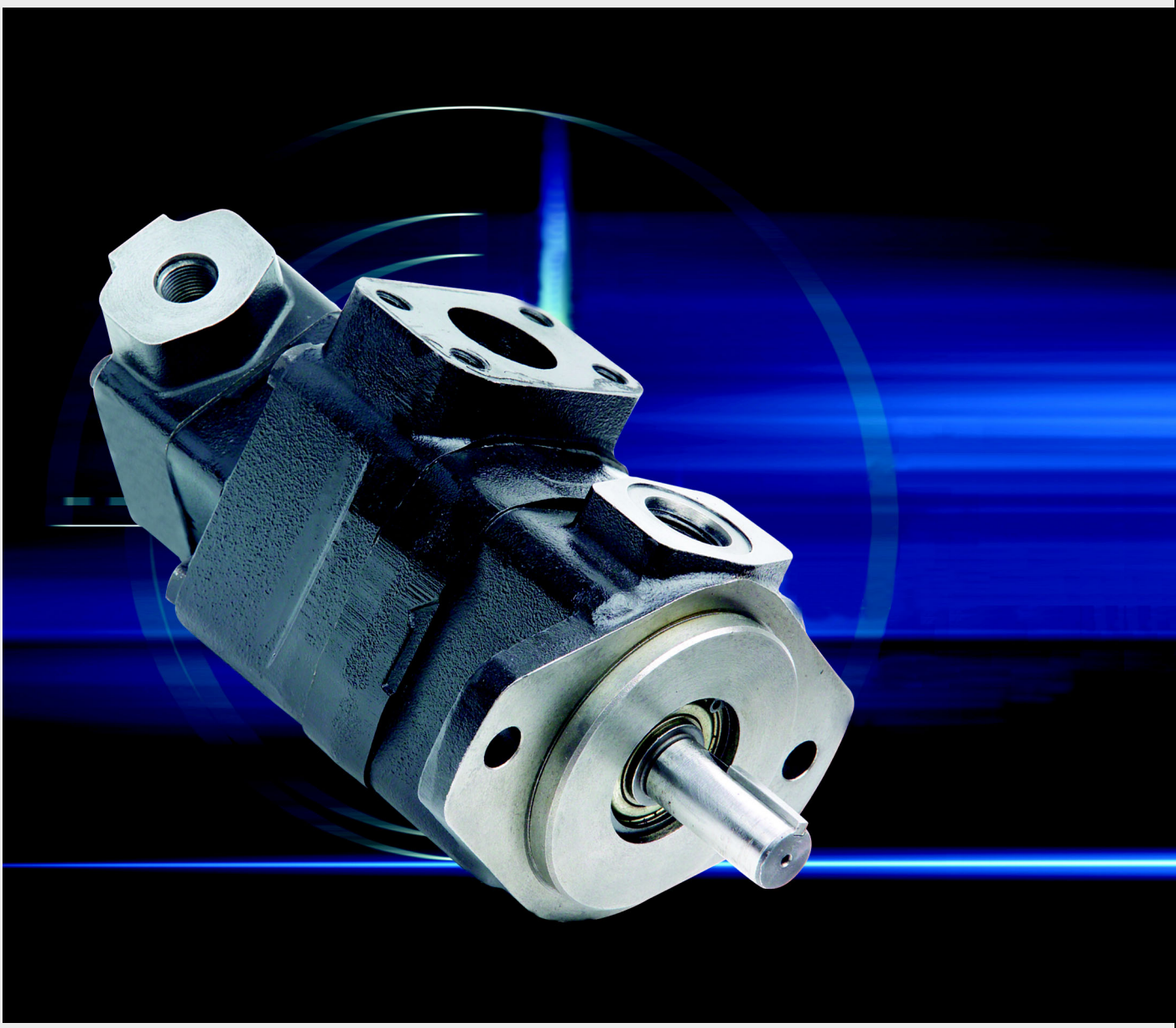
Parker Hydraulics

Vane Pump Series SDV

Fixed Displacement

Catalogue HY0738-A/CH
November 2004



Minimum and maximum speed, pressure ratings

Series	Size	Theoretical Displacement Vi	Maximum speed		Maximum pressure			
			HF-0, HF-1 HF-2	HF-3, HF-4 HF-5	HF-0, HF-2		HF-1, HF-4, HF-5	HF-3
					Int.	Cont.	Cont	Cont.
		cm3/rev (in3/rev)	RPM	RPM	Bar (psi)	Bar (psi)	Bar (psi)	Bar (psi)
SDV10	1	3,3 (.20)	4200	1800	175 (2500)	160 (2250)	130 (1900)	100 (1500)
	2	6,6 (.40)	4200	1800	175 (2500)	160 (2250)	130 (1900)	100 (1500)
	3	9,8 (.60)	3900	1800	175 (2500)	160 (2250)	130 (1900)	100 (1500)
	4	13,1 (.80)	3000	1800	175 (2500)	160 (2250)	130 (1900)	100 (1500)
	5	16,4 (1.00)	2400	1800	175 (2500)	160 (2250)	130 (1900)	100 (1500)
	6	19,5 (1.19)	2100	1800	150 (2200)	140 (2000)	130 (1900)	100 (1500)
	7	22,8 (1.39)	1800	1800	140 (2000)	140 (2000)	130 (1900)	100 (1500)
SDV20	6	19,5 (1.19)	3600	1800	175 (2500)	160 (2250)	130 (1900)	110 (1600)
	7	22,8 (1.39)	2700	1800	175 (2500)	160 (2250)	130 (1900)	110 (1600)
	8	26,5 (1.62)	2400	1800	175 (2500	160 (2250)	130 (1900)	110 (1600)
	9	29,7 (1.81)	2100	1800	175 (2500)	160 (2250)	130 (1900)	110 (1600)
	11	36,4 (2.22)	1800	1800	175 (2500)	160 (2250)	110 (1600)	100 (1400)
	12	39,0 (2.38)	1800	1800	150 (2200)	140 (2000)	110 (1600)	100 (1400)
	13	42,4 (2.59)	1800	1800	150 (2200)	140 (2000)	110 (1600)	100 (1400)

HF-0, HF-2 = Anti-wear petroleum base. HF-1 = Non anti-wear petroleum base. HF-5 = Synthetic fluids.
HF-3 = Water-in-oil invert emulsions. HF-4 = Water glycol solutions.
Minimum speed is 600 RPM
For further information, if the performance characteristics outlined above do not meet your own particular requirements, please consult your local Parker office.

Minimum allowable inlet pressure (bar absolute / psi)

Series	Ring size	Speed (RPM)										Size
		1500	1800	2100	2400	2700	3000	3300	3600	3900	4200	
SDV10	1	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	1
	2	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	2
	3	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,85 (12.3)	0,95 (13.8)		3
	4	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,85 (12.3)	0,95 (13.8)					4
	5	0,80 (11.6)	0,80 (11.6)	0,85 (12.3)	0,95 (13.8)							5
	6	0,80 (11.6)	0,85 (12.3)	1,00 (14.5)								6
	7	0,85 (12.3)	1,00 (14.5)									7
SDV20	6	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,85 (12.3)	0,95 (13.8)	1,01 (14.6)			6
	7	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)	0,80 (11.6)						7
	8	0,80 (11.6)	0,80 (11.6)	0,85 (12.3)	0,95 (13.8)							8
	9	0,80 (11.6)	0,80 (11.6)	0,95 (13.8)								9
	11	0,80 (11.6)	0,95 (13.8)									11
	12	0,85 (12.3)	1,03 (14.9)									12
	13	0,95 (13.8)	1,05 (15.2)									13

Multiply absolute pressure by 1,25 for HF-3, HF-4 fluids.
by 1,35 for HF-5 fluids.
by 1,10 for ester or rapeseed base
Use the cartridge with the highest absolute pressure for double pumps.

General characteristics

Series	Mounting standard	Weight kg (lb)	Moment of inertia kgm^2x10^{-4} ($lb.in^2$)	Port connections					
				Suction			Pressure		
Code				P	S	B	P	S	B
SDV10	SAE A	4.5-6.8 (10 -15)	0.5 (0.17)	1" NPTF	1-5/16 12UNF-2B	G 1"	1/2" NPTF	3/4" 16UNF-2B	G 1/2"
SDV20	SAE A	7.3-8.2 (16-18)	2.2 (0.75)	1-1/4 NPTF	1-5/8 12UNF-2B	G 1-1/4	3/4" NPTF	1-1/16 12UNF-2B	G 3/4"
Code				F			S		B
							P1*	P2**	P1-P2
SDV2010	SAE B	13.6 (30.0)	2.6 (0.90)	4 bolts flange 1-1/2 dia			1-1/16 12UNF-2B	3/4" 16UNF-2B	***
SDV2020	SAE B	15.9 (35.0)	4.3 (1.50)	4 bolts flange 2" dia			1-1/16 12UNF-2B	1-1/16 12UNF-2B	G 3/4"

* P1 = Pressure port near the shaft ** P2 = Pressure port near the cover end *** P1 = G 3/4" P2 = G 1/2"

Model No.

SDV 10 - 1 P 5 S - 1 C L - P

Vane pump

Series
10

Mounting
1 = 2-bolt flange, 3" 1/4 pilot (SAE A) (standard)

Inlet port connections
P = 1" NPTF thread
S = 1" 5/16-12 UNF-2B thread
B = G 1" (BSPP)

Ring size
(Delivery at 1200 rpm and 100 psi)
1 = 1 USgpm
2 = 2 USgpm
3 = 3 USgpm
4 = 4 USgpm
5 = 5 USgpm
6 = 6 USgpm
7 = 7 USgpm

Outlet port connections
P = 1/2" NPTF thread
S = 3/4" -16 UNF-2B thread
B = G 1/2" (BSPP)

Shaft
1 = Straight keyed
11 = Splined
38 = 11 teeth - 3/4" OD

Position of outlet port (Viewed from cover end of pump)
A = Opposite inlet port
B = 90° CCW from inlet
C = In line with inlet
D = 90° CW from inlet

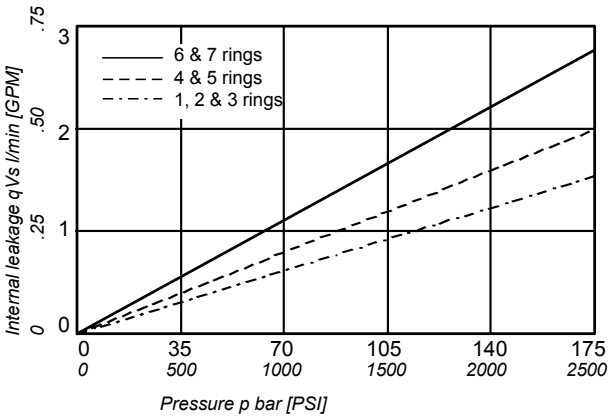
Shaft rotation (view on shaft end)
L = Counter-clockwise
Omit for clockwise

Series Identity

Operating characteristics

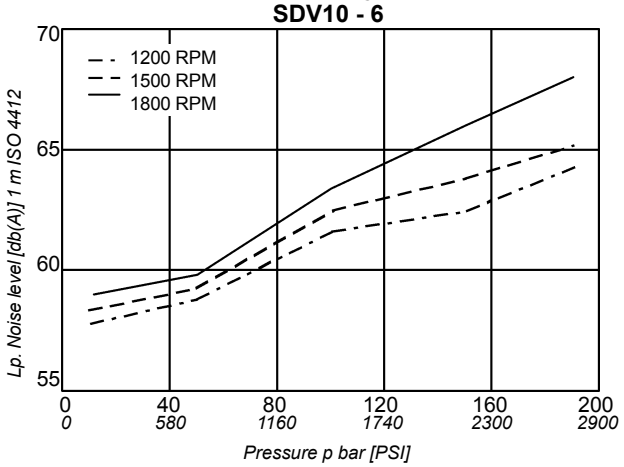
Model Series	Ring Size	Displ. cm³/rev (in³/rev)	Max. Pressure bar (psi)	Speed RPM	Typical delivery L/min (Usgpm)				Typical input power KW (hp)			
					0 bar	0 PSI	150 bar	2000 PSI	7 bar	80 PSI	175 bar	2500 PSI
SDV10	1	3,3 (.20)	175 (2500)	1200	4,0	1,0	2,0	0,5	0,07	0,09	0,71	0,96
				1500	5,0	1,3	3,0	0,8	0,09	0,12	1,08	1,44
				1800	5,9	1,6	3,9	1,0	0,10	0,14	1,44	1,93
	2	6,6 (.40)	175 (2500)	1200	7,9	2,1	5,9	1,6	0,14	0,18	2,16	2,89
				1500	9,9	2,6	7,9	2,1	0,17	0,23	2,88	3,86
				1800	11,9	3,1	9,9	2,6	0,21	0,28	3,60	4,83
	3	9,8 (.60)	175 (2500)	1200	11,8	3,1	9,8	2,6	0,20	0,27	3,56	4,77
				1500	14,7	3,9	12,7	3,4	0,26	0,34	4,63	6,21
				1800	17,6	4,7	15,6	4,1	0,31	0,41	5,70	7,65
	4	13,1 (.80)	175 (2500)	1200	15,7	4,2	12,3	3,3	0,27	0,37	4,49	6,02
				1500	19,7	5,2	16,3	4,3	0,34	0,46	5,92	7,94
				1800	23,6	6,2	20,2	5,3	0,41	0,55	7,36	9,87
	5	16,4 (1.00)	175 (2500)	1200	19,7	5,2	16,3	4,3	0,34	0,46	5,94	7,96
				1500	24,6	6,5	21,2	5,6	0,43	0,57	7,73	10,36
				1800	29,5	7,8	26,1	6,9	0,51	0,69	9,52	12,77
	6	19,5 (1.19)	152 (2200)	1200	23,4	6,2	19,2	5,1	0,41	0,55	7,00	9,39
				1500	29,3	7,7	25,1	6,6	0,51	0,68	9,13	12,25
				1800	35,1	9,3	30,9	8,2	0,61	0,82	11,27	15,11
	7	22,8 (1.39)	138 (2000)	1200	27,4	7,2	23,2	6,1	0,48	0,64	8,44	11,32
				1500	34,2	9,0	30,0	7,9	0,60	0,80	10,94	14,67
				1800	41,0	10,8	36,8	9,7	0,71	0,96	13,43	18,01

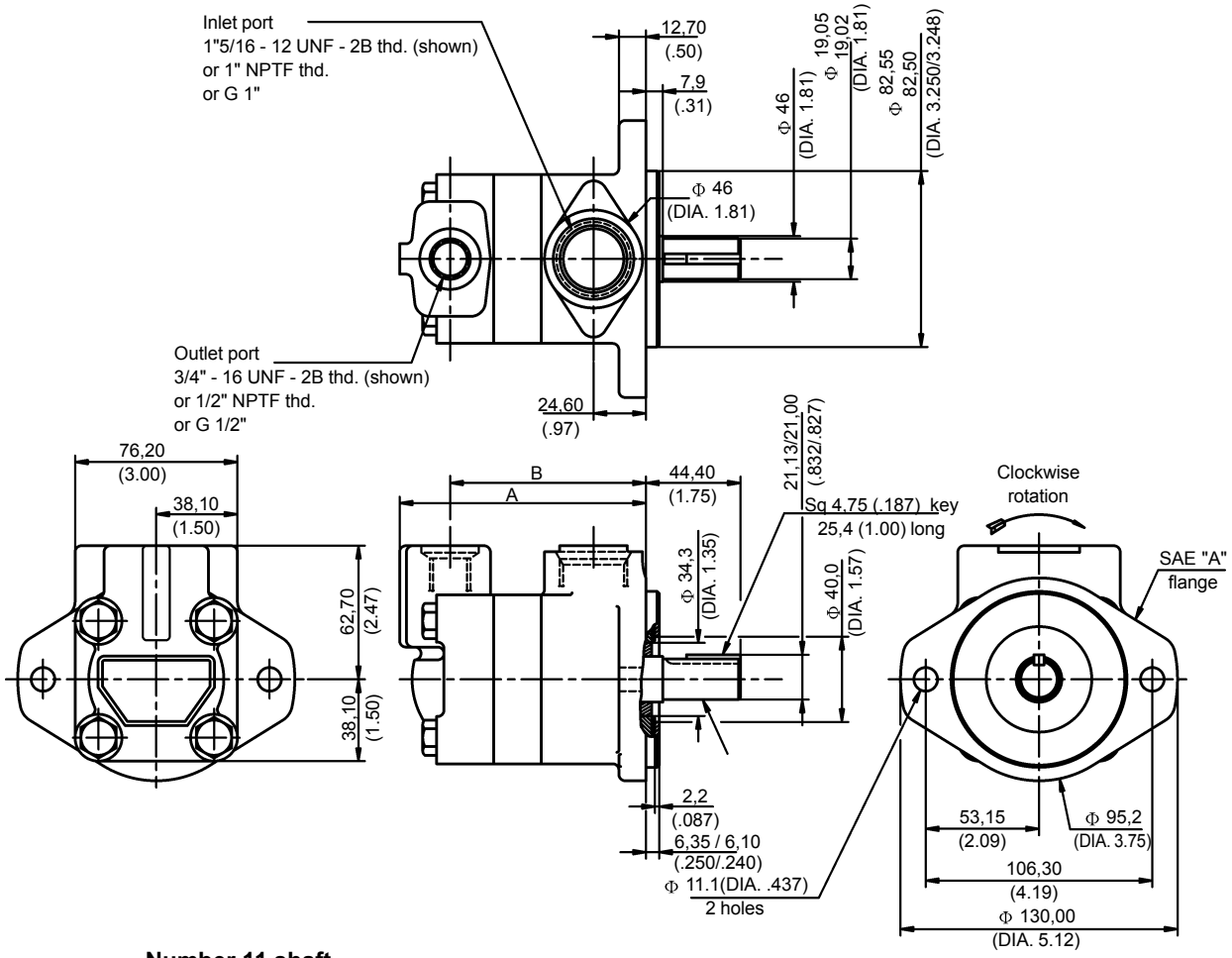
Internal leakage (typical)



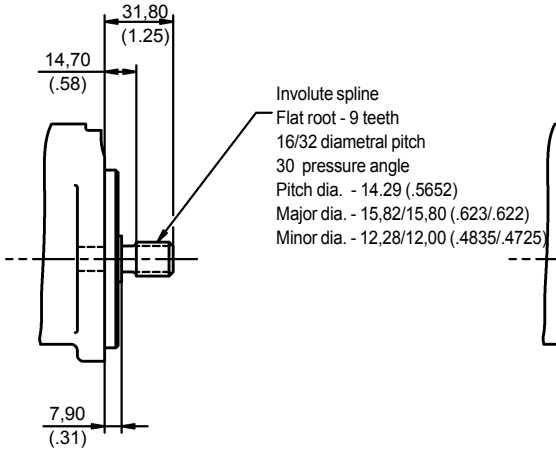
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is higher than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

Noise level (typical) SDV10 - 6

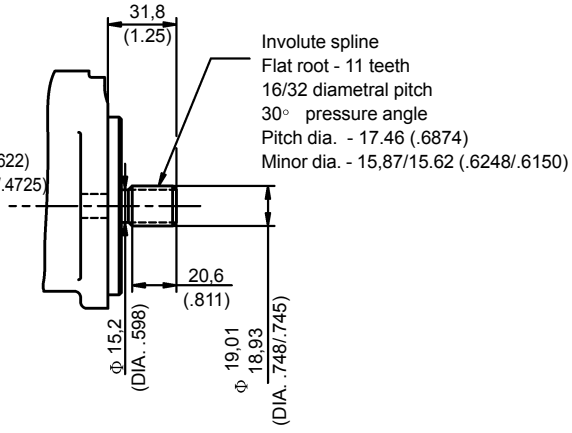




Number 11 shaft



Number 38 shaft



Ring size	Dimensions		Weight Kg (lb)
	A	B	
1	15,6 (4.55)	91,9 (3.62)	4,5 - (10.0)
2	115,6 (4.55)	91,9 (3.62)	4,5 - (10.0)
3	115,6 (4.55)	91,9 (3.62)	4,5 - (10.0)
4	121,9 (4.80)	98,3 (3.87)	5,6 - (12.5)
5	121,9 (4.80)	98,3 (3.87)	5,6 - (12.5)
6	127,0 (5.00)	103,4 (4.07)	6,8 - (15.0)
7	127,0 (5.00)	103,4 (4.07)	6,8 - (15.0)

Weight:
SDV 10 Series: 4,5 - 6,8kg
(10 - 15 lb)