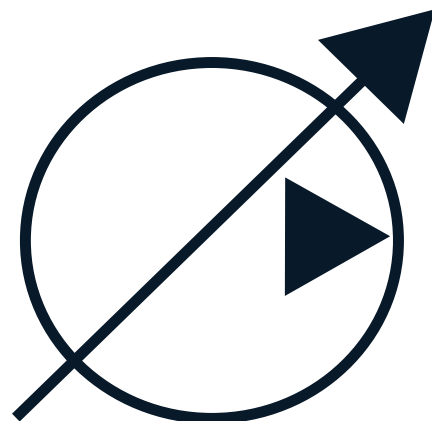


AXV Series

Variable Displacement Piston Pumps

2020



Displacement:

40 cc, 60 cc, 75 cc, 92 cc, 120 cc, 130 cc, 150 cc

The pumps are variable displacement with pressure-flow control -called Load Sensing.

Specially designed for the needs of the truck hydraulics market, The pumps are particularly well adapted for applications in

- loader cranes,
- forestry cranes,
- refuse vehicles,
- salt spreaders, snow and ice equipment,
- construction equipment vehicles.

Extremely compact in size to allow direct flange-mounting on vehicle engine or gearbox PTOs.

The pumps are available in the models with maximum displacement from 40 to 150 cc/rev.C
Maximum pressure is up to 420 bar depending on the model.

Pump reference	Direction of rotation	Maximum displac. ⁽¹⁾ (cc/rev)	Max. operating pressure (bar)	Max. peak pressure (intermittent: 5%) (bar)	Torque at 300 bar ⁽²⁾ (N.m)	Max. speed at full displacement ⁽³⁾ rpm	Max. speed in stand-by rpm	Weight (kg)	Overhang torque ⁽⁴⁾ (N.m)	
40 cc	AXV40R AXV40L	CW CCW	40	400	420	225	3000	3000	26	34
60 cc	AXV60R AXV60L	CW CCW	60	400	420	335	2600	3000	26	34
75 cc	AXV75R AXV75L	CW CCW	75	400	420	420	2000	3000	26	34
92 cc	AXV92R AXV92L	CW CCW	92	400	420	515	1900	3000	26	34
120 cc	AXV120R AXV120L	CW CCW	120	380	400	675	2100	3000	26	34
130 cc	AXV130R AXV130L	CW CCW	130	365	380	730	2100	3000	28,2	38,6
150 cc	AXV150R AXV150L	CW CCW	150	310	330	840	2000	3000	28,2	38,6

► Calculation of power to be supplied to the shaft as a function of flow and pressure

$$P = \frac{\Delta P \times Q}{600 \times \eta_{\text{global}}}$$

Calculation of torque to determine PTO,
as a function of the displacement and the pressure

$$C = \frac{\text{Cyl} \times \Delta P}{62.8 \times \eta_{\text{méca}}}$$

Avec :

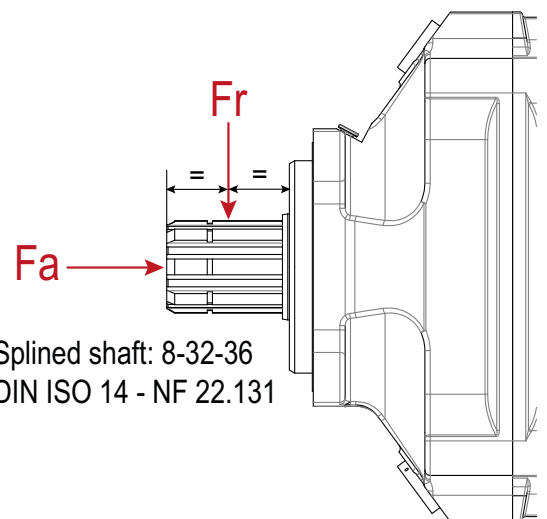
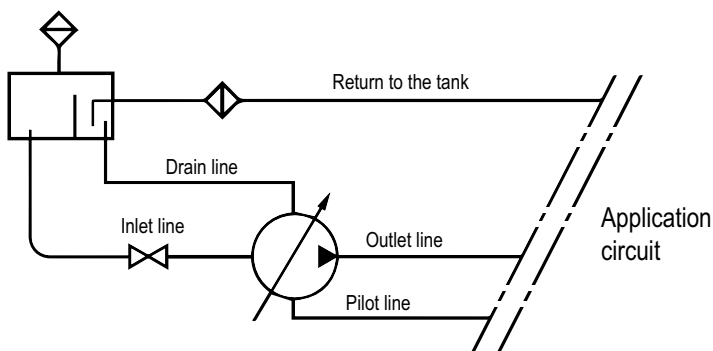
- P = Hydraulic power in kW
- ΔP = Differential pressure in bar
- Q = Flow in l/min
- C = Torque in N.m
- Cyl = Displacement in cc/rev
- η_{méca} = Mechanical efficiency
- η_{global} = Mechanical efficiency + volumetric efficiency

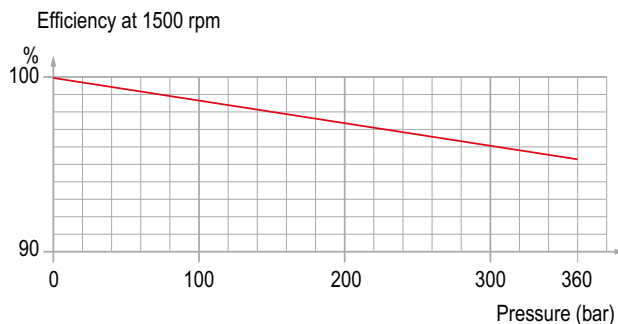
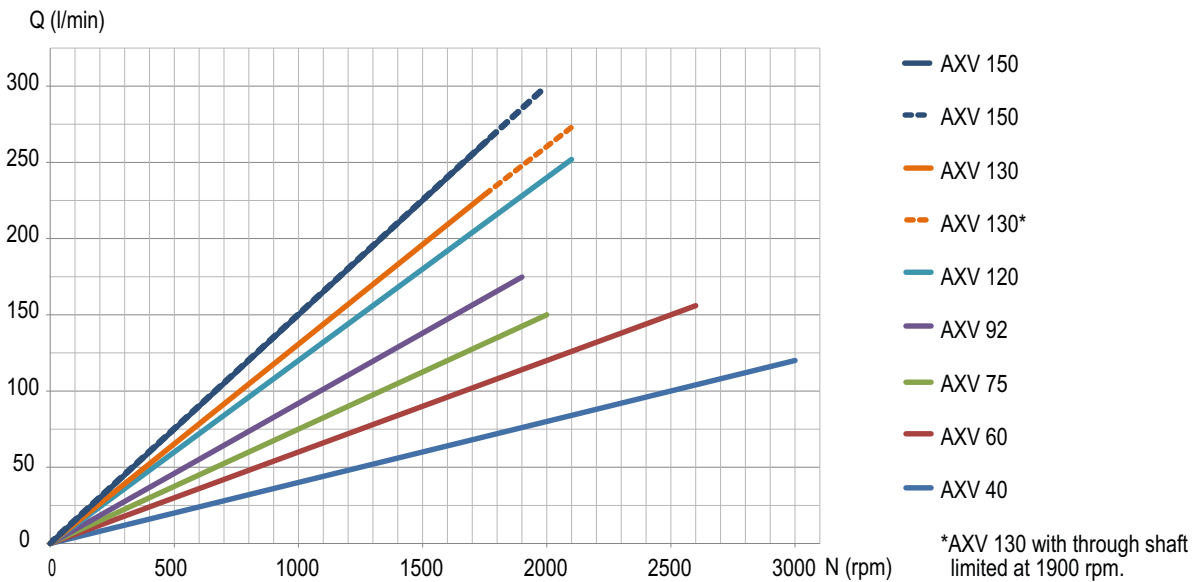
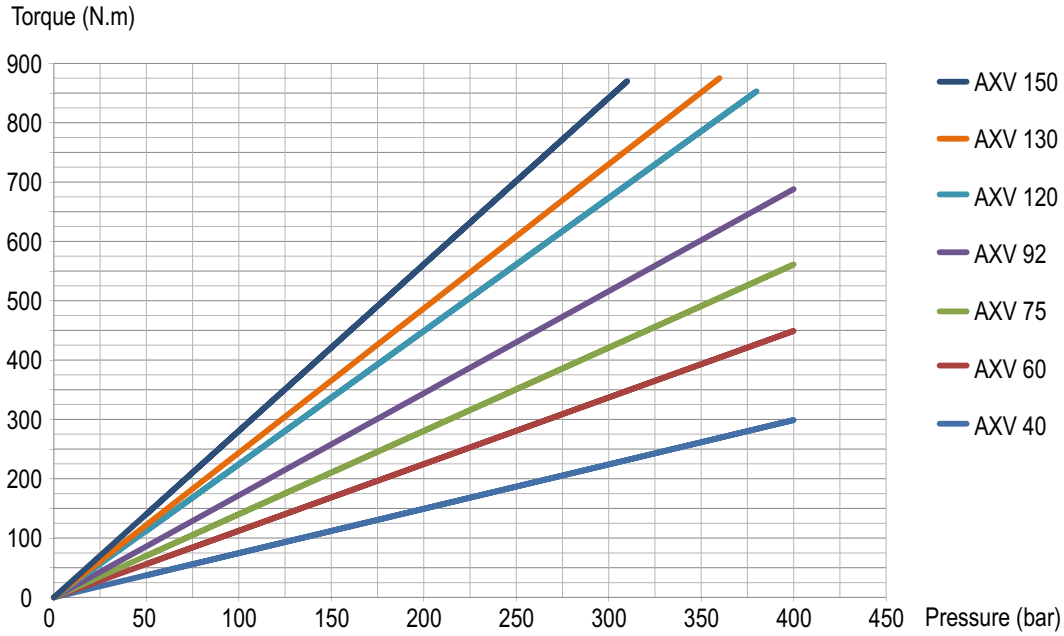
► Force on pump shaft

Fr : Acceptable max. radial force = 3000 N

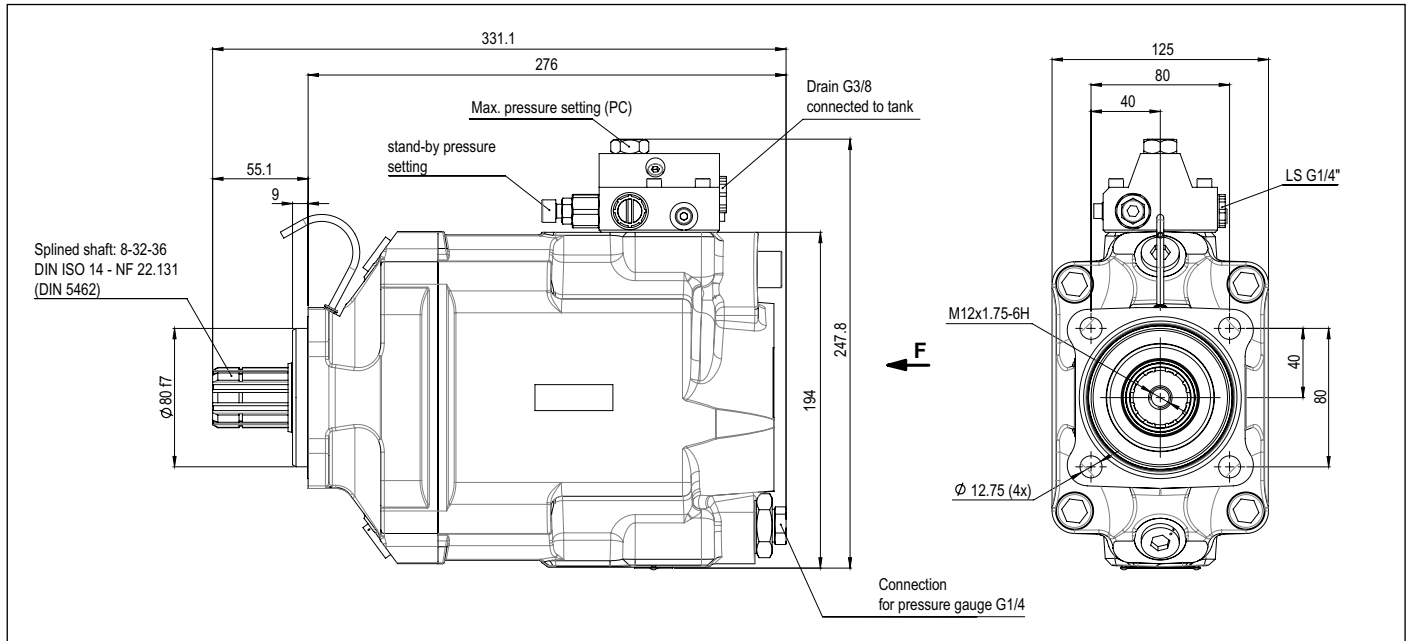
Fa : Acceptable axial force = 1600 N.

► Ideal installation





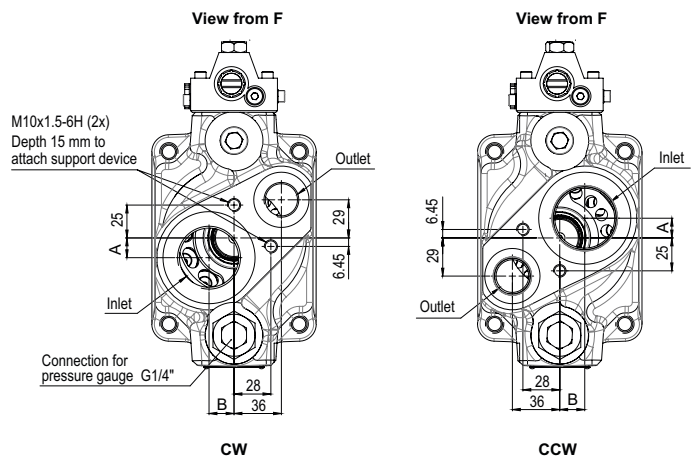
AXV 40cc to 120cc



Dimensions in mm.

AXV connections

Pump reference	Outlet (Ø)	Inlet (Ø)	A (mm)	B (mm)
AXV 40 to 92	G 3/4"	G 1 1/2"	15	19
AXV 120	G 1"		6	23.57

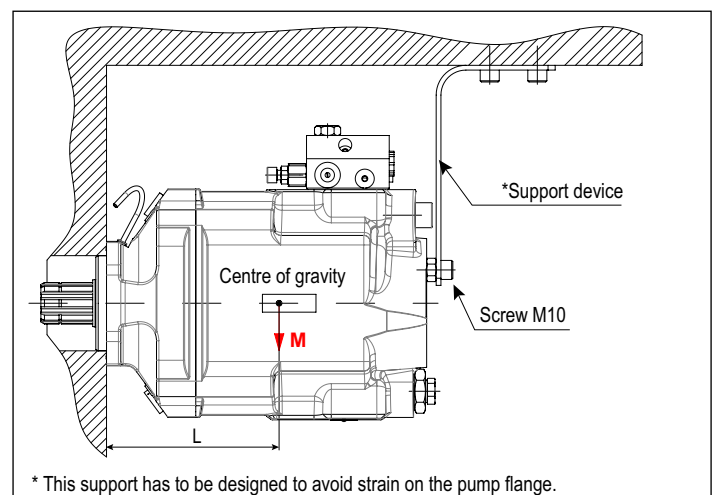


Support device

In cases where it is necessary to use a support device (overhang torque) for the pump, this must be fixed to the same part which the pump is mounted on.

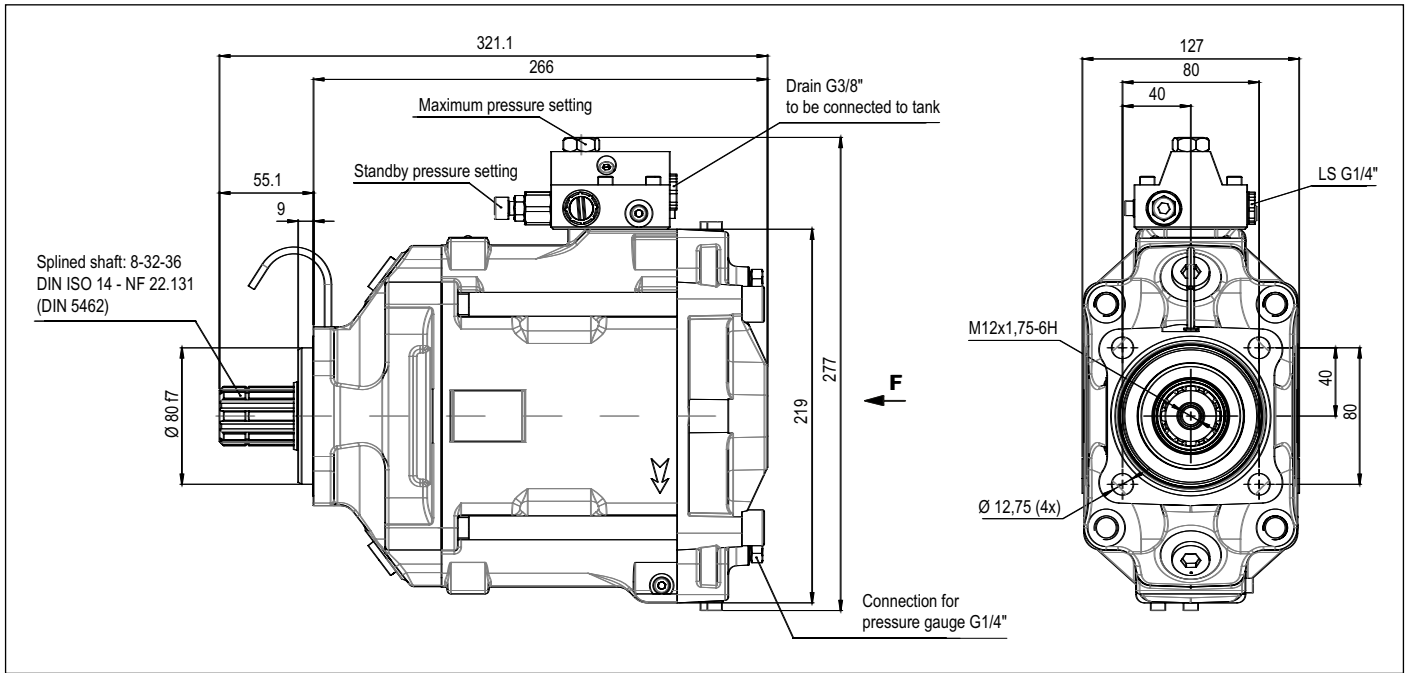
Mass and position of centre of gravity

Pump type	L (mm)	Weight (kg)	Overhang torque (N.m)
AXV 40 - 92	130	26	34
AXV 120	130	26	34
AXV 130 - AXV 150	128	28.2	38.6
AXV 130 - AXV 150	128	29.3	42
AXV 130 with through shaft	152.6	31.1	47.4
AXV 130 constant torque	143	28.3	40

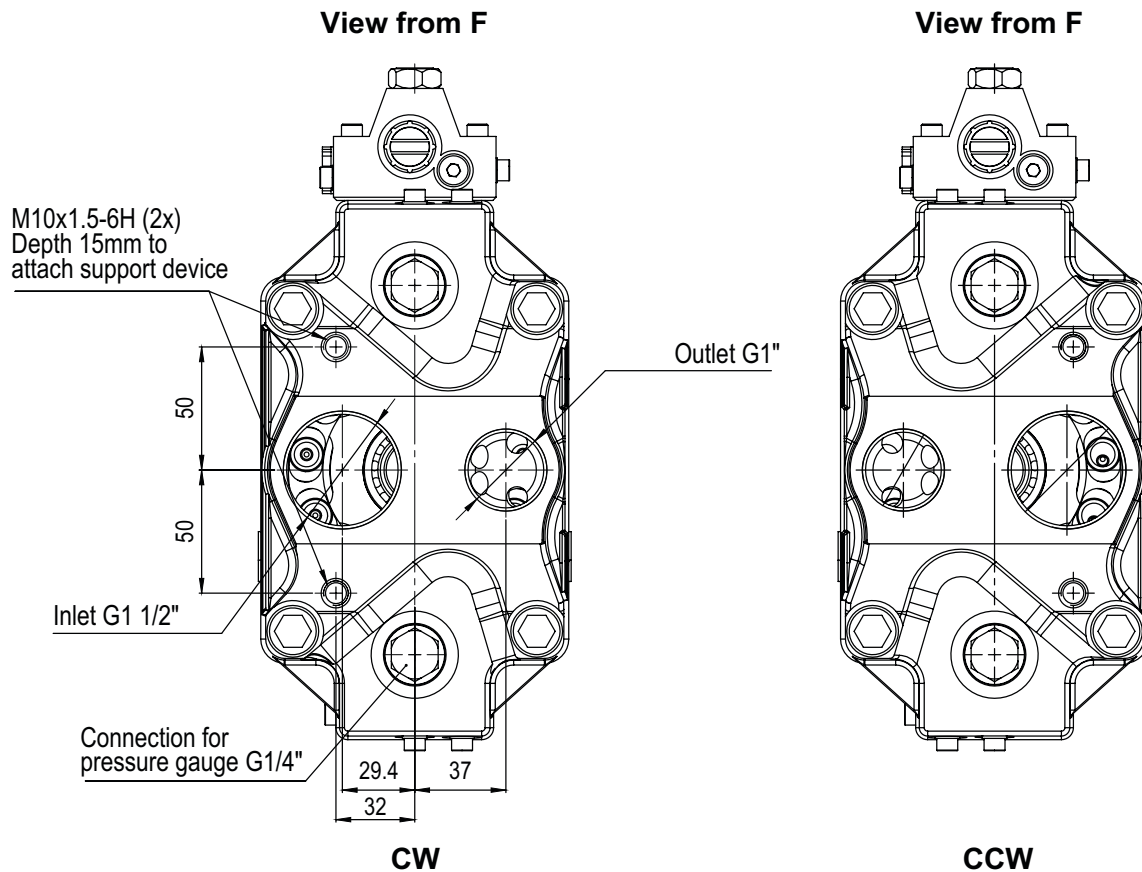


* This support has to be designed to avoid strain on the pump flange.

AXV 150cc



Dimensions in mm.



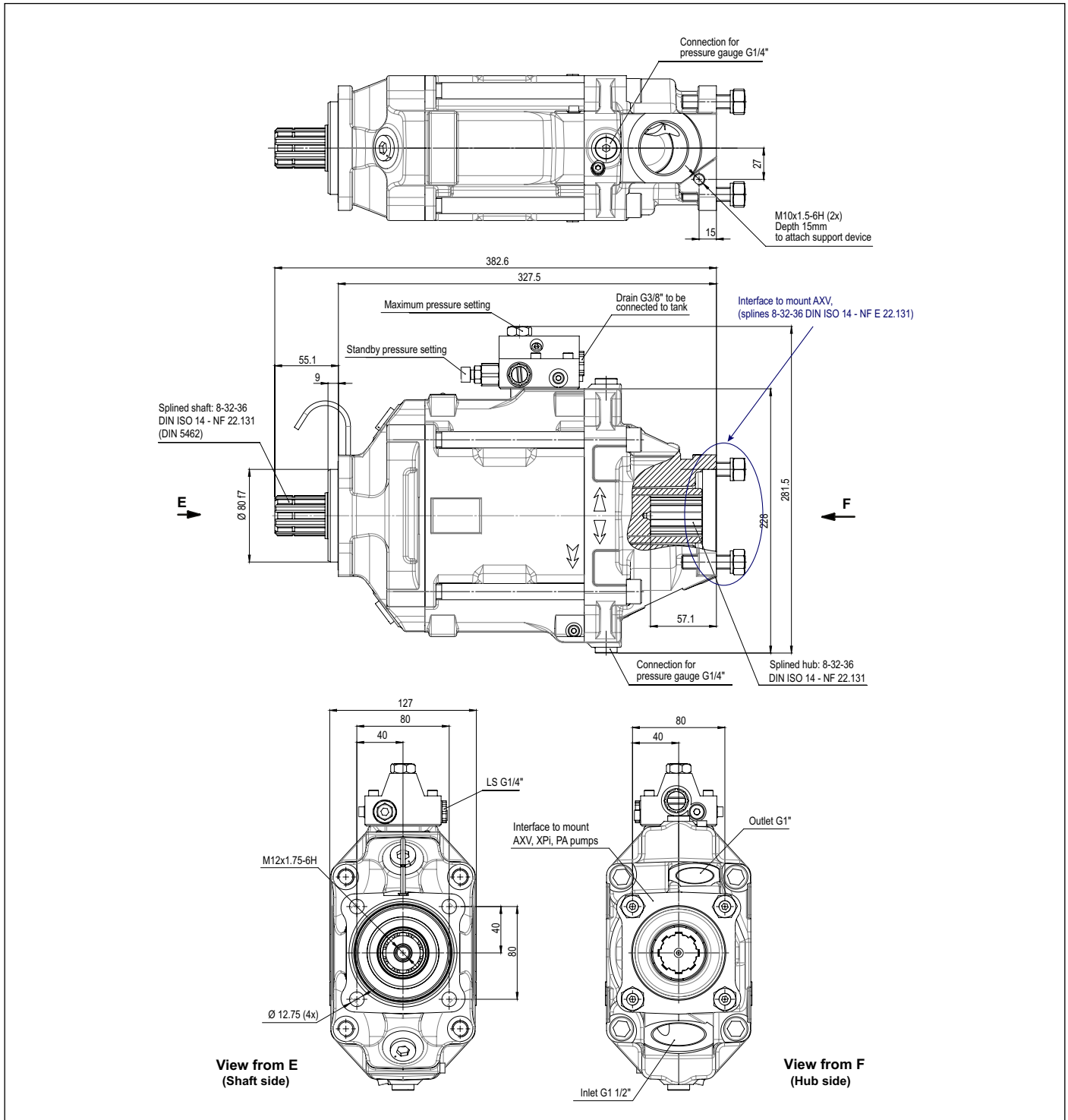
AXV 130 THROUGH SHAFT PUMP

The AXV 130 pump exists in a "through shaft" version.

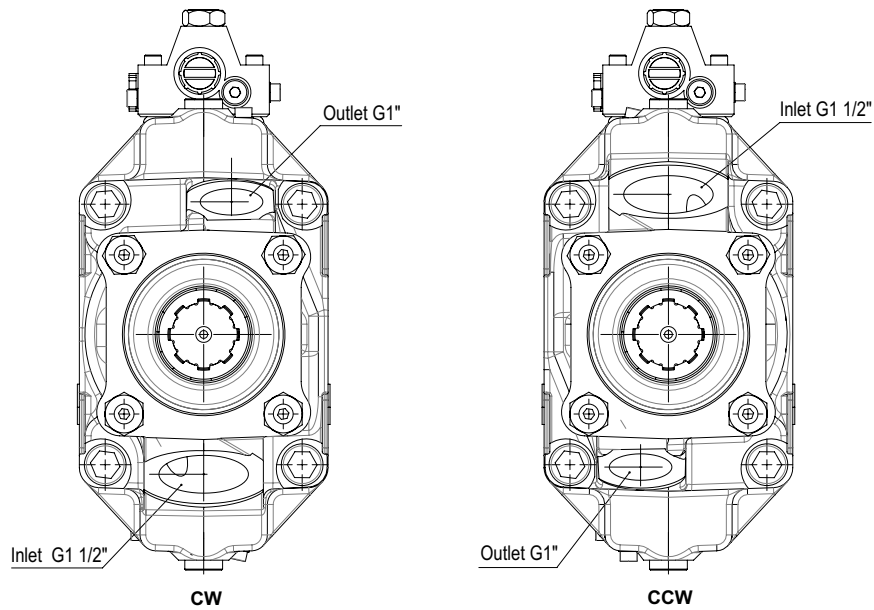
With side porting for inlet and output, this "through shaft" AXV 130 configuration means any AXV pump, or fixed displacement pumps or axial piston pump pump, can be mounted on the back.

The maximum displacement of the "through shaft" AXV 130 can be factory set, on request, between 60 and 130 cc/rev.

It is important to check that maximum torque to be transmitted by the shaft of the "through shaft" AXV 130 does not exceed 900 N.m.

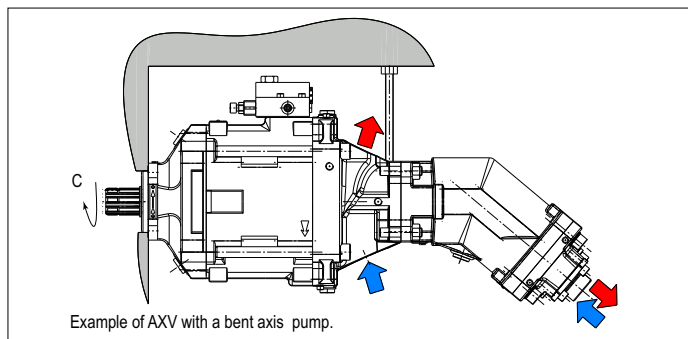
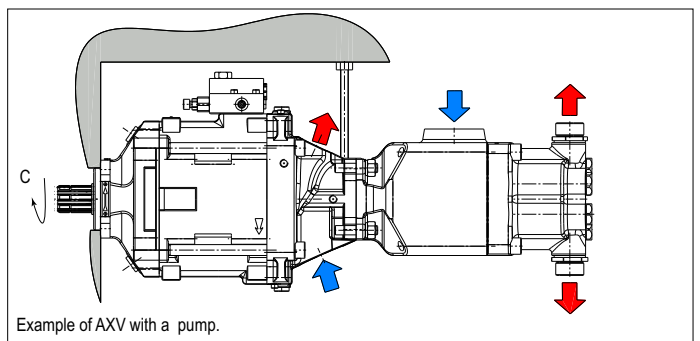
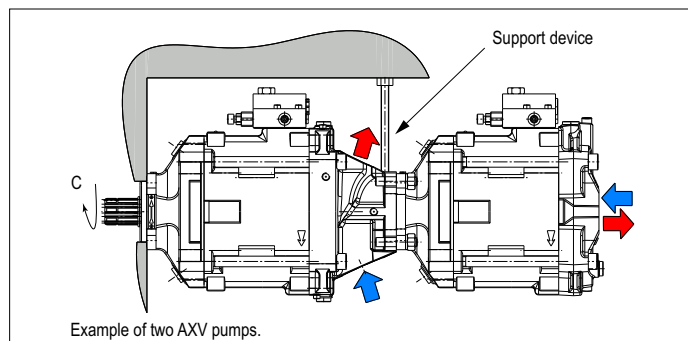


View from F



Support device

The support device for the pump must be fixed to the same part which the pump is mounted on (see diagram below) and has to be designed to avoid strain on the pump flange.



**Maximum torque transferable by the shaft
of the pump driven by the PTO:**

$$C = 900 \text{ N.m}$$

That is, the sum of torque for both pumps must be $< 900 \text{ N.m}$.

Complete Product Range

Piston Pumps

Piston Motors

DIN

DIN 5462 / ISO 14
8x32x35
8x32x36
DIN 6885



KFA2



KFM2

ISO

ISO 3019-2 (4 BOLTS)
DIN 5480 -W25,30,35,40,45
DIN 6885 -Ø20,25,30,35,40,45



A2FO



A2FM

SAE

SAE B2 C4 - SAE D
SAE J498b
SAE J 744



AA2FO



AA2FM

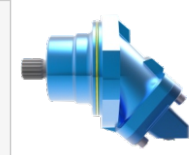
M2

Fixed Plug-in

DIN 5480 / ISO 3019-2
W30 - W35 - W40
M21 - M22 - M23



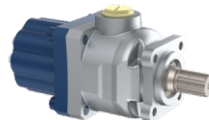
A2FD - Dual Flow



A2FE - Semi integrated

A4

DIN ISO 14
8x32x36



A2PP Single Flow



A4PD Dual Flow

A6

P2 Connection M8x125
Woodruff key 3x6,5 NF E
27-653 NF R 124-04
(2 BOLTS)



A2HP - High Pressure



**A2GP - Gear Pump
A2GM - Gear Motor**