885
CO	Zylindrisch Ø1", Passfeder 1/4"x1/4"x1" BS246 Straight Ø1", parallel key 1/4"x1/4"x1" BS246
SH	Verzahnt Ø25,32 BS2059 (SAE 6 B) Splined Ø25,32, BS2059 (SAE 6 B)
4.	Version Wellendichtung Shaft seal version
frei omit	Standard Wellendichtung Standard shaft seal
U	Hochdruck Wellendichtung High pressure shaft
5.	Sonderausführungen Special features
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)
6.	Design Serie Design series
frei omit	Betriebspezifisch Factory specified

1. MONTAGEFLANSCH 1. MOUNTING FLANGE

Standard: Ovalflansch, 2 Befestigungslöcher
Standard: Oval mount, 2 holes

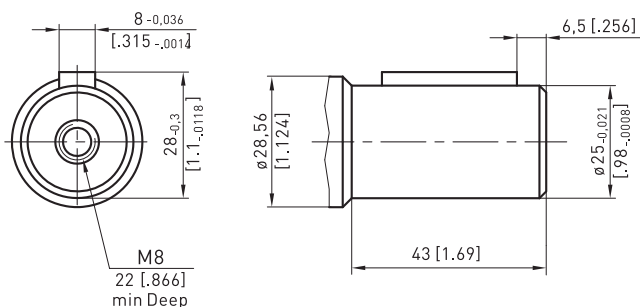


Option Q: Quadratflansch, 4 Gewindebohrungen
Option Q: Square mount, 4 bolts

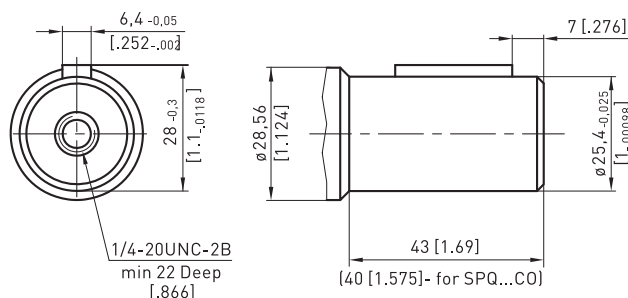


3. ABTRIEBSWELLE 3. SHAFT

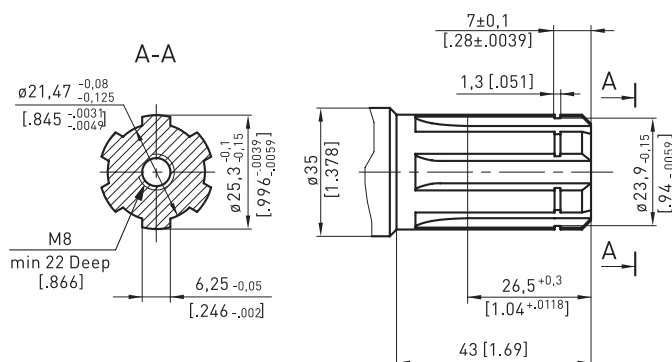
Option C: Zylindrisch Ø25 mm
Option C: Straight Ø 25 mm



Option CO: Zylindrisch Ø1"
Option CO: Straight Ø1"



Option SH: Verzahnt SAE 6 B
Option SH: Splined SAE 6 B

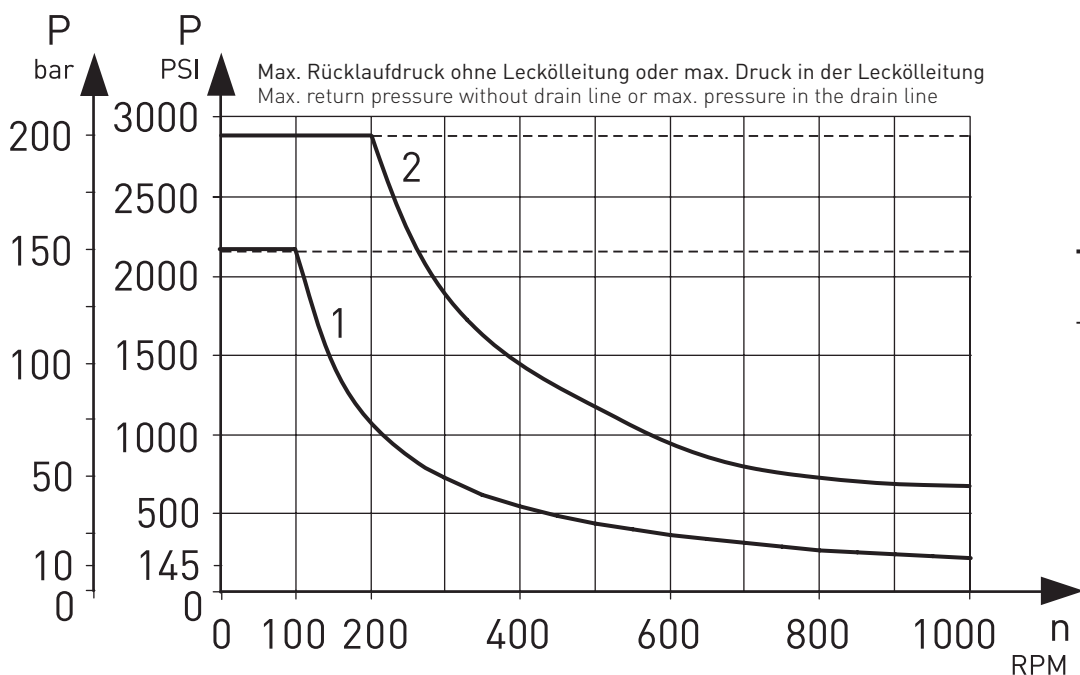


Zulässige Drehmomentabgabe
Permissible output torque

Zulässige Drehmomentabgabe je nach Wellentyp Permissible output torque based on shaft type daNm [lb-in]		
C	CO	SH
34 [3010]	34 [3010]	40 [3540]

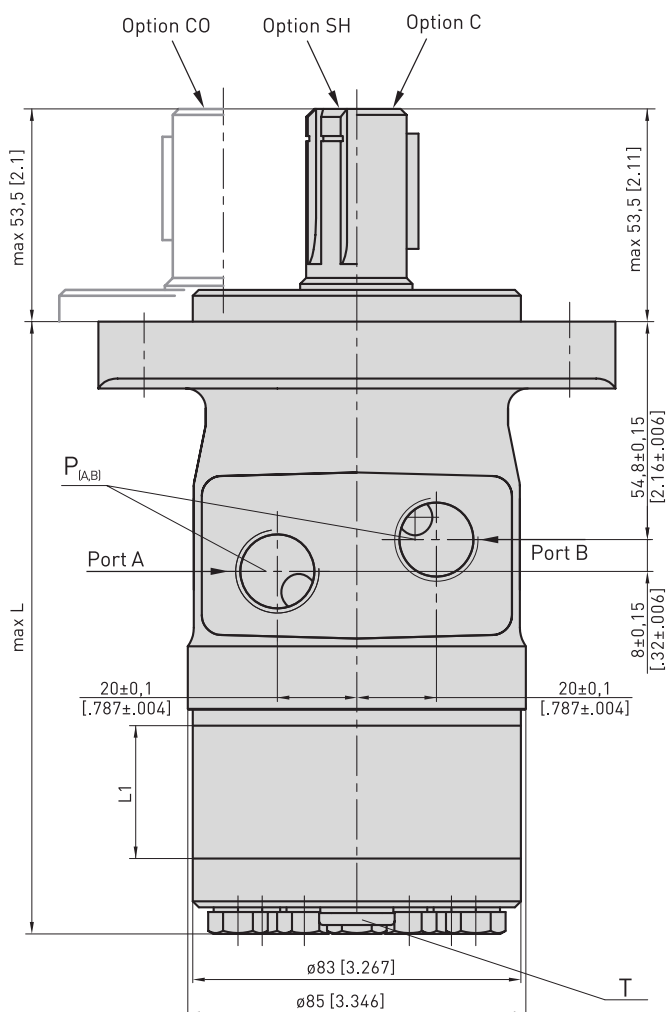
4. VERSION WELLENDICHTUNG 4. SHAFT SEAL VERSION

Max. Druck auf die Wellendichtung
Max. permissible shaft seal pressure



EINBAUMAß DIMENSION

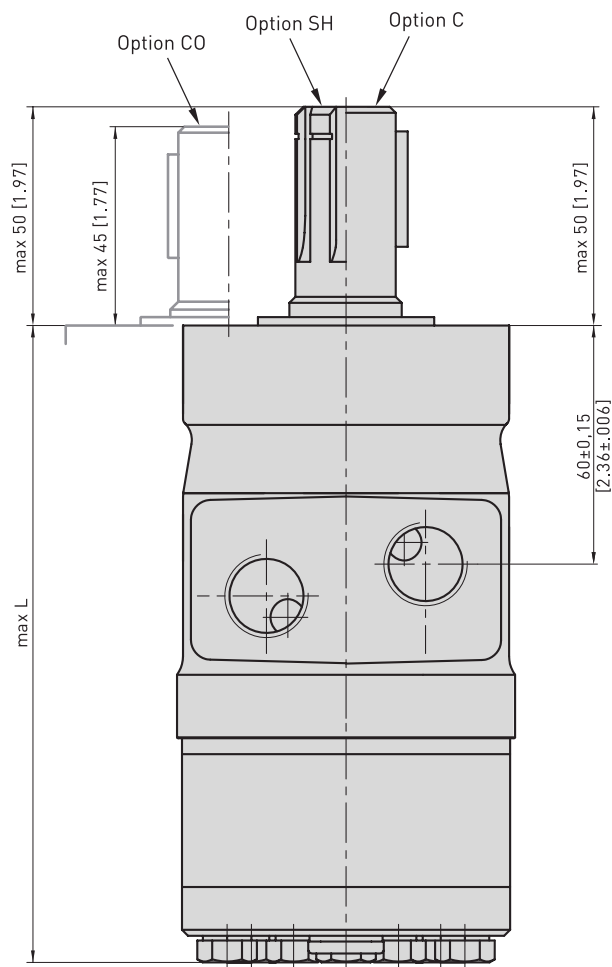
Montageflansch Option Standard Mounting flange option standard



Standarddrehung
mit Blick auf Abtriebswelle
Druck auf Anschluss A - rechtsdrehend
Druck auf Anschluss B - linksdrehend
Reversierdrehung (5. - Option R)
mit Blick auf Abtriebswelle
Druck auf Anschluss A - linksdrehend
Druck auf Anschluss B - rechtsdrehend

Standard rotation
Viewed from shaft end
Port A pressurised- right running
Port B pressurised- left running
Reverse rotation (5. - Option R)
Viewed from shaft end
Port A pressurised- left running
Port B pressurised- right running

Montageflansch Option Q Mounting flange option Q



P (A,B): 2xG1/2 - 18mm [.709 in] tief deep
T: G1/4 - 8,5 mm [.47 in] tief deep

Typ Type	L, mm [in]	Typ Type	L, mm [in]	L ₁ , mm [in]
SP 50	128,0 [5.04]	SP-Q 50	134,0 [5.28]	6,67 [.26]
SP 80	132,0 [5.19]	SP-Q 80	138,0 [5.43]	10,67 [.42]
SP 100	134,5 [5.29]	SP-Q 100	140,9 [5.55]	13,33 [.52]
SP 125	138,0 [5.43]	SP-Q 125	144,0 [5.67]	16,67 [.66]
SP 160	142,5 [5.61]	SP-Q 160	148,9 [5.86]	21,33 [.84]
SP 200	148,0 [5.83]	SP-Q 200	154,0 [6.06]	26,67 [1.05]
SP 250	154,5 [6.08]	SP-Q 250	160,9 [6.33]	33,33 [1.31]
SP 315	164,0 [6.46]	SP-Q 315	170,0 [6.69]	42,67 [1.68]
SP 400	174,5 [6.87]	SP-Q 400	180,9 [7.12]	53,33 [2.10]

WEITERE TECHNISCHE INFORMATIONEN FURTHER TECHNICAL INFORMATION

Zulässige Wellenbelastung SP Permissible shaft load SP

Die zulässige radiale Wellenbelastung P_{rad} hängt ab von den Drehzahlen (n) und Abstand (L) zwischen dem Angriffspunkt der Last und dem Befestigungsflansch.

The permissible radial shaft load P_{rad} depends on the speed (n) and the distance (L) from the point of load to the mounting flange and shaft version.

Montageflansch Option Standard Mounting flange option standard

$$P_{rad} = \frac{800}{n} \times \frac{24300}{91,5+L} [\text{daN}]^*$$

$$\left[\frac{800}{\text{RPM}} \times \frac{2150}{3.6+L} \right] [\text{lbs}]$$

* $n \leq 200$ U/min RPM: Max $P_{rad} = 800$ daN [1800 lbs]
 $n \geq 200$ U/min RPM: $L < 55$ mm [2.2 in]

Montageflansch Option Q Mounting flange option Q

$$P_{rad} = \frac{800}{n} \times \frac{24300}{97,5+L} [\text{daN}]^*$$

$$\left[\frac{800}{\text{RPM}} \times \frac{2150}{3.84+L} \right] [\text{lbs}]$$

* $n \leq 200$ U/min RPM: Max $P_{rad} = 800$ daN [1800 lbs]
 $n \geq 200$ U/min RPM: $L < 55$ mm [2.2 in]

Radiale Wellenbelastung P_{rad} für Wellenoptionen C und CO bei $L=30$ mm [1.18 in] [24 mm [.94 in]]
 Radial shaft load P_{rad} for shaft options C and CO at $L=30$ mm [1.18 in] [24 mm [.94 in]]

