

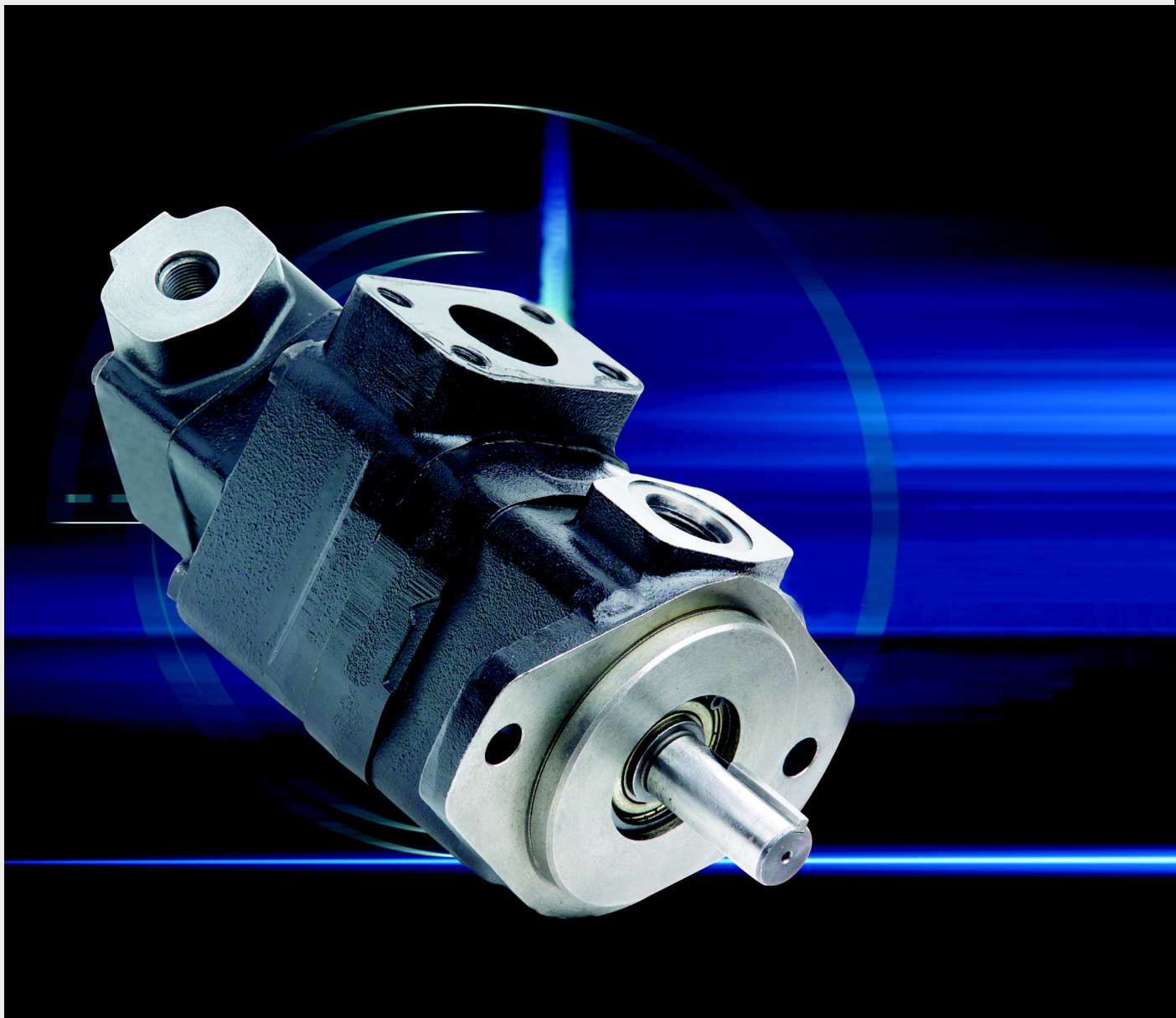


# **Vane Pump Series SDV**

*Fixed Displacement*

*Catalogue HY0738-A/CH*

*November 2004*



**Minimum and maximum speed, pressure ratings**

Series	Size	Theoretical Displacement Vi cm3/rev (in3/rev)	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.		
			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.

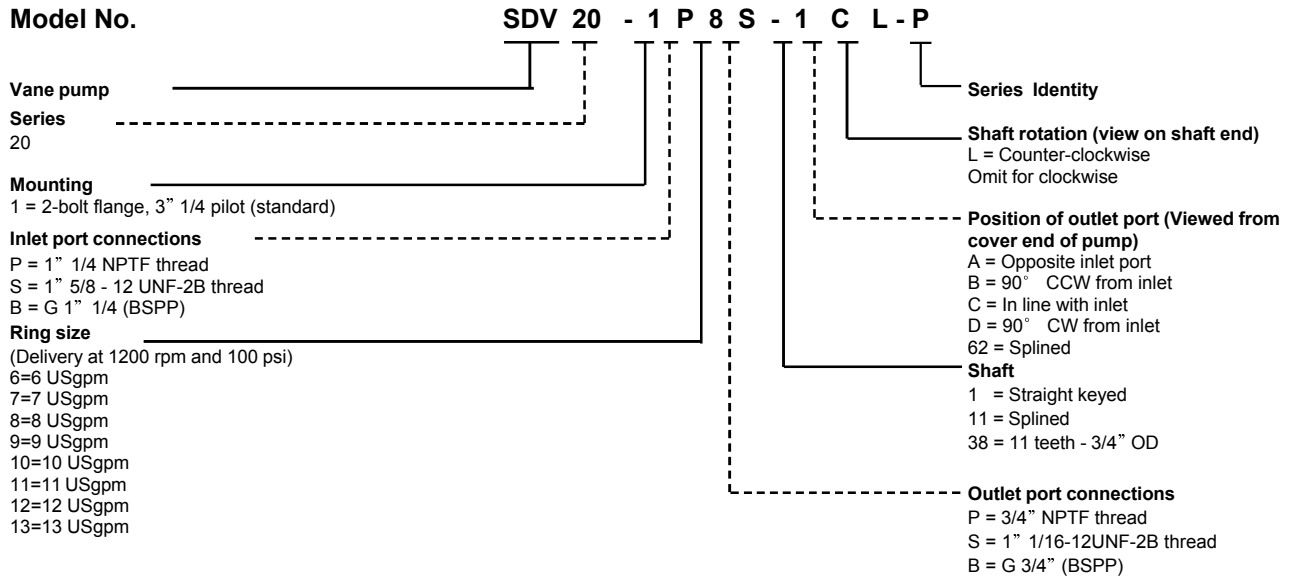
**General characteristics**

Series	Mounting standard	Weight kg (lb)	Moment of inertia kgm <sup>2</sup> x10 <sup>-4</sup> (lb.in <sup>2</sup> )	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			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

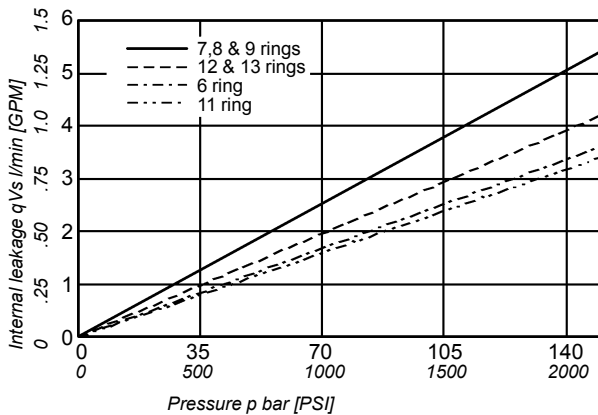
\*\*\* P1 = G 3/4" P2 = G 1/2"



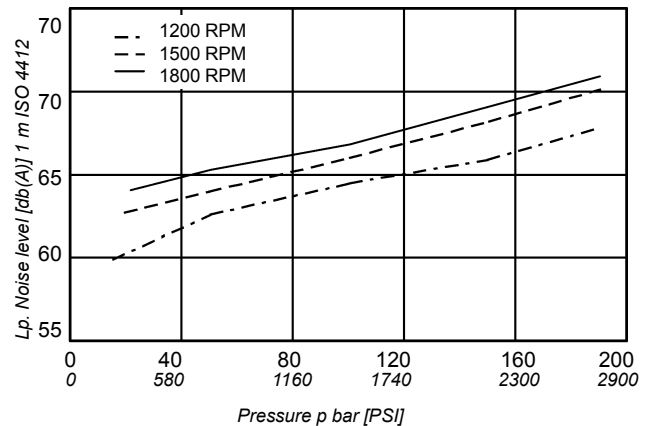
**Operating characteristics**

Model Series	Ring Size	Displ. cm <sup>3</sup> /rev (in <sup>3</sup> /rev)	Max. Pressure bar (psi)	Speed RPM	Typical delivery L/min (Usqpm)				Typical input power KW (hp)			
					0 bar	0 PSI	150 bar	2000 PSI	7 bar	80 PSI	175 bar	2500 PSI
SDV20	6	19,5 (1.19)	175 (2500)	1200	23,40	6,18	19,80	5,23	0,4	0,5	6,8	9,1
				1500	29,25	7,73	25,65	6,78	0,5	0,6	8,8	11,8
				1800	35,10	9,27	31,50	8,32	0,5	0,7	10,8	14,5
	7	22,8 (1.39)	175 (2500)	1200	27,36	7,23	21,96	5,80	0,4	0,6	7,5	10,1
				1500	34,20	9,04	28,80	7,61	0,5	0,7	9,9	13,3
				1800	41,04	10,84	35,64	9,42	0,6	0,9	12,2	16,4
	8	26,5 (1.62)	175 (2500)	1200	31,80	8,40	26,40	6,97	0,5	0,7	9,1	12,1
				1500	39,75	10,50	34,35	9,08	0,6	0,8	11,8	15,8
				1800	47,70	12,60	42,30	11,18	0,7	1,0	14,5	19,5
	9	29,7 (1.81)	175 (2500)	1200	35,64	9,42	30,24	7,99	0,6	0,7	10,4	13,9
				1500	44,55	11,77	39,15	10,34	0,7	0,9	13,4	18,0
				1800	53,46	14,12	48,06	12,70	0,8	1,1	16,5	22,1
	11	36,4 (2.22)	175 (2500)	1200	43,68	11,54	40,28	10,64	0,7	0,9	13,8	18,5
				1500	54,60	14,43	51,20	13,53	0,8	1,1	17,6	23,6
				1800	65,52	17,31	62,12	16,41	1,0	1,4	21,3	28,6
	12	39,0 (2.38)	152 (2200)	1200	46,80	12,36	42,60	11,25	0,7	1,0	14,6	19,6
				1500	58,50	15,46	54,30	14,35	0,9	1,2	18,6	25,0
				1800	70,20	18,55	66,00	17,44	1,1	1,5	22,6	30,4
	13	42,4 (2.59)	152 (2200)	1200	50,88	13,44	46,68	12,33	0,8	1,1	16,0	21,5
				1500	63,60	16,80	59,40	15,69	1,0	1,3	20,4	27,3
				1800	76,32	20,16	72,12	19,05	1,2	1,6	24,7	33,2

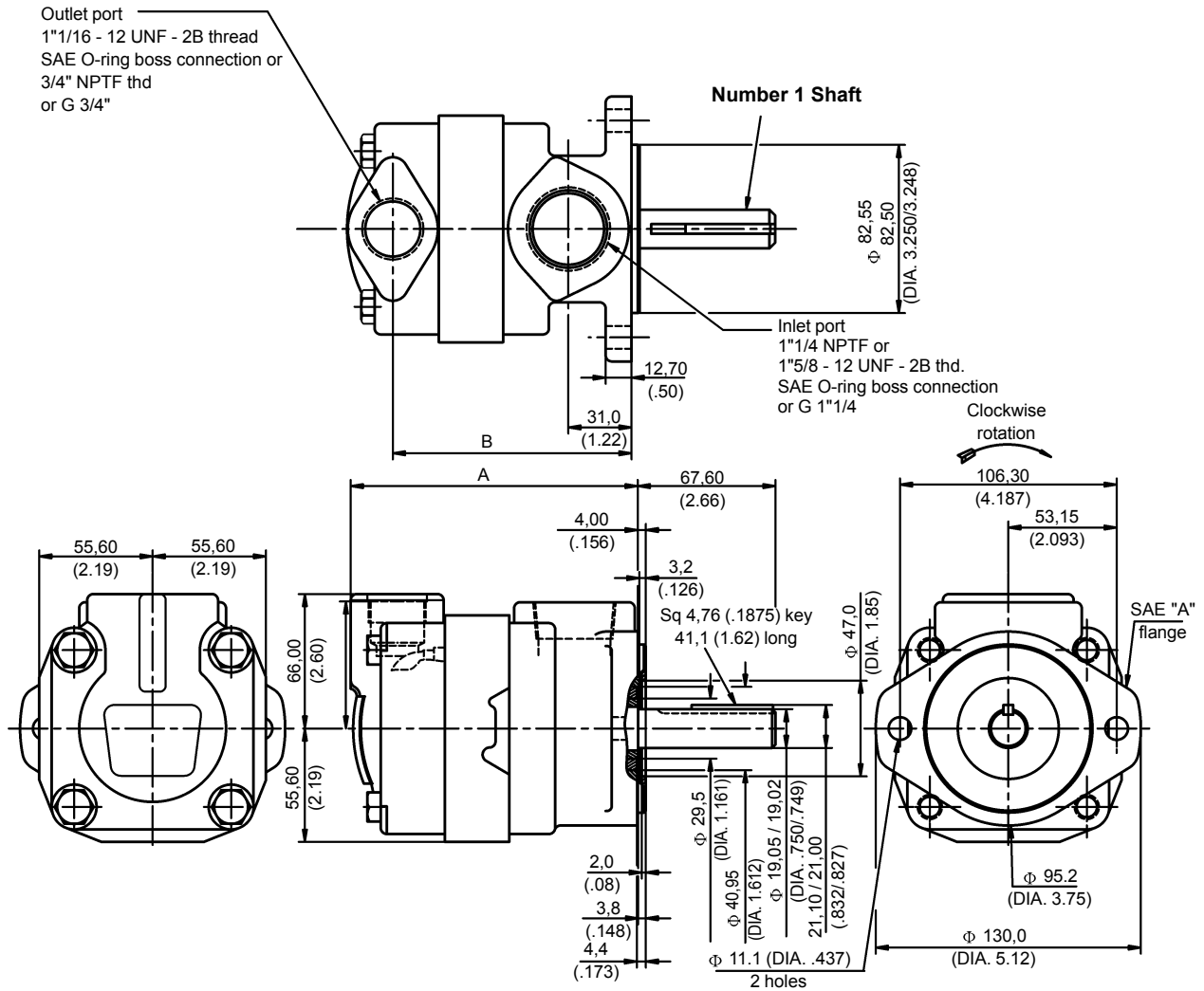
**Internal leakage (typical)**



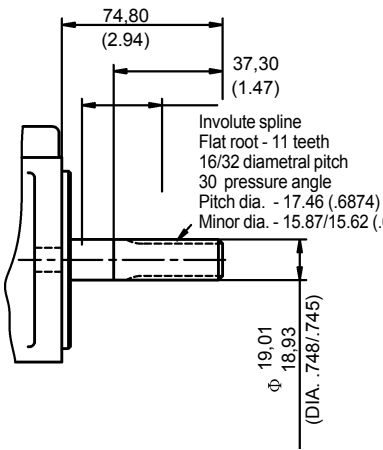
**Noise level (typical) SDV20 - 13**



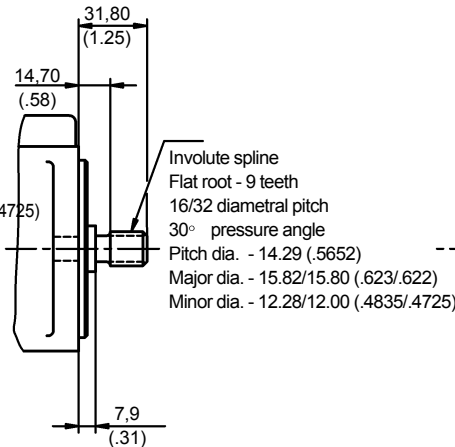
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is higher than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.



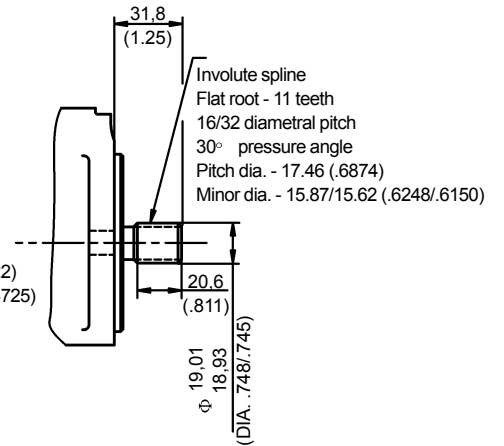
**Number 11 shaft**



**Number 62 shaft**



**Number 38 shaft**



Ring size	Dimensions		Weight Kg (lb)
	A	B	
6	125,2 (4.93)	102,1 (4.02)	7,3 - (16.0)
7	131,6 (5.18)	108,4 (4.27)	7,7 - (17.0)
8	131,6 (5.18)	108,4 (4.27)	7,7 - (17.0)
9	131,6 (5.18)	108,4 (4.27)	7,7 - (17.0)
11	136,6 (5.38)	113,5 (4.47)	8,0 - (17.5)
12	140,2 (5.52)	117,1 (4.61)	8,2 - (18,0)
13	140,2 (5.52)	117,1 (4.61)	8,2 - (18,0)

Weight:  
 SDV 20 Series: 7,3 - 8,2kg  
 (16 - 18 lb)