

DH / DH1 Series

Gear Pump Ordering Code

	VGP	DH	a	R1	CS₂	2.0	*	5	S1	P2	GB	FB	*	*	*	*
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Veljan Gear Pump
P - Pump
M - Motor

Series (DH / DH1)

Pump type
a - Single Unit
b - Multiple Unit / Double pump

Shaft End Cover (Rotation)
(Viewed from shaft end)
R1 - Pump CW with Shaft bearing(S.B)
L1 - Pump CCW with S.B
B1 - Pump Bi-rotational with S.B (For VGP-DH series only)
R2 - Pump CW w/o S.B
L2 - Pump CCW w/o S.B
B2 - Pump Bi-rotational w/o S.B (For VGP-DH series only)
MB1 - Motor Bi-rot. with S.B+1/4" BSPP drain
MB2 - Motor Bi-rot. w/o S.B+1/4" BSPP drain
MB3 - Motor Bi-rot. with S.B+1/4" NPT drain
MB4 - Motor Bi-rot. w/o S.B+1/4" NPT drain

Mounting type

— CS₂ - SAE 'C' 2-bolt

— CS₄ - SAE 'C' 4-bolt

Housing for 'H1' & 'H2'
(Displacement cc/rev)
1.25 = 20.60 cc/rev
1.50 = 31.00
1.75 = 41.50
2.00 = 52.00
2.25 = 62.40
2.50 = 72.50
2.75 = 83.40
3.00 = 93.60
3.25 = 104.2

Shaft end details (Shaft type)
3 = 13 SPLINE 7/8" SAE B
4 = 1" KEY SAE BB
5 = 15 SPLINE 1" SAE BB
6 = 1 1/4" KEY SAE C
7 = 14 SPLINE 1 1/4" SAE C

Seal class
S 1 (for Mineral oil)
S 4 (for fire resistant fluids)
S 5 (for mineral oil and fire resistant fluids)

Port Block type
P0 - No ports
P1 - Pressure (1 Port) - side ported
P2 - Suction & Pressure (2 Ports) - side ported
R1 - Pressure (1 Port) - rear ported
R2 - Suction & Pressure (2 Port) - rear ported
H1 - Housing ported

Port connections-INLET
See page 83,84

*** :- For Double pumps / Tandem pumps & Motors**

Ports Position
B1 - Common Inlet,
Dual outlet

Connecting shaft
(For Double pump)
3 - DD

Rear Section
(For Tandem/piggyback)
VGP - CH
VGP - DH

Port connections
OUTLET(P1,P2)
See page 83,84

VGP
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Performance Data:-

The performance data shown below are the average results based on a series of laboratory tests of production units and are not necessarily representative of any one unit. Tests were run with an oil reservoir temperature of 50°C and a viscosity of 38mm²/S at 40°C.

**VGP
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VGP - DH/DH1 Performance Data:-

DH/DH1 - Series		Gear Housing Widths								
		1.25"	1.50"	1.75"	2.00"	2.25"	2.50"	2.75"	3.00"	3.25"
Displacement	cc/rev	20.6	31.0	41.50	52.0	62.40	72.5	83.40	93.6	104.2
	in ³ /rev	1.28	1.91	2.55	3.19	3.82	4.46	5.10	5.74	6.38
Max.Opreating Pressure	(bar)	170/205	170/205	170/205	170/205	170/205	153/170	153/170	138/153	138/153
	(psi)	2500/3000	2500/3000	2500/3000	2500/3000	2500/3000	2250/2500	2250/2500	2000/2250	2000/2250
Max.Speed	(rpm)	2400	2400	2400	2400	2400	2400	2400	2400	2400
Pump Weight	(kg)	-	-	17.0	17.6	18.1	19.2	19.6	22.2	22.6

Flow rate & Housing width Performance data - VGP DH / DH1

Flow data at 170 bar unless noted.

	Speed (rpm)	Gear Housing Widths / Flow Rate [VGP - DH/DH1 Series]																	
		1.25"		1.5"		1.75"		2.0"		2.25"		2.50"		2.75"		2.50"		2.75"	
		gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm
DH/ DH1	900	-	-	-	-	8.5	32.0	11.0	41.0	13.5	50.0	15.5	59.0	17.0	64.5	19.5	74.0	21.5	81.5
	1200	-	-	-	-	12.5	47.3	15.0	56.7	18.5	70.0	21.0	79.5	23.5	89.0	27.5	104.0	29.5	112.0
	1500	-	-	-	-	15.0	56.7	18.5	70.0	22.5	85.0	27.0	102.2	31.5	119.2	34.0	128.7	38.5	145.7
	1800	-	-	-	-	18.0	70.0	22.5	85.2	27.5	104.0	33.0	125.0	38.0	144.0	41.5	157.0	46.5	176.0
	2100	-	-	-	-	21.5	81.3	27.5	104.0	33.0	125.0	38.5	148.7	43.5	164.6	49.0	185.5	54.5	206.3
	2400	-	-	-	-	24.5	93.0	31.0	117.3	37.5	142.0	44.5	168.4	51.0	193.0	56.5	214.0	63.5	240.0

Housing width & Input Power Performance data - VGP DH/DH1

Input Power at 170 bar unless noted.

	Speed (rpm)	Gear Housing Widths / Input power [VGP - DH/DH1 Series]													
		1.75"		2.0"		2.25"		2.5"		2.75"		3.0"		3.25"	
		HP	KW	HP	KW	HP	KW	HP	KW	HP	KW	HP	KW	HP	KW
DH/ DH1	900	20	15	22	16	25	18	30	22	34	25	38	28	43	32
	1200	25	18	30	22	34	25	41	30	45	33	50	37	56	42
	1500	30	22	36	27	42	31	50	37	56	42	63	44	70	52
	1800	35	26	45	33	51	38	60	45	68	51	76	57	82	61
	2100	41	30	50	37	60	44	70	52	78	58	88	65	97	72
	2400	46	34	58	43	68	51	79	59	90	67	99	74	111	83

Note: In accordance with our policy of continuous development, we reserve the right to change specifications shown in this catalogue without notice.

Performance Data:-

The performance data shown below are the average results based on a series of laboratory tests of production units and are not necessarily representative of any one unit. Tests were run with an oil reservoir temperature of 50°C and a viscosity of 38mm²/S at 40°C.

VGM - DH

Motor performance data at 138 bar (2000 psi) unless noted.

Speed (rpm)	Gear Housing Widths / Input flow-OutputTorque [DH Series]											
	1.75"			2.25"			2.75"			3.25"		
	Input Flow	Output		Input Flow	Output		Input Flow	Output		Input Flow	Output	
		Torque	Power		Torque	Power		Torque	Power		Torque	Power
800	10.5	675	9	16.0	1080	9	21.5	1480	18.5	26	1860	24
	40.0	76	6.5	60.5	122	6.5	81.0	167	14	98	210	18
1200	15.0	680	13.5	23.0	1070	13.5	31.0	1450	28	37	1850	35
	57.0	79	10	87.0	120	10	117	164	21	140	209	26
1600	20.0	675	17	30.5	1040	30.5	40.5	1440	37	45	1780	45
	76.0	76	12.5	115	117.5	22.5	153	163	27.5	170	201	33.5
2000	24.5	660	20	38	1020	38	50.0	1410	44.5	59	1740	55
	93.0	74.5	15	144	115.0	28	189	159	33	223	197	41

U.S / Metric Input Flow : $\frac{\text{gpm}}{\text{lpm}}$ Torque : $\frac{\text{in-lbs}}{\text{Nm}}$ Power : $\frac{\text{HP}}{\text{kW}}$

VGM - DH1

Motor performance data at 172 bar (2500 psi) unless noted.

Speed (rpm)	Gear Housing Widths / Input flow-OutputTorque [DH Series]											
	1.75"			2.25"			2.75"			3.25"		
	Input Flow	Output		Input Flow	Output		Input Flow	Output		Input Flow	Output	
		Torque	Power		Torque	Power		Torque	Power		Torque	Power
800	10.5	830	10	16.0	1300	16	21.5	1800	24	26	2320	29
	40.0	94	7.4	60.5	147	12	81.0	203	18	98	262	22
1200	15.0	840	16	23.0	1330	25	31.0	1840	35	37	2340	44
	57.0	95	12	87.0	150	19	117	208	26	140	264	33
1600	20.0	830	20	30.5	1320	33	40.5	1810	46	45	2310	58
	76.0	94	15	115	149	24	153	204.5	34	170	261	43
2000	24.5	800	25	38	1300	40	50.0	1780	56	59	2260	71
	93.0	90	19	144	147	30	189	201	42	223	255	53

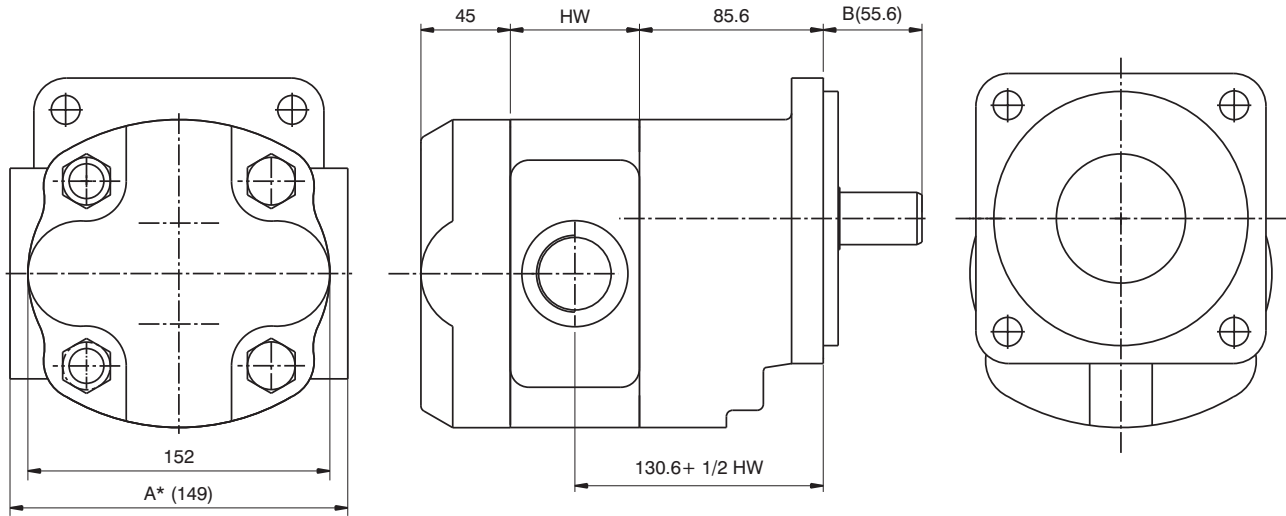
U.S / Metric Input Flow : $\frac{\text{gpm}}{\text{lpm}}$ Torque : $\frac{\text{in-lbs}}{\text{Nm}}$ Power : $\frac{\text{HP}}{\text{kW}}$

Note: In accordance with our policy of continuous development, we reserve the right to change specifications shown in this catalogue without notice.

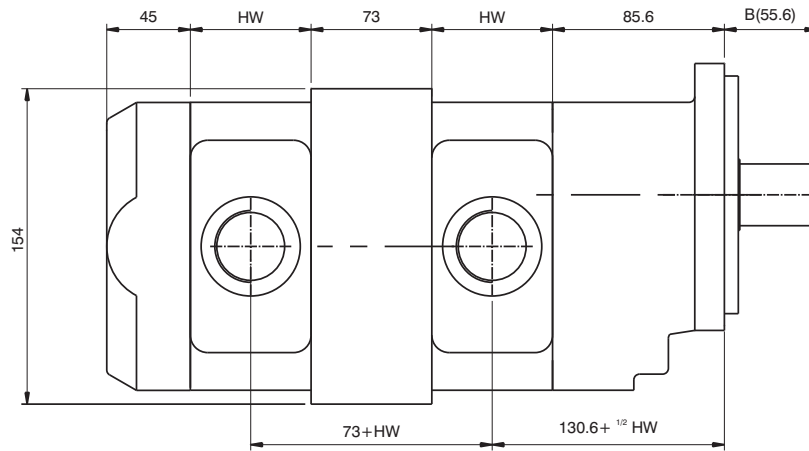


Unit Dimensions of VGP - DH/DH1 :

VGP
BPM



SINGLE UNIT



MULTIPLE UNIT

VGP-DH/DH1 Series	
Housing Width (HW)	
Inches	'mm'
1.25"	31.75
1.50"	38.10
1.75"	44.45
2.00"	50.8
2.25"	57.15
2.50"	63.50
2.75"	69.85
3.00"	76.20
3.25"	82.55

A* - Dimension varies with the type of ports.

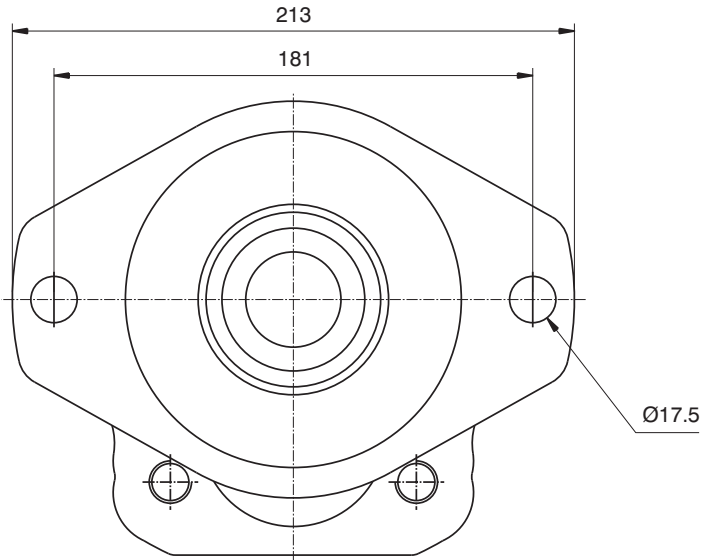
For 2.75" & 3" housing width, dimension is 170mm.

B - Dimension varies with the type of drive shaft ends.

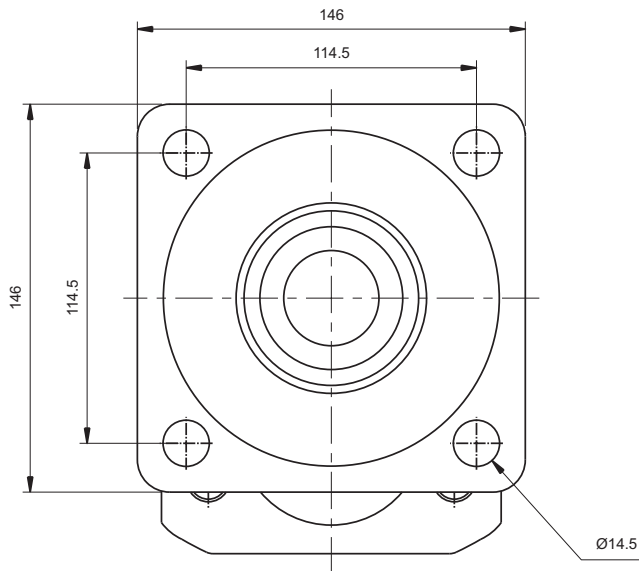
HW - Housing width

Flange Details - DH / DH1 Series

CODE : - CS₂
(S.A.E - "C" 2-Bolt flange)



CODE : - CS₄
(S.A.E - "C" 4-Bolt flange)



VGP
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Unit dimensions of VGP - DH/DH1

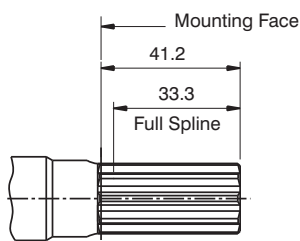
Side ported (SAE Versions) Shafts :

- Pump rotation as viewed from the shaft end: Clock wise rotation- outlet on right; Counter clockwise rotation - outlet on left
- Satisfactory drive shaft transmission capacity is indicated with the product of pressure(P) & Displacement (D) is less than or equal to (<) a given constant. The units of P & D are expressed in psi & in³/rev. respectively

Drive shaft configurations :

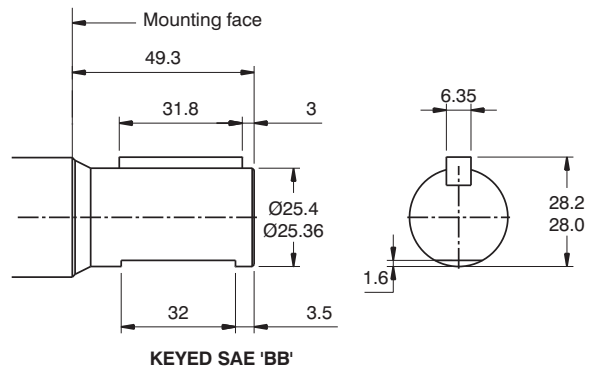
VGP
BPM

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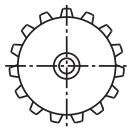
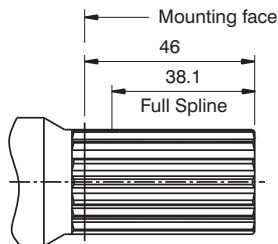


SAE-B Splined shaft
Class 1-J498b
16/32 dp.13 teeth
30° PA flat root side fit.

SHAFT CODE 4:-

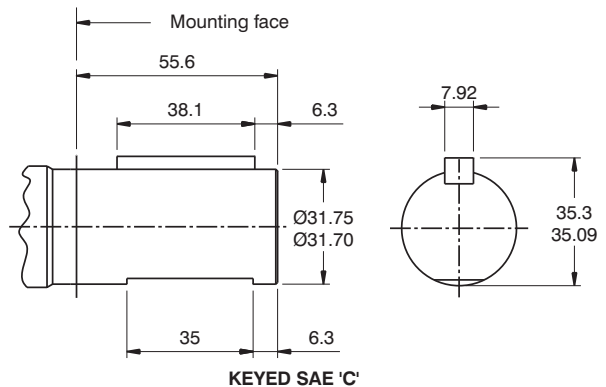


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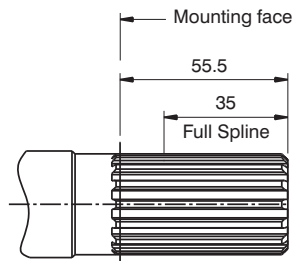


SAE-BB splined shaft
Class 1-J498b
16/32 dp.15 teeth
30° PA flat root side fit.

SHAFT CODE 6:-



SHAFT CODE 7:-



SAE-C splined shaft
12/24 dp.14 teeth
30° PA flat root side fit.