

## Gear Pump – Lightline Version

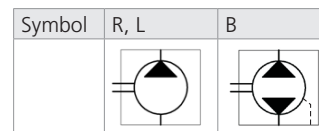
### GP3L

Displacement up to 71 cm<sup>3</sup> (4.30 inch<sup>3</sup>) •  $p_{max}$  280 bar (4060 PSI) • Speed from 400 to 3500 RPM

#### Technical Features



- › Operating pressure 250 bar, Peak pressure 280 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

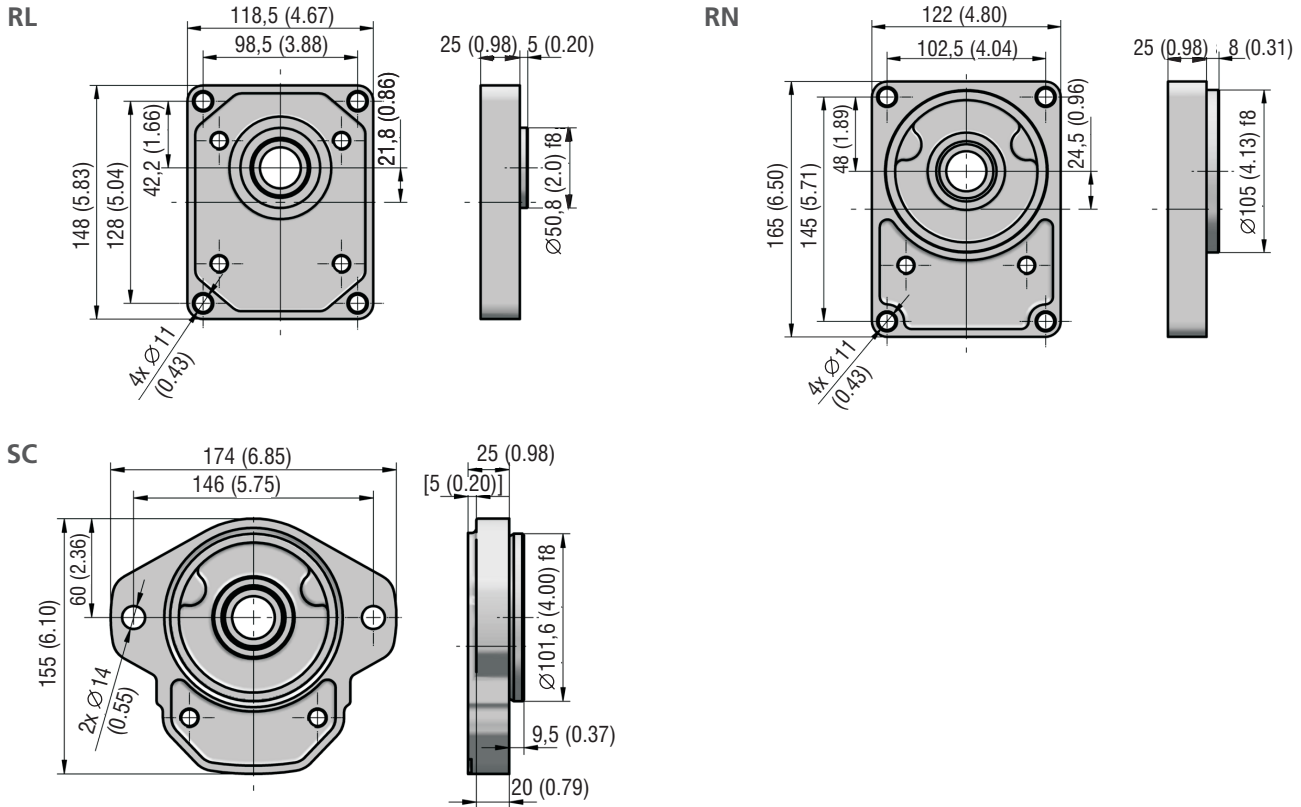
Nominal Size Parameters	Symbol	Unit	Displacement											
			20	22	26	33	39	46	50	52	55	63	71	
Actual displacement	$V_g$	[in <sup>3</sup> ]	1.22	1.34	1.59	2.01	2.38	2.81	3.05	3.17	3.36	3.84	4.33	
Rotation speed	nominal	$n_n$	1500											
	minimum	$n_{min}$	600				500				400			
	maximum	$n_{max}$	3500			3000				2800		2500		
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]	250			230			220		200		180
		[PSI]	3626			3336			3191		2901		2611	
	maximum	$p_{2max}$	[bar]	265			250			240		230		200
		[PSI]	3844			3626			3481		3336		2901	
	peak	$p_3$	[bar]	280			270			260		250		220
		[PSI]	4061			3916			3771		3626		3191	
Weight	m	[kg]												
		[lbs]												

- 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.

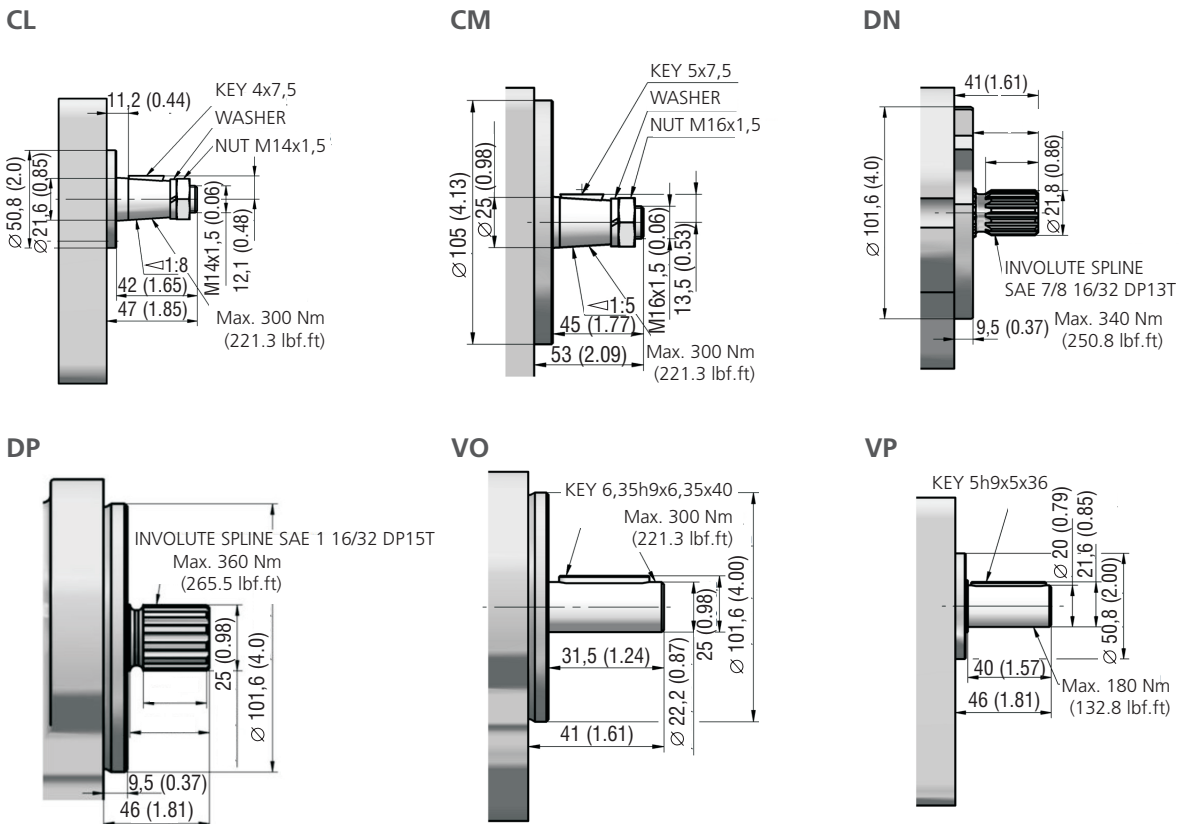
Gear Pump / Size		GF3 - 20 ...71 ccm
Volumetric efficiency	%	89 ÷ 96
Mechanical efficiency	%	85
Fluid temperature range (NBR)	°C (°F)	-20...80 (-4...176)
Fluid temperature range (FPM)	°C (°F)	-20...120 (-4...248)
Viscosity range	mm <sup>2</sup> /s (SUS)	20 ...80 (97 ...390), 1200 (5849) for cold start
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



Flange design in millimeters (inches)

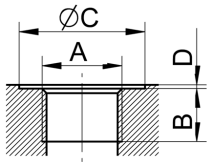


Shaft design in millimeters (inches)



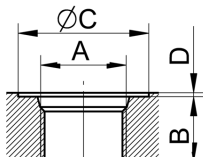
**Ports design** in millimeters (inches)

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



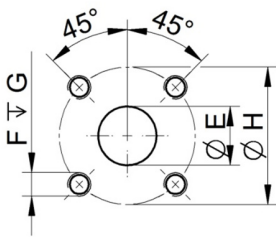
Displacement [cm <sup>3</sup> (in <sup>3</sup> )]	Inlet Code	Dimension				Outlet Code	Dimension			
		A	B	C	D		A	B	C	D
20 - 22 (1.22 - 1.34) including	GD	G 3/4	16 (0.63)	39 (1.54)	1 (0.04)	GD	G 3/4	16 (0.63)	39 (1.54)	1 (0.04)
26 - 39 (1.59 - 2.38) including	GE	G 1	18 (0.71)	45 (1.77)						
46 - 63 (2.81 - 3.84) including	GF	G 1 1/4		57 (2.24)						
71 (4.33)	GH	G 1 1/2	24 (1.46)	60 (3.66)						

**UNF thread according to SAE**



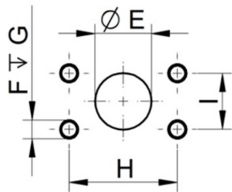
Displacement [cm <sup>3</sup> (in <sup>3</sup> )]	Inlet Code	Dimension				Outlet Code	Dimension			
		A	B	C	D		A	B	C	D
20 - 33 (1.22 - 2.01) including	UH	1-5/16-12UNF	23 (0.91)	49 (1.93)	1 (0.04)	UE	1-1/16-12UNF	19 (0.75)	41 (1.61)	1 (0.04)
39 - 52 (2.38 - 3.17) including	UI	1-5/8-12UNF 2B								
55 - 71 (3.36 - 4.33) including	UJ	1-7/8-12UNF					1-5/16-12UNF			

**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	HK	25 (0.98)	M8	16 (0.63)	55 (2.17)	HJ	18 (0.71)	M8		55 (2.17)

**Flanged fittings according to SAE, UNC thread**



Displacement [cm <sup>3</sup> (in <sup>3</sup> )]	Inlet Code	Dimension					Outlet Code	Dimension				
		E	F	G	H	I		E	F	G	H	I
20 - 52 (1.22 - 3.17) including	AC	25,4 (1.00)	3/8-16-UNC	22 (0.87)	52,4 (2.06)	26,2 (1.03)	AB	19 (0.75)	3/8-16-UNC	22 (0.87)	47,6 (1.87)	22,2 (0.87)
55 - 71 (3.36 - 4.33) including	AD	30,5 (1.20)	7/16-14-UNC		58,7 (2.31)	30,2 (1.19)	AC	25,4 (1.00)			52,4 (2.06)	26,2 (1.03)

**GPP Pumps - basic design** in millimeters (inches)

**GP3L-\*R-RLCL-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
20 (1.22)	63 (2.48)	128 (5.04)	50 (3.05)	77 (3.03)	156 (6.14)
22 (1.34)	64 (2.52)	130 (5.12)	52 (3.17)	78 (3.07)	158 (6.22)
26 (1.59)	65 (2.56)	133(5.24)	55 (3.36)	79 (3.11)	160 (6.30)
33 (2.01)	68 (2.68)	139 (5.47)	63 (3.84)	83 (3.27)	168 (6.61)
39 (2.38)	72 (2.83)	146 (5.75)	71 (4.33)	86 (3.39)	175 (6.89)
46 (2.81)	75 (2.95)	152 (5.98)			

