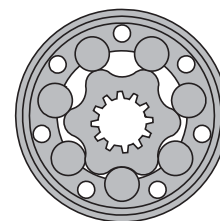
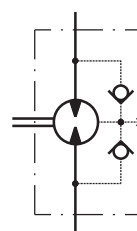


HYDRAULIC MOTORS RK



APPLICATION

- » Conveyors
- » Feeding mechanism of robots and manipulators
- » Metal working machines
- » Textile machines
- » Agricultural machines
- » Food industries
- » Mining machinery etc.



CONTENTS

Specification data 80
 Dimensions and mounting ... 81
 Shaft extensions 82
 Order code 82

OPTIONS

- » Model - Spool valve, gerotor
- » Antifriction conical bearing
- » Flange mount
- » Shafts - straight, splined and tapered
- » Metric and BSPP ports
- » Other special features

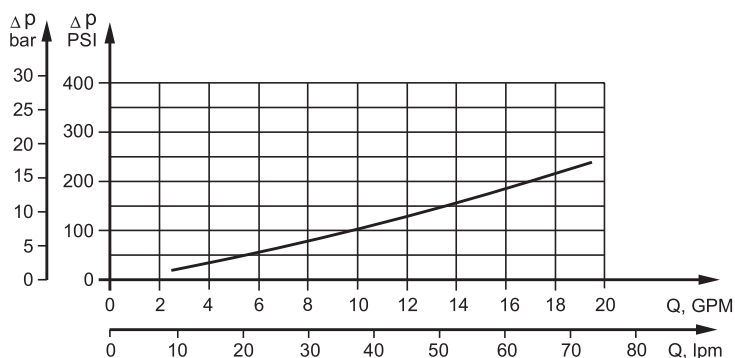
GENERAL

| | |
|---|--|
| Max. Displacement, cm ³ /rev [in ³ /rev] | 397 [24.4] |
| Max. Speed, [RPM] | 970 |
| Max. Torque, daNm [lb-in] | cont.: 40 [3540] int.: 50 [4425] |
| Max. Output, kW [HP] | 12,8 [17.2] |
| Max. Pressure Drop, bar [PSI] | cont.: 140 [2030] int.: 175 [2540] |
| Max. Oil Flow, lpm [GPM] | 75 [18.5] |
| Min. Speed, [RPM] | 10 |
| Pressure fluid | Mineral based- HLP(DIN 51524) or HM(ISO 6743/4) |
| Temperature range, °C [°F] | -40÷140 [-40÷284] |
| Optimal Viscosity range, mm ² /s [SUS] | 20÷75 [98÷347] |
| Filtration | ISO code 20/16 (Min. recommended fluid filtration of 25 microns) |

Oil flow in drain line

| Pressure drop bar [PSI] | Viscosity mm ² /s [SUS] | Oil flow in drain line 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] |

Pressure Losses



SPECIFICATION DATA

| Type | RK 50 | RK 80 | RK 100 | RK 125 | RK 160 | RK 200 | RK 250 | RK 315 | RK 400 | |
|---|-------------------|-------------|-------------|--------------|--------------|---------------|---------------|---------------|------------|------------|
| Displacement, cm³/rev [in³/rev] | 51,5 [3.14] | 80,3 [4.9] | 99,8 [6.09] | 125,5 [7.67] | 159,6 [9.74] | 199,8 [12.19] | 250,1 [15.26] | 315,7 [19.26] | 397 [24.4] | |
| Max. Speed, [RPM] | Cont. | 775 | 750 | 600 | 475 | 375 | 300 | 240 | 190 | 150 |
| | Int.* | 970 | 940 | 750 | 600 | 470 | 375 | 300 | 240 | 185 |
| Max. Torque daNm [lb-in] | Cont. | 10 [850] | 15,7 [1390] | 19,8 [1750] | 25 [2210] | 32 [2830] | 34 [3010] | 40 [3540] | 40 [3540] | 40 [3540] |
| | Int.* | 13 [1150] | 19,5 [1725] | 24 [2125] | 30 [2655] | 39 [3450] | 42 [3717] | 47 [4160] | 50 [4425] | 50 [4425] |
| | Peak** | 17 [1505] | 27 [2390] | 32 [2830] | 37 [3275] | 46 [4070] | 56 [4960] | 64 [5665] | 65 [5755] | 65 [5755] |
| Max. Output kW [HP] | Cont. | 9 [12.1] | 10,4 [13.9] | 10,8 [14.4] | 10,8 [14.4] | 10,4 [13.9] | 8,8 [11.8] | 8,1 [10.9] | 7,4 [9.9] | 6,2 [8.3] |
| | Int.* | 10,4 [13.9] | 12,6 [16.9] | 12,8 [17.2] | 12,5 [16.8] | 11,5 [15.4] | 10,2 [13.7] | 9,4 [12.6] | 7,8 [10.5] | 7,1 [9.5] |
| Max. Pressure Drop bar [PSI] | Cont. | 140 [2030] | 140 [2030] | 140 [2030] | 140 [2030] | 140 [2030] | 125 [1810] | 110 [1600] | 90 [1300] | 75 [1090] |
| | Int.* | 175 [2540] | 175 [2540] | 175 [2540] | 175 [2540] | 175 [2540] | 155 [2250] | 140 [2030] | 125 [1810] | 90 [1305] |
| | Peak** | 225 [3260] | 225 [3260] | 225 [3260] | 225 [3260] | 225 [3260] | 225 [3260] | 200 [2900] | 150 [2175] | 120 [1740] |
| Max. Oil Flow lpm [GPM] | Cont. | 40 [10.5] | 60 [15.9] | 60 [15.9] | 60 [15.9] | 60 [15.9] | 60 [15.9] | 60 [15.9] | 60 [15.9] | 60 [15.9] |
| | Int.* | 50 [13.2] | 75 [18.5] | 75 [18.5] | 75 [18.5] | 75 [18.5] | 75 [18.5] | 75 [18.5] | 75 [18.5] | 75 [18.5] |
| Max. Inlet Pressure bar [PSI] | Cont. | 175 [2540] | 175 [2540] | 175 [2540] | 175 [2540] | 175 [2540] | 175 [2540] | 175 [2540] | 175 [2540] | 175 [2540] |
| | Int.* | 200 [2900] | 200 [2900] | 200 [2900] | 200 [2900] | 200 [2900] | 200 [2900] | 200 [2900] | 200 [2900] | 200 [2900] |
| | Peak** | 225 [3260] | 225 [3260] | 225 [3260] | 225 [3260] | 225 [3260] | 225 [3260] | 225 [3260] | 225 [3260] | 225 [3260] |
| Max. Return Pressure with Drain Line or Max. Pressure in Drain Line, bar [PSI] | Cont. 0-100 RPM | 150 [2180] | 150 [2180] | 150 [2180] | 150 [2180] | 150 [2180] | 150 [2180] | 150 [2180] | 150 [2180] | 150 [2180] |
| | Cont. 100-300 RPM | 75 [1090] | 75 [1090] | 75 [1090] | 75 [1090] | 75 [1090] | 75 [1090] | 75 [1090] | 75 [1090] | 75 [1090] |
| | Cont. 300-600 RPM | 50 [725] | 50 [725] | 50 [725] | 50 [725] | 50 [725] | 50 [725] | 50 [725] | 50 [725] | 50 [725] |
| | Cont. >600 RPM | 20 [290] | 20 [290] | 20 [290] | 20 [290] | 20 [290] | 20 [290] | 20 [290] | 20 [290] | 20 [290] |
| | Int.* 0-max. RPM | 15 [220] | 15 [220] | 15 [220] | 15 [220] | 15 [220] | 15 [220] | 15 [220] | 15 [220] | 15 [220] |
| Max. Starting Pressure with Unloaded Shaft, bar [PSI] | 10 [145] | 10 [145] | 10 [145] | 10 [145] | 10 [145] | 10 [145] | 10 [145] | 10 [145] | 10 [145] | |
| Min. Starting Torque, daNm [lb-in] | 8 [710] | 12 [1060] | 16 [1420] | 20 [1770] | 25 [2215] | 29 [2570] | 28 [2480] | 32 [2832] | 35 [3100] | |
| Min. Speed***, [RPM] | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | |
| Weight, kg [lb] | 6,2 [13.7] | 6,3 [13.9] | 6,6 [14.6] | 6,7 [14.8] | 6,9 [15.2] | 7,4 [16.3] | 7,8 [17.2] | 8,5 [18.7] | 9,3 [20.5] | |

* Intermittent operation: the permissible values may occur for max. 10% of every minute.

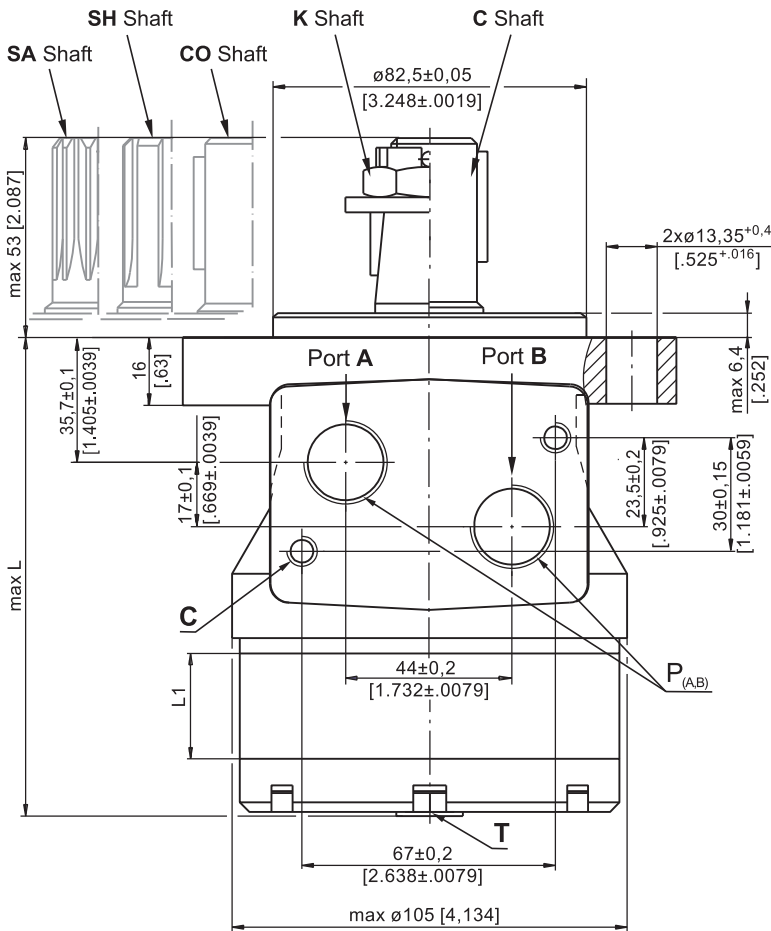
** Peak load: the permissible values may occur for max. 1% of every minute.

*** For speeds lower than given, consult factory or your regional manager.

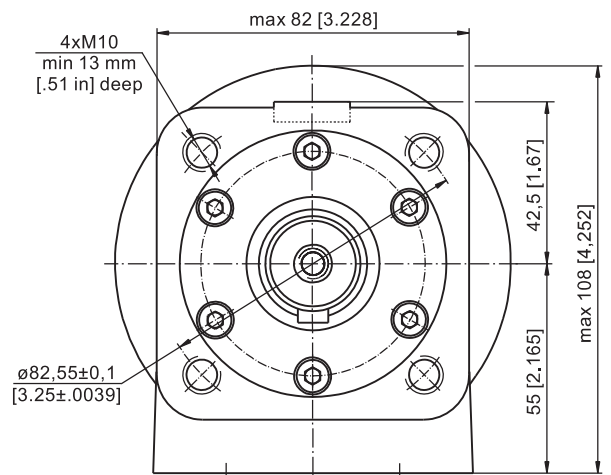
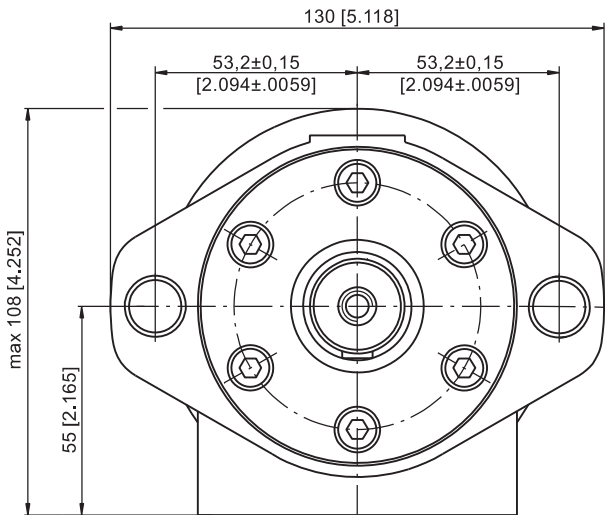
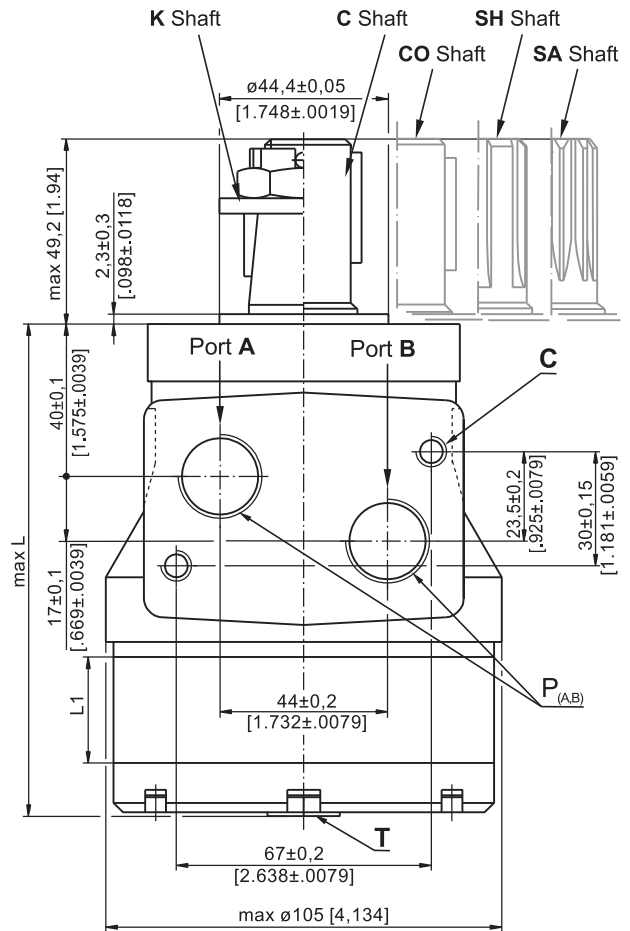
- Intermittent speed and intermittent pressure must not occur simultaneously.
- Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
- Recommend using a premium quality, anti-wear type mineral based hydraulic oil HLP (DIN51524) or HM (ISO 6743/4).
If using synthetic fluids consult the factory for alternative seal materials.
- Recommended minimum oil viscosity 13 mm²/s [70 SUS] at 50°C [122°F].
- Recommended maximum 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.

DIMENSIONS AND MOUNTING DATA

Oval Mount (2 Holes)



Q - Square Mount (4 Bolts)



- C** : 2xM8 - 13 mm [.51 in] depth
- P_(A,B)** : 2xG1/2 or 2xM22x1,5 - 15 mm [.59 in] depth
- T** : G1/4 or M14x1,5 - 8,5 mm [.33 in] depth (plugged)

Standard Rotation

Viewed from Shaft End

Port A Pressurized - **CW**

Port B Pressurized - **CCW**

Reverse Rotation

Viewed from Shaft End

Port A Pressurized - **CCW**

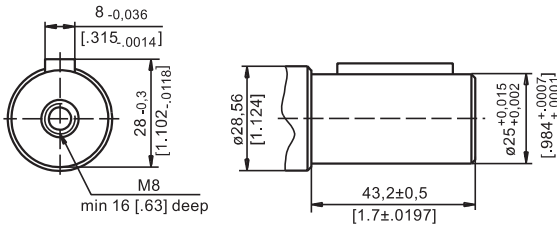
Port B Pressurized - **CW**



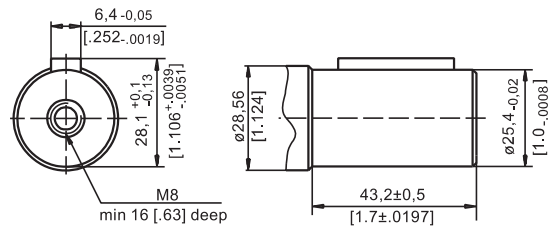
| Type | L, mm [in] | Type | L, mm [in] | L ₁ , mm [in] |
|--------|--------------|---------|--------------|--------------------------|
| RK 50 | 109,5 [4.31] | RKQ 50 | 113,8 [4.48] | 9,0 [.35] |
| RK 80 | 114,5 [4.51] | RKQ 80 | 118,8 [4.68] | 14,0 [.55] |
| RK 100 | 118,0 [4.65] | RKQ 100 | 122,3 [4.82] | 17,4 [.69] |
| RK 125 | 122,5 [4.82] | RKQ 125 | 126,8 [4.99] | 21,8 [.86] |
| RK 160 | 128,5 [5.06] | RKQ 160 | 132,8 [5.23] | 27,8 [1.09] |
| RK 200 | 135,5 [5.33] | RKQ 200 | 139,8 [5.50] | 34,8 [1.37] |
| RK 250 | 144,0 [5.67] | RKQ 250 | 148,3 [5.84] | 43,5 [1.71] |
| RK 315 | 155,5 [6.12] | RKQ 315 | 159,8 [6.29] | 54,8 [2.16] |
| RK 400 | 170,0 [6.69] | RKQ 400 | 174,3 [6.86] | 69,4 [2.73] |

SHAFT EXTENSIONS

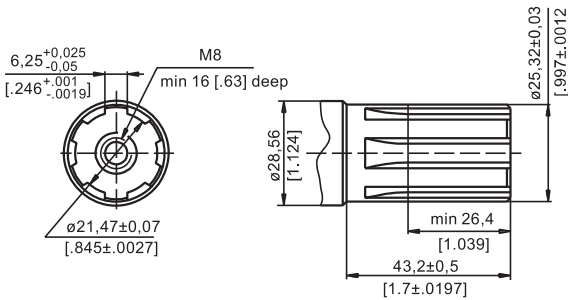
C - $\varnothing 25$ straight, Parallel key A8x7x32 DIN 6885
Max. Torque 34 daNm [3010 lb-in]



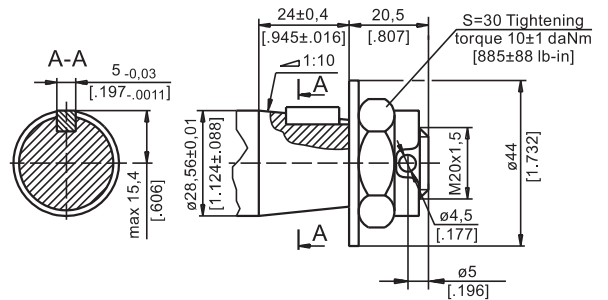
CO - $\varnothing 1''$ straight, Parallel key $\frac{1}{4}'' \times \frac{1}{4}'' \times \frac{1}{4}''$ BS46
Max. Torque 34 daNm [3010 lb-in]



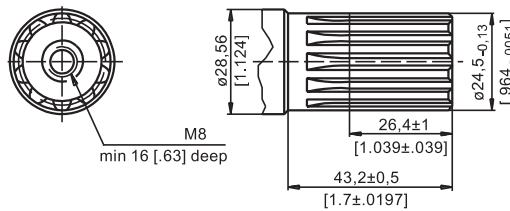
SH - splined, BS 2059 (SAE 6B)
Max. Torque 40 daNm [3540 lb-in]



K - tapered 1:10, Parallel key B5x5x14 DIN 6885
Max. Torque 40 daNm [3540 lb-in]



SA - splined, B25x22h9 DIN 5482
Max. Torque 40 daNm [3540 lb-in]



ORDER CODE

| | | | | | |
|-----------|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| RK | | | | | |

Pos.1 - Mounting Flange

- omit - Oval mount, two holes
- Q** - Square mount, four bolts

Pos.2 - Displacement code

- 50** - 51,5 cm³/rev [3.14 in³/rev]
- 80** - 80,3 cm³/rev [4.90 in³/rev]
- 100** - 99,8 cm³/rev [6.09 in³/rev]
- 125** - 125,7 cm³/rev [7.67 in³/rev]
- 160** - 159,6 cm³/rev [9.74 in³/rev]
- 200** - 199,8 cm³/rev [12.19 in³/rev]
- 250** - 250,1 cm³/rev [15.26 in³/rev]
- 315** - 315,7 cm³/rev [19.26 in³/rev]
- 400** - 397,0 cm³/rev [24.40 in³/rev]

Pos.3 - Shaft Extensions*

- C** - $\varnothing 25$ straight, Parallel key A8x7x32 DIN6885
- CO** - $\varnothing 25,4$ straight, Parallel key $\frac{1}{4}'' \times \frac{1}{4}'' \times \frac{1}{4}''$ BS46
- SH** - $\varnothing 25,32$ splined BS 2059 (SAE 6B)
- K** - $\varnothing 28,56$ tapered 1:10, Parallel key, B5x5x14 DIN6885
- SA** - $\varnothing 24,5$ splined B25x22h9 DIN 5482

Pos.4 - Ports

- omit - BSPP (ISO 228)
- M** - Metric (ISO 262)

Pos.5 - Special Features (see page 120)

Pos.6 - Design Series

- omit - Factory specified

NOTE:

* The permissible output torque for shafts must not be exceeded!

The hydraulic motors are mangano-phosphatized as standard.

MOTOR SPECIAL FEATURES

| Special Feature Description | Order Code | Motor type | | | | | | | | | | | | | | |
|-----------------------------|------------|------------|-------|-------|--------|-------|-----|-----|--------|----|----|-------|----|-------|-------|----|
| | | MM | MP | MPW | MP(W)N | MR | MRN | MRB | SP, SR | PL | RL | PK(Q) | RK | RW | MH | HW |
| Speed Sensor* | RS | O | O | - | - | O | - | - | - | - | - | - | - | - | O | - |
| Tacho connection | T | - | - | - | - | O | O | - | - | - | - | - | - | - | O | - |
| Low Leakage | LL | O | - | - | - | O | O | - | - | - | O | - | O | O | O | O |
| Low Speed Valving | LSV | - | - | - | - | O | - | - | - | - | - | - | - | - | O | O |
| Free Running | FR | O | O | O | O | O | O | - | - | O | O | O | O | O | O | - |
| Reverse Rotation | R | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| Paint** | P | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| Corrosion Protected Paint** | PC | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| Special Paint*** | PS | O | O | O | O | O | O | O | - | O | O | O | O | O | O | O |
| | PCS | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| Check Valves | | S | S**** | S**** | S | S**** | S | S | S | S | S | S | S | S**** | S**** | S |

| | |
|----------|----------------|
| O | Optional |
| - | Not applicable |
| S | Standard |

* For sensor ordering see pages 121÷122.

** Colour at customer's request.

*** Non painted feeding surfaces, colour at customer's request.

**** Without check valves for "U" shaft seal versions.