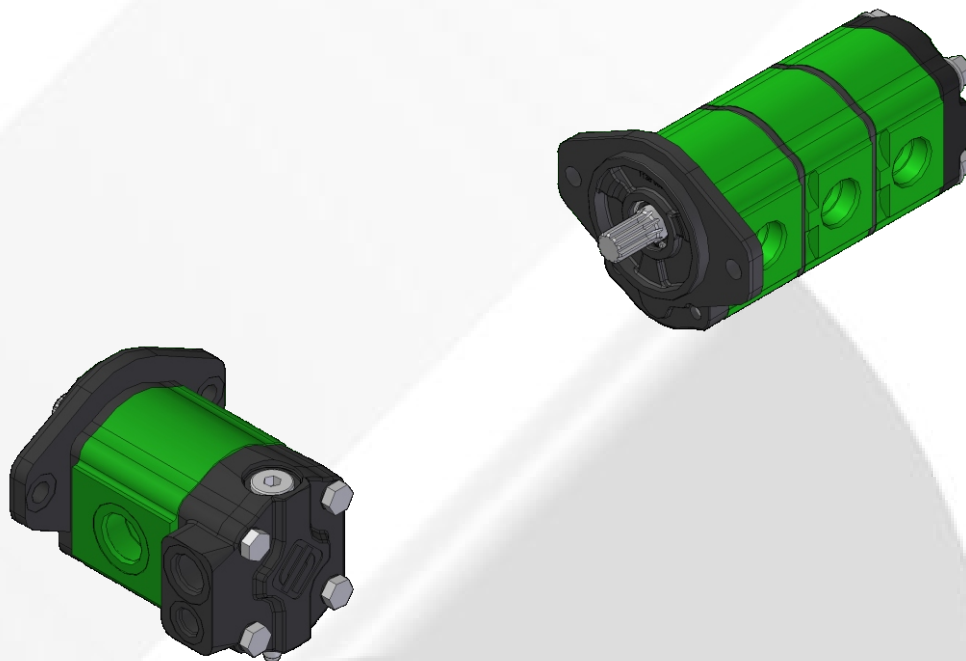


GEAR PUMPS AND MOTORS “B” SERIES

GROUP 2,5

Technical catalogue



E0.16.0610.02.02

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
=ISO 9001/2000=

salam ™

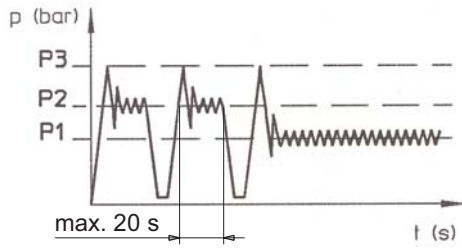
E0.16.0610.02.02

The data in this catalogue refers to the standard product.

The policy of Salami S.p.A. consists of a continuous improvement of its products. It reserves the right to change the specifications of the different products whenever necessary and without giving prior information.

If any doubts, please get in touch with our sales department.

DEFINITION OF PRESSURES



P3 = Peak pressure
 P2 = Intermittent operating pressure (1/3 of working time)
 P1 = Continuous operating pressure

GENERAL

SALAMI gear pumps are available with displacements from 5.5 cm³/rev to 44 cm³/rev (from 0.36 cu.in./rev to 2.69 cu.in./rev).

All pumps are available as multiple units either of the same or different series.

With all sizes of pumps and motors there are options of shafts, flanges and ports as for European, German and American standards.

SALAMI gear pumps and motors offer:

- High volumetric efficiency by innovative design and accurate control of machining tolerances.
- Axial compensation achieved by the use of floating bushes that allow high volumetric efficiency throughout the working pressure range.
- DU bearings ensure high pressure capability.
- 12 teeth integral gear and shaft.
- Extruded alluminum body.
- Die cast alluminum cover and flange - cast iron rear.
- Double shaft seals.
- Nitrile seals as standard and viton seals in high temperature applications.

All pumps and motors are hydraulic tested after assembly to ensure the high standard performance required by SALAMI'S engineering.

WORKING CONDITIONS

- Pump inlet pressure (absolute pressure)	0,7 to 2,5 bar 10 to 36 psi
- Minimum operating fluid viscosity	12 mm² / sec
- Max starting viscosity	800 mm² / sec
- Suggested fluid viscosity range	17 - 65 mm² / sec
- Fluid operating temperature range	-15 to 85 °C
- Fluid operating temperature range with FPM seals(Viton) ...	-20 to 110°C
- Hydraulic fluid	mineral oil

Important:

in case of assembling of pumps without shaft seals (eg. B2 - B3....), you have to keep the value of min. suction pressure (0.7 bar (abs)) in the vane between pump and coupling too.

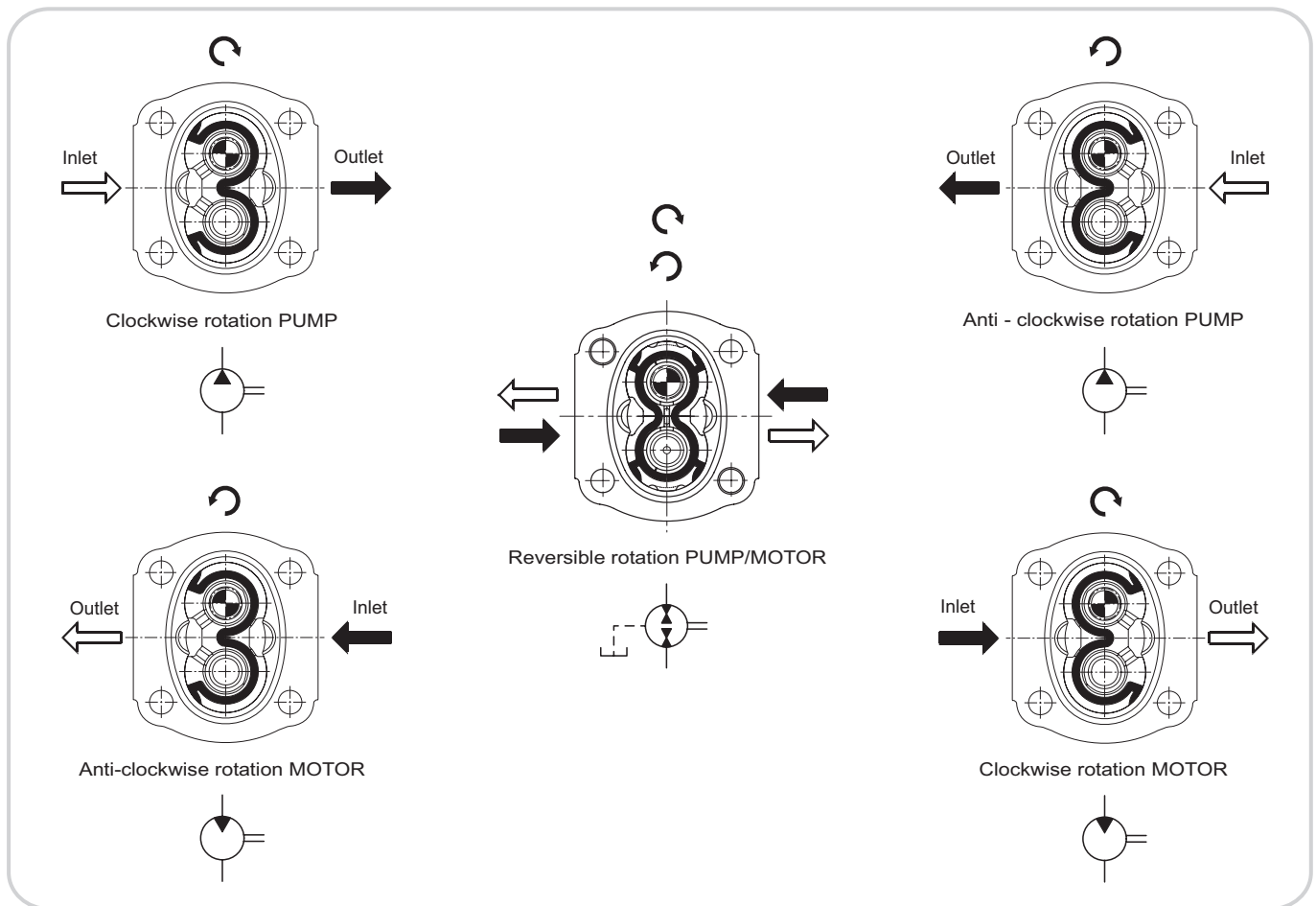
Lower pressure can lead to suction of oil through the front flange (seat of the shaft without seal); this can damage seriously the pump.

DRIVE SHAFT

Radial and axial loads on the shafts must be avoided since they reduce the life of the unit. Pumps driven by power take - off on engines must always be connected by placing an "Oldham" coupling or coupling having convex toothed hub.

This is to ensure that inevitable misalignment during assembly is reduced to minimum.

PUMP AND MOTOR ROTATION DIRECTION VIEWED AT THE DRIVE SHAFT



HYDRAULIC PIPE LINE

To ensure favorable suction conditions it is important to keep pressure drop in suction pipe line to a minimum value (see WORKING CONDITIONS).

To calculate hydraulic pipe line size, the designer can use; as an approximate guide, the following fluid speed figures:

From 1 to 2 m/sec on suction pipe line
From 6 to 10 m/sec on pressure pipe line

From 3.28 to 6.36 ft/sec on suction pipe line
From 19.7 to 32.8 ft/sec on pressure pipe line

The lowest fluid speed values in pipe lines is recommended when the operating temperature range is high and/or for continuous duty.

The highest value is recommended when the temperature difference is low and/or for intermittent duty. **When tandem pumps are supplied by 2 different reservoirs with 2 different fluids it is necessary to specify "AS" version.** In case of reversible motor allowance must be made to ensure the motor is not drained, through the case drain, when stationary.

FILTRATION INDEX RECOMMENDED

Working pressure	> 200 bar / 2900 psi	< 200 bar / 2900 psi
Contamination class NAS 1638	9	10
Contamination class ISO 4406	18/15	19/16
Achieved with filter $\beta_x = 75$	15 μm	25 μm

FIRE RESISTENT FLUID

Type	Description	Max pressure	Max speed (rpm)	Temperature
HFB	oil emulsion with 40% water	130 bar/1880 psi	2500	3°C +65°C
HFC	Water glycol	180 bar/2600 psi	1500	-20°C +65°C
HFD	Phosphate esters		1750	-10°C +80°C

COMMON FORMULAS FOR PUMPS

C = Input torque = $\frac{q \cdot \Delta p}{62.8 \cdot \eta_m}$ (Nm)

P = Input power = $\frac{q \cdot n \cdot \Delta p \cdot 10^{-3}}{600 \eta_m}$ (kW)

Q = Outlet flow = $\frac{q \cdot n \cdot \eta_v}{1000}$ (l/min)

LEGENDA

Δp = Working pressure (bar)

q = Displacement (cm^3/rev)

n = Speed (min^{-1})

η_m = Mechanical eff. (0.92)

η_v = Volumetric eff. (0.95)

COMMON FORMULAS FOR MOTORS

Input flow: $Q = \frac{V \cdot n}{1000 \cdot \eta_v}$ l/min

Output torque: $M = \frac{V \cdot \Delta p \cdot \eta_m}{20 \cdot \pi}$ Nm

Output power: $P = \frac{M \cdot n}{9550} = \frac{Q \cdot \Delta p \cdot \eta_t}{600}$ kW

V = Displacement cm^3/rev [in^3/rev]
 P_{out} = Outlet pressure bar [psi]
 P_{in} = Inlet pressure bar [psi]
 ΔP = $P_{out} - P_{in}$ (system pressure) bar [psi]
n = Speed min^{-1} (rpm)
 η_v = Volumetric efficiency
 η_m = Mechanical efficiency
 η_t = Overall efficiency ($\eta_v \cdot \eta_m$)

DESCRIPTION OF THE NEW PRODUCT IDENTIFICATION LABEL

Based on the firm certification ISO 9001 - UNI EN 29001, section 4.8 (identification and traceability of the product), we have adopted a new identification label starting from the 1st march 1995. Pls, see following example:

A			
B			
C		D	
E	salami	F	G

- A = Product short description (eg. VD8A/FDD/U4G).**
- B = Customer part number.**
- C = Salami part number (eg. 6235 0025 0).**
- D = Production code (for Salami management)**
- E = Rotation sense (only for pumps).**
- F = Production date (see data sheet here below)**
- G = Progressive number of assembling.**

Only for pumps 2PB and 2PZ (except triple 2PB) the identification product is marked on the top of the pump body as shown here below:

→

SALAMI 09/02
MADE IN ITALY 4010998
612271211 nr. 13
2PB 19S B25 B5

- Product short description.
- Salami part number and progressive number of assembling.
- Production code (for Salami management).
- Month and year of made: maybe in the future you can find this type of production date in the label beside too.
- Rotation sense.

ASSEMBLED	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
JANUARY	7A	8M	9M	0M	1M	2M	3M	4M	5M	6M	7M	08M	09M	10M	11M	12M
FEBRUARY	7B	8N	9N	0N	1N	2N	3N	4N	5N	6N	7N	08N	09N	10N	11N	12N
MARCH	7C	8P	9P	0P	1P	2P	3P	4P	5P	6P	7P	08P	09P	10P	11P	12P
APRIL	7D	8Q	9Q	0Q	1Q	2Q	3Q	4Q	5Q	6Q	7Q	08Q	09Q	10Q	11Q	12Q
MAY	7E	8R	9R	0R	1R	2R	3R	4R	5R	6R	7R	08R	09R	10R	11R	12R
JUNE	7F	8S	9S	0S	1S	2S	3S	4S	5S	6S	7S	08S	09S	10S	11S	12S
JULY	7G	8T	9T	0T	1T	2T	3T	4T	5T	6T	7T	08T	09T	10T	11T	12T
AUGUST	7H	8U	9U	0U	1U	2U	3U	4U	5U	6U	7U	08U	09U	10U	11U	12U
SEPTEMBER	7I	8V	9V	0V	1V	2V	3V	4V	5V	6V	7V	08V	09V	10V	11V	12V
OCTOBER	7J	8Z	9Z	0Z	1Z	2Z	3Z	4Z	5Z	6Z	7Z	08Z	09Z	10Z	11Z	12Z
NOVEMBER	7K	8X	9X	0X	1X	2X	3X	4X	5X	6X	7X	08X	09X	10X	11X	12X
DECEMBER	7L	8Y	9Y	0Y	1Y	2Y	3Y	4Y	5Y	6Y	7Y	08Y	09Y	10Y	11Y	12Y



ROTATION CHANGING INSTRUCTIONS FOR PUMPS GROUP 2.5

Before starting, be sure that the pump is cleaned externally as well as the working area to avoid that particles dangerous for pump working can find their way into the pump.

Pump represented is aclockwise rotation pump.

To obtain an anti_clockwise rotation read carefully the following instructions.

Picture "A"

- 1 - Loosen and fully unscrew the screws.
- 2 - Lay the pump on the working area in order to have the mounting flange turned upside.
- 3 - Coat the shaft extension with grease to avoid damaging the shaft seal.
- 4 - Remove the flange and lay it on the working area; verify that the seal is correctly located in the body seat.

Picture "B"

- 1 - Mark the position of the bushing and eventually the thrust plate, relative to the body.
- 2 - Remove the bushing, thrust plate and the driving gear taking care to avoid driven gear axial shifts.

Picture "C"

- 1 - Draw out the driven gear from its housing, taking care to avoid rear cover axial shifts.
- 2 - Re-locate the driven gear in the position previously occupied by the driving gear.

Picture "D"

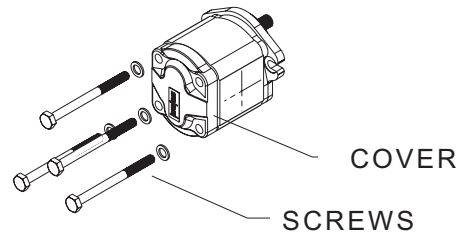
- 1 - Re-locate the driving gear in the position previously occupied by the driven gear.

Picture "E"

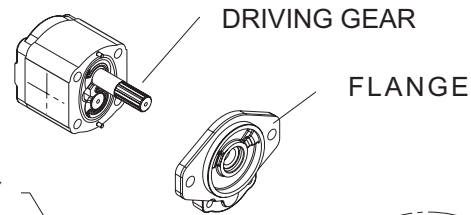
- 1 - Replace the bushing and thrust plate taking care that:
 - marks are located as on the picture
 - surface containing the seal is visible
 - seal and its protection are correctly located

Picture "F"

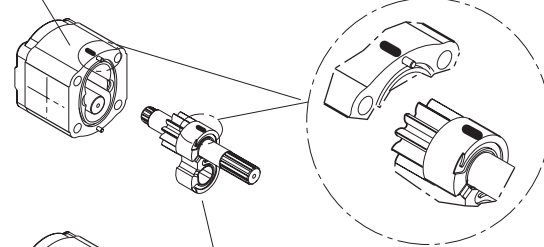
- 1 - Clean body and mounting flange refaced surfaces.
- 2 - Verify that the two plugs are located in the body.
- 3 - Refit the mounting flange, turned 180° from its original position.
- 4 - Replace the clamp bolts and tighten crosswise evenly to a torque you will find at page 2.
Check that the shaft rotates freely.
- 6 - Mark on the flange the new direction of rotation.



Picture "A"



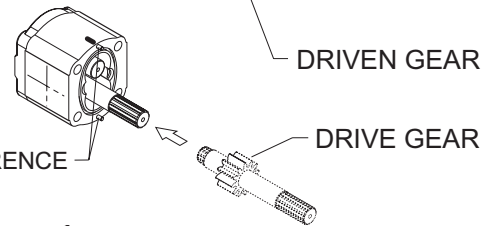
Picture "A"



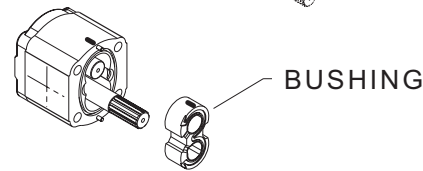
Picture "B"



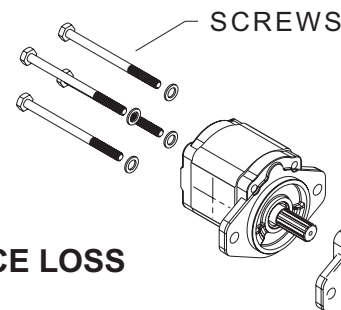
Picture "C"



Picture "D"



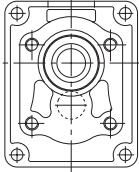
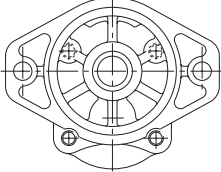
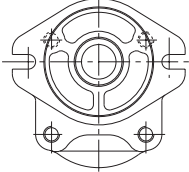
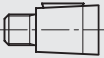




Pict. "E"



Pict. "F"

IMPORTANT: TO AVOID A PERFORMANCE LOSS
DO NOT CHANGE MOTOR ROTATION

COMBINATION WITH TYPES OF FLANGES AND DRIVES SHAFTS AVAILABLE

2.5PB	 P2	 S3	 S2
 38	38 P2		
 53			53 S2
 54			54 S2
 55		55 S3	55 S2
 87		87 S3	87 S2



Displacements up to 2.69 cu.in./rev
Pressure up to 4300 psi

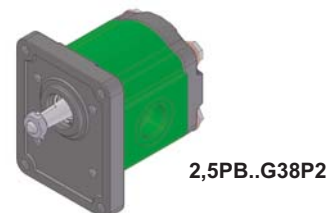
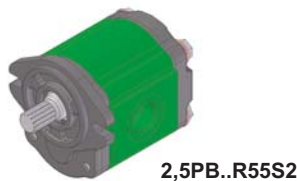
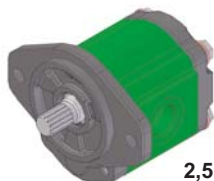
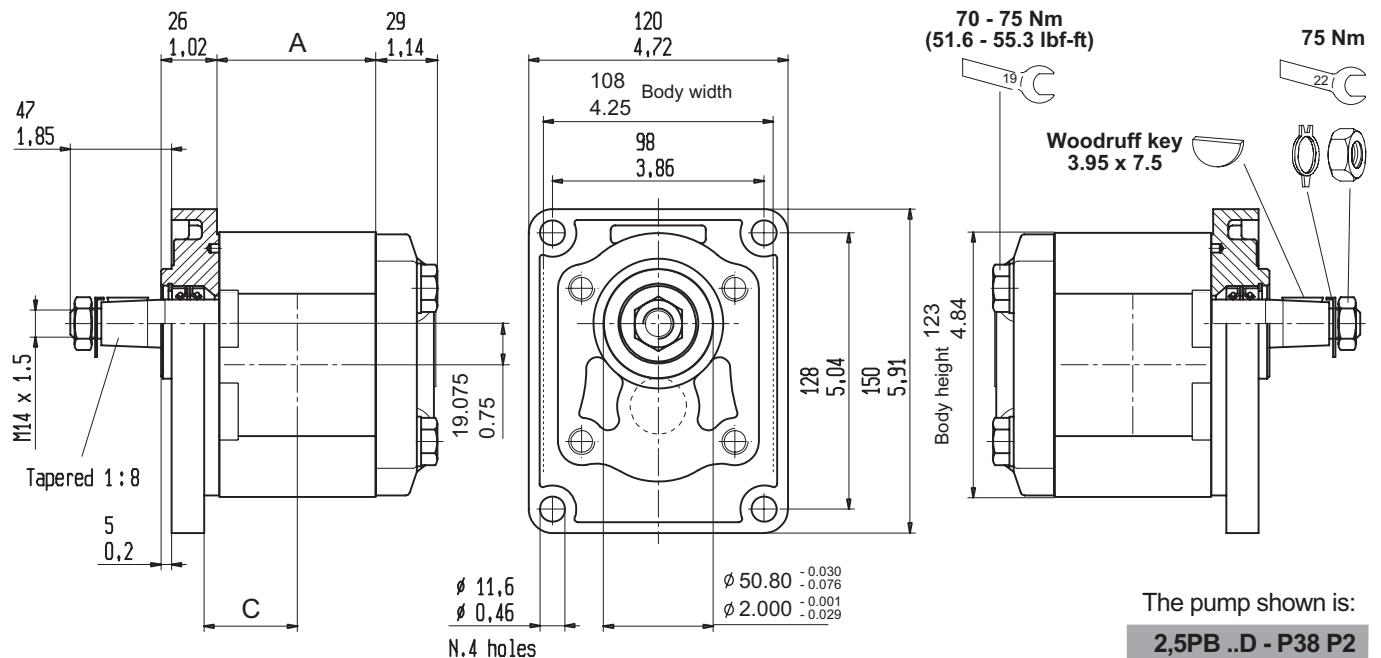


Displacements up to 44.2 cm³/rev
Pressure up to 300 bar

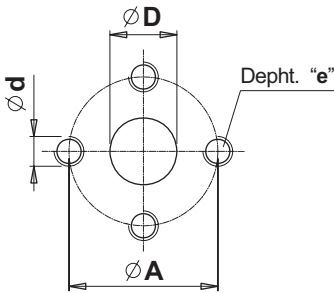
ASSEMBLING DIMENSIONS AND VALUES OF PRESSURE AND SPEED

Type		5.5	8.3	11.5	13.8	16	19	22	25	28	32	38	44	
Displacement	cm ³ /rev. cu.in./rev.	5.97 0.36	8.29 0.50	11.76 0.72	14.07 0.86	16 0.97	19.3 1.17	22.2 1.35	25.2 1.53	27.6 1.68	32.4 1.97	38.1 2.32	44.2 2.69	
Dimension A	mm. in.	52.2 2.05	54.6 2.15	58.2 2.29	60.6 2.38	63 2.45	66.5 2.59	70 2.73	72.5 2.82	85 3.31	90.5 3.52	96.5 3.76	103 4.06	
Dimension C	mm. in.	26.1 1.02	27.3 1.07	29.1 1.14	30.3 1.19	31.5 1.22	33.25 1.29	35 1.36	36.25 1.41	42.5 1.65	45.25 1.76	48.25 1.88	51.5 2.03	
Working pressure	p1					250 3600						230 3300	200 2900	170 2465
Intermittent pressure	p2					280 4000						250 3600	220 3140	190 2715
Peak pressure	p3					300 4300						260 3750	240 3450	210 3000
Max. speed at	p2					3000						2750	2500	
Min. speed at	p1			600				500				400		
Weight	kg lbs	3.4 7.48	3.6 7.92	3.8 8.36	4.1 9.02	3.4 7.48	3.6 7.92	3.8 8.36	4.1 9.02	4.5 9.92	4.75 10.47	5 11.00	5.30 11.66	

IMPORTANT: The displacements **5.5 - 8.3 - 11.5 - 13.8**, are always available as rear pump.
Displacements **11.5 - 13.8** are available as single pump only with drive shaft "55"

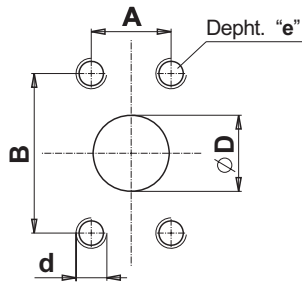


FLANGED PORTS



code P

Type	OUTLET				INLET			
	INLET				OUTLET			
	ØD	ØA	d	e	ØD	ØA	d	e
From 5.5 to 8.3	13 (0.51")	30 (1.18")	M6	13 (0.51")	13 (0.51")	30 (1.18")	M6	13 (0.51")
From 11.5 to 19	20 (0.78")	40 (1.56")	M8	13 (0.51")	13 (0.51")	30 (1.18")	M6	13 (0.51")
From 22 to 44	25 (0.97")	51 (2.01")	M10	16 (0.62")	18 (0.70")	40 (1.56")	M8	18 (0.70")



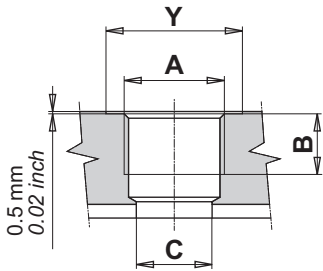
code S

Available for quantity (contact our sales dept.)

Type	OUTLET					INLET				
	INLET					OUTLET				
	ØD	B	A	d	e	ØD	B	A	d	e
From 16 to 44	25 (0.97")	52.4 (2.06")	26.2 (1.02")	3/8 16 UNC	16 (0.62")	18 (0.70")	47.6 (1.87")	22.2 (0.86")	3/8 16 UNC	16 (0.62")

For the other displacements, please contact our sales department.

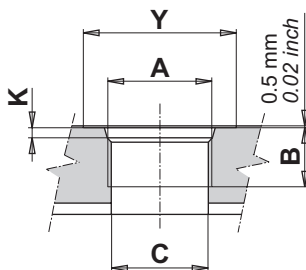
THREADED PORTS



code G

Available for quantity (contact our sales dept.).
British standard pipe parallel (BSPP)

Type	OUTLET				INLET			
	INLET				OUTLET			
	A	B	C	Y	A	B	C	Y
From 5.5 to 22	G3/4	16 (0.62")	20 (0.78")	36 (1.42")	G1/2	15 (0.58")	15 (0.58")	30 (1.18")
From 25 to 44	G1	19 (0.74")	23 (0.91")	44 (1.73")	G3/4	16 (0.62")	20 (0.78")	36 (1.42")



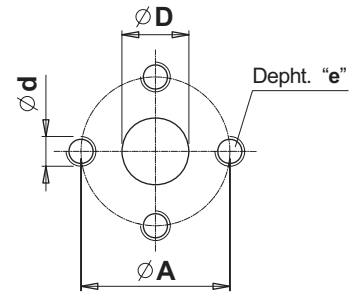
code R

SAE threaded (ODT)

Type	OUTLET					INLET				
	INLET					OUTLET				
	A	B	C	Y	K	A	B	C	Y	K
From 5.5 to 22	1-1/16 12 UN	19 (0.74")	20 (0.78")	41 (1.16")	3.3 (0.12")	7/8 14 UN	14 (0.54")	15 (0.58")	34 (1.34")	2.5 (0.10")
From 25 to 44	1-5/16 12 UN	19 (0.74")	23 (0.91")	49 (1.93")	3.3 (0.12")	1-1/16 12 UN	19 (0.74")	20 (0.78")	41 (1.16")	3.3 (0.12")

FLANGED PORTS

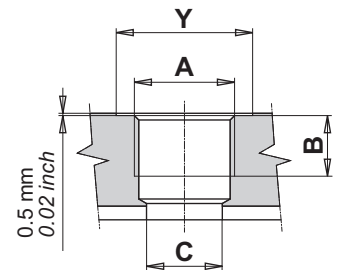
Type	INLET				OUTLET			
	ØD	ØA	d	e	ØD	ØA	d	e
From 16 to 25	20 (0.78")	40 (1.56")	M8	13 (0.51")	20 (0.78")	40 (1.56")	M8	13 (0.51")
From 28 to 44	25 (0.97")	51 (2.01")	M10	16 (0.62")	25 (0.97")	51 (2.01")	M10	16 (0.62")



code P

THREADED PORTS

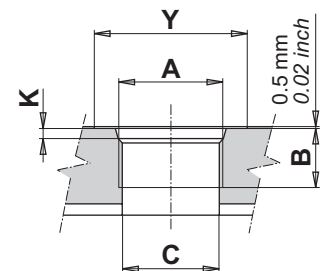
Type	INLET				OUTLET			
	A	B	C	Y	A	B	C	Y
From 16 to 25	G3/4	16 (0.62")	20 (0.78")	36 (1.42")	G3/4	16 (0.62")	20 (0.78")	36 (1.42")
From 28 to 44	G1	19 (0.74")	23 (0.91")	44 (1.73")	G1	19 (0.74")	23 (0.91")	44 (1.73")



Available for quantity (contact our sales dept.)
British standard pipe parallel (BSPP)

code G

Type	INLET					OUTLET				
	A	B	C	Y	K	A	B	C	Y	K
From 16 to 25	1-1/16 12 UN	19 (0.74")	20 (0.78")	41 (1.16")	3.3 (0.12")	7/8 14 UN	14 (0.54")	15 (0.58")	34 (1.34")	2.5 (0.10")
From 28 to 44	1-5/16 12 UN	19 (0.74")	23 (0.91")	49 (1.93")	3.3 (0.12")	1-1/16 12 UN	19 (0.74")	20 (0.78")	41 (1.16")	3.3 (0.12")



SAE threaded (ODT)

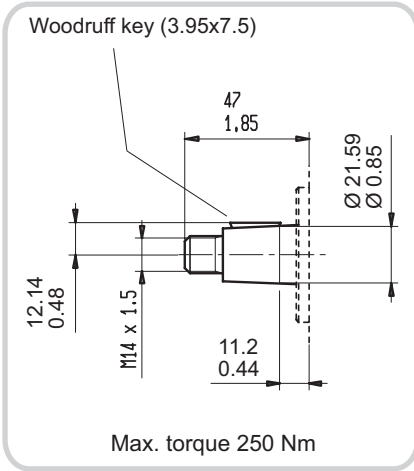
code R

Motor outlet pressure P_{out}	bar (psi)	
Leakage-oil line pressure P_{brin}		

The assembly differences between pump or motor is only the lipped spacer.
The other important difference between pump and motor is the run-in duty cycle.
The motor cycle is deeper, this is due to the fact the motor has to ensure a minimum starting torque.

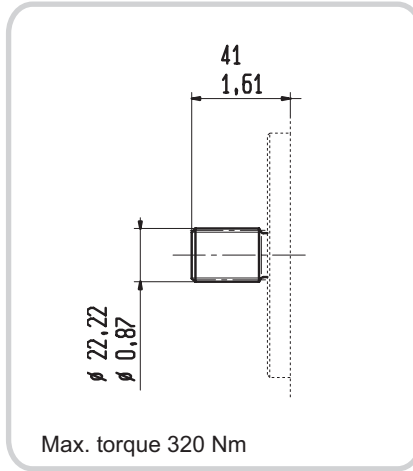


DRIVE SHAFTS



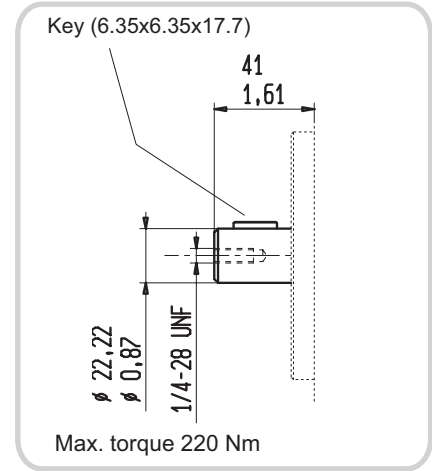
code 38

Tapered 1:8



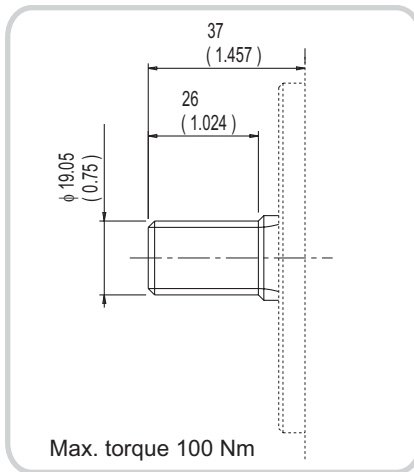
code 55

SAE B 13T-16/32DP
Ansi B92 1a 1976



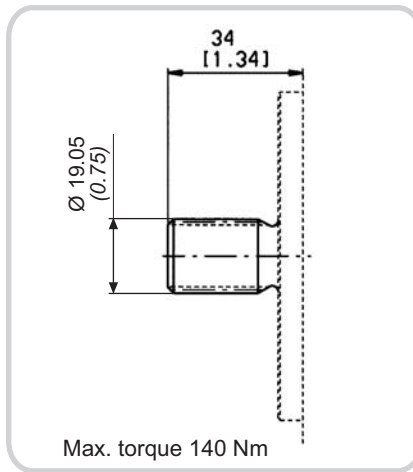
code 87

SAE B parallel



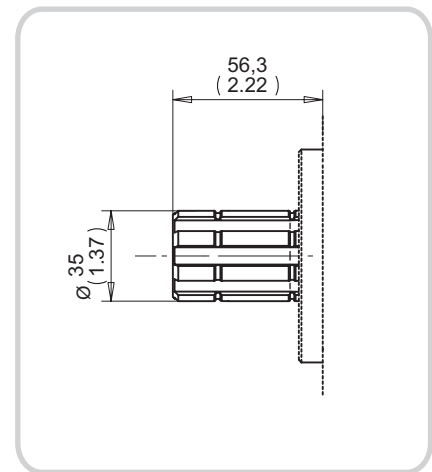
code 53

Splined SAE A 10T-16/32DP
Available for quantity
(contact our sales dept.)



code 54

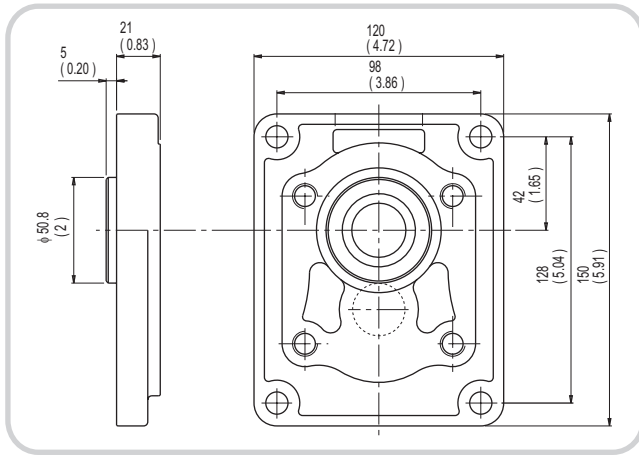
SAE A 11T-16/32DP
Ansi B92 1a 1976
Available for quantity
(contact our sales dept.)



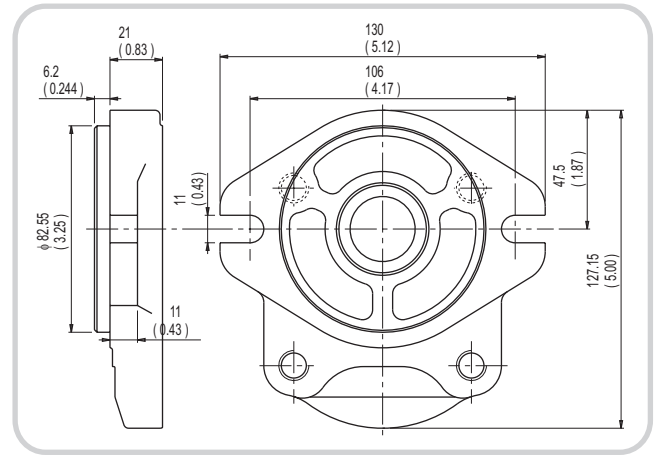
code 66

B8x32x36
DIN 5462-6g7

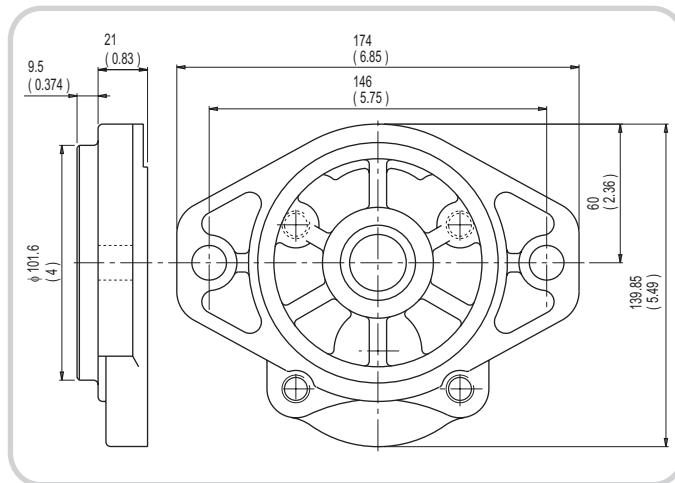
MOUNTING FLANGES



code P2 With drive shaft code 38

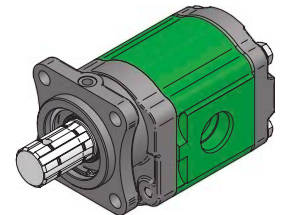
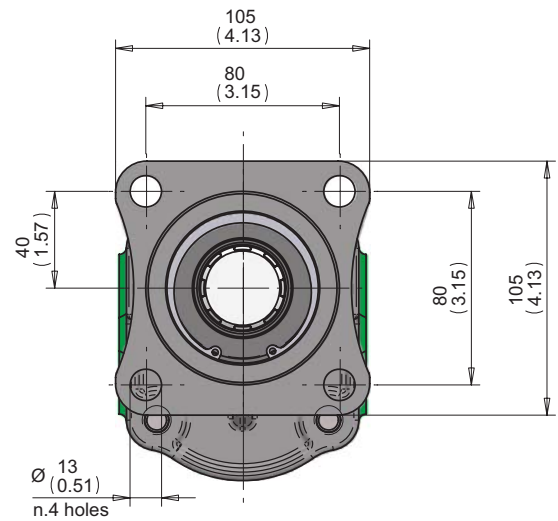
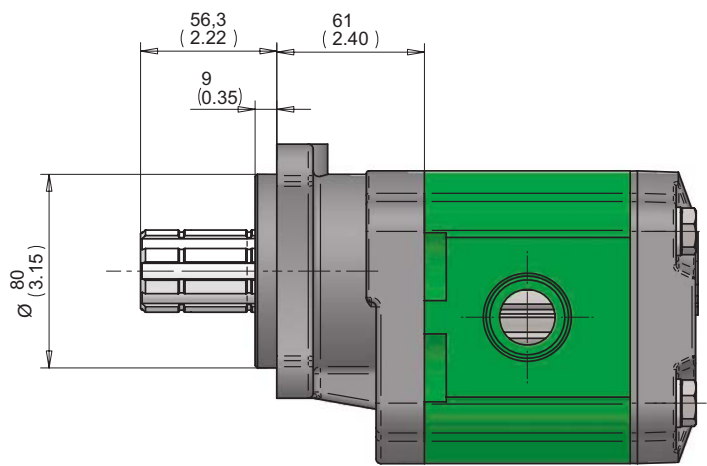


code S2 With drive shafts code 53 - 54 - 55 - 87



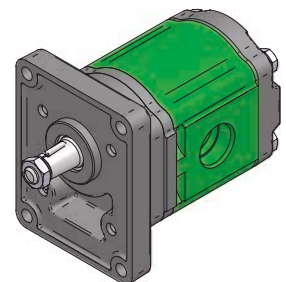
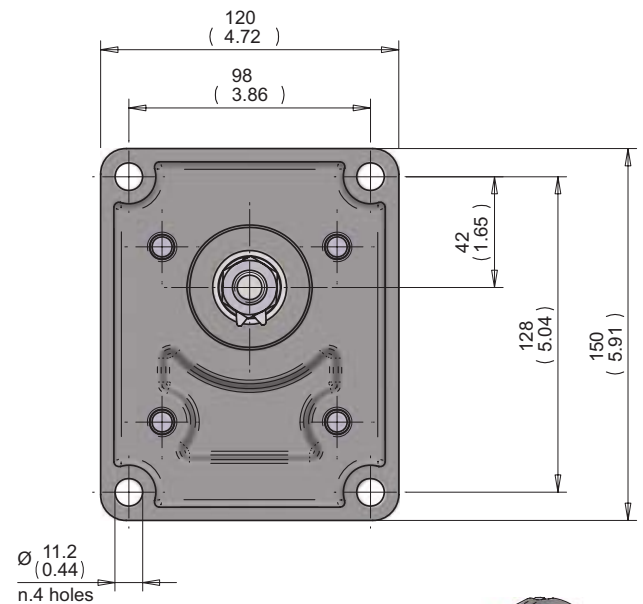
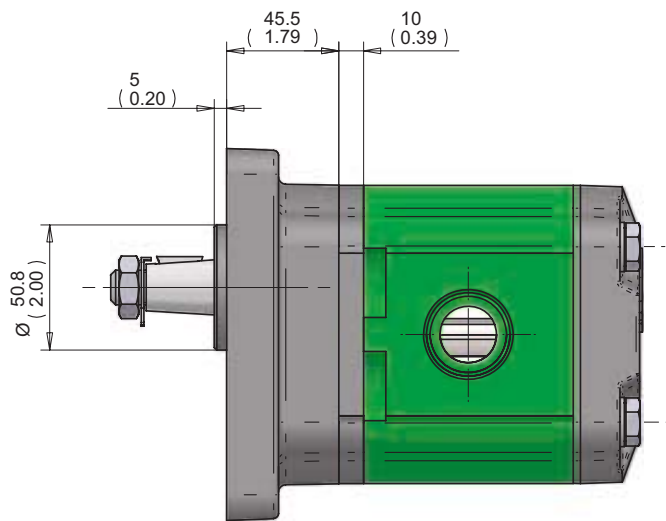
code S3 With drive shafts code 55-87

OUTRIGGER BEARING



code Z1

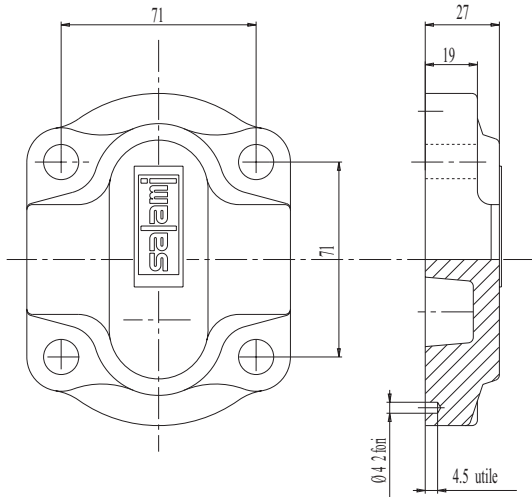
With shaft code 66
Flange on gear box ZF



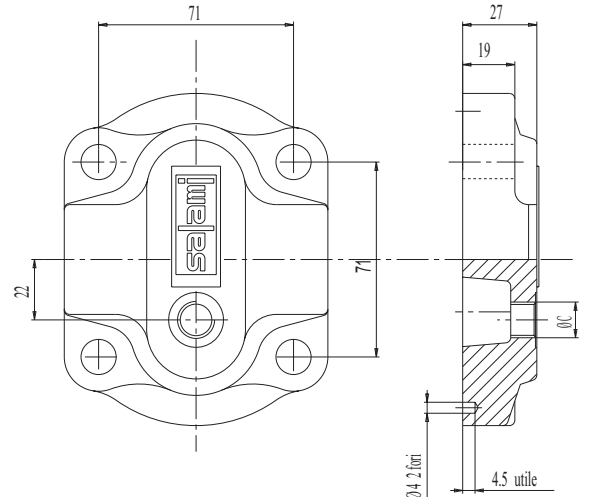
code CP

With shaft code 38

REAR COVERS

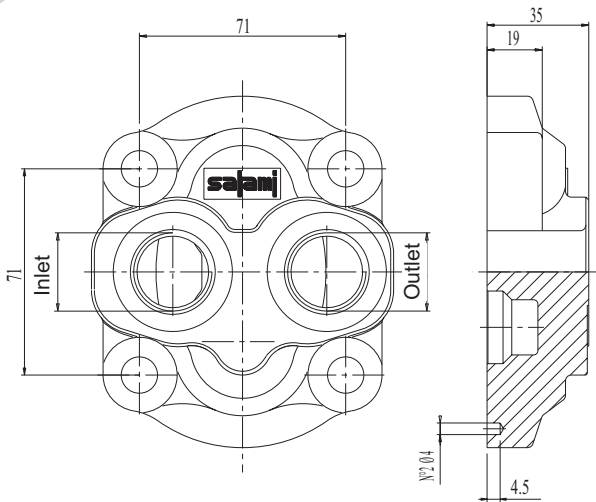


Standard rear cover for unidirectional pumps.



Standard cover for reversible pumps and motors, with external drain port ØC. For dimension ØC please see the table here below.

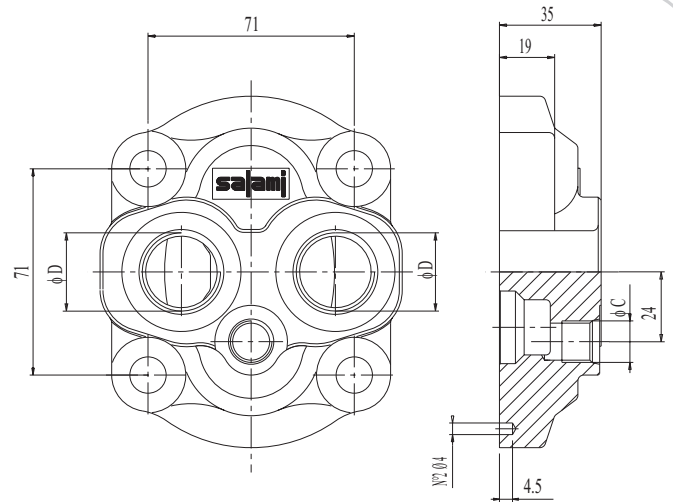
REAR COVERS WITH INLET/OUTLET PORTS



Rear cover with INLET/OUTLET ports, for unidirectional pumps and motors.

INLET	OUTLET
1-5/16-12 UN-2B (SAE 16)	1-1/16-12 UN-2B (SAE 12)
G 1	G 3/4

code 1

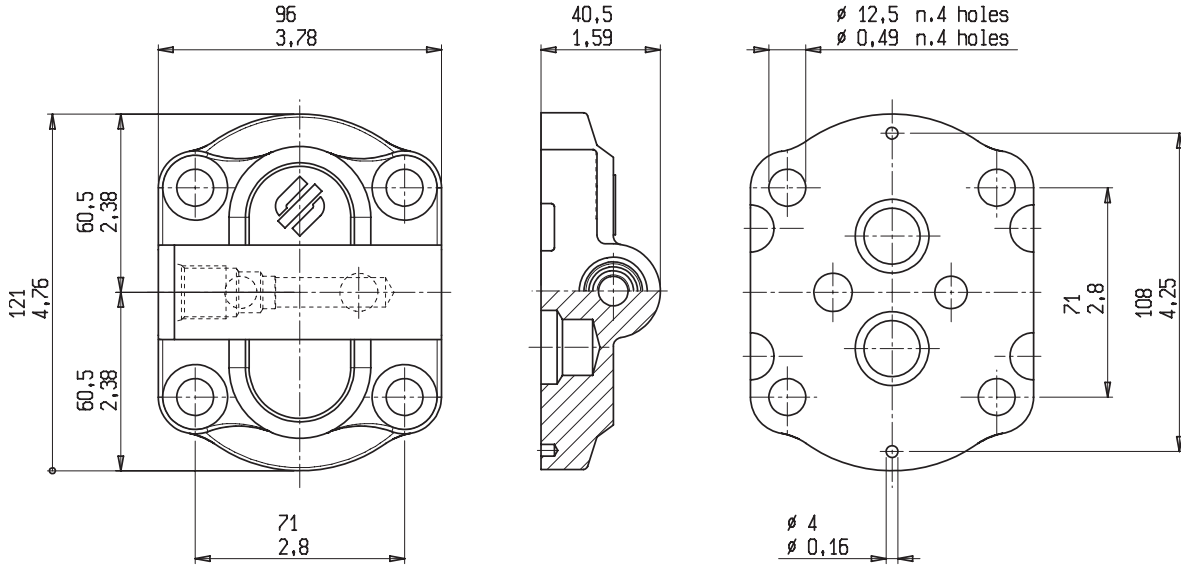


Rear cover with INLET/OUTLET ports and external drain Ø C, for bidirectional pumps and motors.

D	C
1-1/16-12 UN-2B (SAE 12)	9/16-18 UNF-2B (SAE 6)
G 3/4	G 3/8

In phase of order please specify D and C dimensions

REAR COVER WITH MAIN RELIEF VALVE

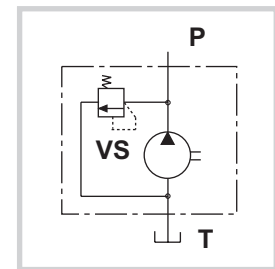
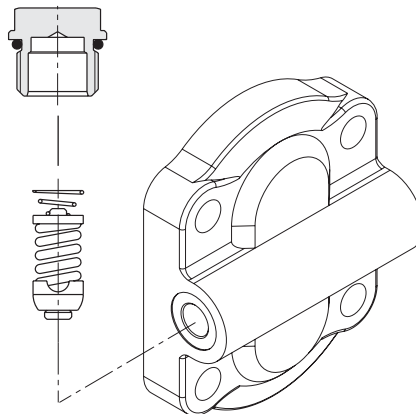


Rear cover with fixed setting main relief valve.
Available values of fixed setting (bar/psi)

25	32	40	50	63	80	100	125	140	160	175	190	210	230	250	280	315	350
362	464	580	725	914	1160	1450	1813	2030	2320	2538	2756	3046	3336	3626	4061	4569	5076

code VS

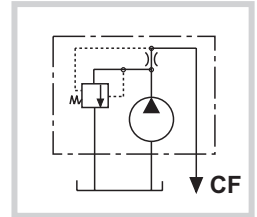
Main relief valve with internal unloading line.



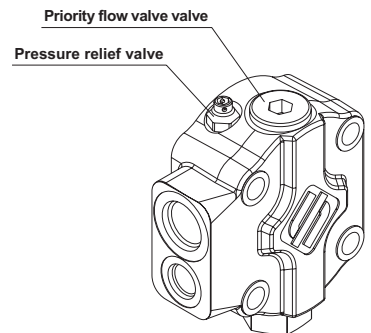
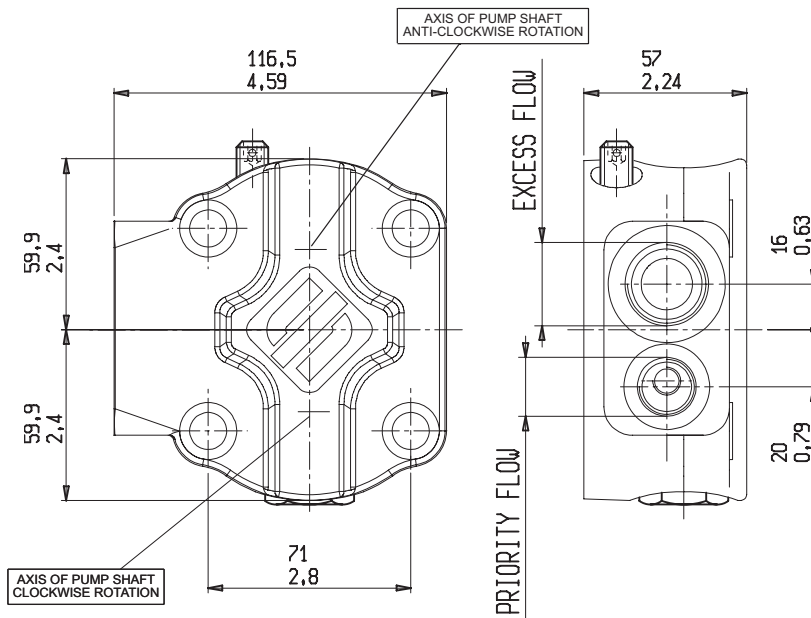
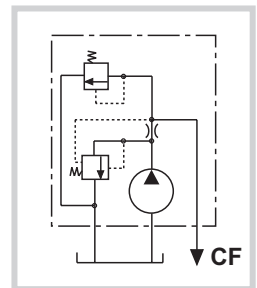
REAR COVER WITH PRESSURE COMPENSATED FLOW CONTROL VALVE
SIDE PORTS

code VR1 Pressure compensated flow control valve with excess flow to tank

Priority flow ports	Excess flow ports
G 3/8	G 3/4
3/4-16 UNF-2B (SAE 8)	1-1/16-12 UN-2A (SAE 12)



code VRS1 Pressure compensated flow control valve with excess flow to tank, with main relief valve on controlled flow line.



PRIORITY FLOW DIVIDERS (VP - VPS)

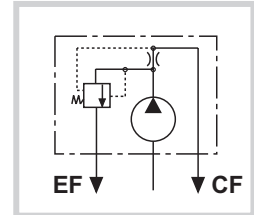
These are basically the same as VR valves differing only because the two flows can be loaded at the same time for supplying two separate circuits defined priority flow remains constant regardless of pump speed and system pressure variations. The second defined excess flow is directly proportional to pump speed. Priority flow is determined by diameter of hole on threaded dowel (see table). The max. pressure of the priority circuit can be limited by valve which relieves into pump suction.

CALIBRATED ORIFICE Ø d(mm/inch)	FLOW RATE (l/min - gpm) ± 10%
1.5 (0.06")	2.5 (0.66)
2 (0.08")	4 (1.06)
2.4 (0.09")	6 (1.59)
2.8 (0.11")	8 (2.11)
3.1 (0.12")	10 (2.64)
3.5 (0.14")	12.5 (3.30)
4 (0.16")	16 (4.23)
4.4 (0.17")	20 (5.28)
4.9 (0.19")	25 (6.61)

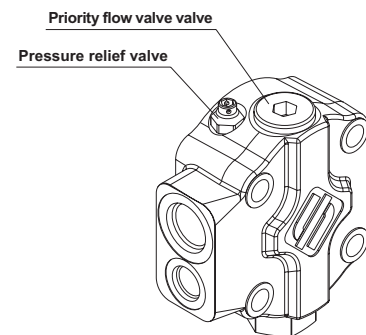
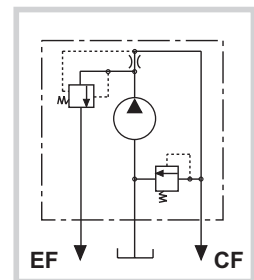
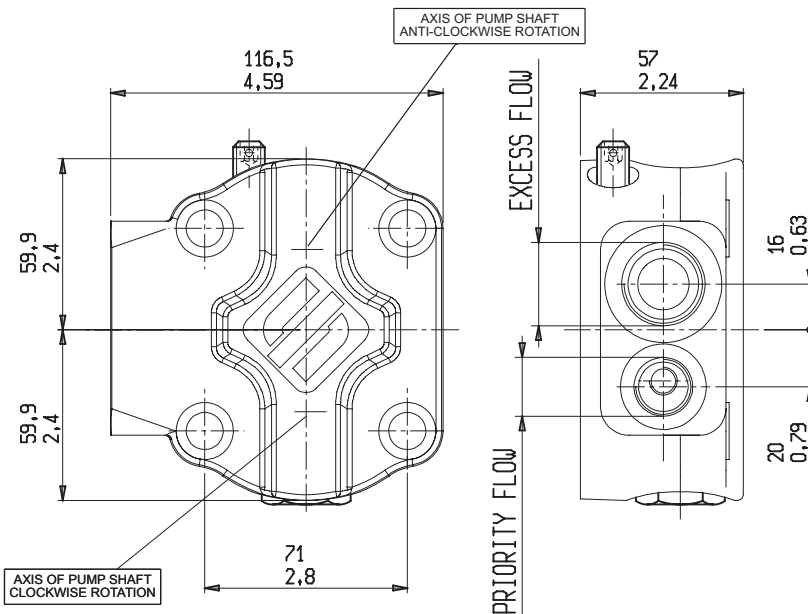
REAR COVER WITH PRESSURE COMPENSATED PRIORITY FLOW VALVE SIDE PORTS

code VP1 Priority flow valve, excess flow to second actuator.

Priority flow ports	Excess flow ports
G 3/8	G 3/4
3/4-16 UNF-2B (SAE 8)	1-1/16-12 UN-2A (SAE 12)



code VPS1 Priority flow valve, excess flow to second actuator with pressure relief valve on priority flow line.



PRIORITY FLOW DIVIDERS (VP - VPS)

These are basically the same as VR valves differing only because the two flows can be loaded at the same time for supplying two separate circuits defined priority flow remains constant regardless of pump speed and system pressure variations. The second defined excess flow is directly proportional to pump speed. Priority flow is determined by diameter of hole on threaded dowel (see table). The max. pressure of the priority circuit can be limited by valve which relieves into pump suction.

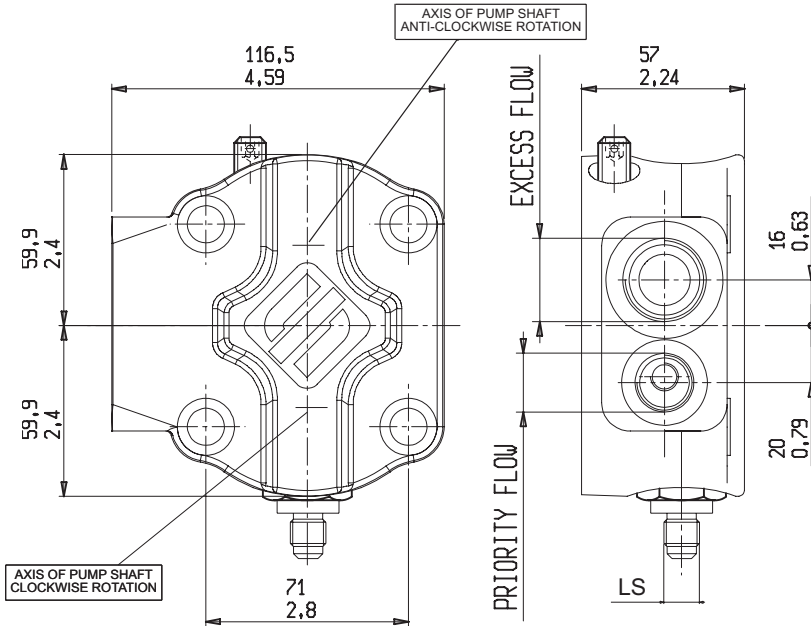
CALIBRATED ORIFICE Ø d(mm/inch)	FLOW RATE (l/min - gpm) ± 10%
1.5 (0.06")	2.5 (0.66)
2 (0.08")	4 (1.06)
2.4 (0.09")	6 (1.59)
2.8 (0.11")	8 (2.11)
3.1 (0.12")	10 (2.64)
3.5 (0.14")	12.5 (3.30)
4 (0.16")	16 (4.23)
4.4 (0.17")	20 (5.28)
4.9 (0.19")	25 (6.61)

REAR COVER WITH LOAD-SENSING PRIORITY VALVES
SIDE PORTS

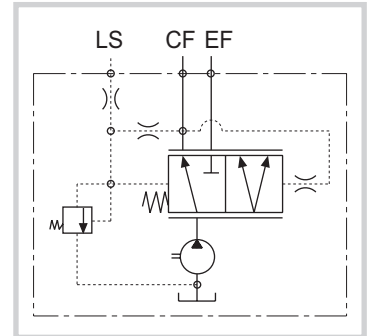
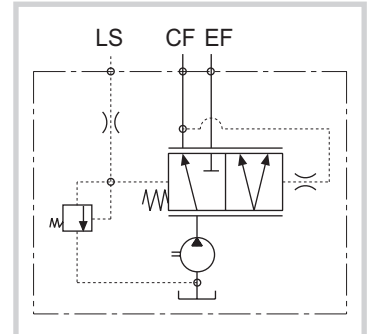
code VPL1 Load sensing priority valve with main relief valve

Priority flow ports	Excess flow ports	LS
G 3/8	G 3/4	G 1/4
3/4-16 UNF-2B (SAE 8)	1-1/16-12 UN-2A (SAE 12)	7/16-20 UNF-2B (SAE 4)

code VPD1 Load sensing priority valve with dynamic signal and main relief valve

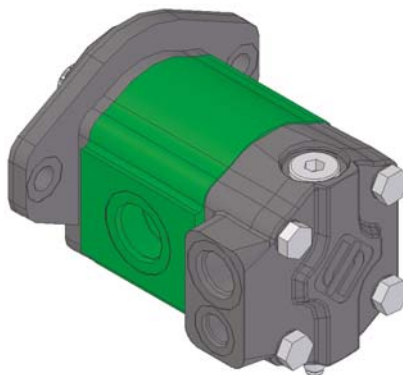


Minimum load sensing signal (LS) = 4 bar (28 psi)

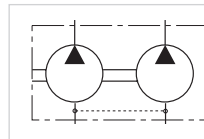
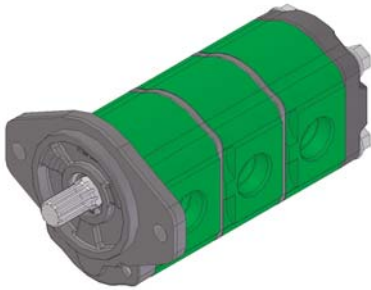


LS = Load sensing signal port
CF = Priority flow port
EF = Excess flow port

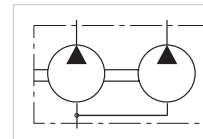
PRIORITY FLOW RATE	
l / min ± 10%	gpm ± 10%
8	2.10
10.5	2.61
12.5	3.78
16	4.17
20	5.22



ASSEMBLING DIMENSIONS



MULTIPLE GEAR PUMPS
with inlet port
on each body

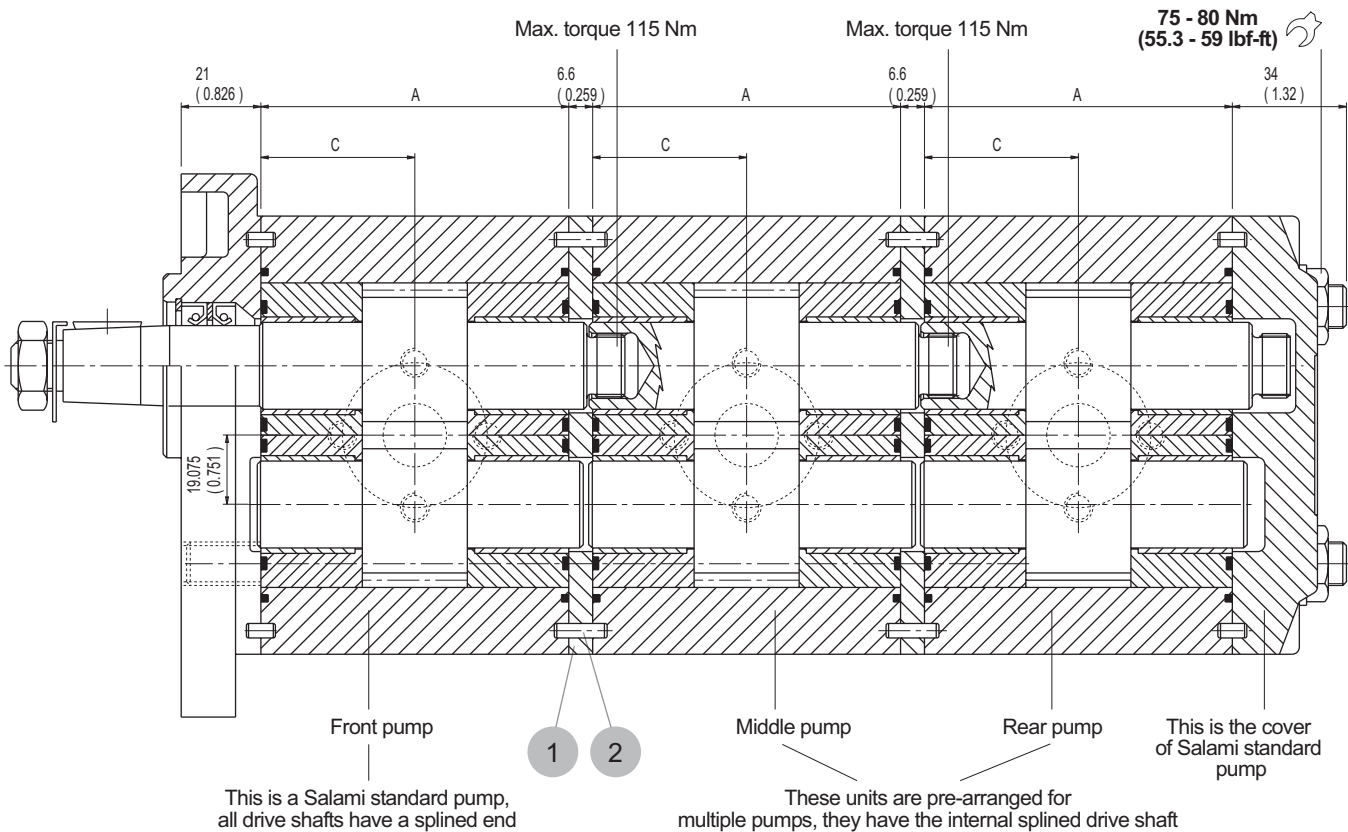


MULTIPLE GEAR PUMPS
with common inlet port*

In case of common inlet port, to avoid too high value of oil speed, 40l/min is the max. sucked flow for the downstream pump.

Commercial code "UA", in case of common inlet port .See page 34.

Type		5.5	8.3	11.5	13.8	16	19	22	25	28	32	38	44
Dimension A	mm	52.2	54.6	58.2	60.6	63	66.5	70	72.5	85	90.5	96.5	103
	in.	2.05	2.15	2.29	2.38	2.48	2.62	2.76	2.85	3.35	3.56	3.80	4.06
Dimension C	mm	26.1	27.3	29.1	30.3	31.5	33.25	35	36.25	42.5	45.25	48.25	51.5
	in.	1.03	1.07	1.14	1.19	1.22	1.29	1.36	1.41	1.65	1.76	1.88	2.03



1 2 = kit multiple pumps

Finally to assembly the multiple pump you need to order tie rods of the right length

The **2.5PB** pumps can be easily transformed into front pump in the multiple units. All drive shafts are pre-arranged and have a splined end according DIN 5482. The first unit must always be the same size or bigger than following units. The features and performances are the same of the corresponding single units: only in the case of simultaneous operating you have to verify that the inlet torque is lower than the max. transmissible by the drive shaft.

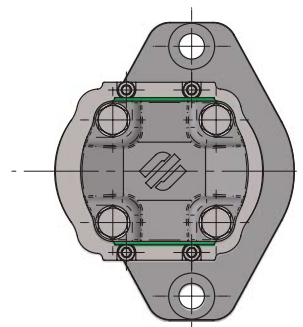
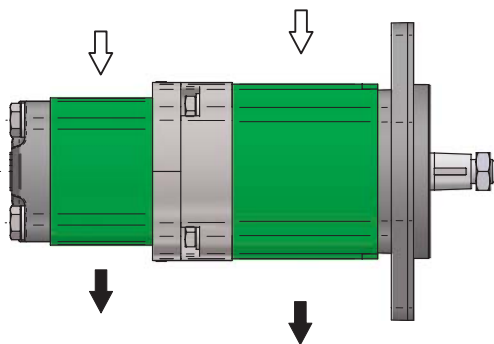
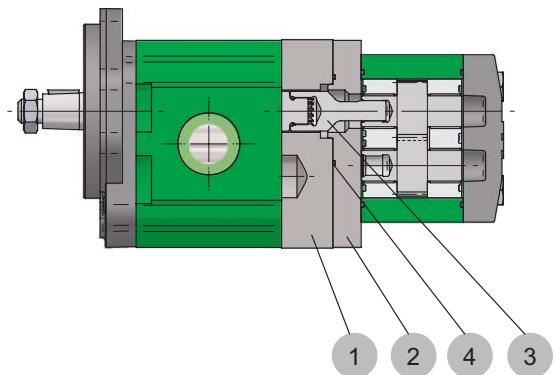
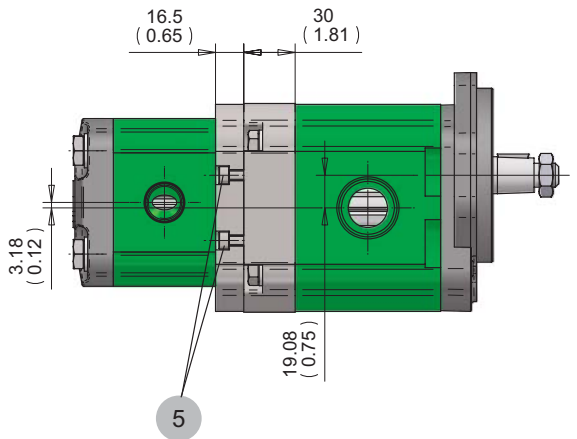
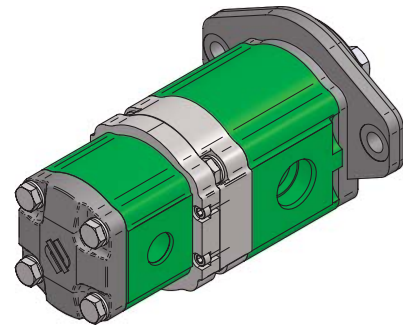
REAR COVER FOR MULTIPLE PUMP 2.5PB/2PE

Assembling kit for multiple pump 2.5PB/2PE

code PD2



In case of common inlet port, to avoid too high value of oil speed, 40l/min is the max. sucked flow for the downstream pump.

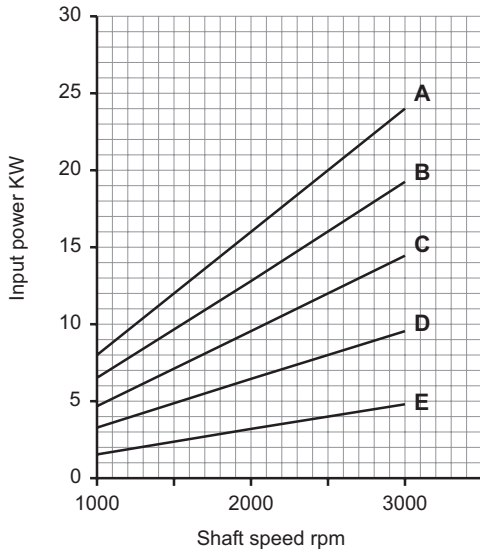


Assembling components:

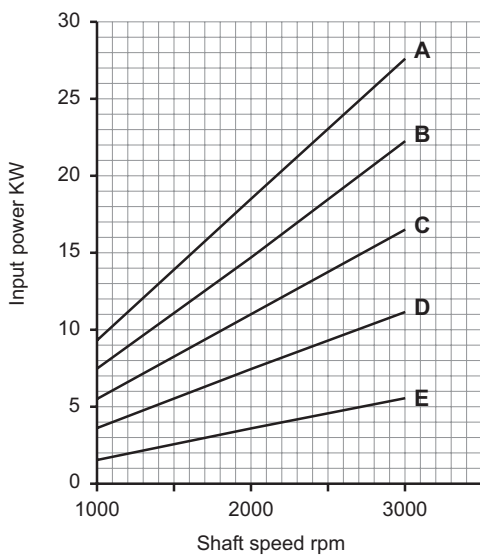
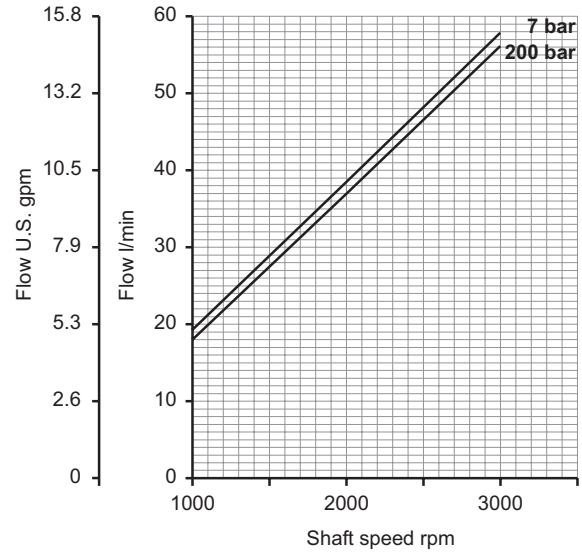
- 1 - n.1 special cover 2.5PB
- 2 - n.1 middle flange
- 3 - n.1 coupling sleeve
- 4 - n.1 O-ring
- 5 - n.4 screws TCEI M6X14 ISO 262

Performance curves carried out with oil viscosity at 16 cST and oil temperature at 60°C

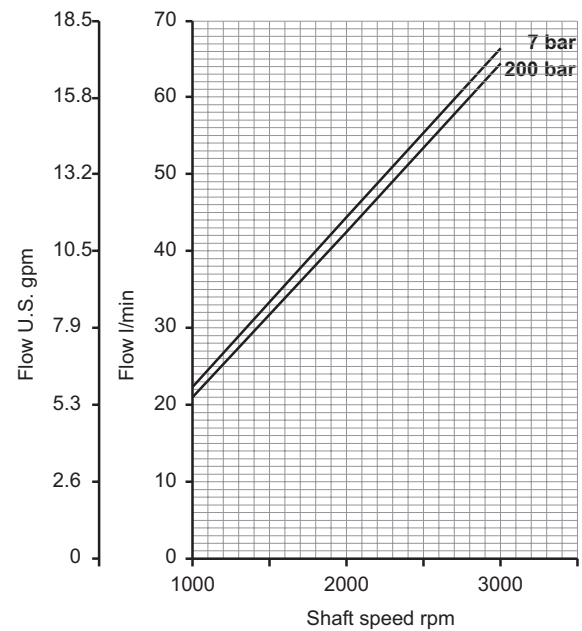
PUMP PERFORMANCE CURVES



2.5PB 19



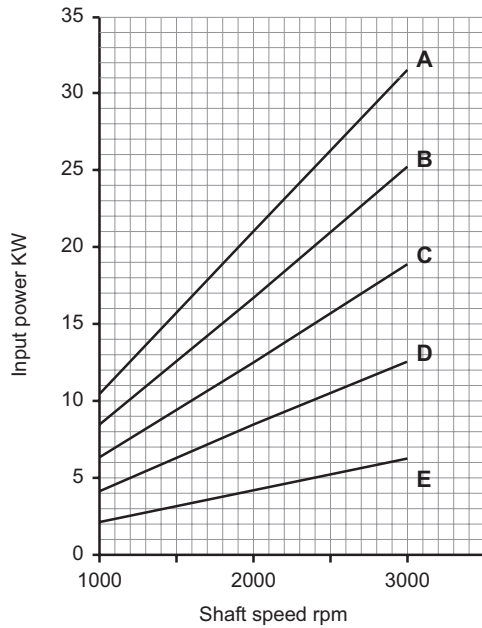
2.5PB 22



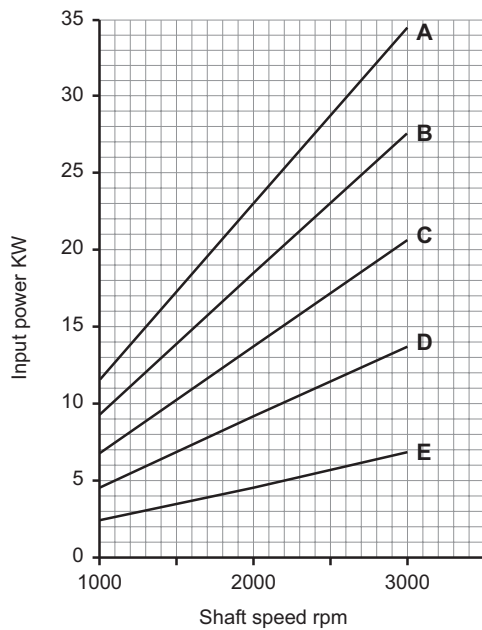
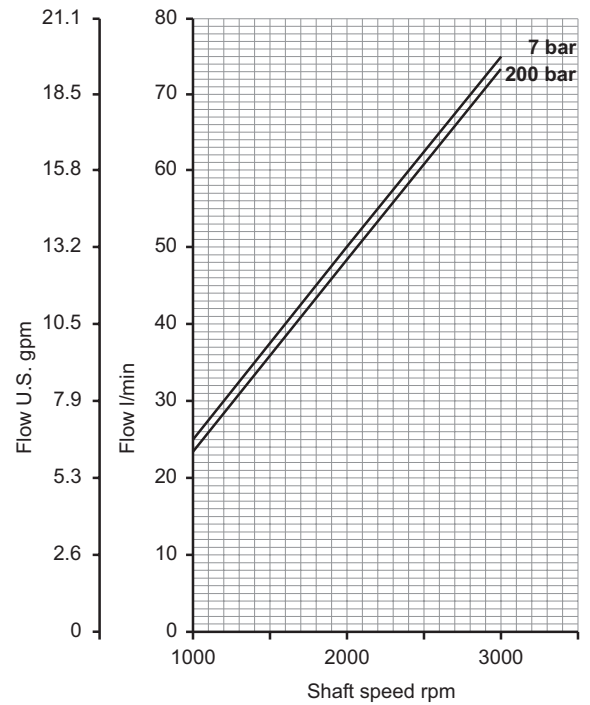
A=250 bar - (3600 psi)
 B=200 bar - (2900 psi)
 C=150 bar - (2175 psi)
 D=100 bar - (1450 psi)
 E= 50 bar - (725 psi)

2.5P/MB

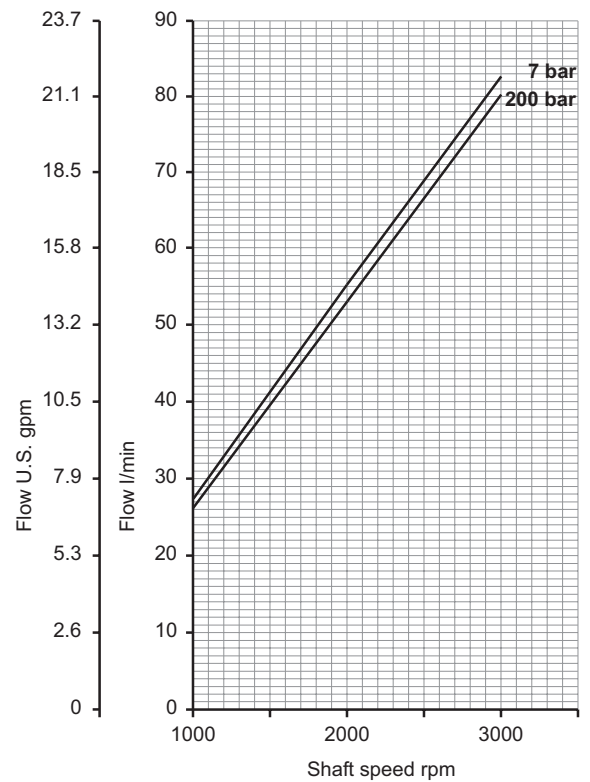
Performance curves carried out with oil viscosity at 16 cST and oil temperature at 60°C



2.5PB 25



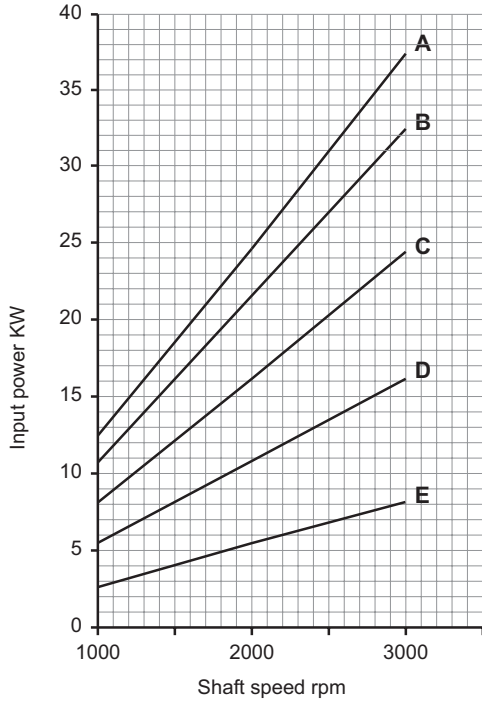
2.5PB 28



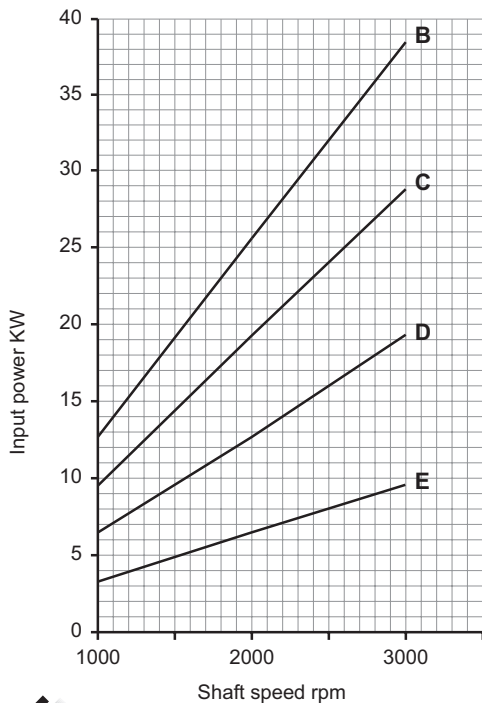
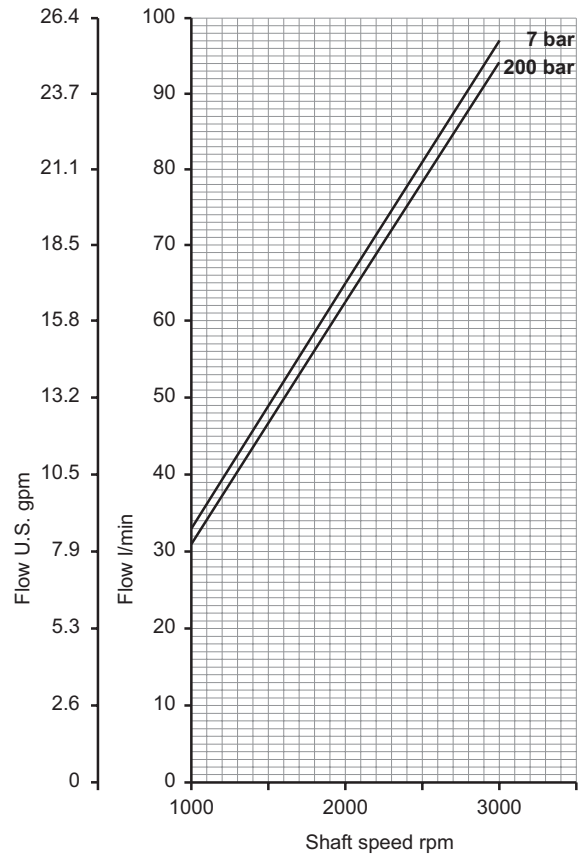
2.5P/MB

A=230 bar - (3600 psi)
 B=200 bar - (2900 psi)
 C=150 bar - (2175 psi)
 D=100 bar - (1450 psi)
 E= 50 bar - (725 psi)

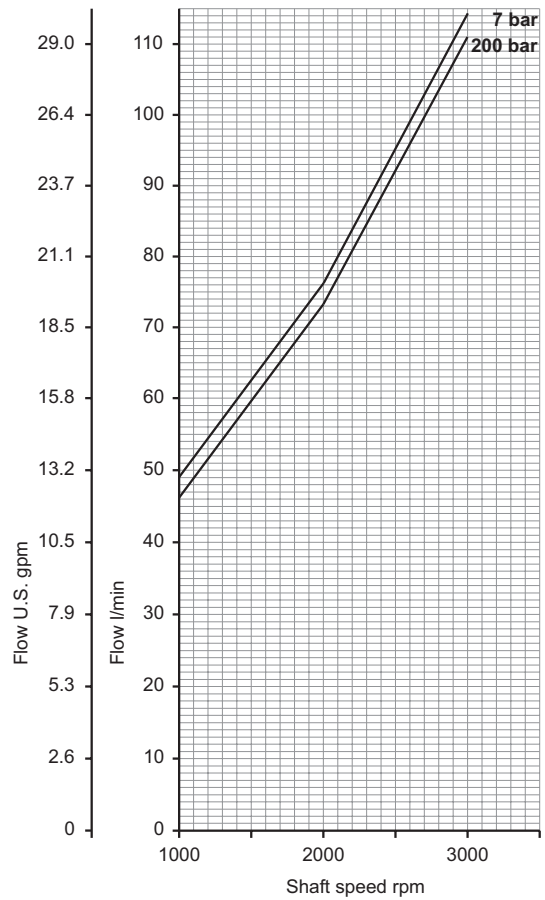
Performance curves carried out with oil viscosity at 16 cST and oil temperature at 60°C



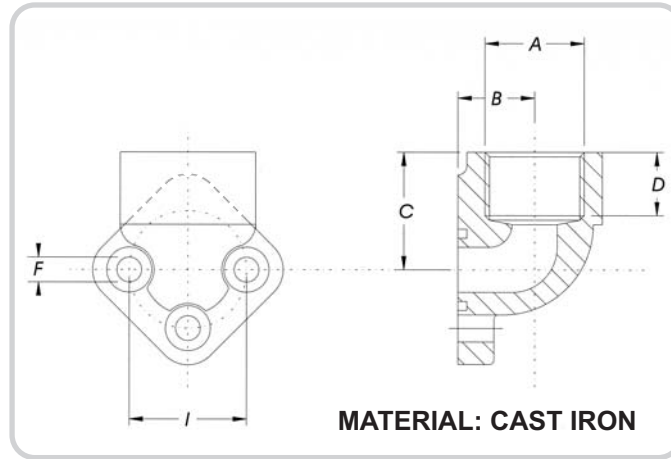
2.5PB 32



2.5PB 38



PORT CONNECTORS



Type G

AVAILABLE CONNECTORS - DIMENSIONS AND CODE

Type	C	B	I	D	Ø F	Ø A	ORDERING CODE COMPLETE OF SCREW - SPRING WASHER - O RING
1 G/2	26	17.5	30	14	6.5	G 3/8	4352 7005 0
1 G/3	26	17.5	30	14	6.5	G 1/2	4352 7006 0
2 G	36	21	40	16	8.5	G 3/4	4352 7011 0
3G	43	27	51	21	10.5	G 1	4352 7013 0

SINGLE PUMPS

2.5 P B 28 D - P 38 P2 - V 1 - CP - VS

DIMENSION

FUNCTION	CODE
Pump	P
Motor	M

SERIES

TYPE	DISPLACEMENTS
11.5	11.76 cm ³ /rev. - 0.72 cu.in/rev.
13.8	14.07 cm ³ /rev. - 0.86 cu.in/rev.
16	16 cm ³ /rev. - 0.97 cu.in/rev.
19	19.3 cm ³ /rev. - 1.17 cu.in/rev.
22	22.2 cm ³ /rev. - 1.35 cu.in/rev.
25	25.2 cm ³ /rev. - 1.53 cu.in/rev.
28	27.6 cm ³ /rev. - 1.68 cu.in/rev.
32	32.4 cm ³ /rev. - 1.97 cu.in/rev.
38	38.1 cm ³ /rev. - 2.32 cu.in/rev.
44	44.2 cm ³ /rev. - 2.69 cu.in/rev.

IMPORTANT:
The displacements 11.5 - 13.8 are available as single pump only with drive shaft "55".

ROTATION	CODE
Clockwise	D
Anti-clockwise	S

PORTS (pag. 11)	CODES
Flanged ports european standard	P
Flanged ports SAE (UNC)	S*
GAS threaded ports (BSPP)	G*
SAE threaded ports (ODT)	R

Values of fixed setting main relief valve (bar)
See page 14

VALVE IN THE COVER	CODE
Fixed setting main relief valve (pag.15)	VS
Flow regulator with excess flow to tank(pag.15)	VR1
Like VR with main relief valve (pag. 15)	VRS1
Priority flow divider with excess flow to 2 nd actuator(pag.16)	VP1
Like VP with main relief valve(pag.16)	VPS1
Priority flow divider with Load-sensing(pag.17)	VPL1
Like VPL with dinamic signal(pag.17)	VPD1

OUTRIGGER BEARING (pag. 12)	CODES
European standard	CP

PORTS POSITION	CODE
Lateral ports standard	
Rear ports (pag. 14)	1

SEAL	CODE
Buna Standard	
Viton	V

MOUNTING FLANGE (pag. 13)	CODES
European standard	P2
SAE A 2 Bolts	S2
SAE B 2 Bolts	S3
4 bolts for ZF gear box Ø 80	Z1

DRIVE SHAFTS (pag. 12)	CODES
Tapered 1:8	38
3/4" SAE A splined 10T	53*
3/4" SAE A splined 11T	54*
7/8" SAE B splined 13T	55
7/8" SAE B parallel shaft Ø 22.22	87
DIN 5462 splined	66

* Available for quantity, please get in touch with our sales dept.

Order example:

Pump 2.5PB 19D, ports SAE (R), drive shaft (55), mounting flange (S2) with fixed setting main relief valve (190 bar): **2.5PB 19D-R55 S2-VS190**

MULTIPLE PUMPS (pag. 18)

2.5PB / **32** / **28** / **22** **D** - **R** **55** **S3** - **V** **1** - **CP** - **PD2** - **VS** / **2PE.....**

TYPE	DISPLACEMENTS
5.5	5.97 cm ³ /rev. - 0.36 cu.in/rev.
8.3	8.29 cm ³ /rev. - 0.50 cu.in/rev.
11.5	11.76 cm ³ /rev. - 0.72 cu.in/rev.
13.8	14.07 cm ³ /rev. - 0.86 cu.in/rev.
16	16 cm ³ /rev. - 0.97 cu.in/rev.
19	19.3 cm ³ /rev. - 1.17 cu.in/rev.
22	22.2 cm ³ /rev. - 1.35 cu.in/rev.
25	25.2 cm ³ /rev. - 1.53 cu.in/rev.
28	27.6 cm ³ /rev. - 1.68 cu.in/rev.
32	32.4 cm ³ /rev. - 1.97 cu.in/rev.
38	38.1 cm ³ /rev. - 2.32 cu.in/rev.
44	44.2 cm ³ /rev. - 2.69 cu.in/rev.

IMPORTANT:
The displacements **5.5 - 8.3 - 11.5 - 13.8**,
are always available as rear pump.
Displacements **11.5 - 13.8** are available as single
pump only with shaft "55"

ROTATION	CODE
Clockwise	D
Anti-clockwise	S

PORTS (pag. 11)	CODES
Flanged ports european standard	P
Flanged ports SAE (UNC)	S*
GAS threaded ports (BSPP)	G*
SAE threaded ports (ODT)	R

DRIVE SHAFTS (pag. 12)	CODES
Tapered 1:8	38
3/4" SAE A splined 10T	53*
3/4" SAE A splined 11T	54*
7/8" SAE B splined 13T	55
7/8" SAE B parallel shaft Ø 22.22	87
DIN 5462 splined	66

* Available for quantity,
please get in touch with our sales dept.

According to our catalogue
2PE gear pumps:
displacements
3.2
3.9
4.5
6.5

Values of fixed setting
main relief valve (bar)
See page 15

VALVE IN THE COVER	CODE
Fixed setting main relief valve (pag.15)	VS
Flow regulator with excess flow to tank(pag.15)	VR1
Like VR with main relief valve (pag. 15)	VRS1
Priority flow divider with excess flow to 2 nd actuator(pag.16)	VP1
Like VP with main relief valve(pag.16)	VPS1
Priority flow divider with Load-sensing(pag.17)	VPL1
Like VPL with dinamic signal(pag.17)	VPD1

PD2 = pre-arranged for 2PE rear (pag. 19)

OUTRIGGER BEARING (pag. 12)	CODES
European standard	CP

PORTS POSITION	CODE
Lateral ports standard	
Rear ports (pag. 14)	1

SEAL	CODE
Buna Standard	
Viton	V

MOUNTING FLANGE (pag. 13)	CODES
European standard	P2
SAE A 2 Bolts	S2
SAE B 2 Bolts	S3
4 bolts for ZF gear box Ø 80	Z1

Order example:

Triple pump 2.5PB, displacements 38/28/22D, ports SAE (R), drive shaft (55), mounting flange (S2) with
fixed setting main relief valve (190 bar): **2.5PB 38/28/22D-R55 S2-VS190**

WARRANTY

- We warrant products sold by us to be free from defects in material and workmanship.
- Our sole obligation to buyer under this warranty is the repair or replacement, at our option, of any products or parts thereof which, under normal use and proper maintenance, have proven defective in material or workmanship, this warranty does not cover ordinary wear and tear, abuse, misuse, averloading, alteration.
- No claims under this warranty will be valid unless buyer notifies SALAMI in writing within a reasonable time of the buyer's discovery of such defects, but in no event later than twelve (12) months from date of shipment to buyer.
- Our obligation under this warranty shall not include any transportation charges or cost of installation, replacement, field repair, or other charges related to returning products to us; or any liability for direct, indirect or consequential damage or delay. If requested by us, products or parts for which a warranty claim is made are to be returned transportation prepaid to our factory. The risk of loss of any products or parts thereof returned to SALAMI will be on buyer.
- No employee or representative is authorized to change any warranty in any way or grant any other warranty unless such change is made in writing and signed by an officer of SALAMI.



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