

Pump SCP 012-130

ISO



SUNFAB SCP ISO is a series of piston pumps with a fixed displacement for mobile and stationary hydraulics.

SUNFAB SCP ISO covers the displacement range 12–130 cm³/revs at a maximum working pressure of 40 MPa. The pump is drained externally.

SUNFAB SCP ISO are speed optimized and therefore supplied in either left (L) or right (R) handed designs.

SUNFAB SCP ISO's well dimensioned, double tapered roller bearings permit high shaft loads and lead to excellent speed characteristics.

SUNFAB SCP ISO's high level of reliability is based on the choice of materials, hardening methods, surface structures and the quality assured manufacturing process.

Other advantages of SUNFAB SCP ISO:

- High maximum speed while maintaining low noise levels
- Smooth operation over the entire speed range
- Long life due to high demands on material selection, such as bearings, seals, etc
- O-rings on all contact surfaces as well as double shaft seals eliminate oil leakage from the pump

(1) The values shown are valid for an absolute pressure of 1 bar at the suction inlet.

(2) By increase of the input pressure the rotational speeds can be increased to the max. admissible speed n_{\max} limit.

Subject to design alteration

| Type SCP ISO | | | 012 | 017 | 025 | 034 | 047 | 056 | 064 | 084 | 108 | 130 |
|---|--|------|------|------|------|------|------|------|------|-------|-------|-------|
| Nominal oil flow at pump speed | rpm | 500 | 5.8 | 7.9 | 12.5 | 17.0 | 23.5 | 28.0 | 31.5 | 41.5 | 54.0 | 65.0 |
| | | 1000 | 12.0 | 16.2 | 25.0 | 34.0 | 47.0 | 56.0 | 63.5 | 83.5 | 108.0 | 130.0 |
| | | 1500 | 18.3 | 24.7 | 37.5 | 51.0 | 70.5 | 84.0 | 95.5 | 125.0 | 162.0 | 195.0 |
| Displacement | cm ³ /rev. | | 12.6 | 17.0 | 25.4 | 34.2 | 47.1 | 56.0 | 63.6 | 83.6 | 108.0 | 130.0 |
| Max working pressure | MPa | | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 35 |
| Max pump speed | n_{\max} (1) | rpm | 3300 | 3200 | 2550 | 2250 | 2200 | 2100 | 2050 | 1700 | 1700 | 1600 |
| | n_{\max} limit (2) | rpm | 6000 | 5700 | 4700 | 4550 | 4300 | 3750 | 3700 | 3350 | 3000 | 2900 |
| Max power | kW | | 25 | 35 | 40 | 50 | 65 | 75 | 85 | 90 | 120 | 120 |
| Weight | kg | | 7.5 | 7.5 | 8.5 | 8.5 | 15.5 | 15.5 | 15.5 | 27.0 | 29.5 | 29.5 |
| Mass moment of inertia (x 10 ⁻³) | kg m ² | | 0.9 | 0.9 | 1.1 | 1.1 | 2.6 | 2.6 | 2.6 | 7.4 | 7.4 | 7.4 |
| Direction of rotation | supplied in right or left-hand designs | | | | | | | | | | | |

Versions, main data

Example

| | | | | | | | | | | | | | | | | |
|-----------|----------|---|------------|----------|---|----------|---|------------|---|------------|---|-----------|----------|---|----------|-----------|
| SC | P | - | 012 | L | - | N | - | I41 | - | W25 | - | Z1 | G | - | 3 | 00 |
| Line | 1 | | 2 | 3 | | 4 | | 5 | | 6 | | 7 | 8 | | 9 | 10 |

Line

| | |
|-----------|----------------------------------|
| SC | Sunfab Compact, bent-axis design |
|-----------|----------------------------------|

1. Type

| | |
|----------|------|
| P | Pump |
|----------|------|

2. Displacement

| 012 | 017 | 025 | 034 | 040 | 047 | 056 | 064 | 084 | 090 | 108 | 130 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

3. Direction of rotation

| | |
|----------|-------|
| L | Left |
| R | Right |

4. Sealing

| | |
|----------|------------------------|
| N | Nitrile |
| H | High pressure, nitrile |
| V | Viton |

5. Mounting flange

| ISO 3019-2 | 012 | 017 | 025 | 034 | 040 | 047 | 056 | 064 | 084 | 090 | 108 | 130 |
|------------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| I41 | ISO 4-h ø80 | X | X | - | - | - | - | - | - | - | - | - |
| I42 | ISO 4-h ø100 | 0 | 0 | X | X | - | - | - | - | - | - | - |
| I43 | ISO 4-h ø125 | - | - | - | - | X | X | X | - | - | - | - |
| I44 | ISO 4-h ø140 | - | - | - | - | - | - | - | X | - | (X) | (X) |
| I45 | ISO 4-h ø160 | - | - | - | - | - | - | - | (X) | - | X | X |

6. Shaft

| | 012 | 017 | 025 | 034 | 040 | 047 | 056 | 064 | 084 | 090 | 108 | 130 |
|------------------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Spline DIN 5480 | | | | | | | | | | | | |
| W20 | W20x1.25x14x9g | X | X | - | - | - | - | - | - | - | - | - |
| W25 | W25x1.25x18x9g | X | X | X | (X) | - | - | - | - | - | - | - |
| W30 | W30x2x14x9g | - | - | X | X | - | X | X | 0 | - | - | - |
| W32 | W32x2x14x9g | - | - | - | - | X | X | 0 | - | - | - | - |
| W35 | W35x2x16x9g | - | - | - | - | X | X | X | X | - | - | - |
| W40 | W40x2x18x9g | - | - | - | - | - | - | - | X | - | X | - |
| W45 | W45x2x21x9g | - | - | - | - | - | - | - | - | - | X | X |
| Key DIN 6885 | | | | | | | | | | | | |
| K20 | ø 20 k6 | X | X | - | - | - | - | - | - | - | - | - |
| K25 | ø 25 k6 | X | X | X | (X) | - | - | - | - | - | - | - |
| K30 | ø 30 k6 | 0 | 0 | X | X | - | X | X | 0 | - | - | - |
| K35 | ø 35 k6 | - | - | - | - | X | X | X | - | - | - | - |
| K40 | ø 40 k6 | - | - | - | - | - | - | - | X | - | (X) | - |
| K45 | ø 45 k6 | - | - | - | - | - | - | - | - | - | X | X |

7. Connection cover

| | | 012 | 017 | 025 | 034 | 040 | 047 | 056 | 064 | 084 | 090 | 108 | 130 |
|----|--------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Z1 | Suction rear, pressure at side | X | X | X | X | - | X | X | X | X | - | X | X |

8. Connections

| | | 012 | 017 | 025 | 034 | 040 | 047 | 056 | 064 | 084 | 090 | 108 | 130 |
|---|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| G | ISO G* | X | X | - | - | - | - | - | - | - | - | - | - |
| M | Metric** | - | - | X | X | - | X | X | X | X | - | X | X |

* Only threaded connections

** Only flanged connections

9. Additional

| | |
|----------|-------------------------------|
| 3 | External drainage + optimized |
|----------|-------------------------------|

10. Accessories

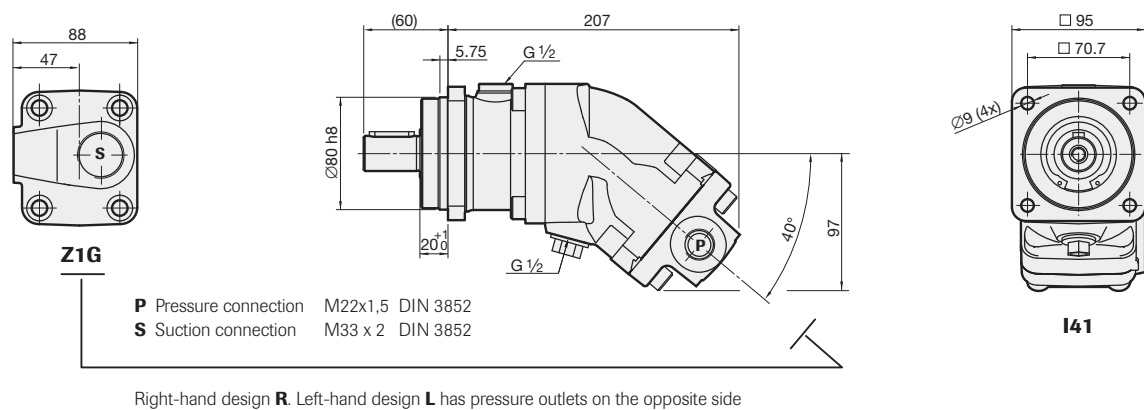
| | |
|-----------|--------------------------|
| 00 | No accessories available |
|-----------|--------------------------|

X = Standard, preferred

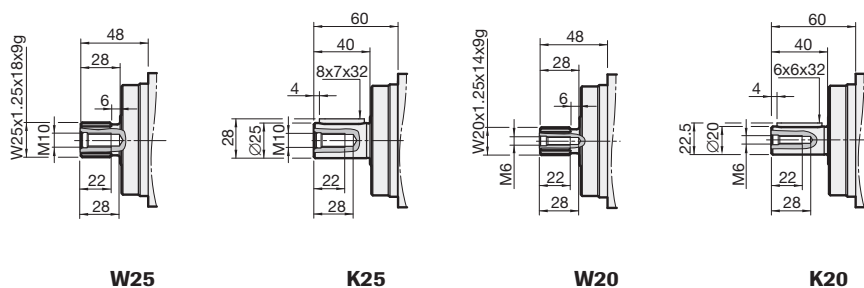
(X) = Available, option

0 = Available on request, contact Sunfab

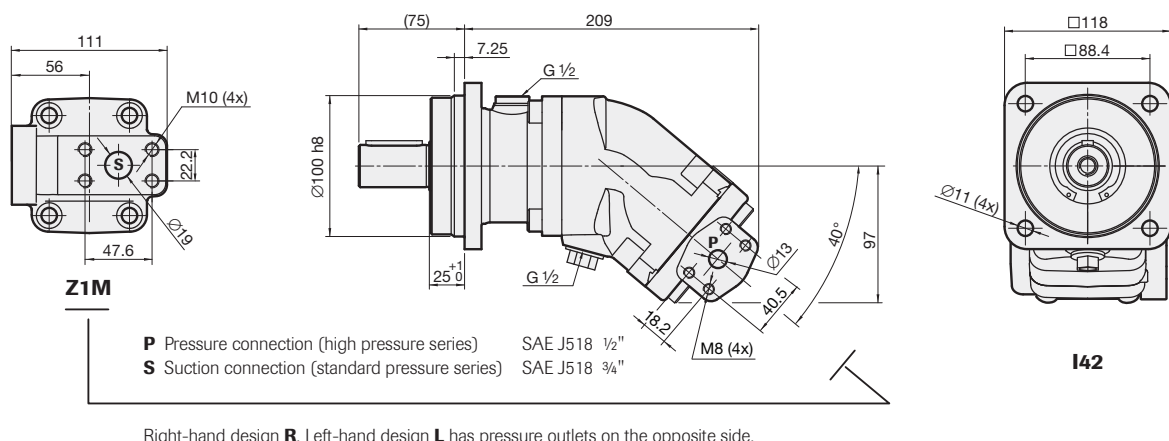
SCP 012-017



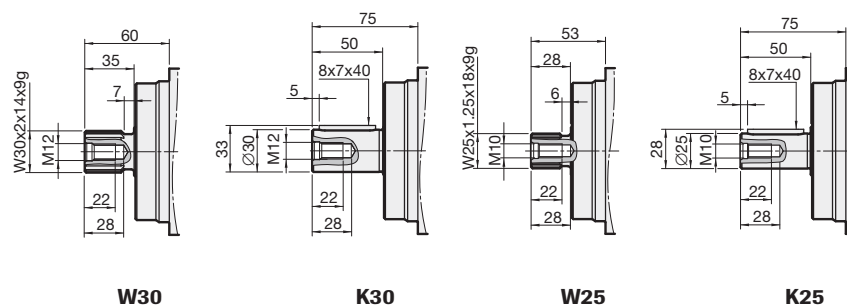
Right-hand design **R**. Left-hand design **L** has pressure outlets on the opposite side



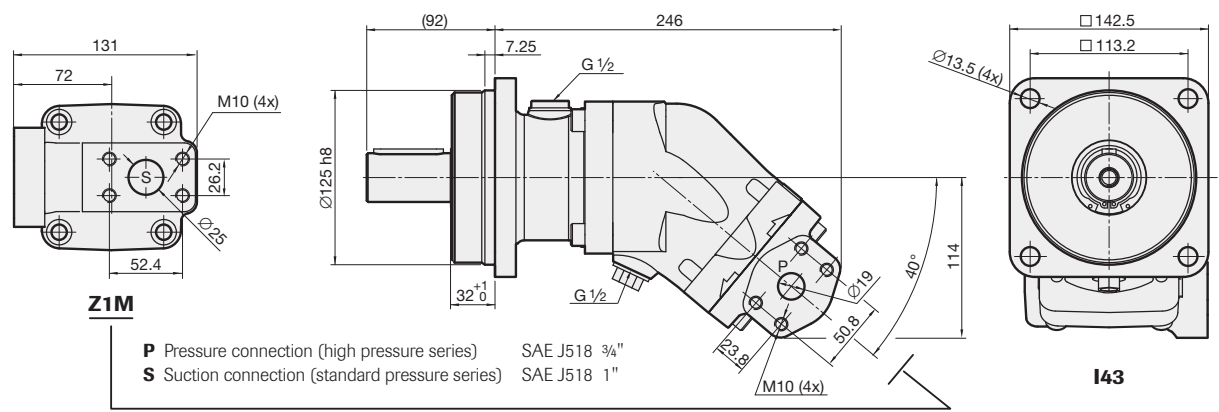
SCP 025-034



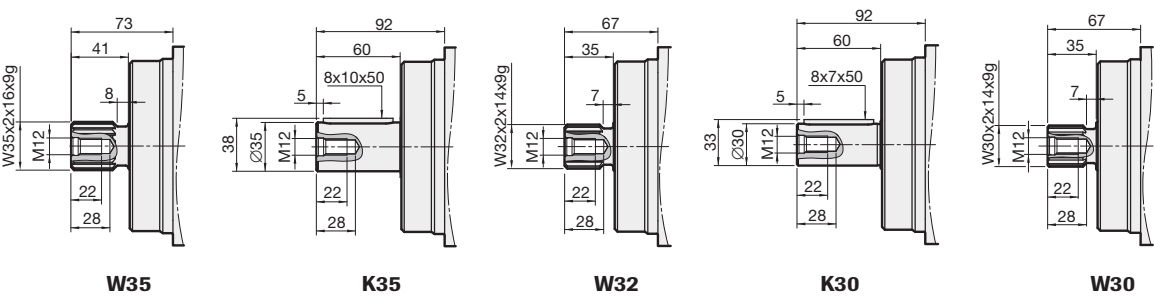
Right-hand design **R**. Left-hand design **L** has pressure outlets on the opposite side.



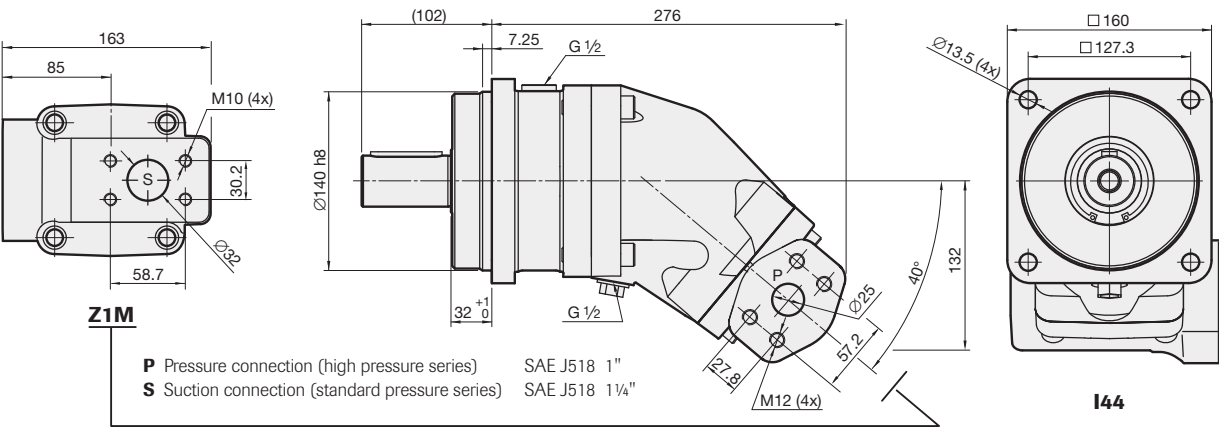
SCP 047-064



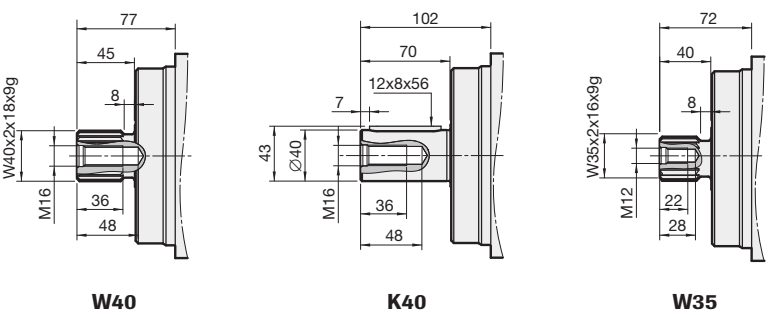
Right-hand design **R**. Left-hand design **L** has pressure outlets on the opposite side.



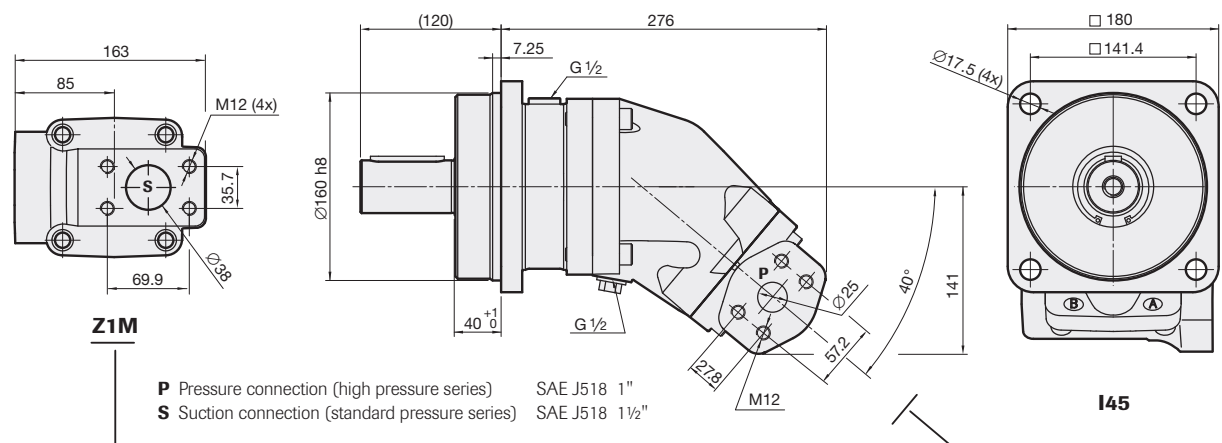
SCP 084



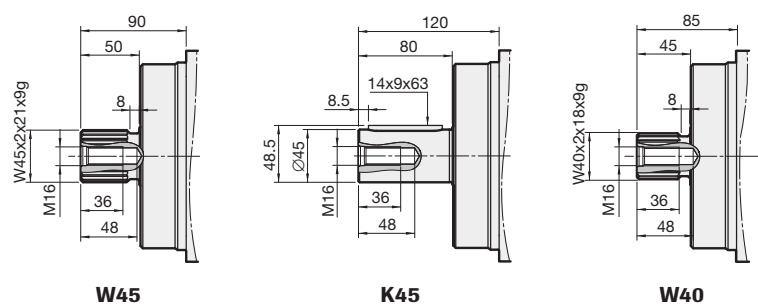
Right-hand design **R**. Left-hand design **L** has pressure outlets on the opposite side.



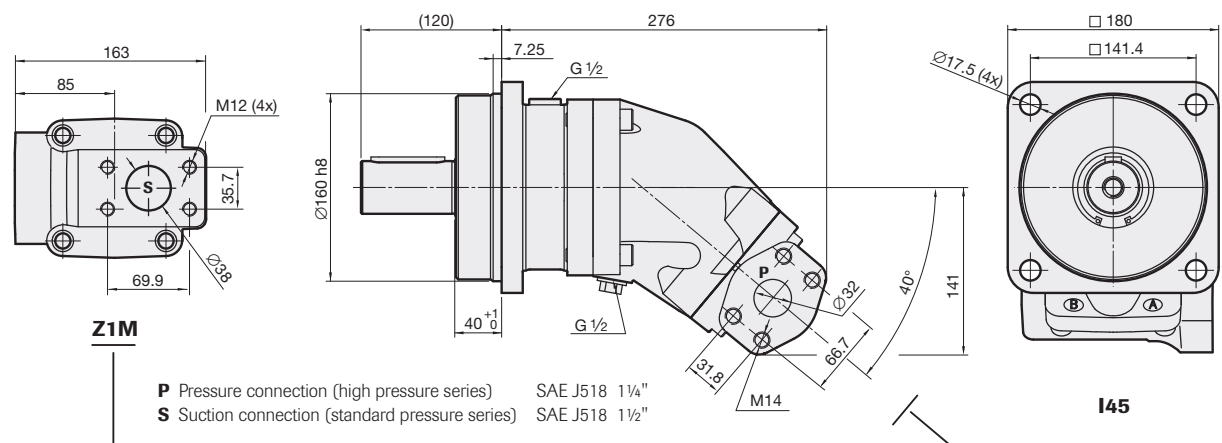
SCP 108



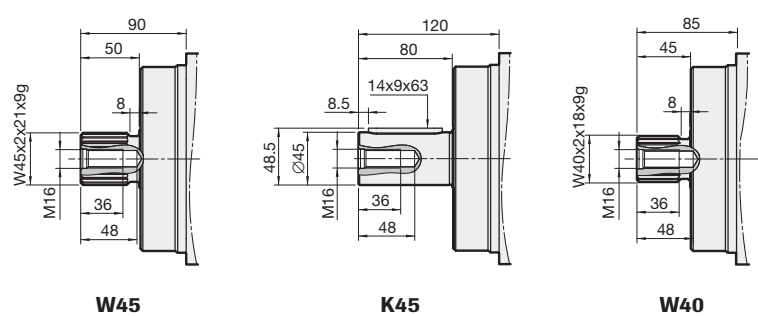
Right-hand design **R**. Left-hand design **L** has pressure outlets on the opposite side.



SCP 130



Right-hand design **R**. Left-hand design **L** has pressure outlets on the opposite side.



General instructions

Choice of shaft seal

| Pump SCP-ISO | Code | Temp. | Max. housing pressure MPa at rpm | | | | | |
|-----------------|------|-------|----------------------------------|------|------|------|------|------|
| | | °C | 500 | 1000 | 1500 | 2000 | 2500 | 3000 |
| 012-034 | N | 75 | 1.09 | 0.55 | 0.36 | 0.27 | 0.22 | 0.18 |
| | H | 75 | 4.91 | 2.46 | 1.64 | 1.23 | 0.98 | 0.82 |
| | V | 90 | 1.09 | 0.55 | 0.36 | 0.27 | 0.22 | 0.18 |
| 047-064 | N | 75 | 1.09 | 0.55 | 0.36 | 0.27 | 0.22 | 0.18 |
| | H | 75 | 4.91 | 2.46 | 1.64 | 1.23 | 0.98 | 0.82 |
| | V | 90 | 1.09 | 0.55 | 0.36 | 0.27 | 0.22 | 0.18 |
| 084-130 | N | 75 | 0.76 | 0.38 | 0.25 | 0.19 | 0.15 | 0.13 |
| | H | 75 | 3.44 | 1.72 | 1.15 | 0.86 | 0.69 | 0.57 |
| | V | 90 | 0.76 | 0.38 | 0.25 | 0.19 | 0.15 | 0.13 |

Factors affecting the choice of shaft seal include the hydraulic pump housing pressure and the drainage oil temperature.

The drainage oil should have a maximum temperature of 75 °C with a Nitrile shaft seal and 90 °C with a Viton shaft seal.

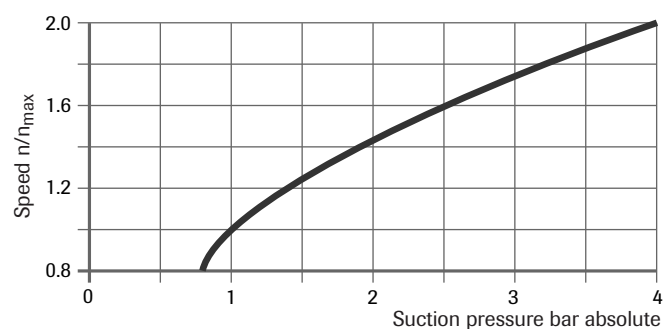
These temperatures must not be exceeded.
Code according to Versions, main data.

The housing pressure must be equal to or greater than the external pressure on the shaft seal.

Minimum inlet pressure at suction port with increased speed

Operating above the max. pump speed n_{\max} requires increased inlet pressure.

Note that the max. permissible speed n_{\max} limit must not be exceeded



Filtering

Cleanliness according to ISO norm 4406, code 16/13.

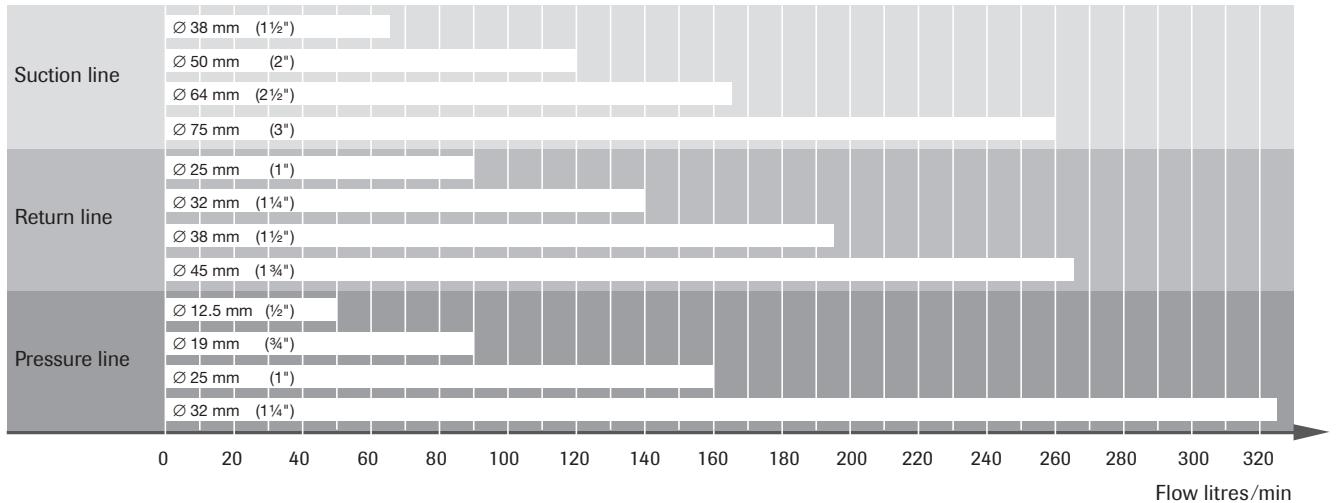
Hydraulic fluids

High performance oils meeting ISO specifications – such as HM, DIN 51524-2 HLP, or better – must be used.

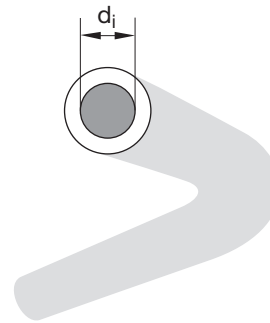
A min. viscosity of 10 cSt is required to keep the lubrication at a safe level.

The ideal viscosity is 20 – 40 cSt.

Recommended line size (d_i)

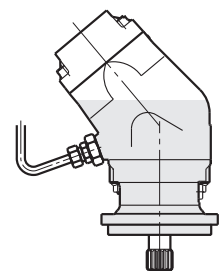
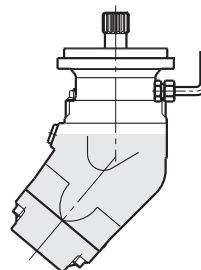
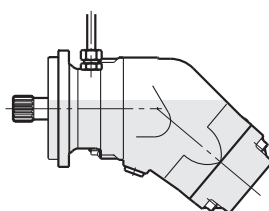
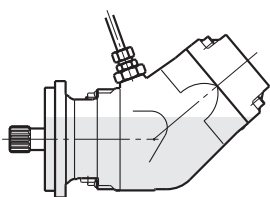


If the suction line is more than 2 m long the internal diameter must be increased by 10 mm for each meter extension.



Installation

- The pump housing should be filled with oil to at least 50% before starting.
- The drainage line must be at least 1/2" (13 mm) internal diameter and should be connected to topmost drainage outlet.
- The other end of the line should be connected to the oil tank at a point below the oil level.



**WARNING**

When the pump is running:

1. Do not touch the pressure hose
2. Watch out for rotating parts
3. The pump and hoses may be hot