Gear Pump – Lightline Version

GP0L

Displacement up to 2 cm³ (0.12 inch³) • p_{max} 250 bar (3600 PSI) • Speed from 500 to 7000 RPM

Technical Features

- Operating pressure 200 bar, Peak pressure 250 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, GOST

Symbol	
	

Technical Data

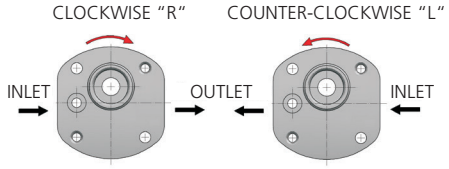
Nominal Size Parameters		Symbol	Unit	Displacement											
			[cm³]	0,19	0,26	0,38	0,50	0,65	0,75	0,88	1,00	1,25	1,50	1,75	2,00
Actual displacement		V_g	[in³]	0.011	0.016	0.023	0.031	0.040	0.046	0.054	0.061	0.076	0.092	0.107	0.122
Rotation speed	nominal	n_n	[min⁻¹]	1500											
	minimum	n_{min}	[min⁻¹]	1000							850	700	600		500
	maximum	n_{max}	[min⁻¹]	7000							6000	5000	4000		3000
Pressure at inlet	minimum	p_{1min}	[bar]	-0,3 (-4.4 PSI)											
	maximum	p_{1max}	[bar]	0,5 (7.3 PSI)											
Pressure at outlet	max. continuous	p_{2n}	[bar]	200										180	160
			[PSI]	2901										2611	2321
	maximum	p_{2max}	[bar]	230										210	190
			[PSI]	3625										3336	2756
	peak	p_3	[bar]	250										230	210
			[PSI]	3626										3625	3336
Weight		m	[kg]	0,37	0,38	0,38	0,38	0,39	0,39	0,40	0,40	0,40	0,41	0,41	0,43
			[lbs]	0.82	0.84	0.84	0.84	0.86	0.86	0.88	0.88	0.88	0.90	0.90	0.95

1) **p_{2n}** maximum continuous pressure - maximum working pressure, at which the pump can be operated without time limitation.
2) **p_{2max}** maximum pressure - maximum pressure permissible for a short time, max. 20 s.
3) **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		GP0L - 0,19 ...2,0 ccm
Volumetric efficiency	%	89 ÷ 96
Mechanical efficiency	%	85
Fluid temperature range (NBR)	°C (°F)	-20...80 (-4...176)
Viscosity range	mm²/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.



Ordering Code

GP0 L - □ □-□ - □ - □ □ □-□ □

Gear pump serie 0

Lightline

Displacement
0,19
0,26
0,38
0,50
0,65
0,75
0,88
1,00
1,25
1,50
1,75
2,00

Direction of rotation
Counter clockwise L
Clockwise R

Flange design
Flange with two bolts M6 - centre ring Ø 22 mm (0,87 in) RA
Flange with two bolts M5 - centre ring Ø 22 mm (0,87 in) screw pitch 30x32 mm (1,18x1,26 in) AB

Shaft Type
VZ
KA

Ports orientation
S
A
C
D

Inlet / Outlet port
PA Flange side port
GA BSP G1/4
GB BSP G3/8
MA M10x1

Seals
N NBR

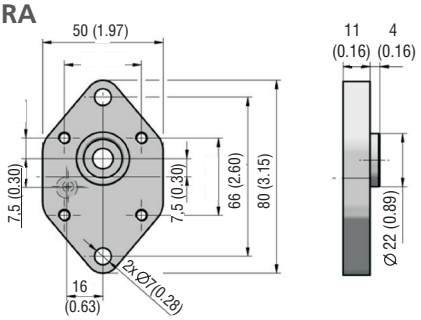
Shaft seal
No designation standard
004 without shaft seal

Ports orientation

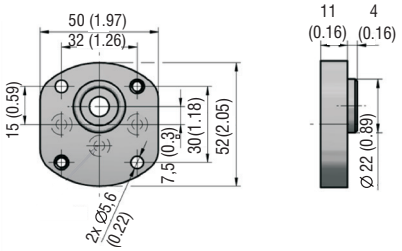
S		A		C		D	

Flange design in millimeters (inches)

RA

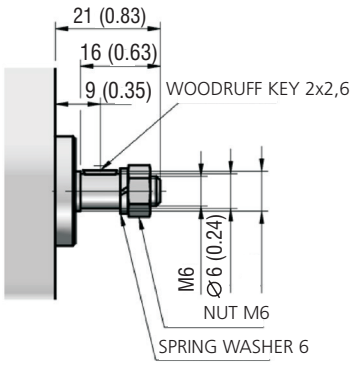


AB

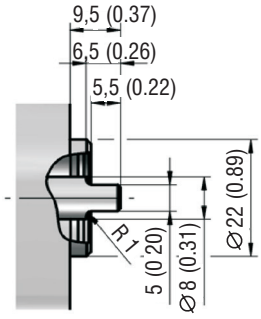


Shaft design in millimeters (inches)

VZ

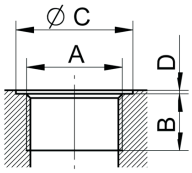


KA



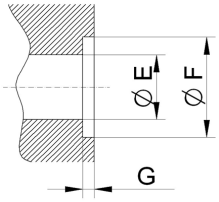
Ports design in millimeters (inches)

Dimensions of thread



Displacement [cm³(in³)]	Code	Inlet / Outlet			
		A	B	C	D
All	MA	M10x1	8 (0.31)	15 (0.59)	1 (0.04)
	GA	G1/4	13 (0.51)	26 (1.02)	
	GB	G3/8		24 (0.94)	

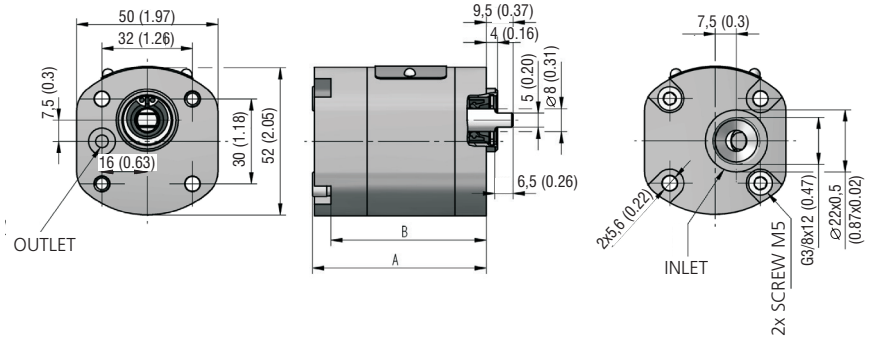
Inlet / outlet



Displacement [cm³(in³)]	Code	Inlet / Outlet		
		E	F	G
All	PA	5,5 (0.22)	9,6 (0.38)	1,1 (0.04)

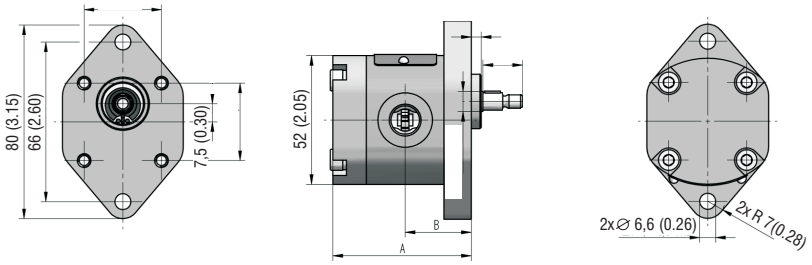
Pump design in millimeters (inches)

GP0-*L-ABKA-AGBPA-N



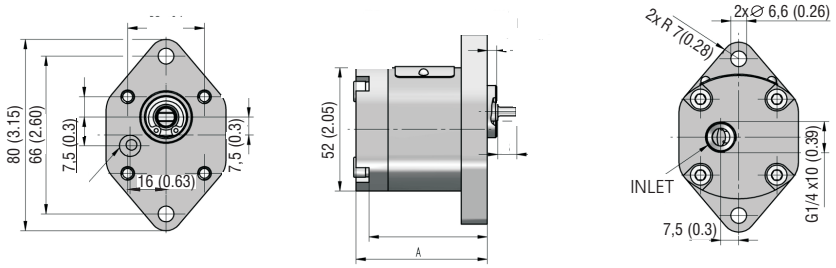
Displacement [cm³(in³)/rev]	A	B	Displacement [cm³(in³)/rev]	A	B
0,19 (0.011)	60,0 (2.36)	51,0 (2.01)	0,88 (0.054)	65,5 (2.58)	56,5 (2.22)
0,26 (0.016)	60,5 (2.38)	51,5 (2.03)	1,00 (0.061)	66,5 (2.62)	57,5 (2.26)
0,38 (0.023)	61,5 (2.42)	52,5 (2.07)	1,25 (0.076)	68,5 (2.70)	59,5 (2.34)
0,50 (0.031)	62,5 (2.46)	53,5 (2.11)	1,50 (0.092)	70,5 (2.78)	61,5 (2.42)
0,65 (0.040)	63,5 (2.50)	54,5 (2.15)	1,75 (0.107)	72,5 (2.85)	63,5 (2.50)
0,75 (0.046)	64,5 (2.54)	55,5 (2.19)	2,00 (0.122)	74,5 (2.93)	65,5 (2.58)

GP0L-*R(L)-RAVZ-SGAGA-N



Displacement [cm³(in³)/rev]	A	B	Displacement [cm³(in³)/rev]	A	B
0,19 (0.011)	60,0 (2.36)	27,2 (1.07)	0,88 (0.054)	65,5 (2.58)	30,0 (1.18)
0,26 (0.016)	60,5 (2.38)	27,5 (1.08)	1,00 (0.061)	66,5 (2.62)	30,5 (1.20)
0,38 (0.023)	61,5 (2.42)	28,0 (1.10)	1,25 (0.076)	68,5 (2.70)	31,5 (1.24)
0,50 (0.031)	62,5 (2.46)	28,5 (1.12)	1,50 (0.092)	70,5 (2.78)	32,5 (1.28)
0,65 (0.040)	63,5 (2.50)	29,0 (1.14)	1,75 (0.107)	72,5 (2.85)	33,5 (1.32)
0,75 (0.046)	64,5 (2.54)	29,5 (1.16)	2,00 (0.122)	74,5 (2.93)	34,5 (1.36)

GP0L-*L-RAKA-AGAPA-N



Displacement [cm³(in³)/rev]	A	Displacement [cm³(in³)/rev]	A
0,19 (0.011)	60,0 (2.36)	0,88 (0.054)	65,5 (2.58)
0,26 (0.016)	60,5 (2.38)	1,00 (0.061)	66,5 (2.62)
0,38 (0.023)	61,5 (2.42)	1,25 (0.076)	68,5 (2.70)
0,50 (0.031)	62,5 (2.46)	1,50 (0.092)	70,5 (2.78)
0,65 (0.040)	63,5 (2.50)	1,75 (0.107)	72,5 (2.85)
0,75 (0.046)	64,5 (2.54)	2,00 (0.122)	74,5 (2.93)