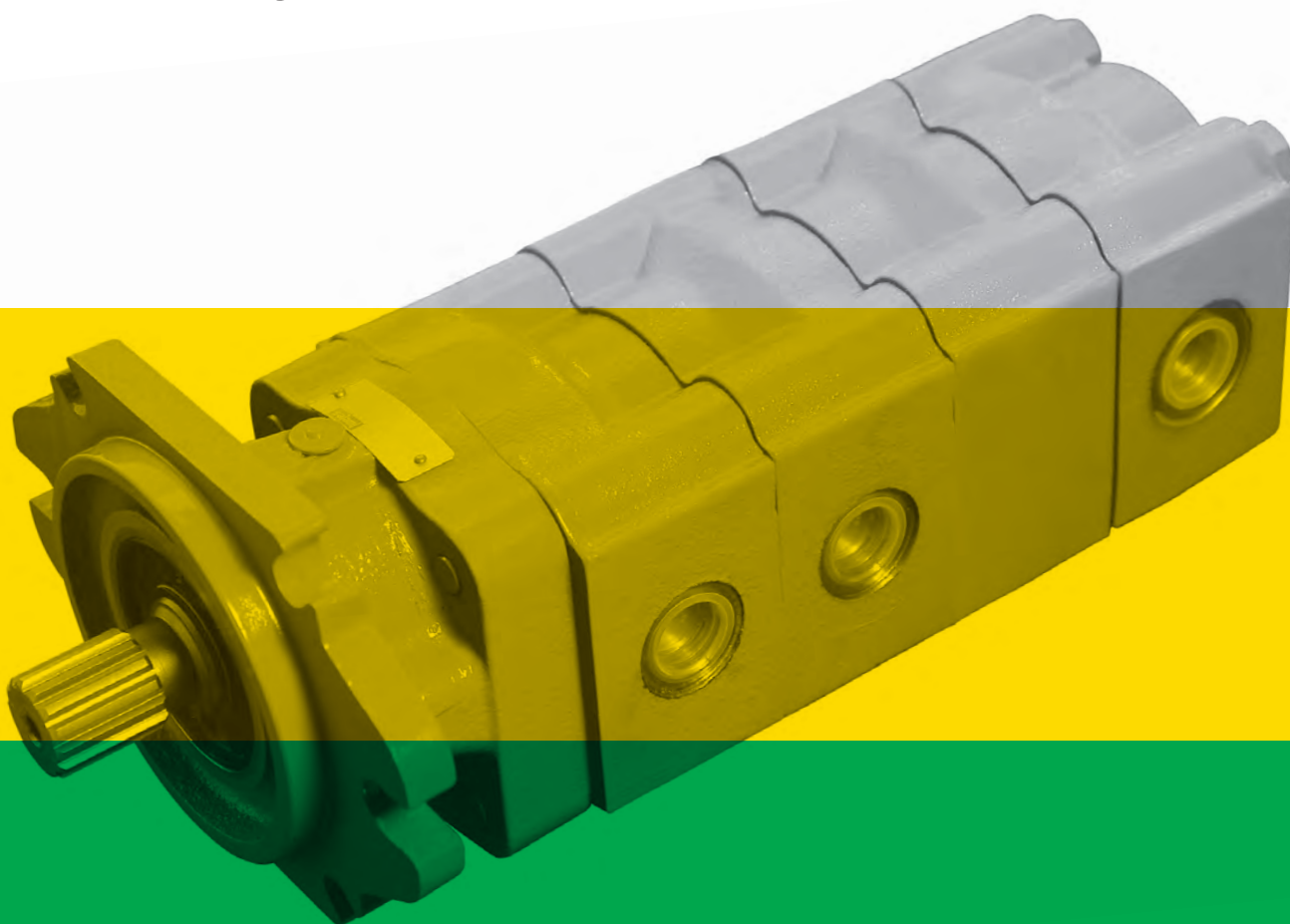

PG330/MG330

Cast Iron Gear Pumps and Motors

Technical Catalogue

E0.151.0113.02.00IM01



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



L'**Azienda Salami Spa** rappresenta un'eccellenza italiana nel settore della potenza idraulica applicata a macchine mobili e veicoli industriali.

E' stata fondata nel 1956 con precise linee guida che hanno condotto il marchio Salami a identificarsi come simbolo di **Garanzia e Affidabilità** nel proprio settore, in Italia e nel Mondo.

Salami Spa è rimasta fedele nel tempo ai tre punti di forza dettati dal suo fondatore che hanno reso riconoscibile e grande il marchio Salami nel mondo: **Qualità, Innovazione, Servizio**.

Attraverso le proprie sedi di Spagna, Francia, Stati Uniti d'America, Canada e ai suoi partner commerciali, distribuisce i propri prodotti mettendo al servizio del mondo intero l'eccellenza ingegneristica italiana.

In questo volume vi presentiamo la nostra **nuova linea di pompe in ghisa:**

PG330/MG330 e PG331.

Si tratta di pompe a ingranaggi esterni con cilindrata da 23 a 80 cc, pressioni di lavoro fino a 280 bar e pressioni di picco fino a 320 bar.

Le dimensioni particolarmente contenute di questa pompa, **realizzata in due pezzi**, ne consentono l'installazione anche in spazi ristretti.

Le pompe PG330 e PG331 sono disponibili nelle versioni: Europea, SAE B, SAE C, ISO.

La **prima sezione** del catalogo è dedicata alla descrizione dettagliata della PG330, ottimizzata per quantità elevate e destinata al **mondo OEM**. E' disponibile in versione singola, doppia, tripla e personalizzabile con una vasta gamma di accessori.

La **seconda sezione** è dedicata alla PG331, versione ideata per i **Rivenditori**, con la possibilità di trasformazione da pompa singola a pompa doppia, e il montaggio di pompe in alluminio della tipologia 2PE.

Visitate il nostro canale YouTube *Salami Fluid Power*, dove troverete tutorials per guidarvi nelle operazioni di manipolazione del prodotto.

Il Direttore Commerciale

Marco Bavutti

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

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

Salami Hydraulics has remained loyal in time to its three strengths dictated by its founder that have made the brand Salami recognizable and great in the world: **Quality, Innovation and Service**.

Through its offices in USA, Canada, Spain, France, together with his business partners, he distributes his own products by putting the excellence of Italian engineering at the service of the whole world.

In this volume we present our **new line of cast iron pumps, PG330/MG330 and PG331**. It is an external gear pumps with capacities from 23 to 80 cc, working pressures up to 280 bar and peak pressures up to 320 bar.

PG330 and PG331 pumps are available in versions: European, SAE B, SAE C, ISO.

The first section of the catalog is centered entirely on the detailed description of this product PG330 optimized for high volume and for the **OEM's**. It is available in single, double, triple and customizable with a wide range of accessories such as rear ports and various types of valves, load sensing priority.

The second section is devoted to the PG331, designed to meet the needs of **Retailers** which offers the possibility of transformation from single pump, double pump and allows the mounting of aluminum pumps type 2PE.

You will also find video tutorials that we have provided on our **YouTube channel Salami Fluid Power World**, to guide you in the handling of the product.

Commercial Director

Marco Bavutti

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DOUBLE GEAR PUMP - DIMENSIONS AND FEATURES

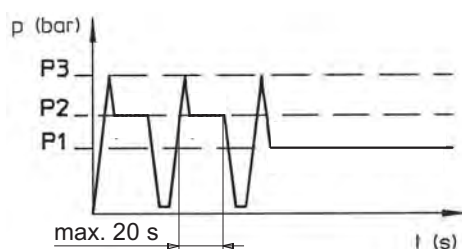
- RELEASE WITH FLANGE S3 AND SHAFT 56.....A13
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- HOW TO ORDER PG330 DOUBLE OR TRIPLE PUMP.....A37
- HOW TO ORDER MG330 MOTOR.....A38



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 thrust plate 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:

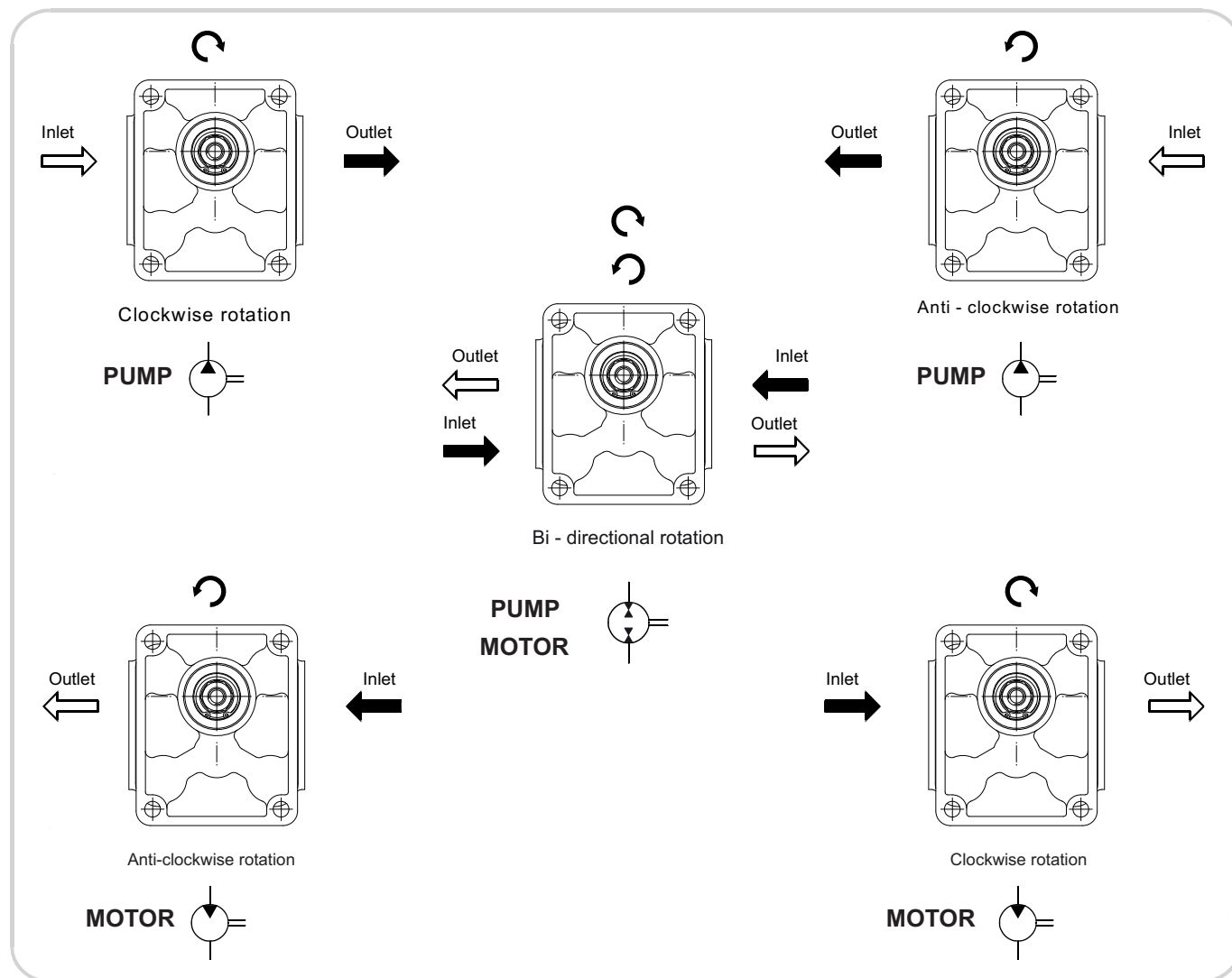
to have the best behaviour and duty life of the pump/motor, use a cooling system in order to keep the fluid temperature at 60°C and viscosity at 20 cSt. In addition to the recommended filtration index of page 3.



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

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

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

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

LEGENDA
 Δp = Working pressure (bar)

 q = Displacement (cm³/rev)

 n = Speed (min⁻¹)

 η_m = Mechanical eff. (0.92)

 η_v = Volumetric eff. (0.95)

COMMON FORMULAS FOR MOTORS

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

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

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

V = Displacement cm³/rev [in³/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 ($\eta_v \cdot \eta_m$)



PG330 - MG330**GEAR PUMPS "PG" SERIES
GEAR MOTORS "MG" SERIES**

E0.151.0113.02.00/IM01

DESCRIPTION OF THE NEW PRODUCT IDENTIFICATION LABEL

A			
B			
C		D	
	salami	E	F

A = Product short description (ex. PG330-34D-R55S3).

B = Customer part number (In case it is required).

C = Salami part number (ex. 615100032).

D = Production code (ex. 1304234)

E = Production date (see data sheet here below)

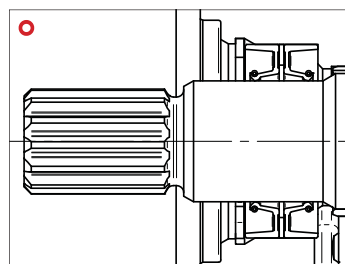
F = Progressive number of assembly.

CONSTRUCTION	2013	2014	2015	2016	2017	2018	2019	2020
JANUARY	13M	14M	15M	16M	17M	18M	19M	20M
FEBRUARY	13N	14N	15N	16N	17N	18N	19N	20N
MARCH	13P	14P	15P	16P	17P	18P	19P	20P
APRIL	13Q	14Q	15Q	16Q	17Q	18Q	19Q	20Q
MAY	13R	14R	15R	16R	17R	18R	19R	20R
JUNE	13S	14S	15S	16S	17S	18S	19S	20S
JULY	13T	14T	15T	16T	17T	18T	19T	20T
AUGUST	13U	14U	15U	16U	17U	18U	19U	20U
SEPTEMBER	13V	14V	15V	16V	17V	18V	19V	20V
OCTOBER	13Z	14Z	15Z	16Z	17Z	18Z	19Z	20Z
NOVEMBER	13X	14X	15X	16X	17X	18X	19X	20X
DECEMBER	13Y	14Y	15Y	16Y	17Y	18Y	19Y	20Y

SHAFT SEALS DESIGN, PRESSURE AND MATERIAL AVAILABLE

Only regarding the assemblies as pump(for motor assembly, please see page 8).

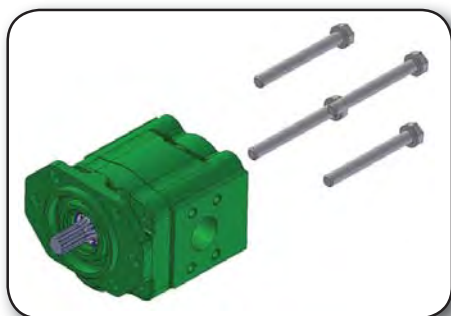
Max. pressure	3 bar (44 psi)
Material BUNA (NBR)	-15° C - 85° C
Material VITON (FPM)	-20° C - 110° C



GEAR PUMPS "PG" SERIES GEAR MOTORS "MG" SERIES

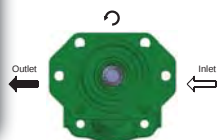
ROTATION CHANGE INSTRUCTION

PG330 - MG330

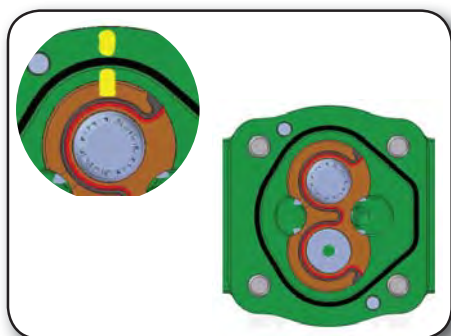
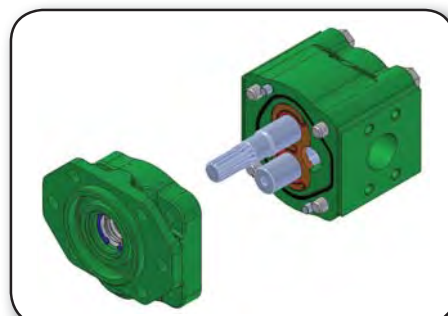


Step 1:
unscrew and take off the 4 assembling bolts.

ANTI-CLOCKWISE

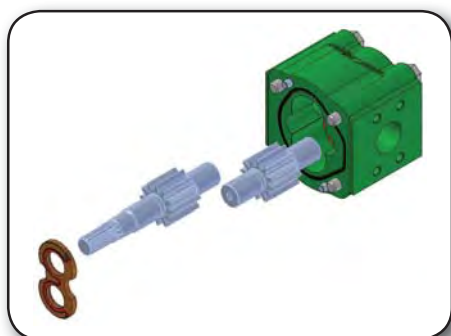
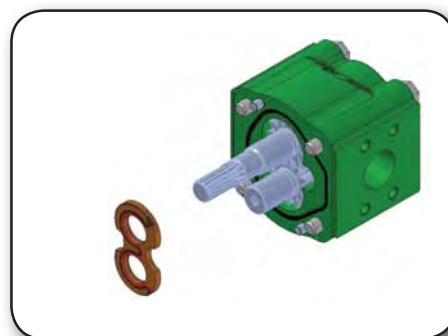


Step 2:
take off the front flange, complete of shaft seals.



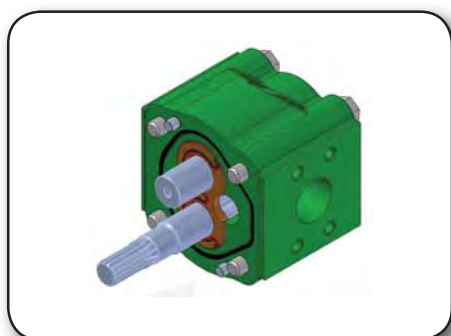
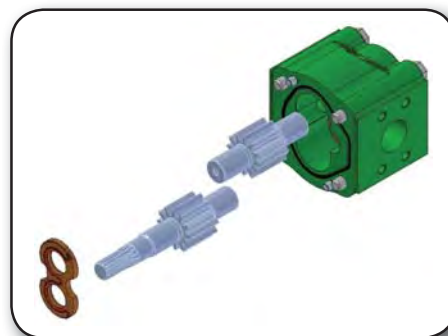
Step 3:
take note of the assembling position of the bronze thrust plate. If necessary, you can put a mark which help you remembering the position of the plate related to the body. This is very important, because at the end you must re-assemble it in this way.

Step 4:
take off the thrust plate.



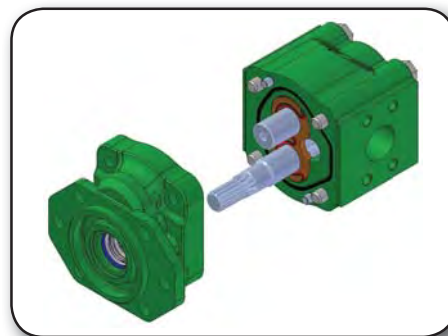
Step 5:
take off both the shafts, drive and driven.

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



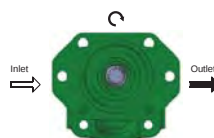
Step 7:
re-assemble the thrust plate in the same position it was at the beginning. Reference step 3.

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



Step 9:
re-place and screw the bolts with the torque of 170-180Nm.

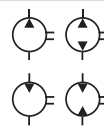
CLOCKWISE



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



Release with flange S3 and shaft 56

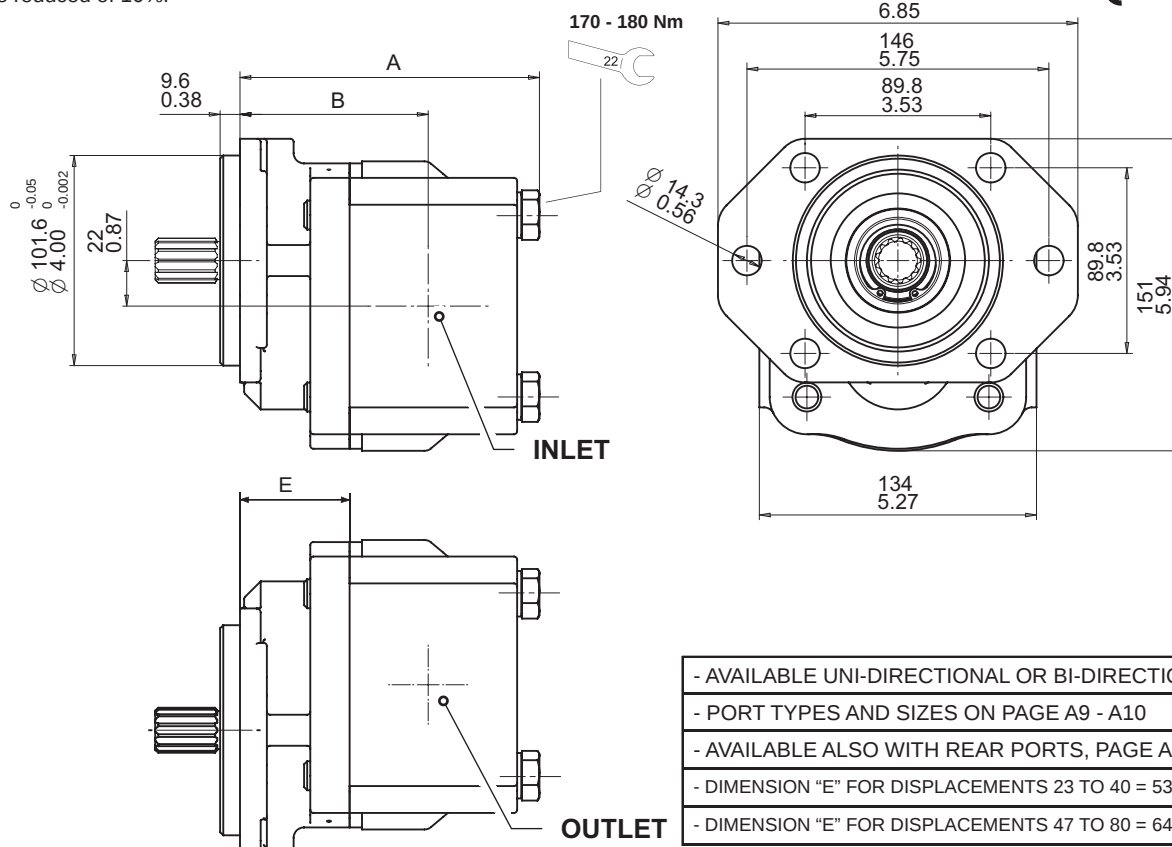
GEAR PUMPS AND
MOTORS

ASSEMBLING DIMENSIONS AND VALUES OF PRESSURE AND SPEED

TYPE		23	28	34	40	47	55	64	72	80
Displacements	cm ³ /rev	23.4	28.6	34.4	40.3	47.4	55.2	64.3	73.4	80.6
	cu.in./rev	1.43	1.74	2.1	2.46	2.89	3.37	3.92	4.48	4.91
Dimension A	mm	140.8	144.8	149.3	153.8	176.3	182.3	189.3	196.3	202.3
	in	5.54	5.70	5.88	6	6.94	7.18	7.45	7.73	7.96
Dimension B	mm	88	91	95.5	100	114	120	122	125	129
	in	3.46	3.58	3.76	3.94	4.49	4.72	4.80	4.92	5.08
Working pressure P1 *	bar	260	280	280	260	280	260	240	220	200
	psi	3800	4000	4000	3800	4000	3800	3500	3200	2900
Intermittent pressure P2	bar	280	300	300	280	300	280	260	240	220
	psi	4000	4350	4350	4000	4350	4000	3800	3500	3200
Peak pressure P3	bar	300	320	320	300	320	300	280	260	240
	psi	4350	4650	4650	4350	4650	4350	4000	3800	3500
Max. speed at P2	rpm	3000			2700			2500		
Min. speed at P1	rpm	400			400			350		
Weight	kg	12.88	13.28	13.67	14.1	16.6	17.2	17.92	18.59	19.1
	lbs	28.4	29.3	30.14	31.1	36.6	37.92	39.51	40.98	42.11

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

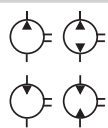
*For working conditions, using exclusively pressure P1, the value of max. speed must be reduced of 10%.



- AVAILABLE UNI-DIRECTIONAL OR BI-DIRECTIONAL
- PORT TYPES AND SIZES ON PAGE A9 - A10
- AVAILABLE ALSO WITH REAR PORTS, PAGE A11 - A12
- DIMENSION "E" FOR DISPLACEMENTS 23 TO 40 = 53 mm
- DIMENSION "E" FOR DISPLACEMENTS 47 TO 80 = 64 mm

GEAR PUMPS "PG" SERIES GEAR MOTORS "MG" SERIES

PG330 - MG330



GEAR PUMPS AND MOTORS

Release with flange P2 and shaft 38

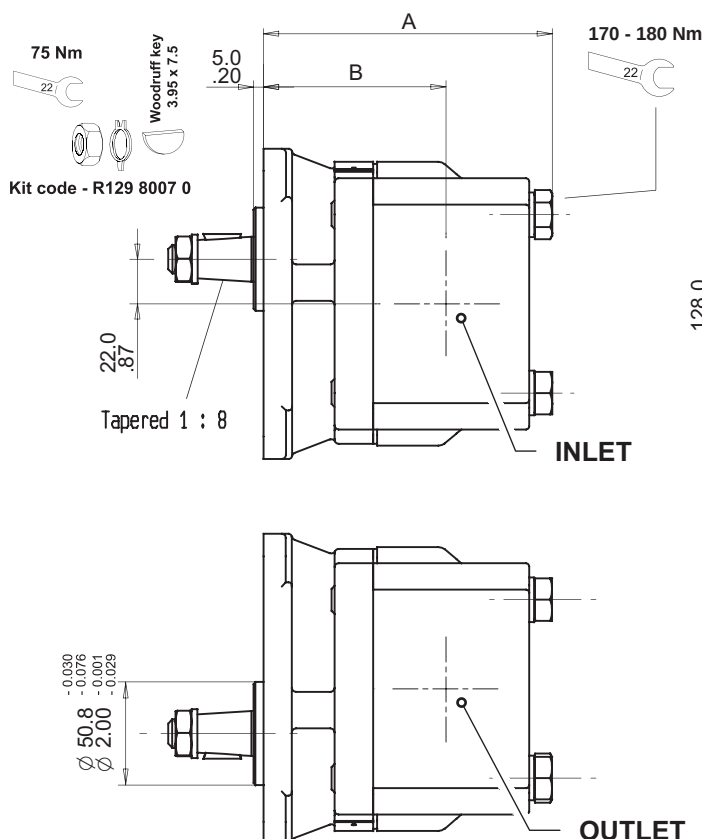
ASSEMBLING DIMENSIONS AND VALUES OF PRESSURE AND SPEED

TYPE		23	28	34	40	47	55	64	72
Displacements	cm ³ /rev	23.4	28.6	34.4	40.3	47.4	55.2	64.3	73.4
	cu.in./rev	1.43	1.74	2.1	2.46	2.89	3.37	3.92	4.48
Dimension A	mm	141.8	145.8	150.3	154.8	166.3	172.3	179.3	186.3
	in	5.58	5.74	5.92	6.1	6.55	6.78	7.05	7.33
Dimension B	mm	89	92	96.5	101	104	110	112	115
	in	3.5	3.62	3.8	3.98	4.1	4.33	4.41	4.53
Working pressure P1 *	bar	260	280	280	260	280	230	200	170
	psi	3800	4000	4000	3800	4000	3335	2900	2465
Intermittent pressure P2	bar	280	300	300	280	300	250	220	190
	psi	4000	4350	4350	4000	4350	3625	3190	2755
Peak pressure P3	bar	300	320	320	300	320	270	240	210
	psi	4350	4650	4650	4350	4650	3915	3480	3045
Max. speed at P2	rpm	3000			2700			2500	
Min. speed at P1	rpm	400			400			350	
Weight	kg	12.77	13.18	13.59	13.99	15.2	15.8	16.5	17.17
	lbs	28.15	29.06	29.96	30.84	33.51	34.83	36.37	37.85

• This configuration, with shaft 38, has a max torque of 250 Nm. For this reason, on the displacements 55 - 64 - 72, the values of pressure have been reduced compared with configurations with other shafts.

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

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

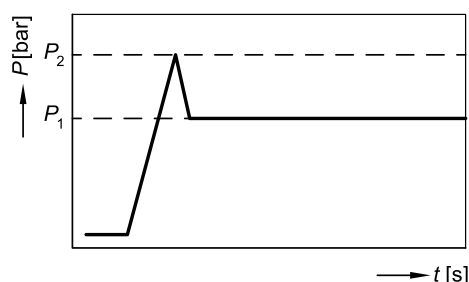


Anti-clockwise rotation pump.
In case of use as a motor, the same construction is a clockwise motor.

- AVAILABLE UNI-DIRECTIONAL OR BI-DIRECTIONAL
- PORT TYPES AND SIZES ON PAGE A9 - A10
- AVAILABLE ALSO WITH REAR PORTS, PAGE A11 - A12



DEFINITION OF PRESSURES



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).

P_1 max. continuous pressure

WORKING CONDITIONS

MG330

Type		34	40	47	55	64	72
Displacements	cm ³ /rev	34.4	40.3	47.4	55.2	64.3	73.4
	cu.in./rev	2.1	2.46	2.89	3.37	3.92	4.48
Max. continuous pressure P_1	bar	240	220	240	220	200	
	psi	3480	3190	3480	3190	2900	
Max. starting pressure P_2	bar	300	280			260	
	psi	4350	4060			3770	
Max. speed at P_2	rpm	3000	2700			2500	
Min. speed at P_1	rpm	600	550			500	
Weight	kg	13.59	13.99	15.2	15.8	16.5	17.17
	lbs	29.96	30.84	33.51	34.83	36.37	37.85
Motor outlet pressure P_{out}	bar (psi)						
Leakage-oil line pressure P_{drain}							

TECHNICAL DATA

- Minimum operating fluid viscosity 12 mm² / sec
- Permitted viscosity range 12 - 800 mm² / sec
- Recommended viscosity range 20 - 80 mm² / sec
- Permitted viscosity for starting 2000 mm² / 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.

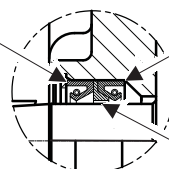
*) During the application of control systems or devices with critical counter-reaction, such as steering and brake valves, the type of filtration selected must be adapted to the sensitivity of these devices/systems. Safety requirements pertaining to the whole systems are to be observed. In the case of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

MOTOR ASSEMBLING FEATURES

Material BUNA (NBR)	-15° C - 85° C
Material VITON (FPM)	-20° C - 110° C

All our standard motors have a double shaft seal, the one which faces the inner of the motor is reinforced by a spacer with anti-extrusion lip.

Outer shaft seal



Inner shaft seal

Spacer with anti-extrusion lip

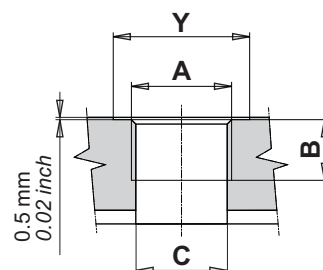


GEAR PUMPS "PG" SERIES GEAR MOTORS "MG" SERIES

PG330 - MG330

THREADED PORTS

	Type	OUTLET				INLET			
		INLET				OUTLET			
		A	B	C	Y	A	B	C	Y
	From 23 to 40	G1	22 (0.87")	30.5 (1.2")	44 (1.73")	G3/4	16 (0.62")	24.4 (0.96")	36 (1.42")
	From 47 to 80	G1"1/4	24 (0.94")	37 (1.46")	54 (2.12")	G1	22 (0.87")	30.5 (1.2")	44 (1.73")



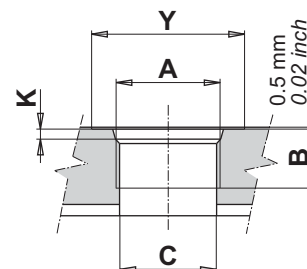
MOTOR	Type	INLET				OUTLET			
		A	B	C	Y	A	B	C	Y
	From 23 to 40	G3/4	16 (0.62")	24.4 (0.96")	36 (1.42")	G3/4	16 (0.62")	24.4 (0.96")	36 (1.42")
	From 47 to 80	G1	22 (0.87")	30.5 (1.2")	44 (1.73")	G1	22 (0.87")	30.5 (1.2")	44 (1.73")

PUMP	Type	INLET				OUTLET			
		A	B	C	Y	A	B	C	Y
	From 23 to 40	G1	22 (0.87")	30.5 (1.2")	44 (1.73")	G1	22 (0.87")	30.5 (1.2")	44 (1.73")
	From 47 to 80	G1"1/4	24 (0.94")	37 (1.46")	54 (2.12")	G1"1/4	24 (0.94")	37 (1.46")	54 (2.12")

British standard pipe parallel (BSPP)

code G

	Type	OUTLET					INLET				
		INLET					OUTLET				
		A	B	C	Y	K	A	B	C	Y	K
	From 23 to 40	1-5/16 12 UN	19 (0.74")	31 (1.22")	49 (1.93")	3.3 (0.12")	1-1/16 12 UN	19 (0.74")	24.7 (0.97")	41 (1.16")	3.3 (0.12")
	From 47 to 80	1-5/8 12 UN	19 (0.74")	38.9 (1.53")	58 (2.28")	3.3 (0.12")	1-5/16 12 UN	19 (0.74")	31 (1.22")	49 (1.93")	3.3 (0.12")



MOTOR	Type	INLET					OUTLET				
		A	B	C	Y	K	A	B	C	Y	K
	From 23 to 40	1-1/16 12 UN	19 (0.74")	24.7 (0.97")	41 (1.16")	3.3 (0.12")	1-1/16 12 UN	19 (0.74")	24.7 (0.97")	41 (1.16")	3.3 (0.12")
	From 47 to 80	1-5/16 12 UN	19 (0.74")	31 (1.22")	49 (1.93")	3.3 (0.12")	1-5/16 12 UN	19 (0.74")	31 (1.22")	49 (1.93")	3.3 (0.12")

PUMP	Type	INLET					OUTLET				
		A	B	C	Y	K	A	B	C	Y	K
	From 23 to 40	1-5/16 12 UN	19 (0.74")	31 (1.22")	49 (1.93")	3.3 (0.12")	1-5/16 12 UN	19 (0.74")	31 (1.22")	49 (1.93")	3.3 (0.12")
	From 47 to 80	1-5/8 12 UN	19 (0.74")	38.9 (1.53")	58 (2.28")	3.3 (0.12")	1-5/8 12 UN	19 (0.74")	38.9 (1.53")	58 (2.28")	3.3 (0.12")

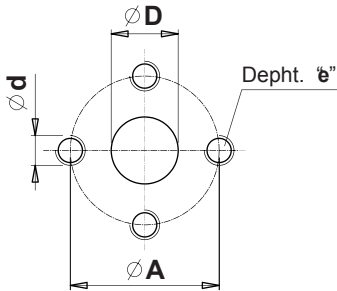
SAE threaded (ODT)

code R



PG330 - MG330**GEAR PUMPS "PG" SERIES
GEAR MOTORS "MG" SERIES**

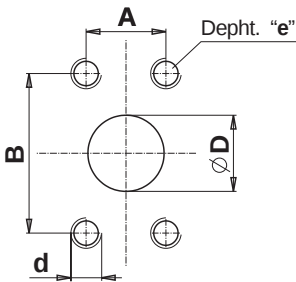
E0.151.0113.02.00/IM01

FLANGED PORTS

Type	OUTLET				INLET			
	INLET				OUTLET			
	ØD	ØA	d	eØ	ØD	Ad		e
23	20 (0.78")	40 (1.57")	M8	16 (0.63")	16 (0.63")	40 (1.57")	M8	16 (0.63")
From 28 to 47	27 (1.07")	51 (2.01")	M10	16 (0.63")	16 (0.63")	40 (1.57")	M8	16 (0.63")
From 55 to 80	33 (1.3")	62 (2.44")	M12	16 (0.63")	21 (0.83")	51 (2.01")	M10	16 (0.63")

Type	INLET				OUTLET			
	ØD	ØA	d	e	ØD	ØA	d	e
From 23 to 40	16 (0.63")	40 (1.57")	M8	16 (0.63")	16 (0.63")	40 (1.57")	M8	16 (0.63")
From 47 to 80	27 (1.07")	51 (2.01")	M10	16 (0.63")	27 (1.07")	51 (2.01")	M10	16 (0.63")

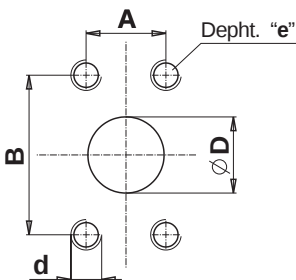
Type	INLET				OUTLET			
	ØD	ØA	d	eØ	ØD	Ad		e
23	20 (0.78")	40 (1.57")	M8	16 (0.63")	20 (0.78")	40 (1.57")	M8	16 (0.63")
From 28 to 47	27 (1.07")	51 (2.01")	M10	16 (0.63")	27 (1.07")	51 (2.01")	M10	16 (0.63")
From 55 to 80	33 (1.3")	62 (2.44")	M12	16 (0.63")	33 (1.3")	62 (2.44")	M12	16 (0.63")

code W

Type	OUTLET					INLET				
	ØD	B	A	d	e	ØD	B	A	d	e
From 23 to 47	32 (1.26")	58.72 (2.31")	30.18 (1.19")	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 55 to 80	39.3 (1.55")	69.8 (2.75")	35.7 (1.40")	1/2 13 UNC	15 (0.62")	32 (1.26")	58.72 (2.31")	30.18 (1.19")	3/8 16 UNC	18 (0.71")

code S

Available for quantity (contact our sales dept.)



Type	OUTLET					INLET				
	ØD	B	A	d	e	ØD	B	A	d	e
From 23 to 47	32 (1.26")	58.72 (2.31")	30.18 (1.19")	M10	18 (0.71")	19 (0.75")	47.6 (1.87")	22.2 (0.87")	M10	18 (0.71")
From 55 to 80	39.3 (1.55")	69.8 (2.75")	35.7 (1.40")	M12	15 (0.62")	32 (1.26")	58.72 (2.31")	30.18 (1.19")	M10	18 (0.71")

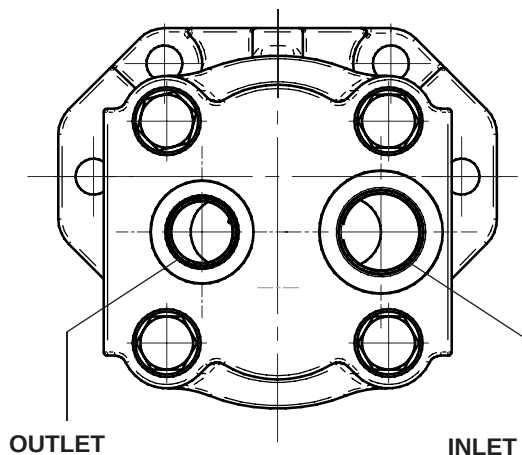
code WAvailability for quantity
(contact our sales dept.)

GEAR PUMPS "PG" SERIES GEAR MOTORS "MG" SERIES

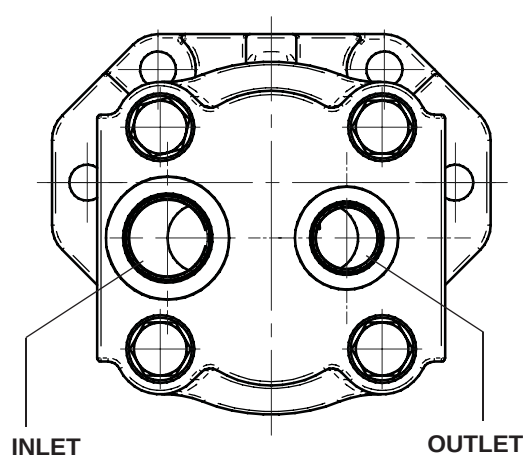
PG330 - MG330

RELEASE WITH REAR PORTS

CLOCKWISE ROTATION PUMP/MOTOR



ANTI-CLOCKWISE ROTATION PUMP/MOTOR

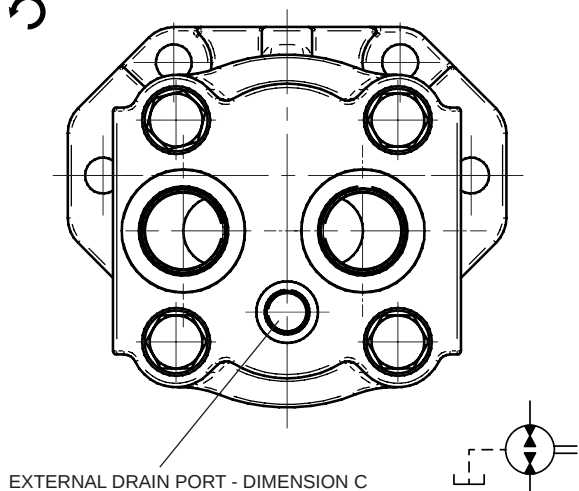


IN CASE OF USE AS A UNIDIRECTIONAL MOTOR:

- ANTI-CLOCKWISE PUMP BECOMES A CLOCKWISE MOTOR
- CLOCKWISE PUMP BECOMES AN ANTICLOCKWISE MOTOR

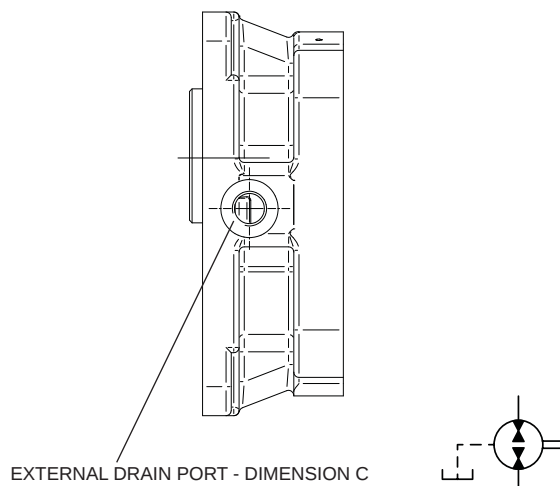
THE POSITION OF THE PORTS IS THE SAME BUT THE INLET BECOMES OUTLET AND VICEVERSA

BI-DIRECTIONAL ROTATION PUMP/MOTOR



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

AVAILABLE EUROPEAN FRONT FLANGE ONLY,
WITH DRAIN ON THE SIDE



C
7/16 - 20 UNF (SAE 4)
G 1/4

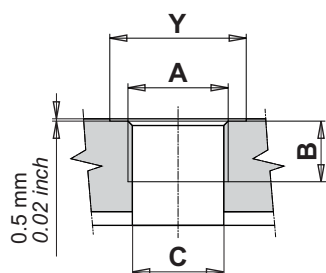


PG330 - MG330

GEAR PUMPS "PG" SERIES
GEAR MOTORS "MG" SERIES

E0.151.0113.02.00/IM01

THREADED REAR PORTS



	Type	OUTLET				INLET			
		INLET				OUTLET			
		A	B	C	Y	A	B	C	Y
From 23 to 40	G1	22 (0.87")	30.5 (1.2")	44 (1.73")	G3/4	16 (0.62")	24.4 (0.96")	36 (1.42")	
From 47 to 80	G1 1/4	24 (0.94")	37 (1.46")	54 (2.12")	G1	22 (0.87")	30.5 (1.2")	44 (1.73")	

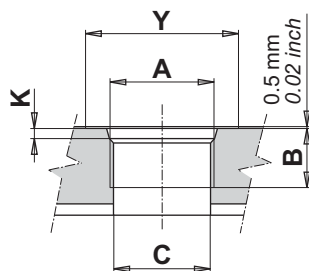
MOTOR	Type	INLET				OUTLET			
		A	B	C	Y	A	B	C	Y
From 23 to 40	G3/4	16 (0.62")	24.4 (0.96")	36 (1.42")	G3/4	16 (0.62")	24.4 (0.96")	36 (1.42")	
From 47 to 80	G1	22 (0.87")	30.5 (1.2")	44 (1.73")	G1	22 (0.87")	30.5 (1.2")	44 (1.73")	

British standard pipe
parallel (BSPP)

code G

PUMP	Type	INLET				OUTLET			
		A	B	C	Y	A	B	C	Y
From 23 to 64	G1	22 (0.87")	30.5 (1.2")	44 (1.73")	G1	22 (0.87")	30.5 (1.2")	44 (1.73")	

Considering an internal diameter of 25 mm max., mainly for the bigger displacements, do the calculation of the inlet flow and check on page A15 the speed of the oil.



	Type	OUTLET					INLET				
		INLET					OUTLET				
		A	B	C	Y	K	A	B	C	Y	K
From 23 to 40	1-5/16 12 UN	19 (0.74")	31 (1.22")	49 (1.93")	3.3 (0.12")	1-1/16 12 UN	19 (0.74")	24.7 (0.97")	41 (1.16")	3.3 (0.12")	
From 47 to 80	1-5/8 12 UN	19 (0.74")	38.9 (1.53")	58 (2.28")	3.3 (0.12")	1-5/16 12 UN	19 (0.74")	31 (1.22")	49 (1.93")	3.3 (0.12")	

MOTOR	Type	INLET					OUTLET				
		A	B	C	Y	K	A	B	C	Y	K
From 23 to 40	1-1/16 12 UN	19 (0.74")	24.7 (0.97")	41 (1.16")	3.3 (0.12")	1-1/16 12 UN	19 (0.74")	24.7 (0.97")	41 (1.16")	3.3 (0.12")	
From 47 to 80	1-5/16 12 UN	19 (0.74")	31 (1.22")	49 (1.93")	3.3 (0.12")	1-5/16 12 UN	19 (0.74")	31 (1.22")	49 (1.93")	3.3 (0.12")	

PUMP	Type	INLET					OUTLET				
		A	B	C	Y	K	A	B	C	Y	K
From 23 to 64	1-5/16 12 UN	19 (0.74")	31 (1.22")	49 (1.93")	3.3 (0.12")	1-5/16 12 UN	19 (0.74")	31 (1.22")	49 (1.93")	3.3 (0.12")	

SAE threaded (ODT)

code R

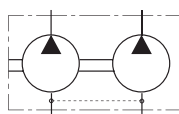
Considering an internal diameter of 25 mm max., mainly for the bigger displacements, do the calculation of the inlet flow and check on page A15 the speed of the oil.



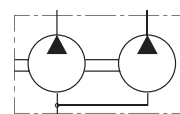
GEAR PUMPS "PG" SERIES

PG330

**Release with flange S3
and shaft 56**



**DOUBLE
GEAR PUMPS**
with inlet port
on each body



**DOUBLE
GEAR PUMPS**
with common inlet port*

In case of common inlet port, to avoid too high value of oil speed, 60 l/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.

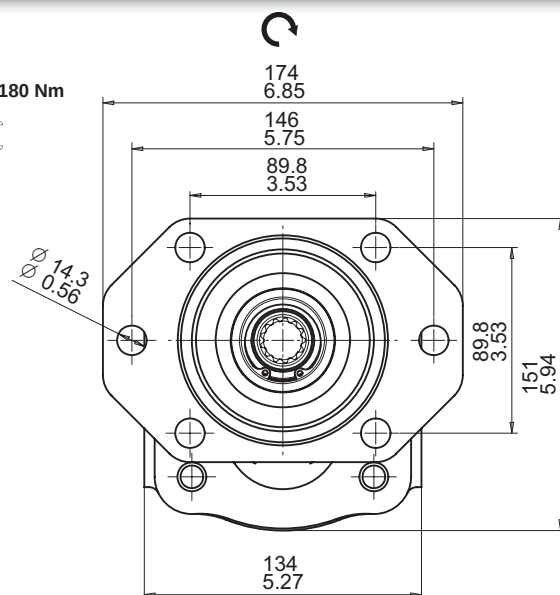
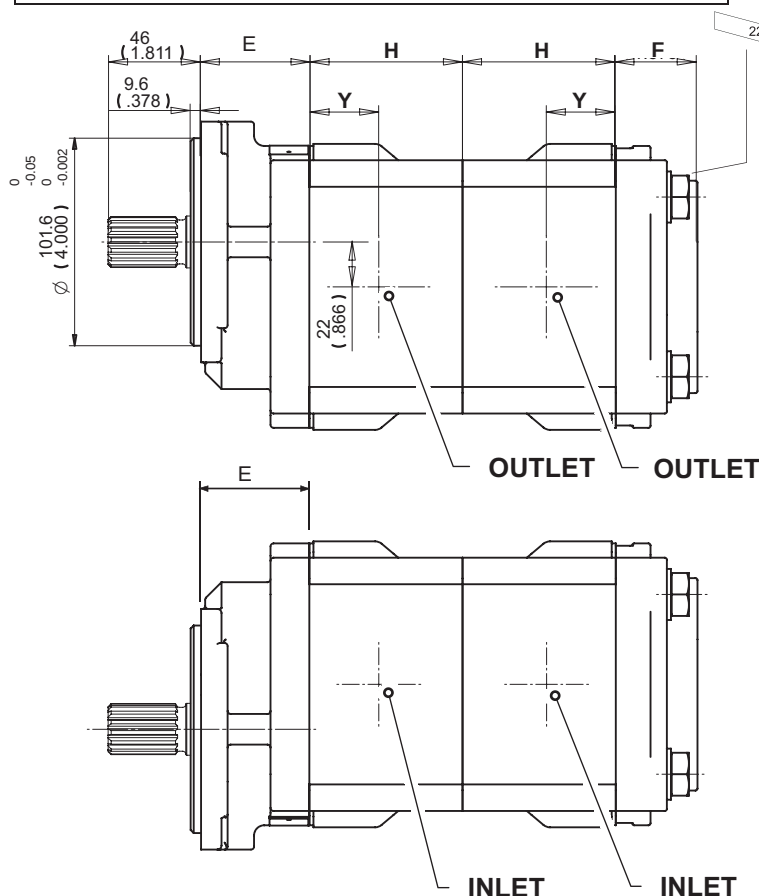
TYPE		23	28	34	40	47	55	64	72	80
Displacements	cm ³ /rev	23.4	28.6	34.4	40.3	47.4	55.2	64.3	73.4	80.6
	cu.in./rev	1.43	1.74	2.1	2.46	2.89	3.37	3.92	4.48	4.91
Dimension H	mm	68	72	76.5	81	93	99	106	113	119
	in	2.68	2.83	3.01	3.19	3.66	6.78	7.05	7.33	7.57
Dimension Y	mm	35	38	42.5	47	50	56	58	61	65
	in	1.38	1.49	1.67	1.85	1.97	2.2	2.28	2.4	2.56
Working pressure P1*	bar	260	280	280	260	280	260	240	220	200
	psi	3800	4000	4000	3800	4000	3800	3500	3200	2900
Intermittent pressure P2	bar	280	300	300	280	300	280	260	240	220
	psi	4000	4350	4350	4000	4350	4000	3800	3500	3200
Peak pressure P3	bar	300	320	320	300	320	300	280	260	240
	psi	4350	4650	4650	4350	4650	4350	4000	3800	3500
Max. speed at P2	rpm	3000			2700			2500		
Min. speed at P1	rpm	400			400			350		
Weight	kg	8.8	9.18	9.6	10	11.2	11.8	12.5	13.2	13.7
	lbs	19.4	20.2	21.16	22	24.7	26	27.5	29.1	30.2

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

Weight of the flange S3(E=53 mm) = 4 kg (8.82 lbs)/ S3(E=64 mm) = 5.4 (11.9 lbs)

Weight of the back cover = 2.6 kg (5.7 lbs)

170 - 180 Nm



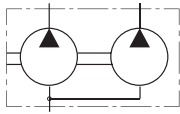
Sectional view of
the coupling shaft
max torque 270 Nm

- PORT TYPES AND SIZES ON PAGE A9 - A10
- COMMON SUCTION PORT SIZE ON PAGE A15
- FLANGE S3 FOR DISPLACEMENTS 23 - 40 E = 53 mm
- FLANGE S3 FOR DISPLACEMENTS 47 - 80 E = 64 mm
- DIMENSION F FOR DISPLACEMENTS 23 - 40 = 40 mm
- DIMENSION F FOR DISPLACEMENTS 47 - 80 = 50 mm

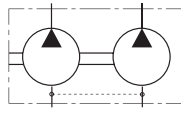


PG330

GEAR PUMPS "PG" SERIES



**DOUBLE
GEAR PUMPS**
with common inlet port*



**DOUBLE
GEAR PUMPS**
with inlet port
on each body

**Release with flange P2
and shaft 38**

- In case of common inlet port, to avoid too high value of oil speed, 60 l/min is the max. sucked flow for the downstream pump.

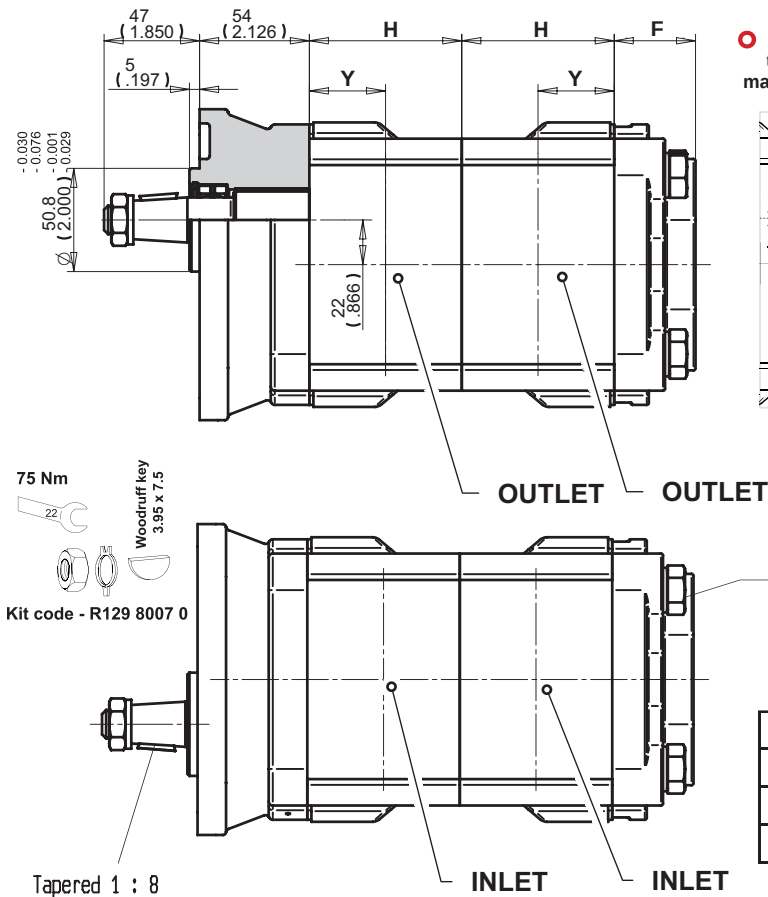
Performance carried out with oil viscosity at 16 cSt and oil temperature at 60°C.

TYPE		23	28	34	40	47	55	64	72
Displacements	cm ³ /rev	23.4	28.6	34.4	40.3	47.4	55.2	64.3	73.4
	cu.in./rev	1.43	1.74	2.1	2.46	2.89	3.37	3.92	4.48
Dimension H	mm	68	72	76.5	81	93	99	106	113
	in	2.68	2.83	3.01	3.19	3.66	6.78	7.05	7.33
Dimension Y	mm	35	38	42.5	47	50	56	58	61
	in	1.38	1.49	1.67	1.85	1.97	2.2	2.28	2.4
Working pressure P1 *	bar	260	280	280	260	280	230	200	170
	psi	3800	4000	4000	3800	4000	3335	2900	2465
Intermittent pressure P2	bar	280	300	300	280	300	250	220	190
	psi	4000	4350	4350	4000	4350	3625	3190	2755
Peak pressure P3	bar	300	320	320	300	320	270	240	210
	psi	4350	4650	4650	4350	4650	3915	3480	3045
Max. speed at P2	rpm	3000			2700			2500	
Min. speed at P1	rpm	400			400			350	
Weight	kg	8.8	9.18	9.6	10	11.2	11.8	12.5	13.2
	lbs	19.4	20.2	21.16	22	24.7	26	27.5	29.1

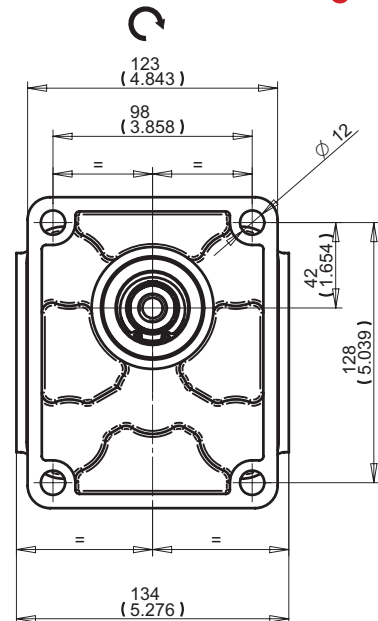
*For working conditions, using exclusively pressure P1, the value of max. speed must be reduced of 10%.

Weight of the flange P2 = 4 kg (8.82 lbs)

Weight of the back cover = 2.6 kg (5.7 lbs)



◦ Sectional view of the coupling shaft
max torque 270 Nm

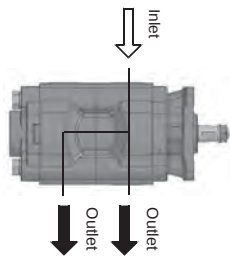


◦ This configuration, with shaft 38, has a max torque of 250 Nm. For this reason, on the displacements 55 - 64 - 72, the values of pressure have been reduced compared with configurations with other shafts.

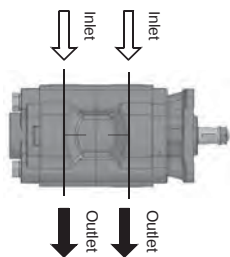
- PORT TYPES AND SIZES ON PAGE A9 - A10
- COMMON SUCTION PORT SIZE ON PAGE A15
- DIMENSION F FOR DISPLACEMENTS 23 - 40 = 40 mm
- DIMENSION F FOR DISPLACEMENTS 47 - 80 = 50 mm



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



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).

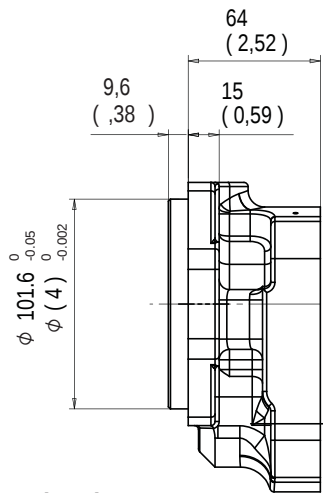


In case of suction on both the stages, the size of the ports are the ones listed on pages 9 and 10.

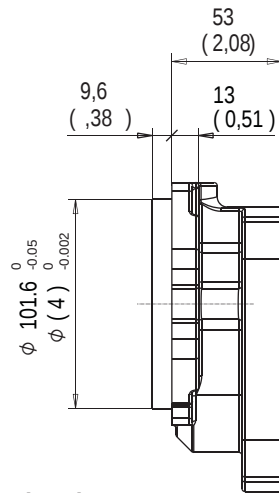
SPEED	SUCTION																				BACK TO TANK				PRESSURE LINE		
	m/sec	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140		145	150
1	0.5	35.7	38.5	41.2	43.7	46.0	48.3	50.4	52.5	54.5	56.4	58.2	60.0	61.8	63.5	65.1	66.7	68.3	69.8	71.3	72.8	74.2	75.7	77.0	78.4	79.7	
	1.0	10.0	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	36.6	38.3	40.0	41.6	43.3	45.0	46.6	48.3	50.0	
	2.5	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	47.2	48.3	49.4	50.4	51.5	52.5	53.5	54.5	55.4	56.4	
	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	17.5	18.3	19.1	19.9	20.7	20.8	21.6	22.5	23.3	24.1	25.0	
	1.3	22.1	23.9	25.5	27.1	28.6	29.9	31.3	32.6	33.8	35.0	36.1	37.2	38.3	39.4	40.4	41.4	42.4	43.3	44.2	45.1	46.0	46.9	47.8	48.6	49.5	
	3.8	4.5	5.1	5.8	6.4	7.0	7.7	8.3	9.0	9.6	10.2	10.9	11.5	12.2	12.8	13.4	14.1	14.7	15.4	16.0	16.7	17.3	17.9	18.6	19.2	19.8	
	2.0	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	38.5	39.4	40.3	41.2	42.0	42.9	43.7	44.5	45.3	46.0	
	1.5	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	11.7	12.2	12.8	13.3	13.9	14.4	15.0	15.5	16.1	16.7	
	1.8	18.8	20.3	21.7	23.0	24.3	25.5	26.6	27.7	28.7	29.7	30.7	31.6	32.6	33.4	34.3	35.2	36.0	36.8	37.6	38.4	39.2	39.9	40.6	41.3	42.0	
	2	2.8	3.2	3.7	4.2	4.6	5.1	5.6	6.0	6.5	6.9	7.4	7.9	8.3	8.8	9.3	9.7	10.2	10.6	11.1	11.6	12.0	12.5	13.0	13.4	13.9	
2	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	33.4	34.1	34.9	35.7	36.4	37.1	37.8	38.5	39.2	39.9		
	2.5	2.9	3.3	3.7	4.2	4.6	5.0	5.4	5.8	6.2	6.7	7.1	7.5	7.9	8.3	8.7	9.2	9.6	10.0	10.4	10.8	11.2	11.7	12.1	12.5		
	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	29.8	30.5	31.2	31.9	32.6	33.2	33.8	34.5	35.1	35.7		
	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	7.0	7.3	7.7	8.0	8.3	8.7	9.0	9.3	9.7	10.0		
	14.6	15.7	16.8	17.8	18.8	19.7	20.6	21.4	22.2	23.0	23.8	24.5	25.2	25.9	26.6	27.2	27.9	28.5	29.1	29.7	30.3	30.9	31.5	32.0	32.6		
	1.7	1.9	2.2	2.5	2.8	3.1	3.3	3.6	3.9	4.2	4.4	4.7	5.0	5.3	5.6	5.8	6.1	6.4	6.7	6.9	7.2	7.5	7.8	8.0	8.3		
	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	25.2	25.8	26.4	27.0	27.5	28.1	28.6	29.1	29.6	30.1	
	1.4	1.7	1.9	2.1	2.4	2.6	2.9	3.1	3.3	3.6	3.8	4.0	4.3	4.5	4.8	5.0	5.2	5.5	5.7	5.9	6.2	6.4	6.7	6.9	7.1		
	4	12.6	13.6	14.6	15.4	16.3	17.1	17.8	18.6	19.3	19.9	20.6	21.2	21.8	22.4	23.0	23.6	24.1	24.7	25.2	25.7	26.2	26.7	27.2	27.7	28.2	
	1.2	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.7	4.0	4.2	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8	6.0	6.2		
4	11.9	12.8	13.7	14.6	15.3	16.1	16.8	17.5	18.2	18.8	19.4	20.0	20.6	21.2	21.7	22.2	22.8	23.3	23.8	24.3	24.7	25.2	25.7	26.1	26.6		
	1.1	1.3	1.5	1.7	1.9	2.0	2.2	2.4	2.6	2.8	3.0	3.1	3.3	3.5	3.7	3.9	4.1	4.3	4.4	4.6	4.8	5.0	5.2	5.4	5.6		
	11.3	12.2	13.0	13.8	14.6	15.3	15.9	16.6	17.2	17.8	18.4	19.0	19.5	20.1	20.6	21.1	21.6	22.1	22.6	23.0	23.5	23.9	24.4	24.8	25.2		
	1.0	1.2	1.3	1.5	1.7	1.8	2.0	2.2	2.3	2.5	2.7	2.8	3.0	3.2	3.3	3.5	3.7	3.8	4.0	4.2	4.3	4.5	4.7	4.8	5.0		
	5.5	10.8	11.6	12.4	13.2	13.9	14.6	15.2	15.8	16.4	17.0	17.6	18.1	18.6	19.1	19.6	20.1	20.6	21.1	21.5	22.0	22.4	22.8	23.2	23.6		
	0.9	1.1	1.2	1.4	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	4.5		
	6	10.3	11.1	11.9	12.6	13.3	13.9	14.6	15.2	15.7	16.3	16.8	17.3	17.8	18.3	18.8	19.3	19.7	20.2	20.6	21.0	21.4	21.8	22.2	22.6		
	0.8	1.0	1.1	1.2	1.4	1.5	1.7	1.8	1.9	2.1	2.2	2.4	2.5	2.6	2.8	2.9	3.1	3.2	3.3	3.5	3.6	3.7	3.9	4.0	4.2		
	9.9	10.7	11.4	12.1	12.8	13.4	14.0	14.6	15.1	15.6	16.2	16.7	17.1	17.6	18.1	18.5	18.9	19.4	19.8	20.2	20.6	21.0	21.4	21.8	22.1		
	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.7	1.8	1.9	2.0	2.2	2.3	2.4	2.6	2.7	2.8	2.9	3.1	3.2	3.3	3.5	3.6	3.8		
7	9.5	10.3	11.0	11.7	12.3	12.9	13.5	14.0	14.6	15.1	15.6	16.0	16.5	17.0	17.4	17.8	18.3	18.7	19.1	19.5	19.9	20.2	20.6	21.0	21.3		
	0.7	0.8	1.0	1.1	1.2	1.3	1.4	1.5	1.7	1.8	1.9	2.0	2.1	2.3	2.4	2.5	2.6	2.7	2.9	3.0	3.1	3.2	3.3	3.4	3.6		
	9.2	9.9	10.6	11.3	11.9	12.5	13.0	13.6	14.1	14.6	15.0	15.5	15.9	16.4	16.8	17.2	17.6	18.0	18.4	18.8	19.2	19.5	19.9	20.2	20.6		
	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3		
	8.9	9.6	10.3	10.9	11.5	12.1	12.6	13.1	13.6	14.1	14.6	15.0	15.4	15.9	16.3	16.7	17.1	17.5	17.8	18.2	18.6	18.9	19.3	19.6	19.9		
	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1		
	8.5	8.7	9.3	10.0	10.6	11.2	11.7	12.2	12.7	13.2	13.7	14.1	14.6	15.0	15.4	15.8	16.2	16.6	16.9	17.3	17.7	18.0	18.3	18.7	19.0		
	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.4	2.5	2.6	2.7	2.8	2.9		
	9	8.4	9.1	9.7	10.3	10.9	11.4	11.9	12.4	12.8	13.3	13.7	14.1	14.6	15.0	15.3	15.7	16.1	16.5	16.8	17.2	17.5	17.8	18.2	18.5	18.8	
	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8		
9.5	8.2	8.8	9.4	10.0	10.6	11.1	11.6	12.0	12.5	12.9	13.4	13.8	14.2	14.6	14.9	15.3	15.7	16.0	16.4	16.7	17.0	17.4	17.7	18.0	18.3		
	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7		
10	8.0	8.6	9.2	9.8	10.3	10.8	11.3	11.7	12.2	12.6	13.0	13.4	13.8	14.2	14.6	14.9	15.3	15.6	15.9	16.3	16.6	16.9	17.2	17.5	17.8		
	0.5	0.6	0.7	0.7	0.8	0.9	1.0	1.1	1.2	1.2	1.3	1.4	1.5	1.6	1.7	1.7	1.8	1.9	2.0	2.1	2.2	2.2	2.3	2.4	2.5		
SPEED	m/sec																										

PG330 - MG330**GEAR PUMPS "PG" SERIES
GEAR MOTORS "MG" SERIES**

E0.151.0113.02.00/IM01

AVAILABLE FLANGES**64 (2.52)**

THICKNESS OF THE FLANGE ASSEMBLED WITH DISPLACEMENTS:
47 - 55 - 64 - 72 - 80

**53 (2.06)**

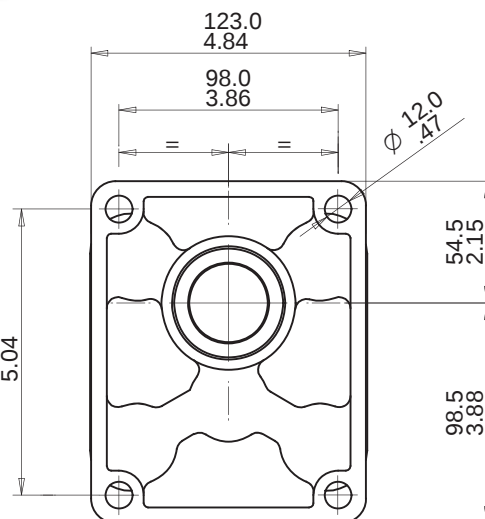
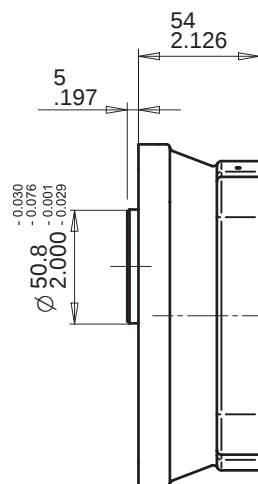
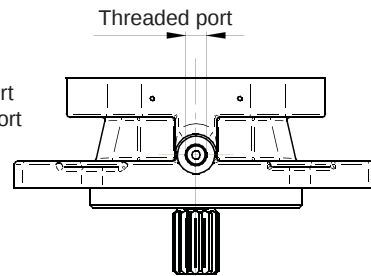
THICKNESS OF THE FLANGE ASSEMBLED WITH DISPLACEMENTS:
23 - 28 - 34 - 40

SAE B mounting flange

S3	Available assembling shafts			
Splined	55	56		
Tapered				
Straight	87	88		

From the flange S3 we can obtain codes:

- **S7** - G1/8 threaded port
- **S8** - SAE4 threaded port

**European standard mounting flange**

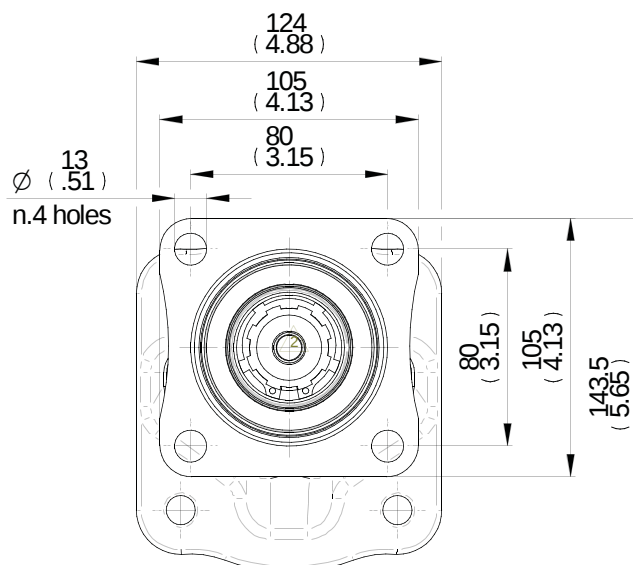
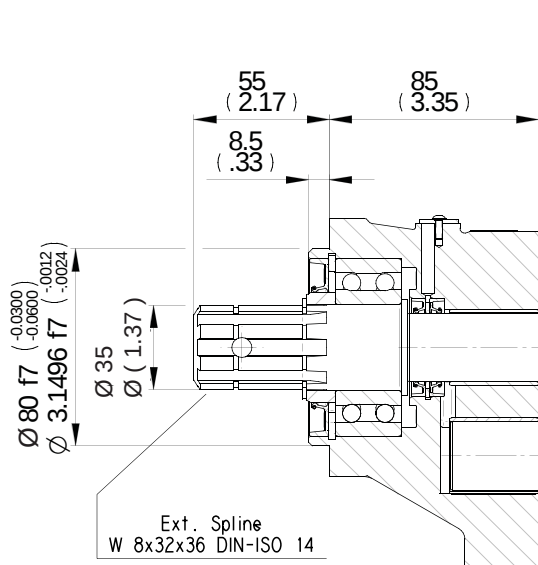
P2	Available assembling shafts			
Splined				
Tapered	38			
Straight				



GEAR PUMPS "PG" SERIES GEAR MOTORS "MG" SERIES

PG330 - MG330

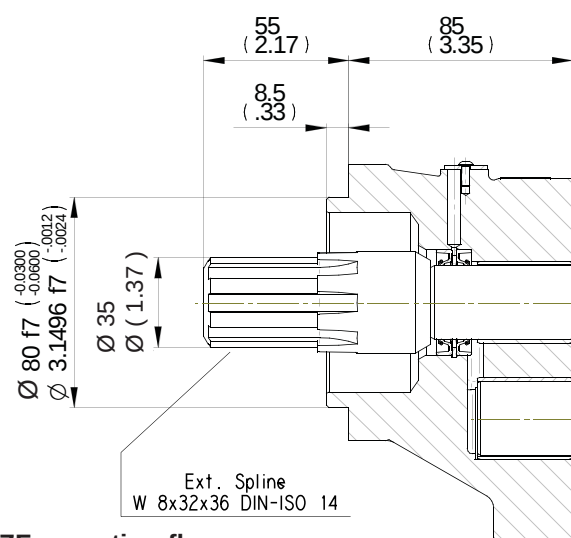
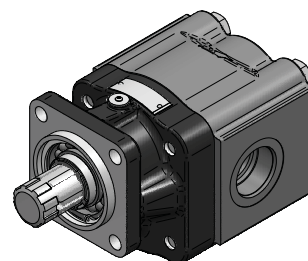
OUTRIGGER BEARING (heavy load)



ZF mounting flange

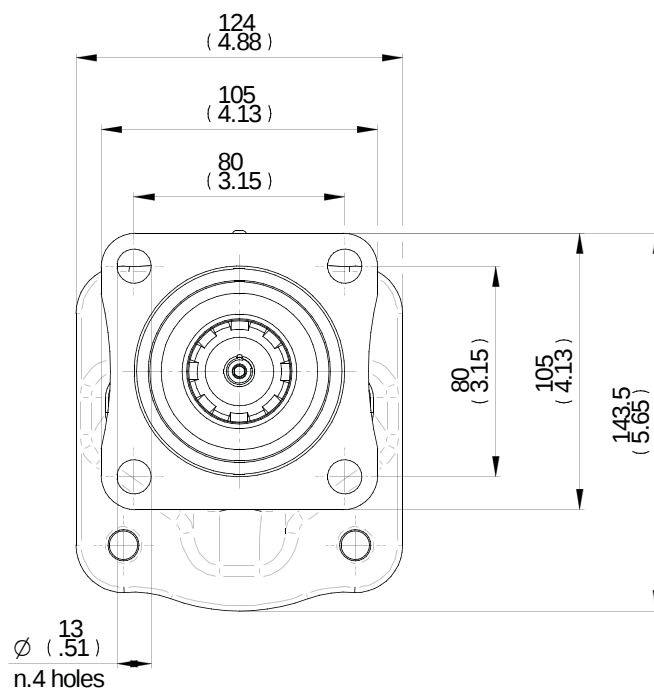
Z1	Available assembling shafts			
Splined	66			
Tapered				
Straight				

Max. resistance torque 480 Nm



ZF mounting flange

Z2	Available assembling shafts			
Splined	67			
Tapered				
Straight				

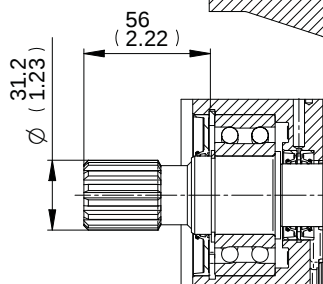
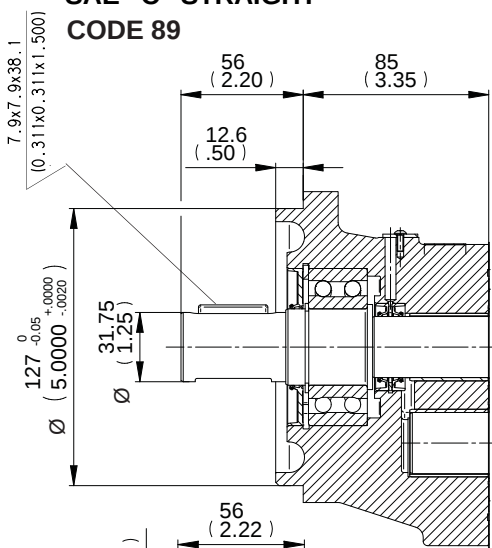


Max. resistance torque 480 Nm



OUTRIGGER BEARING (heavy loads)

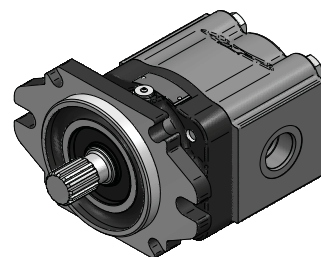
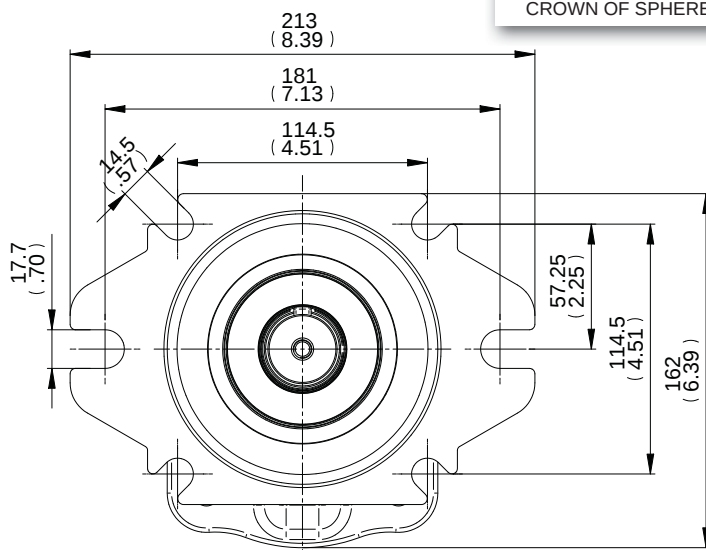
SAE "C" STRAIGHT CODE 89



SAE "C" SPLINE CODE 57

Ext. Involute Spline SAE J498B
with major diameter modified
14 teeth - 12/24 Pitch - 30 deg
Flat Root - Side fit - Class 1

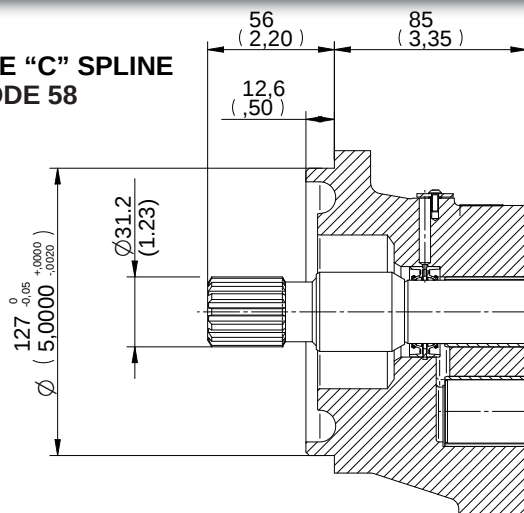
BEARING WITH DOUBLE-
CROWN OF SPHERES



Max. resistant torque 480 Nm

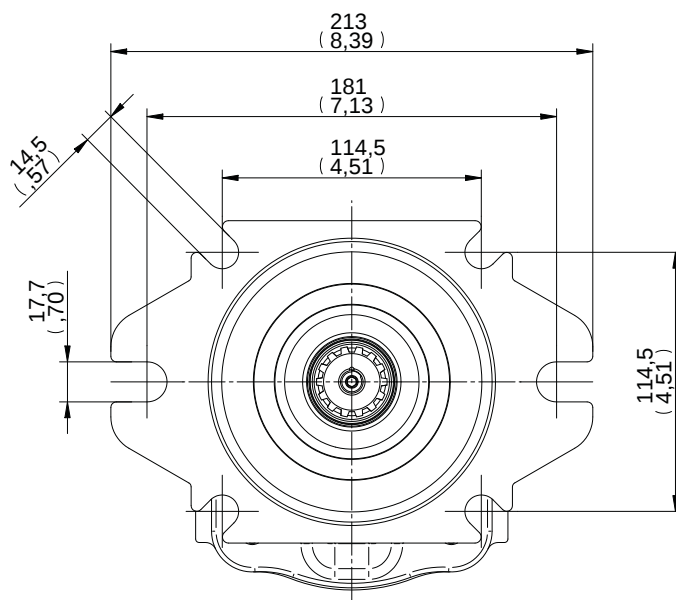
R8	Available assembling shafts			
Splined	57			
Tapered				
Straight	89			

SAE "C" SPLINE CODE 58



S4	Available assembling shafts			
Splined	58			
Tapered				
Straight				

Ext. Involute Spline SAE J498B
with major diameter modified
14 teeth - 12/24 Pitch - 30 deg
Flat Root - Side fit - Class 1



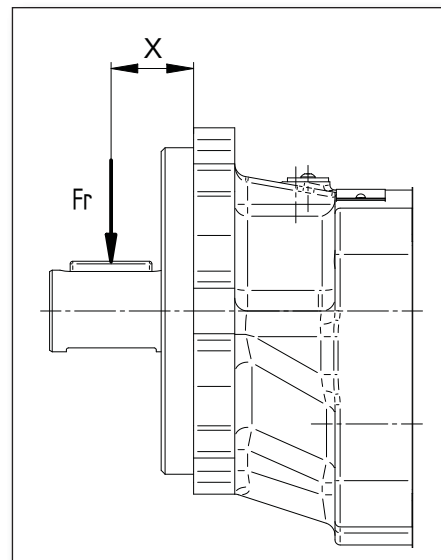
Max. resistant torque 480 Nm



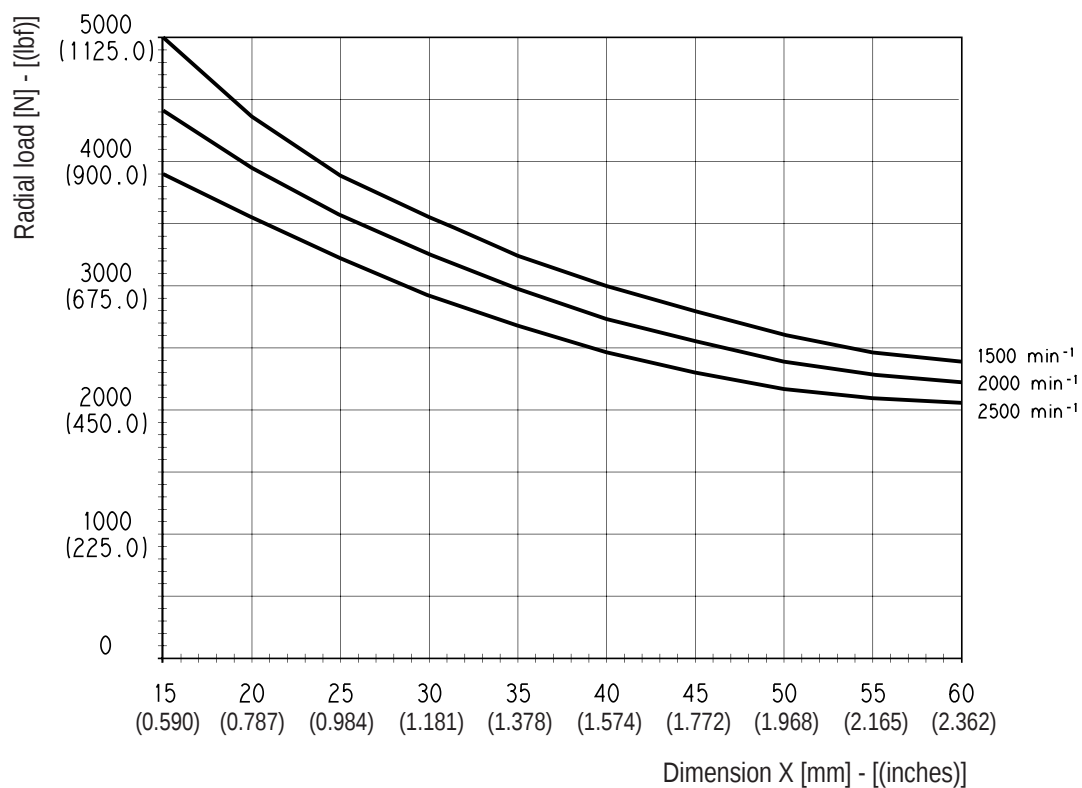
OUTBOARD BEARING FOR HEAVY LOADS (DUTY LIFE)

 COMMERCIAL CODES **Z1 - R8**

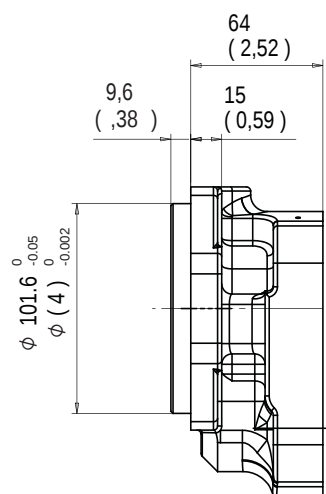
The diagram shows the values of admissible radial loads, in case of parallel axis drag.
 The duty life of 4000 - 5000 hours is referred to a typical mobile application, where the use is not continuous for long periods of time.



X = Distance of the radial load result from the mounting flange [mm (in)].

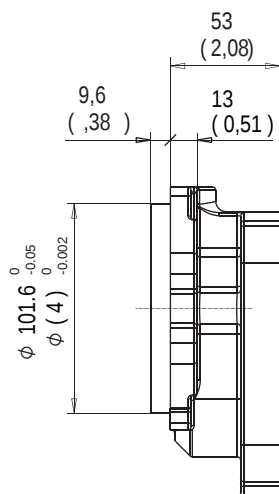


OUTRIGGER BEARING (medium loads)



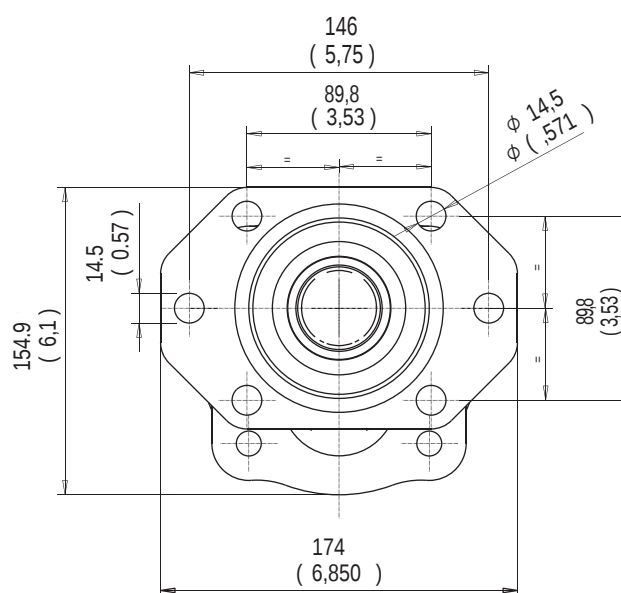
64 (2.52)

THICKNESS OF THE FLANGE
ASSEMBLED WITH DISPLACE-
MENTS: 47 - 55 - 64 - 72 - 80



53 (2.06)

THICKNESS OF THE FLANGE
ASSEMBLED WITH DISPLACE-
MENTS: 23 - 28 - 34 - 40

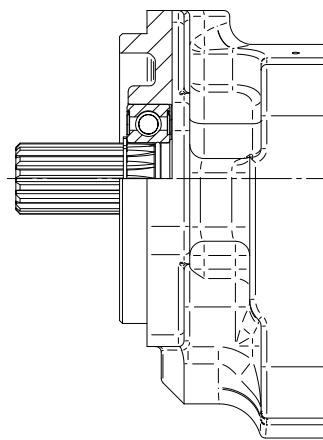
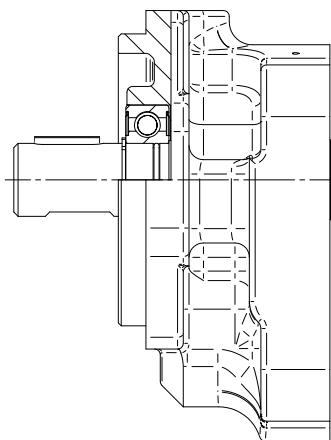


SAE B mounting flange

R3	Available assembling shafts			
Splined	55	56		
Tapered				
Straight	87	88*		

*For this option, please get in touch with our sales dept. before to place an order.

BEARING WITH SINGLE CROWN OF SPHERES



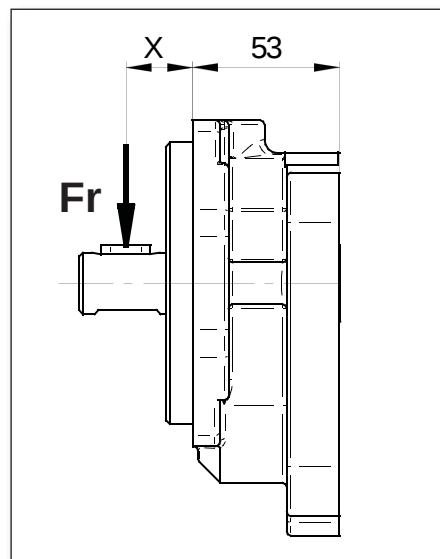
GEAR PUMPS "PG" SERIES GEAR MOTORS "MG" SERIES

PG330 - MG330

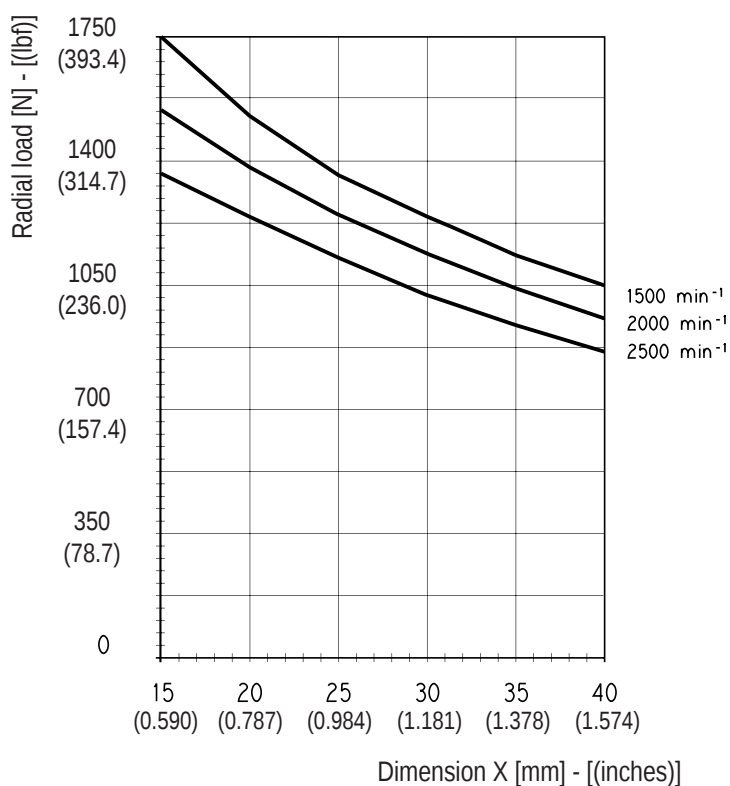
◦ OUTBOARD BEARING FOR MEDIUM LOADS (DUTY LIFE)

COMMERCIAL CODE **R3**
(displacements 23 - 40 cm³)

The diagram shows the values of admissible radial loads, in case of parallel axis drag.
The duty life of 3500 - 4000 hours is referred to a typical mobile application, where the use is not continuous for long periods of time.



X = Distance of the radial load result from the mounting flange [mm (in)].



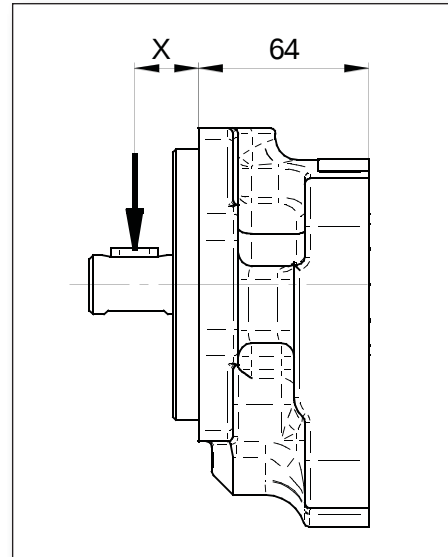
PG330 - MG330**GEAR PUMPS "PG" SERIES
GEAR MOTORS "MG" SERIES**

E0.151.0113.02.00/IM01

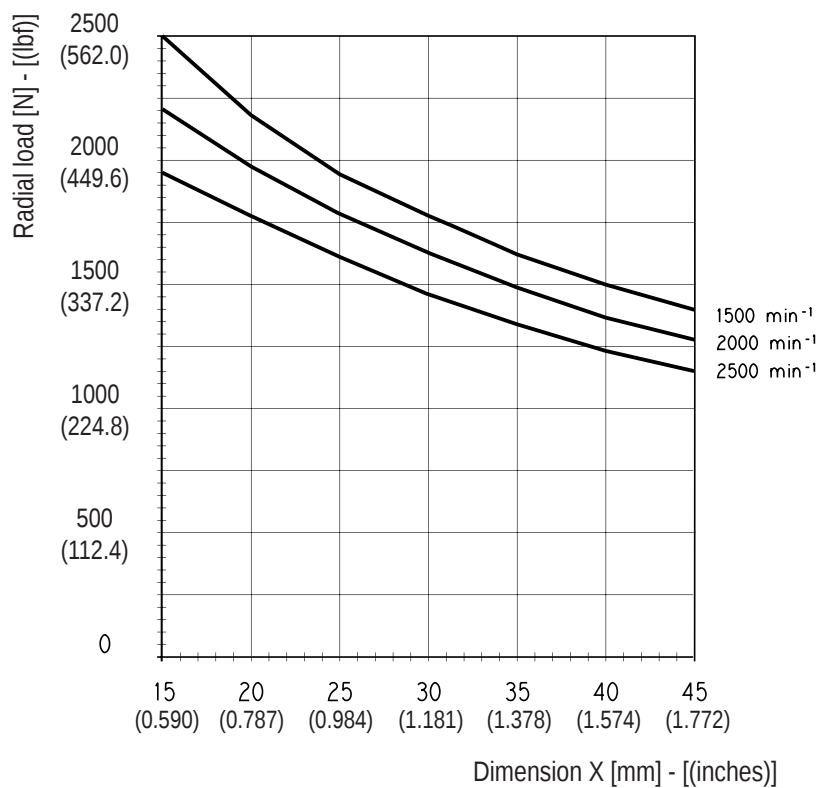
OUTBOARD BEARING FOR MEDIUM LOADS (DUTY LIFE)

COMMERCIAL CODE R3
(displacements 47 - 80 cm³)

The diagram shows the values of admissible radial loads, in case of parallel axis drag.
The duty life of 3500 - 4000 hours is referred to a typical mobile application, where the use is not continuous for long periods of time.



X = Distance of the radial load result from the mounting flange [mm (in)].

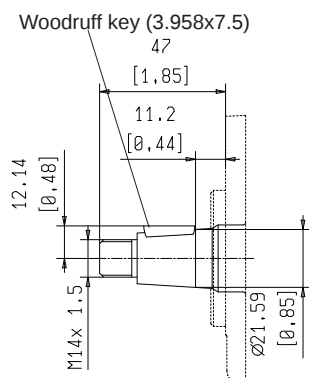


GEAR PUMPS "PG" SERIES GEAR MOTORS "MG" SERIES

PG330 - MG330

AVAILABLE SHAFTS

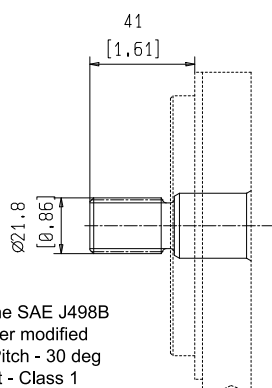
EUROPEAN TAPERED 1:8

Code 38


TRANSMISSIBLE/RESISTANT TORQUE

MAX 250 Nm (2213 lbf in)

SAE "B" SPLINE

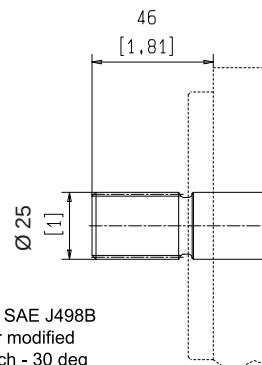
Code 55


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

TRANSMISSIBLE/RESISTANT TORQUE

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

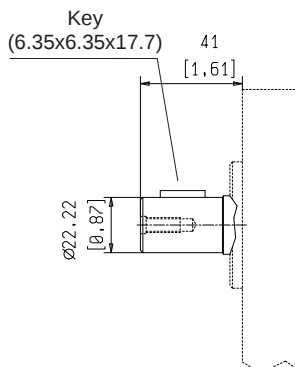
TRANSMISSIBLE/RESISTANT TORQUE

MAX 480 Nm (4250 lbf in)

SAE "B" STRAIGHT

Code 87

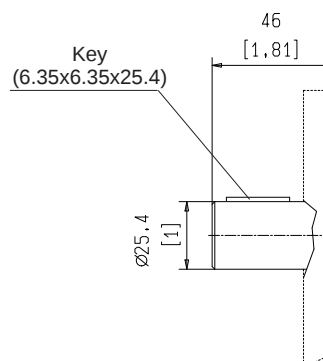
◦ Available only for displacements: 23 - 28 - 34 - 40



TRANSMISSIBLE/RESISTANT TORQUE

MAX 220 Nm (1950 lbf in)

SAE "BB" STRAIGHT

Code 88


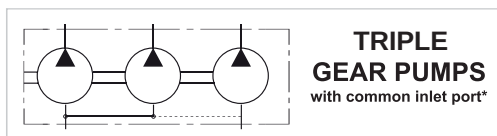
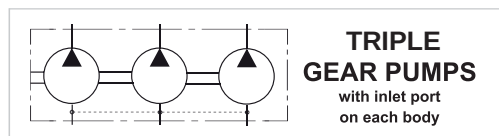
TRANSMISSIBLE/RESISTANT TORQUE

MAX 320 Nm (2830 lbf in)


PG330

GEAR PUMPS "PG" SERIES

E0.151.0113.02.00/IM01



Release with flange S3 and shaft 56

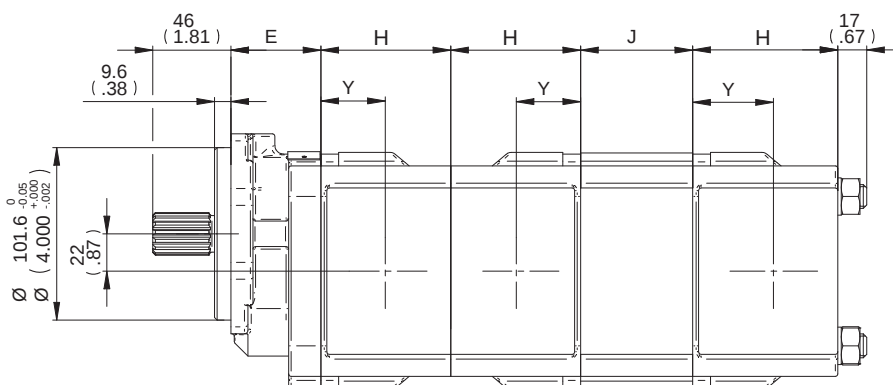
*In case of common inlet port on the first two stages, to avoid too high oil speed, please check on page 15 the proper size.

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

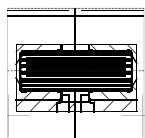
TYPE		23	28	34	40	47	55	64	72	80
Displacements	cm ³ /rev	23.4	28.6	34.4	40.3	47.4	55.2	64.3	73.4	80.6
	cu.in./rev	1.43	1.74	2.1	2.46	2.89	3.37	3.92	4.48	4.91
Dimension H	mm	68	72	76.5	81	93	99	106	113	119
	in	2.68	2.83	3.01	3.19	3.66	6.78	7.05	7.33	7.57
Dimension Y	mm	35	38	42.5	47	50	56	58	61	65
	in	1.38	1.49	1.67	1.85	1.97	2.2	2.28	2.4	2.56
Working pressure P1*	bar	260	280	280	260	280	260	240	220	200
	psi	3800	4000	4000	3800	4000	3800	3500	3200	2900
Intermittent pressure P2	bar	280	300	300	280	300	280	260	240	220
	psi	4000	4350	4350	4000	4350	4000	3800	3500	3200
Peak pressure P3	bar	300	320	320	300	320	300	280	260	240
	psi	4350	4650	4650	4350	4650	4350	4000	3800	3500
Max. speed at P2	rpm	3000			2700			2500		
Min. speed at P1	rpm	400			400			350		
Weight	kg	8.8	9.18	9.6	10	11.2	11.8	12.5	13.2	13.7
	lbs	19.4	20.2	21.16	22	24.7	26	27.5	29.1	30.2

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

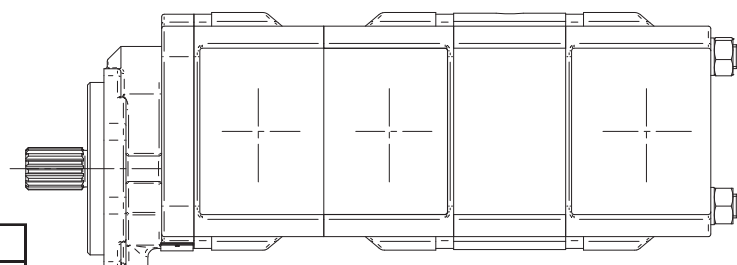
Weight of the flange P2 = 4 kg (8.82 lbs)
Weight of the flange S3(E=53 mm) = 4 kg (8.82 lbs)
Weight of the flange S3(E=64 mm) = 5.4 kg (11.9 lbs)
Weight of the intermediate plate H = 66 mm - 6.3 kg
Weight of the intermediate plate H = 72 mm - 6.9 kg
Weight of the intermediate plate H = 78 mm - 7.4 mm



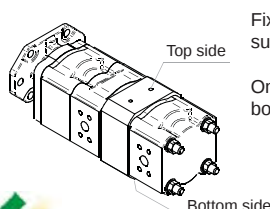
COMMON SUCTION FEASIBLE ONLY BETWEEN 1ST AND 2ND STAGE.



Sectional view of the coupling shaft
max torque 270 Nm

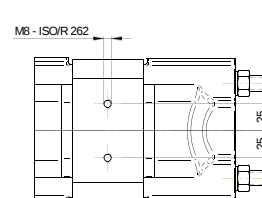


- PORT TYPES AND SIZES ON PAGE A9 - A10
- COMMON SUCTION PORT SIZE ON PAGE A15
- FLANGE S3 FOR DISPLACEMENTS 23-40 E = 53 mm
- FLANGE S3 FOR DISPLACEMENTS 47-80 E = 64 mm
- DIMENSION J FOR DISPLACEMENTS 23 - 40 = 66 mm
- DIMENSION J FOR DISPLACEMENTS 47 - 80 = 78 mm
- DIMENSION J FOR DISPLACEMENTS MIXED = 72 mm



Fixing holes, to support the pump.

On the top and bottom sides.



GEAR PUMPS "PG" SERIES

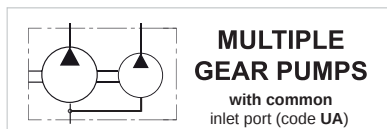
PG330

PG330 single pump with 2PE

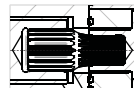


THE 2PE CAN BE ALSO MULTIPLE FOR THE COMMON INLET, PLEASE REFER TO THE TABLE OF PAGE 15

Release with flange S3 and shaft 56

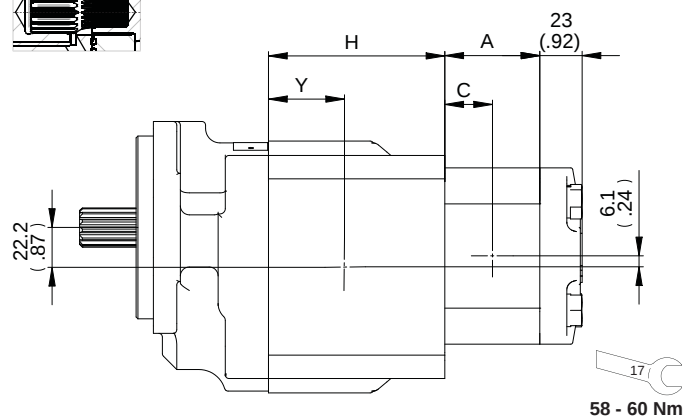


• Sectional view of the coupling shaft
max torque
100 Nm



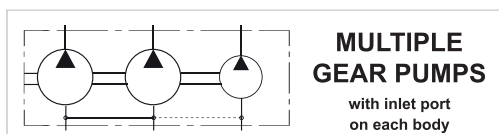
• In case of common inlet port, to avoid too high value of oil speed, 30 l/min is the max. sucked flow for the downstream pump.

- PORT TYPES AND SIZES ON PAGE A9 - A10
- COMMON SUCTION PORT SIZE ON PAGE A15
- DIMENSION Y SEE PAGES A13-A14
- DIMENSION H SEE PAGES A13-A14 + 4 mm (0.16 in)
- DIMENSIONS A AND C, SEE TABLE BELOW



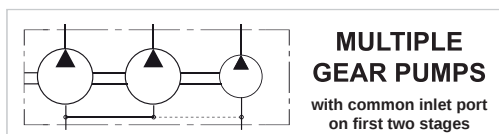
Type		3.2*	3.9*	4.5	6.5	8.3	10.5	11.3	12.5	13.8	16	19	22.5	26
Displacement	cm ³ /rev cu.in./rev	3.2 0.19	3.9 0.24	4.6 0.27	6.5 0.40	8.2 0.50	10.6 0.65	11.5 0.68	12.7 0.77	13.8 0.84	16.6 1.01	19.4 1.15	22.9 1.37	25.8 1.58
Dimension A	mm in		47.1 1.83		49.95 1.97	52.8 2.07	56.3 2.22		59.7 2.35	63.5 2.5	67.5 2.65	75.6 2.97	81 3.19	86.8 3.42
Dimension C	mm in		23.55 0.93		25 0.98	26.4 1.04	28.15 1.11		29.85 1.17	31.75 1.25	33.75 1.33	37.80 1.49	40.5 1.59	43.4 1.71

PG330 double pump with 2PE



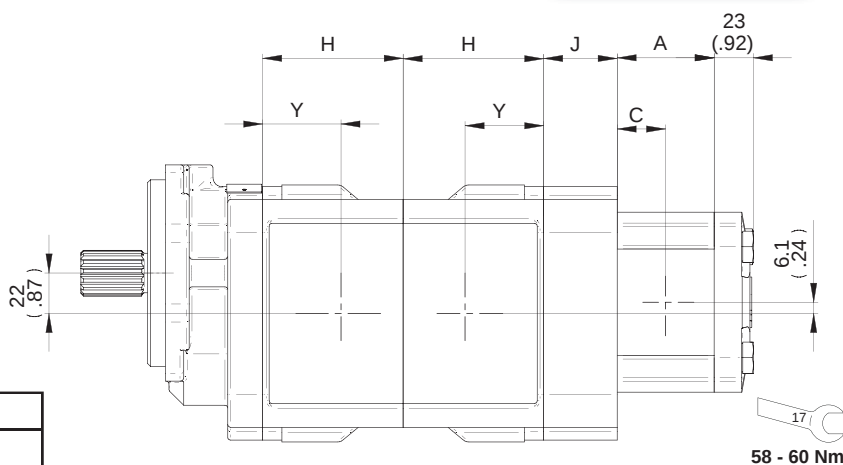
THE 2PE CAN BE ALSO MULTIPLE

Release with flange S3 and shaft 56

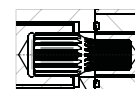
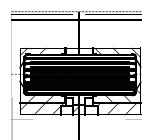


THE 2PE CAN BE ALSO MULTIPLE FOR THE COMMON INLET, PLEASE REFER TO THE TABLE OF PAGE 15

- PORT TYPES AND SIZES ON PAGE A9 - A10
- COMMON SUCTION PORT SIZE ON PAGE A15
- DIMENSION Y SEE PAGES A13-A14
- DIMENSION J=40 mm (displacements 23 - 40 cc)
- DIMENSION J = 46 mm (displacements 47 - 80 cc)
- DIMENSIONS A AND C, SEE TABLE ABOVE



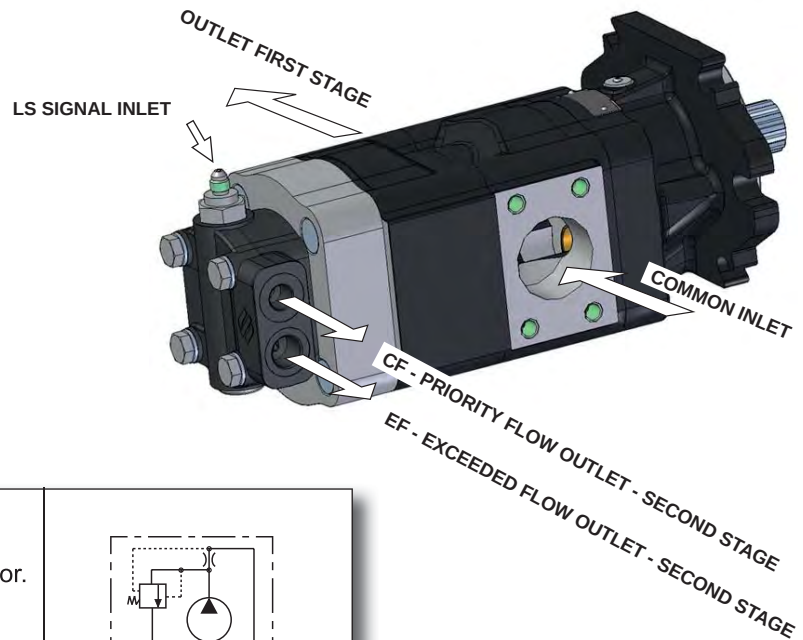
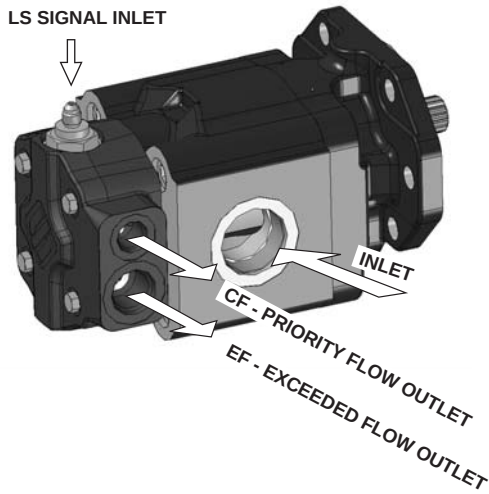
• Sectional view of the coupling shaft
max torque 270 Nm



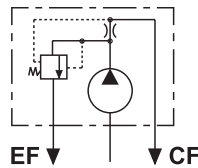
• Sectional view of the coupling shaft
max torque
100 Nm



AVAILABLE CONFIGURATIONS WITH PRIORITY FLOW VALVE

**code VP1**

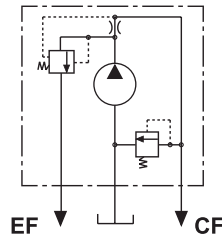
Priority flow valve, excess flow to second actuator.



CF = Priority flow port
EF = Excess flow port

code VPS1

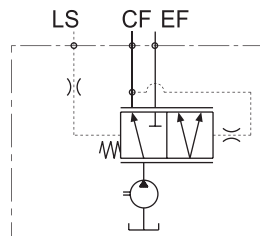
Priority flow valve, excess flow to second actuator with pressure relief valve on priority flow line.



CF = Priority flow port
EF = Excess flow port

code VPD1

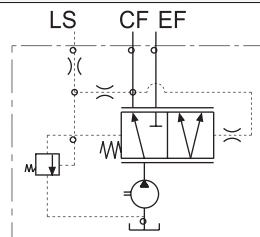
Load sensing priority valve with dynamic signal without main relief valve



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

code VPDS1

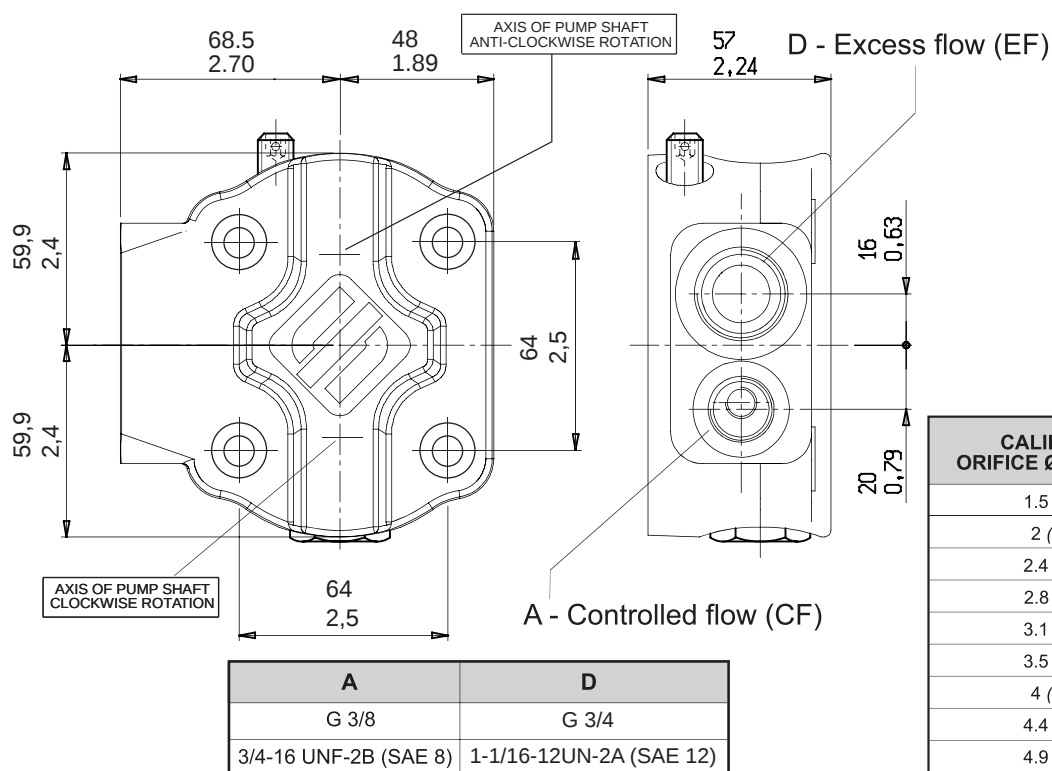
Load sensing priority valve with dynamic signal with main relief valve



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

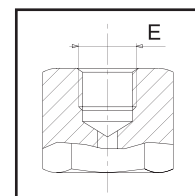
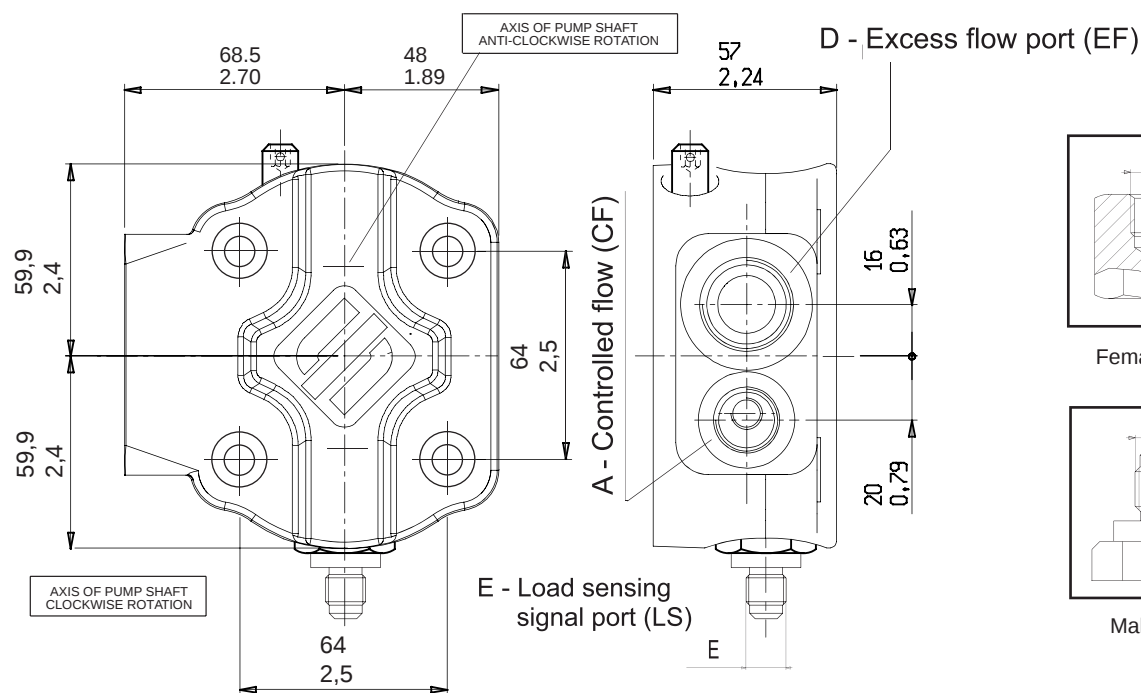
The double or triple pumps can be configured with priority flow valve too.
The stage which has its flow divided into priority and exceeded flows is always the back one.

VP1 - VPS1 (FEATURES)

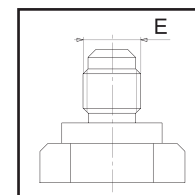


CALIBRATED ORIFICE Ø d(mm/inch)	FLOW RATE (l/min - gpm) ± 10%
1.5 (0.06")	2.5 (0.66)
2 (0.08")	4 (1.06)
2.4 (0.09")	6 (1.59)
2.8 (0.11")	8 (2.11)
3.1 (0.12")	10 (2.64)
3.5 (0.14")	12.5 (3.30)
4 (0.16")	16 (4.23)
4.4 (0.17")	20 (5.28)
4.9 (0.19")	25 (6.61)

VPD1 - VPDS1 (FEATURES)



Female fitting



Male fitting

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

A	D	E
G 3/8	G 3/4	G 1/4
3/4-16 UNF-2B (SAE 8)	1-1/16-12UN-2A (SAE 12)	7/16-20 UNF-2B (SAE 4)



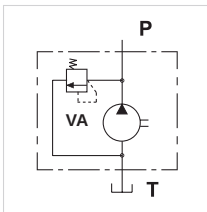
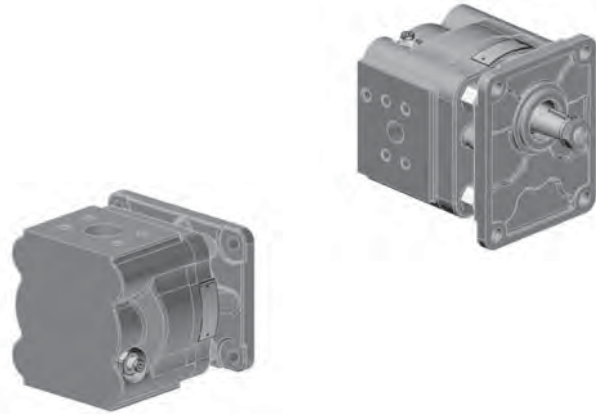
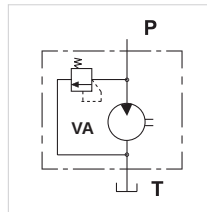
PG330 - MG330**GEAR PUMPS "PG" SERIES
GEAR MOTORS "MG" SERIES**

E0.151.0113.02.00/IM01

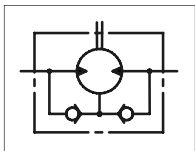
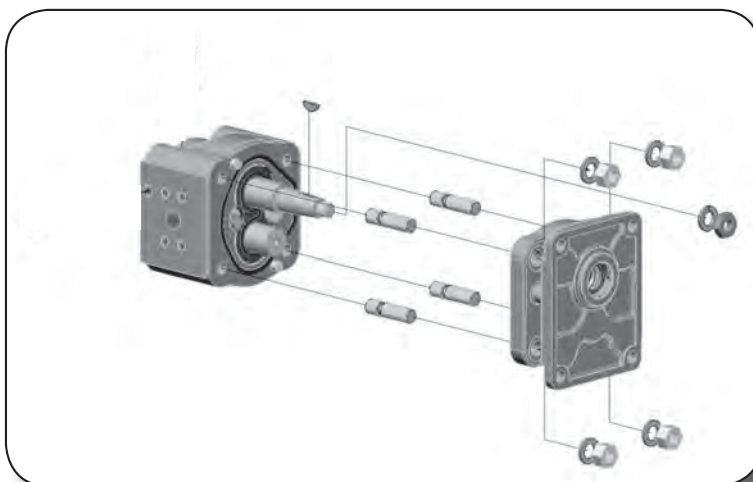
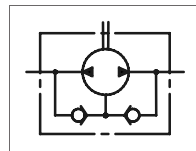
RELEASE WITH RELIEF VALVE INTEGRATED INTO THE BODY

By now, this release is available just for uni-directional pumps and motors.

VA	Available setting ranges
Yellow spring	51 - 75 bar (740 - 1090 psi)
Blue spring	76 - 150 bar (1100 - 2180 psi)
Green spring	151 - 220 bar (2190 - 3190 psi)
Red spring	221 - 330 bar (3200 - 4790 psi)

PUMPS**MOTORS****RELEASE WITH INTERNAL DRAIN**

For bi-directional configuration, pump or motor.

IDV**MOTORS****PUMPS**

Both these configurations are special assemblies. In fact, to be able to place the valves into the body, we have avoided to drill the body for the standard screws.

In this assembly, the pump is closed by the way of 4 studs and their nuts.



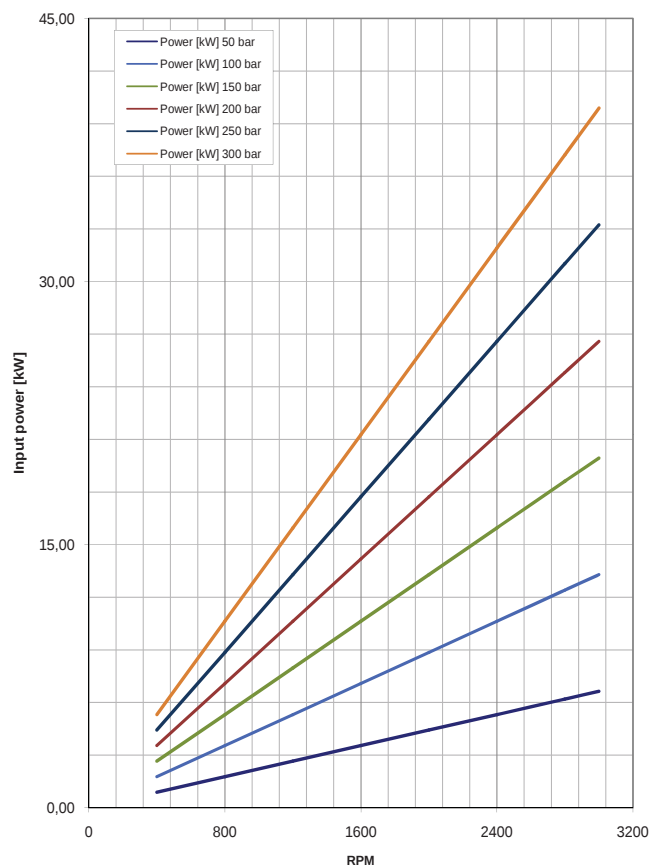
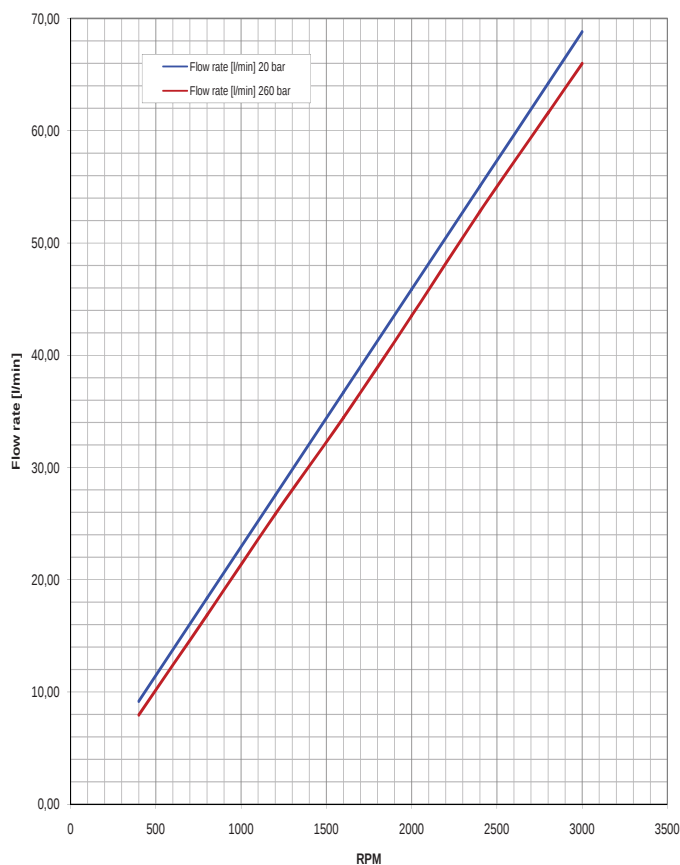
GEAR PUMPS "PG" SERIES

PG330

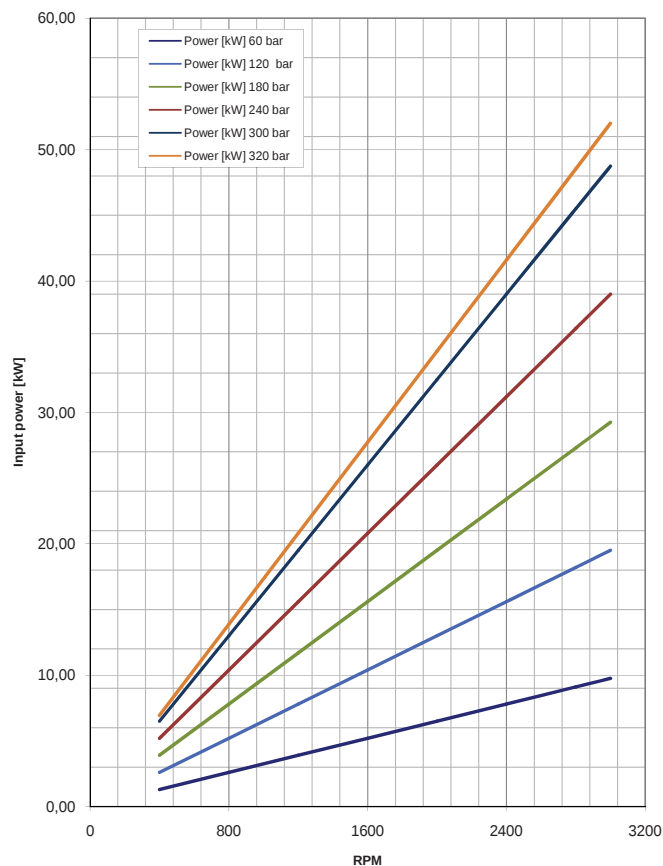
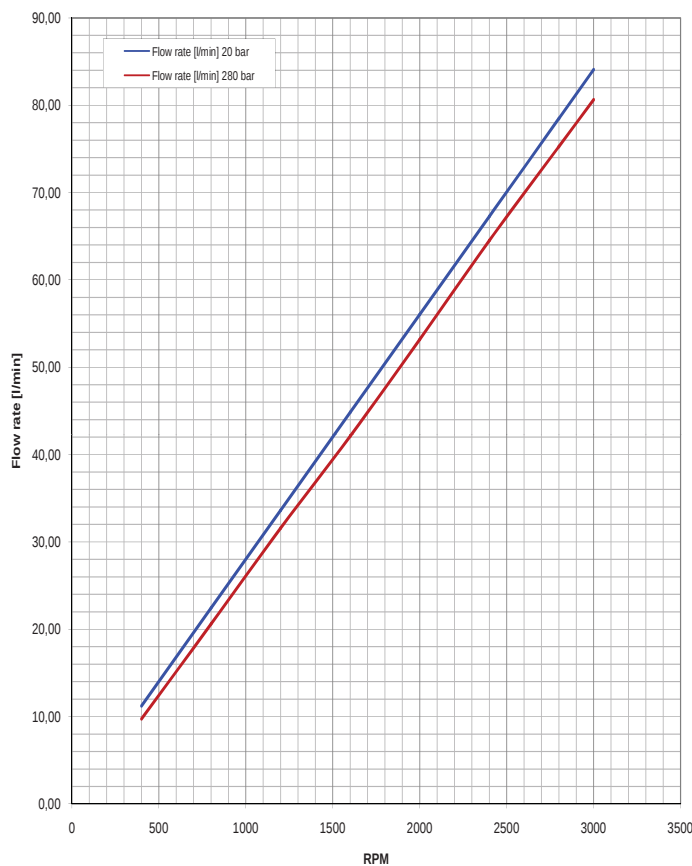
Performance curves carried out with oil viscosity at 21 cSt and oil temperature at 50°C

The performance of these diagrams are indicative. In case you need approved values, please get in touch with our technical dept.

PG330 - 23

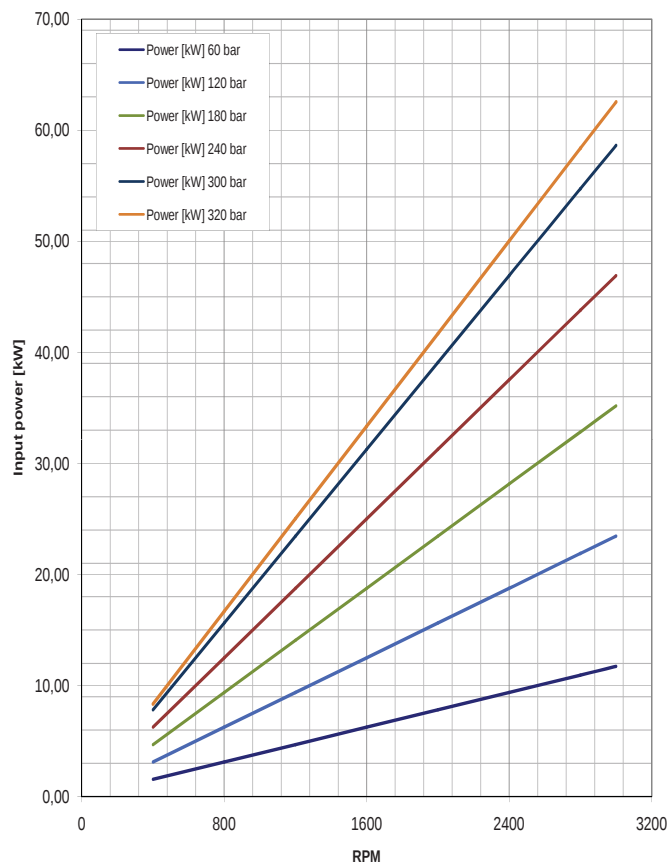
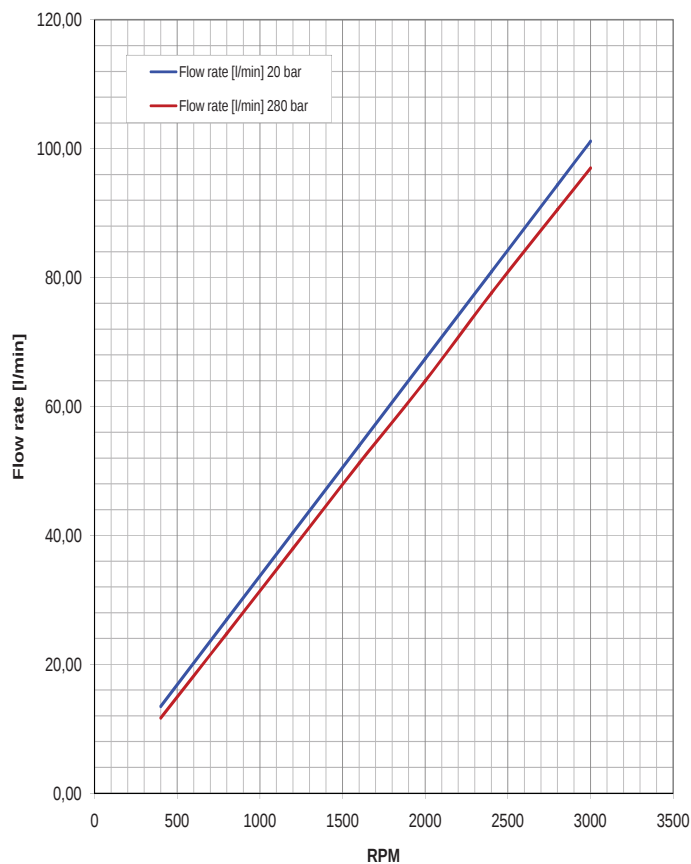


PG330 - 28

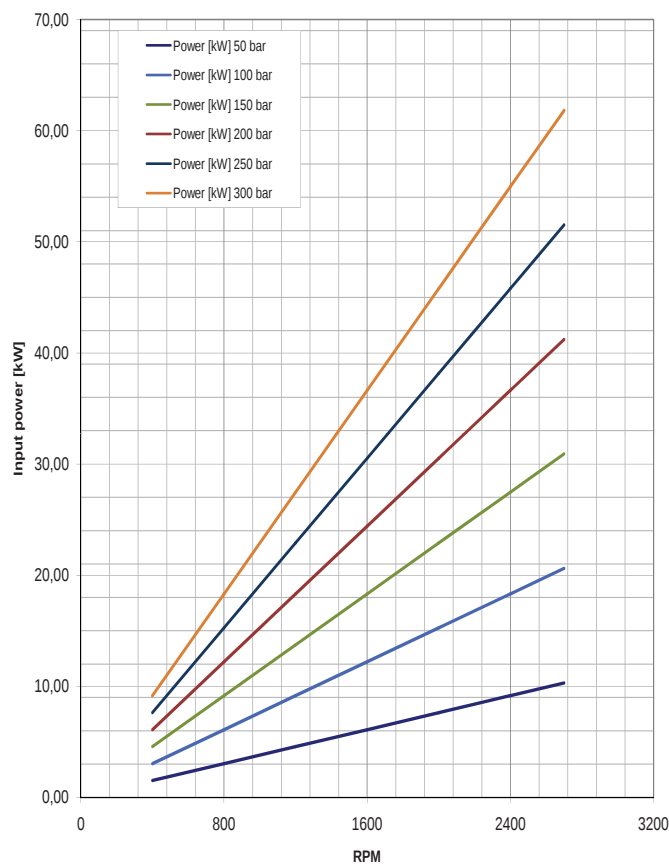
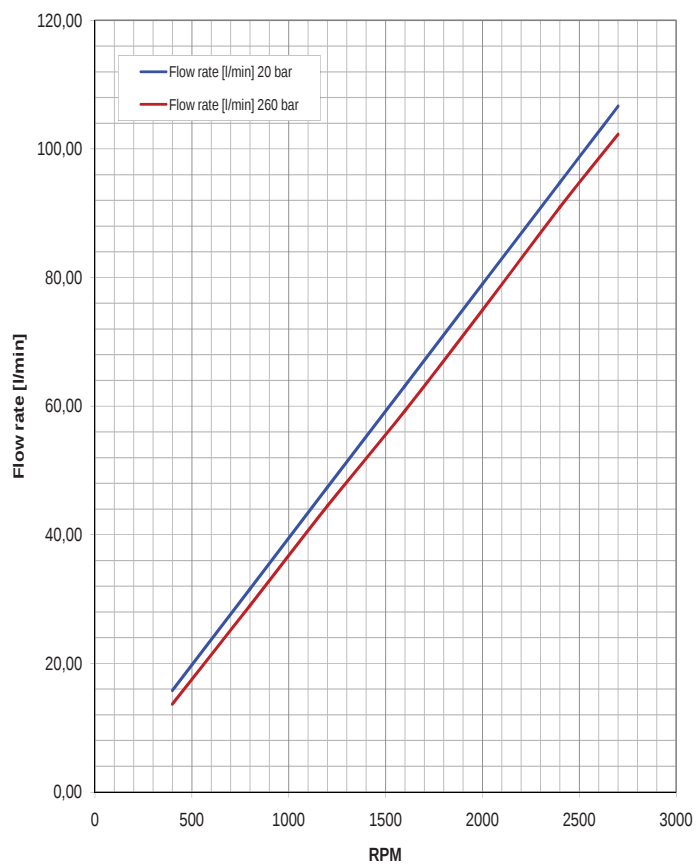


Performance curves carried out with oil viscosity at 21 cSt and oil temperature at 50°C
The performance of these diagrams are indicative. In case you need approved values, please get in touch with our technical dept.

PG330 - 34



PG330 - 40



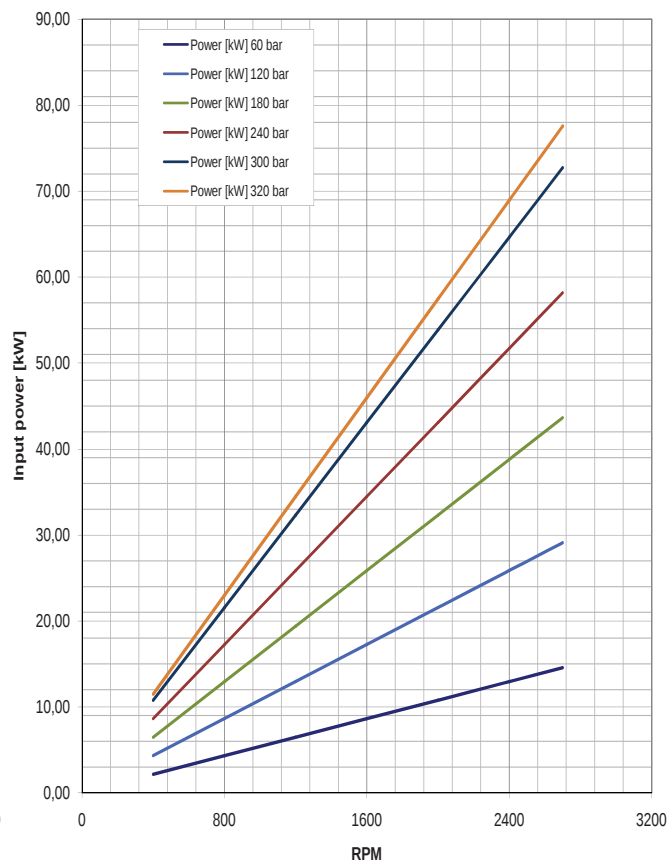
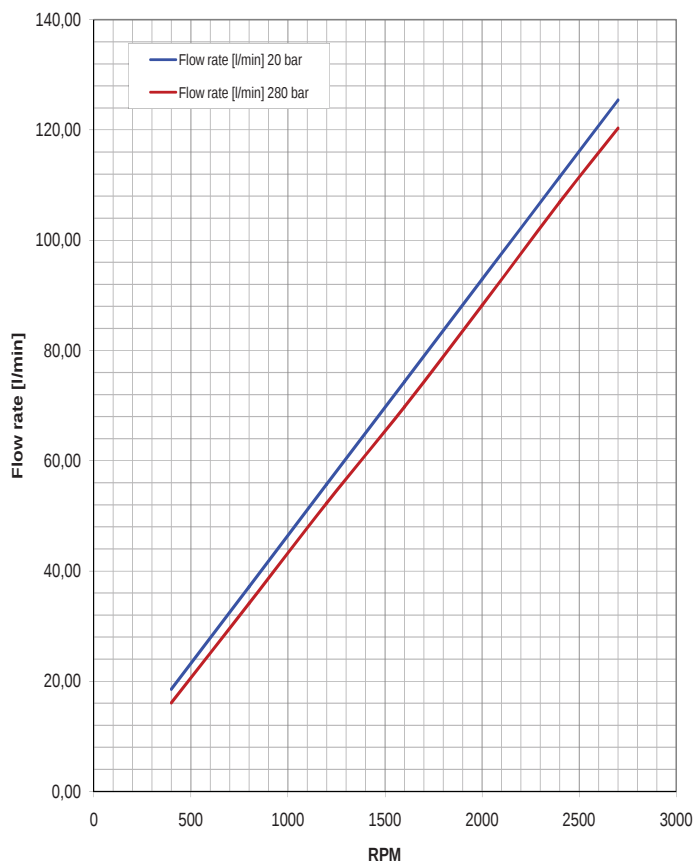
GEAR PUMPS "PG" SERIES

PG330

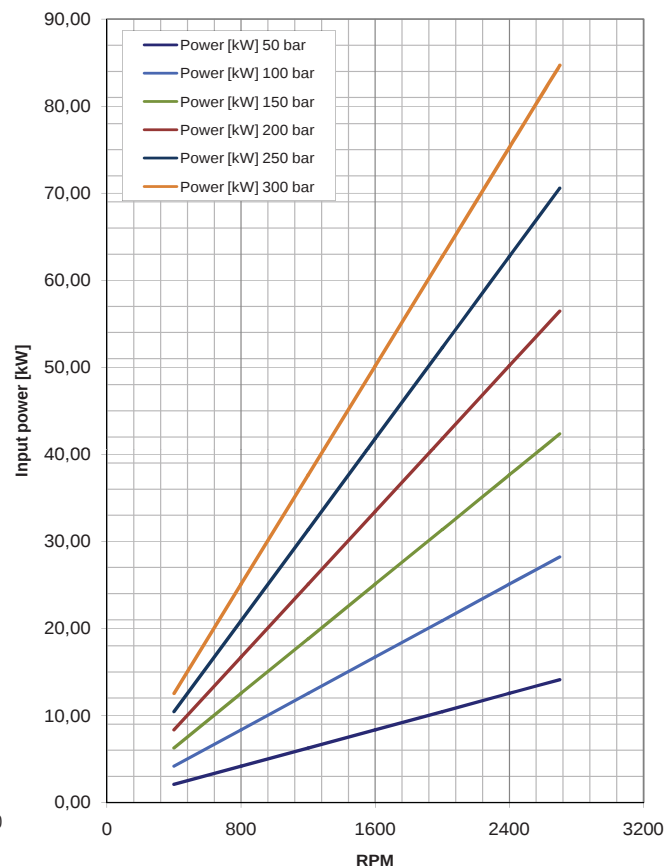
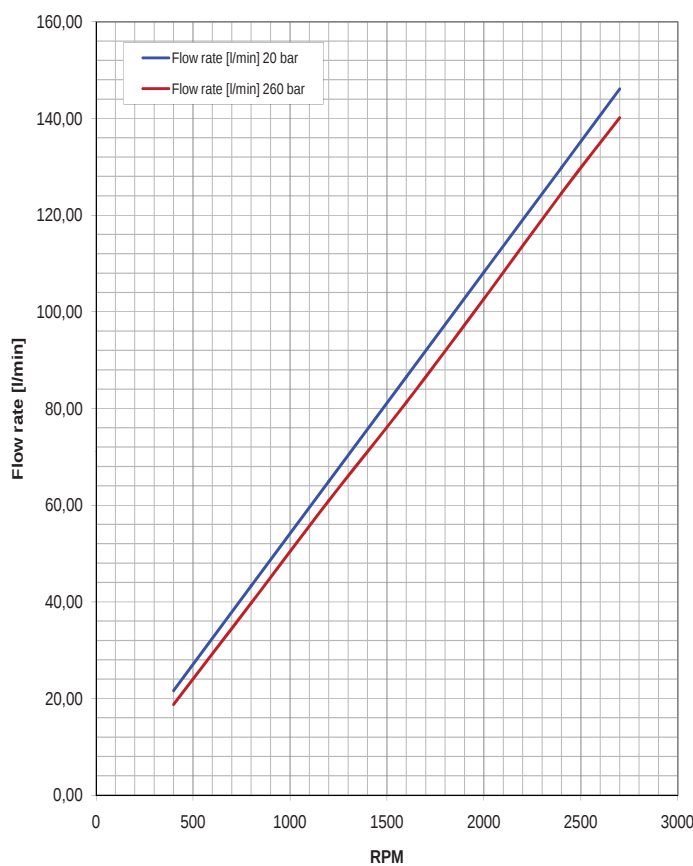
Performance curves carried out with oil viscosity at 21 cSt and oil temperature at 50°C

The performance of these diagrams are indicative. In case you need approved values, please get in touch with our technical dept.

PG330 - 47

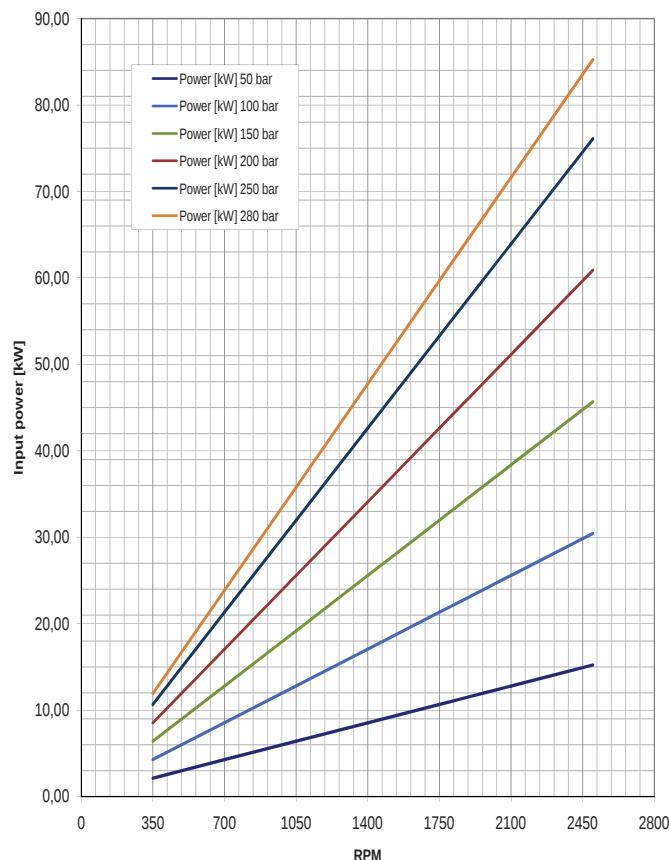
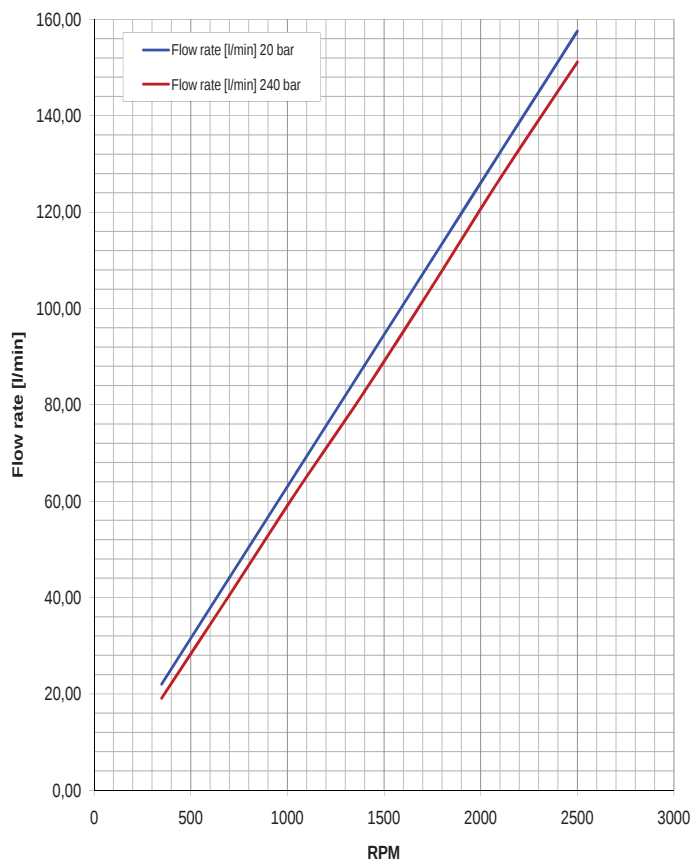


PG330 - 55

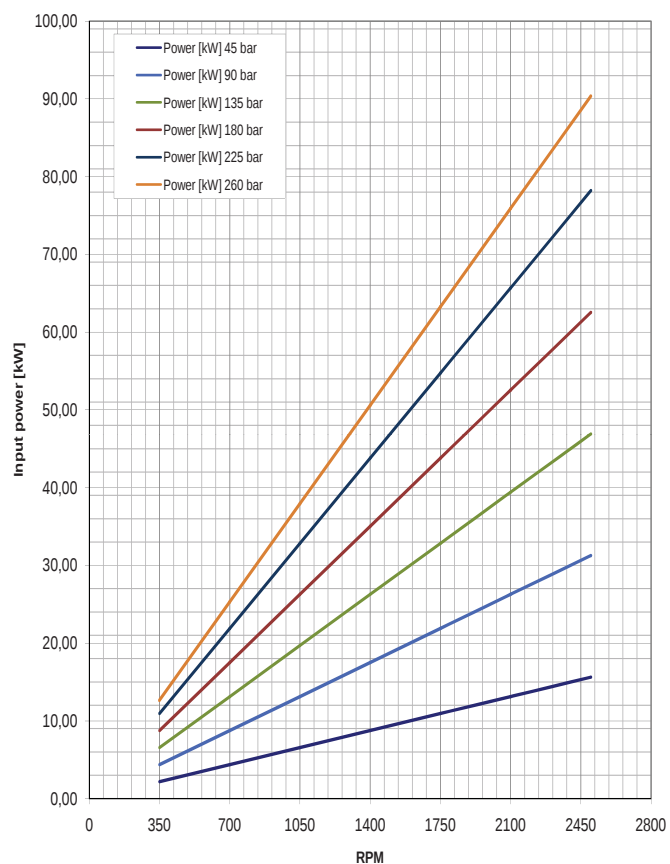
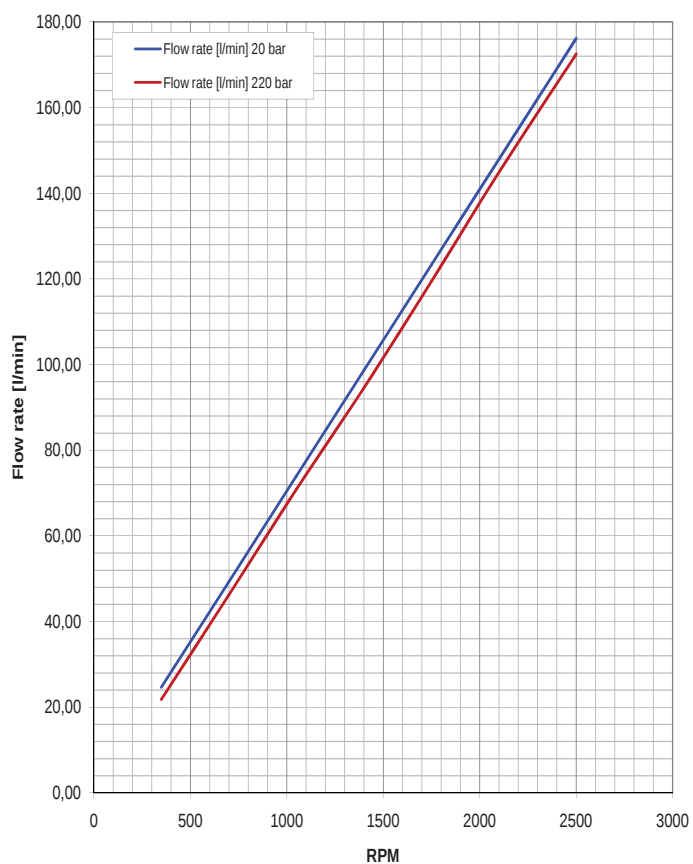


Performance curves carried out with oil viscosity at 21 cSt and oil temperature at 50°C
The performance of these diagrams are indicative. In case you need approved values, please get in touch with our technical dept.

PG330 - 64



PG330 - 72



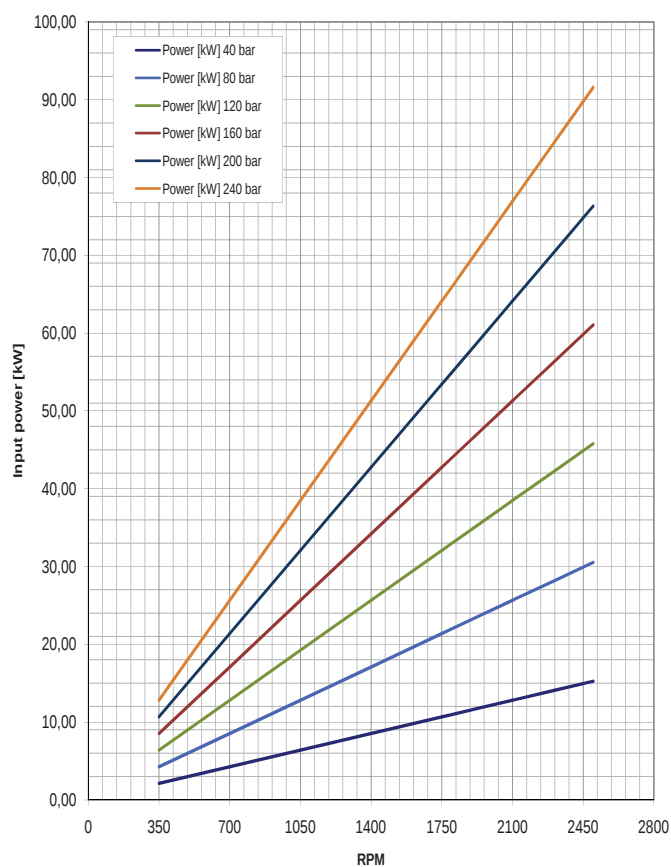
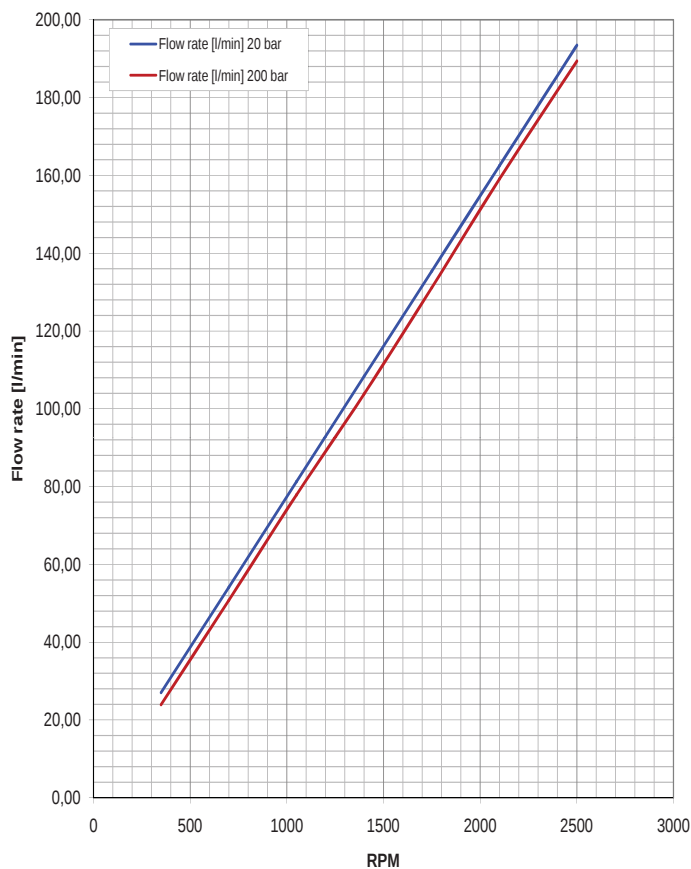
GEAR PUMPS "PG" SERIES

PG330

Performance curves carried out with oil viscosity at 21 cSt and oil temperature at 50°C

The performance of these diagrams are indicative. In case you need approved values, please get in touch with our technical dept.

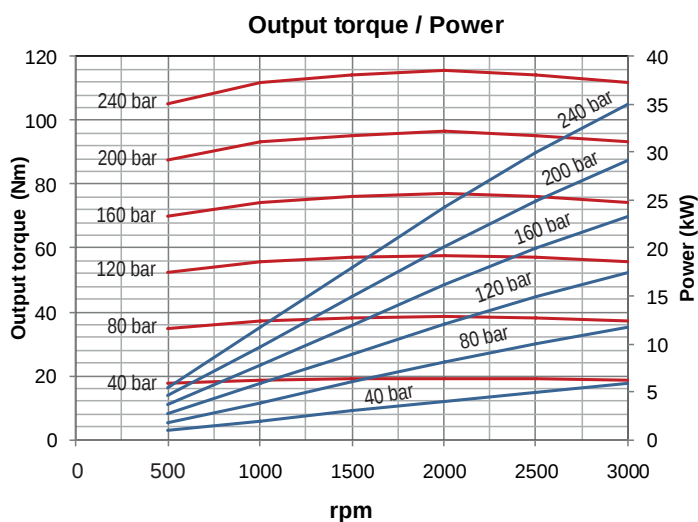
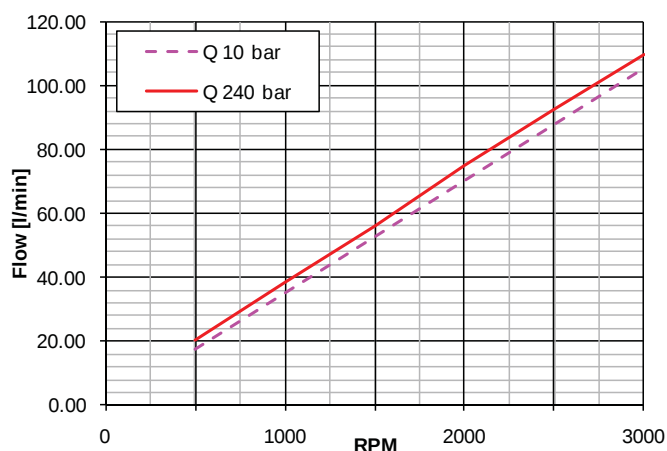
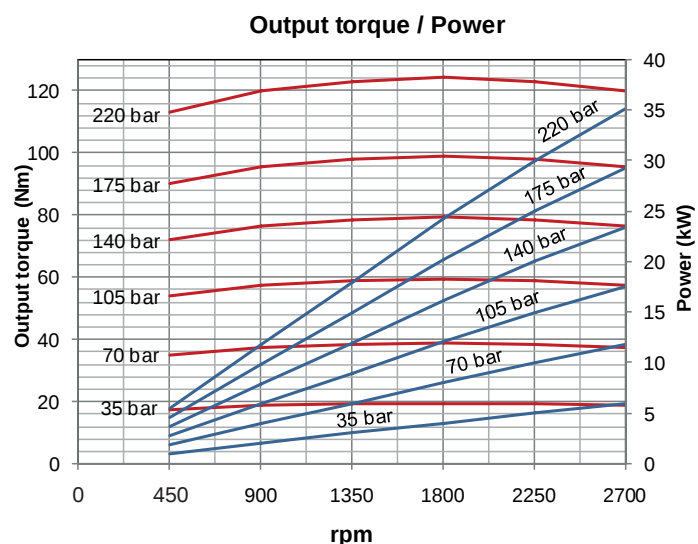
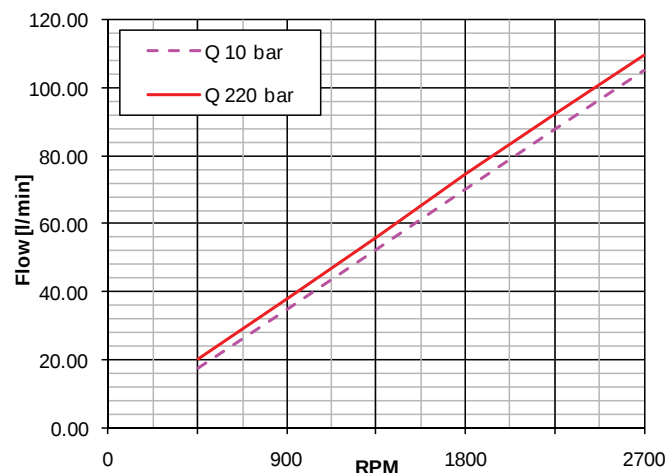
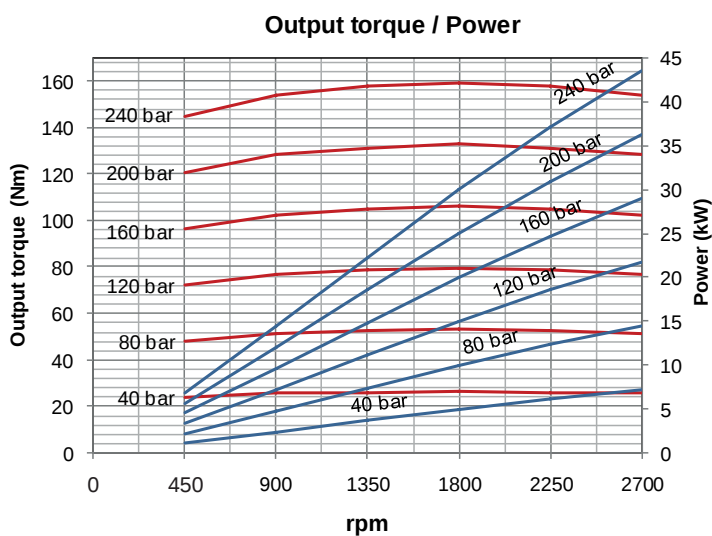
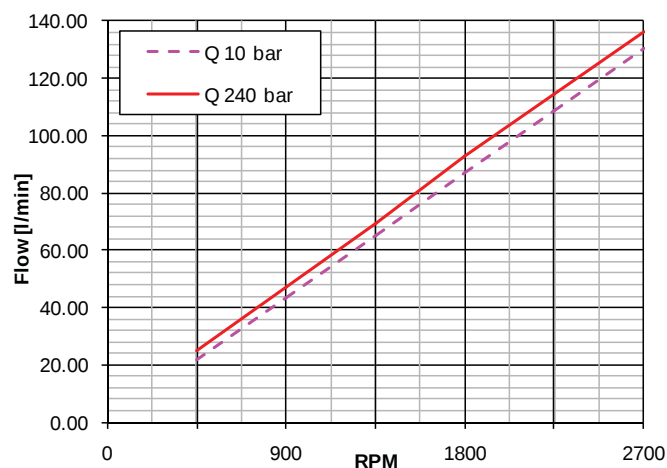
PG330 - 80



MG330**GEAR MOTORS "MG" SERIES**

Performance curves carried out with oil viscosity at 21 cSt and oil temperature at 50°C
The performance of these diagrams are indicative. In case you need approved values, please get in touch with our technical dept.

E0.151.0113.02.00/IM01

MG330 - 34**MG330 - 40****MG330 - 47**

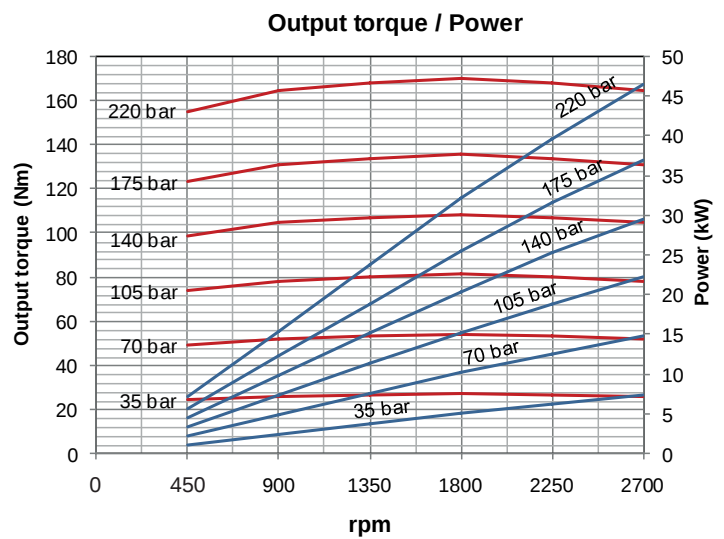
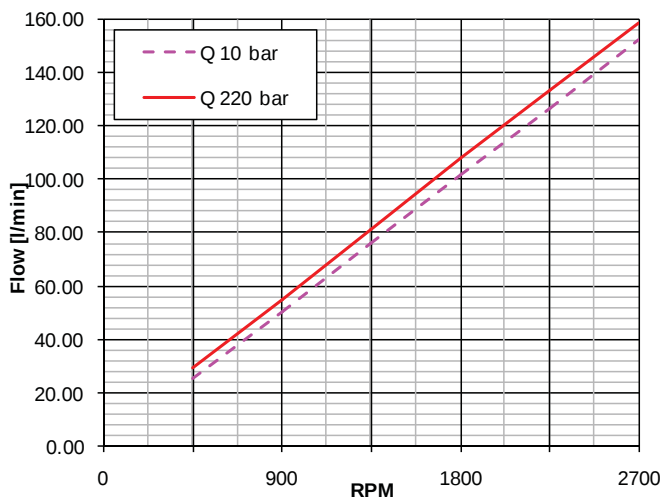
GEAR MOTORS "MG" SERIES

MG330

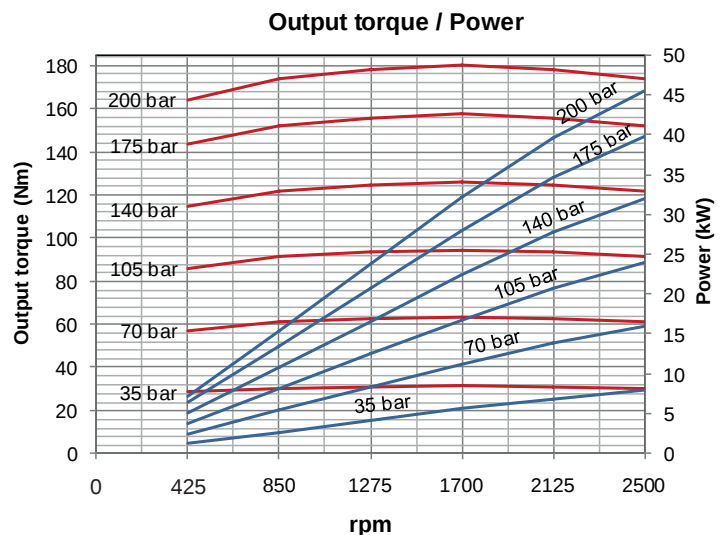
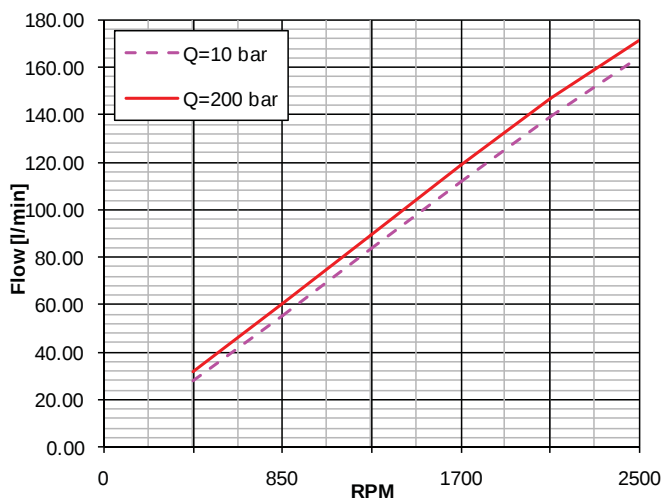
Performance curves carried out with oil viscosity at 21 cSt and oil temperature at 50°C

The performance of these diagrams are indicative. In case you need approved values, please get in touch with our technical dept.

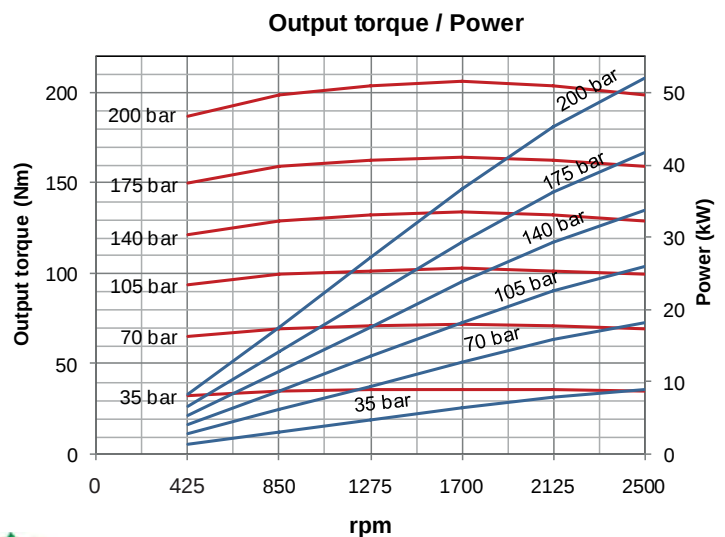
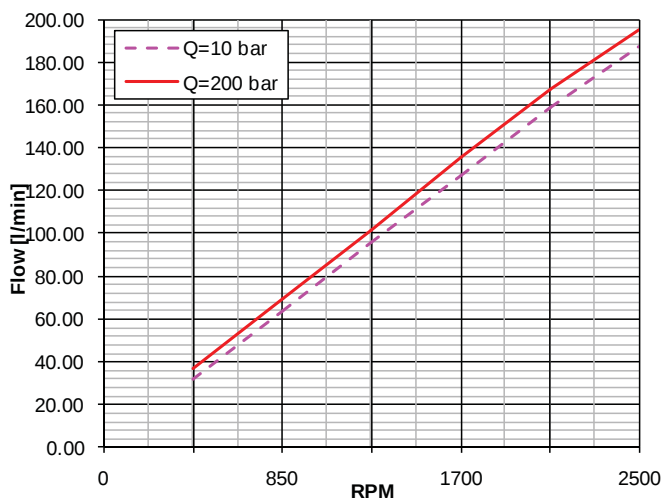
MG330 - 55



MG330 - 64



MG330 - 72



HOW TO ORDER PG330 SINGLE PUMP

A	B	C	D	E	F	G	H	I	L	M	N	O
P G	3 3 0	2 8	D - P	3 8	P 2 - V - 1	V P D 1	1 0 . 5	/	1 8 0 -	2PE...		

A

PUMP SERIES

B

DIMENSIONS

C

TYPE	DISPLACEMENTS
	cm ³ /rev - cu.in./rev.
23	23,4 - 1,43
28	28,6 - 1,74
34	34,4 - 2,1
40	40,3 - 2,46
47	47,4 - 2,89
55	55,2 - 3,37
64	64,3 - 3,92
72	73,4 - 4,48
80	80,6 - 4,91

D

CODE	ROTATION (page A2)
D	CLOCKWISE
S	ANTI-CLOCKWISE
R	REVERSIBLE

E

CODE	AVAILABLE PORTS (pages A9,A10 and A12)
G	GAS THREADED PORTS (BSPP)
R	SAE THREADED PORTS (ODT)
P	FLANGED PORTS EUROPEAN STANDARD
S	FLANGED PORTS SAE (UNC)
W	FLANGED PORTS SAE (METRIC)

F

CODE	AVAILABLE SHAFTS (from page A17 to page A23)
38	EUROPEAN TAPERED 1:8 SHAFT
55	SAE B 13T-16/32DP
56	SAE BB 15T-16/32DP
57	SAE C 14T-12/24DP (COUNTERSHAFT FOR BEARING)
58	SAE C 14T-12/24DP (COUNTERSHAFT WITHOUT BEAR.)
66	B8x32x36 DIN 5462-6g7 (COUNTERSHAFT FOR BEARING)
67	B8x32x36 DIN 5462-6g7 (COUNTERS. WITHOUT BEARING)
87	SAE B PARALLEL
88	SAE BB PARALLEL
89	SAE C PARALLEL (COUNTERSHAFT FOR BEARING)

O

THE PIGGYBACK 2PE CAN BE SINGLE, MULTIPLE AND/OR WITH VALVE IN THE REAR COVER.FOR THE CONFIGURATION, PLEASE SEE OUR RELATED TECHNICAL CATALOGUE (SEE PAGEA25)

N

VALUE OF THE RELIEF VALVE SETTING IN bar
JUST IN CASE OF CODES **VPS - VPD - VA**

M

VALUE OF THE PRIORITY FLOW NEEDED IN l/min
JUST IN CASE OF CODES **VP - VPS**

L

AVAILABLE VALVES (pages A26, A27 and A28)	CODE
PRIORITY F. V., EXCESS FLOW TO SECOND ACTUATOR	VP1
PRIORITY F. V., EXCESS FLOW TO SECOND ACTUATOR WITH RELIEF VALVE ON PRIORITY FLOW LINE	VPS1
LS PRIORITY FLOW VALVE WITH DINAMIC SIGNAL WITH OR WITHOUT RELIEF VALVE ON THE LS SIGNAL	VPD1 VPDS1
RELIEF VALVE INTEGRATED INTO THE BODY	VA
RELEASE WITH VALVE FOR INTERNAL DRAIN	IDV

I

POSITION OF THE PORTS	CODE
STANDARD LATERAL PORTS	
REAR PORTS (PAGE A11)	1

H

AVAILABLE INTERNAL SEALS	CODE
NITRILE-BUTADIENE RUBBER (NBR)	
FLUOROELASTOMER (VITON)	V

G

AVAILABLE MOUNTING FLANGES (pages A16,A17,A18,A20)	CODE
EUROPEAN STANDARD Ø 50,8 mm	P2
SAE B 2 - 4 BOLTS	S3
SAE C 2 - 4 BOLTS	S4
SAE B 2 - 4 BOLTS WITH G1/8 EXTERNAL DRAIN	S7
SAE B 2 - 4 BOLTS WITH SAE 4 EXTERNAL DRAIN	S8
SAE B 2 - 4 BOLTS WITH BEARING (MEDIUM LOADS)	R3
SAE C 2 - 4 BOLTS WITH BEARING (HEAVY LOADS)	R8
4 BOLTS FOR ZF GEAR BOX Ø 80 mm WITH BEARING	Z1
4 BOLTS FOR ZF GEAR BOX Ø 80 mm WITHOUT B.	Z2



GEAR PUMPS "PG" SERIES

PG330

HOW TO ORDER PG330 DOUBLE OR TRIPLE PUMP

A	B	C	D	E	F	G	H	I	L	M	N	O
PG	330	40 / 28 / 23	D - P	38	P2 - V - UA1 - VPD1	10.5 / 180 - 2PE...						

A

PUMP SERIES

B

DIMENSIONS

C

TYPE	DISPLACEMENTS
	cm ³ /rev - cu.in./rev.
23	23.4 - 1.43
28	28.6 - 1.74
34	34.4 - 2.1
40	40.3 - 2.46
47	47.4 - 2.89
55	55.2 - 3.37
64	64.3 - 3.92
72	73.4 - 4.48
80	80.6 - 4.91

D

CODE	ROTATION (page A2)
D	CLOCKWISE
S	ANTI-CLOCKWISE

E

CODE	AVAILABLE PORTS (pages A9,A10 and A12)
G	GAS THREADED PORTS (BSPP)
R	SAE THREADED PORTS (ODT)
P	FLANGED PORTS EUROPEAN STANDARD
S	FLANGED PORTS SAE (UNC)
W	FLANGED PORTS SAE (METRIC)

F

CODE	AVAILABLE SHAFTS (from page A17 to page A23)
38	EUROPEAN TAPERED 1:8 SHAFT
55	SAE B 13T-16/32DP
56	SAE BB 15T-16/32DP
57	SAE C 14T-12/24DP (COUNTERSHAFT FOR BEARING)
58	SAE C 14T-12/24DP (COUNTERSHAFT WITHOUT BEARING)
66	B8x32x36 DIN 5462-6g7 (COUNTERSHAFT FOR BEARING)
67	B8x32x36 DIN 5462-6g7 (COUNTERS. WITHOUT BEARING)
87	SAE B PARALLEL
88	SAE BB PARALLEL
89	SAE C PARALLEL (COUNTERSHAFT FOR BEARING)

O

THE PIGGYBACK 2PE CAN BE SINGLE, MULTIPLE AND/OR WITH VALVE IN THE REAR COVER.FOR THE CONFIGURATION, PLEASE SEE OUR RELATED TECHNICAL CATALOGUE (SEE PAGEA25)

N

VALUE OF THE RELIEF VALVE SETTING IN bar
JUST IN CASE OF CODES **VPS1 - VPD1 - VA**

M

VALUE OF THE PRIORITY FLOW NEEDED IN l/min
JUST IN CASE OF CODES **VP - VPS1**

L

AVAILABLE VALVES (pages A26 and A27)	CODE
PRIORITY F. V., EXCESS FLOW TO SECOND ACTUATOR	VP1
PRIORITY F. V., EXCESS FLOW TO SECOND ACTUATOR WITH PRESSURE RELIEF ON PRIORITY FLOW LINE	VPS1
LS PRIORITY FLOW VALVE WITH DINAMIC SIGNAL WITH OR WITHOUT RELIEF VALVE ON THE LS SIGNAL	VPD1 VPDS1

I

COMMON INLET	UA
EXAMPLE:COMMON INLET ON THE FIRST STAGE	UA1

H

AVAILABLE INTERNAL SEALS	CODE
NITRILE-BUTADIENE RUBBER (NBR)	
FLUOROELASTOMER (VITON)	V

G

AVAILABLE MOUNTING FLANGES (pages A16,A17,A18,A20)	CODE
EUROPEAN STANDARD Ø 50,8 mm	P2
SAE B 2 - 4 BOLTS	S3
SAE C 2 - 4 BOLTS	S4
SAE B 2 - 4 BOLTS WITH G1/8 EXTERNAL DRAIN	S7
SAE B 2 - 4 BOLTS WITH SAE 4 EXTERNAL DRAIN	S8
SAE B 2 - 4 BOLTS WITH BEARING (MEDIUM LOADS)	R3
SAE C 2 - 4 BOLTS WITH BEARING (HEAVY LOADS)	R8
4 BOLTS FOR ZF GEAR BOX Ø 80 mm WITH BEARING	Z1
4 BOLTS FOR ZF GEAR BOX Ø 80 mm WITHOUT B.	Z2

- Considering the max. torque of 280 Nm, to drag the second and possibly third pump, please accurately calculate the required torque of your configuration.
In case of need, please contact our sales dept.



MG330**GEAR MOTORS "MG" SERIES**

E0.151.0113.02.00/IM01

HOW TO ORDER MG330 MOTOR

A	B	C	D	E	F	G	H	I	L	M					
M	G	3 4	D	-	P	3 8	P 2	-	V	-	1	-	V	A	1 8 0

A

MOTOR SERIES

B

DIMENSIONS

C

TYPE	DISPLACEMENTS cm ³ /rev - cu.in./rev.
34	34.4 - 2.1
40	40.3 - 2.46
47	47.4 - 2.89
55	55.2 - 3.37
64	64.3 - 3.92
72	73.4 - 4.48

MVALUE OF THE RELIEF VALVE SETTING IN bar
JUST IN CASE OF CODES **VA****L**

AVAILABLE VALVES (pages A24, A25 and A26)	CODE
ANTI-SHOCK VALVE INTEGRATED INTO THE BODY	VA
RELEASE WITH VALVE FOR INTERNAL DRAIN	IDV

D

CODE	ROTATION (page A2)
D	CLOCKWISE
S	ANTI-CLOCKWISE
R	REVERSIBLE

I

POSITION OF THE PORTS	CODE
STANDARD LATERAL PORTS	
REAR PORTS (PAGE A11)	1

E

CODE	AVAILABLE PORTS (pages A9, A10 and A12)
G	GAS THREADED PORTS (BSPP)
R	SAE THREADED PORTS (ODT)
P	FLANGED PORTS EUROPEAN STANDARD
S	FLANGED PORTS SAE (UNC)
W	FLANGED PORTS SAE (METRIC)

H

AVAILABLE INTERNAL SEALS	CODE
NITRILE-BUTADIENE RUBBER (NBR)	
FLUOROELASTOMER (VITON)	V

F

CODE	AVAILABLE SHAFTS (from page A17 to page A23)
38	EUROPEAN TAPERED 1:8 SHAFT
55	SAE B 13T-16/32DP
56	SAE BB 15T-16/32DP
57	SAE C 14T-12/24DP (COUNTERSHAFT FOR BEARING)
58	SAE C 14T-12/24DP (COUNTERSHAFT WITHOUT BEARING)
66	B8x32x36 DIN 5462-6g7 (COUNTERSHAFT FOR BEARING)
67	B8x32x36 DIN 5462-6g7 (COUNTERS. WITHOUT BEARING)
87	SAE B PARALLEL
88	SAE BB PARALLEL
89	SAE C PARALLEL (COUNTERSHAFT FOR BEARING)

G

AVAILABLE MOUNTING FLANGES (pages A16, A17, A18, A19)	CODE
EUROPEAN STANDARD Ø 50,8 mm	P2
SAE B 2 - 4 BOLTS	S3
SAE C 2 - 4 BOLTS	S4
SAE B 2 - 4 BOLTS WITH G1/8 EXTERNAL DRAIN	S7
SAE B 2 - 4 BOLTS WITH SAE 4 EXTERNAL DRAIN	S8
SAE B 2 - 4 BOLTS WITH BEARING (MEDIUM LOADS)	R3
SAE C 2 - 4 BOLTS WITH BEARING (HEAVY LOADS)	R8
4 BOLTS FOR ZF GEAR BOX Ø 80 mm WITH BEARING	Z1
4 BOLTS FOR ZF GEAR BOX Ø 80 mm WITHOUT B.	Z2



You can find our most up to date “STANDARD SALES CONDITIONS” on our website.

Potete trovare le nostre più aggiornate “CONDIZIONI DI VENDITA STANDARD” sul nostro sito.

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