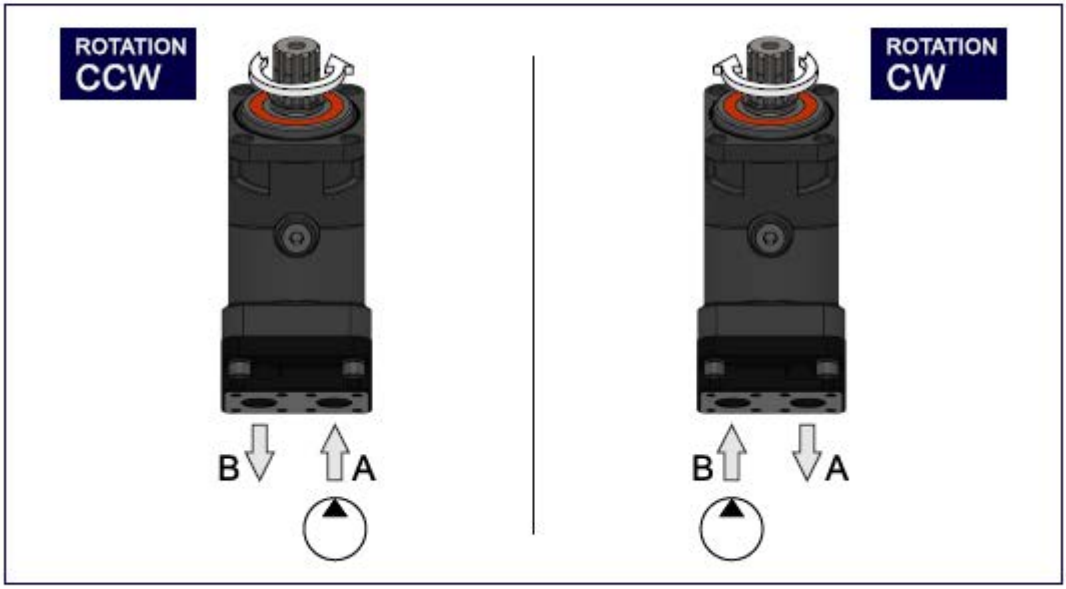
BiDirectional Bent Axis Pumps



Quick Calculation

Flow rate	Torque	Power	Speed
$Q = \frac{V_g \cdot n}{1000 \eta_v}$ (lpm)	$M = \frac{V_g \cdot \Delta p \cdot \eta_{mh}}{63}$ (Nm)	$P = \frac{2\pi \cdot M \cdot n}{60000} = \frac{M \cdot n}{9549} = \frac{Q \cdot \Delta p \cdot \eta_t}{600}$ (kw)	$n = \frac{1000 \cdot Q \cdot \eta_v}{V_g}$ (lpm)

V_g = Displacement (ccm/rev.)
Δp = Diff. pressure (bar)
n = Speed (rpm)
Q = Flow (lpm)
η_v = Volumetric efficiency
η_{mh} = Mechanical-hydraulic efficiency
η_t = Total efficiency ($\eta_t = \eta_v \times \eta_{mh}$)

POSITION
Motors can be operate any position.

DIRECTION OF ROTATION
Motors can be operate in both directions of rotation.

Before of installation operation, the motor must be filled with hydraulic fluid and air bled.

INSTALLATION POSITION
See following examples.

INSTALLATION PROCEDURE

1 - CHECKING THE DIRECTION OF ROTATION OF THE PTO

Make sure that the technical specifications between the pump and the PTO are suitable.

2 - FILLING

⚠ Fill the pump with clean oil by using the bleed screw, use the same oil as your hydraulic circuit (For the oil quality to use, please read our recommendation page 6).

3 - INSTALLATION

3.1 - PREPARATION

If there is no recommendation from the PTO manufacturer, grease the splines with graphite grease (type Molykote G-Rapid+).

3.2 - TIGHTENING

For the tightening torque, please follow the PTO manufacturer's recommendation.
Nota: use only the fixation nuts supplied with the PTO. If mounting by prop shaft, align the pump with the PTO outlet.
No axial or radial load allowed on the drive shaft.

4 - INLET FITTING ASSEMBLY

Position the inlet fitting as a function of the direction of rotation. Assemble the inlet fitting according to the diagram on the right. Make sure the o-ring is on the inlet fitting. Tighten the four screws.
In case of threaded inlet fitting maximum speed needs to be reduced (contact our technical department).

5 - OIL SUPPLY

Make sure that the hydraulic reservoir and suction line are clean and that the suction line is correctly sealed.
Connect the suction lines and pressure line to the pump.
Then open the tank isolation valve (if there is one) and fill in the hydraulic tank with a filling device including a filter. The preferably cleanliness of the hydraulic oil has to be according to our recommendation: 20/18/15 according to ISO 4406.

6 - COMMISSIONING AND PRIMING

Start-up the pump at low speed, until the pump is completely filled and no air remains.

7 - CHECKING

Check periodically that the vent tube is not clogged, and that there are no leakages nor any signs of oil in the tube.

⚠ In case of leakage, stop the vehicle immediately and check the sealing of the pump.

Check the tightening of the pump-PTO regularly, referring to the specifications given by the PTO manufacturer.

8 - CHOICE OF INLET FITTING

The inlet fitting has to be dimensioned as a function of the installation and we recommend to ensure a flow speed between 0.5 and 0.8m/s.

9 - 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 is between 15 and 400 cSt.
The optimum viscosity is between 20 and 40 cSt.
A viscosity of maximum 1000 cSt is tolerated for start-up at low speed and without load.
The temperature of the fluid should not exceed 80°C.

10 - FILTRATION

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

11- STORAGE

The pump 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 above 80°C.

INSTALLATION PROCEDURE

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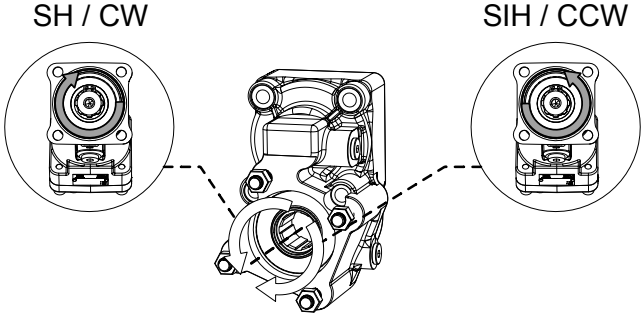

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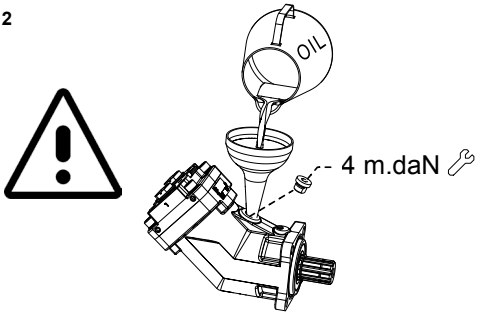
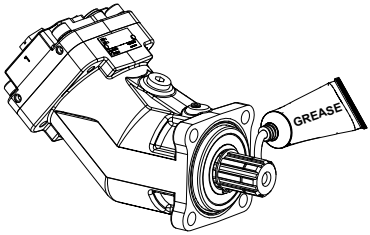


3.1



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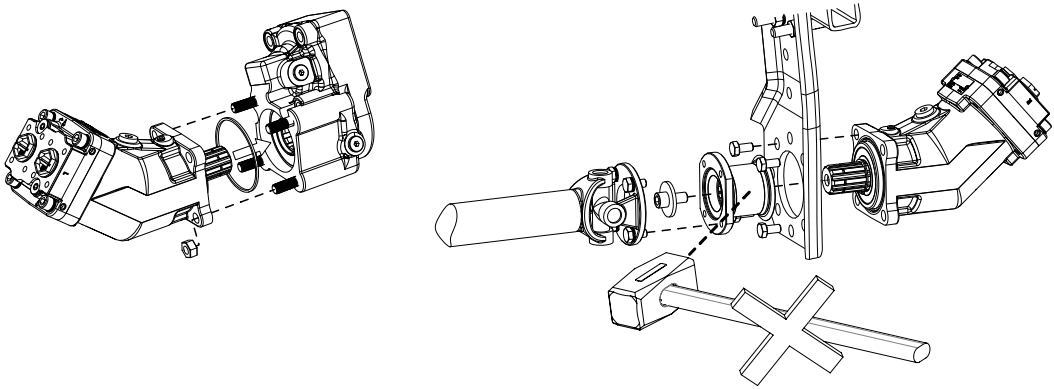

INSTALLATION PROCEDURE

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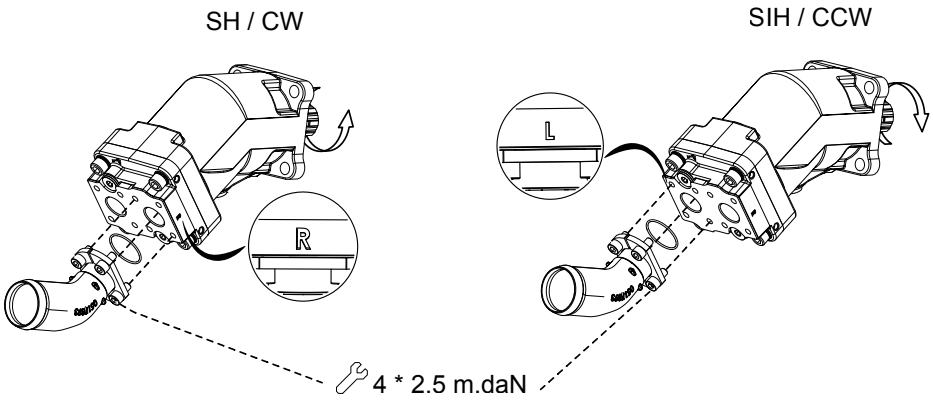

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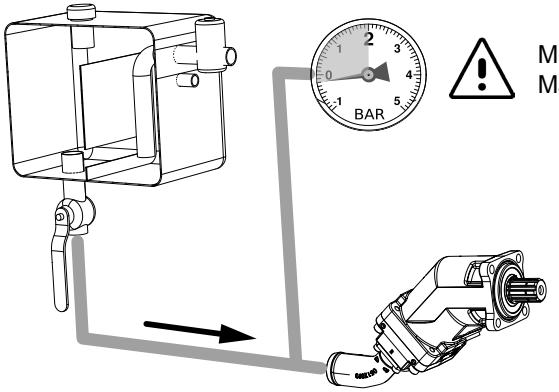

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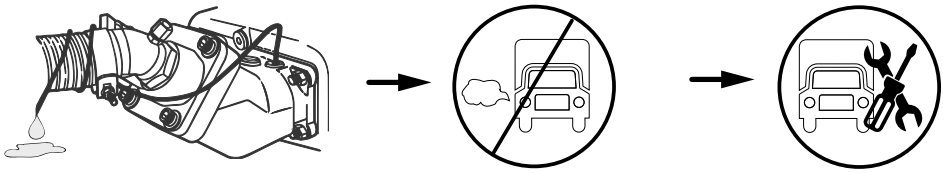

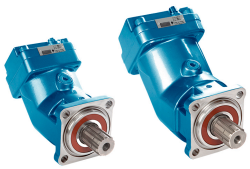

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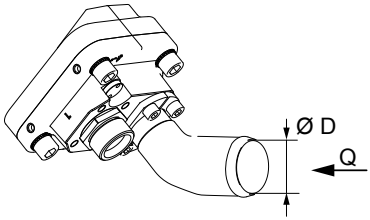

Ø D	Q Max*.
1½" (39.1 mm)	60 l/min
2" (50 mm)	120 l/min
2½" (63.5 mm)	150 l/min

* Qmax. recommandé/Qmax. recommended / Qmax. Empfohlen

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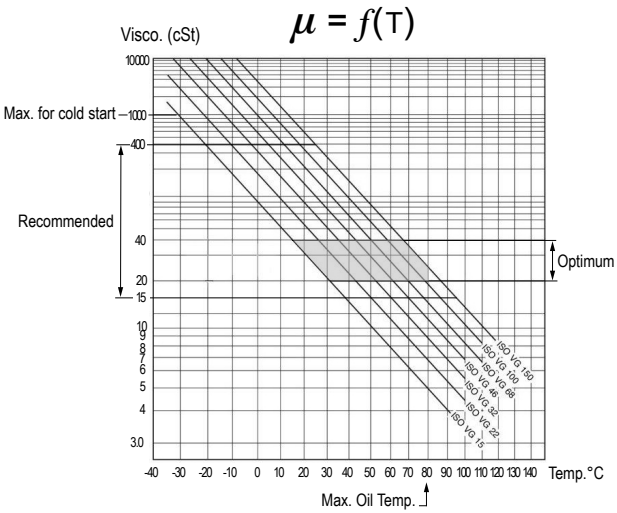

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