



## 'E' Series Features:-

- Heavy duty sleeve bushing design in a small frame size
- Displacements from 43.5cc/rev to 146.5cc/rev
- Working pressures up to 240bar
- Speeds up to 3500rpm
- Flows up to 38.7gpm
- High strength cast iron construction
- 100% factory tested
- High strength alloy steel gears and shaft sets
- A wide range of porting, mounting and shaft options available
- Pressure balanced wear plates maintain high pump efficiency throughout all operating ranges

## 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.

## VGP - E Performance Data :

C-Series		Gear Housing Widths							
		1.25"	1.50"	1.75"	2.00"	2.25"	2.50"	2.75"	3.00"
cc/rev		43.50	58.60	73.00	87.40	101.20	117.40	132.20	146.50
Pressure	(bar)	240	240	240	240	240	240	220	200
	(psi)	3500	3500	3500	3500	3250	3000	3250	3000
Max.Speed	(rpm)	2400	2400	2400	2400	2400	2400	2400	2400
Pump Weight	(kg)	24.50	24.60	26.50	27.20	29.0	29.9	31.0	31.80

## Relational chart for Flow rate & Housing width:

Speed (rpm)	Gear Housing Widths / Flow Rate [ VGP - E Series ]															
	1.25"		1.5"		1.75"		2.0"		2.25"		2.50"		2.75"		3.00"	
	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm
<b>E 1000</b>	11.49	43.5	14.58	58.6	19.28	73.0	23.09	87.4	26.73	101.2	31.01	117.4	34.92	132.2	38.70	146.5
<b>1500</b>	16.71	63.25	22.56	85.40	28.34	107.3	34.10	129.1	39.49	149.5	46.02	174.2	51.73	195.8	57.46	217.5
<b>2000</b>	22.40	84.8	30.43	115.20	38.10	143.8	45.49	172.2	52.89	200.2	61.34	232.2	69.24	262.1	76.93	291.2
<b>2400</b>	26.97	102.1	36.51	138.20	45.46	172.1	54.82	207.5	63.54	240.5	73.76	279.2	83.17	314.8	92.02	348.3

## Relational chart for Housing width & Input Power :

Speed (rpm)	Gear Housing Widths / Input power [ VGP - E Series ]															
	1.25"		1.5"		1.75"		2.0"		2.25"		2.50"		2.75"		3.00"	
	HP	KW	HP	KW	HP	KW	HP	KW	HP	KW	HP	KW	HP	KW	HP	KW
<b>D 1000</b>	25	19	35	26	43	32	51	38	58	43	67	50	70	52	73	54
<b>1500</b>	37	28	51	38	63	47	75	56	86	64	99	74	102	76	106	79
<b>2000</b>	51	38	67	50	83	62	98	73	114	85	131	98	135	101	141	105
<b>2400</b>	62	46	80	60	99	74	119	89	139	104	160	119	165	123	172	128



## E Series

### Gear Pump Ordering Code

VGP	E	a	R	CS <sub>4</sub>	2.5	*	8	S1	P2	F1	*	*	*	-
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**Veljan Gear Pump Series**

**Pump type**  
a - Single Unit  
b - Multiple Unit

**Rotation**  
(Viewed from shaft end)  
R - Clockwise  
L - Counter Clockwise

**Mounting type**

- AS<sub>2</sub> - SAE 'A' 2-bolt
- BS<sub>2</sub> - SAE 'B' 2-bolt
- CS<sub>2</sub> - SAE 'C' 2-bolt
- BS<sub>4</sub> - SAE 'B' 4-bolt
- CS<sub>4</sub> - SAE 'C' 4-bolt
- I<sub>2</sub> - ISO 2-bolt
- I<sub>4</sub> - ISO 4-bolt

**Housing for 'H1' & 'H2'**  
(Displacement cc/rev)  
1.25 = 43.50 cc/rev  
1.50 = 58.60  
1.75 = 73.00  
2.00 = 87.40  
2.25 = 101.20  
2.50 = 117.40  
2.75 = 132.20  
3.00 = 146.50

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

**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

**Port connections**  
F - Flange ported (Split flange)  
1- Metric threads  
2- UNC  
T - Threaded ported (OD tube porting)  
1- UNF  
2- NTP  
3- BSPP

**Housing ports**  
TH - Threaded ported (OD tube porting)  
1- UNF  
2- NTP  
3- BSPP

**Connecting shaft**  
(For Tandem units)  
1 - BB  
2 - CC  
3 - DD  
4 - EE  
5 - CB  
6 - DB  
7 - EC

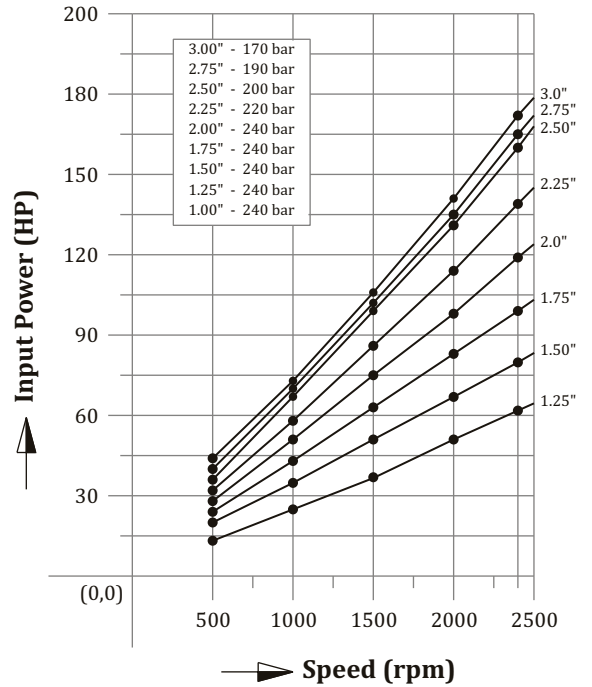
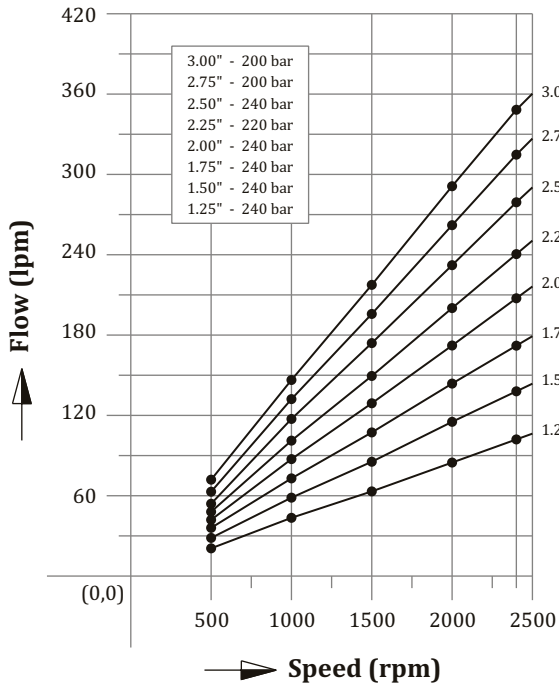
**Bearing Connection**  
FB - Flange ported (Split flange)  
1- Metric threads  
2- UNC  
TB - Threaded ported (OD tube porting)  
1- UNF  
2- NTP  
3- BSPP

**Bearing carrier type**  
B1 - Single outlet  
B2 - Two outlets

\* :- For Double pumps / Tandem pumps  
- :- Housing ports on request

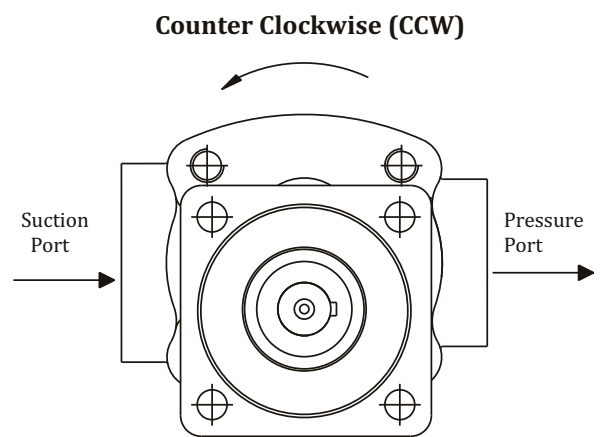
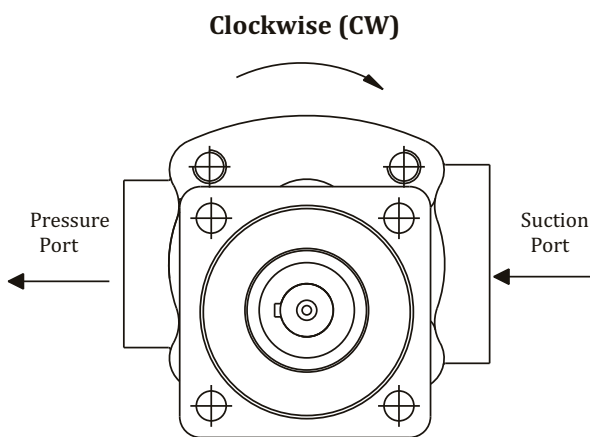


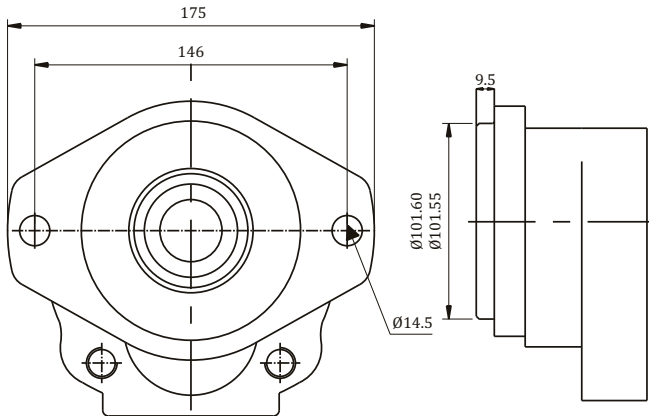
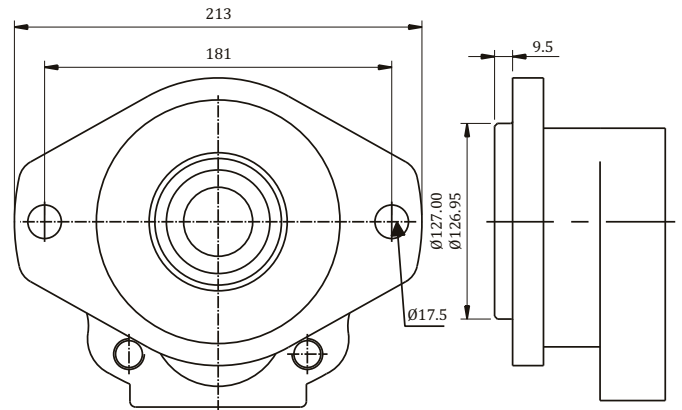
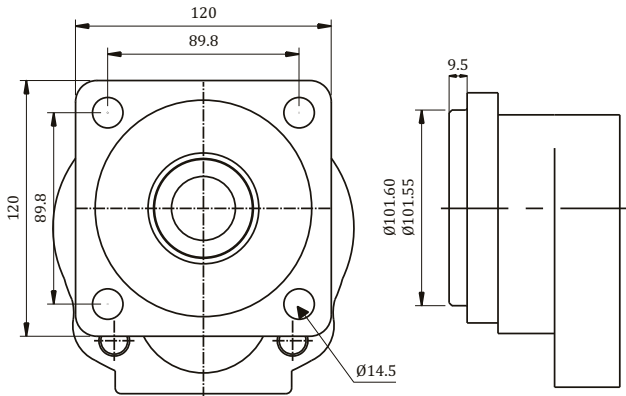
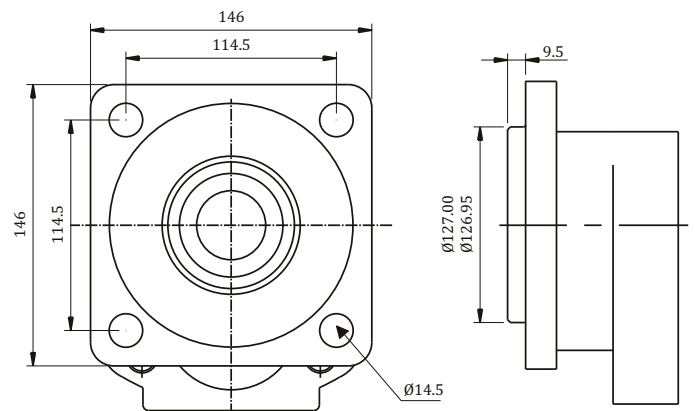
### Performance curves for VGP-E:



### Pump Rotation:

- To determine rotation view pump as shown. Look at shaft end cover of pump with the drive shaft at the top. Note the location of the ports
- Pump rotation as viewed from the shaft end: Clockwise rotation - outlet on right; Counter clockwise rotation - outlet on left




**FLANGE DETAILS - 'E' Series :**
**S.A.E - "B" 2 - BOLT FLANGE**

**S.A.E - "C" 2 - BOLT FLANGE**

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

**S.A.E - "C" 4 - BOLT FLANGE**




## Unit dimensions of VGP-E

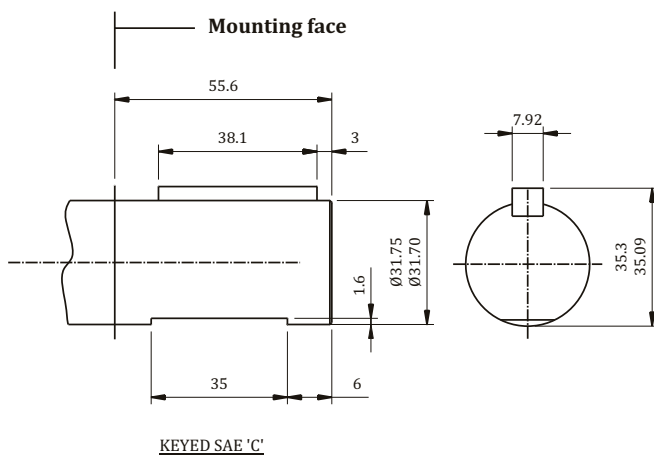
### Side ported (SAE Versions)

#### Shafts:

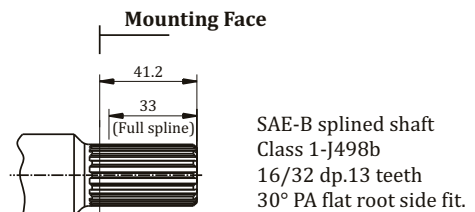
- Pump rotation as viewed from the shaft end: Clockwise rotation- outlet on right; Counter clockwise rotation - outlet on left
- Satisfactory drive shaft transmission capacity is indicated with the product of pressure(P) & Displacement (D) is less than or equal to (<) a given constant. The units of P & D are expressed in psi & in<sup>3</sup>/rev. respectively

### Drive shaft configurations:

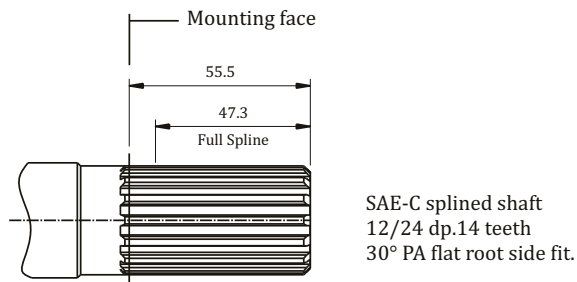
#### SHAFT CODE 6:



#### SHAFT CODE 3:



#### SHAFT CODE 7:-

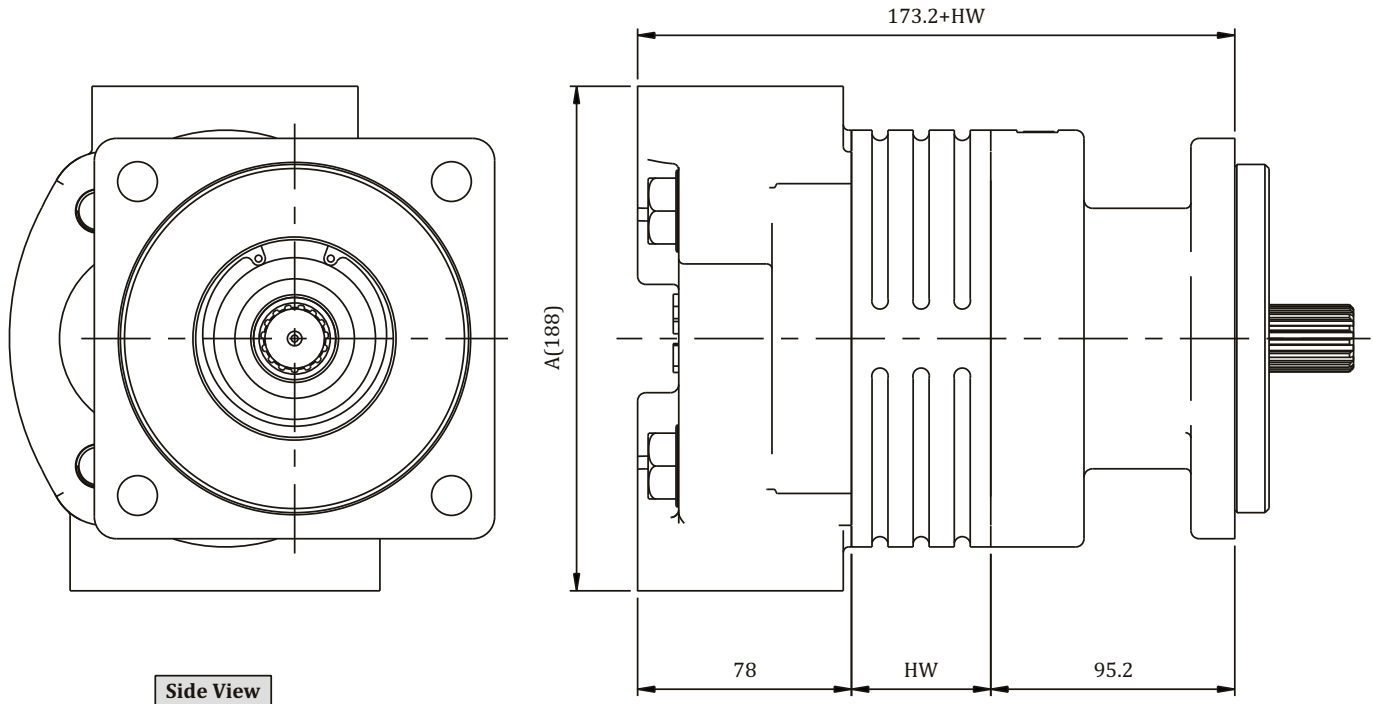


### Drive shaft (Shaft loads) Maximum Input Torque for VGP - E series :

Code	Shaft type	Torque rating	
		Nm	lb-ft
3	13 TEETH SPLINE SAE B	330	240
6	KEYED SAE C	675	500
7	14 TEETH SPLINED SAE C	958	705

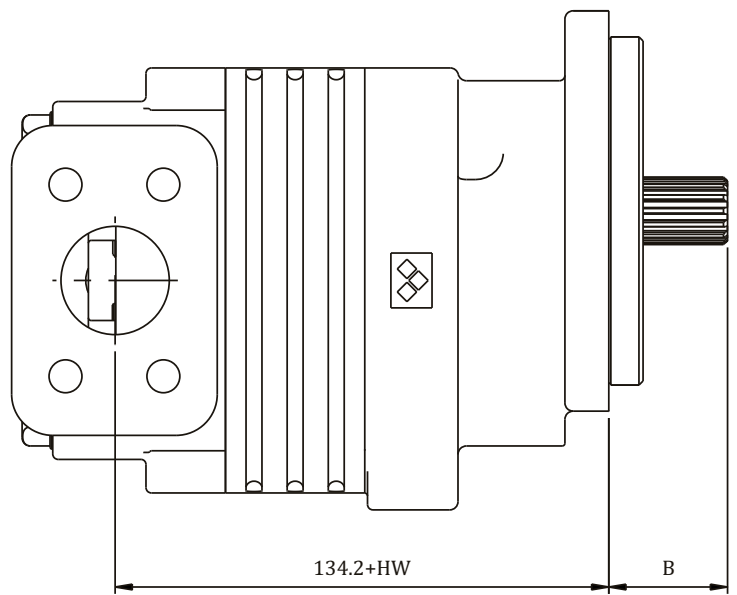


**Single Pump Unit Dimensions Data of VGP - E :**



Side View

Front View



Top View

**Housing Table (HW)**

Inches	mm
1"	25.40
1¼"	31.75
1½"	38.10
1¾"	44.45
2"	50.80
2¼"	57.15
2½"	63.50
2¾"	69.85
3"	76.20

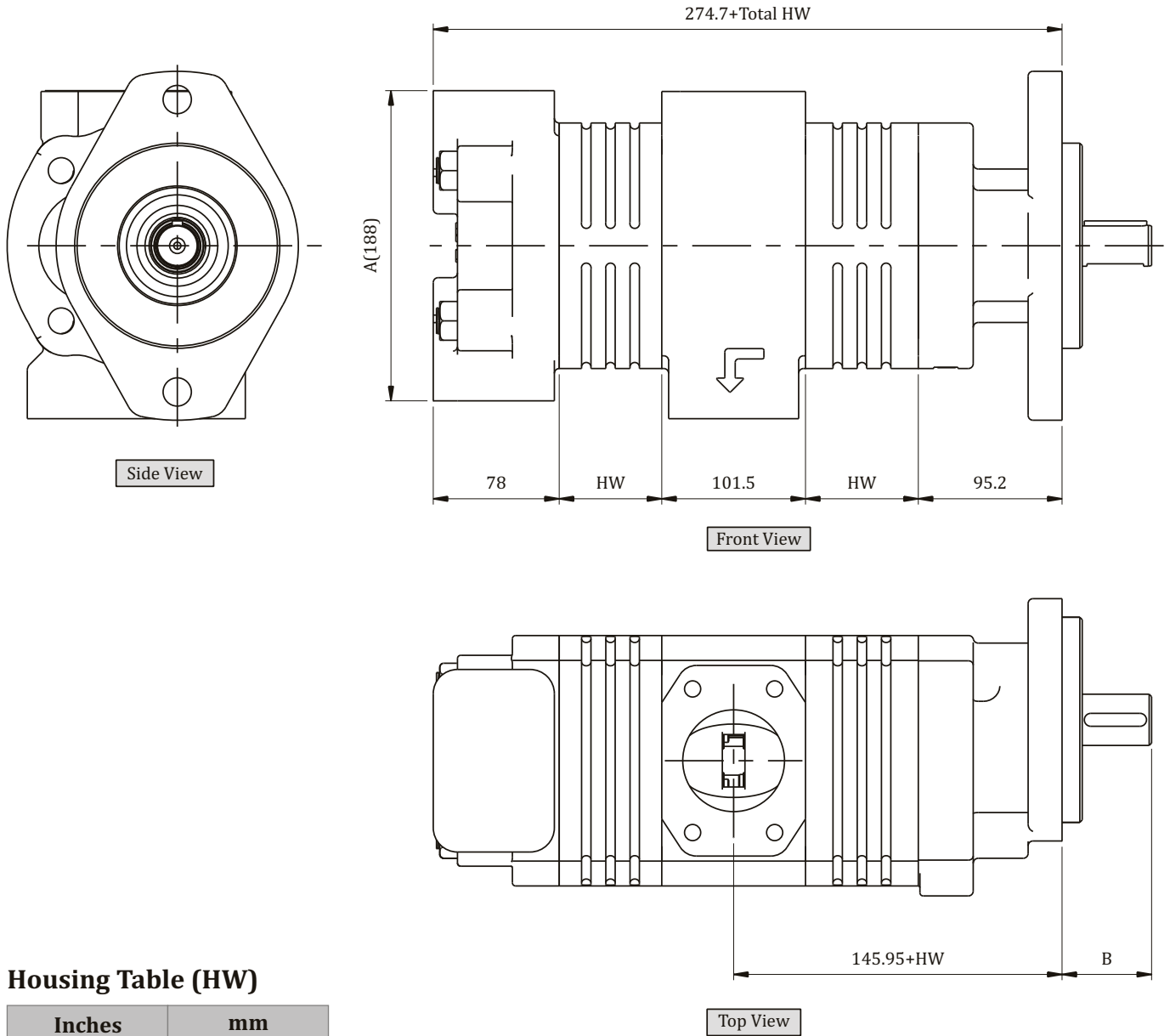
A - Dimension varies with the type of ports.

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

HW - Housing width



Tandem Pump Unit Dimensions of VGP - EE :



Housing Table (HW)

Inches	mm
1"	25.40
1¼"	31.75
1½"	38.10
1¾"	44.45
2"	50.80
2¼"	57.15
2½"	63.50
2¾"	69.85
3"	76.20

A - Dimension varies with the type of ports.

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

HW - Housing width