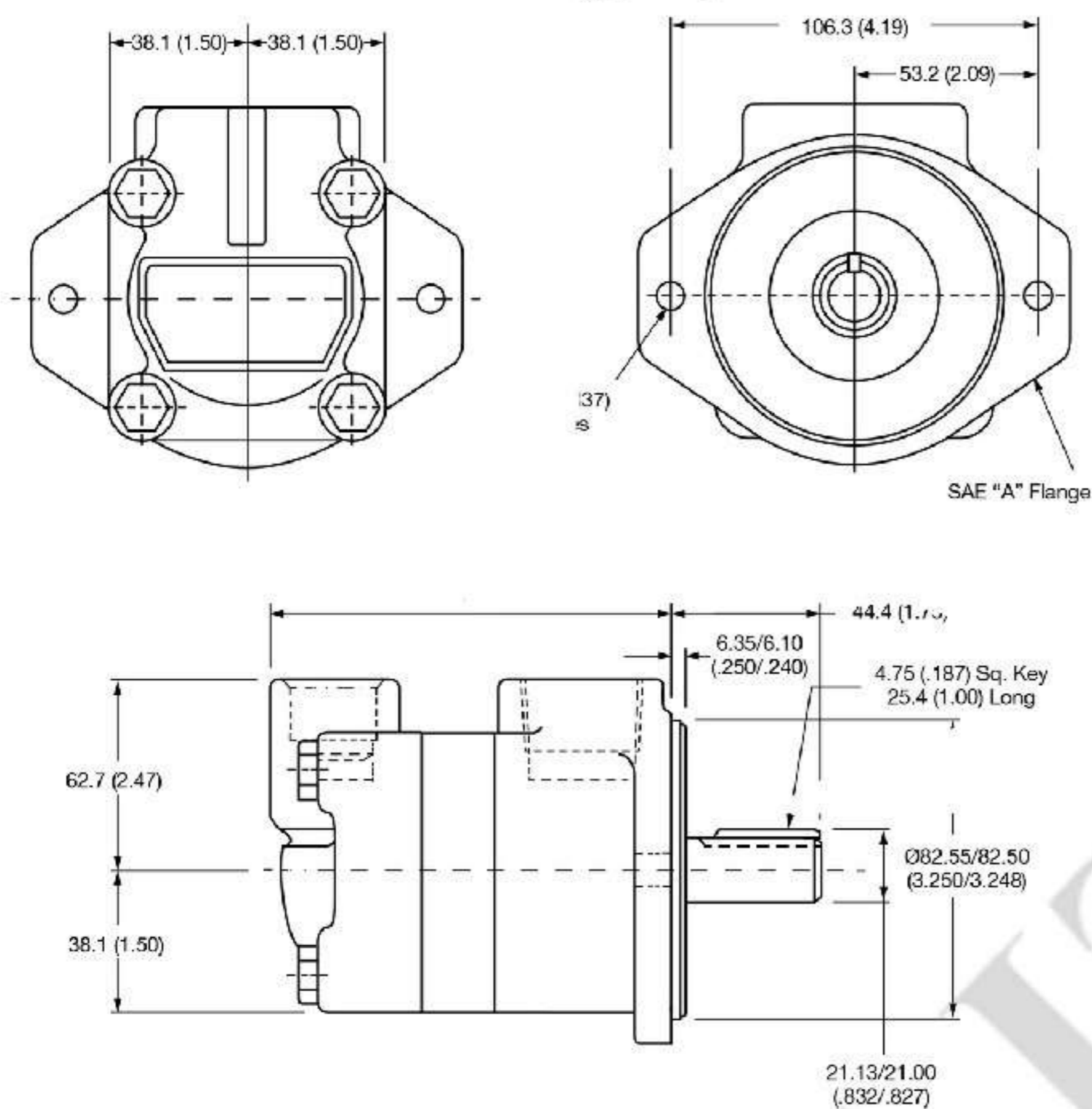
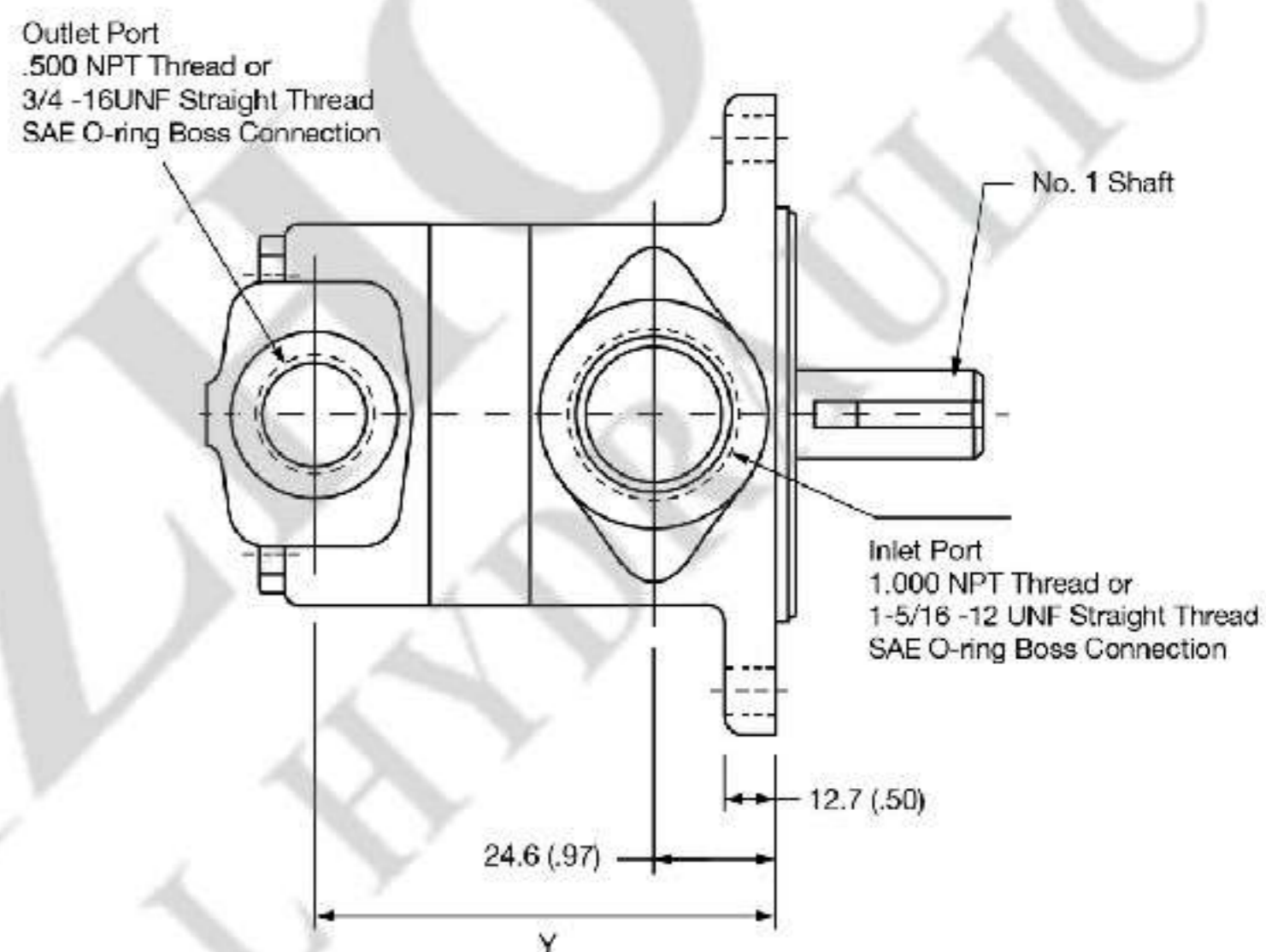


■ V10 Series-Power Steering pump

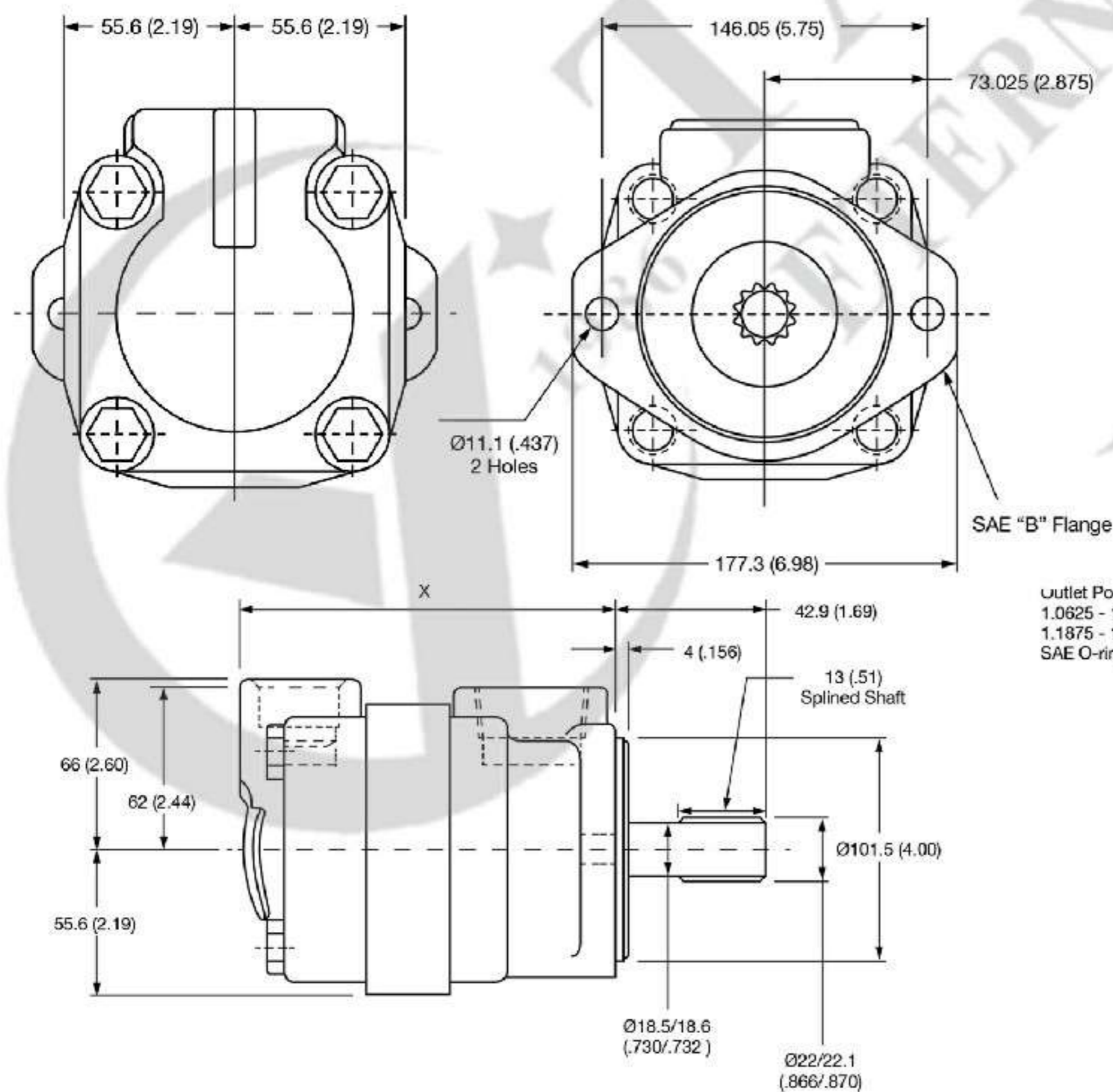


V10 Dimensions

DELIVERY AT 1200 RPM & 100 PSI	DIMENSIONS	
	X	Y
1 gpm (3.8 lpm)	115.6 (4.55)	91.9 (3.62)
2 gpm (7.6 lpm)	115.6 (4.55)	91.9 (3.62)
3 gpm (11.4 lpm)	115.6 (4.55)	91.9 (3.62)
4 gpm (15.1 lpm)	121.9 (4.80)	98.3 (3.87)
5 gpm (18.9 lpm)	121.9 (4.80)	98.3 (3.87)
6 gpm (22.7 lpm)	127.0 (5.00)	103.4 (4.07)
7 gpm (26.5 lpm)	127.0 (5.00)	103.4 (4.07)

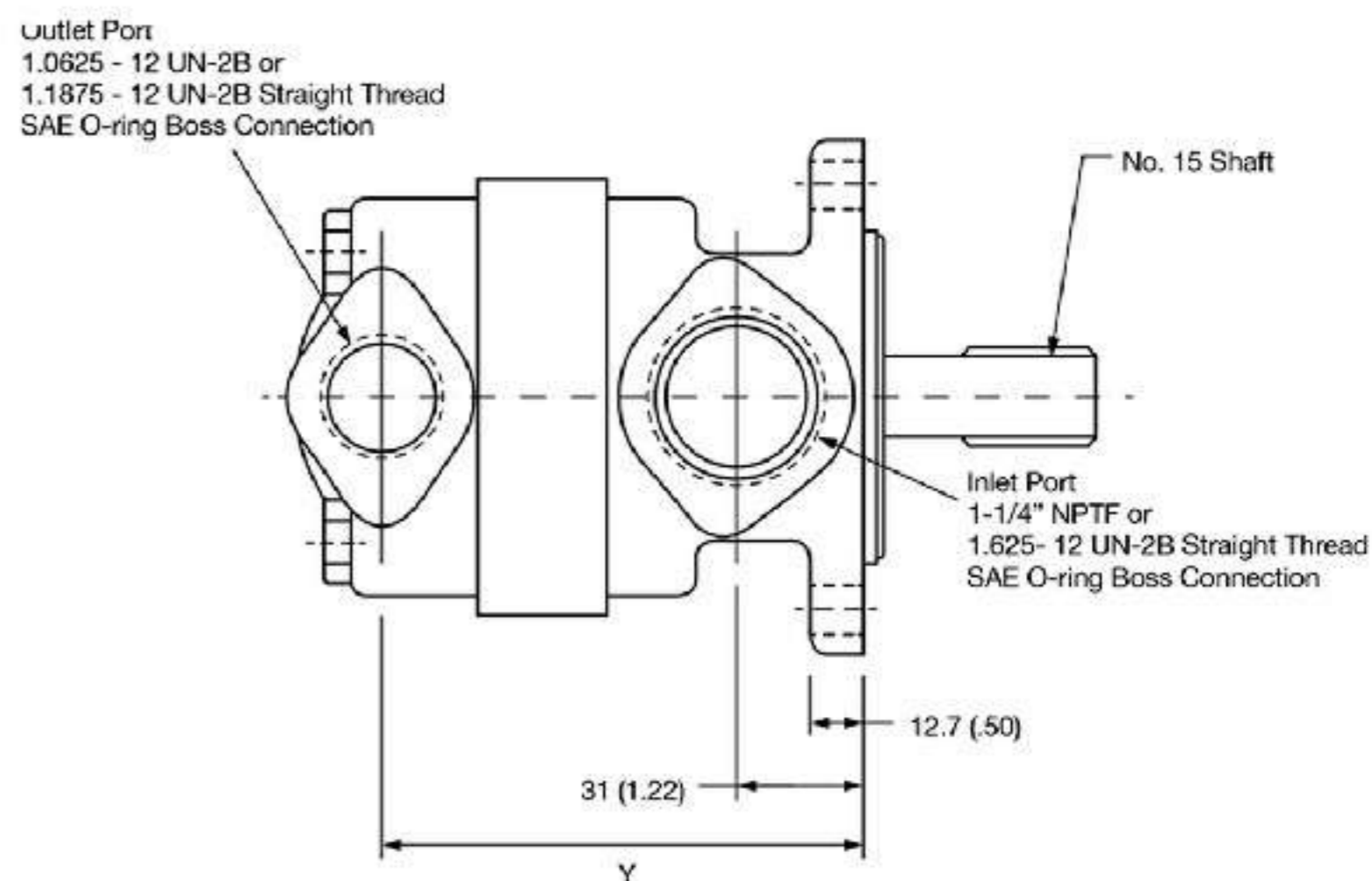


■ V20 Series-Power Steering Pump



V20 Dimensions

DELIVERY AT 1200 RPM & 100 PSI	DIMENSIONS	
	X	Y
6 gpm (22.7 lpm)	125.2 (4.93)	102.1 (4.02)
7 gpm (26.5 lpm)	131.6 (5.18)	108.4 (4.27)
8 gpm (30.3 lpm)	131.6 (5.18)	108.4 (4.27)
9 gpm (34.1 lpm)	131.6 (5.18)	108.4 (4.27)
11 gpm (41.6 lpm)	136.6 (5.38)	113.5 (4.47)
12 gpm (45.4 lpm)	140.2 (5.52)	117.1 (4.61)
13 gpm (49.2 lpm)	140.2 (5.52)	117.1 (4.61)



■ V2010/V2020 Series-Power Steering pump

Special Note

Place an **F3** in front of the model code for **Special Seals**.
 Example: F3-V-2020-* -1-* -F-8-S-9-P-1-** -12-A-30-L



V - 2020 - * - 1 - * - F - 8 - S - 9 - P - 1 - ** - 12

Vane Pump Series

V = Vane Pump Series

Series

V2010= Series Designation
 V2020= Series Designation

Cover Type

* = Omit for standard cover
 F = Flow control cover
 P = Priority valve cover

Pump Mounting

1 = 2 Bolt Flange SAE 'B' size
 2 = Foot bracket

Foot Bracket

(Mounting position with respect to inlet port position when viewed from the shaft end)

3 = Inlet port position at 3 o'clock
 6 = Inlet port position at 6 o'clock
 9 = Inlet port position at 9 o'clock
 * = Omit for Inlet port position at 12 o'clock

Inlet Port Connections

F = 4 Bolt Flange 2" diam. SF

Ring Capacity in U.S. gpm (Shaft end)

All values rated at 1200 rpm & 100 psi

6 = 6 gpm (22.7 lpm) 11 = 11 gpm (41.6 lpm)
 7 = 7 gpm (26.5 lpm) 12 = 12 gpm (45.4 lpm)
 8 = 8 gpm (30.3 lpm) 13 = 13 gpm (49.2 lpm)
 9 = 9 gpm (34.1 lpm)

Outlet Port

(Shaft end)

S = 1.062"-12 UN 2B Thd. Connection

B = G 3/4"

Ring Capacity in U.S. gpm (Cover end)

All values rated at 1200 rpm & 100 psi

V10 Size	V20 Size	
2=2 gpm(7.6lpm)	5 = 5 gpm (18.9 lpm)	10 = 10 gpm (37.8 lpm)
3=3 gpm(11.4lpm)	6 = 6 gpm (22.7 lpm)	11 = 11 gpm (41.6 lpm)
4=4 gpm(15.1lpm)	7 = 7 gpm (26.5 lpm)	12 = 12 gpm (45.4 lpm)
5=5 gpm(18.9.4lpm)	8 = 8 gpm (30.3 lpm)	13 = 13 gpm (49.2 lpm)
6=6 gpm(23.1lpm)	9 = 9 gpm (34.1 lpm)	
7=7 gpm(27.2lpm)		

Shaft Rotation

(Viewed from shaft end)

* = Omit for Right-hand (Clockwise) Rotation
 L = Left-hand (Counter-Clockwise) Rotation

Design

Pressure Setting

A = 250 psi (17.2 bar)	F = 1500 psi (103.4 bar)
B = 500 psi (34.5 bar)	G = 1750 psi (120.7 bar)
C = 750 psi (51.7 bar)	H = 2000 psi (137.9 bar)
D = 1000 psi (68.9 bar)	J = 2250 psi (155.1 bar)
E = 1250 psi (86.2 bar)	K = 2500 psi (172.4 bar)

Flow Rate through Orifice in Cover (US gpm)

Outlet Port Position

(Viewed from rear cover end of pump)

With No. 1 Outlet (shaft end) opposite inlet port

	V2020	V2010	
AA	180°from inlet	135°CCWfrom inlet	(No.2 Outlet)
AB	90°CCW from inlet	45°CCW from inlet	
AC	0°from inlet	45°CW from inlet	
AD	90°CW from inlet	135°CCW from inlet	

With No. 1 Outlet (shaft end) 90° CCW from inlet port

	V2020	V2010	
BA	180°from inlet	135°CCWfrom inlet	(No.2 Outlet)
BB	90°CCW from inlet	45°CCW from inlet	
BC	0°from inlet	45°CW from inlet	
BD	90°CW from inlet	135°CCW from inlet	

With No. 1 Outlet (shaft end) inline with inlet port

	V2020	V2010	
CA	180°from inlet	135°CCWfrom inlet	(No.2 Outlet)
CB	90°CCW from inlet	45°CCW from inlet	
CC	0°from inlet	45°CW from inlet	
CD	90°CW from inlet	135°CCW from inlet	

With No. 1 Outlet (shaft end) 90° CW from inlet port

	V2020	V2010	
DA	180°from inlet	135°CCWfrom inlet	(No.2 Outlet)
DB	90°CCW from inlet	45°CCW from inlet	
DC	0°from inlet	45°CW from inlet	
DD	90°CW from inlet	135°CCW from inlet	

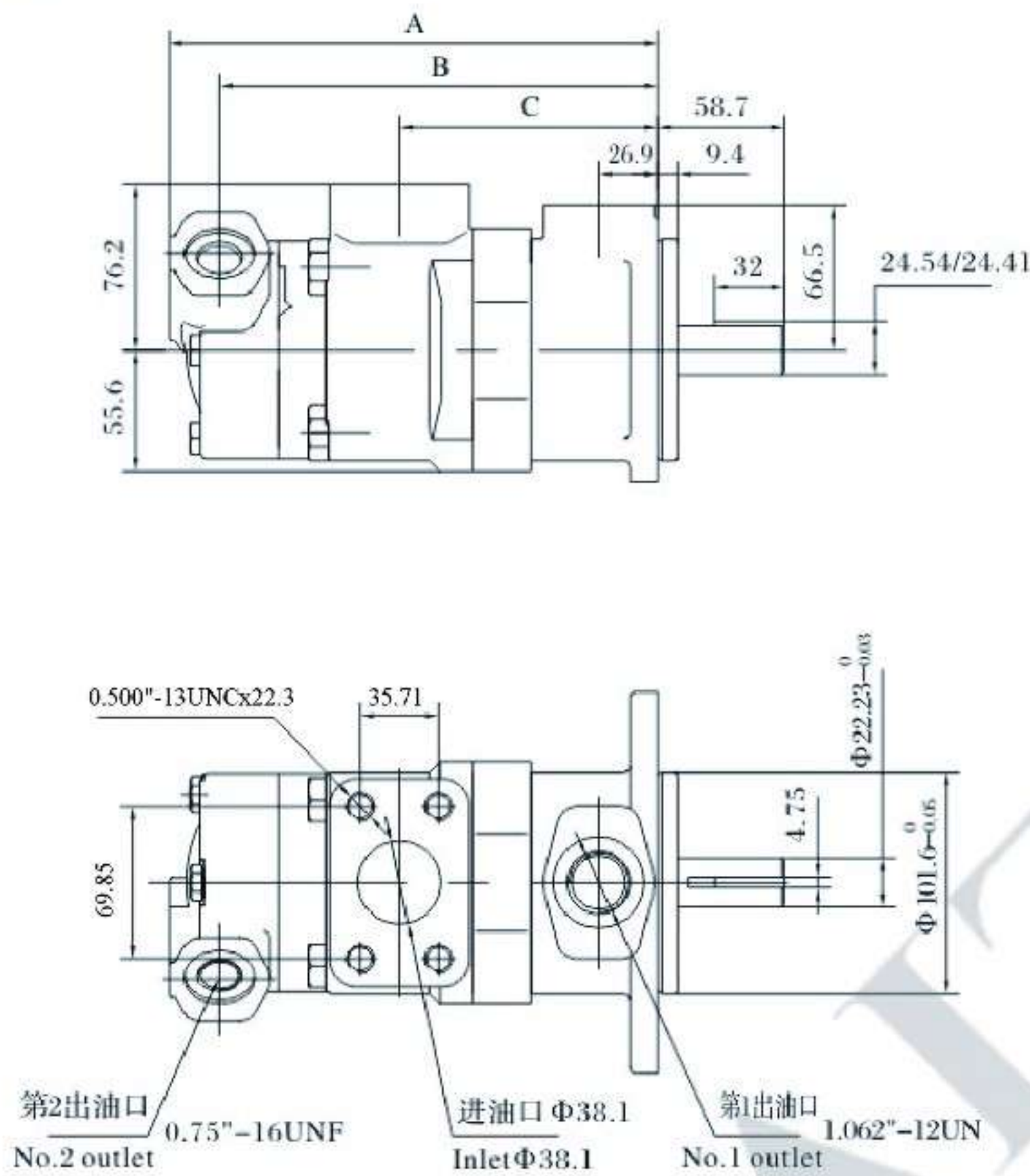
Shafts

1 = Straight keyed
 3 = Threaded w/ woodruff key
 11 = Splined 13 tooth
 38 = Splined (V2020 only)

Code	Std.Cover		Flow Control Cover			
	V2010	V2020	Pressure		Tank	
	V2010	V2020	V2010	V2020	V2010	V2020
B	G1/2"	G3/4"	-	-	-	-
P	1/2"NPT	-	3/4" St.Thd.	3/4" St.Thd.	1/2"NPT	1/2"NPT
S	3/4" St.Thd.	1.602-12 St.Thd.	-	3/4" St.Thd.	-	1.602-12 St.Thd.
T	-	-	3/4" St.Thd.	3/4" St.Thd.	3/4" St.Thd.	3/4" St.Thd.

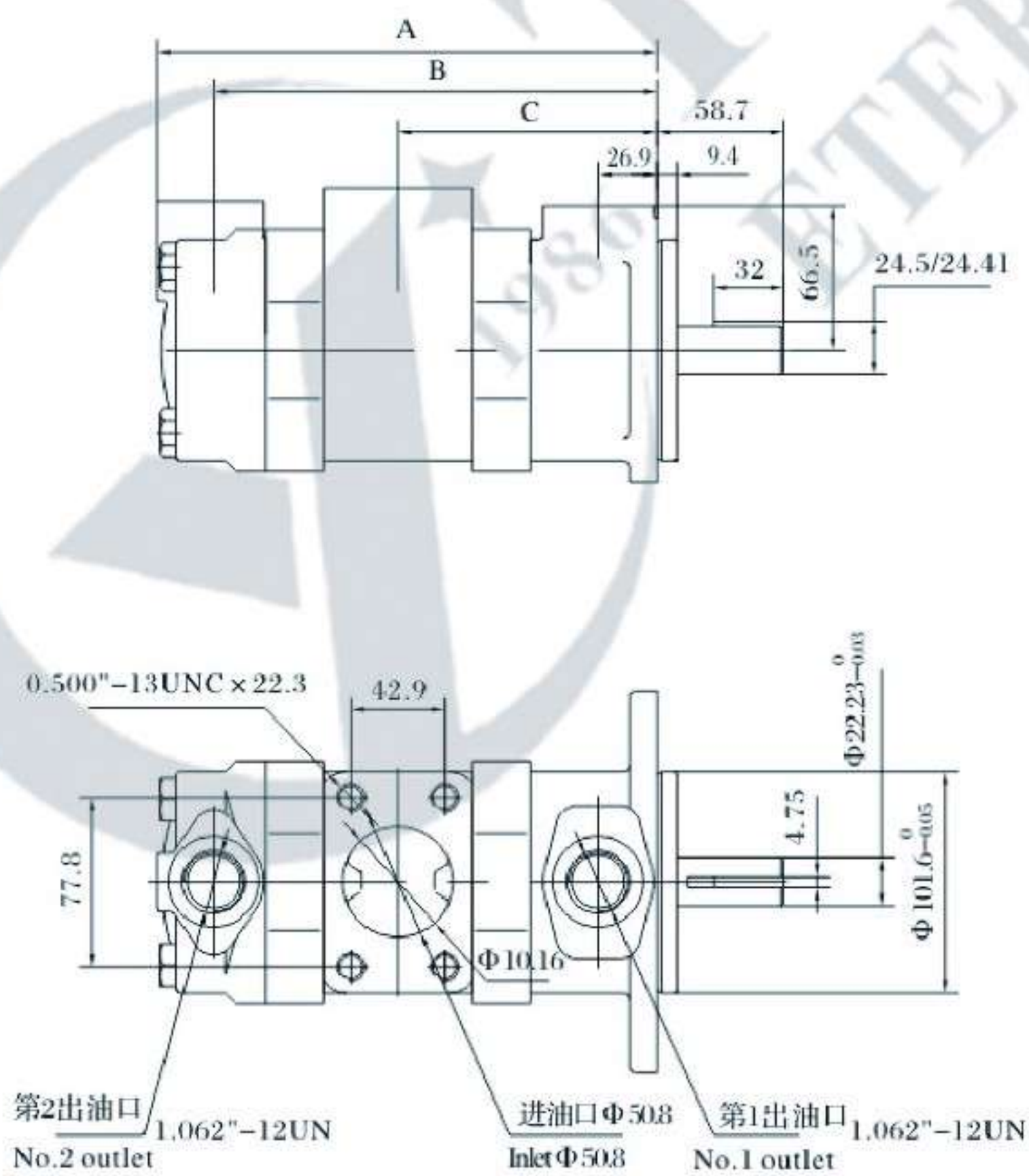
■ 外形及连接尺寸 Configuration and Instalation Dimension(mm)

V2010



代号 USgpm		A(mm)	B(mm)	C(mm)
轴端 Shaft end	盖端 Cover end			
7, 8, 9	1, 2, 3	213.0	190.0	113.5
7, 8, 9	4, 5,	219.1	196.1	113.5
7, 8, 9	6, 7	224.1	201.1	113.5
10, 11	1, 2, 3	218.2	195.0	118.5
10, 11	4, 5,	224.1	201.1	118.5
10, 11	6, 7	229.1	206.1	118.5
12, 13	1, 2, 3	222.0	119.0	121.5
12, 13	4, 5	228.1	205.1	121.5
12, 13	6, 7	233.1	210.1	121.5

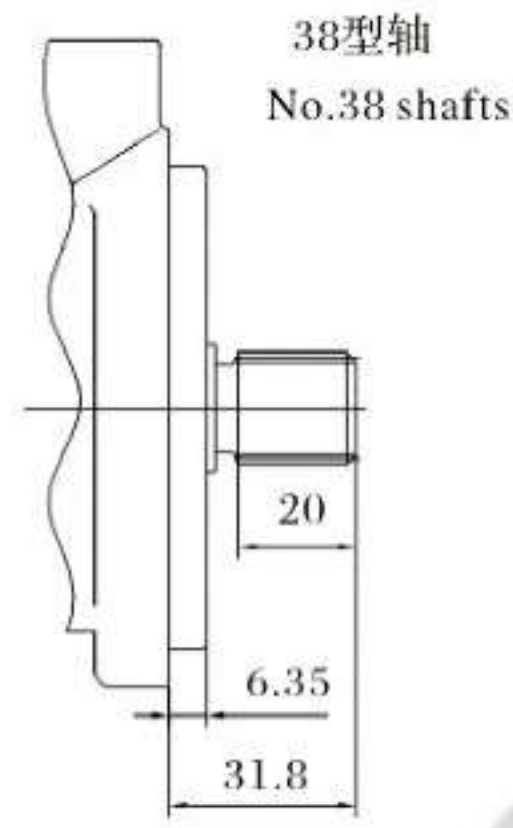
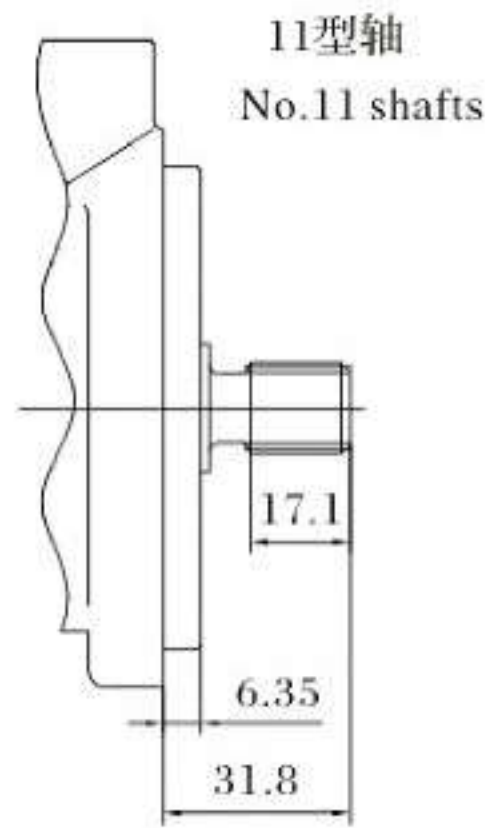
V2020



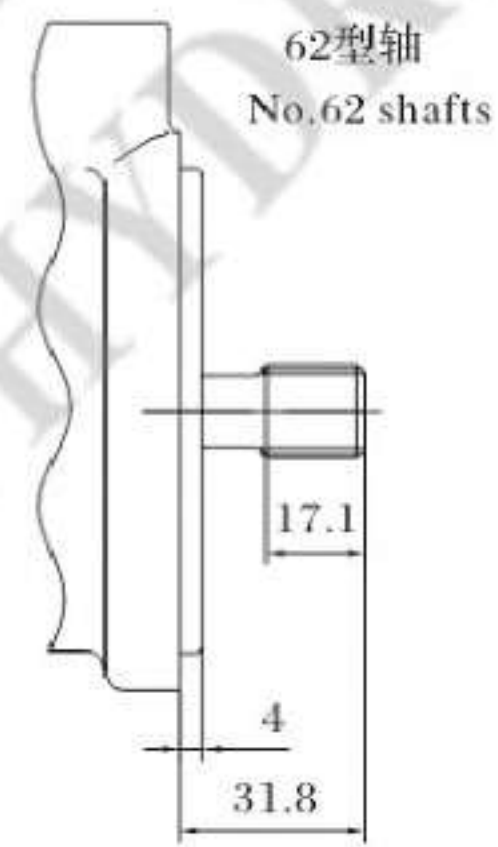
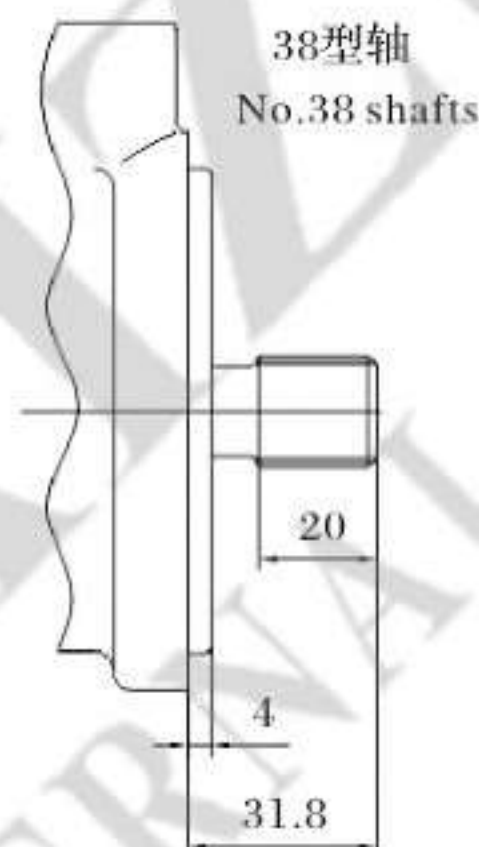
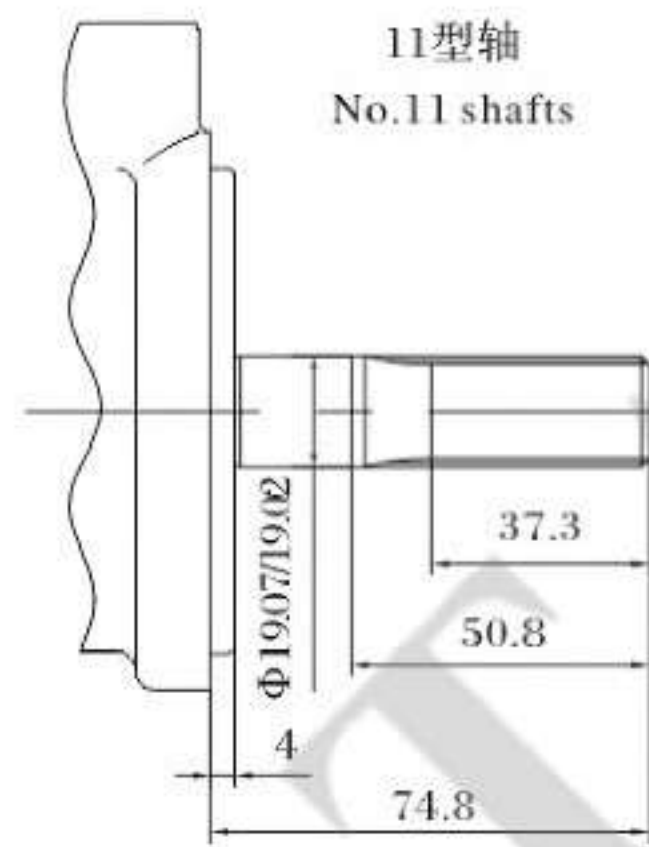
代号 USgpm		A(mm)	B(mm)	C(mm)
轴端 Shaft end	盖端 Cover end			
7, 8, 9	6	213.4	187.7	114.0
7, 8, 9	7, 8, 9	219.5	193.8	114.0
10, 11	6	218.4	192.7	119.0
10, 11	7, 8, 9	224.5	198.8	119.0
10, 11	10, 11	229.5	203.8	119.0
10, 11	6	222.4	196.7	122.5
12, 13	7, 8, 9	228.5	202.8	122.5
12, 13	10, 11	233.5	207.8	122.5

□轴伸选择 Optional Shafts
花键轴伸 Splined shaft type

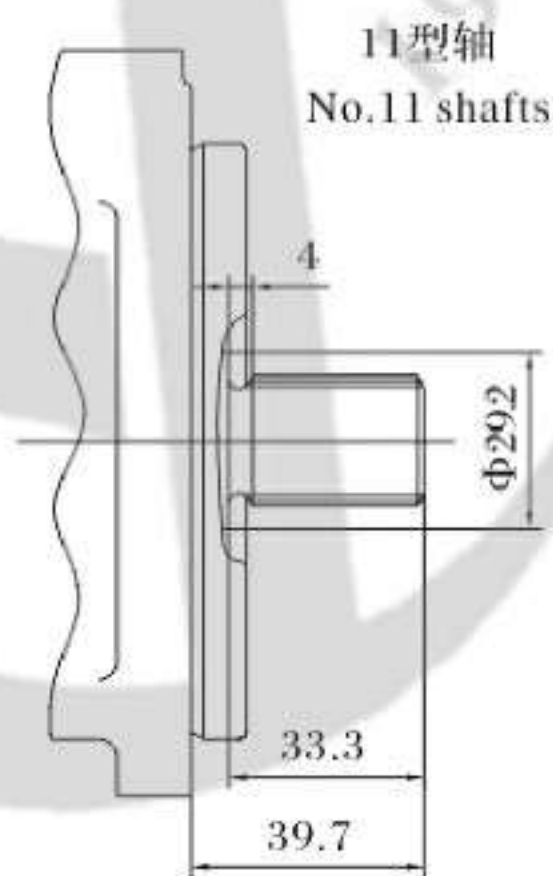
V10



V20



V2010
V2020



渐开线花键参数表 Involute splines data table

型号 Model	轴伸代号 Shaft code	齿数 Number of teeth	径节 Pitch	齿顶圆直径 Major diameter	节圆直径 Pitch diameter	齿根圆直径 Minor Diameter	配合形式 Suitable for
SV10	11	9	16/32	15.82/15.80	14.29	12.28/12.00	齿顶 Tooth tip
	38	11	16/32	18.63/18.50	17.46	15.24/14.99	齿侧 Side tip
SV20	11	11	16/32	19.01/18.93	17.46	15.90/15.62	齿侧 Side tip
	38	11	16/32	18.63/18.50	17.46	15.24/14.99	齿侧 Side tip
	62	9	16/32	15.82/15.80	14.29	12.28/12.00	齿顶 Tooth tip
SV2010 SV2020	11	13	16/32	22.17/22.15	19.03	18.63/18.35	齿顶 Tooth tip

■ V10NF/V20NF Series-Power Steering pump



V20 - NF - 1 - S - 8 - T - 138 - A - 4 - D - * - L

Vane Pump Series

V10= Model Series
V20= Model Series

Series

NF = Series (Flow control valve cover & internal drain)

Pump Mounting

	V10NF	V20NF
1=2Bolt Flange 3.25 Pilot	√	√
2=Footmount-body inlet port at 12 o'clock (Viewed from shaft end)	x	√
3=Power take-off	x	√
4=Face	x	√
23=Body inlet port at 3 o'clock	x	√
26=Body inlet port at 6 o'clock	x	√
29=Body inlet port at 9 o'clock	x	√

Inlet Port Connections

	V10NF	V20NF
P=1.25"NPT Pipe Thd.Connection	√	√
S=1.625"-12 Straight Thd.Connection	√	√
D=1.312"-12 Straight Thd.Connection	x	√
F=2Bolt Flange Connection	x	√

Ring Capacity in U.S. gpm

All values rated at 1200 rpm

V10 Size	V20 Size
2=2 gpm(7.6lpm)	5 = 5 gpm (18.9 lpm)
3=3 gpm(11.4lpm)	6 = 6 gpm (22.7 lpm)
4=4 gpm(15.1lpm)	7 = 7 gpm (26.5 lpm)
5=5 gpm(18.9.4lpm)	8 = 8 gpm (30.3 lpm)
6=6 gpm(23.1lpm)	9 = 9 gpm (34.1 lpm)
7=7 gpm(27.2lpm)	

Flow Control Cover

T = Pressure port .75" -16 Str. Thd.

Shaft Rotation

* = Omit for Right-hand (Clockwise) Rotation
L = Left-hand (Counter-Clockwise) Rotation

Design

Pressure Setting

C = 750 psi (51.7 bar)	H = 2000 psi (137.9 bar)
D = 1000 psi (68.9 bar)	J = 2250 psi (155.1 bar)
E = 1250 psi (86.2 bar)	K = 2500 psi (172.4 bar)
F = 1500 psi (103.4 bar)	L = 2750 psi (189.6 bar)
G = 1750 psi (120.6 bar)	

Flow Rate Through Orifice in Cover

	V10NF	V20NF
2=2gpm(7.6lpm)	√	√
3=3gpm(11.4gpm)	√	√
4=4gpm(15.1gpm)	√	√
5=5gpm(18.9gpm)	√	√
6=6gpm(23.1lpm)	x	√
7=7gpm(27.2lpm)	x	√
8=8gpm(31 lpm)	x	√
9=9gpm(34.8lpm)	x	√
10=10gpm(37.8lpm)	x	√

Position of Primary Outlet Port

A = Opposite Inlet Port (Viewed from Cover End of Pump)
B = 90° CCW from Inlet (Viewed from Cover End of Pump)
C = Inline with Inlet Port (Viewed from Cover End of Pump)
D = 90° CW from Inlet (Viewed from Cover End of Pump)

Shafts

V10NF

1 = Standard Straight Keyed
3 = Threaded
6 = Straight Stub
10 = Threaded Stub
11 = Splined
38 = Splined

V20NF

For 10-13 gpm units

1 = Standard Straight Keyed
3 = Threaded
6 = Straight Stub
10 = Threaded Stub
11 = Splined
38 = Splined

For 7-9 gpm units

101 = Standard Straight Keyed
103 = Threaded
138 = Splined

For 5-6 gpm units

203 = Threaded
238 = Splined

■ VTM42 Series-Power Steering Pump



VTM - 42 - 10 - 07 - 02 - ** - F - 7 - R - * - 14 - S**

Vane Pump Series

VTM = Model Series

Mobile Application

Capacity

- 10 = 1.0 gpm (3.8 lpm)
- 15 = 1.5 gpm (5.7 lpm)
- 20 = 2.0 gpm (7.6 lpm)
- 40 = 4.0 gpm (15.1 lpm)
- 50 = 5.0 gpm (18.9 lpm)
- 60 = 6.0 gpm (22.7 lpm)

Controlled Flow in U.S. gpm

All values rated at 1500 rpm & 100 psi

- | | |
|-------------------------|-------------------------|
| 07 = 0.7 gpm (2.6 lpm) | 45 = 4.5 gpm (17.0 lpm) |
| 15 = 1.5 gpm (5.7 lpm) | 50 = 5.0 gpm (18.9 lpm) |
| 20 = 2.0 gpm (7.6 lpm) | 55 = 5.5 gpm (20.8 lpm) |
| 25 = 2.5 gpm (9.5 lpm) | 60 = 6.0 gpm (22.7 lpm) |
| 30 = 3.0 gpm (11.4 lpm) | 65 = 6.5 gpm (24.6 lpm) |
| 35 = 3.5 gpm (13.2 lpm) | 75 = 7.5 gpm (28.4 lpm) |
| 40 = 4.0 gpm (15.1 lpm) | |

Relief Valve Setting

- | | |
|--------------------------|---------------------------|
| 02 = 250 psi (17.2 bar) | 12 = 1250 psi (86.2 bar) |
| 03 = 300 psi (20.7 bar) | 15 = 1500 psi (103.4 bar) |
| 05 = 500 psi (34.5 bar) | 17 = 1750 psi (120.7 bar) |
| 07 = 750 psi (51.7 bar) | 20 = 2000 psi (137.9 bar) |
| 08 = 850 psi (58.6 bar) | 35 = 3500 psi (241.3 bar) |
| 10 = 1000 psi (68.9 bar) | |

Special Features

Design

Shaft No. 1

Threaded Keyed Shaft

Shaft Rotation

(Viewed from shaft end)

R = Right-hand (Clockwise) Rotation

L = Left-hand (Counter-Clockwise) Rotation

Reservoir or Manifold

7 = 70 cu. in Reservoir

11 = 115 cu. in Reservoir

* = Shipping Closure

Inlet Screen

Filter Parts

■ VTM42 Series-Power Steering Pump Dimension

