

Gear Pump – Lightline Version

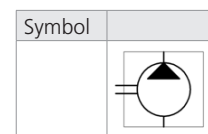
GP1L

Displacement up to 8 cm³ (0.49 inch³) • p_{max} 270 bar (3900 PSI) • Speed from 600 to 6000 RPM



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, GOST

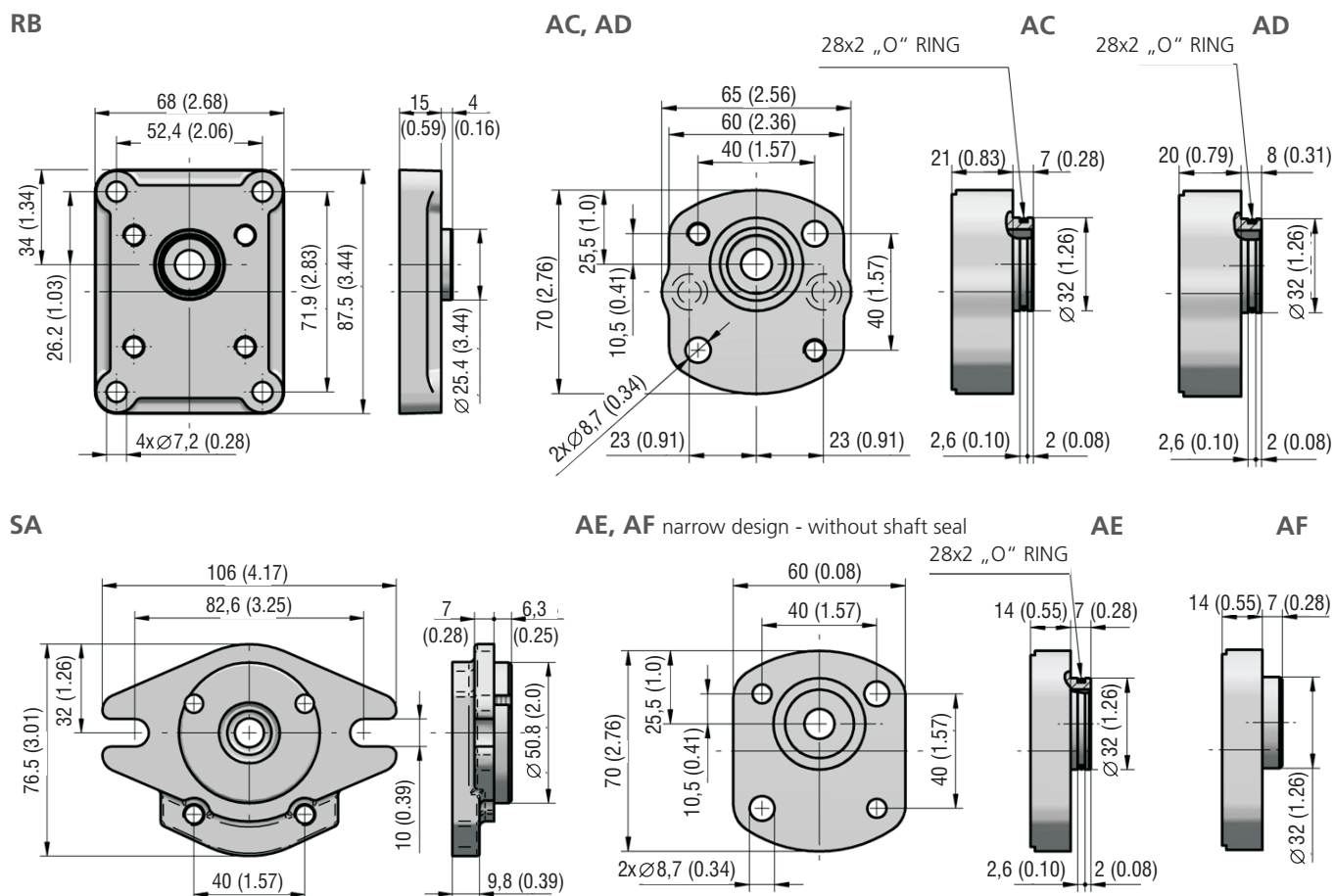
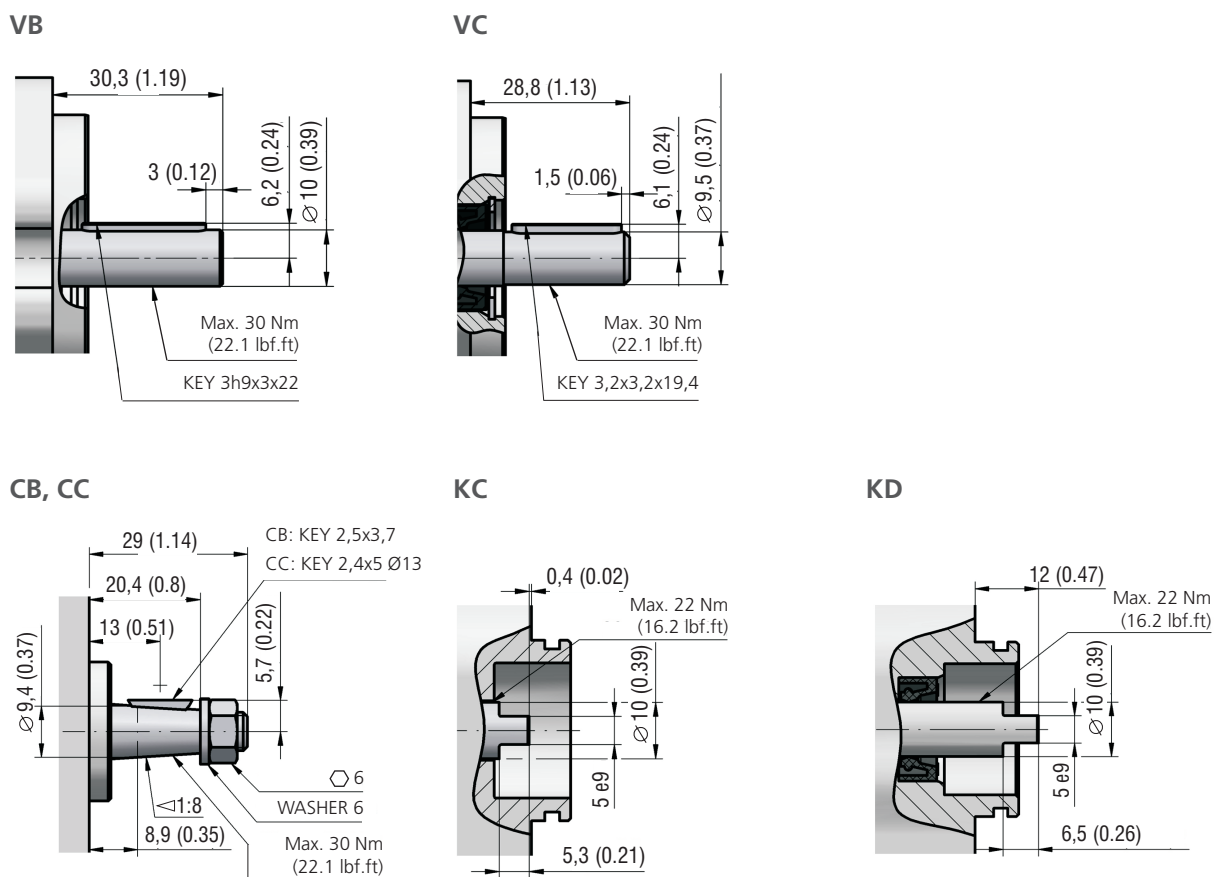


Technical Data

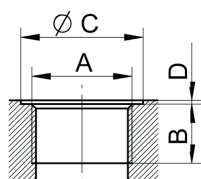
Nominal Size Parameters		Symbol	Unit	Displacement													
				[cm ³]	0,8	1,3	1,6	1,8	2,1	2,7	3,2	3,7	4,2	4,8	5,8	7,0	8,0
			[in ³]		0.049	0.079	0.098	0.110	0.128	0.165	0.195	0.226	0.256	0.293	0.354	0.427	0.488
Rotation speed	nominal	n_n	[min ⁻¹]	1500													
	minimum	n_{min}	[min ⁻¹]	1000					800					600			
	maximum	n_{max}	[min ⁻¹]	6000						5000	4500	4000	3500	3000	2500	2100	
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]	230						210			190		160		
			[PSI]	3336						3046			2756		2321		
	maximum	p_{2max}	[bar]	250						230			210		180		
			[PSI]	3626						3336			3046		2611		
	peak	p_3	[bar]	270						250			230		200		
			[PSI]	3916						3626			3336		2901		
Weight		m	[kg]	0,82	0,85	0,87	0,89	0,92	0,93	0,96	0,98	1,02	1,04	1,08	1,10	1,20	
			[lbs]	1.81	1.87	1.92	1.96	2.03	2.05	2.12	2.16	2.25	2.29	2.38	2.43	2.65	

- 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.

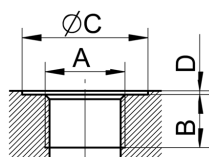
Gear Pump / Size		GP1L - 0,8 ...8 ccm
Volumetric efficiency	%	89 ÷ 98
Mechanical efficiency	%	85
Fluid temperature range (NBR)	°C (°F)	-20...80 (-4...176)
Fluid temperature range (FPM)	°C (°F)	-20...120 (-4...248)
Viscosity range	mm ² /s (SUS)	20 ...80 (97 ...390), 1200 (5849) for cold start
Hydraulic 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

Flange design in millimeters (inches)

Shaft design in millimeters (inches)


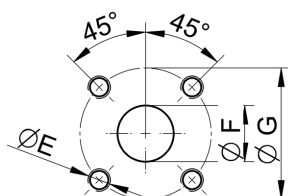
Ports design in millimeters (inches)

Metric thread according to ISO 6149


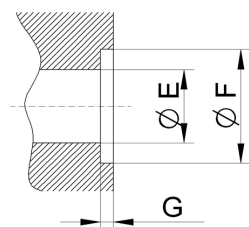
Displacement [cm ³ (in ³)]	Inlet Code	Dimension				Outlet Code	Displacement [cm ³ (in ³)]
		A	B	C	D		
ALL	xx	M14x1,5	13 (0.51)	26 (1.02)	1 (0.04)	MC	ALL
ALL	ME	M18x1,5	13 (0.51)	30 (1.18)		xx	ALL

BSPP pipe thread according to 228-1


Displacement [cm ³ (in ³)]	Inlet Code	Dimension				Outlet Code
		A	B	C	D	
ALL	GA	G1/4	13 (0.51)	26 (1.02)	1 (0.04)	GA
	GB	G3/8		24 (0.94)		GB

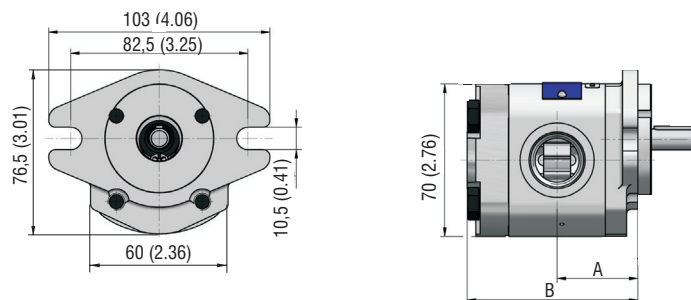
Flanged fittings according to DIN 8901/8902


Displacement [cm ³ (in ³)]	Inlet Code	Dimension			Outlet Code
		E	F	G	
ALL	HD	M6 depth 12	12 (0.47)	30 (1.18)	HD

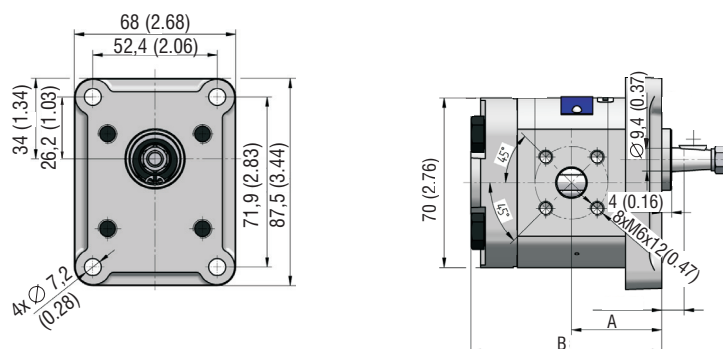
Inlet / Outlet in flange


Code	Dimension		
	E	F	G
PA	9 (0.35)	12,7 (0.50)	1,4 (0.06)

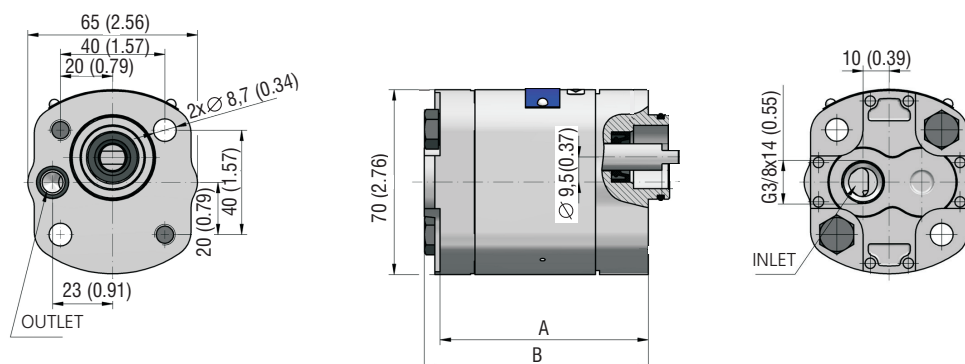
GP1L Pumps - basic design in millimeters (inches)

GP1L-*R(L)-SAVC-SUDUD-N


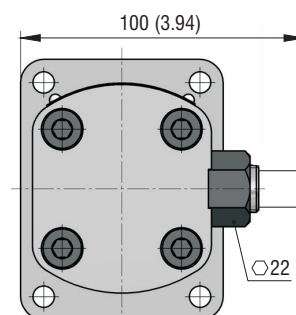
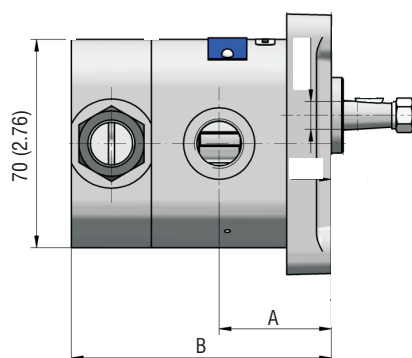
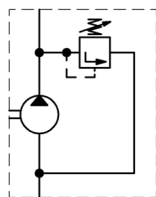
Displacement [cm ³ (in ³)/rev]	A	B	Displacement [cm ³ (in ³)/rev]	A	B
0,8 (0.049)	32,6 (1.28)	69,0 (2.73)	3,7 (0.226)	37,8 (1.49)	79,6 (3.13)
1,3 (0.079)	33,4 (1.31)	70,5 (2.78)	4,2 (0.256)	38,5 (1.52)	81,0 (3.19)
1,6 (0.098)	34,0 (1.34)	72,0 (2.83)	4,8 (0.293)	40,0 (1.65)	84,0 (3.31)
1,8 (0.110)	34,5 (1.36)	73,0 (2.87)	5,8 (0.354)	41,9 (1.65)	87,8 (3.46)
2,1 (0.128)	34,9 (1.37)	74,0 (2.91)	7,0 (0.427)	44,0 (1.73)	92,0 (3.62)
2,7 (0.165)	35,7 (1.41)	76,0 (2.99)	8,0 (0.488)	45,8 (1.80)	95,6 (3.76)
3,2 (0.195)	37,0 (1.46)	78,0 (3.07)			

GP1L-*R-RBCC-SHDUD-N


Displacement [cm ³ (in ³)/rev]	A	B	Displacement [cm ³ (in ³)/rev]	A	B
0,8 (0.049)	32,8 (1.29)	73,5 (2.89)	3,7 (0.226)	38,0 (1.50)	84,0 (3.31)
1,3 (0.079)	33,5 (1.32)	75,0 (2.95)	4,2 (0.256)	39,0 (1.54)	86,0 (3.39)
1,6 (0.098)	34,0 (1.34)	76,0 (2.99)	4,8 (0.293)	40,0 (1.57)	88,0 (3.46)
1,8 (0.110)	34,5 (1.36)	77,0 (3.03)	5,8 (0.354)	42,0 (1.65)	92,0 (3.62)
2,1 (0.128)	35,0 (1.38)	78,0 (3.07)	7,0 (0.427)	44,0 (1.73)	96,0 (3.78)
2,7 (0.165)	36,0 (1.42)	80,0 (3.15)	8,0 (0.488)	46,0 (1.81)	100,0 (3.94)
3,2 (0.195)	37,0 (1.46)	82,0 (3.23)			

GP1L-*L-ADKD-AGBPA-N


Displacement [cm ³ (in ³)/rev]	A	B	Displacement [cm ³ (in ³)/rev]	A	B
0,8 (0.049)	61,5 (2.42)	73,5 (2.89)	3,7 (0.226)	72,0 (2.83)	84,0 (3.31)
1,3 (0.079)	63,0 (2.48)	75,0 (2.95)	4,2 (0.256)	74,0 (2.91)	86,0 (3.39)
1,6 (0.098)	64,0 (2.52)	76,0 (2.99)	4,8 (0.293)	76,0 (2.99)	88,0 (3.46)
1,8 (0.110)	65,0 (2.56)	77,0 (3.03)	5,8 (0.354)	80,0 (3.15)	92,0 (3.62)
2,1 (0.128)	66,0 (2.60)	78,0 (3.07)	7,0 (0.427)	84,0 (3.31)	96,0 (3.78)
2,7 (0.165)	68,0 (2.68)	80,0 (3.15)	8,0 (0.488)	88,0 (3.46)	100,0 (3.94)
3,2 (0.195)	70,0 (2.76)	82,0 (3.23)			

GP1L-*R-RBCB-SGBGB-N.002


Displacement [cm ³ (in ³)/rev]	A	B	Displacement [cm ³ (in ³)/rev]	A	B
0,8 (0.049)	32,8 (1.29)	82,5 (3.25)	3,7 (0.226)	38,0 (1.50)	93,0 (3.66)
1,3 (0.079)	33,5 (1.32)	84,0 (3.31)	4,2 (0.256)	39,0 (1.54)	95,0 (3.74)
1,6 (0.098)	34,0 (1.34)	85,0 (3.35)	4,8 (0.293)	40,0 (1.57)	97,0 (3.82)
1,8 (0.110)	34,5 (1.36)	86,0 (3.39)	5,8 (0.354)	42,0 (1.65)	101,0 (3.98)
2,1 (0.128)	35,0 (1.38)	87,0 (3.43)	7,0 (0.427)	44,0 (1.73)	105,0 (4.13)
2,7 (0.165)	36,0 (1.42)	89,0 (3.50)	8,0 (0.488)	46,0 (1.81)	109,0 (4.29)
3,2 (0.195)	37,0 (1.46)	91,0 (3.58)			