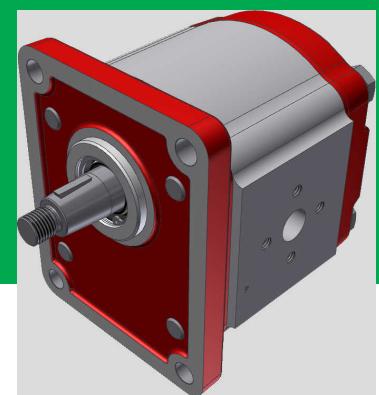
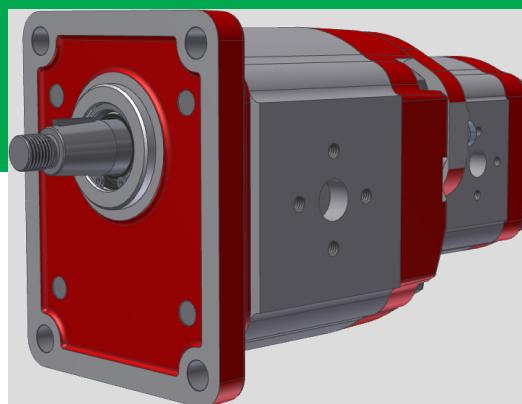
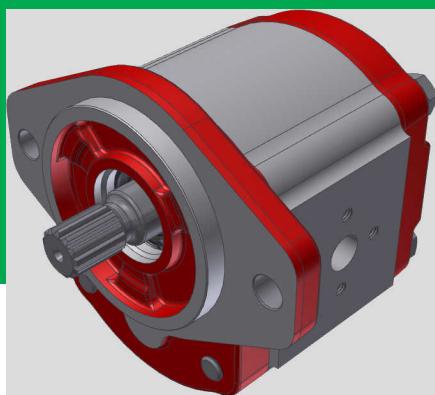
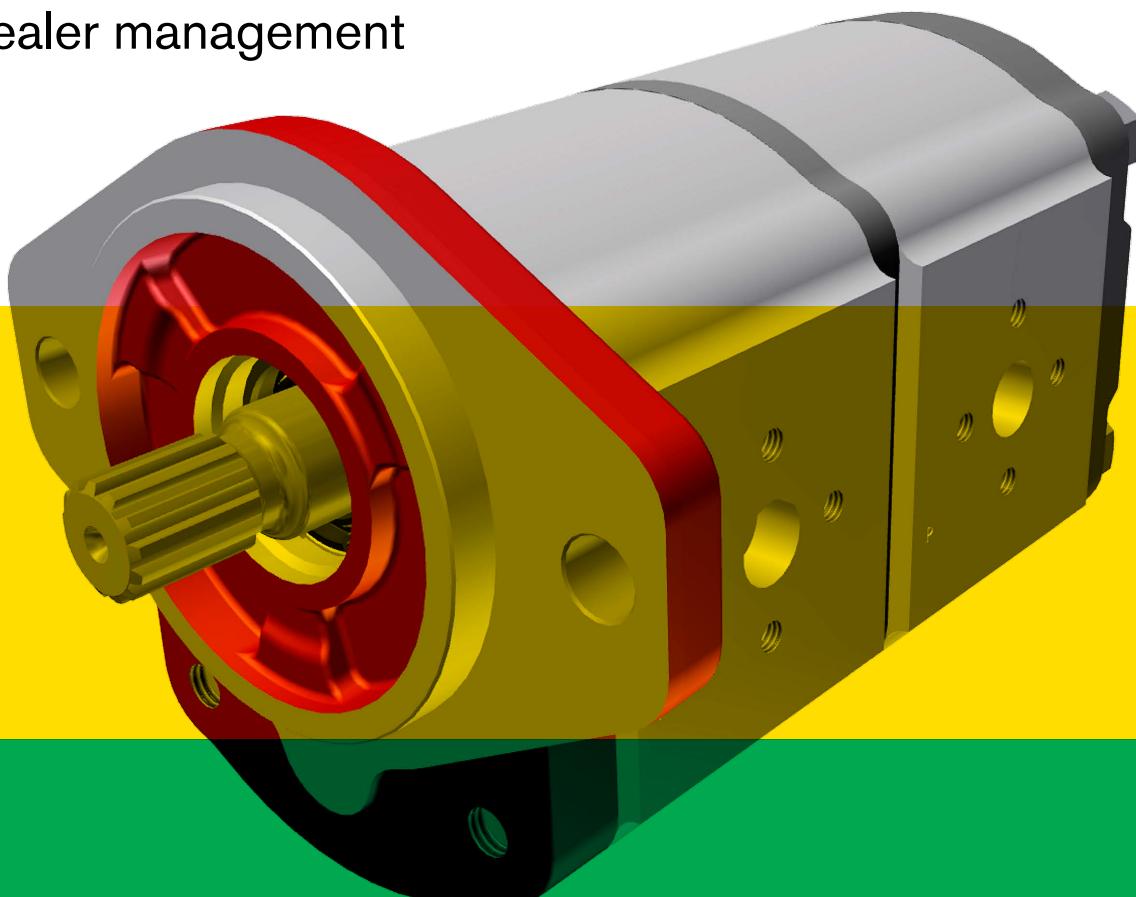


3PE and 3ME

Aluminium gear pumps and motors

Tecnical Catalogue
and Dealer management

E0.130.0913.02.00-IM01



Company
with quality system
certified by DNV
UNI EN ISO 9001/2008

salam ™

The **Salami Company** is one of the best Italian engineering excellences in the field of fluid power applied to mobile applications.

It was founded in 1956 with specific guidelines that have led the brand to identify Salami as a symbol of **Warranty and Reliability** in its sector, in Italy and in the World.

Salami Hydraulics proudly manufactures in Italy and it has remained loyal in time to its three strengths dictated by its founder.

Quality, Innovation and Service have made the brand Salami recognizable and great in the world. Through its offices in North America, Spain, France, together with its business partners, the company distributes its own products by putting the excellence of Italian engineering at the service of the whole world.

In this volume we present you the innovative version of the Salami Pump Group 3: the **new aluminium gear pump 3PE**.

We can offer you the 3PE pump in displacements from 21 to 75 cc / rev (1.26 at 4.48 cu.in /rev). It is also able to reach pressures up to 300 bar (4350 psi).

The **two main benefits** of this pump are:

- 1 . **compact dimensions**, which allow the installation even on modern engines Tier 4
- 2 . **modularity** that means an easiest customization of the products

The **first section** of the catalog is dedicated to the technical description of the pump.

The **second part**, called Dealer management, includes the order part numbers for both single pump and conversion kit.

For every version of 3PE pump, Salami provides the **corresponding one-way and reversible motors**.

Welcome into Salami Team.

Commercial Director
Michele Piazza

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The data on this catalogue refer to the standard product. The policy of Salami consist of a continuos improvement of its products. It reserves the right to change the specifications of the different products whenever necessary and without giving any information. If any doubts, please get in touch with our sales department.

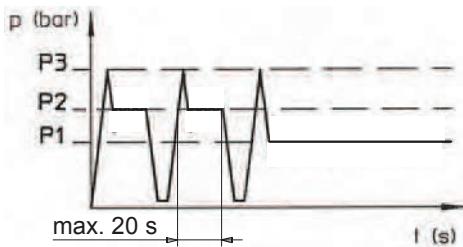


3PE - 3ME

Aluminium gear pumps and motors

Section A - Technical catalogue

DEFINITION OF PRESSURES



P3 = Peak pressure
P2 = Intermittent operating pressure
P1 = Continuous operating pressure

GENERAL

- Superior performance and reliability in heavy-duty hydraulic application.
- Construction with large area, low-friction bushings provide strength, high efficiency, and long life in severe operating environments.
- The design includes an advanced bushing and seal configuration, which optimizes performance even in high temperature and low viscosity conditions.
- Double pump with common suction reduces mounting costs, allow for a small package size.

WORKING CONDITIONS

- Pump inlet pressure (absolute pressure)	0.75 to 2,5 bar
	10 to 36 psi
- Minimum operating fluid viscosity ¹	12 mm ² / sec
- Max starting viscosity	800 mm ² / sec
- Suggested fluid viscosity range	17 - 65 mm ² / 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, you have to keep the value of min. suction pressure (0.75 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.

1 - With reduction 80% of working pressure and at minimum speed.

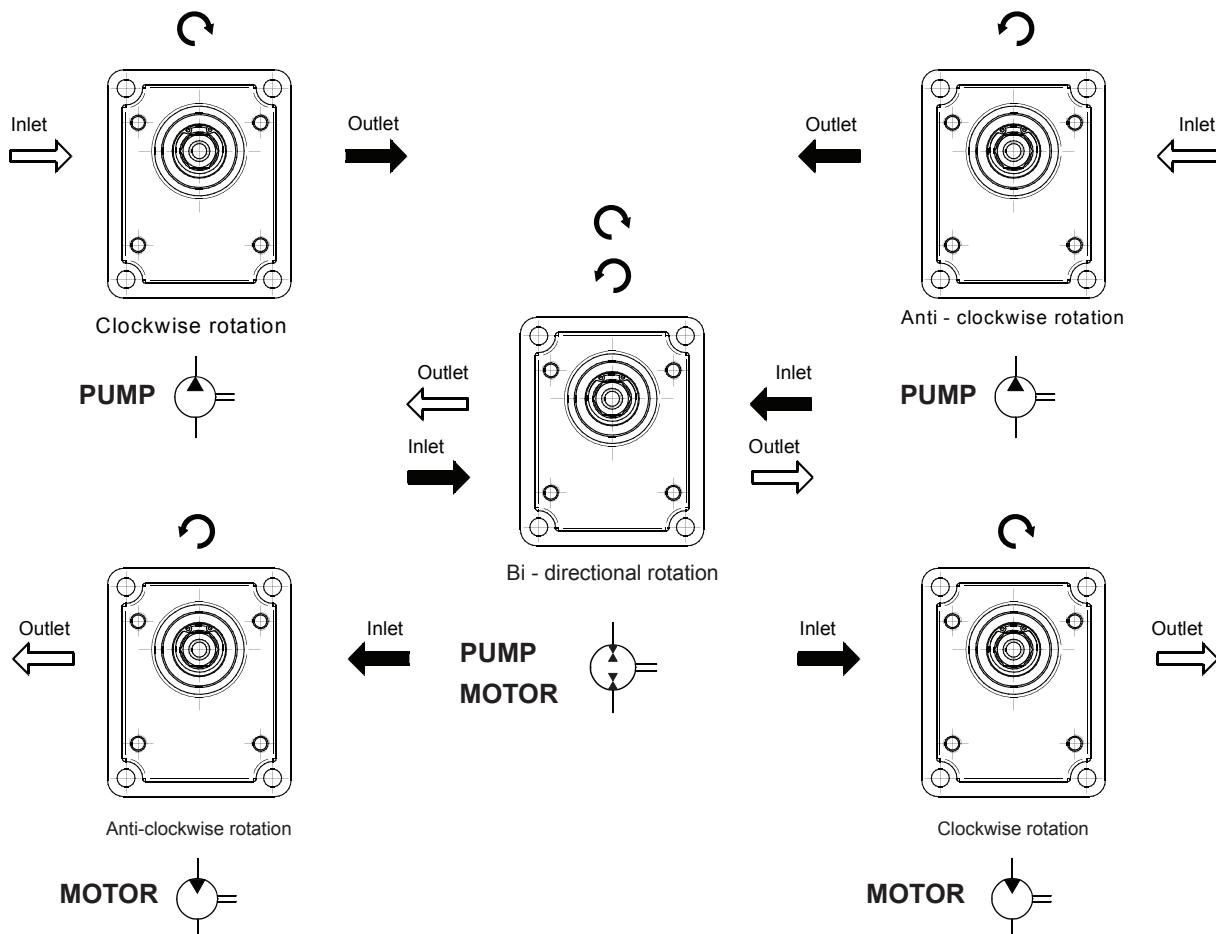
Suggestion:

to have the best behaviour and duty life of the pump/motor, use a cooling system in order to keep the fluid temperature at 60°C and viscosity at 20 cSt.In addition to the recommended filtration index of page 3.



DRIVE SHAFTS

Radial and axial loads on the shafts must be avoided since they reduce the life of the unit.

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.



FILTRATION INDEX RECOMMENDED

Working pressure	> 200 bar - 2900 psi	< 200 bar - 2900 psi
Contamination class NAS 1638	9	10
Contamination class ISO 4406	19/18/15	20/19/16

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

$$= \frac{q \cdot \Delta p}{62.8 \cdot \eta_m} \text{ (Nm)}$$

LEGENDA

 Δp = Working pressure (bar)

P = Input power

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

 q = Displacement (cm^3/rev) n = Speed (min^{-1}) η_m = Mechanical eff. (0.92)

Q = Outlet flow

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

 η_v = Volumetric eff. (0.95)**COMMON FORMULAS FOR MOTORS**

Input flow:

$$Q = \frac{V \cdot n}{1000 \cdot \eta_v}$$

l/min

 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 ($\eta_v \cdot \eta_m$)

Output torque:

$$M = \frac{V \cdot \Delta p \cdot \eta_m}{20 \cdot \pi}$$

Nm

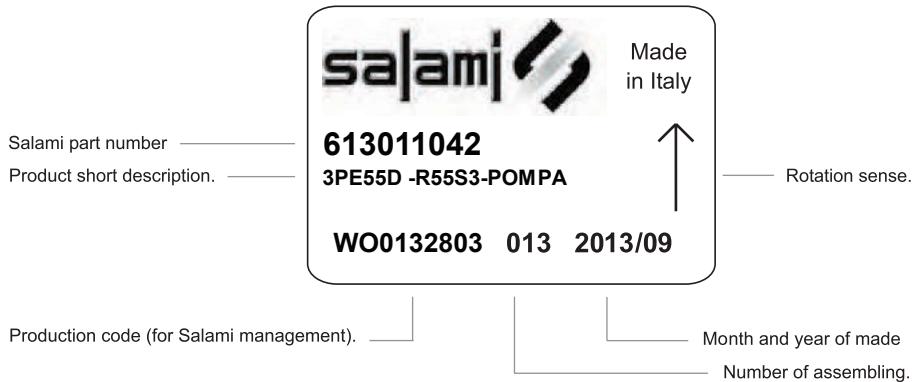
Output power:

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

kW

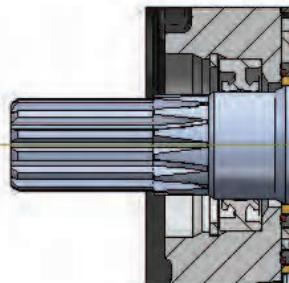


DESCRIPTION OF THE NEW PRODUCT IDENTIFICATION LABEL

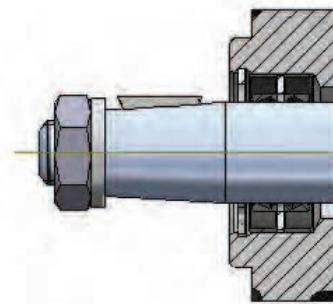


SHAFT SEAL DESIGN, PRESSURE AND MATERIAL AVAILABLE

Max pressure	3 bar (44 psi)
Material BUNA (NBR)	-15° C - 85°C
Material VITON (FPM)	-20° C - 110° C



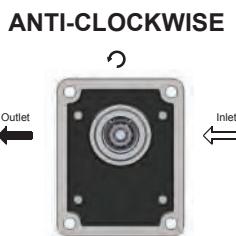
With flange code S3, double lipped shaft seal



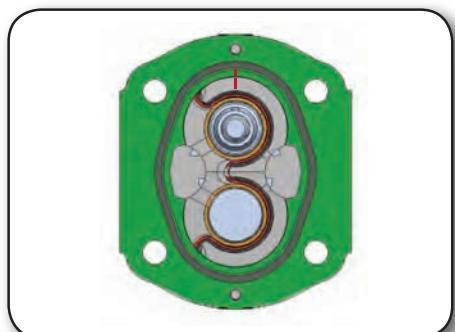
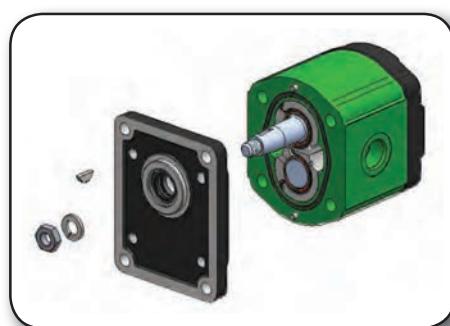
With flanges code P2, P3 and B6 two single lipped shaft seals

**GEAR PUMPS "E" SERIES
GEAR MOTORS "E" SERIES**
3PE - 3ME
ROTATION CHANGE INSTRUCTION


Step 1:
unscrew and take off the 4 assembling bolts.

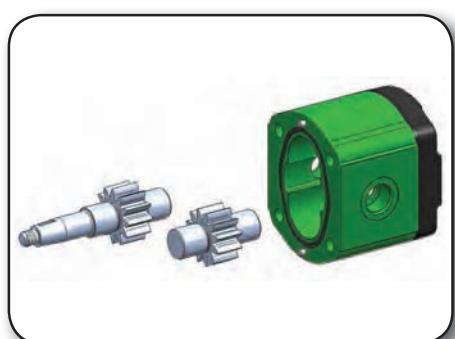
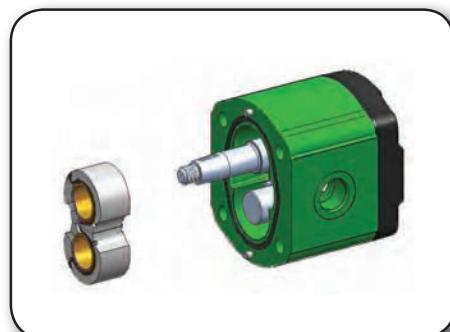


Step 2:
take off the front flange, complete of shaft seals.



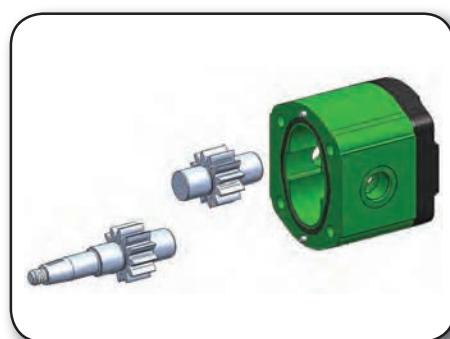
Step 3:
take note of the assembling position of the bronze thrust plate. If necessary, you can put a mark which help you remembering the position of the plate related to the body. This is very important, because at the end you must reassemble it in this way.

Step 4:
take off the thrust plate.



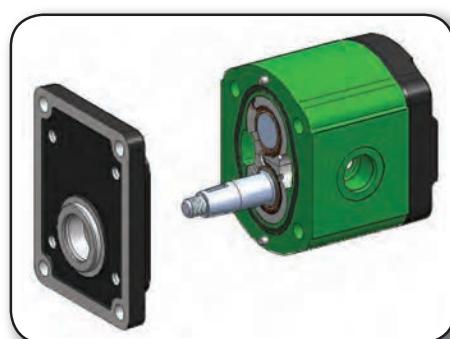
Step 5:
take off both the shafts, drive and driven.

Step 6:
reverse their position and re-assemble them.



Step 7:
re-assemble the thrust plate in the same position it was at the beginning. Reference step 3.

Step 8:
reverse and re-assemble the front flange.



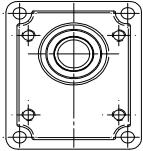
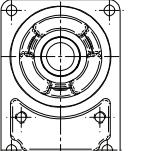
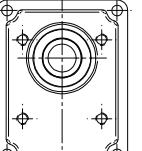
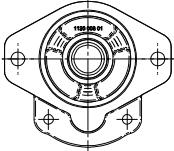
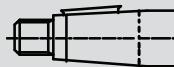
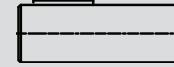
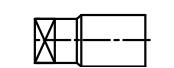
THIS INSTRUCTION IS APPROPRIATE FOR BOTH,
UNIDIRECTIONAL PUMPS AND MOTORS.

Step 9:
re-place and screw the bolts, taking care of the torque 180 Nm.

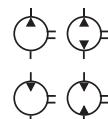
CLOCKWISE



SUGGESTED COMBINATIONS OF FLANGES AND SHAFTS AVAILABLE

3P/ME				
	CODE P2 - European stand.	CODE B6 - German stand.	CODE P3 - European stand. for 3,5PC	CODE S3 - SAE B
 CODE 35 - Tapered 1:5		35B6		
 CODE 38 - Tapered 1:8	38P2			
 CODE 48 - Tapered 1:8 for 3,5PC			48P3	
 CODE 55 - SAE B 13T				55S3
 CODE 56 - SAE BB 15T				56S3
 CODE 87 - SAE B parallel				87S3
 CODE 88 - SAE BB parallel				88S3
 CODE 05 - Tang drive for electric motors		05B6		



**GEAR PUMPS "E" SERIES
GEAR MOTORS "E" SERIES**
3PE - 3ME
**Showed release with flange P2
and shaft 38**

**GEAR PUMPS AND
MOTORS**

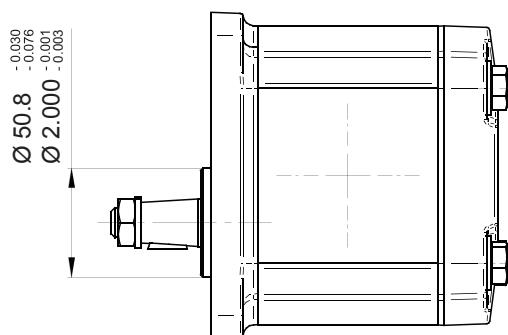
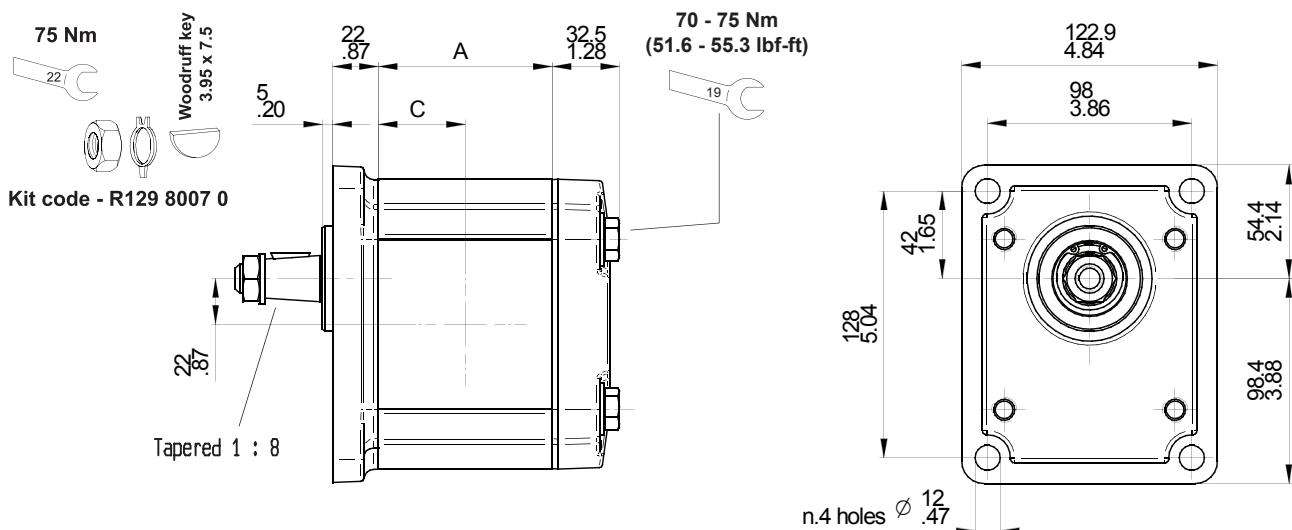
Performance carried out with oil viscosity at 16 cSt and oil temperature at 60°C.

TYPE		21*	27	33	38	46	55	65	75*
Displacements	cm ³ /rev	20,6	27	33,5	38,7	46,9	54,1	63,1	73,4
	cu.in./rev	1,26	1,65	2,04	2,36	2,86	3,3	3,85	4,48
Dimension A	mm	74	79	84	88	104	110	117	124
	in	2,91	3,11	3,31	3,46	4,09	4,33	4,61	4,88
Dimension C	mm	37	39,5	42	44	52	55	58,5	62
	in	1,46	1,56	1,65	1,73	2,05	2,17	2,30	2,44
Working pressure	P1*	bar		250	240	250	220	200	180
		psi		3625	3480	3625	3190	2900	2610
Intermittent pressure	P2	bar		280	260	270	240	220	200
		psi		4000	3770	3980	3480	3190	2900
Peak pressure	P3	bar		300	275	280	250	240	220
		psi		4350	3980	4000	3625	3480	3190
Max. speed at P2		rpm		3000		2750		2500	
Min. speed at P1				600		500		400	
Weight	kg	8,6	8,9	9,1	9,4	10,1	10,5	10,8	11,2
	lbs	19,0	19,6	20,1	20,6	22,3	23,0	23,8	24,6

Displacements 21 and 75 are special release, please get in touch with sales dept.

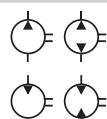
*For working conditions, using exclusively pressure P1, the value of max. speed must be reduced of 10%.

Anti-clockwise rotation pump.
In case of use as a motor, the same construction
is a clockwise motor.



- AVAILABLE UNI-DIRECTIONAL OR BI-DIRECTIONAL
- PORT TYPES AND SIZES ON PAGE A10 - A11
- AVAILABLE ALSO WITH REAR PORTS, PAGE A12





GEAR PUMPS AND MOTORS

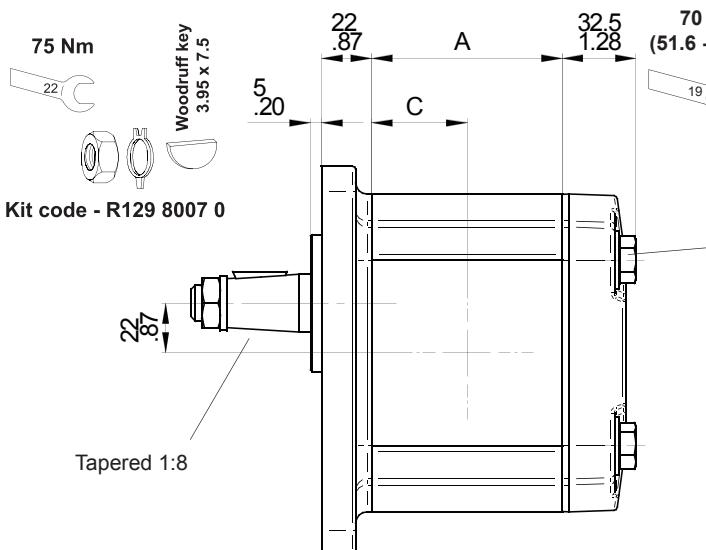
Performance carried out with oil viscosity at 16 cSt and oil temperature at 60°C.

TYPE		46	55	65	75*
Displacements	cm ³ /rev	46,9	54,1	63,1	73,4
	cu.in./rev	2,86	3,3	3,85	4,48
Dimension A	mm	104	110	117	124
	in	4,09	4,33	4,61	4,88
Dimension C	mm	52	55	58,5	62
	in	2,05	2,17	2,30	2,44
Working pressure	P1*	bar	250	220	200
		psi	3625	3190	2900
Intermittent pressure	P2	bar	270	240	220
		psi	3980	3480	3190
Peak pressure	P3	bar	280	250	240
		psi	4000	3625	3480
Max. speed at P2	rpm		2750	2500	
Min. speed at P1			500	400	
Weight	kg		10,1	10,5	10,8
	lbs		22,3	23,0	23,8
					11,2
					24,6

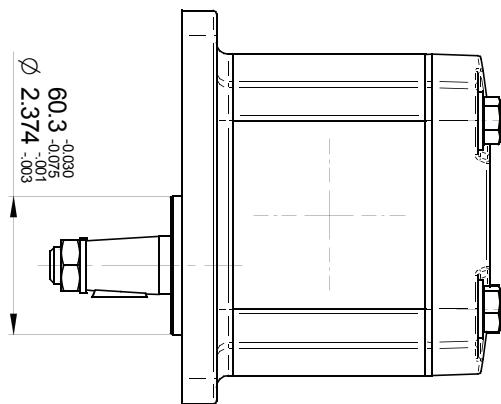
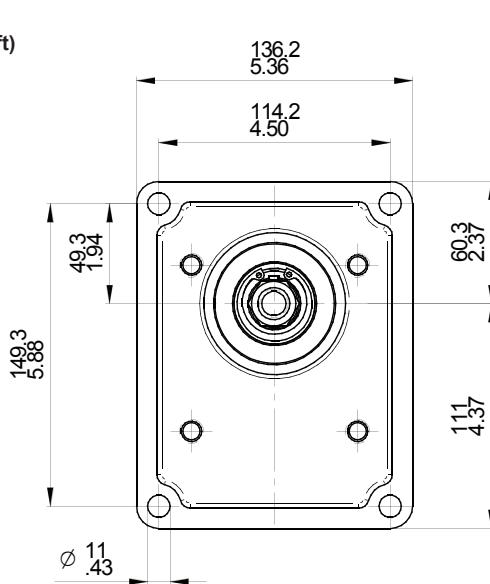
Displacement 75 is a special release, please get in touch with sales dept.

*For working conditions, using exclusively pressure P1, the value of max. speed must be reduced of 10%.

Showed release with flange P3 and shaft 48.
Interchangeable with 3.5PC

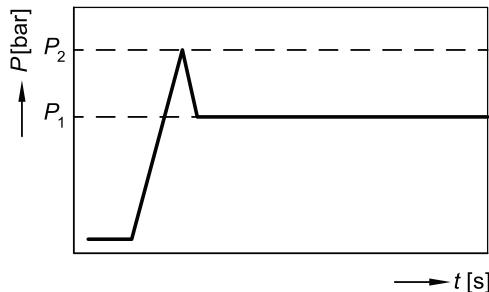


Kit code - R129 8007 0



- AVAILABLE UNI-DIRECTIONAL OR BI-DIRECTIONAL
- PORT TYPES AND SIZES ON PAGE A10 - A11
- AVAILABLE ALSO WITH REAR PORTS, PAGE A12

DEFINITION OF PRESSURES



P_1 max. continuous pressure
 P_2 starting pressure (depending on the application, this must be taken into consideration when setting the pressure of the hydraulic system's pressure-relief valve).

WORKING CONDITIONS

3ME

Type		21*	27	33	38	46	55	65	75*
Max. continuous pressure P_1	bar psi		250		240	250	220	200	180
			3625		3480	3625	3190	2900	2610
Max. starting pressure P_1	bar psi		300		275	280	250	240	220
			4350		3987,5	4060	3625	3480	3190
Min. rotational speed	rpm		600		500		400		
Max. rotational speed P_1			3000		2750		2500		
Motor outlet pressure P_{out}	bar psi								
Leakage-oil line pressure P_{drain}									

$P_{out} \leq 5 \text{ bar}$
(43 psi)

$P_{drain} < 5 \text{ bar}$
(43 psi)

$P_{out} \leq 120 \text{ bar}$
(1740 psi)

Displacements 21 and 75 are special release, please get in touch with sales dept.

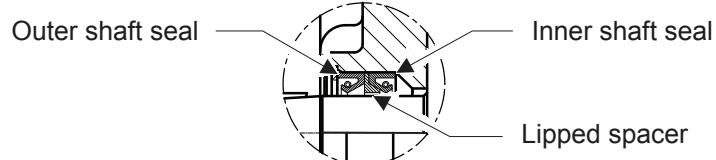
TECHNICAL DATA

- Minimum operating fluid viscosity	.....	12 mm ² / sec
- Permitted viscosity range	.....	12 - 800 mm ² / sec
- Recommended viscosity range	.....	20 - 80 mm ² / sec
- Permitted viscosity for starting	.....	2000 mm ² / sec
- Fluid operating temperature range	.....	-15 to 85 °C
- Fluid temperature range with FPM seals	.....	-20 to 110 °C
- The standard fluids are all the mineral oil-based corresponding to DIN/ISO, for other fluids, please get in touch with our technical dept.		

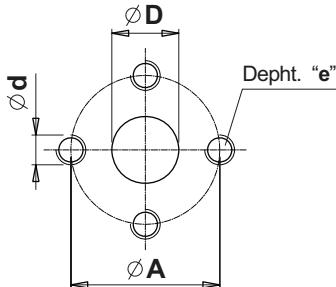
^{*)} During the application of control systems or devices with critical counter-reaction, such as steering and brake valves, the type of filtration selected must be adapted to the sensitivity of these devices/systems. Safety requirements pertaining to the whole systems are to be observed.
In the case of applications with frequent load cycles please consult us.

MOTOR ASSEMBLING FEATURES

All our standard motors have a double shaft seal, the one which faces the inner of the motor is reinforced by a lipped washer.



FLANGED PORTS



	Type	OUTLET				INLET			
		INLET				OUTLET			
		ØD	ØA	d	e	ØD	ØA	d	e
From 21 to 55	27 (1.06")	51 (2.01")	M10	16 (0.63")	16 (0.63")	40 (1.57")	M8	16 (0.63")	
From 65 to 75	33 (1.3")	62 (2.44")	M12	16 (0.63")	21 (0.83")	51 (2.01")	M10	16 (0.63")	

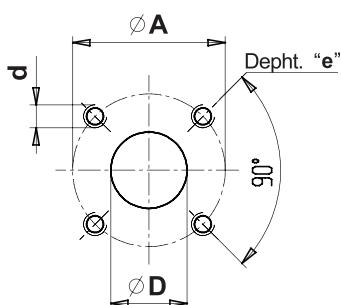
MOTOR	Type	INLET				OUTLET			
		INLET				OUTLET			
		ØD	ØA	d	e	ØD	ØA	d	e
From 21 to 55	16 (0.63")	40 (1.57")	M8	16 (0.63")	16 (0.63")	40 (1.57")	M8	16 (0.63")	
From 65 to 75	21 (0.83")	51 (2.01")	M10	16 (0.63")	21 (0.83")	51 (2.01")	M10	16 (0.63")	

PUMP	Type	INLET				OUTLET			
		INLET				OUTLET			
		ØD	ØA	d	e	ØD	ØA	d	e
From 21 to 55	27 (1.06")	51 (2.01")	M10	16 (0.63")	27 (1.06")	51 (2.01")	M10	16 (0.63")	
From 65 to 75	33 (1.3")	62 (2.44")	M12	16 (0.63")	33 (1.3")	62 (2.44")	M12	16 (0.63")	

code P

code S

code W



	TYPE	OUTLET					INLET				
		INLET					OUTLET				
		ØD	B	A	d	e	ØD	B	A	d	e
From 21 to 38	26 (1.02)	52,4 (2,06)	26,2 (1,03)	3/8 (16 UNC)	18 (0,71)	19 (0,75)	47,6 (1,87)	22,2 (0,87)	3/8 (16 UNC)	18 (0,71)	
From 46 to 75	32 (1,26)	58,7 (2,31)	30,2 (1,19)	7/16 (14 UNC)	18 (0,71)	26 (1,02)	52,4 (2,06)	26,2 (1,03)	3/8 (16 UNC)	18 (0,71)	

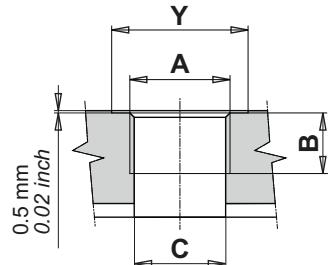
	TYPE	OUTLET					INLET				
		INLET					OUTLET				
		ØD	B	A	d	e	ØD	B	A	d	e
From 21 to 38	26 (1,02)	52,4 (2,06)	26,2 (1,03)	M10	18 (0,71)	19 (0,75)	47,6 (1,87)	22,2 (0,87)	M10	18 (0,71)	
From 46 to 75	32 (1,26)	58,7 (2,31)	30,2 (1,19)	M10	18 (0,71)	26 (1,02)	52,4 (2,06)	26,2 (1,03)	M10	18 (0,71)	

	TYPE	OUTLET					INLET				
		INLET					OUTLET				
		Ø D	Ø A	d	e	Ø D	Ø A	d	e		
Displ. 21	22	55				13	19	55		M8	13
	0,87	2,17				0,51	0,75	2,17			0,51
From 27 to 75	27	55				13	22	55		M8	13
	1,06	2,17				0,51	0,87	2,17			0,51

code B

**GEAR PUMPS "E" SERIES
GEAR MOTORS "E" SERIES**
3PE - 3ME
THREADED PORTS

Type	OUTLET				INLET			
	INLET				OUTLET			
	A	B	C	Y	A	B	C	Y
From 21 to 38	G1	22 (0.87")	27 (0.96")	44 (1.73")	G1	22 (0.87")	27 (1.06")	44 (1.73")
From 46 to 75	G1"1/4	24 (0.94")	32.5 (1.28")	54 (2.12")	G1	22 (0.87")	27 (1.06")	44 (1.73")



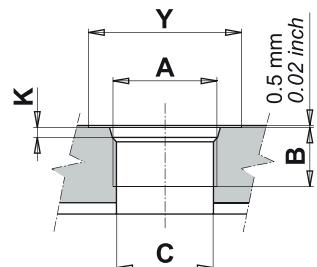
MOTOR	Type	INLET				OUTLET			
		A	B	C	Y	A	B	C	Y
		From 21 to 75	G1	22 (0.87")	30.5 (1.2")	44 (1.73")	G1	22 (0.87")	30.5 (1.2")	44 (1.73")

PUMP	Type	INLET				OUTLET			
		A	B	C	Y	A	B	C	Y
		From 21 to 75	G 11/4"	24 (0.94")	37 (1.46")	54 (2.13")	G 11/4"	24 (0.94")	37 (1.46")	54 (2.13")

code G

British standard pipe parallel (BSPP)

	Type	OUTLET					INLET				
		INLET				OUTLET					
		A	B	C	Y	K	A	B	C	Y	K
From 21 to 38	1-5/16 12 UN	19 (0.74")	25 (0.98")	49 (1.93")	3.3 (0.12")	3.3	1-1/16 12 UN	19 (0.74")	21 (0.83")	41 (1.16")	3.3 (0.12")
From 46 to 75	1-5/8 12 UN	19 (0.74")	27 (1.06")	58 (2.28")	3.3 (0.12")	3.3	1-5/16 12 UN	19 (0.74")	25 (0.98")	49 (1.93")	3.3 (0.12")



MOTOR	Type	OUTLET					INLET				
		INLET				OUTLET					
		A	B	C	Y	K	A	B	C	Y	K
From 21 to 38	1-1/18 12 UN	19 (0.75")	21 (0.83")	41 (1.61")	3,3 (0.13")	3,3	1-1/18 12 UN	19 (0.75")	21 (0.83")	41 (1.61")	3,3 (0.13")
From 46 to 75	1-5/18 12 UN	19 (0.75")	25 (0.98")	48 (1.93")	3,3 (0.13")	3,3	1-5/18 12 UN	19 (0.75")	25 (0.98")	48 (1.93")	3,3 (0.13")

PUMP	Type	OUTLET					INLET				
		INLET				OUTLET					
		A	B	C	Y	K	A	B	C	Y	K
From 21 to 38	1-5/18 12 UN	19 (0.75")	25 (0.98")	48 (1.93")	3,3 (0.13")	3,3	1-5/18 12 UN	19 (0.75")	25 (0.98")	48 (1.93")	3,3 (0.13")
From 46 to 75	1-5/8 12 UN	19 (0.75")	27 (1.06")	58 (2.28")	3,3 (0.13")	3,3	1-5/8 12 UN	19 (0.75")	27 (1.06")	58 (2.28")	3,3 (0.13")

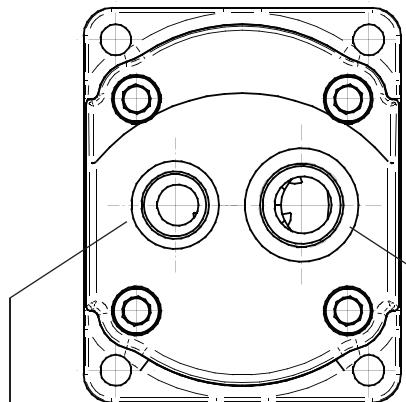
code R

SAE threaded (ODT)



RELEASE WITH REAR PORTS

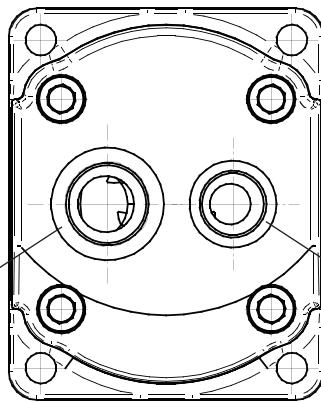
CLOCKWISE ROTATION PUMP/MOTOR



OUTLET - DIMENSION B

INLET - DIMENSION A

ANTI-CLOCKWISE ROTATION PUMP/MOTOR



INLET - DIMENSION A

OUTLET - DIMENSION B

IN CASE OF USE AS A UNIDIRECTIONAL MOTOR:

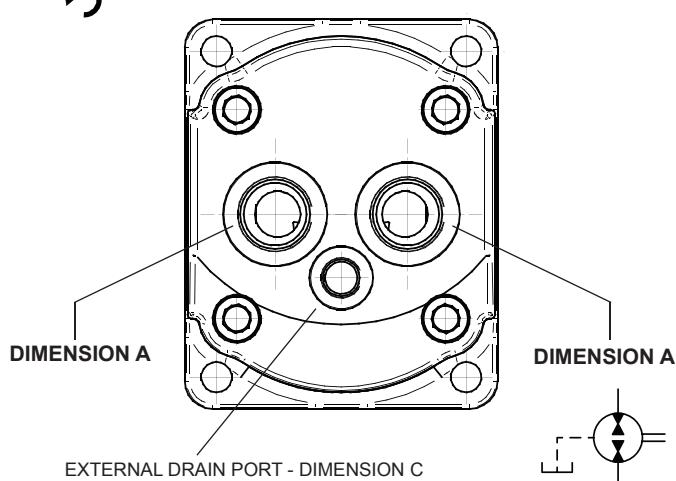
- ANTI-CLOCKWISE PUMP BECOMES A CLOCKWISE MOTOR
 - CLOCKWISE PUMP BECOMES AN ANTICLOCKWISE MOTOR
- THE POSITION OF THE PORTS IS THE SAME BUT THE INLET BECOMES OUTLET AND VICEVERSA

A	B
G1"	G 3/4
1"-5/16-12 UN(SAE 16)	1"-1/16-12 UN(SAE 12)

code 1

For pumps with threaded rear ports, suitable up to 80 l/min delivery.

BI-DIRECTIONAL ROTATION MOTOR



DIMENSION A

DIMENSION A

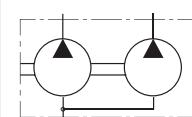
EXTERNAL DRAIN PORT - DIMENSION C



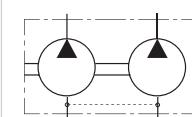
A	C
G 3/4	G 3/8
1"-1/16-12 UN(SAE 12)	9/16-18UNF-2B (SAE 6)

GEAR PUMPS "E" SERIES

3PE



MULTIPLE GEAR PUMPS
with common inlet port*



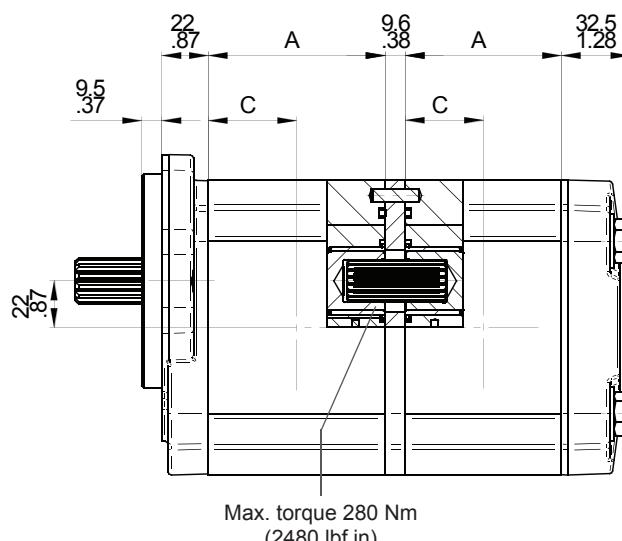
MULTIPLE GEAR PUMPS
with inlet port
on each body

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.

Performance carried out with oil viscosity at 16 cSt and oil temperature at 60°C.

TYPE		21*	27	33	38	46	55	65	75*
Displacements	cm ³ /rev cu.in./rev	20,6 1,26	27 1,65	33,5 2,04	38,7 2,36	46,9 2,86	54,1 3,3	63,1 3,85	73,4 4,48
Dimension A	mm in	74 2,91	79 3,11	84 3,31	88 3,46	104 4,09	110 4,33	117 4,61	124 4,88
Dimension C	mm in	37 1,46	39,5 1,56	42 1,65	44 1,73	52 2,05	55 2,17	58,5 2,30	62 2,44
Working pressure P1*	bar psi		250 3625		240 3480	250 3625	220 3190	200 2900	180 2610
Intermittent pressure P2	bar psi		280 4000		260 3770	270 3980	240 3480	220 3190	200 2900
Peak pressure P3	bar psi		300 4350		275 3980	280 4000	250 3625	240 3480	220 3190
Max. speed at P2	rpm		3000		2750		2500		
Min. speed at P1			600		500		400		
Weight	kg lbs	3,8 8,4	4,1 9,0	4,3 9,5	4,5 10,0	5,3 11,7	5,6 12,4	6,0 13,2	6,4 14,0

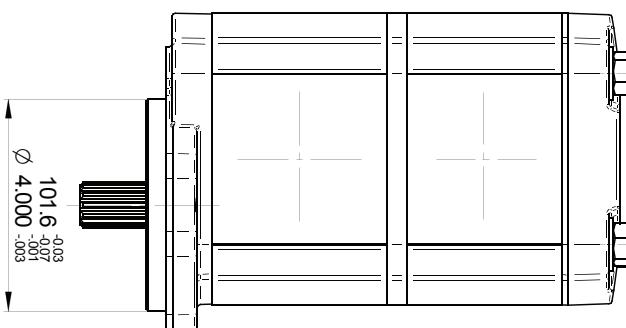
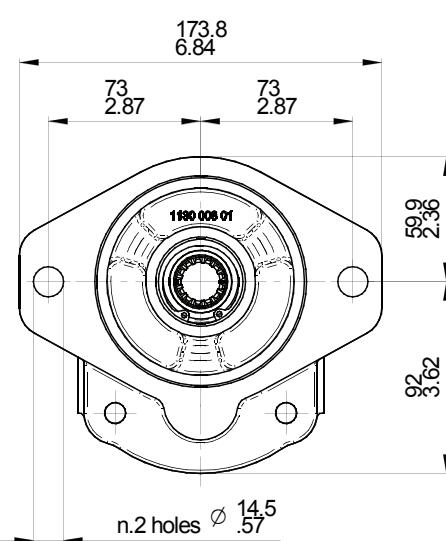
*For working conditions, using exclusively pressure P1, the value of max. speed must be reduced of 10%.



75 - 80 Nm
(55.3 - 59 lbf-ft)



Max. torque 280 Nm
(2480 lbf in)

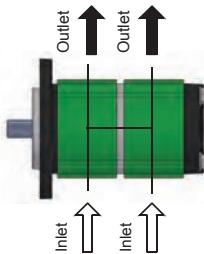


- PORT TYPES AND SIZES ON PAGE A9 - A10
- COMMON SUCTION PORT SIZE ON PAGE A15
- TO OBTAIN COMPLETE WEIGHT OF MULTIPLE PUMP YOU HAVE TO ADD THE SINGLE STAGE WEIGHT, YOU HAVE IN THE TABLE ABOVE, PLUS:
- WEIGHT OF THE FLANGE = 2.4 kg (5.3 lbs)
- WEIGHT OF THE MIDDLE PLATE = 0.9 kg (2 lbs)
THE MIDDLE PLATES CAN BE MORE THAN ONE.
- WEIGHT OF THE REAR COVER = 2.4 kg (5.3 lbs)

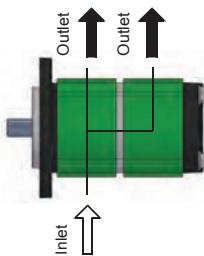


FOR REASON OF READABILITY, IN CASE OF INTENSIVE USE, WE CAN PROVIDE THE FOLLOWING TABLE AS A STANDALONE FILE.

In case of suction on both the stages,
the size of the ports are the ones listed
on pages A10 and A11.



In case of common suction configuration, we have to take care of the area of the common suction port to avoid cavitation.
The suggested speed of the oil at suction line is 1.5 m/sec, using this table and according of which is the total flow which goes into the pump, you can obtain the value of the proper diameter (mm) and proper area (cm²).

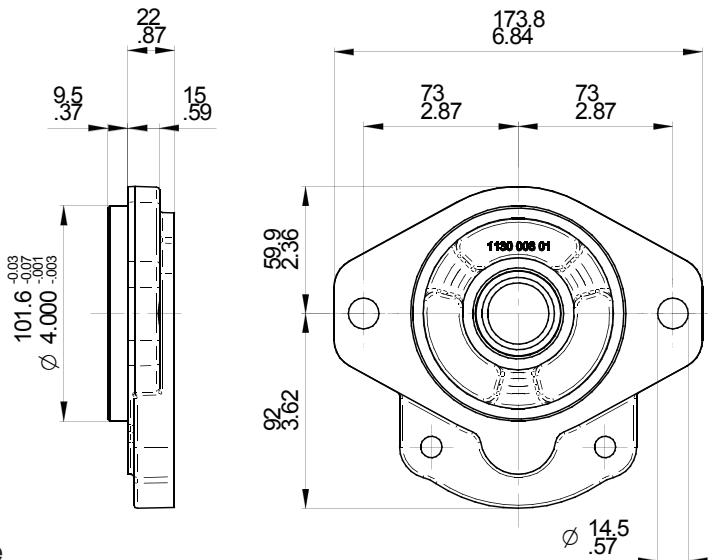


When needed, special bodies with an enlarged inlet port are available.

SPEED m/sec	FLOW - l/min																		PIPE INTERNAL AREA - cm ²		
	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190		
SUCCTION	0.5	20.6	29.1	35.7	41.2	46.0	50.4	54.5	58.2	61.8	65.1	68.3	71.3	74.2	77.0	79.7	82.4	84.9	87.4	89.8	92.1
	0.5	3.3	5.0	6.7	8.3	10.0	11.7	13.3	15.0	16.7	18.3	20.0	21.6	23.3	25.0	26.6	28.3	30.0	31.6	33.3	35.0
	1	14.6	20.6	25.2	29.1	32.6	35.7	38.5	41.2	43.7	46.0	48.3	50.4	52.5	54.5	56.4	58.2	60.0	61.8	63.5	65.1
	1	1.7	3.3	5.0	6.7	8.3	10.0	11.7	13.3	15.0	16.7	18.3	20.0	21.6	23.3	25.0	26.6	28.3	30.0	31.6	33.3
	1.3	12.8	18.1	22.1	25.5	28.6	31.3	33.8	36.1	38.3	40.4	42.4	44.2	46.0	47.8	49.5	51.1	52.7	54.2	55.7	57.1
	1.3	1.3	2.6	3.8	5.1	6.4	7.7	9.0	10.2	11.5	12.8	14.1	15.4	16.7	17.9	19.2	20.5	21.8	23.1	24.3	25.6
	1.5	11.9	16.8	20.6	23.8	26.6	29.1	31.5	33.6	35.7	37.6	39.4	41.2	42.9	44.5	46.0	47.6	49.0	50.4	51.8	53.2
	1.5	1.1	2.2	3.3	4.4	5.6	6.7	7.8	8.9	10.0	11.1	12.2	13.3	14.4	15.5	16.7	17.8	18.9	20.0	21.1	22.2
	1.8	10.9	15.3	18.8	21.7	24.3	26.6	28.7	30.7	32.6	34.3	36.0	37.6	39.1	40.6	42.0	43.4	44.7	46.0	47.3	48.5
	2	10.3	14.6	17.8	20.6	23.0	25.2	27.2	29.1	30.9	32.6	34.1	35.7	37.1	38.5	39.9	41.2	42.4	43.7	44.9	46.0
PRESSURE LINE	2	0.8	1.7	2.5	3.3	4.2	5.0	5.8	6.7	7.5	8.3	9.2	10.0	10.8	11.7	12.5	13.3	14.2	15.0	15.8	16.7
	2.5	9.2	13.0	15.9	18.4	20.6	22.6	24.4	26.0	27.6	29.1	30.5	31.9	33.2	34.5	35.7	36.8	38.0	39.1	40.1	41.2
	2.5	0.7	1.3	2.0	2.7	3.3	4.0	4.7	5.3	6.0	6.7	7.3	8.0	8.7	9.3	10.0	10.7	11.3	12.0	12.7	13.3
	3	8.4	11.9	14.6	16.8	18.8	20.6	22.2	23.8	25.2	26.6	27.9	29.1	30.3	31.5	32.6	33.6	34.7	35.7	36.6	37.6
	3.5	0.6	1.1	1.7	2.2	2.8	3.3	3.9	4.4	5.0	5.6	6.1	6.7	7.2	7.8	8.3	8.9	9.4	10.0	10.5	11.1
	4	7.3	10.3	12.6	14.6	16.3	17.8	19.3	20.6	21.8	23.0	24.1	25.2	26.2	27.2	28.2	29.1	30.0	30.9	31.7	32.6
	4.5	0.4	0.7	1.1	1.5	1.9	2.2	2.6	3.0	3.3	3.7	4.2	4.6	5.0	5.4	5.8	6.2	6.7	7.1	7.5	8.3
	5	6.5	9.2	11.3	13.0	14.6	15.9	17.2	18.4	19.5	20.6	21.6	22.6	23.5	24.4	25.2	26.0	26.8	27.6	28.4	29.1
	5.5	0.3	0.7	1.0	1.3	1.7	2.0	2.3	2.7	3.0	3.3	3.7	4.0	4.3	4.7	5.0	5.3	5.7	6.0	6.3	6.7
	6	6.2	8.8	10.8	12.4	13.9	15.2	16.4	17.6	18.6	19.6	20.6	21.5	22.4	23.2	24.0	24.8	25.6	26.3	27.1	27.8
	6.5	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.8	6.1
	7	5.5	7.8	9.5	11.0	12.3	13.5	14.6	15.6	16.5	17.4	18.3	19.1	19.8	20.6	21.3	22.0	22.7	23.3	24.0	24.6
SPEED m/sec																					

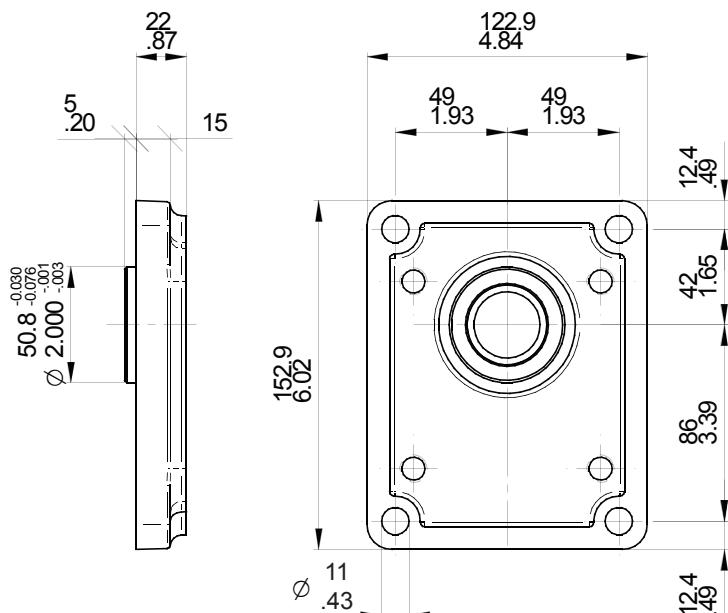


AVAILABLE FLANGES



SAE B mounting flange

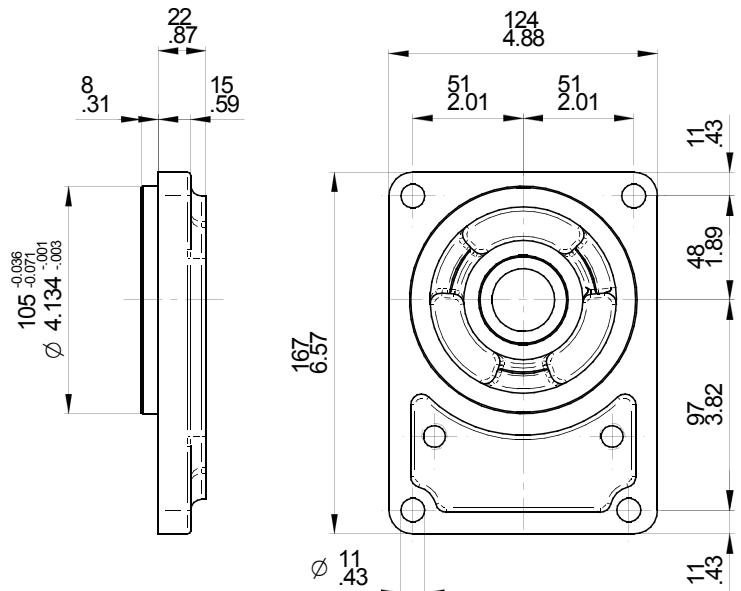
S3	Available assembling shafts		
Splined	55	56	
Tapered			
Straight	87	88	



European standard mounting flange

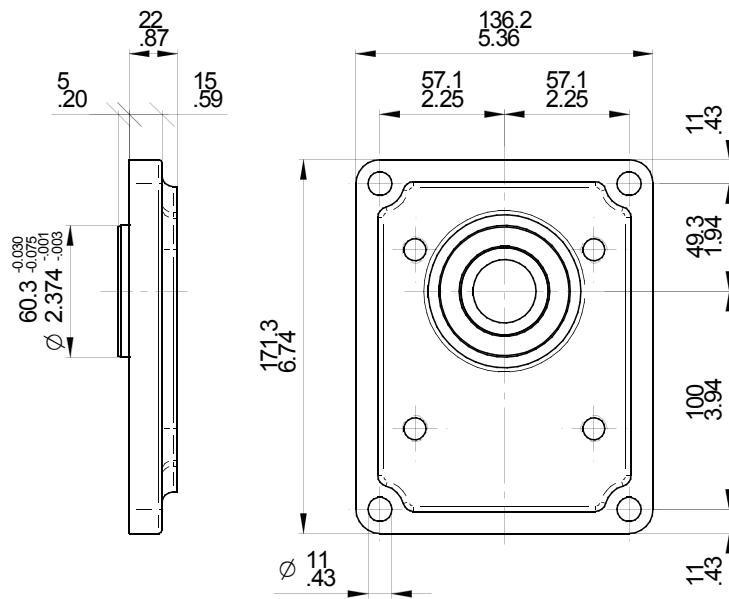
P2	Available assembling shafts		
Splined			
Tapered		38	
Straight			

AVAILABLE FLANGES



German standard mounting flange

B6	Available assembling shafts			
Splined				
Tapered	35			
Tang	05			



European standard mounting flange - GROUP 3.5 size

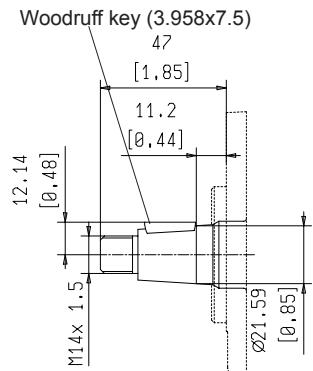
P3	Available assembling shafts			
Splined				
Tapered	48			
Straight				



AVAILABLE SHAFTS

EUROPEAN TAPERED 1:8

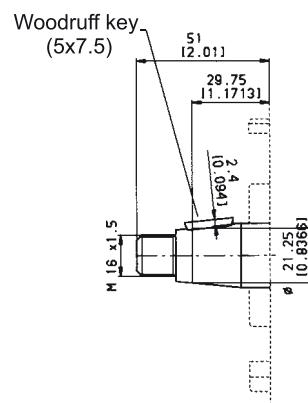
Code 38



MAX 250 Nm (2213 lbf in)

EUROPEAN TAPERED 1:5

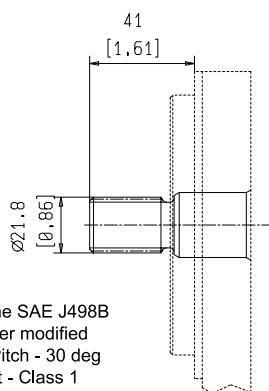
Code 35



MAX 260 Nm (2300 lbf in)

SAE "B" SPLINE

Code 55

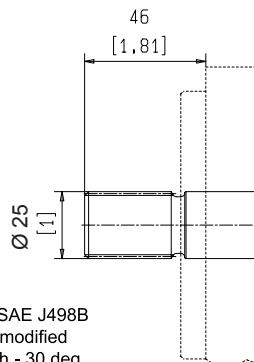


Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

MAX 330 Nm (2921 lbf in)

SAE "BB" SPLINE

Code 56

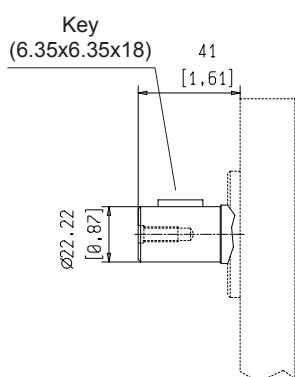


Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

MAX 480 Nm (4250 lbf in)

SAE "B" STRAIGHT

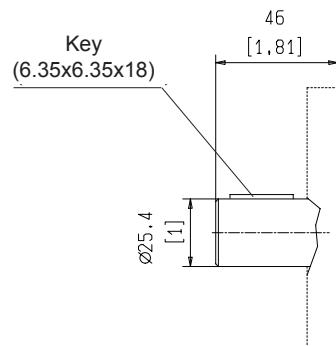
Code 87



MAX 220 Nm (1950 lbf in)

SAE "BB" STRAIGHT

Code 88



MAX 320 Nm (2830 lbf in)

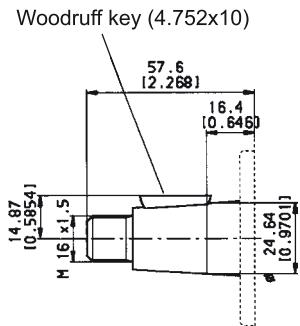
AVAILABLE SHAFTS

EUROPEAN TAPERED 1:8

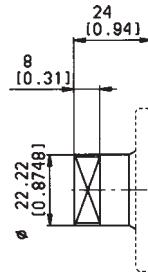
Code 48

TANG DRIVE FOR ELECTRIC MOTORS

Code 05



MAX 350 Nm (3100 lbf in)



MAX 180 Nm (1590 lbf in)

OUTRIGGER BEARING (for combined loads)

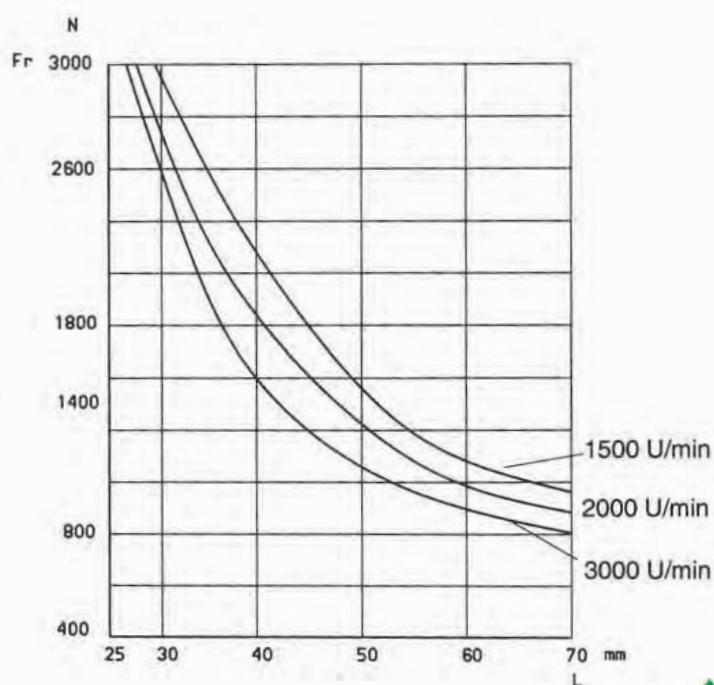
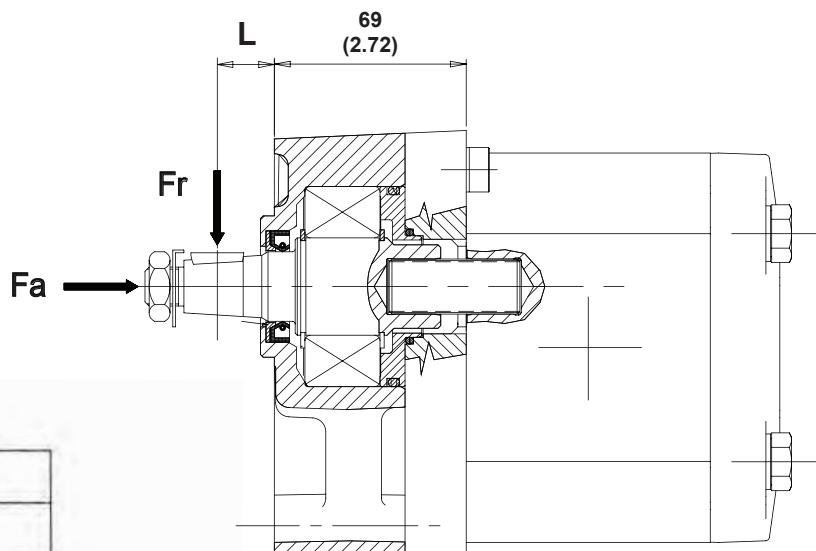
code CP

European standard mounting flange

In case of radial and/or axial load on the shaft, we suggest the use of this support.

The diagram below, shows the maximum radial load referring to a bearing life of 3000 hours.

Consider a maximum allowed axial load (F_a) in terms of 15% of the max. radial load (F_r).



To calculate the absorbed pump-torque or motor efficiency, please use the following formula:

$$C(Nm) = \frac{Cy \Delta p}{62.8}$$

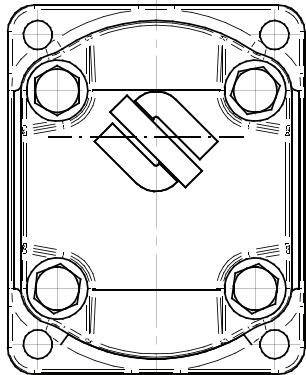
Cy=Displacement pump

Δp =Pressure (bar/psi)

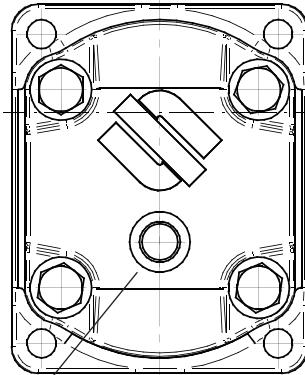


REAR COVERS

Cast iron standard cover for unidirectional pumps and motors.



Cast iron standard cover for reversible pumps and motors.



EXTERNAL DRAIN PORT - DIMENSION C

C
G 3/8
9/16-18UNF-2B (SAE 6)

3PE single pump with 2PE single or multiple

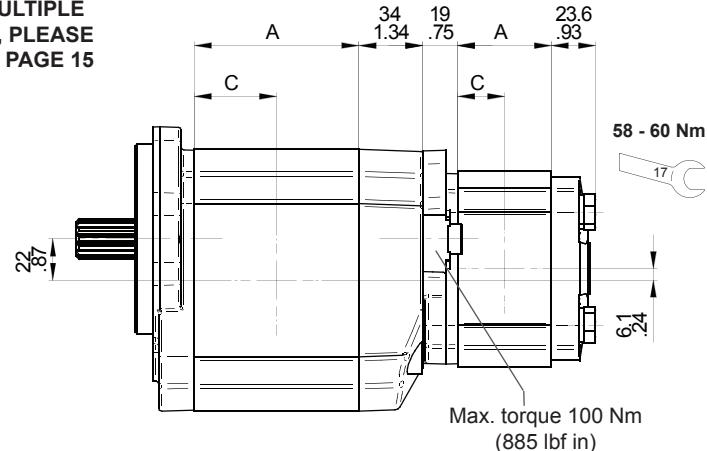


THE 2PE CAN BE ALSO MULTIPLE

THE 2PE CAN BE ALSO MULTIPLE
FOR THE COMMON INLET, PLEASE
REFER TO THE TABLE OF PAGE 15

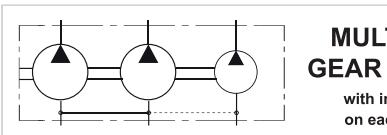
In case of common inlet port, to avoid too high value of oil speed, 30 l/min is the max sucked flow for the downstream pump or pumps.

- PORT TYPES AND SIZES ON PAGE 10 - 11
- COMMON SUCTION PORT SIZE ON PAGE 14
- DIMENSION A SEE PAGES 7 OR 13
- DIMENSION C SEE PAGES 7 OR 13
- DIMENSIONS A AND C 2PE, SEE TABLE BELOW

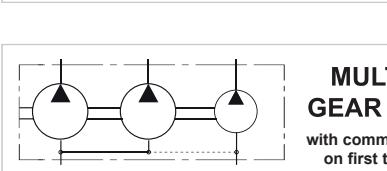


2PE type	3.2*	3.9*	4.5	6.5	8.3	10.5	11.3	12.5	13.8	16	19	22.5	26
Displacement cm ³ /rev cu.in./rev	3.2 0.19	3.9 0.24	4.6 0.27	6.5 0.40	8.2 0.50	10.6 0.65	11.5 0.68	12.7 0.77	13.8 0.84	16.6 1.01	19.4 1.15	22.9 1.37	25.8 1.58
Dimension A mm in		47.1 1.83		49.95 1.97	52.8 2.07	56.3 2.22		59.6 2.35		63.5 2.5	67.5 2.65	75.6 2.97	81 3.19
Dimension C mm in		23.55 0.93		25 0.98	26.4 1.04	28.15 1.11		29.8 1.17		31.75 1.25	33.75 1.33	37.80 1.49	40.5 1.59

3PE multiple pump with 2PE single or multiple

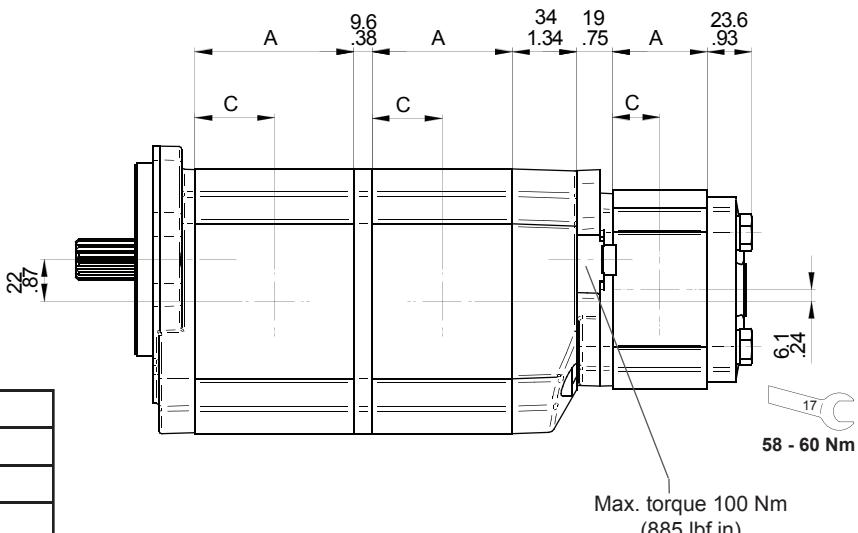


THE 2PE CAN BE ALSO MULTIPLE

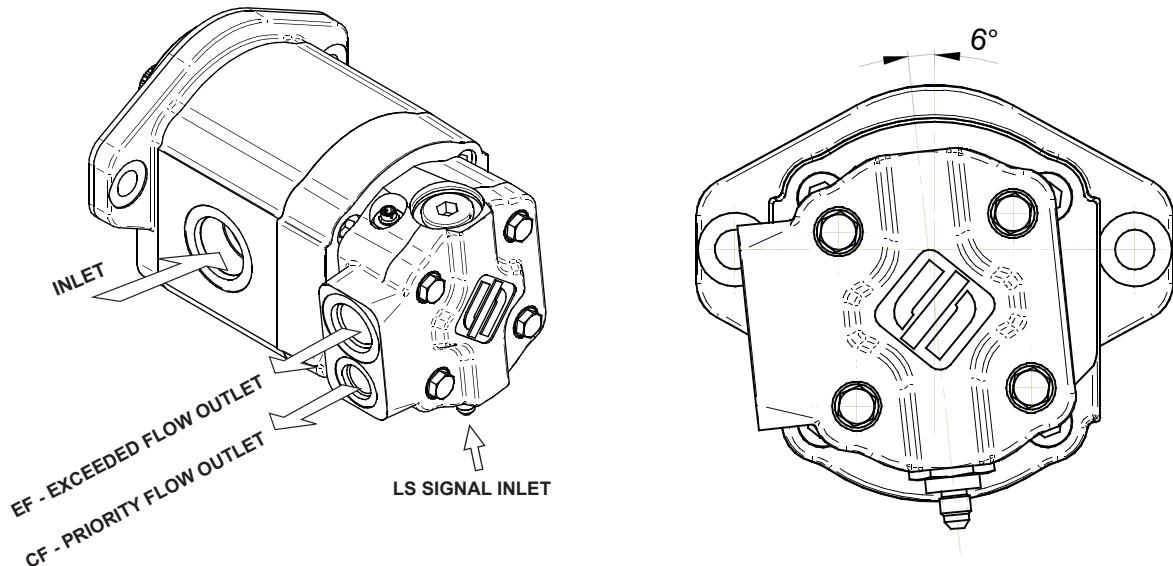


THE 2PE CAN BE ALSO MULTIPLE
FOR THE COMMON INLET, PLEASE
REFER TO THE TABLE OF PAGE 15

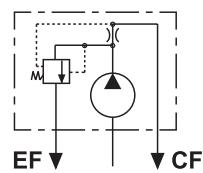
- PORT TYPES AND SIZES ON PAGE 10 - 11
- COMMON SUCTION PORT SIZE ON PAGE 14
- DIMENSION A SEE PAGES 7 OR 13
- DIMENSION C SEE PAGES 7 OR 13
- DIMENSIONS A AND C 2PE, SEE TABLE ABOVE



AVAILABLE CONFIGURATIONS WITH PRIORITY FLOW VALVE

**code VP1**

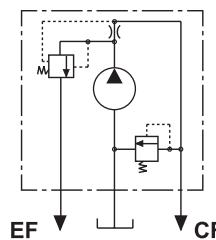
Priority flow valve, excess flow to second actuator.



CF = Priority flow port
EF = Excess flow port

code VPS1

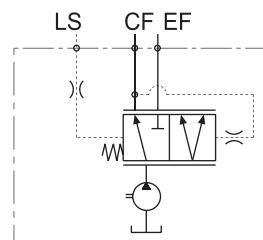
Priority flow valve, excess flow to second actuator with pressure relief valve on priority flow line.



CF = Priority flow port
EF = Excess flow port

code VPD1

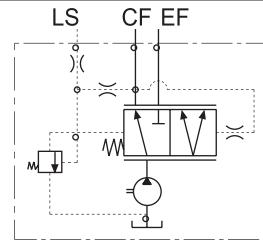
Load sensing priority valve with dynamic signal without main relief valve



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

code VPDS1

Load sensing priority valve with dynamic signal with main relief valve

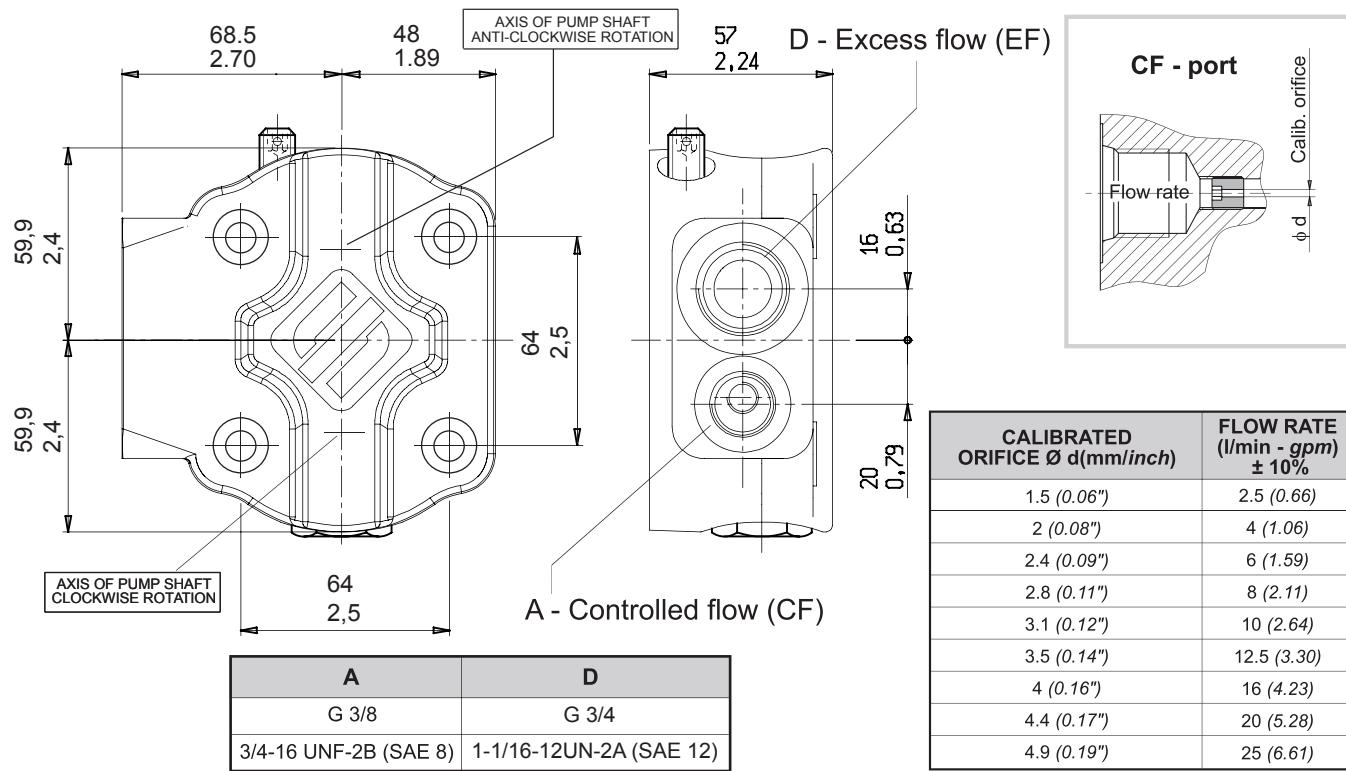


CF = Priority flow port
EF = Excess flow port
LS = Load sensing signal port

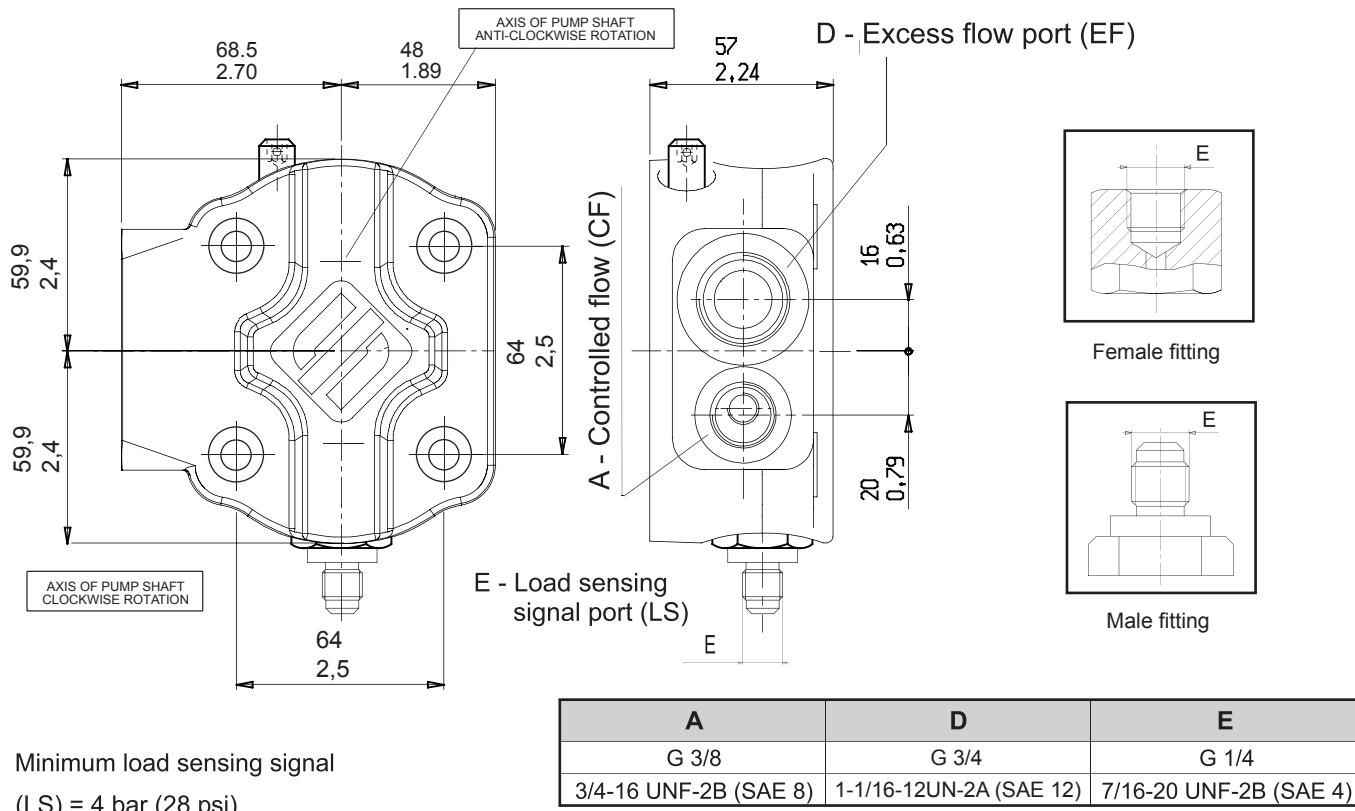
The double or triple pumps can be configurated with priority flow valve too.
The stage which has its flow divided into priority and exceeded flows is always the back one.

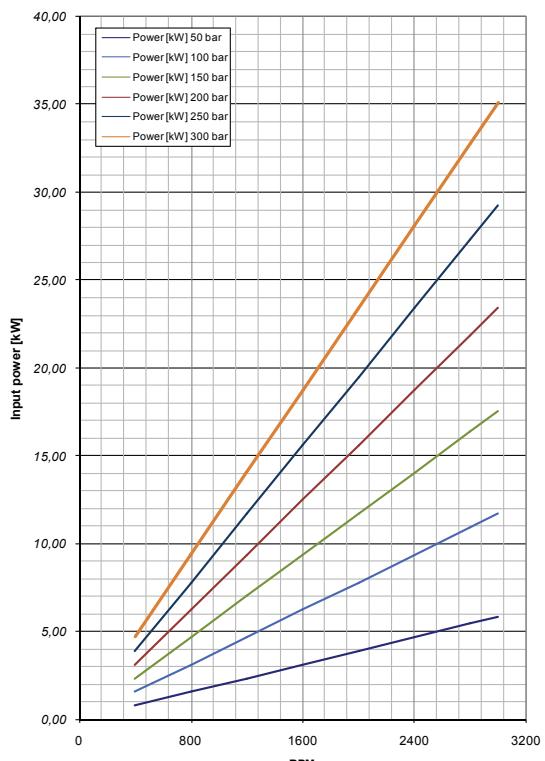
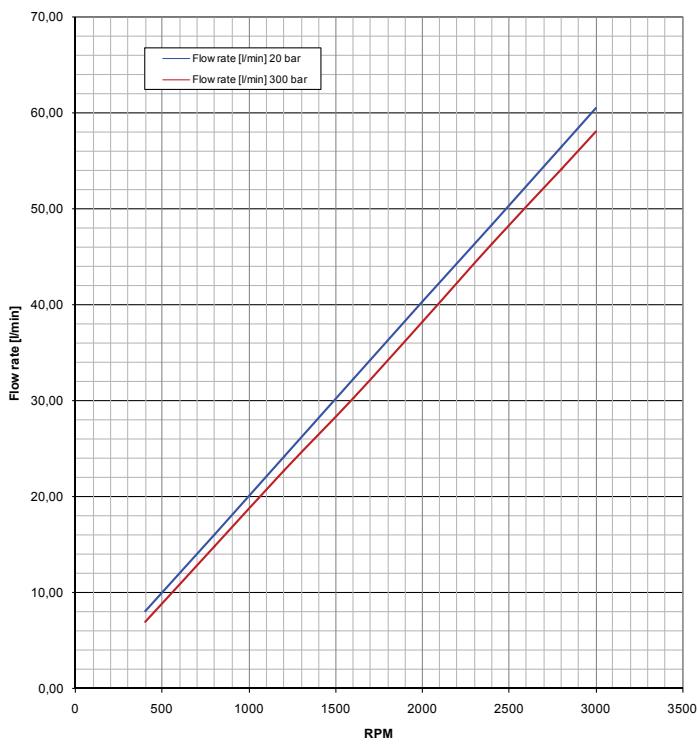
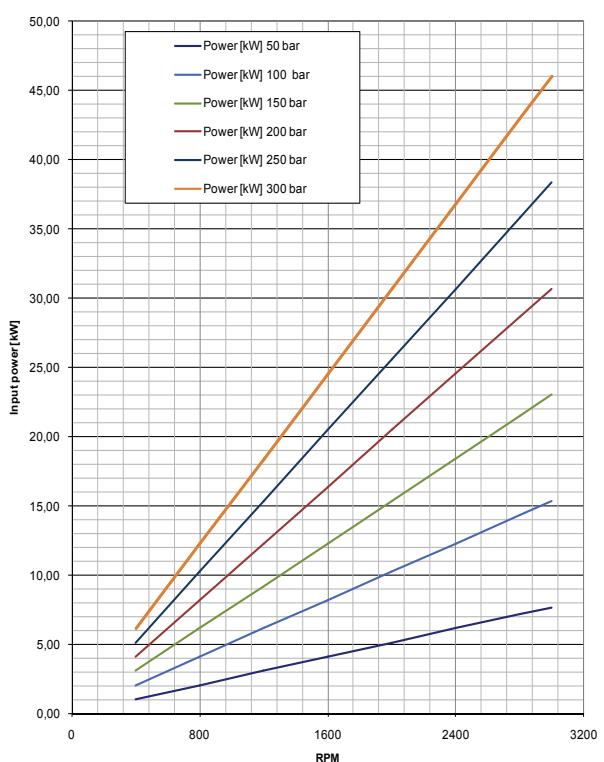
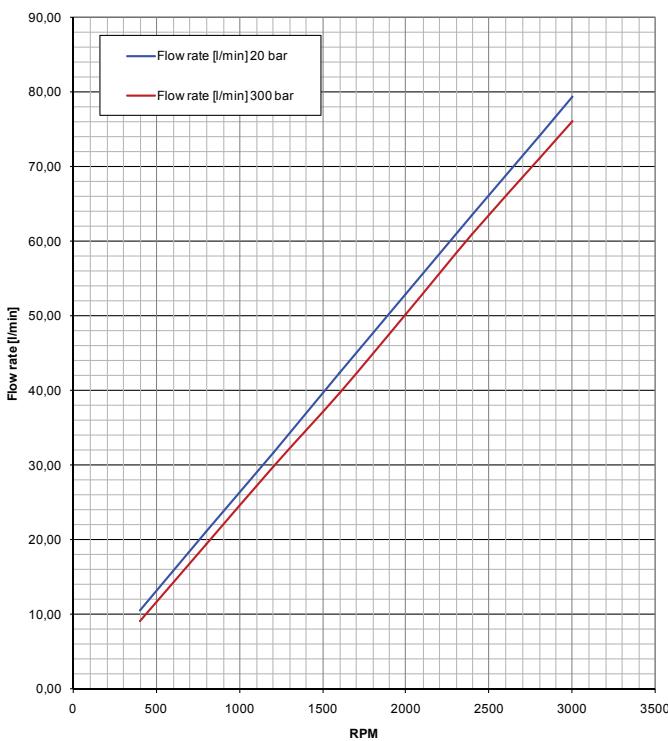


VP1 - VPS1 (FEATURES)

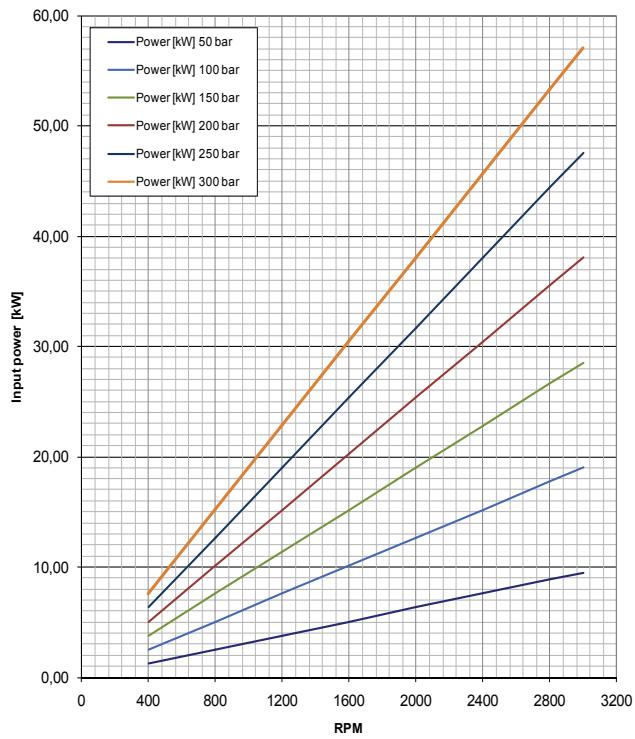
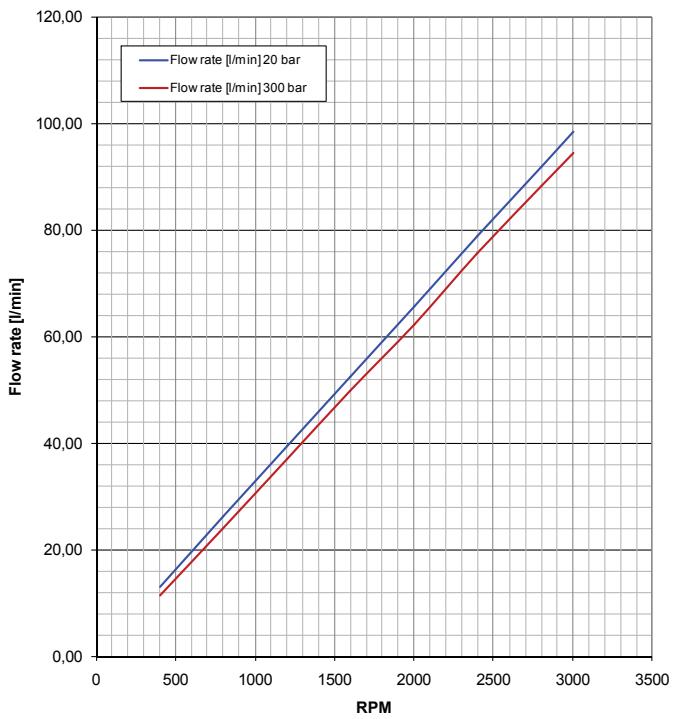


VPD1 - VPDS1 (FEATURES)

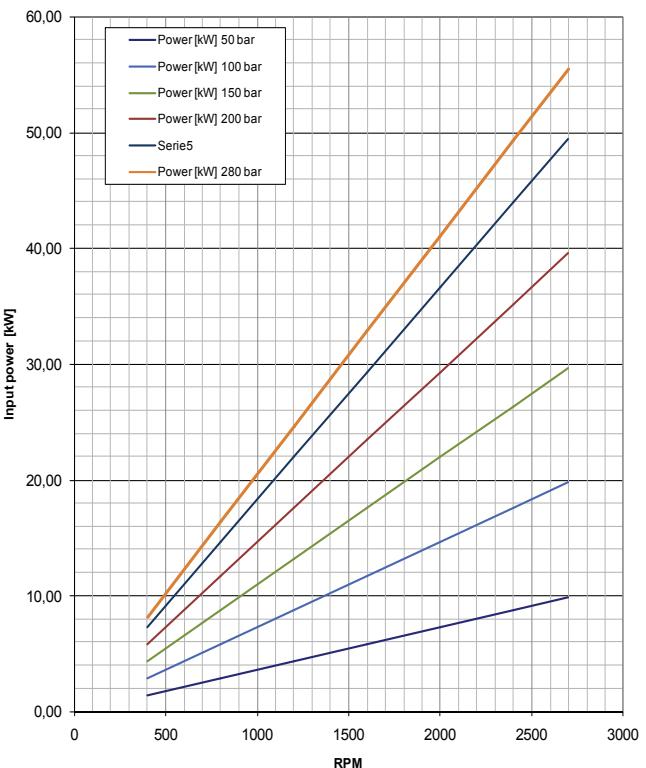
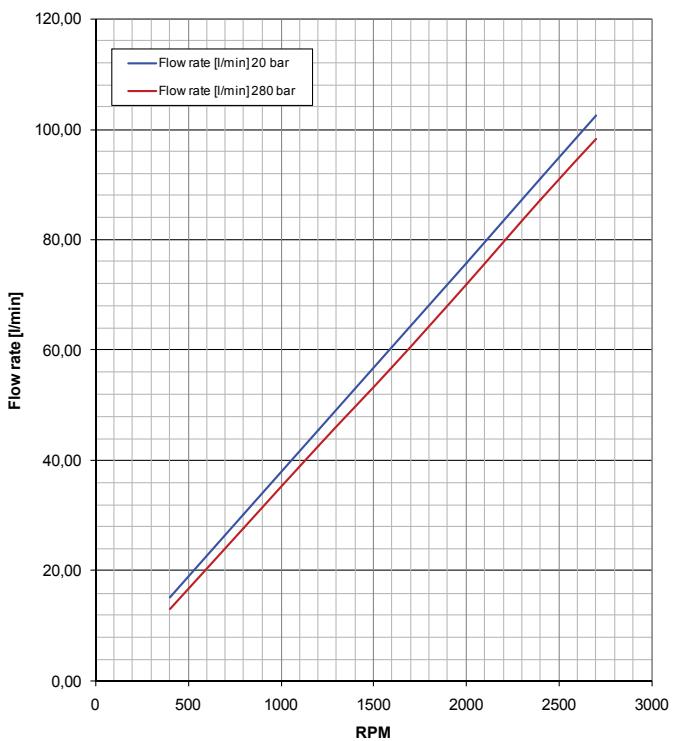


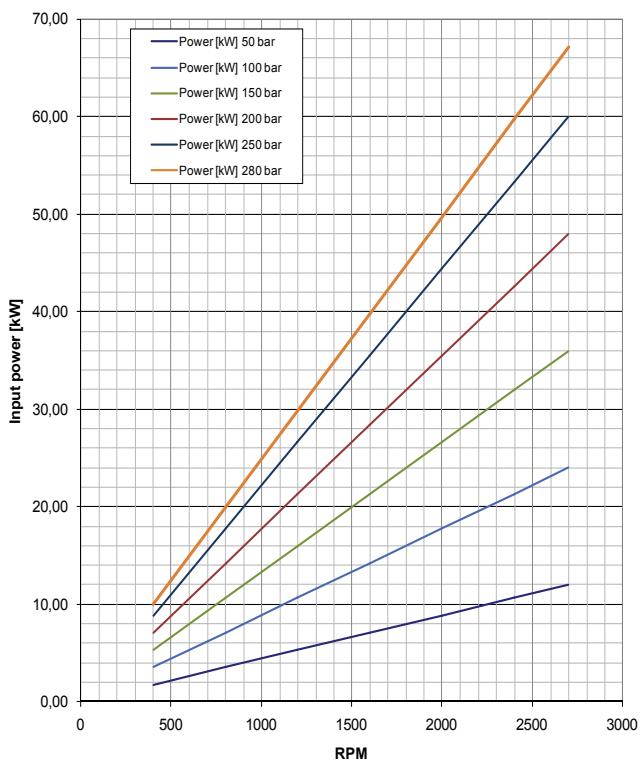
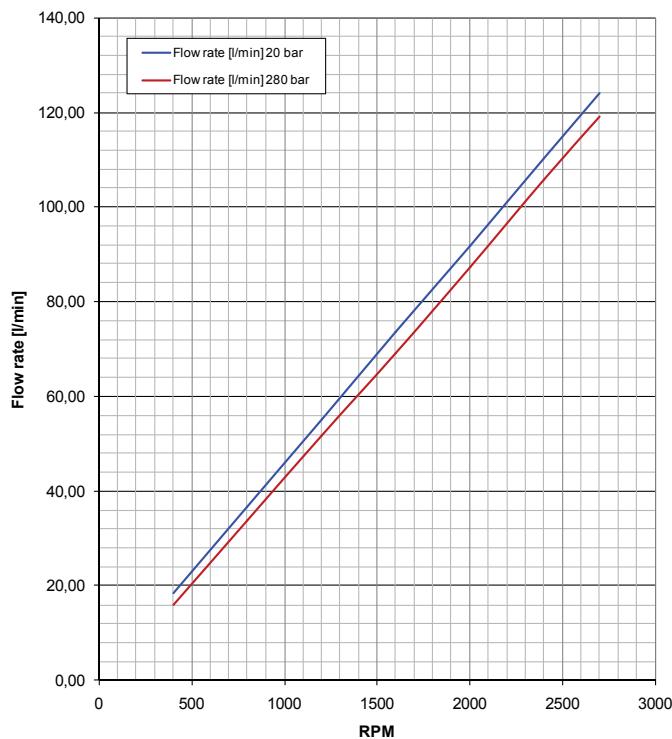
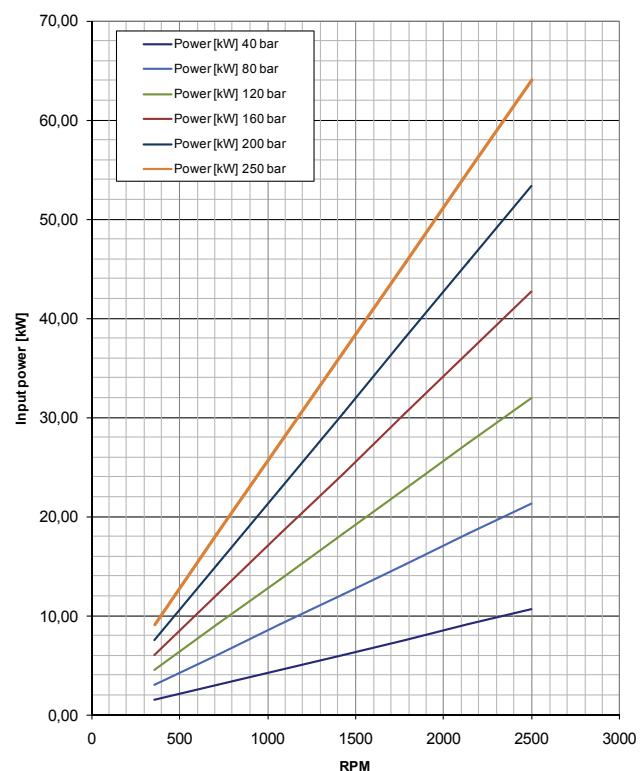
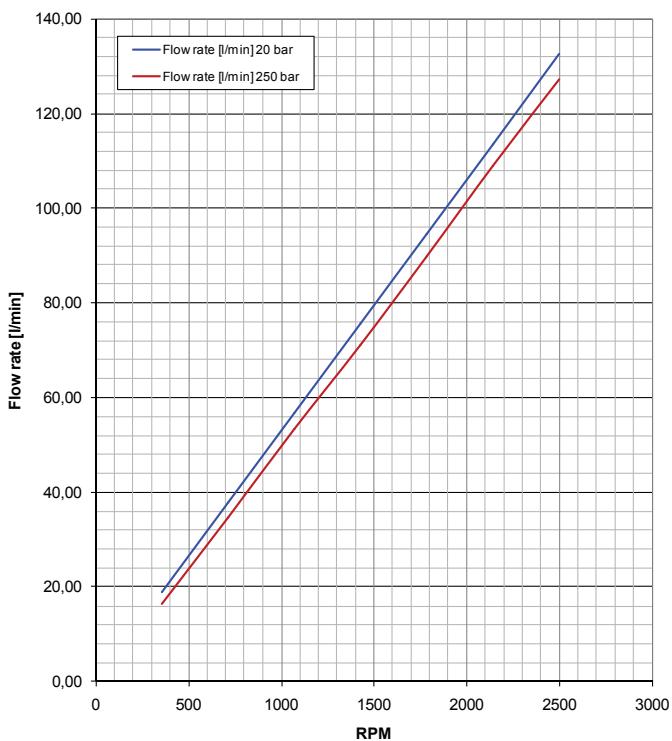
3PE - 21**3PE - 27**

3PE - 33

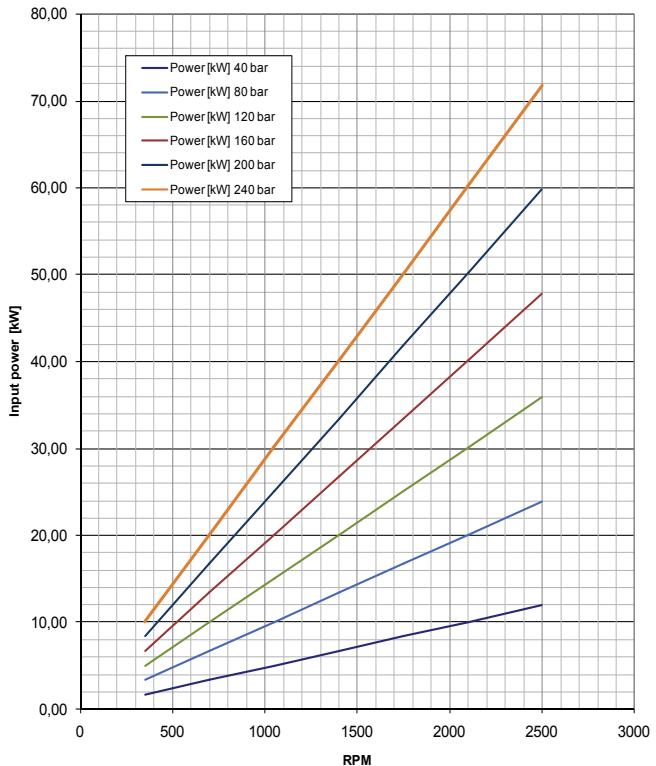
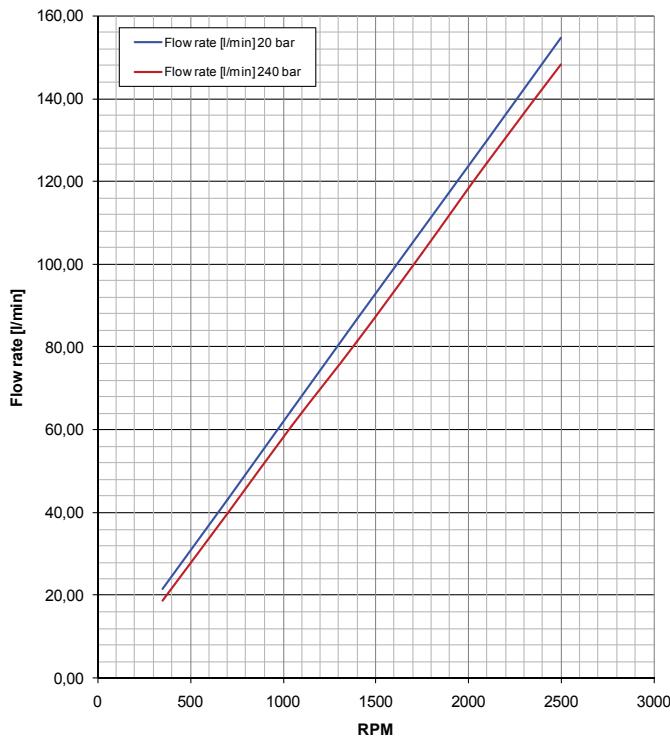


3PE - 38

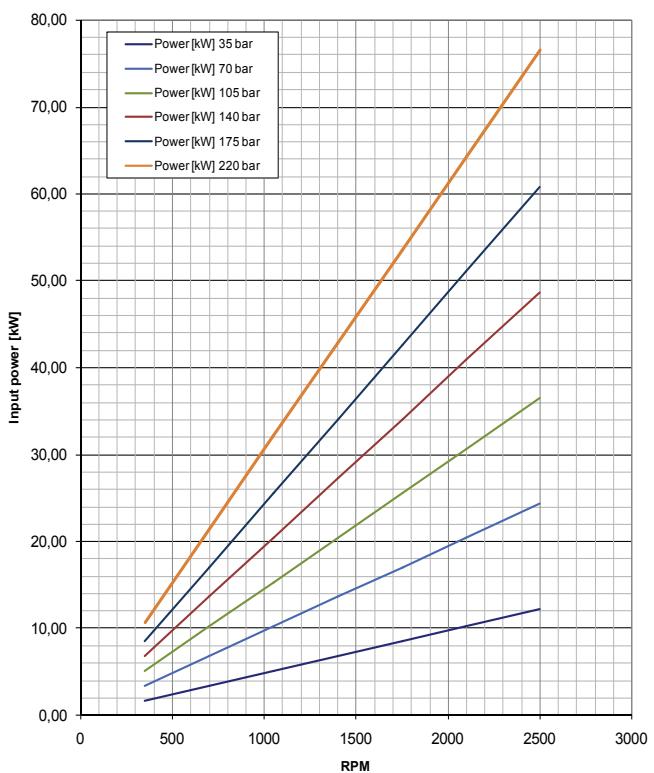
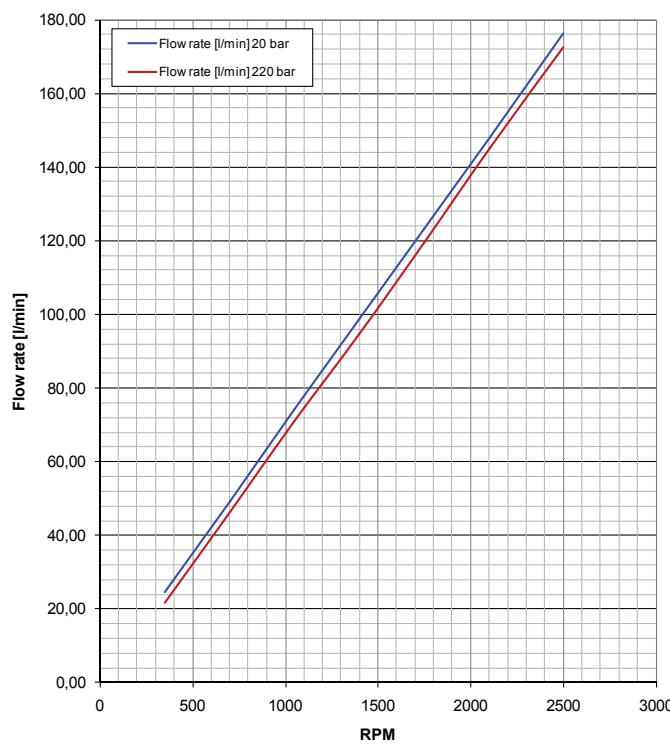


**GEAR PUMPS "E" SERIES
GEAR MOTORS "E" SERIES**
3PE**3PE - 46****3PE - 55**

3PE - 65



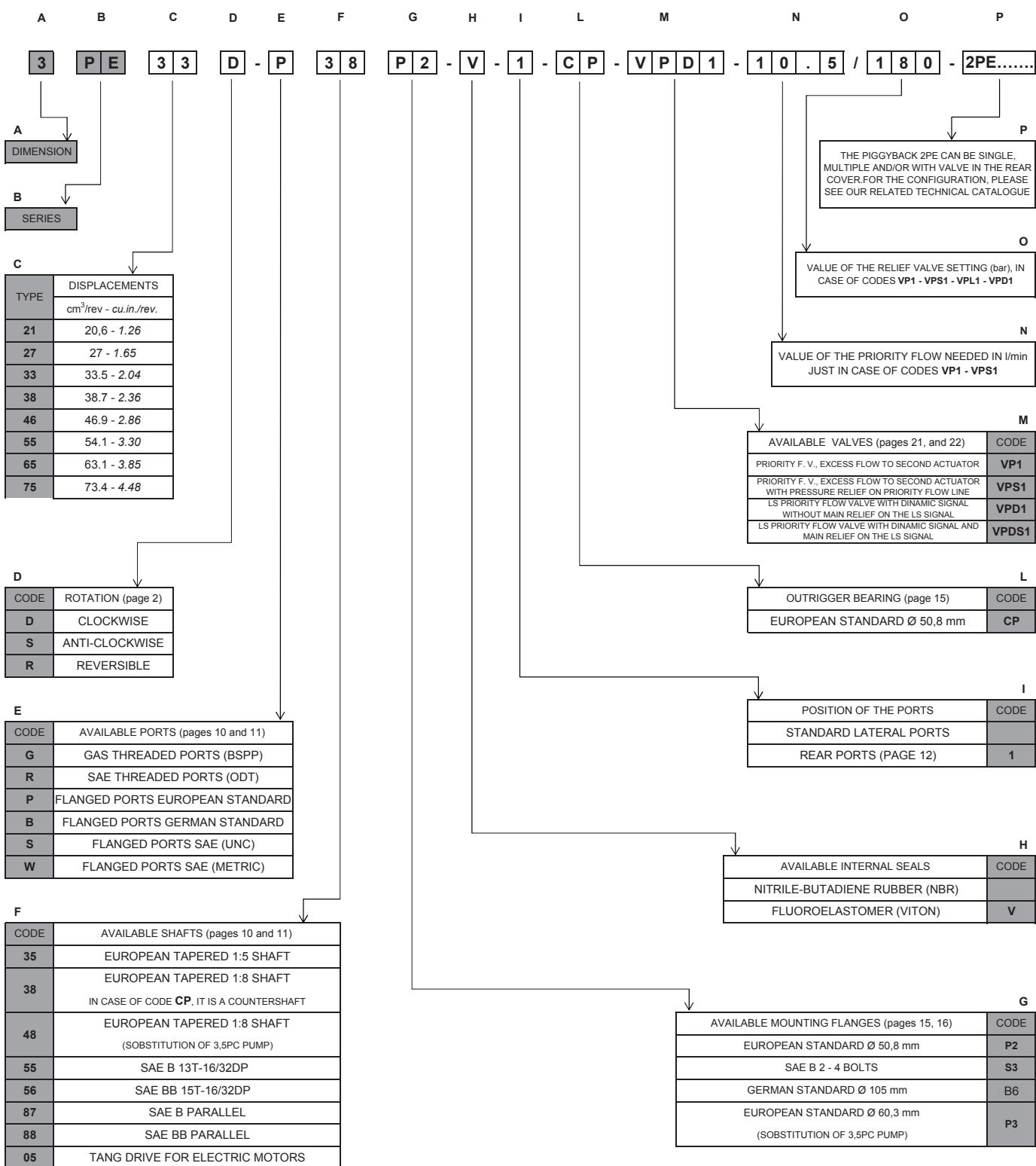
3PE - 75



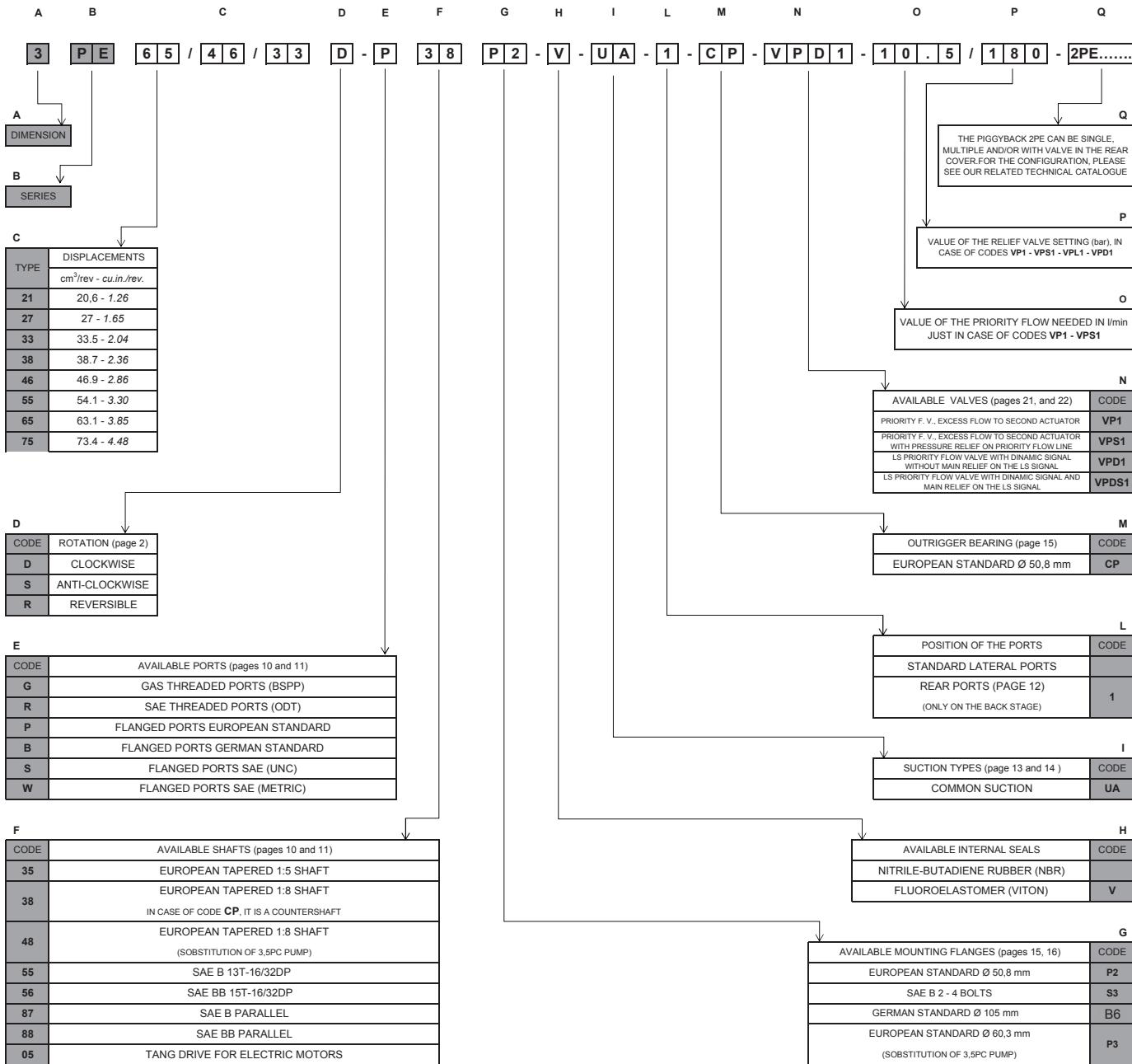
GEAR PUMPS "E" SERIES

3PE

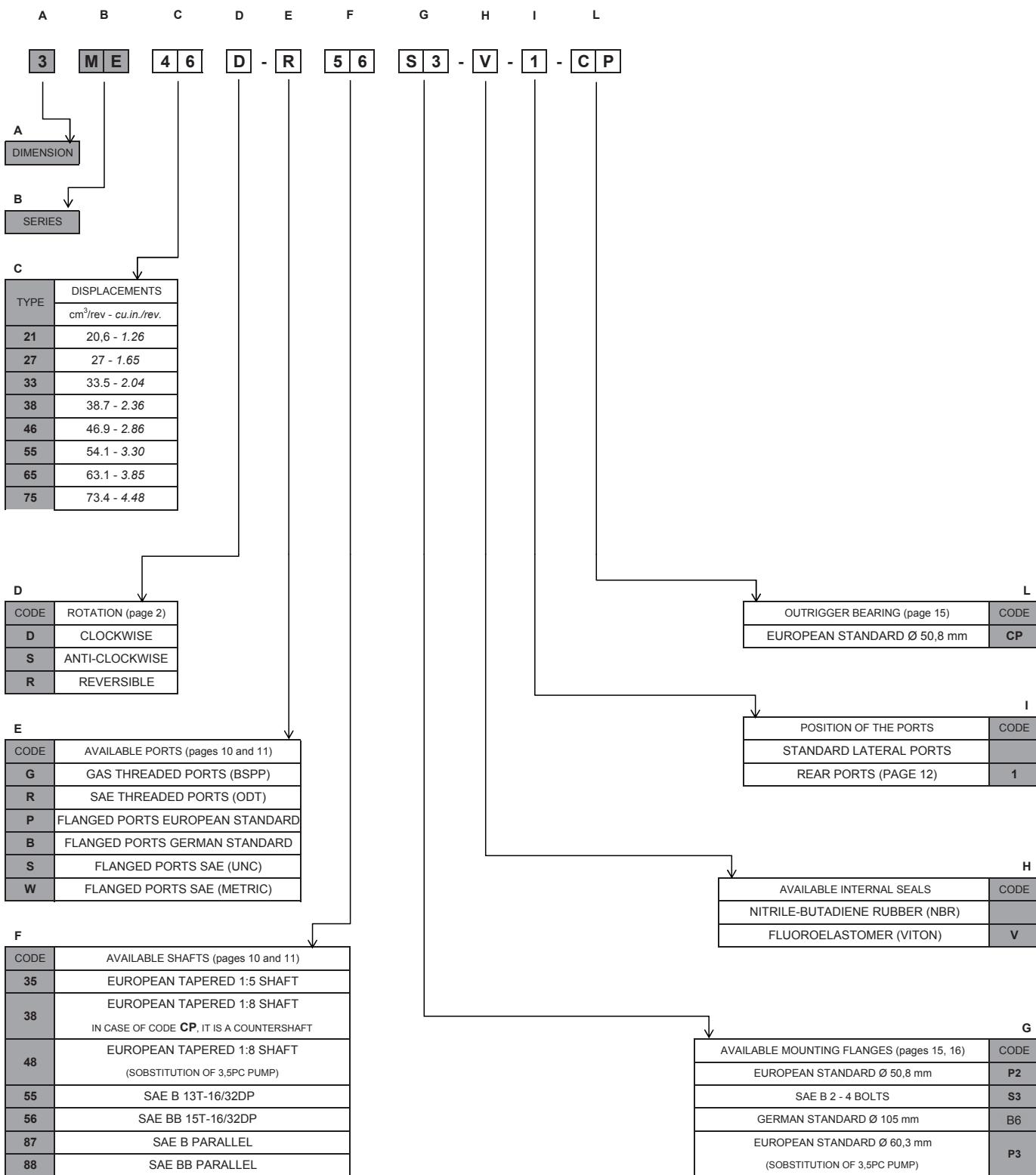
HOW TO ORDER 3PE SINGLE PUMP



HOW TO ORDER 3PE DOUBLE OR TRIPLE PUMP



HOW TO ORDER 3ME MOTOR

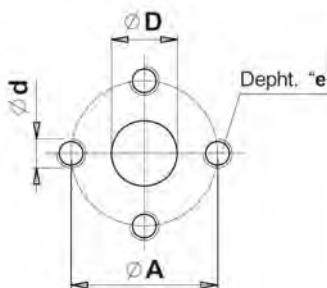
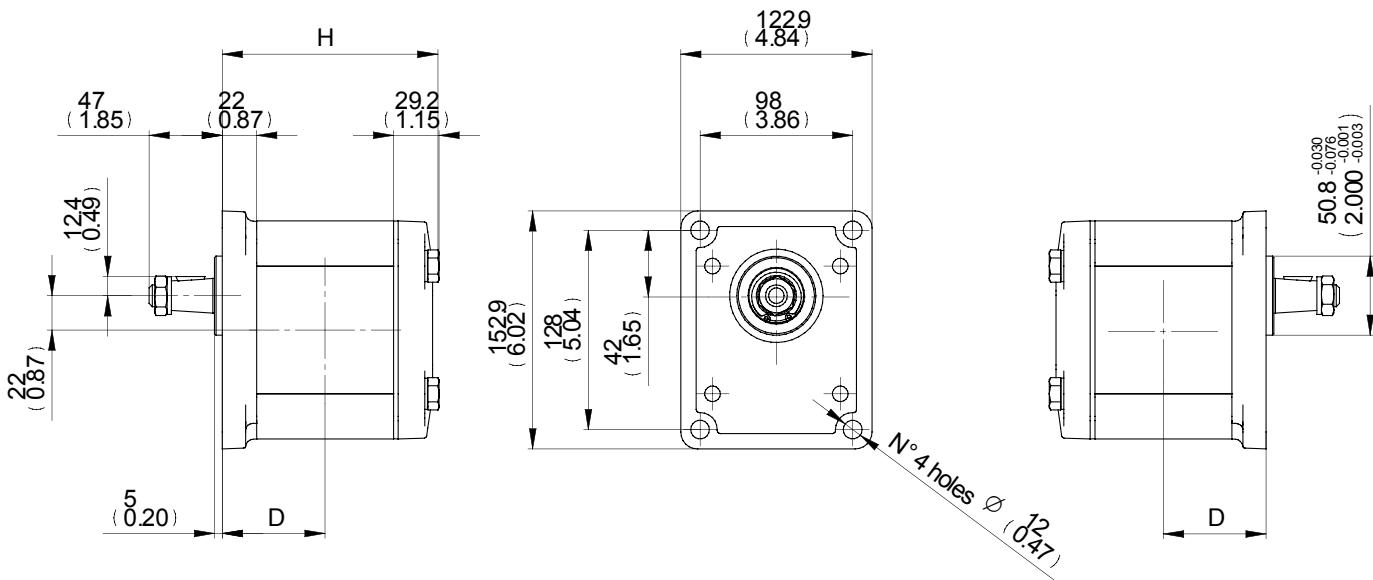


3PE

Aluminium gear pumps

Section B - Dealer management

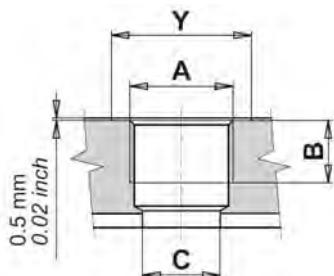
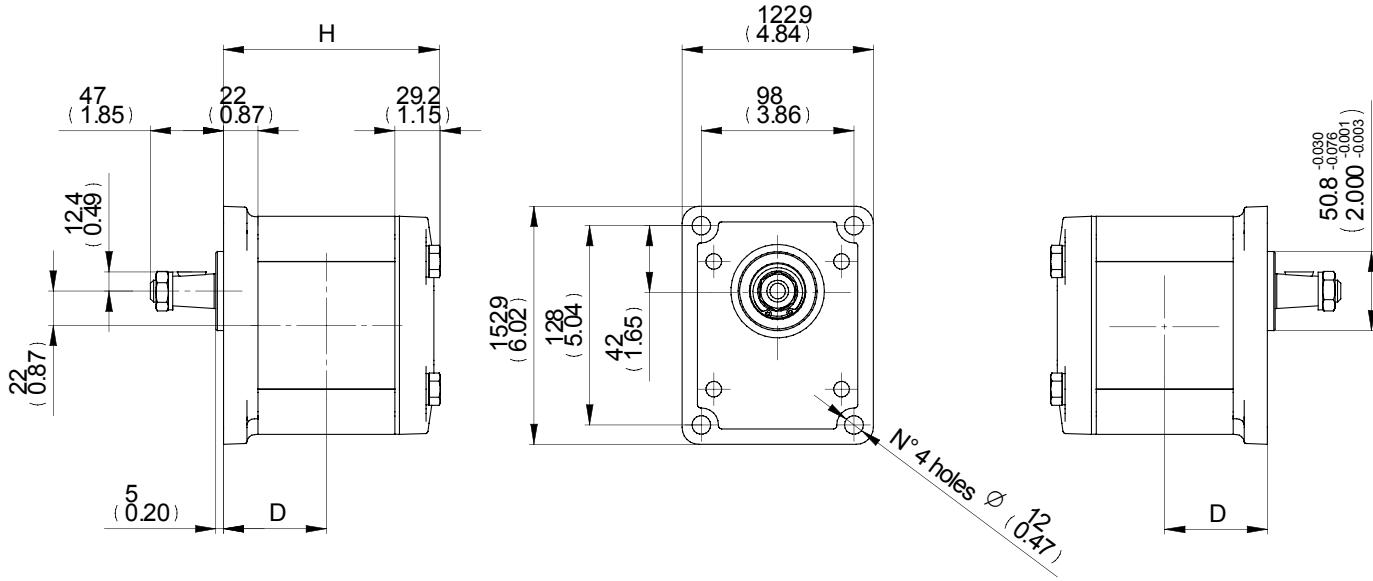
P38P2 - Clockwise and anti-clockwise rotation codes



TYPE	INLET				OUTLET			
	Ø D	Ø A	d	e	Ø D	Ø A	d	e
From 21 to 55	27 1,06	51 2,01	M10	16 0,63	16 0,63	40 1,57	M8	16 0,63
From 65 to 75	33 1,30	62 2,44	M12	16 0,63	21 0,83	51 2,01	M10	16 0,63

DISPLACEMENT	DIMENSIONS						ANTI-CLOCKWISE	CLOCKWISE		
	D		H		mm	in				
	mm	in	mm	in						
21	20,6	1,26	59	2,32	128,5	5,06	6130 1105 1	6130 1105 2		
27	27	1,65	61,5	2,42	133,5	5,26	6130 1106 1	6130 1106 2		
33	33,5	2,04	64	2,52	138,5	5,45	6130 1301 1	6130 1301 2		
38	38,7	2,36	66	2,60	142,5	5,61	6130 1401 1	6130 1401 2		
46	46,9	2,86	74	2,91	158,5	6,24	6130 1107 1	6130 1107 2		
55	54,1	3,30	77	3,03	164,5	6,48	6130 1108 1	6130 1108 2		
65	63,1	3,85	80,5	3,17	171,5	6,75	6130 1109 1	6130 1109 2		
75	73,4	4,48	84	3,31	178,5	7,03	6130 1110 1	6130 1110 2		

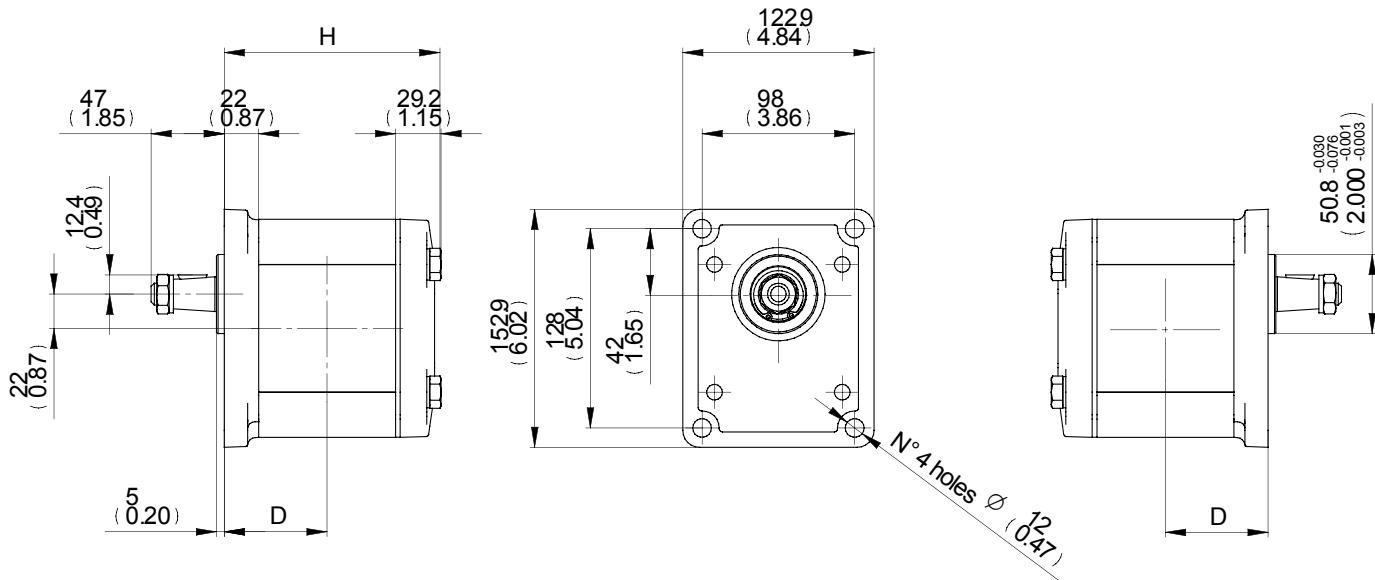
G38P2 - Clockwise and anti-clockwise rotation codes



TYPE	INLET				OUTLET			
	A	B	C	Y	A	B	C	Y
From 21 to 38	G1	22 0,87	30,5 1,20	44 1,73	G1	22 0,87	27 1,06	44 1,73
From 46 to 75	G1"1/4	24 0,94	37 1,46	54 2,13	G1	22 0,87	30,5 1,20	44 1,73

DISPLACEMENT	DIMENSIONS						ANTI-CLOCKWISE	CLOCKWISE
	D		H					
cm ³ /rev	cu.in./rev	mm	in	mm	in			
21	20,6	1,26	59	2,32	128,5	5,06	6130 1201 1	6130 1201 2
27	27	1,65	61,5	2,42	133,5	5,26	6130 1202 1	6130 1202 2
33	33,5	2,04	64	2,52	138,5	5,45	6130 1203 1	6130 1203 2
38	38,7	2,36	66	2,60	142,5	5,61	6130 1204 1	6130 1204 2
46	46,9	2,86	74	2,91	158,5	6,24	6130 1205 1	6130 1205 2
55	54,1	3,30	77	3,03	164,5	6,48	6130 1206 1	6130 1206 2
65	63,1	3,85	80,5	3,17	171,5	6,75	6130 1207 1	6130 1207 2
75	73,4	4,48	84	3,31	178,5	7,03	6130 1208 1	6130 1208 2

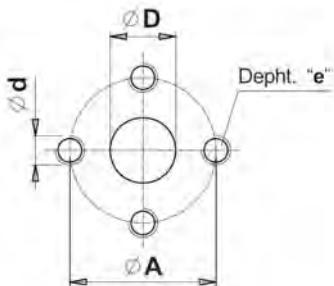
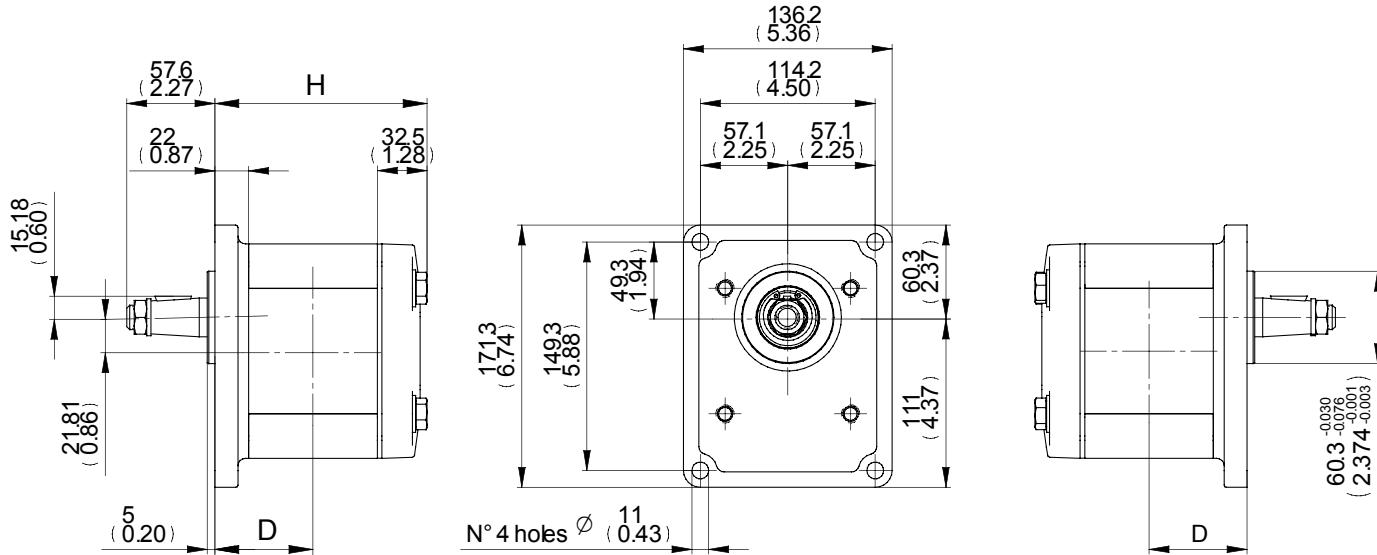
B38P2 - Clockwise and anti-clockwise rotation codes



TYPE	INLET				OUTLET			
	Ø D	Ø A	d	e	Ø D	Ø A	d	e
Displ. 21	22 0,87	55 2,17	M8	13 0,51	19 0,75	55 2,17	M8	13 0,51
From 27 to 75	27 1,06	55 2,17	M8	13 0,51	22 0,87	55 2,17	M8	13 0,51

DISPLACEMENT	DIMENSIONS						ANTI-CLOCKWISE	CLOCKWISE		
	D		H		mm	in				
	mm	in	mm	in						
21	20,6	1,26	59	2,32	128,5	5,06	6130 1211 1	6130 1211 2		
27	27	1,65	61,5	2,42	133,5	5,26	6130 1212 1	6130 1212 2		
33	33,5	2,04	64	2,52	138,5	5,45	6130 1213 1	6130 1213 2		
38	38,7	2,36	66	2,60	142,5	5,61	6130 1214 1	6130 1214 2		
46	46,9	2,86	74	2,91	158,5	6,24	6130 1215 1	6130 1215 2		
55	54,1	3,30	77	3,03	164,5	6,48	6130 1216 1	6130 1216 2		
65	63,1	3,85	80,5	3,17	171,5	6,75	6130 1217 1	6130 1217 2		
75	73,4	4,48	84	3,31	178,5	7,03	6130 1218 1	6130 1218 2		

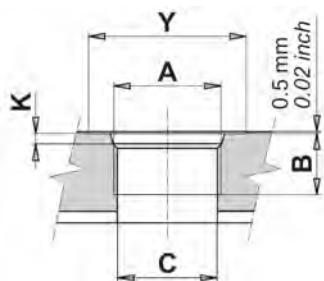
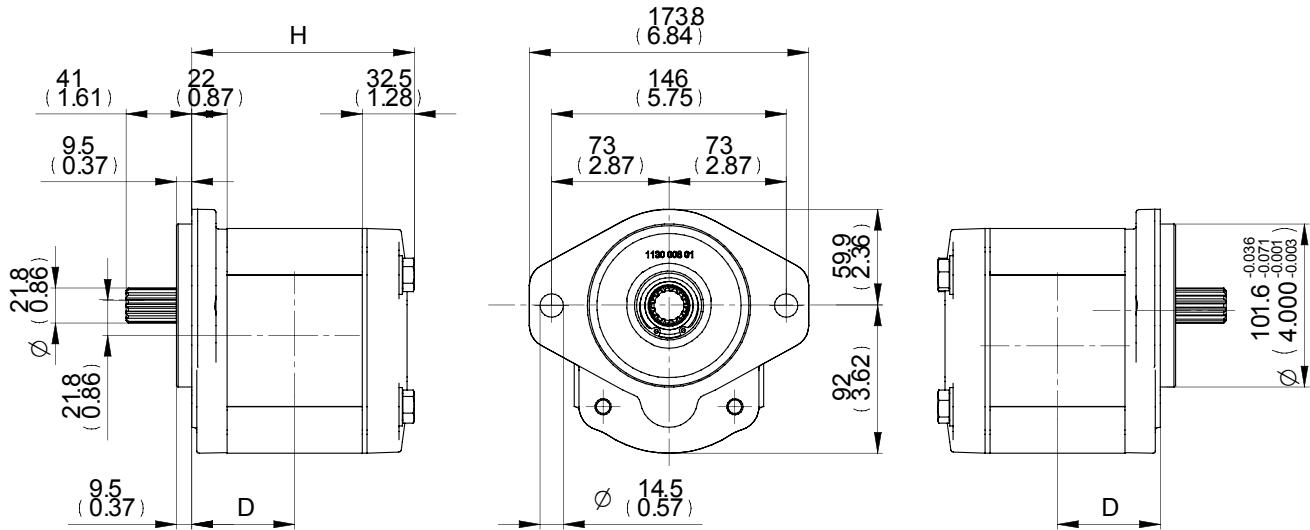
P48P3 - Clockwise and anti-clockwise rotation codes



TYPE	INLET				OUTLET			
	Ø D	Ø A	d	e	Ø D	Ø A	d	e
From 21 to 55	27 1,06	51 2,01	M10	16 0,63	16 0,63	40 1,57	M8	16 0,63
From 65 to 75	33 1,30	62 2,44	M12	16 0,63	21 0,83	51 2,01	M10	16 0,63

DISPLACEMENT	DIMENSIONS						ANTI-CLOCKWISE	CLOCKWISE		
	D		H		mm	in				
	cm³/rev	cu.in./rev	mm	in						
21	20,6	1,26	59	2,32	128,5	5,06	6130 1221 1	6130 1221 2		
27	27	1,65	61,5	2,42	133,5	5,26	6130 1222 1	6130 1222 2		
33	33,5	2,04	64	2,52	138,5	5,45	6130 1223 1	6130 1223 2		
38	38,7	2,36	66	2,60	142,5	5,61	6130 1224 1	6130 1224 2		
46	46,9	2,86	74	2,91	158,5	6,24	6130 1225 1	6130 1225 2		
55	54,1	3,30	77	3,03	164,5	6,48	6130 1226 1	6130 1226 2		
65	63,1	3,85	80,5	3,17	171,5	6,75	6130 1227 1	6130 1227 2		
75	73,4	4,48	84	3,31	178,5	7,03	6130 1228 1	6130 1228 2		

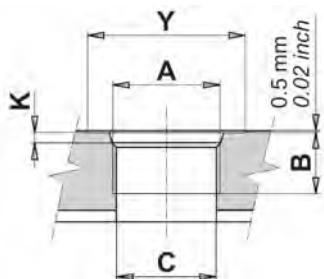
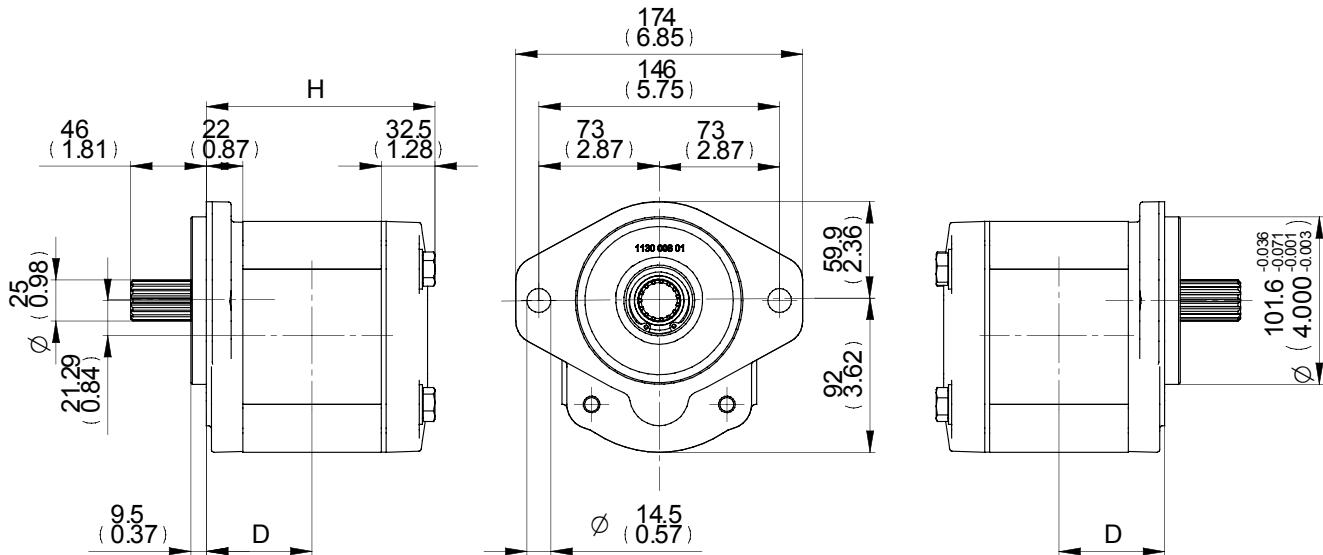
R55S3 - Clockwise and anti-clockwise rotation codes



TYPE	INLET					OUTLET				
	A	B	C	Y	K	A	B	C	Y	K
From 21 to 38	1-5/16 12 UN	19 0,75	25 0,98	49 1,93	3,3 0,13	1-1/16 12 UN	19 0,75	21 0,83	41 1,61	3,3 0,13
From 46 to 75	1-5/8 12 UN	19 0,75	27 1,06	58 2,28	3,3 0,13	1-5/16 12 UN	19 0,75	25 0,98	49 1,93	3,3 0,13

DISPLACEMENT	DIMENSIONS						ANTI-CLOCKWISE	CLOCKWISE		
	D		H		mm	in				
	cm³/rev	cu.in./rev	mm	in						
21	20,6	1,26	59	2,32	128,5	5,06	6130 1111 1	6130 1111 2		
27	27	1,65	61,5	2,42	133,5	5,26	6130 1112 1	6130 1112 2		
33	33,5	2,04	64	2,52	138,5	5,45	6130 1103 1	6130 1103 2		
38	38,7	2,36	66	2,60	142,5	5,61	6130 1113 1	6130 1113 2		
46	46,9	2,86	74	2,91	158,5	6,24	6130 7967 1	6130 7967 2		
55	54,1	3,30	77	3,03	164,5	6,48	6130 1104 1	6130 1104 2		
65	63,1	3,85	80,5	3,17	171,5	6,75	6130 1114 1	6130 1114 2		
75	73,4	4,48	84	3,31	178,5	7,03	6130 1115 1	6130 1115 2		

R56S3 - Clockwise and anti-clockwise rotation codes

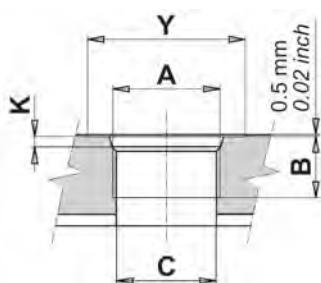
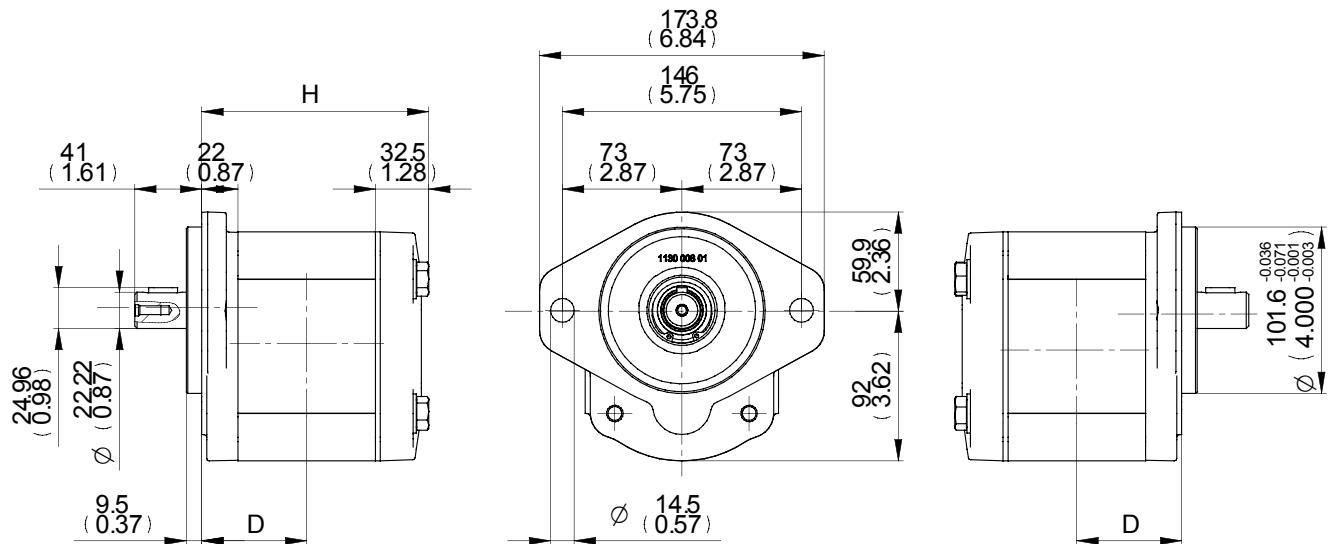


TYPE	INLET					OUTLET				
	A	B	C	Y	K	A	B	C	Y	K
From 21 to 38	1-5/16 12 UN	19 0,75	25 0,98	49 1,93	3,3 0,13	1-1/16 12 UN	19 0,75	21 0,83	41 1,61	3,3 0,13
From 46 to 75	1-5/8 12 UN	19 0,75	27 1,06	58 2,28	3,3 0,13	1-5/16 12 UN	19 0,75	25 0,98	49 1,93	3,3 0,13

DISPLACEMENT		DIMENSIONS				ANTI-CLOCKWISE	CLOCKWISE
		D	H	mm	in		
21	20,6	1,26	59	2,32	128,5	5,06	6130 1241 1
27	27	1,65	61,5	2,42	133,5	5,26	6130 1242 1
33	33,5	2,04	64	2,52	138,5	5,45	6130 1243 1
38	38,7	2,36	66	2,60	142,5	5,61	6130 1244 1
46	46,9	2,86	74	2,91	158,5	6,24	6130 1245 1
55	54,1	3,30	77	3,03	164,5	6,48	6130 1246 1
65	63,1	3,85	80,5	3,17	171,5	6,75	6130 1247 1
75	73,4	4,48	84	3,31	178,5	7,03	6130 1248 1



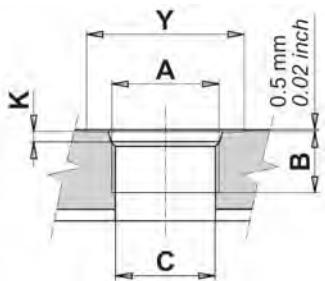
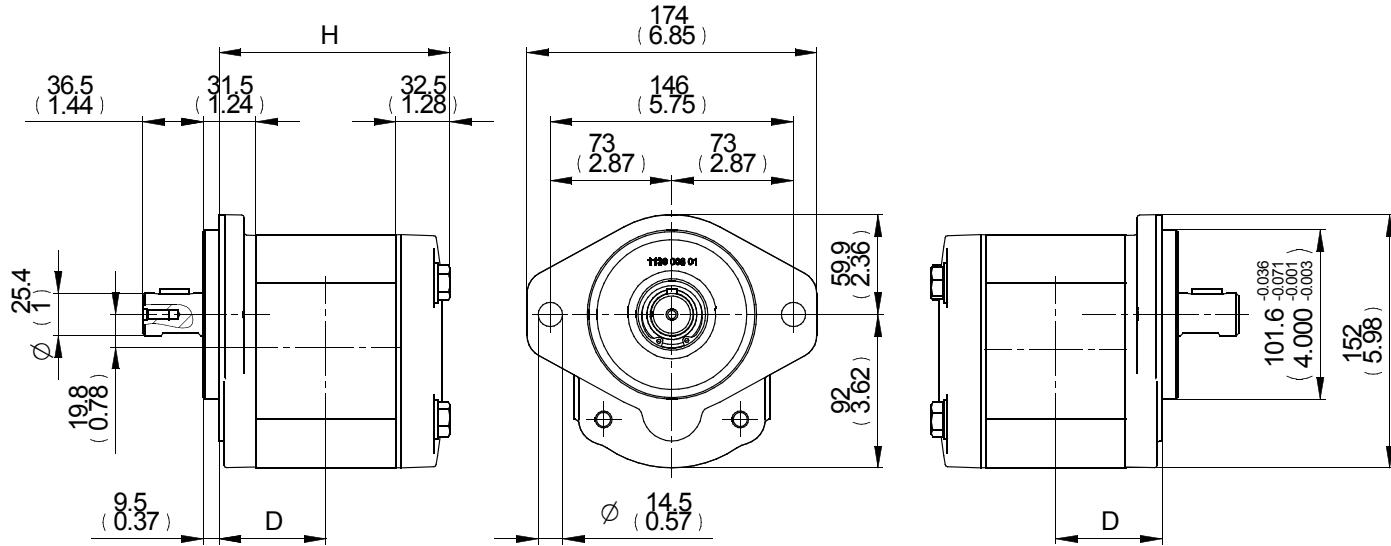
R87S3 - Clockwise and anti-clockwise rotation codes



TYPE	INLET					OUTLET				
	A	B	C	Y	K	A	B	C	Y	K
From 21 to 38	1-5/16 12 UN	19 0,75	25 0,98	49 1,93	3,3 0,13	1-1/16 12 UN	19 0,75	21 0,83	41 1,61	3,3 0,13
From 46 to 75	1-5/8 12 UN	19 0,75	27 1,06	58 2,28	3,3 0,13	1-5/16 12 UN	19 0,75	25 0,98	49 1,93	3,3 0,13

DISPLACEMENT			DIMENSIONS				ANTI-CLOCKWISE	CLOCKWISE
			D		H			
	cm³/rev	cu.in./rev	mm	in	mm	in		
21	20,6	1,26	59	2,32	128,5	5,06	6130 1261 1	6130 1261 2
27	27	1,65	61,5	2,42	133,5	5,26	6130 1262 1	6130 1262 2
33	33,5	2,04	64	2,52	138,5	5,45	6130 1263 1	6130 1263 2
38	38,7	2,36	66	2,60	142,5	5,61	6130 1264 1	6130 1264 2
46	46,9	2,86	74	2,91	158,5	6,24	6130 1265 1	6130 1265 2
55	54,1	3,30	77	3,03	164,5	6,48	6130 1266 1	6130 1266 2
65	63,1	3,85	80,5	3,17	171,5	6,75	6130 1267 1	6130 1267 2
75	73,4	4,48	84	3,31	178,5	7,03	6130 1268 1	6130 1268 2

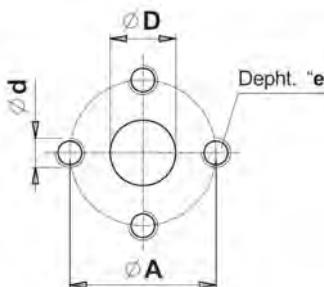
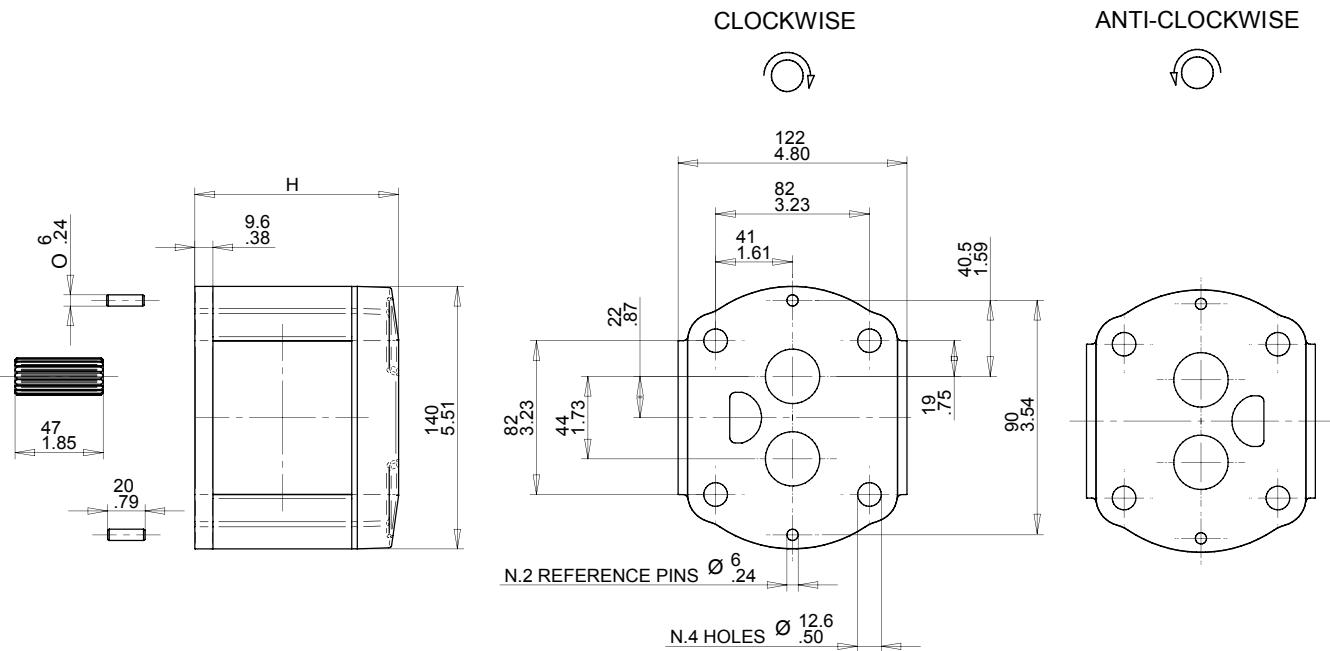
R88S3 - Clockwise and anti-clockwise rotation codes



TYPE	INLET					OUTLET				
	A	B	C	Y	K	A	B	C	Y	K
From 21 to 38	1-5/16 12 UN	19 0,75	25 0,98	49 1,93	3,3 0,13	1-1/16 12 UN	19 0,75	21 0,83	41 1,61	3,3 0,13
From 46 to 75	1-5/8 12 UN	19 0,75	27 1,06	58 2,28	3,3 0,13	1-5/16 12 UN	19 0,75	25 0,98	49 1,93	3,3 0,13

DISPLACEMENT	DIMENSIONS						ANTI-CLOCKWISE	CLOCKWISE		
	D		H		mm	in				
	cm³/rev	cu.in./rev	mm	in						
21	20,6	1,26	59	2,32	128,5	5,06	6130 1281 1	6130 1281 2		
27	27	1,65	61,5	2,42	133,5	5,26	6130 1282 1	6130 1282 2		
33	33,5	2,04	64	2,52	138,5	5,45	6130 1283 1	6130 1283 2		
38	38,7	2,36	66	2,60	142,5	5,61	6130 1284 1	6130 1284 2		
46	46,9	2,86	74	2,91	158,5	6,24	6130 1285 1	6130 1285 2		
55	54,1	3,30	77	3,03	164,5	6,48	6130 1286 1	6130 1286 2		
65	63,1	3,85	80,5	3,17	171,5	6,75	6130 1287 1	6130 1287 2		
75	73,4	4,48	84	3,31	178,5	7,03	6130 1288 1	6130 1288 2		

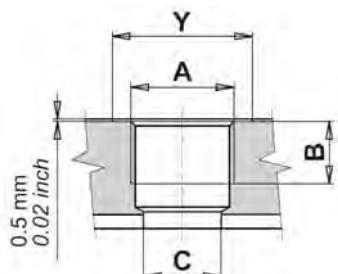
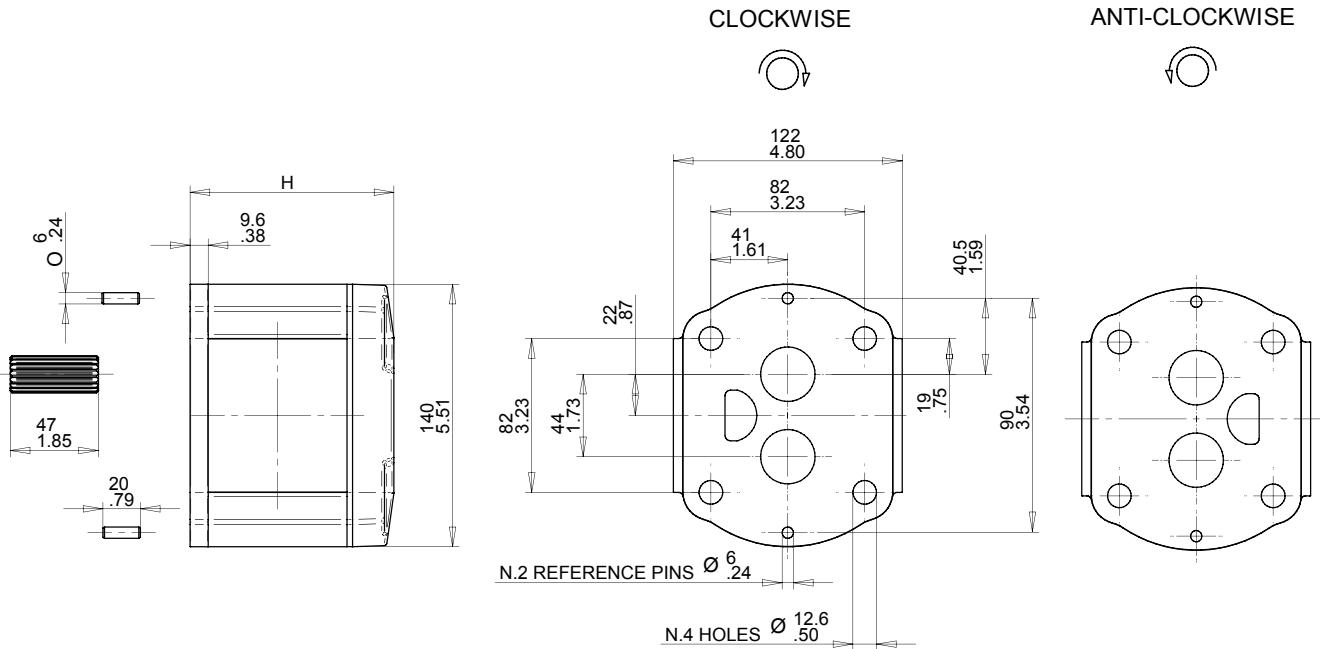
P65R - Clockwise and anti-clockwise rotation codes



TYPE	INLET				OUTLET			
	Ø D	Ø A	d	e	Ø D	Ø A	d	e
From 21 to 55	27 1,06	51 2,01	M10	16 0,63	16 0,63	40 1,57	M8	16 0,63
From 65 to 75	33 1,30	62 2,44	M12	16 0,63	21 0,83	51 2,01	M10	16 0,63

DISPLACEMENT	DIMENSIONS						ANTI-CLOCKWISE	CLOCKWISE		
	D		H		mm	in				
	cm³/rev	cu.in./rev	mm	in						
21	20,6	1,26	46,6	1,83	116,1	4,57	6130 300 01	6130 300 02		
27	27	1,65	49,1	1,93	121,1	4,77	6130 300 11	6130 300 12		
33	33,5	2,04	51,6	2,03	126,1	4,96	6130 300 21	6130 300 22		
38	38,7	2,36	53,6	2,11	130,1	5,12	6130 300 31	6130 300 32		
46	46,9	2,86	61,6	2,43	146,1	5,75	6130 300 41	6130 300 42		
55	54,1	3,30	64,6	2,54	152,1	5,99	6130 300 51	6130 300 52		
65	63,1	3,85	68,1	2,68	159,1	6,26	6130 300 61	6130 300 62		
75	73,4	4,48	71,6	2,82	166,1	6,54	6130 300 71	6130 300 72		

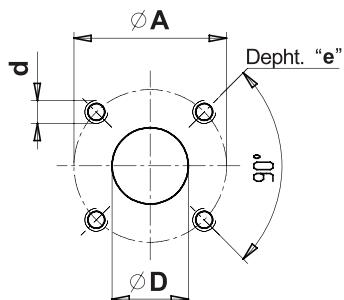
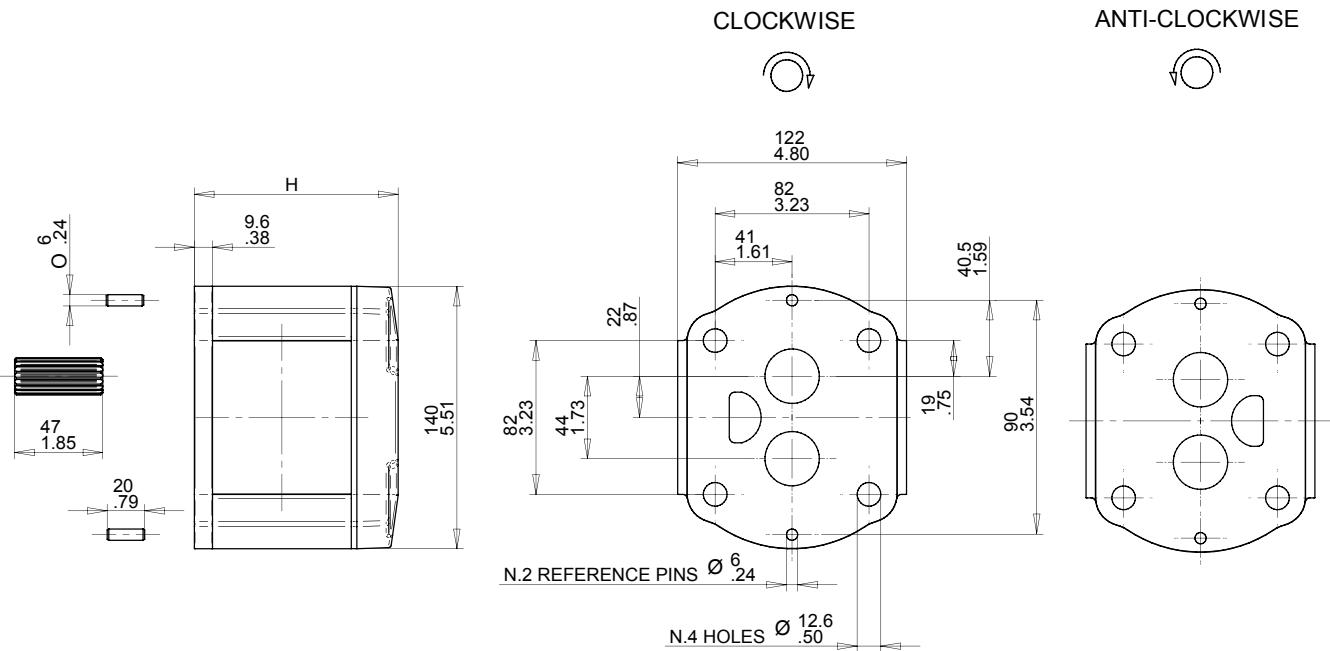
G65R - Clockwise and anti-clockwise rotation codes



TYPE	INLET				OUTLET			
	A	B	C	Y	A	B	C	Y
From 21 to 38	G1	22 0,87	30,5 1,20	44 1,73	G1	22 0,87	27 1,06	44 1,73
From 46 to 75	G1 1/4	24 0,94	37 1,46	54 2,13	G1	22 0,87	30,5 1,20	44 1,73

DISPLACEMENT	DIMENSIONS						ANTI-CLOCKWISE	CLOCKWISE		
	D		H		mm	in				
	cm ³ /rev	cu.in./rev	mm	in						
21	20,6	1,26	46,6	1,83	116,1	4,57	6130 310 01	6130 310 02		
27	27	1,65	49,1	1,93	121,1	4,77	6130 310 11	6130 310 12		
33	33,5	2,04	51,6	2,03	126,1	4,96	6130 310 21	6130 310 22		
38	38,7	2,36	53,6	2,11	130,1	5,12	6130 310 31	6130 310 32		
46	46,9	2,86	61,6	2,43	146,1	5,75	6130 310 41	6130 310 42		
55	54,1	3,30	64,6	2,54	152,1	5,99	6130 310 51	6130 310 52		
65	63,1	3,85	68,1	2,68	159,1	6,26	6130 310 61	6130 310 62		
75	73,4	4,48	71,6	2,82	166,1	6,54	6130 310 71	6130 310 72		

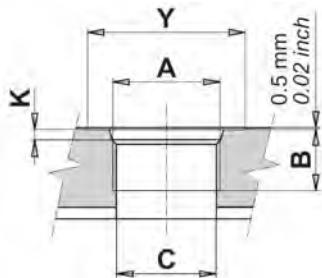
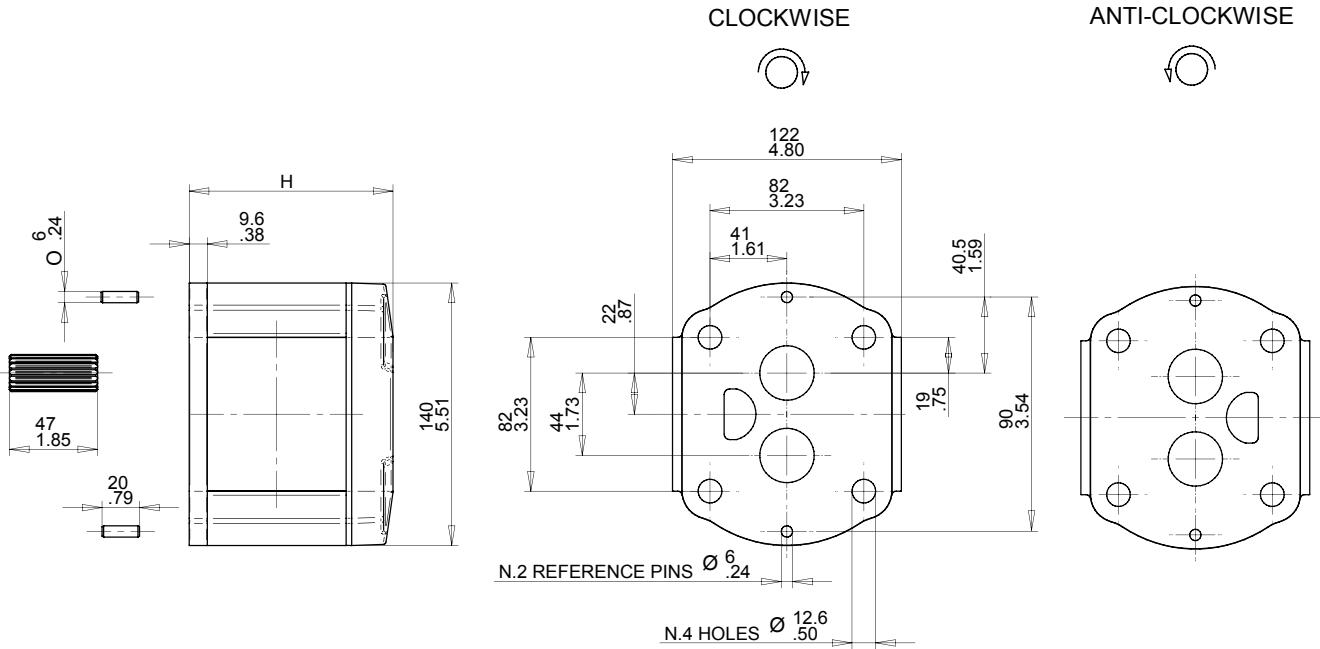
B65R - Clockwise and anti-clockwise rotation codes



TYPE	INLET				OUTLET			
	Ø D	Ø A	d	e	Ø D	Ø A	d	e
Displ. 21	22 0,87	55 2,17	M8	13 0,51	19	55 2,17	M8	13 0,51
From 27 to 75	27 1,06	55 2,17	M8	13 0,51	22	55 2,17	M8	13 0,51

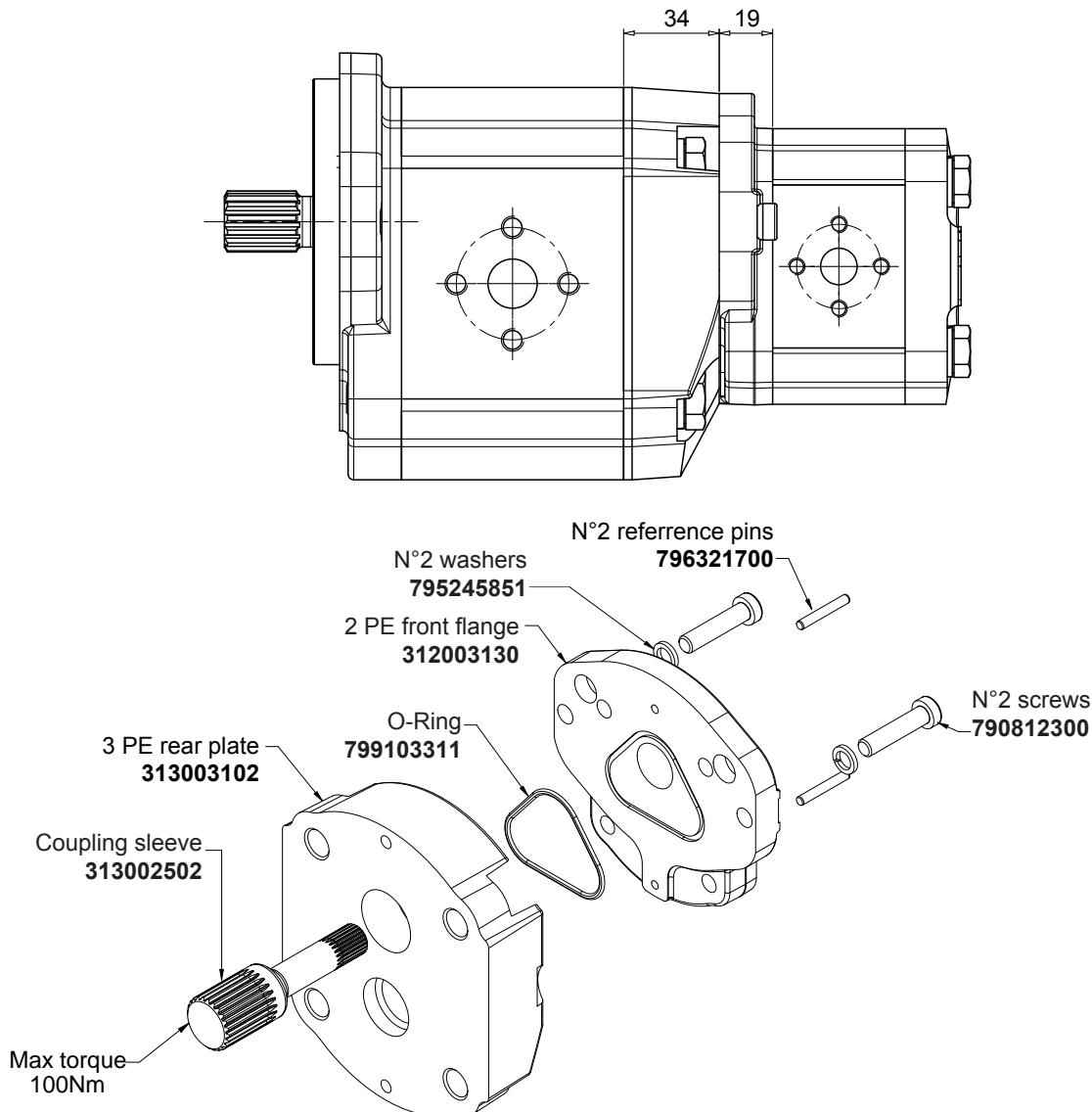
DISPLACEMENT	DIMENSIONS						ANTI-CLOCKWISE	CLOCKWISE		
	D		H		mm	in				
	cm³/rev	cu.in./rev	mm	in						
21	20,6	1,26	46,6	1,83	116,1	4,57	6130 320 01	6130 320 02		
27	27	1,65	49,1	1,93	121,1	4,77	6130 320 11	6130 320 12		
33	33,5	2,04	51,6	2,03	126,1	4,96	6130 320 21	6130 320 22		
38	38,7	2,36	53,6	2,11	130,1	5,12	6130 320 31	6130 320 32		
46	46,9	2,86	61,6	2,43	146,1	5,75	6130 320 41	6130 320 42		
55	54,1	3,30	64,6	2,54	152,1	5,99	6130 320 51	6130 320 52		
65	63,1	3,85	68,1	2,68	159,1	6,26	6130 320 61	6130 320 62		
75	73,4	4,48	71,6	2,82	166,1	6,54	6130 320 71	6130 320 72		

R65R - Clockwise and anti-clockwise rotation codes

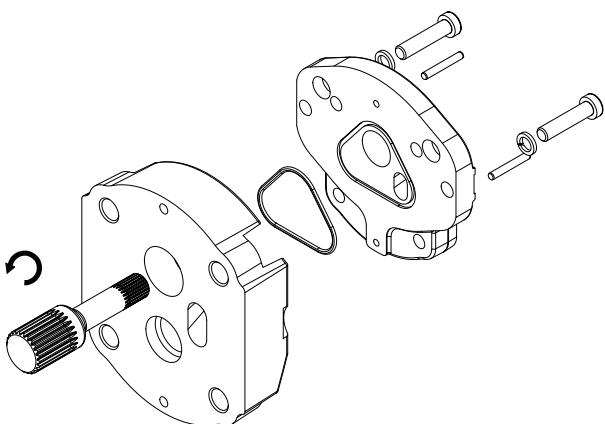


TYPE	INLET					OUTLET				
	A	B	C	Y	K	A	B	C	Y	K
From 21 to 38	1-5/16 12 UN	19 0,75	25 0,98	49 1,93	3,3 0,13	1-1/16 12 UN	19 0,75	21 0,83	41 1,61	3,3 0,13
From 46 to 75	1-5/8 12 UN	19 0,75	27 1,06	58 2,28	3,3 0,13	1-5/16 12 UN	19 0,75	25 0,98	49 1,93	3,3 0,13

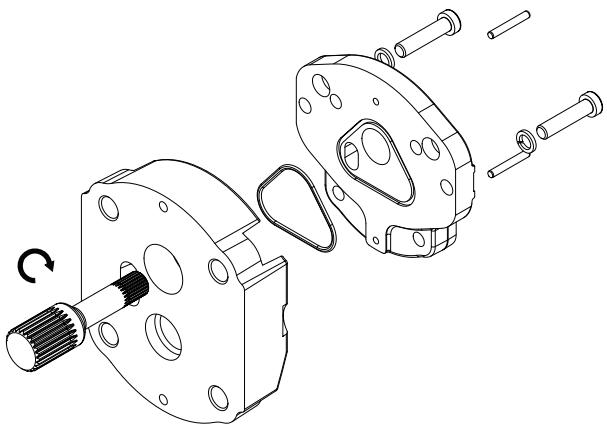
DISPLACEMENT		DIMENSIONS				ANTI-CLOCKWISE	CLOCKWISE	
		D		H				
cm ³ /rev	cu.in./rev	mm	in	mm	in			
21	20,6	1,26	46,6	1,83	116,1	4,57	6130 330 01	6130 330 02
27	27	1,65	49,1	1,93	121,1	4,77	6130 330 11	6130 330 12
33	33,5	2,04	51,6	2,03	126,1	4,96	6130 330 21	6130 330 22
38	38,7	2,36	53,6	2,11	130,1	5,12	6130 330 31	6130 330 32
46	46,9	2,86	61,6	2,43	146,1	5,75	6130 330 41	6130 330 42
55	54,1	3,30	64,6	2,54	152,1	5,99	6130 330 51	6130 330 52
65	63,1	3,85	68,1	2,68	159,1	6,26	6130 330 61	6130 330 62
75	73,4	4,48	71,6	2,82	166,1	6,54	6130 330 71	6130 330 72

R130 9001 0 - Assembling kit 3PE/2PE**Assembling kit 3PE/2PE common inlet UA**

R130 9004 0
rotation left - SX



R130 9003 0
rotation right - DX

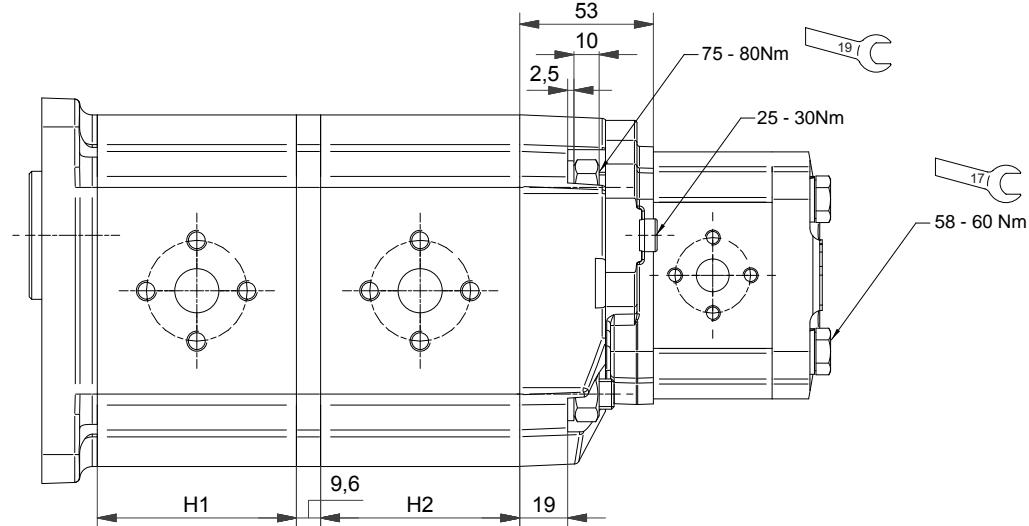


Tie-rod cutting length instructions (3PE DOUBLE + 2PE)

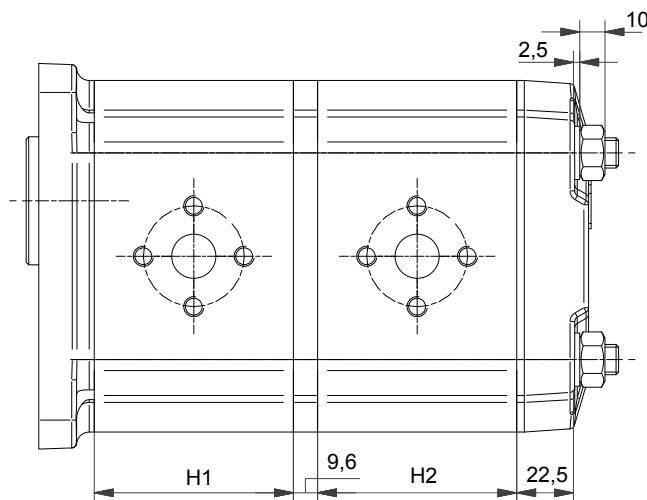
Tabella dati per calcolo lunghezze tiranti 3PE doppia

Table for the double 3PE tie-rod calculation

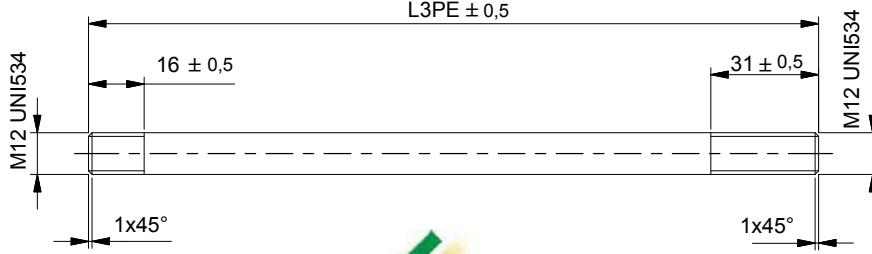
TYPE	21	27	33	38	46	55	65	75
H Dimension H lenght of the body (from the technical catalogue)	74 mm	79 2,91	84 3,11	88 3,31	104 4,09	110 4,33	117 4,61	124 4,88

**Tie rods lenght's formula (mm):** $L_{3PE} = (H_1 + H_2 + \dots + H_N) + [9.6 \times (N-1)] + 52$ (mm)

N= quantities of 3PE's stage

Tie-rod cutting length instructions (3PE DOUBLE)**Tie rods lenght's formula (mm):** $L_{3PE} = (H_1 + H_2 + \dots + H_N) + [9.6 \times (N-1)] + 55,5$ (mm)

N= quantities of 3PE's stage

Tie-rod

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