

Variable displacement pump

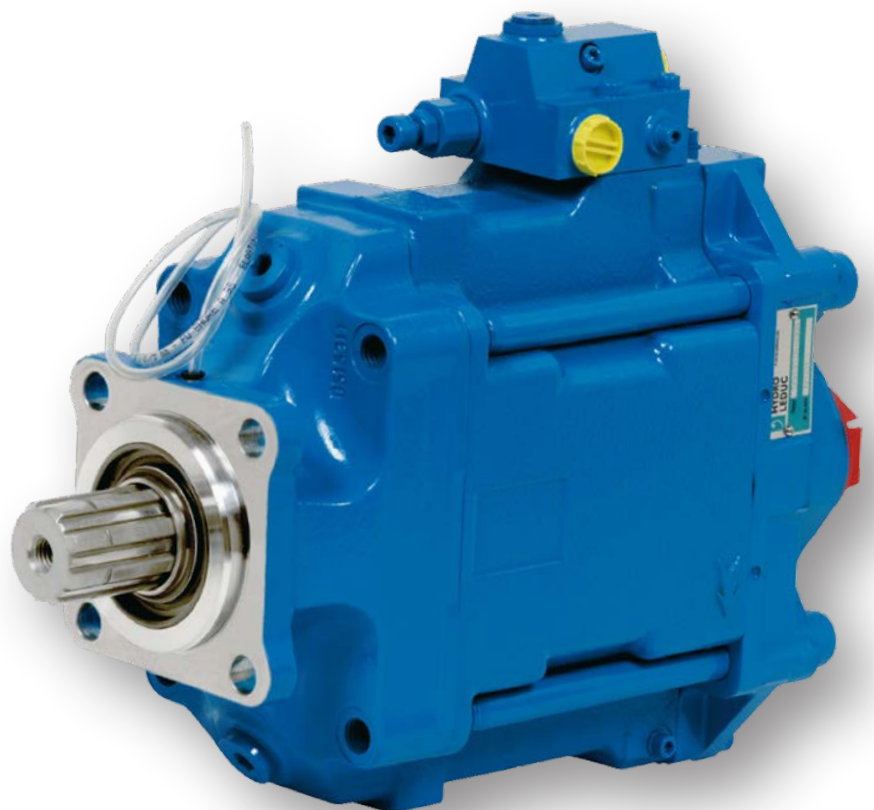
Series TXV



ADVANTAGES

- ▶ TXV series pumps are variable displacement with pressure-flow control – called **Load Sensing**. They **self-regulate to give just the flow required for each movement**.
- ▶ Specifically designed for the needs of the **truck hydraulics market**, TXV 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.
- ▶ TXV pumps are available in 11 models with maximum displacement from 40 to 150 cc/rev.

Maximum pressure is up to 420 bar depending on model.





TXV pumps are available in 11 models from 40 to 150 cc/rev maximum displacement.

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)
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► **Standard pump range**

TXV 40	0512950 0512955	CW CCW	40	400	420	225	3000	3000	26	34
TXV 60	0512500 0512505	CW CCW	60	400	420	335	2600	3000	26	34
TXV 75	0512510 0512515	CW CCW	75	400	420	420	2000	3000	26	34
TXV 92	0512520 0512525	CW CCW	92	400	420	515	1900	3000	26	34
TXV 120	0515700 0515705	CW CCW	120	380	400	675	2100	3000	26	34
TXV 130	0515300 0515515	CW CCW	130	365	380	730	2100	3000	28,2	38,6
TXV 150	0518600 0518605	CW CCW	150	310	330	840	2000	3000	28,2	38,6
TXV 130 <i>indexable</i>	P001474	CW/CCW	130	365	380	730	1750	3000	29,3	42
TXV 150 <i>indexable</i>	P001475	CW/CCW	150	310	330	840	1750	3000	29,3	42

► **With through shaft***

TXV 130	0518700 0518705	CW CCW	130	365	380	730	1900	3000	31,1	47,4
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* For TXV 130 through shaft available with max displacement set at : 65-75-85-95-100-110 - other specific set (on request)

(1) TXV pumps can be set for smaller maximum displacements (see page 41).

(2) For a mechanical efficiency at 85%.

(3) Higher speed - at full displacement - possible depending on flow required : please contact us.

Viscosity affects maximum possible rotating speed. If viscosity > 400 cSt, please contact us to obtain corresponding speed possibilities.

indexable series: see pages 34 and 35.

(4) Value of the overhang torque of the only pump.

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

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

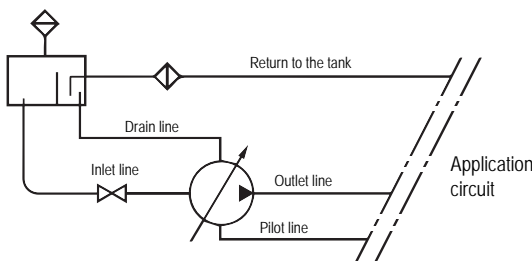
Calculation of torque to determine PTO,
as a function of the displacement and the pressure

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

With:

- 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_{meca} = Mechanical efficiency
- η_{global} = Mechanical efficiency + volumetric efficiency

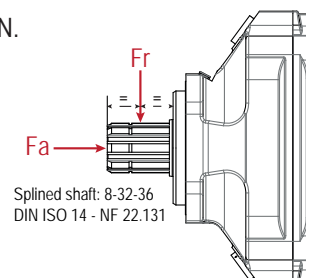
► **Ideal installation**



► **Force on pump shaft**

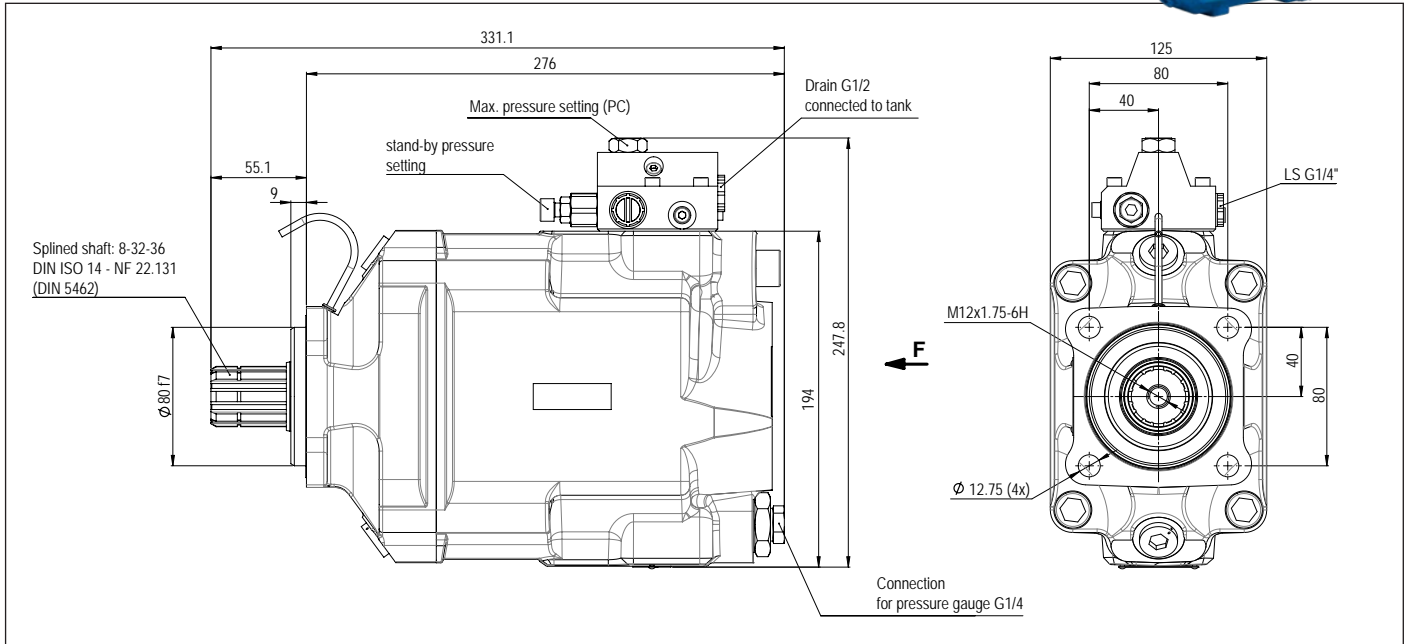
Fr : Acceptable max. radial force = 3000 N

Fa : Acceptable axial force = 1600 N.





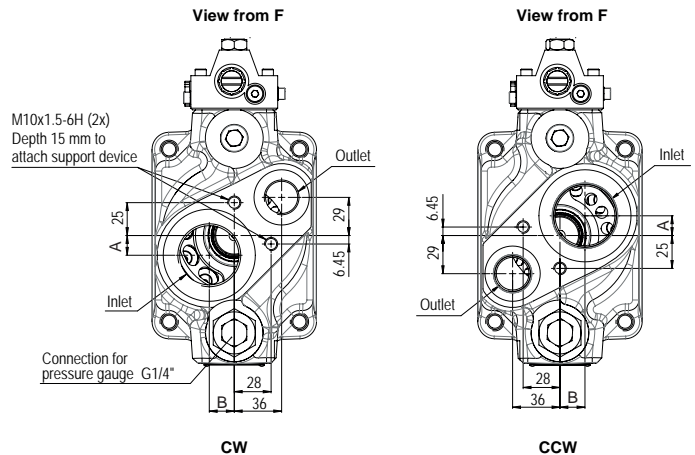
TXV 40 TO 120



Dimensions in mm.

TXV connections

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

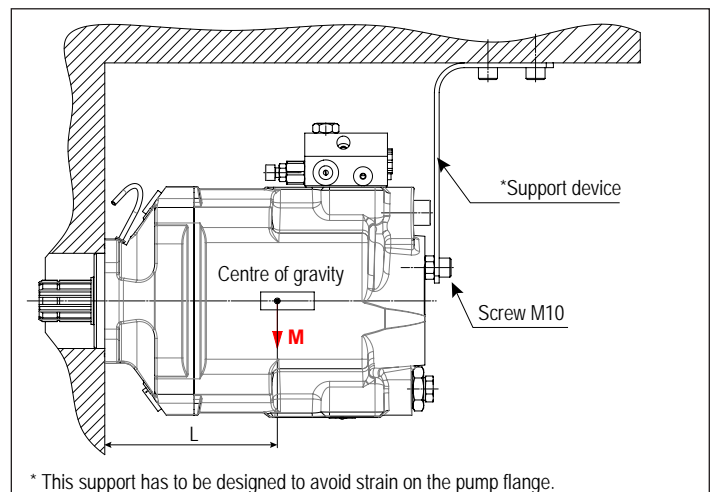


Support device

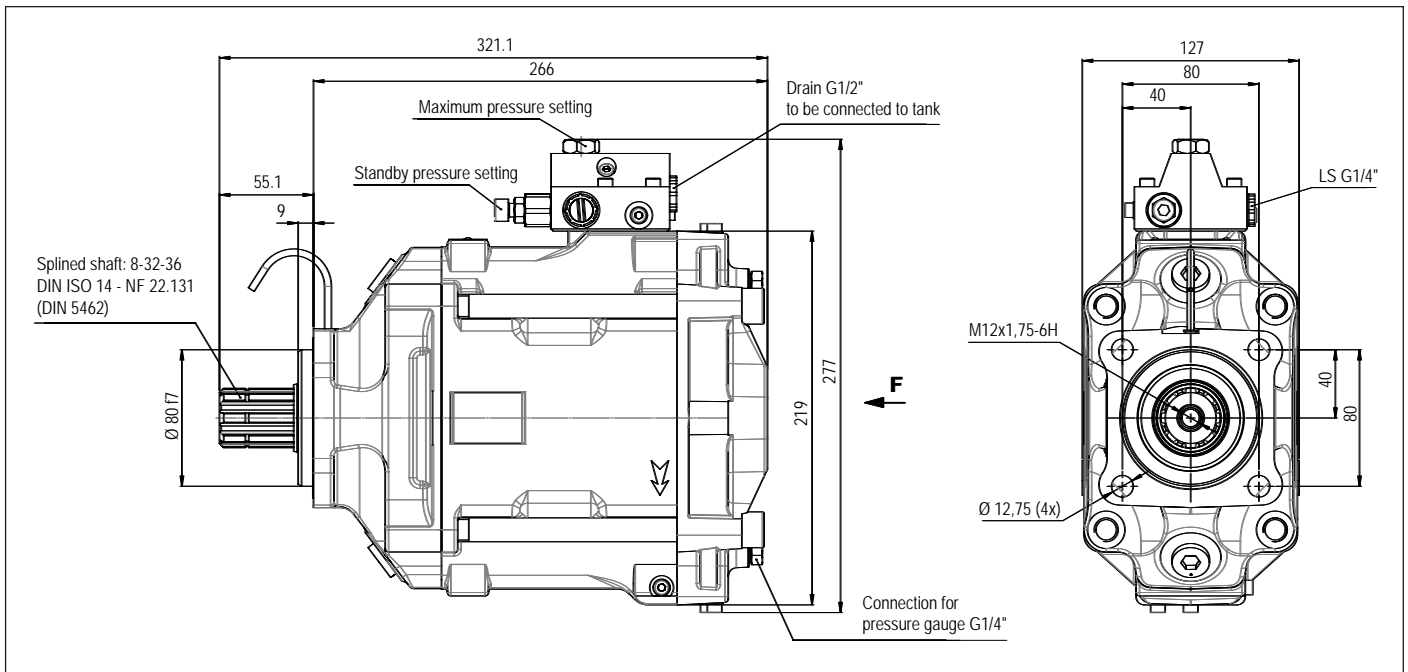
In cases where it is necessary to use a support device (overhang torque) for the pump, this must be fixed to the same part which the pump is mounted on.

Mass and position of centre of gravity

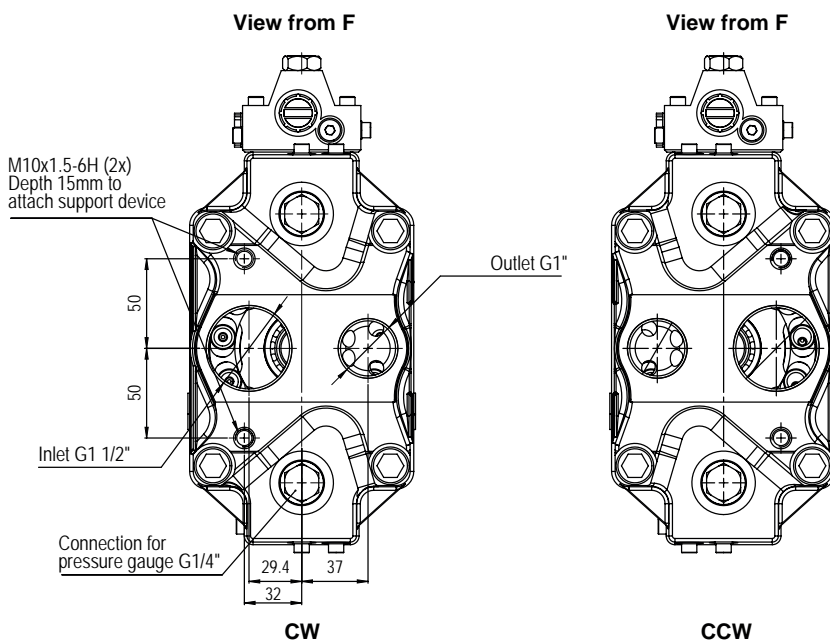
Pump type	L (mm)	Weight (kg)	Overhang torque (N.m)
TXV 40 to 92	130	26	34
TXV 120	130	26	34
TXV 130 and TXV 150	128	28.2	38.6
TXV 130 and TXV 150 <i>indexable</i>	128	29.3	42
TXV 130 with through shaft	152.6	31.1	47.4
TXV 130 constant torque	143	28.3	40



TXV 150



Dimensions in mm.



SAMER services

- Design of systems with pumps and motors in closed and open circuits
- Sale of pumps and motors in closed and open circuits
- Installation and testing of pumps and motors in closed and open circuits
- Repair of pumps and motors in closed circuit and open circuit

Variable displacement pump Series TXVA



► Characteristics

Pump ref.	Direction of rotation	Max. displacement ⁽¹⁾		Maximum operating pressure		Max. peak pressure (intermittent: 5%)		Torque at 300 bar (4350 psi) ⁽²⁾		Max. speed at full displacement ⁽³⁾	Max. speed in stand-by	Weight		Overhang torque ⁽⁴⁾	
		cu.in/rev	(cc/rev)	psi	(bar)	psi	(bar)	lbf ft	(N.m)	rpm	rpm	lbs	(kg)	lbf ft	(N.m)
TXVA 75	CC CCW	4.60	(75)	5800	(400)	6090	(420)	310	(420)	2000	3000	64	(29)	26	(35.2)
TXVA 92	CC CCW	5.60	(92)	5500	(380)	5800	(400)	380	(515)	1900	3000	64	(29)	26	(35.2)

(1) TXV pumps can be set for smaller maximum displacements (see page 41).

(2) For a mechanical efficiency at 85%.

(3) Higher speed - at full displacement - possible depending on flow required : please contact us.

(4) Value of the overhang torque of the only pump.

► Configurator for TXVA pumps

To obtain order code for your pump, fill in the parameters (2, 3, 4, 5) depending on the options required, using the table below.

TXVA	L1
1	2	3	4	5	6

1	TXVA pump			
2	Displacement	4.60 cu.in/rev (75 cc/rev)	5.60 cu.in/rev (92 cc/rev)	
3	Direction of rotation			CW CCW
4	Flange	SAE C - 2 bolts SAE C - 4 bolts		C1 C2
5	Shaft end	Splined SAE J744	14T 12/24 DP - SAE C	S1
		Keyed SAE J744	Ø1 1/4" UNF 2A - SAE C	K1
6	Ports	Threaded	Inlet: 1 7/8" 12UN 2B Outlet: 1 1/16" 12UN 2B	L1



Open Circuit Piston Variable Pumps DELTA Series



Designed for open loop hydraulic circuits, the DELTA range of variable displacement pumps allow optimized performance for a given application. The flow supplied by the pump is automatically regulated according to the hydraulic load.

This guarantees:

- minimized energy consumption,
- minimized heating of fluid,
- reduced noise levels.

Built on 40 years know-how and experience, the DELTA pumps are the result of advanced development work and analysis on the needs of the hydraulic end-user. The DELTA pumps satisfy the needs of the more demanding users.

The pump provides:

- long service life,
- no pressure pulsations,
- low noise level,
- exceptional power to weight ratio,
- high outlet pressure,
- easy start-up thanks to good self-priming and suction characteristics.

Displacements in production include 40, 60, 75 and 92 cc/rev.

Depending on the application, displacements of 120 and 130 cc/rev can be delivered on request.

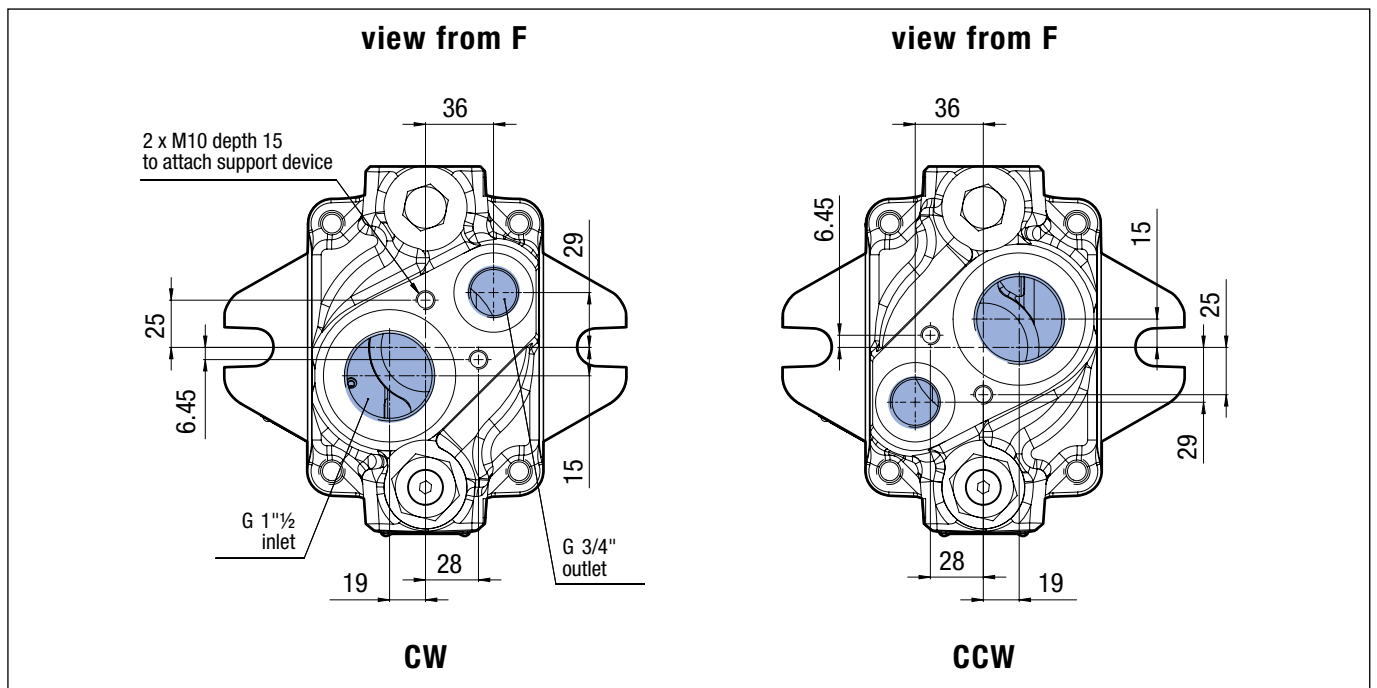


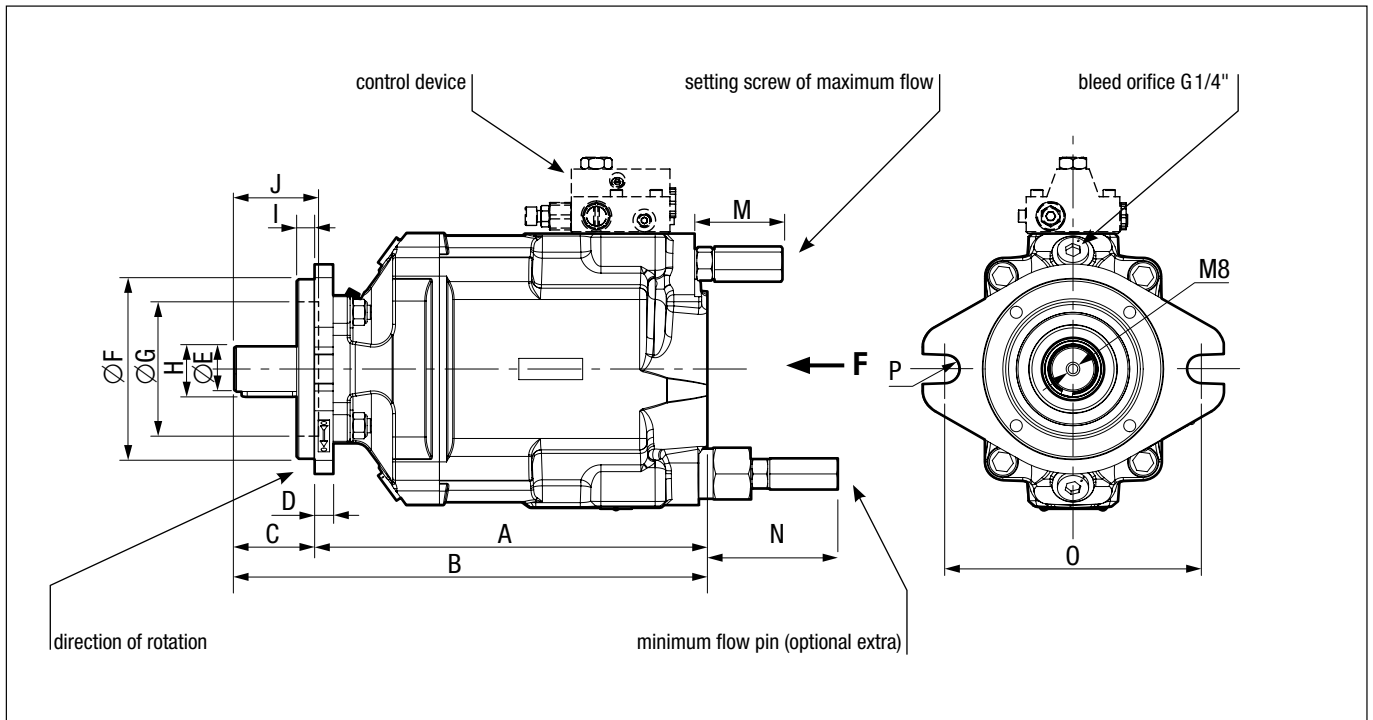
Pump	Reference	Direction of rotation	Max displacement (cc)	Maximum operating pressure (bar)	Maximum peak pressure (intermittent 5%)	Max operating pressure at flow cancelation (bar)	Torque at 300 bar (Nm)	Max speed (rpm)	Weight (kg)
DELTA 40	0512370	SH	40	400	420	440	220	3000	29
	0512375	SIH							
DELTA 60	0513140	SH	60	400	420	440	295	2600	29
	0513145	SIH							
DELTA 75	0512340	SH	75	400	420	440	410	2000	29
	0512345	SIH							
DELTA 92	0512350	SH	92	380	400	420	483	1900	29
	0212355	SIH							

CONTROLS		Description	Weight (kg)
PC	0519180	Constant Pressure	1.10
PCD	0519070	remote control constant pressure	1.10
PCDM	0519340 + adjustable displacement screw 0512602	constant pressure with minimum flow control	2.50
LS	0515333	flow-pressure regulation	1.10
LSD	0519080	remote control flow-pressure regulation	1.10
KPF	0520693	plate + fixation screw	0.30

DELTA Connection

(other port styles available)





Pump	Dimensions (mm)														
	A	B	C	D	Ø E	Ø F	Ø G	H	I	J	M	N	O	P	
DELTA 40	282	329	47	10	25.4 h9	101.6 h8	80	28.1 JS13 (bey width 6.38h9)	9.5	46	62	97	146	R8	
DELTA 60 to 92	282	339.1	57.1	13	31.75 h8	127 h7	95	35.2 JS13 (bey width 8e9)	12.7	58.4	62	97	181	R10	

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- Installation and testing of pumps and motors in closed and open circuits
- Repair of pumps and motors in closed circuit and open circuit

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