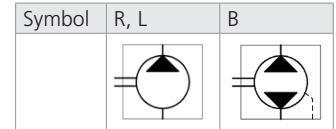


**Technical Features**



- › Operating pressure 230 bar, Peak pressure 270 bar
- › Cost effective design for circuits with a lower operating pressure
- › High quality aluminum alloys pump with axial play compensation
- › Service life for 1800 operation hours
- › Volumetric efficiency up to 96%
- › International standard flanges acc.to SAE, ISO, DIN



**Technical Data**

Nominal Size Parameters	Symbol	Unit	Displacement														
			Code	3	4	6	8	10	12	14	16	18	20	22	25	28	30
Actual displacement	$V_g$	[cm <sup>3</sup> ]	3	4	6	8	10	12	14	16	18	20	22	25	28	30	
		[in <sup>3</sup> ]	0.183	0.244	0.366	0.488	0.610	0.732	0.854	0.976	1.098	1.220	1.343	1.526	1.709	1.831	
Rotation speed	nominal	$n_n$	1500														
	minimum	$n_{min}$	800														
	maximum	$n_{max}$	3500				3000				2500			2000			
Pressure at inlet*	minimum	$p_{1min}$	-0,3 (-4.4 PSI)														
	maximum	$p_{1max}$	0,5 (7.3 PSI)														
Pressure at outlet**	max. continuous	$p_{2n}$	[bar]	230				210				180		150		120	
			[PSI]	3336				3046				2611		2176		1740	
	maximum	$p_{2max}$	[bar]	250				230				200		160		130	
			[PSI]	3626				3336				2901		2321		1885	
	peak	$p_3$	[bar]	270				250				220		170		140	
			[PSI]	3916				3626				3191		2466		2031	
Weight	m	[kg]	2,6	2,63	2,65	2,75	2,8	2,95	3,03	3,1	3,22	3,35	3,4	3,5	3,8	3,97	
		[lbs]	5.73	5.80	5.84	6.06	6.17	6.50	6.68	6.83	7.10	7.39	7.50	7.72	8.38	8.75	

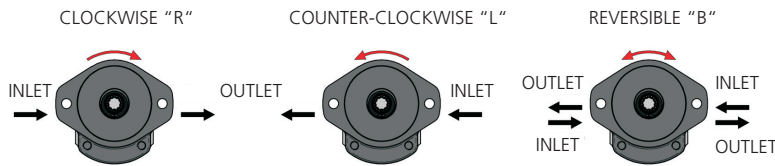
- 1) \*Inlet pressure in the reversible design can be up to  $p_1 = p_{2n} - 70$  bar max. External drainage must be used in case of the reversible design.
- 2) \*\*Outlet pressure in the reversible design is 10% lower than shown in the table (depending on operating conditions).
- 3)  $p_{2n}$  maximum continuous pressure - maximum working pressure, at which the pump can be operated without time limitation.
- 4)  $p_{2max}$  maximum pressure - maximum pressure permissible for a short time, max. 20 s.
- 5)  $p_3$  peak pressure - short-time pressure (fractions of a second) arising in case of a sudden change of the operating mode; any excess of this pressure during operation is impermissible.

Gear Pump / Size		GP2L - 3 ...30 ccm
Volumetric efficiency	%	89 ÷ 96
Mechanical efficiency	%	85
Fluid temperature range (NBR)	°C (°F)	-20...80 (-4...176)
Fluid temperature range (FPM)	°C (°F)	-20...120 (-4...248)
Viscosity range	mm <sup>2</sup> /s (SUS)	20 ...80 (97 ...390), 1200 (5849) for cold start
Hydraulic fluid		Hydraulic oils of power classes (HL, HLP) to DIN 51524
Max. degree of fluid contamination for $p_2 \leq 200$ bar		Class 21/18/15 acc. to ISO 4406
Max. degree of fluid contamination for $p_2 \geq 200$ bar		Class 20/17/14 acc. to ISO 4406

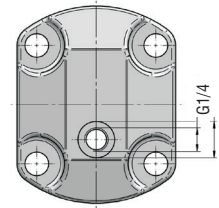
**Direction of rotation, reversible design**

Determine direction of rotation by looking at the drive shaft.  
The pump can be used only in the specified direction of rotation.

The pumps B codes (Bi-directional) have an external drainage with an orifice located in the cover.



Pressure in this port:  
min. -0,3 bar (-4,4 PSI)  
max. +0,5 bar (+7,3 PSI)



**Ordering Code**

**GP2 L** - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

<b>Gear pump serie 2</b>									
<b>Lightline</b>	3	16							
	4	18							
	6	20							
	8	22							
	10	25							
	12	28							
<b>Displacement</b>	14	30							
<b>Direction of rotation</b>									
Counter clockwise			L	RE					
Clockwise			R	RF		CK			
Bi-directional			B	SB		DD			
				AH		DH			
				AI		DJ			
				AJ		KH			
<b>Flange design</b>						VL			
						VJ			
						VM			
<b>Shaft Type</b>									
							S		
							C		

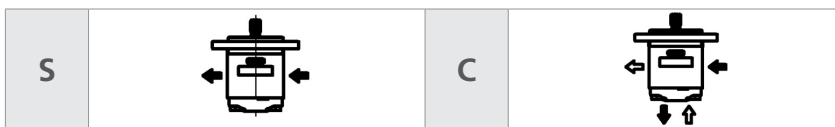
**Shaft seal**  
No designation standard  
004 without shaft seal

**Seals**  
NBR  
FPM (Viton)  
HNBR

**Inlet / Outlet ports**  
GC  
GD  
GE  
UD  
UE  
HE  
HF  
HK  
KA  
KB  
KH  
KI

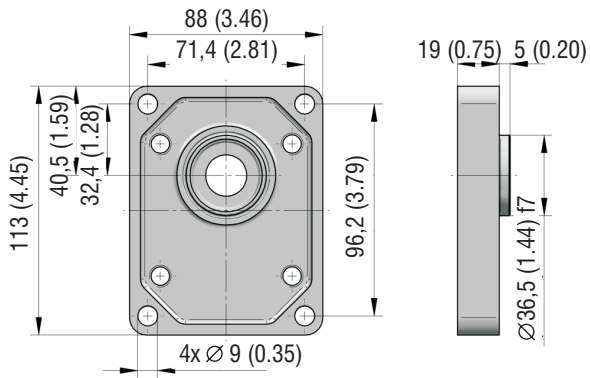
**Ports orientation**  
S  
C

**Ports orientation**

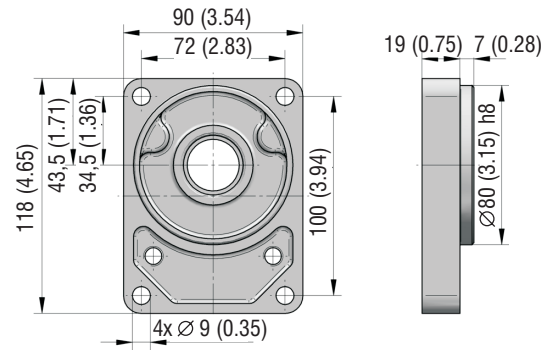


Flange Design	RE	RF	SB	AH	AI	AJ
Shaft Type						
CK		●		●	●	
DD			●			
DH			●			
DJ	●	●		●	●	
KH						●
VJ			●			
VL	●					
VM			●			

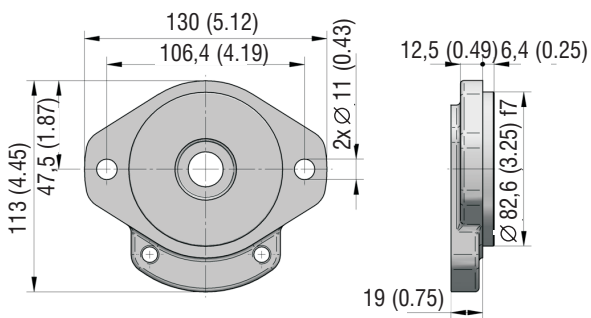
RE



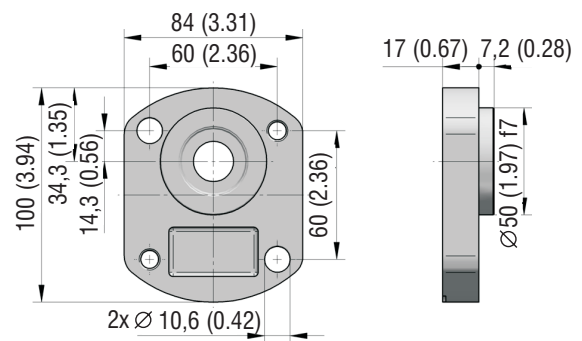
RF



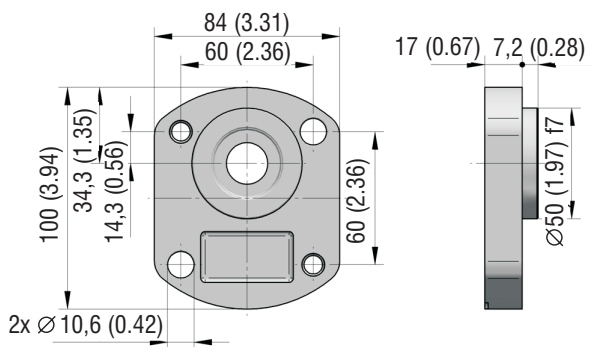
SB



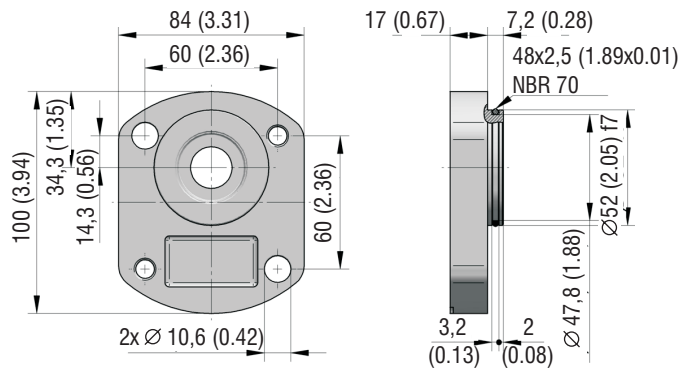
AH



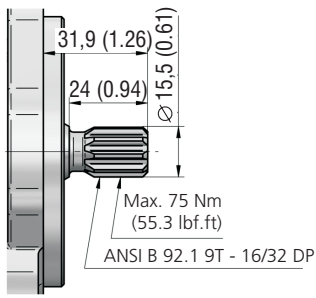
AI



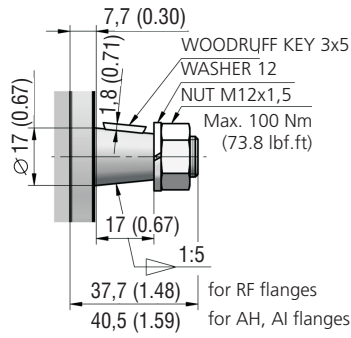
AJ



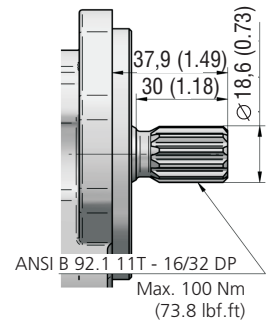
**DD**



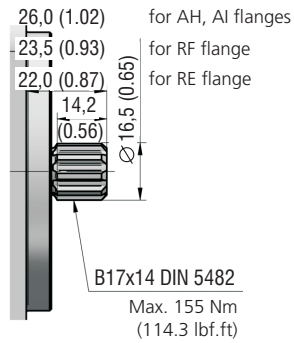
**CK**



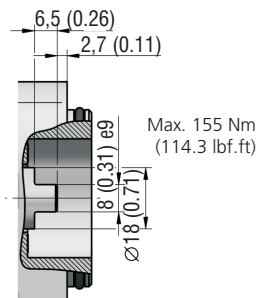
**DH**



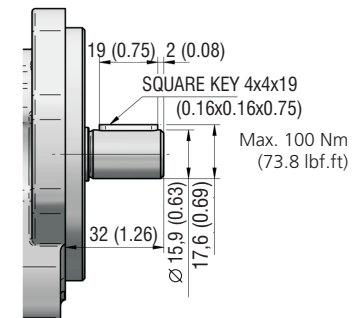
**DJ**



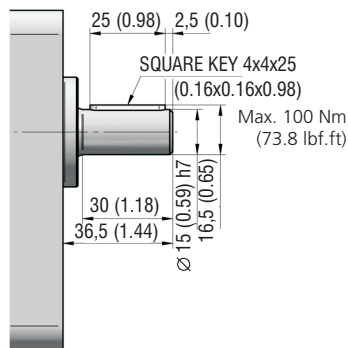
**KH**



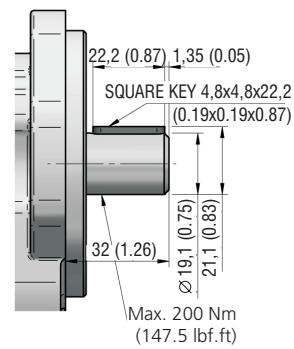
**VJ**



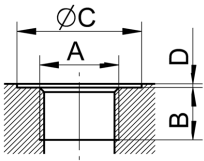
**VL**



**VM**

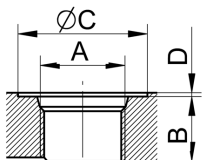


**BSPP pipe thread according to ISO 228 -1**



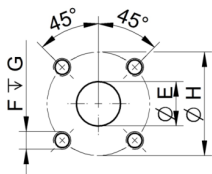
Displacement [cm <sup>3</sup> (in <sup>3</sup> )]	Inlet Code	Dimension				Outlet Code	Dimension			
		A	B	C	D		A	B	C	D
3-6 (0.18-0.34)	GC	G1/2	14 (0.55)	33 (1.30)	1 (0.04)	GC	G1/2	14 (0.55)	33 (1.30)	1 (0.04)
8-30 (0.49-1.83)	GD	G3/4	16 (0.63)	39 (1.53)						
16-30 (0.98-1.83)	GE	G1	18 (0.71)	45 (1.77)						

**UNF thread according to SAE**



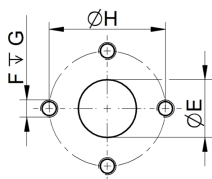
Displacement [cm <sup>3</sup> (in <sup>3</sup> )]	Inlet Code	Dimension				Outlet Code	Dimension			
		A	B	C	D		A	B	C	D
ALL	UD	7/8-14 UNF-2B	17 (0.67)	34 (1.34)	1 (0.04)	UD	7/8-14 UNF-2B	17 (1.04)	33 (1.30)	1 (0.04)
	UE	1-1/16-12 UNF-2B	19 (0.75)	41 (1.61)						
	UH	1-5/16 UNF-2B	23 (0.91)	49 (1.93)						

**Flanged fittings according to DIN 8901/8902**



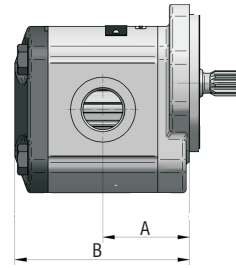
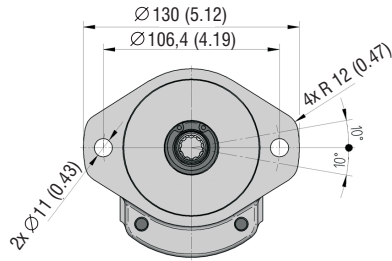
Displacement [cm <sup>3</sup> (in <sup>3</sup> )]	Inlet Code	Dimension				Outlet Code	Dimension			
		E	F	G	H		E	F	G	H
ALL	HF	20 (0.79)	M6	13 (0.51)	40 (1.57)	HE	15 (0.59)	M6	13 (0.51)	35 (1.38)
16-30 (0.98-1.83)	HK	25 (0.98)	M8	13 (0.51)	55 (2.17)					

**Flanged fittings - „cross“**



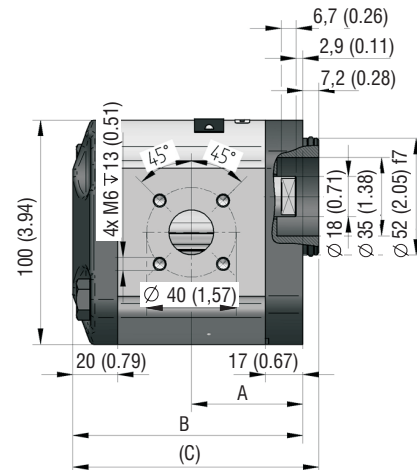
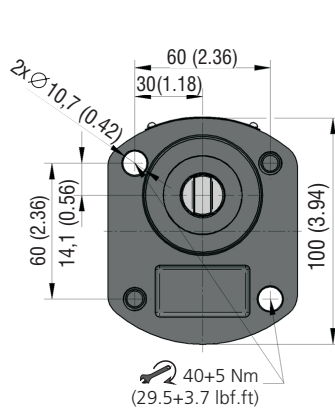
Displacement [cm <sup>3</sup> (in <sup>3</sup> )]	Inlet Code	Dimension				Outlet Code	Dimension			
		E	F	G	H		E	F	G	H
ALL	KB	20 (0.79)	M8	13 (0.51)	40 (1.57)	KA	13,5 (0.53)	M6	13 (0.51)	30 (1.18)
	KH	14 (0.55)			38 (1.50)					38 (1.50)
	KI	19 (0.75)								

GP2L-\*R-SBDD-SG\*G\*-N



Displacement [cm <sup>3</sup> (in <sup>3</sup> )/rev]	A	B	Displacement [cm <sup>3</sup> (in <sup>3</sup> )/rev]	A	B
3 (0.18)	43,6 (1.72)	91,1 (3.59)	16 (0.98)	54,4 (2.14)	112,7 (4.44)
4 (0.24)	44,4 (1.75)	92,7 (3.65)	18 (1.10)	56,0 (2.20)	116,0 (4.57)
6 (0.37)	46,0 (1.81)	96,0 (3.78)	20 (1.22)	57,7 (2.27)	119,3 (4.70)
8 (0.49)	47,7 (1.88)	99,3 (3.91)	22 (1.34)	59,3 (2.33)	122,6 (4.83)
10 (0.61)	49,3 (1.94)	102,6 (4.04)	25 (1.53)	61,8 (2.43)	127,6 (5.02)
12 (0.73)	51,0 (2.01)	105,9 (4.17)	28 (1.71)	64,3 (2.53)	132,6 (5.22)
14 (0.85)	52,7 (2.07)	109,3 (4.30)	30 (1.83)	66,0 (2.60)	135,9 (5.35)

GP2L-\*R-AJKH-SH\*H\*-N



Displacement [cm <sup>3</sup> (in <sup>3</sup> )/rev]	A	B	C	Displacement [cm <sup>3</sup> (in <sup>3</sup> )/rev]	A	B	C
3 (0.18)	37,4 (1.47)	88,6 (3.49)	95,8 (3.77)	16 (0.98)	45,0 (1.77)	110,2 (4.34)	117,4 (4.62)
4 (0.24)	37,4 (1.47)	90,2 (3.55)	97,4 (3.83)	18 (1.10)	45,0 (1.77)	113,5 (4.47)	120,7 (4.75)
6 (0.37)	38,6 (1.52)	93,5 (3.68)	100,7 (3.96)	20 (1.22)	45,0 (1.77)	116,8 (4.60)	124,0 (4.88)
8 (0.49)	40,7 (1.60)	96,8 (3.81)	104,0 (4.09)	22 (1.34)	52,6 (2.07)	120,1 (4.73)	127,3 (5.01)
10 (0.61)	41,2 (1.62)	100,1 (3.94)	107,3 (4.22)	25 (1.53)	59,3 (2.33)	125,1 (4.93)	132,3 (5.21)
12 (0.73)	45,0 (1.77)	103,4 (4.07)	110,6 (4.35)	28 (1.71)	61,8 (2.43)	130,1 (5.12)	137,3 (5.41)
14 (0.85)	45,0 (1.77)	106,8 (4.20)	114,0 (4.49)	30 (1.83)	63,5 (2.50)	133,4 (5.25)	140,6 (5.54)