

Installation Guide for Bent Axis Motors

1 - DIRECTION OF ROTATION

Standards bent axis motors designed to run CW or CCW. The motors rotate clockwise or counter-clockwise depending on the direction of hydraulic flow entering the motor.


2 - MOUNTING POSITION

The axis motors can be used only mounting position. In "shaft upwards" position, make sure that the motor housing is completely filled with fluid. Recommended installation positions on the opposite pictures.

3 - CONNECTION

Connect the pressure lines and drain line according to our recommendations (see page 4). The builder is responsible for dimensioning the lines.

4 - FILLING

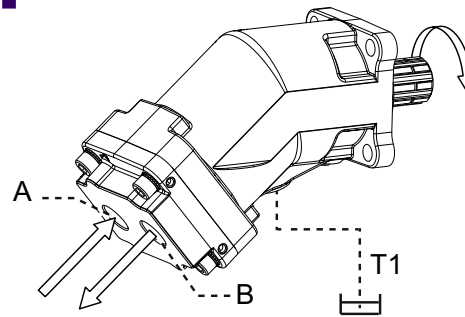
 Fill the motor with clean mineral-based hydraulic oil by using the bleed screw, use the same oil as your hydraulic circuit. (For the oil quality to use, please read our recommendations page 6).

5 - START-UP

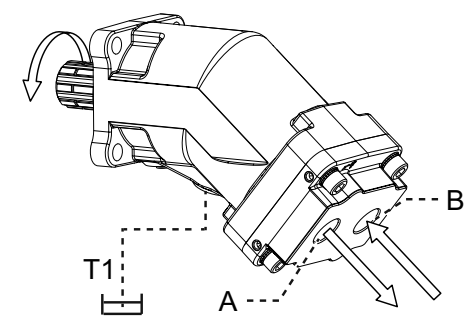
Start the motor at low speed and no load, until the motor is completely filled and no air remains.

1

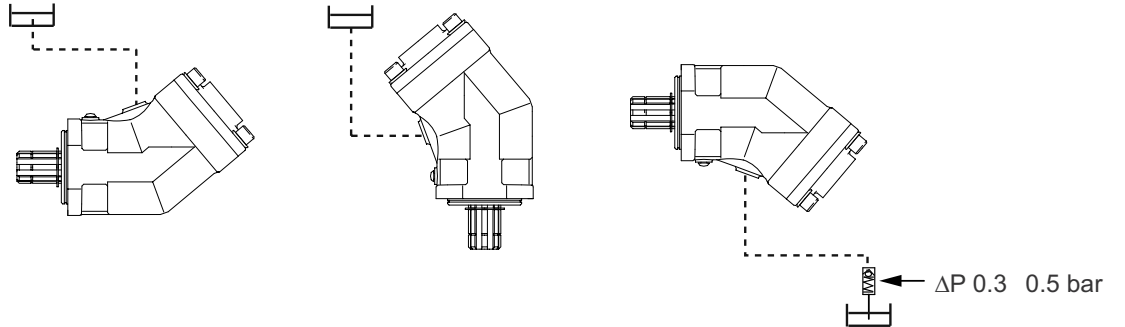
CCW / SIH



CW / SH



2

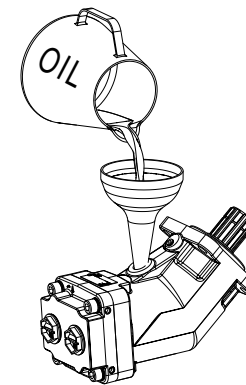


DIN Motors

SAE Motors



4



6 - MOTOR CONNECTIONS

Overview of connections for DIN and SAE motors.

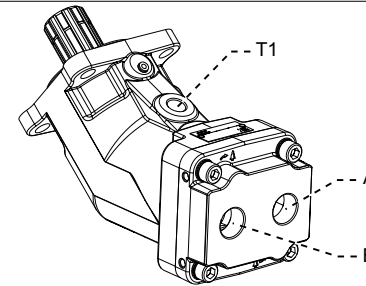
	EN	Pmax. (bar)
T1	Drain ports	4
A / B	Inlet / outlet ports	400

7 - DRAIN LINE

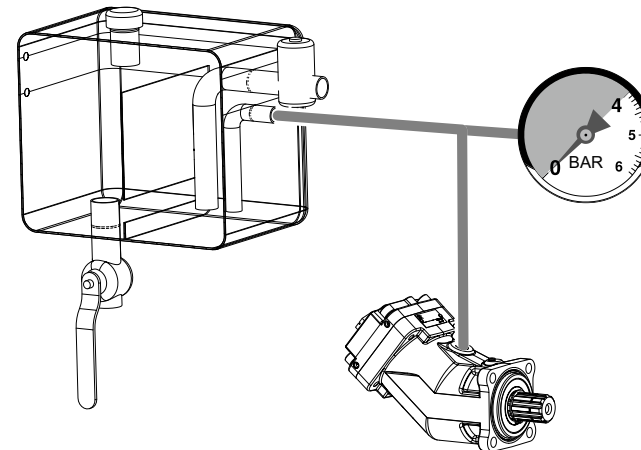
Use the T1 drain port. To avoid excessive pressure in the housing, the drain line must be connected directly to the tank and must always be submerged in fluid. Maximum acceptable pressure in the housing whatever the speed:

- 4 bar continuous
- 5.5 bar peak pressure.

6



7



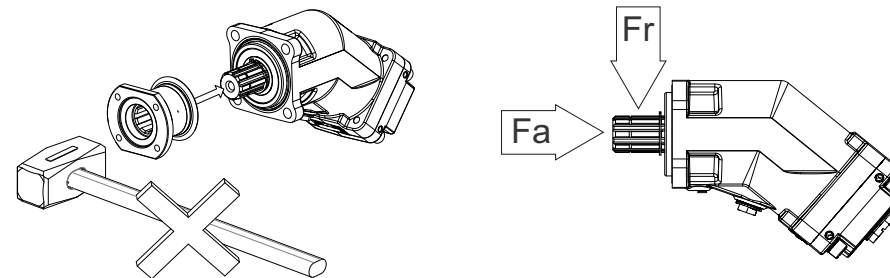
8

8-ACCEPTABLE FORCES APPLIED TO MOTOR SHAFT

DIN / SAE motors :

Fr: avoid radial force on the DIN motor shaft.

Fa: axial force which tends to push the shaft inwards.

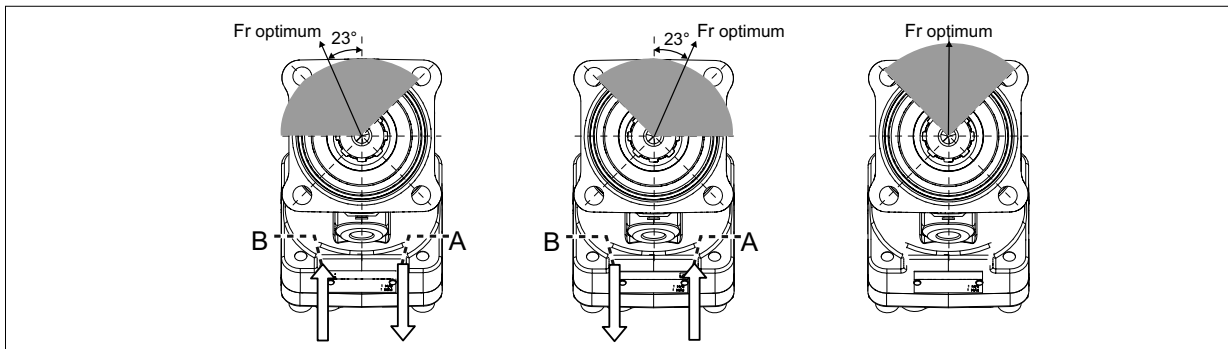


⚠ BE CAREFUL: Do not strike on the motor shaft during the assembly.

Cyl (cc)	12	18	25	32	41	50	63	80	108	126
Fa (N/bar)	15	20	27	30	40	40	50	60	80	90

9 - MAXIMIZING SERVICE LIFE OF BEARINGS

In cases where there is a radial force on motor shaft, keeping the direction of that force within the shaded areas (figure 9) will improve service life of the motor.



10 - HYDRAULIC OIL

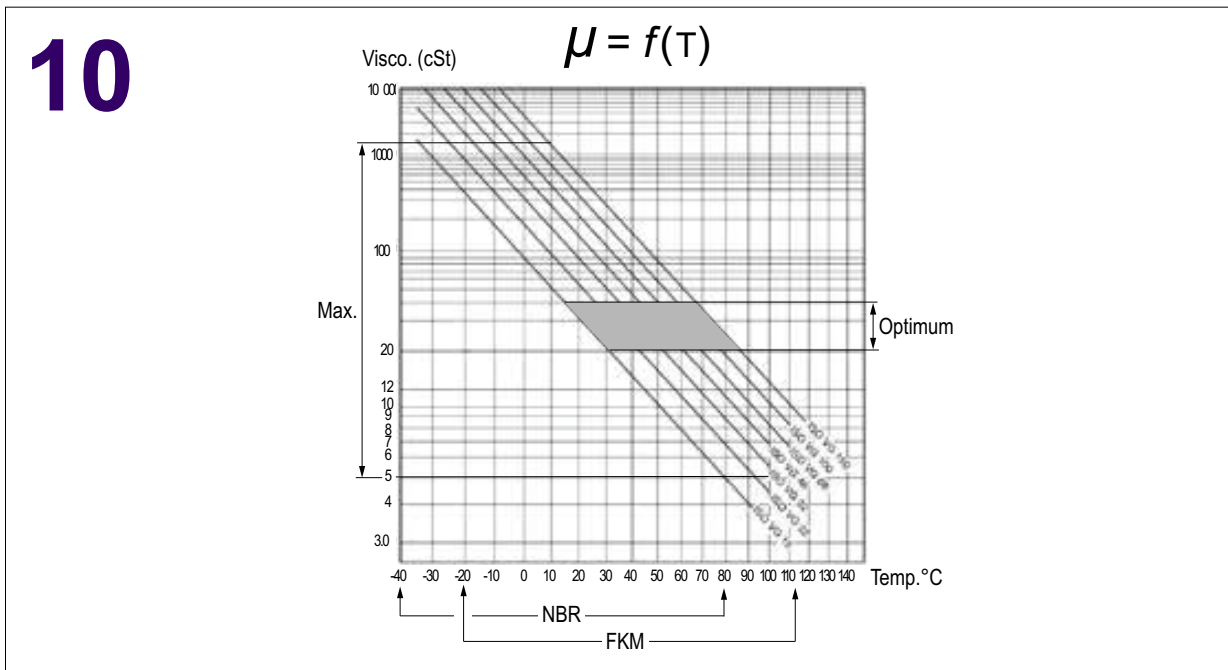
We recommend using a mineral hydraulic oil of type HLVP according to DIN 51524-2 or HV according to ISO 11158.

Bio hydraulic oils HEES according to ISO 15380 can be used.

The recommended viscosity of the fluids must be between 5 and 1600 cSt.

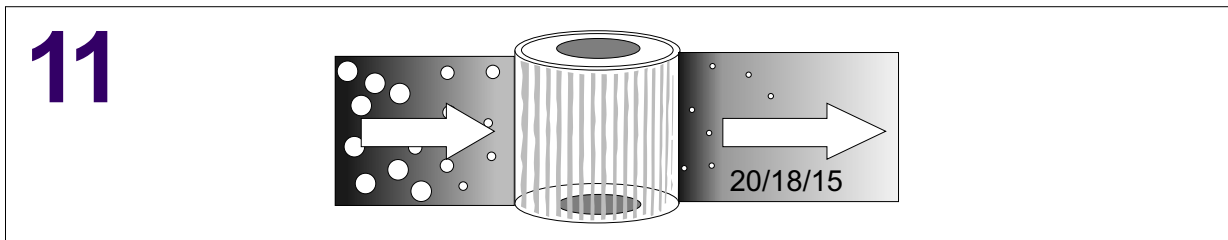
The optimum viscosity is between 20 and 40 cSt.

The fluid temperature into the motor must not exceed 90°C. A fluid temperature up to +115°C is tolerated with a better cleanliness of the hydraulic oil.



11 - FILTRATION

Oil cleanliness of this model of motor is minimum 20/18/15 according to ISO 4406 (or class 9 according to NAS 1638).



12 - STORAGE

The motor can be stored for maximum 1 year in its original packing, and in a dry area. Do not expose the product to temperatures below -30 °C and/or above 80°C.