

BB Series

Gear Pump Ordering Code

VGP **BB** **b** **R** **BS₂** **1.88** **1.38** **3** **S1** **P2** **GB** **FB** **FB** **-** **1** **B1**

Veljan Gear Pump

Series

Pump type

b - Multiple Unit / Double pump
c - Piggyback / Tandem

Rotation

(Viewed from shaft end)

R - Clockwise

L - Counter Clockwise

Mounting type



BS₂ - SAE 'B' 2-bolt



BS₄ - SAE 'B' 4-bolt

Housing for 'H1' & 'H2'

(Displacement cc/rev)

0.88 = 9.8 cc/rev

1.13 = 14.9

1.38 = 19.9

1.63 = 24.8

1.88 = 29.8

2.13 = 34.9

2.38 = 39.9

Shaft end details (Shaft type)

1 = 7/8" KEY SHORT SAE B

2 = 9 SPLINE 5/8" SHORT SAE A

3 = 13 SPLINE 7/8" SHORT SAE B

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 135,136

H1 H2

P1 P2

Ports Position

B1 - Common Inlet,
Dual outlet
See page 14

Connecting shaft

(For Tandem units)
1 - BB

Rear Section

(For Tandem/piggyback)
VGP - B

Port connections
OUTLET(P1,P2)

See page 135,136

VGP
DGP

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. Test were run with an oil reservoir temperature of 50°C and a viscosity of 38mm²/S at 40°C.

Note: Pump output flow is at the maximum rated pressure (See page 16, General pump data)

VGP - B Performance Data:-

VGP - B Performance Data :

| B-Series | | Gear Housing Widths | | | | | | |
|-------------|-------|---------------------|-------|-------|-------|-------|-------|-------|
| | | 0.88" | 1.13" | 1.38" | 1.63" | 1.88" | 2.13" | 2.38" |
| cc/rev | | 9.8 | 14.9 | 19.9 | 24.8 | 29.8 | 34.9 | 39.9 |
| Pressure | (bar) | 240 | 240 | 240 | 240 | 220 | 200 | 170 |
| | (psi) | 3500 | 3500 | 3500 | 3500 | 3250 | 3000 | 2500 |
| Max.Speed | (rpm) | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Pump Weight | (kg) | 8.50 | 8.55 | 8.60 | 9.0 | 9.50 | 9.80 | 10.50 |

VGP
DGP

Relational chart for Flow rate & Housing width:

| B | Speed (rpm) | Gear Housing Widths / Flow Rate [VGP - B Series] | | | | | | | | | | | | | |
|---|-------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------|
| | | 0.88" | | 1.13" | | 1.38" | | 1.63" | | 1.88" | | 2.13" | | 2.38" | |
| | | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm | gpm | lpm |
| | 1000 | 2.58 | 9.80 | 3.93 | 14.90 | 5.25 | 19.90 | 6.55 | 24.80 | 7.87 | 29.80 | 9.22 | 34.90 | 10.54 | 39.90 |
| | 1500 | 3.35 | 12.70 | 5.36 | 20.31 | 7.42 | 28.12 | 9.29 | 35.20 | 11.14 | 42.17 | 13.56 | 51.35 | 14.87 | 56.32 |
| | 2000 | 4.57 | 17.30 | 7.55 | 28.61 | 9.90 | 37.50 | 12.45 | 47.15 | 15.01 | 56.85 | 17.92 | 67.85 | 20.39 | 77.21 |
| | 2500 | 5.85 | 22.15 | 9.57 | 36.25 | 12.21 | 46.25 | 15.65 | 59.25 | 19.00 | 71.92 | 22.52 | 85.25 | 25.42 | 96.25 |
| | 3000 | 7.45 | 28.21 | 11.28 | 42.70 | 14.85 | 56.21 | 18.75 | 71.00 | 23.05 | 87.25 | 26.86 | 101.69 | 30.70 | 116.21 |

Relational chart for Housing width & Input Power :

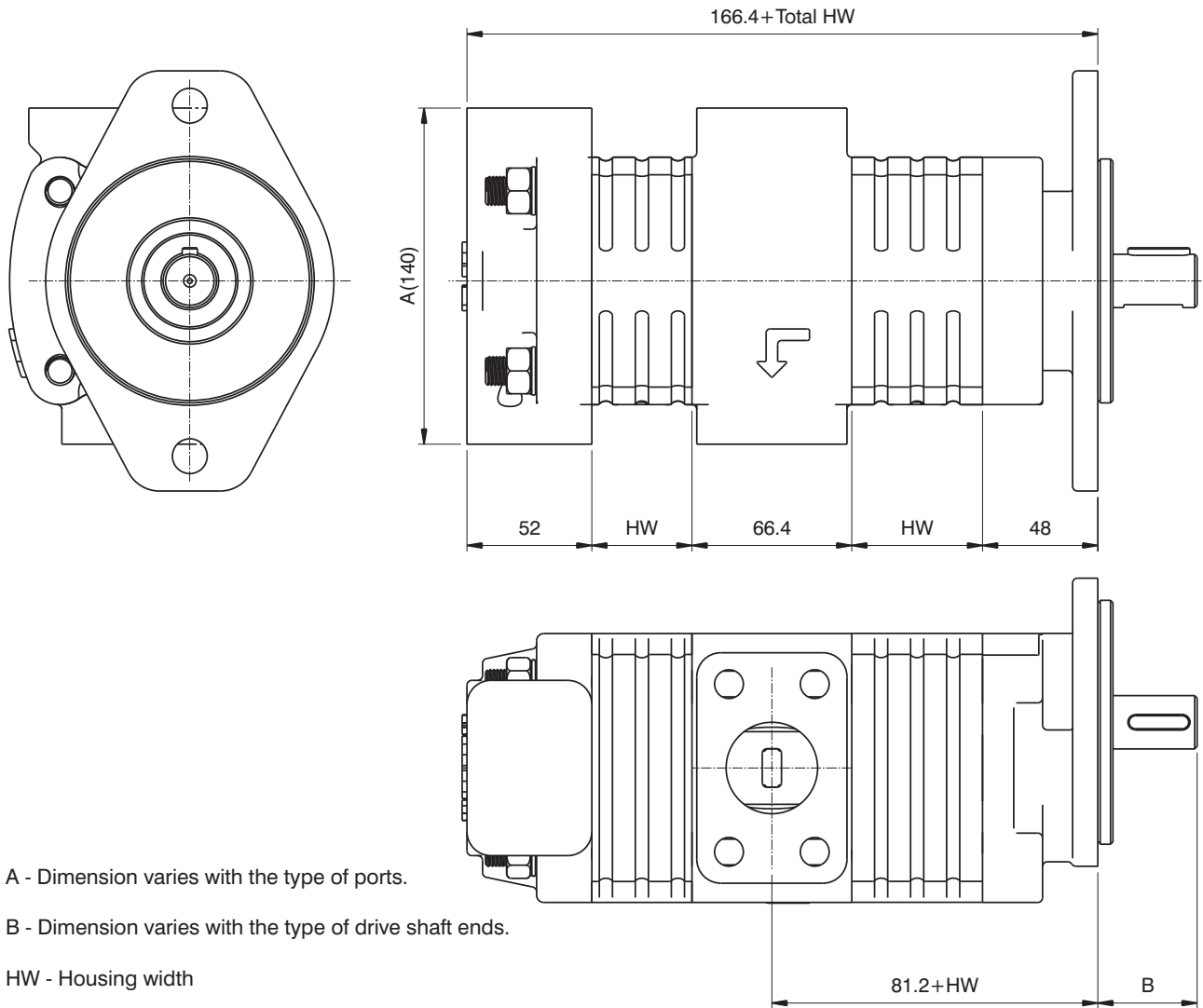
| B | Speed (rpm) | Gear Housing Widths / Input power [VGP - B Series] | | | | | | | | | | | | | |
|---|-------------|--|----|-------|----|-------|----|-------|----|-------|----|-------|----|-------|----|
| | | 0.88" | | 1.13" | | 1.38" | | 1.63" | | 1.88" | | 2.13" | | 2.38" | |
| | | HP | KW | HP | KW | HP | KW | HP | KW | HP | KW | HP | KW | HP | KW |
| | 1000 | 7 | 5 | 11 | 8 | 13 | 10 | 16 | 12 | 17 | 13 | 20 | 15 | 21 | 16 |
| | 1500 | 11 | 8 | 15 | 11 | 19 | 14 | 23 | 17 | 25 | 19 | 28 | 21 | 30 | 22 |
| | 2000 | 13 | 10 | 19 | 14 | 24 | 18 | 30 | 22 | 34 | 25 | 36 | 27 | 39 | 29 |
| | 2500 | 16 | 12 | 23 | 17 | 30 | 22 | 36 | 27 | 41 | 31 | 44 | 33 | 47 | 35 |
| | 3000 | 19 | 14 | 27 | 20 | 35 | 26 | 43 | 32 | 48 | 36 | 51 | 38 | 54 | 40 |

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

Double Pump Unit Dimensions of VGP - BB :-

COMMON INLET - B1 (One Inlet , Two Outlets) - VGP - BB

VGP
DGP

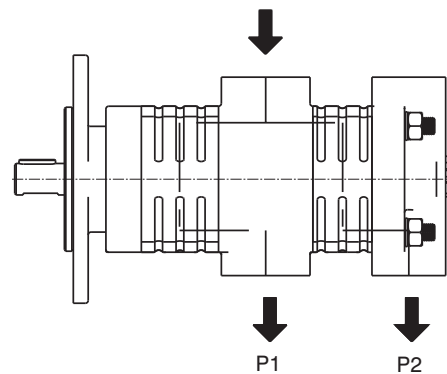


A - Dimension varies with the type of ports.

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

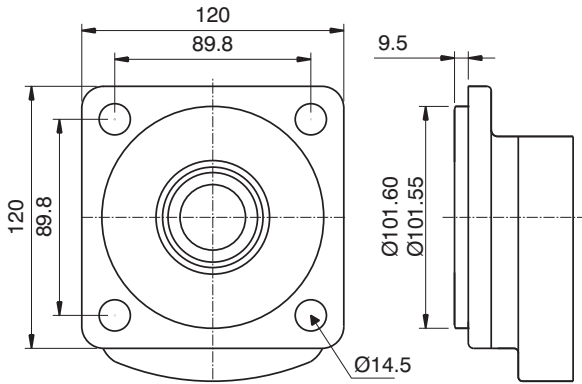
HW - Housing width

| VGP-BB Series | | |
|------------------------------|-----------------------|------|
| Housing Width Inches (HW) | Displacement (cc/rev) | |
| | P1 | P2 |
| 0.88" | 9.8 | 9.8 |
| 1.13" | 14.9 | 14.9 |
| 1.38" | 19.9 | 19.9 |
| 1.63" | 24.8 | 24.8 |
| 1.88" | 29.8 | 29.8 |
| 2.13" | 34.9 | 34.9 |
| 2.38" | 39.9 | 39.9 |



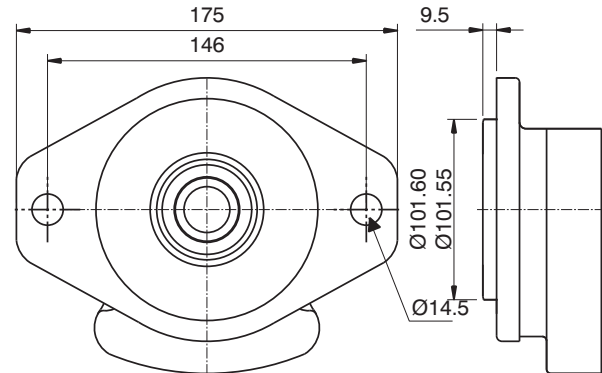
FLANGE DETAILS - 'BB' Series:-

S.A.E - "B" 4 - BOLT FLANGE



Code - BS₁

S.A.E - "B" 2 - BOLT FLANGE



Code - BS₂

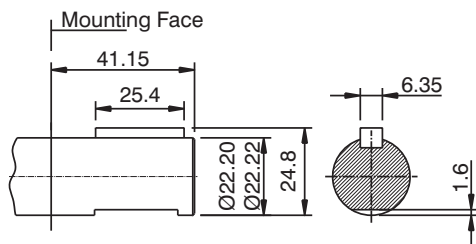
VGP
DGP

Drive shaft configurations:-

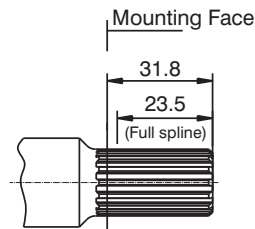
Side ported (SAE Versions) Shafts:-

- 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
- Pump rotation as viewed from the shaft end: Clockwise rotation - outlet on right; Counter clockwise rotation outlet on left

Shaft code 1 :

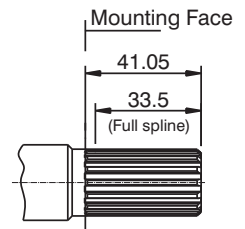


Shaft code 2 :



SAE-A splined shaft
Class 1-J498b
16/32 dp.9 teeth
30° PA flat root side fit.

Shaft code 3 :



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

Drive shaft (Shaft loads) Maximum Input Torque for VGP - BB series :-

| Code | Shaft type | Torque rating | |
|------|-------------------------------|---------------|-------|
| | | Nm | lb-ft |
| 1 | 7/8" KEY SHORT SAE B | 225 | 165 |
| 2 | 9 SPLINE 5/8" SHORT SAE A | 108 | 80 |
| 3 | 13 SPLINE 7/8" SHORT SAE B | 326 | 240 |