SYSTEM SAVER CONCEPT

Utilizes standard catalogued hydraulic components. Assembly of a complete system on the pump, without pipe or manifold block with bolt on valves.The evident saving of space and cost is completed in addition by a best response of relief and unloading valves,due to the very small oil volume compressed between valves and pumps.

FEATURES

- Compactness
- Leak-free system
- Overall cost reduction
- Standard components
- A 'ready-to-install' product
- Pre-assembled integrated functions

READY TO INSTALL

Standard components in any package are pre-tested to their full performance specifications.

REDUCED OVERALL INSTALLATION COSTS

Easy specification of required sub system along with quick assembly and no charge for mounting hardware,combine to make the "System Saver" very cost-effective.

DESIGN FLEXIBILITY

Allows you to combine any selection of the pressure relief and unloading valves (with manual or electrical) with any combination of single, double & triple high performance vane pumps.

SINGLE PUMP SYSTEM SAVER MODEL CODE

VT6 * - * - * - * * * * - * * - NU - D - GOQ - 1**

Pump Model Code

VT6B, VT6C, VT6D,VT6E,
VT7QC,VT7B,VT7D/VT7DS,
VT7E/VT7ES

(For Model code & Installation dimensions please refer pages 7-10)

NU, UO, UB, NV, VO, VB

NU - Unloader
UO - Unloader with Vent valve (normally open)
UB - Unloader with Vent valve (normally closed)
NV - Relief valve
VO - Relief valve with Vent valve (normally open)
VB - Relief valve with Vent valve (normally closed)

(For Model code & Installation dimensions please refer pages 31-37)

Termination/Connection

1 - BSP threaded port
2 - NPTF threaded port
3 - Socket weld flange

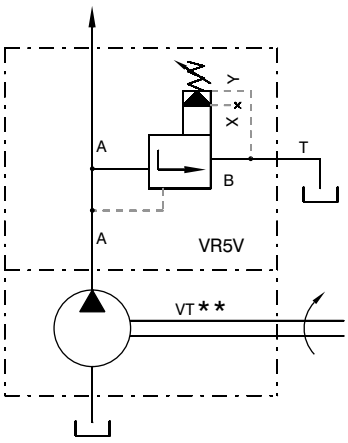
Voltage/Frequency

W01 = 115 V - 60 Hz AC
W02 = 230 V - 60 Hz AC
W06 = 115 V - 50 Hz AC
W07 = 230 V - 50 Hz AC
GOR = 12 V DC
GOQ = 24 V DC
GOH = 48 V DC

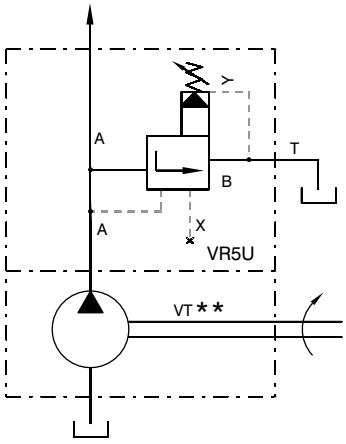
Check valve

D - Unloading check valve
C - Check valve
N - None

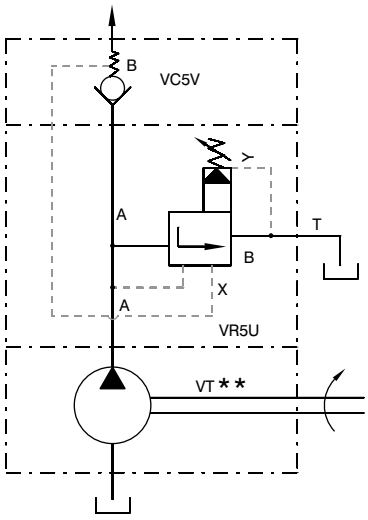
Relief valve (NV)



Unloader valve (NU)

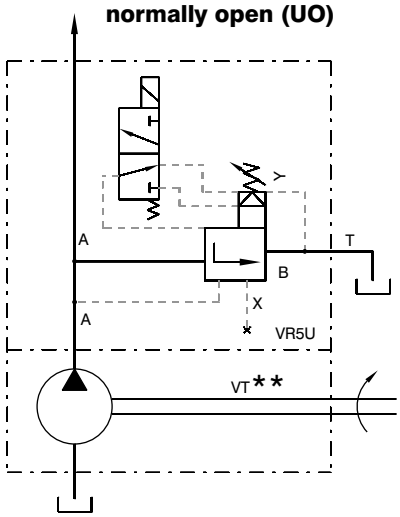


Unloader with Check valve (NUD)

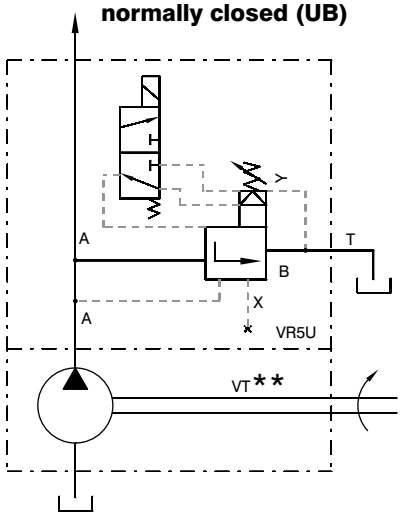


Unloader with Vent valve

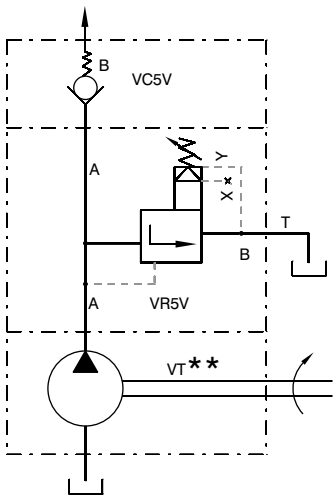
normally open (UO)



normally closed (UB)

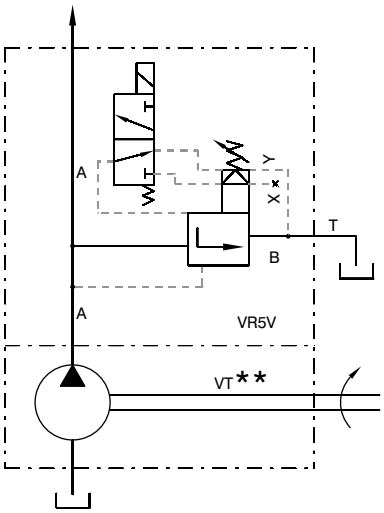


Relief valve + Check valve (NVC)

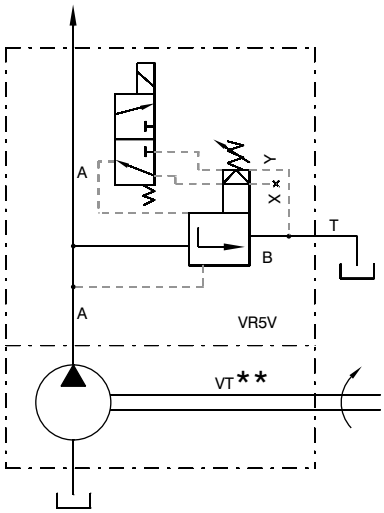


Relief valve with vent valve

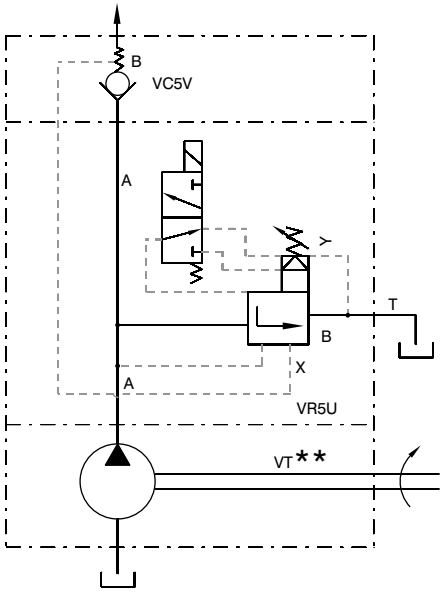
normally open (VO)



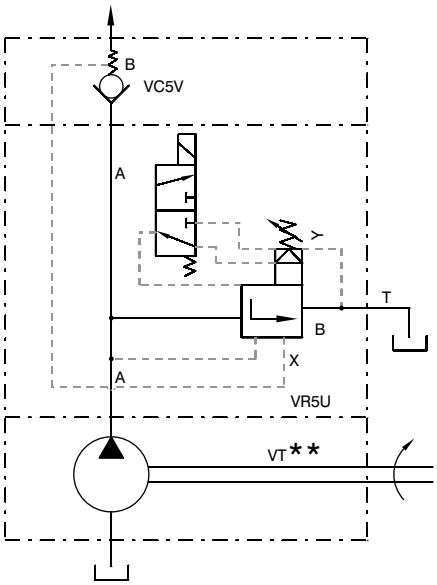
normally closed (VB)



Unloader with Vent valve (normally open)
+ Unloading check valve (UOD)

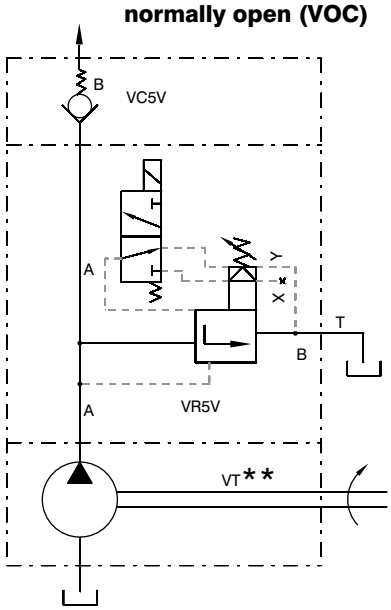


Unloader with Vent valve (normally closed)
+ Unloading check valve (UBD)

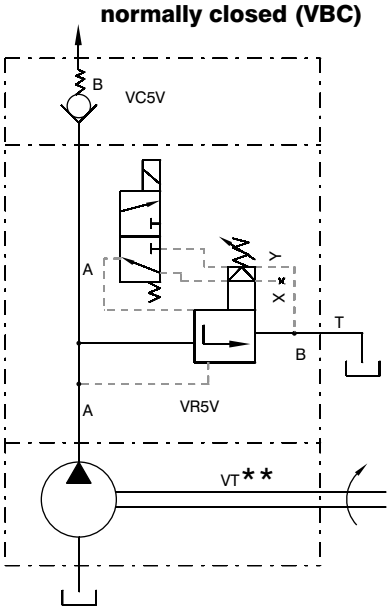


Relief valve with vent valve + Check valve

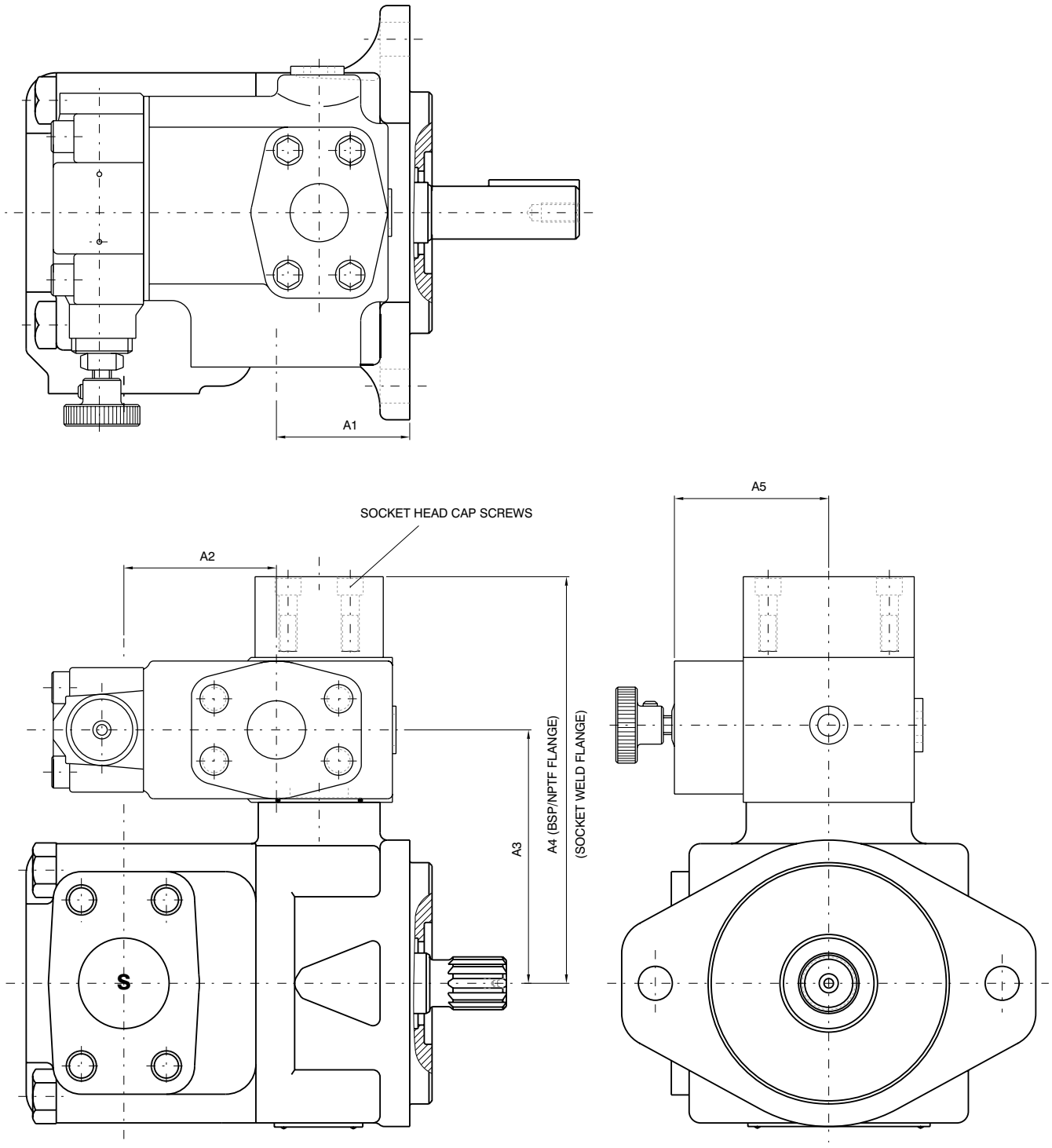
normally open (VOC)



normally closed (VBC)



SINGLE PUMP WITH UNLOADER / RELIEF VALVE (NU - NV)



VT6B

	Dimensions	
	in	mm
A1	5.142	130.6
A2	3.92	99.6
A3	3.93	99.8
A4		
BSP\NPTF	6.45	163.8
Socket weld	5.86	148.8
A5	2.48	63.0

VT6C/VT6CSH/VT7QC/VT7B-VT7BS

	Dimensions	
	in	mm
A1	2.21	56.1
A2	2.53	64.3
A3	4.18	106.2
A4 *		
BSP\NPTF	6.70	170.2
Socket weld	6.30	160.2
A5 *	2.56	65.0

VT6D/VT7D-VT7DS

	Dimensions	
	in	mm
A1	2.66	67.6
A2	2.28	57.9
A3	4.73	120.1
A4		
BSP\NPTF	7.74	196.6
Socket weld	7.15	181.6
A5	2.40	61.0

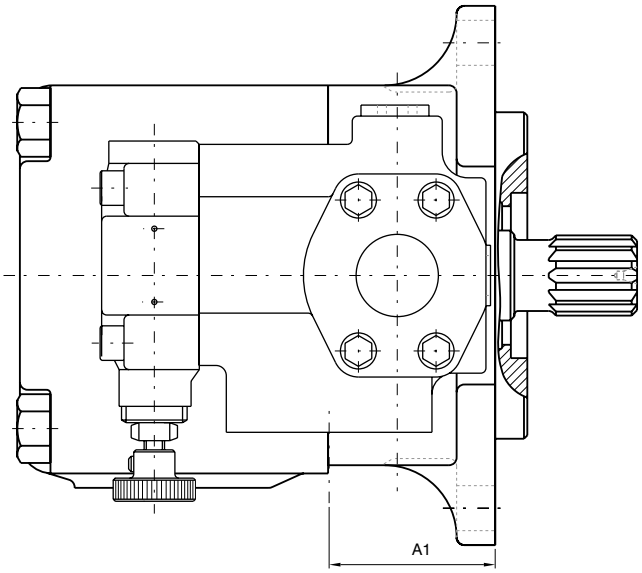
VT6E/VT7E-VT7ES

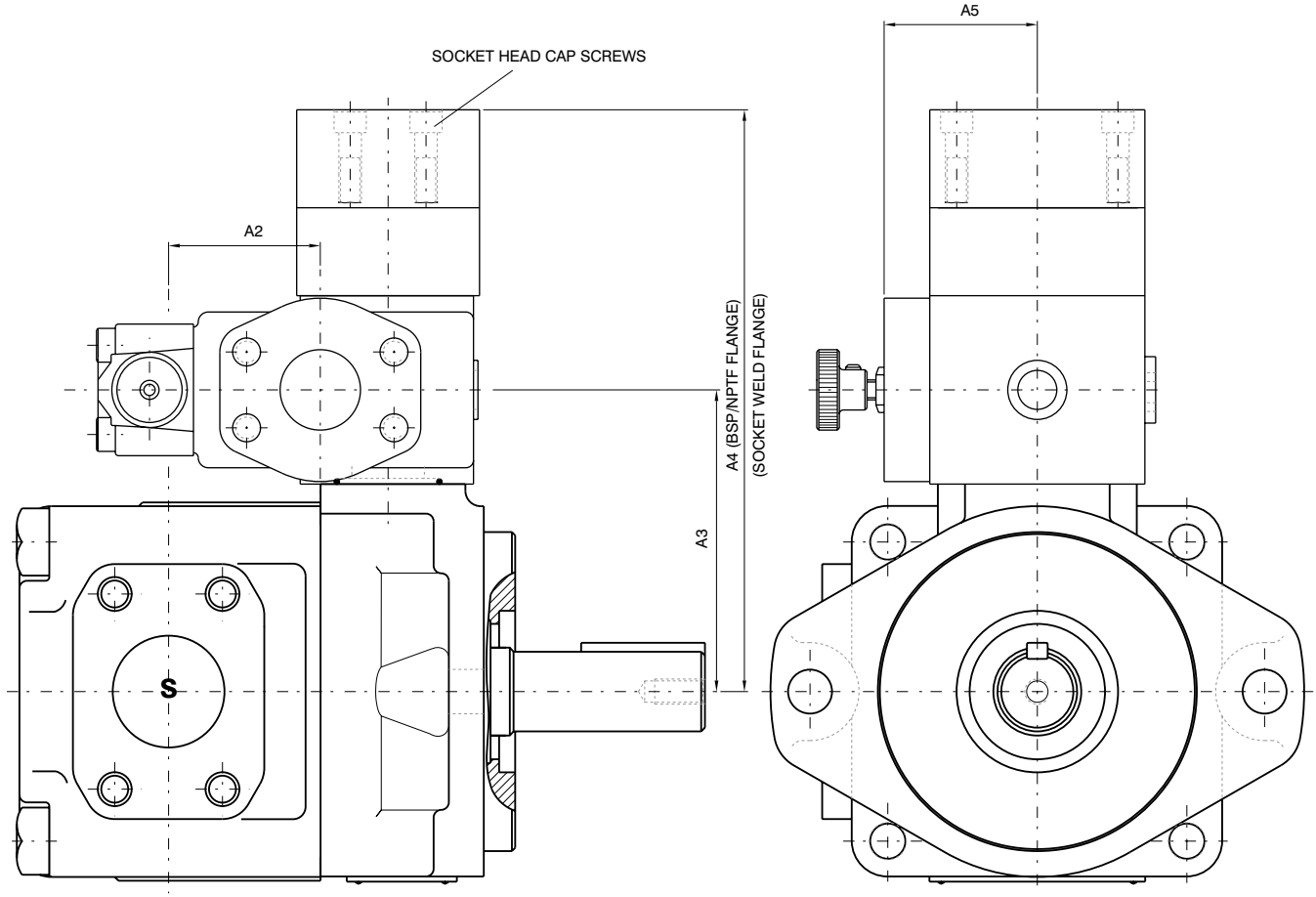
	Dimensions	
	in	mm
A1	3.59	91.3
A2	2.79	71.0
A3	5.46	138.6
A4		
BSP\NPTF	8.56	217.6
Socket weld	8.055	204.6
A5	3.642	92.5

* For 3/4" port of VT7B/VT7QC/VT6CSH

A4 (Socket weld) - 6.11 (155.2) A5 - 2.48 (63.0)

SINGLE PUMP WITH UNLOADER / RELIEF VALVE + CHECK VALVE (NUD - NVC)





VT6B

	Dimensions	
	in	mm
A1	5.142	130.6
A2	3.92	99.6
A3	3.93	99.8
A4		
BSP\NPTF	7.45	189.2
Socket weld	6.86	174.2
A5	2.48	63.0

VT6C/VT6CSH/VT7QC/VT7B-VT7BS

	Dimensions	
	in	mm
A1	2.21	56.1
A2	2.53	64.3
A3	4.18	106.2
A4 *		
BSP\NPTF	7.90	200.9
Socket weld	7.52	190.9
A5 *	2.56	65.0

VT6D/VT7D-VT7DS

	Dimensions	
	in	mm
A1	2.66	67.6
A2	2.28	57.9
A3	4.73	120.1
A4		
BSP\NPTF	9.11	231.6
Socket weld	8.53	216.6
A5	2.40	61.0

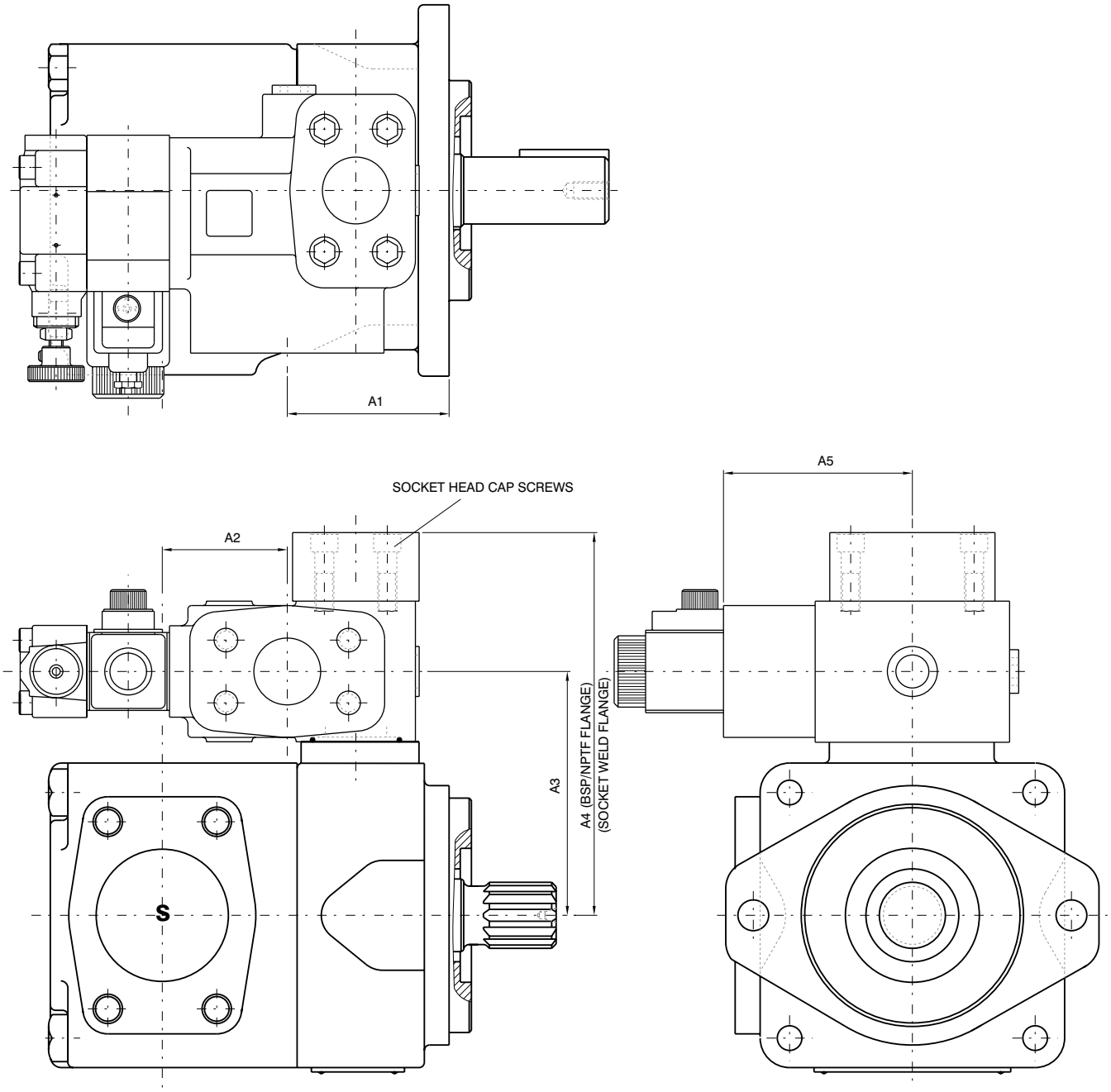
VT6E/VT7E-VT7ES

	Dimensions	
	in	mm
A1	3.59	91.3
A2	2.79	71.0
A3	5.46	138.6
A4		
BSP\NPTF	9.96	253.1
Socket weld	9.45	240.1
A5	3.642	92.5

* For 3/4" port of VT7B/VT7QC/VT6CSH

A4 (Socket weld) - 7.11 (180.6) A5 - 2.48 (63.0)

SINGLE PUMP WITH RELIEF VALVE + VENT VALVE (VO - VB) \
SINGLE PUMP WITH UNLOADER VALVE + VENT VALVE (UO - UB)



VT6B

	Dimensions	
	in	mm
A1	5.142	130.6
A2	3.92	99.6
A3	3.93	99.8
A4		
BSP\NPTF	6.45	163.8
Socket weld	5.86	148.8
A5	2.48	63.0

VT6C/VT6CSH/VT7QC/VT7B-VT7BS

	Dimensions	
	in	mm
A1	2.21	56.1
A2	2.53	64.3
A3	4.18	106.2
A4 *		
BSP\NPTF	6.70	170.2
Socket weld	6.30	160.2
A5 *	2.56	65.0

VT6D/VT7D-VT7DS

	Dimensions	
	in	mm
A1	2.66	67.6
A2	2.28	57.9
A3	4.73	120.1
A4		
BSP\NPTF	7.74	196.6
Socket weld	7.15	181.6
A5	2.40	61.0

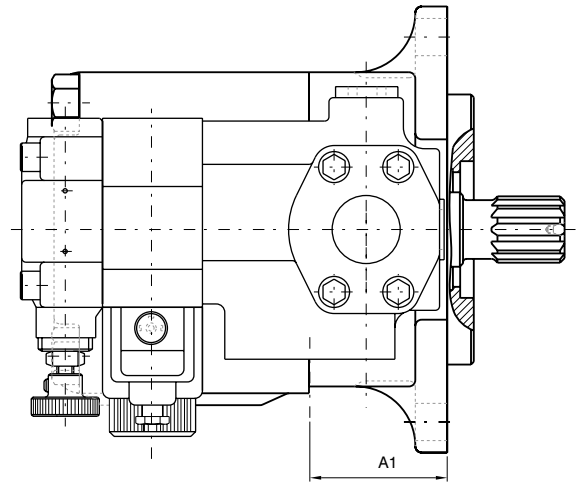
VT6E/VT7E-VT7ES

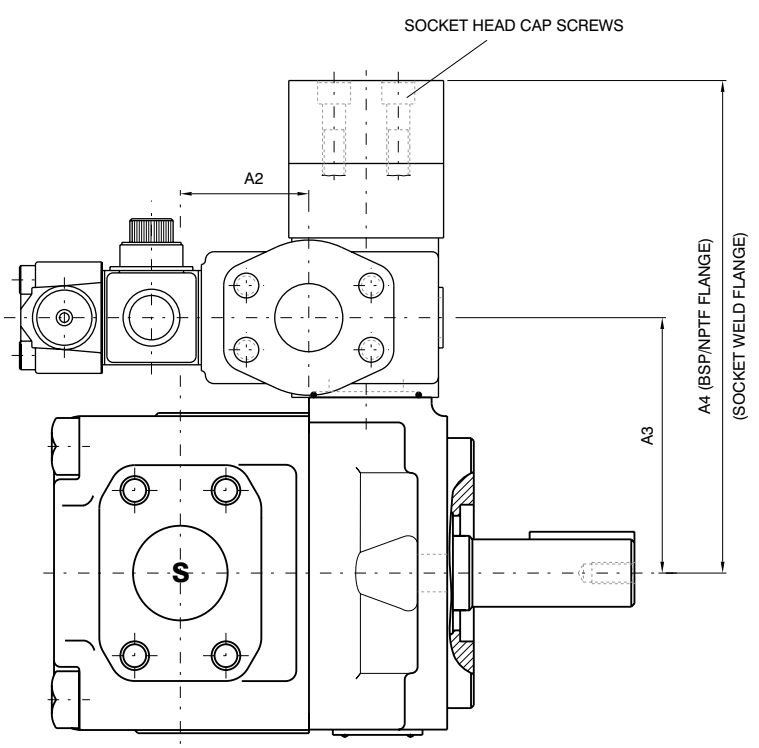
	Dimensions	
	in	mm
A1	3.59	91.3
A2	2.79	71.0
A3	5.46	138.6
A4		
BSP\NPTF	8.56	217.6
Socket weld	8.055	204.6
A5	3.642	92.5

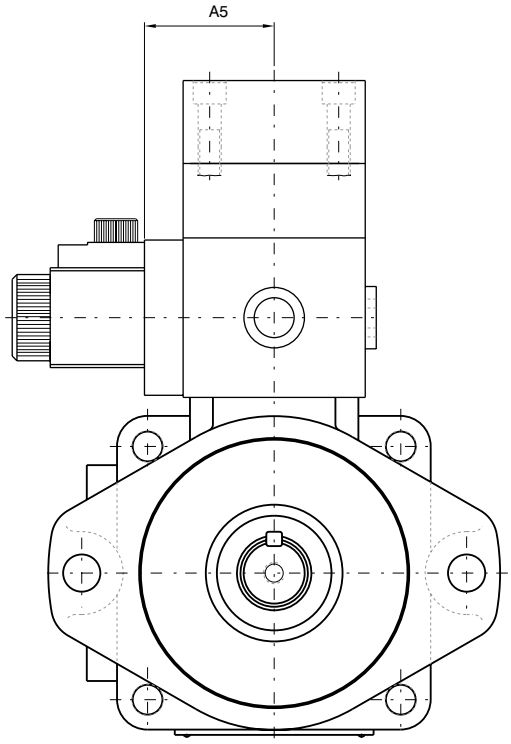
* For 3/4" port of VT7B/VT7QC/VT6CSH

A4 (Socket weld) - 6.11 (155.2) A5 - 2.48 (63.0)

SINGLE PUMP WITH UNLOADER / RELIEF VALVE WITH VENT VALVE + CHECK VALVE (UOD/UBD/VOC/VBC)







VT6B

	Dimensions	
	in	mm
A1	5.142	130.6
A2	3.92	99.6
A3	3.93	99.8
A4		
BSP\NPTF	7.45	189.2
Socket weld	6.86	174.2
A5	2.48	63.0

VT6C/VT6CSH/VT7QC/VT7B-VT7BS

	Dimensions	
	in	mm
A1	2.21	56.1
A2	2.53	64.3
A3	4.18	106.2
A4 *		
BSP\NPTF	7.90	200.9
Socket weld	7.52	190.9
A5 *	2.56	65.0

VT6D/VT7D-VT7DS

	Dimensions	
	in	mm
A1	2.66	67.6
A2	2.28	57.9
A3	4.73	120.1
A4		
BSP\NPTF	9.11	231.6
Socket weld	8.53	216.6
A5	2.40	61.0

VT6E/VT7E-VT7ES

	Dimensions	
	in	mm
A1	3.59	91.3
A2	2.79	71.0
A3	5.46	138.6
A4		
BSP\NPTF	9.96	253.1
Socket weld	9.45	240.1
A5	3.642	92.5

* For 3/4" port of VT7B/VT7QC/VT6CSH

A4 (Socket weld) - 7.11 (180.6) A5 - 2.48 (63.0)

VT6C * - 022 - 1 R 00 - B 1 ** *

Series

VT6B,VT7B/VT7BS, VT6C, VT7QC
VT6CSH,VT6D,VT7D/VT7DS
VT6E,VT7E/VT7ES

Y- Metric port connection, Omit for UNC

Cam ring

(Vol.displacement)
Refer general & operating characteristics table of vane pumps for options of cam rings of each series

Type of shaft

VT6B
1 - Keyed (no SAE)
2 - Keyed
3 - Splined (SAE A)
4 - Splined (SAE B)
5 - Splined SAE (11 teeth)
11 - Splined

VT6C/VT6CSH/VT7QC
1 - Keyed (SAE B)
2 - Keyed (no SAE) (Not for VT6CSH)
3 - Splined (SAE B)
4 - Splined (SAE BB)
5 - Keyed (SAE BB) (VT6CSHW)

VT7BS
1 - Keyed (SAE B)
3 - Splined (SAE B)
4 - Splined (SAE BB)

VT6D/VT7DS
1 - Keyed (SAE C)
2 - Keyed (no SAE)
3 - Splined (SAE C)
4 - Splined (no SAE)

VT6E/VT7ES
1 - Keyed (SAE CC)
2 - Keyed (no SAE)
3 - Splined (SAE C)
4 - Splined (SAE CC)

VT7B-VT7BS
2 - Keyed (ISO R775)

VT7DS-VT7D
5 - Keyed (ISO 3019-2-G32M)

VT7ES-VT7E
5 - Keyed (ISO R775-G38M)

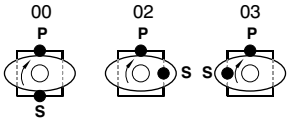
Modifications

Mounting connection W/variables
for VT6B,VT7QC,VT7B/VT7BS
VT7D/VT7DS,VT7E/VT7ES

Seal class
1 - S1 (for mineral oil)
4 - S4 (for fire resistant fluids)
5 - S5 (for mineral oil and fire resistant fluids)

Design letter
A-VT7B,VT7D/VT7DS,VT6E, VT7E/VT7ES
B-VT6C,VT6CSH,VT6D,VT7QC
D-VT6B

Porting combination
00 - standard



S - Suction port P - Pressure port

Direction of rotation (view on shaft end)
R - clockwise
L - counter-clockwise

Mounting connection W/variables

VT6B

CODE	S	P
01	1¼" SAE 4 bolt (UNC)	3/4" SAE 4 bolt (UNC)
M0	1¼" SAE 4 bolt (METRIC)	3/4" SAE 4 bolt (METRIC)

VT7B/VT7BS

	UNC VT7BS		METRIC VT7B-VT7BS	
	00	01	M0	M1
P	1"	3/4"	1"	3/4"
S	1½"			

VT6CSH,VT7QC

	UNC		METRIC	
	00	01	M0	M1
P	1"	3/4"	1"	3/4"
S	1½"			

VT7D/VT7DS

P = 1¼"	S = 2"		
	UNC	METRIC	
VT7D		M0	
VT7DS	00	M0	Y0

Shaft torque limits in³/rev x psi (ml/rev x bar) Vp x p max.

SERIES					
Shaft	VT6B	VT6C,VT6CSH VT7QC	VT7B-VT7BS	VT6D,VT7DS-VT7D	VT6E,VT7ES-VT7E
1		14473 (16500)	14615 (16516)	38299 (43283)	48273 (54555)
2		12666 (14300)	18246 (20620)	30638 (34590)	30638 (34590)
3	5119 (5780)	18246 (20600)	18246 (20620)	54207 (61200)	54207 (61200)
4	18246 (20600)	19309 (21821)	18246 (20620)	54207 (61200)	54207 (61200)
5				39238 (44344)	48273 (54555)

VT7E/VT7ES

P = 1½"	S = 3"	
	UNC	METRIC
VT7E		M0
VT7ES	00	M0

GENERAL CHARACTERISTICS

Series	Mounting Standard (SAE J744C/ ISO/3019-1)	Displacement (cm³/rev)	Speed max	Speed min	Max. Pressure psi	Max. Pressure bar	Weight (without connectors and bracket) (lbs)	Weight (kg)	SAE 4-bolt J518-ISO/DIS 6162-1 Suction	SAE 4-bolt Pressure
VT6B	SAE - A	6.5 - 39.7	2500	600	3500	240	3.6	8.0	1¼"	¾"
VT6C	SAE - B	10.8 - 100.0	2800 [1]	600	4000 [4]	275 [4]	34.0	15.5	1½"	1"
VT6CSH	SAE - B	10.8 - 100.0	2800 [1]	600	4000 [4]	275 [4]	55.0	24.1	1½"	1" or ¾"
VT6D	SAE - C	47.6 - 190.5	2500 [2]	600	3500 [4]	240 [4]	59.4	27.0	2'	1¼"
VT6E	SAE - C	132.3 - 269.8	2200 [3]	600	3500 [5]	240 [5]	95.0	43.2	3"	1½"
VT7B	ISO 3019-2 100 A2 HW	5.7 - 50	3600 [6]	600	4640 [7]	320 [7]	50.7	23.0	1½"	1" or ¾"
VT7BS	SAE J744 SAE B									
VT7QC1	SAE B	10.8-100.0	3000 [8]	600	4350 [9]	300 [9]	50.7	23.0	1½"	1" or ¾"
VT7QC2	SAE C									
VT7D	ISO 3019-2 125 A2 HW	43.9 - 158.0	3000 [8]	600	4350 [10]	300 [10]	57.3	26.1	2"	1¼"
VT7DS	SAE J744 SAE C									
VT7E	ISO 3019-2 125 A2 HW	132.2 - 268.7	2200 [3]	600	3500 [5]	240 [5]	95.4	43.0	2"	1¼"
VT7ES	SAE J744 SAE C									

1) Cartridges 025-028-031 = 2500 rpm max.
2) Cartridges 042-045-050-061 = 2200 rpm max.
3) Cartridges 085 = 2000 rpm max.
4) Cartridges 028-025-031-050(D) = 210 bar max.int
4) 061 (D) = 120 bar max. int 061 = 80 bar cont.
5) 085 (E) = 90 bar max. int
6) Cartridges B11-B12-B14-B15= 3000 rpm max.
7) Cartridges B11-B12-B14 = 300 bar max.int
Cartridge B15 = 240 bar max.int
8) Cartridges 025-028-031 = 2500 rpm max.
Cartridges B35-B38 = 2800 rpm max.
Cartridges B42 = 2500 rpm max.
Cartridges 045 - 050 = 2200 rpm max.
9) Cartridges 022 = 275 bar max. int
Cartridge 025 = 240 bar max.int
Cartridge 028-031 = 210 bar max.int
10) Cartridges B35-B38 = 280 bar max. int
Cartridge B42 = 260 bar max.int
Cartridge 045 = 240 bar max.int
Cartridge 050 = 210 bar max.int

VT6B

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 100 bar (1500 psi)		p = 240 bar (3000 psi)		p = 7 bar (100 psi)		p = 100 bar (1500 psi)		p = 240 bar (3000 psi)	
		in³/rev	cm³/rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT6B	B02	0.39	6.5	2.64	10.0	2.11	8.0	-	-	0.53	0.4	2.81	2.1	-	-
	B03	0.54	8.8	3.49	13.2	2.96	11.2	2.43	9.2	0.67	0.5	3.62	2.7	7.11	5.3
	B04	0.78	12.8	5.08	19.2	4.55	17.2	4.02	15.2	0.93	0.7	5.23	3.9	10.06	7.5
	B06	1.26	20.7	8.20	31.0	7.67	29.0	7.14	27.0	1.07	0.8	8.05	6.0	12.34	9.2
	B08	1.59	26.1	10.34	39.1	9.78	37.0	9.25	35.0	1.34	1.0	10.05	7.5	15.69	11.7
	B09	1.92	31.5	12.48	47.2	11.93	45.1	11.42	43.2	1.47	1.1	11.94	8.9	23.60	17.6
	B12	2.42	39.7	15.74	59.5	15.18	57.4	14.68	55.5	1.74	1.3	15.02	11.2	29.50	22.0

-- Not to use because internal leakage greater than 50%theoretical flow.

VT7B-VT7BS

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 320 bar (4650 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 320 bar (4650 psi)	
		in³/rev	cm³/rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT7B VT7BS	B02	0.35	5.7	2.76	10.4	2.33	8.8	1.73	6.5	0.74	0.55	4.02	2.99	8.59	6.40
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.63	13.7	0.85	0.63	6.24	4.65	13.75	10.25
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.06	19.2	0.94	0.70	7.90	5.89	17.62	13.13
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.53	24.7	1.02	0.76	9.62	7.17	21.62	16.12
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.39	31.7	1.13	0.84	11.79	8.79	26.66	19.88
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.67	36.5	1.20	0.89	13.29	9.91	30.14	22.47
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.81	40.9	1.27	0.94	14.62	10.90	33.24	24.78
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.28	46.4	1.36	1.01	16.35	12.19	37.25	27.77
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.09	53.4	1.46	1.11	18.45	13.75	42.14	31.42
	B11	2.13	34.9	16.64	62.9	16.19	61.2	15.61 1)	59.0 1)	1.55	1.15	20.17	15.04	43.22 1)	32.22 1)
	B12	2.50	40.9	19.50	73.7	19.07	72.1	18.54 1)	70.1 1)	1.72	1.28	23.55	17.56	50.58 1)	37.71 1)
	B14	2.75	45.1	21.40	80.8	20.95	79.2	20.37 1)	77.0 1)	1.83	1.36	25.80	19.23	55.48 1)	41.37 1)
	B15	3.05	50.0	23.78	89.8	23.35	88.3	22.88 2)	86.5 2)	1.97	1.47	28.55	21.28	57.35 2)	42.76 2)

1) B11-B12-B14 = 300 bar (4350 psi) max. int 2) B15 = 280 bar (4060 psi) max. int

VT6C-VT6CSH

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in³/rev	cm³/rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT6C VT6CSH	003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	1.74	1.3	7.11	5.3	11.26	8.4
	005	1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	1.88	1.4	10.06	7.5	16.36	12.2
	006	1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	2.01	1.5	11.94	8.9	19.71	14.7
	008	1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	2.15	1.6	14.35	10.7	22.93	17.7
	010	2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	2.28	1.7	18.64	13.4	29.90	22.3
	012	2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	2.28	1.7	19.31	14.4	32.32	24.1
	014	2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	2.55	1.9	23.60	17.6	39.56	29.5
	015	3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	2.68	2.0	25.61	19.1	42.91	32.0
	017	3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	2.82	2.1	29.37	21.9	49.48	36.9
	020	3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	2.95	2.2	31.92	23.8	53.91	40.2
	022	4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	3.08	2.3	35.00	26.1	59.14	44.1
	025 1)	4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4	3.35	2.5	39.16	29.2	66.38	49.5
	028 1)	5.42	88.8	35.24	133.2	33.92	128.2	33.28 2)	125.8 2)	3.75	2.8	43.85	32.7	65.04 2)	48.5 2)
	031 1)	6.10	100.0	39.68	150.0	38.35	145.0	37.72 2)	142.6 2)	3.75	2.8	48.95	36.5	72.95 2)	54.4 2)

1) 025-028-031 = 2500 RPM. max. 2) 028-031= 210 bar (3000 psi) max. int.

VT7QC

Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm								Input power p (kW) & n = 1500 rpm							
			p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 240 bar (3500 psi)		p=7 bar (100 psi)		p=140 bar (2000 psi)		p=240 bar (3500 psi)		p=300 bar (4350 psi)	
	in³/rev	cm³/rev	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw	hp	kw
003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	--	--	1.74	1.3	7.11	5.3	11.26	8.4	--	--
005	1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	3.62	13.7	1.88	1.4	10.06	7.5	16.36	12.2	20.0	14.9
006	1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	4.76	18.0	2.01	1.5	11.94	8.9	19.71	14.7	24.1	18.0
008	1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	6.77	25.6	2.15	1.6	14.35	10.7	22.93	17.7	29.3	21.8
010	2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	9.84	37.2	2.28	1.7	18.64	13.4	29.90	22.3	36.9	27.5
012	2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	11.0	41.7	2.28	1.7	19.31	14.4	32.32	24.1	40.0	29.8
014	2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	14.5	55.0	2.55	1.9	23.60	17.6	39.56	29.5	48.9	36.5
015	3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	16.2	61.1	2.68	2.0	25.61	19.1	42.91	32.0	53.0	39.5
017	3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	19.4	73.5	2.82	2.1	29.37	21.9	49.48	36.9	61.3	45.7
020	3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	21.6	81.7	2.95	2.2	31.92	23.8	53.91	40.2	66.8	49.8
022	4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	24.2 2)	91.5 2)	3.08	2.3	35.00	26.1	59.14	44.1	67.5 2)	50.3 2)
025 1)	4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4 3)	--	--	3.35	2.5	39.16	29.2	66.38 3)	49.5 3)	--	--
028 1)	5.42	88.8	35.24	133.2	33.92	128.2	33.28	125.8 4)	--	--	3.75	2.8	43.85	32.7	65.04 4)	48.5 4)	--	--
031 1)	6.10	100.0	39.68	150.0	38.35	145.0	37.72	142.6 4)	--	--	3.75	2.8	48.95	36.5	72.95 4)	54.4 4)	--	--

1) 025-028-031 = 2500 R.P.M. max. 2) 022= 275 bar max. int, 3) 025 = 240 bar max. int, 4) 028-031 = 210 bar max. int. -- Not to use because internal leakage greater than 50%of theoretical flow.

VT6D

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in³/rev	cm³/rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT6D	014	2.90	47.6	18.88	71.4	16.42	62.1	14.78	55.9	3.08	2.3	24.81	18.5	41.03	30.6
	017	3.55	58.2	23.10	87.3	20.63	78.0	18.99	71.8	3.35	2.5	29.77	22.2	49.60	37.0
	020	4.00	66.0	26.19	99.0	23.73	89.7	22.08	83.5	3.75	2.8	33.39	24.9	55.92	41.7
	024	4.80	79.5	31.56	119.3	29.10	110.0	27.46	103.8	4.02	3.0	39.69	29.6	66.78	49.8
	028	5.50	89.7	35.58	134.5	33.12	125.2	31.48	119.0	4.29	3.2	44.52	33.2	74.96	55.9
	031	6.00	98.3	39.00	147.5	36.53	138.1	34.89	131.9	4.42	3.3	48.54	36.2	81.80	61.0
	035	6.80	111.0	44.04	166.5	41.58	157.2	39.94	151.0	4.69	3.5	54.58	40.7	92.13	68.7
	038	7.30	120.3	47.72	180.4	45.26	171.1	43.62	164.9	4.96	3.7	58.87	43.9	99.64	74.3
	042 [1]	8.30	136.0	53.96	204.0	51.50	194.7	49.86	188.5	5.36	4.0	66.25	49.4	112.24	83.7
	045 [1]	8.89	145.7	57.80	218.5	55.34	209.2	53.70	203.0	5.50	4.1	70.81	52.8	120.02	89.5
	050 [1]	9.64	158.0	62.69	237.0	60.23	227.7	59.25 [2]	224.0 [2]	5.90	4.4	76.44	57.0	113.98 [2]	85.0 [2]
	061 [1]	11.65	190.5	76.25	285.7	73.54 [3]	278.0 [3]	--	--	6.16	4.6	81.26 [3]	60.6 [3]	--	--

1) 042-045-050-061=2200 RPM max. 2) 050=210 bar (3000 psi) max. 3) 061 = 120 bar (1740 psi) max. int, 061 = 80 bar (1160 psi) cont.

VT7D-VT7DS

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)	
		in³/rev	cm³/rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT7D VT7DS	B14	2.68	43.9	20.92	79.1	19.18	72.5	17.19	64.9	3.46	2.6	27.77	20.7	58.49	43.6
	B17	3.36	55.0	26.16	98.8	24.41	92.3	22.42	84.7	3.77	2.8	33.88	25.3	71.92	53.6
	B20	4.03	66.0	31.39	118.6	29.64	112.0	27.65	104.5	4.07	3.0	39.98	29.8	85.35	63.6
	B22	4.29	70.3	33.43	126.4	31.69	119.8	29.70	112.3	4.19	3.1	42.37	31.6	90.60	67.6
	B24	4.95	81.1	38.57	145.8	36.82	139.2	34.83	131.6	4.49	3.4	48.36	36.1	103.78	77.4
	B28	5.49	89.9	42.80	161.8	41.06	155.2	39.06	147.6	4.74	3.5	53.30	39.7	114.65	85.5
	B31	6.05	99.1	47.18	178.3	45.43	171.7	43.44	164.2	4.99	3.7	58.41	43.6	125.88	93.7
	B35	6.92	113.4	53.93	203.9	52.18	197.2	50.44 [1]	190.6 [1]	5.39	4.0	66.29	49.4	130.39 [1]	97.2 [1]
	B38	7.36	120.6	57.35	216.8	55.61	210.2	53.87 [1]	203.6 [1]	5.59	4.2	70.28	52.4	138.38 [1]	103.2 [1]
	B42	8.39	137.5	65.39	247.2	63.65	240.6	62.15 [2]	234.9 [2]	6.05	4.5	79.66	59.4	149.39 [2]	111.4 [2]
	045	8.89	145.7	69.29	262.0	67.11	253.6	65.47 [3]	247.5 [3]	6.74	5.0	83.75	62.4	144.41 [3]	107.7 [3]
	050	9.64	157.9	75.14	284.0	72.96	275.8	71.78 [4]	271.3 [4]	7.08	5.3	90.58	67.5	134.54 [4]	100.3 [4]

1) B35-B38 = 280 bar (4060 psi) max.int. 2) B42 = 260 bar (3770 psi) max.int. 3) 045 = 240 bar (3500 psi) max. int. 4) 050 = 210 bar (3000 psi) max. int

VT6E

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in³/rev	cm³/rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT6E	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.70	142.4	56.51	213.6	53.86	203.6	51.98	196.5	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.00	164.8	65.40	247.2	62.75	237.2	60.87	230.1	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.00	213.3	84.63	319.9	81.98	309.9	80.11	302.8	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5	9.25	6.9	110.77	82.6	187.07	139.5
	085 [1]	16.40	269.8	107.0	404.7	105.21 [2]	397.7 [2]	--	--	9.78	7.3	87.56 [2]	65.3 [2]	--	--

1) 085 = 2000 RPM max. 2) 085 = 75 bar (1100 psi) cont. 085 = 90 bar (1300 psi) max. int.

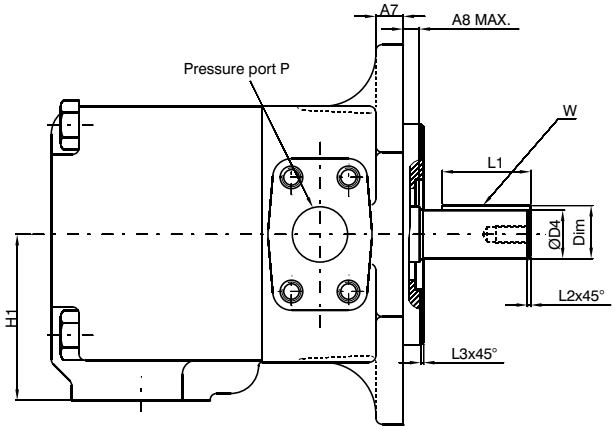
VT7E-VT7ES

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in³/rev	cm³/rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT7E VT7ES	042	8.07	132.2	62.92	237.8	60.37	228.2	58.52	221.2	8.09	6.0	78.44	58.5	133.80	99.7
	045	8.70	142.5	67.72	255.9	65.17	246.3	63.32	239.3	8.37	6.2	84.04	62.6	143.60	107.1
	050	9.67	158.5	75.38	284.9	72.83	275.3	70.98	268.3	8.82	6.5	92.97	69.3	159.24	118.7
	052	10.00	163.8	78.37	296.2	75.82	286.6	73.97	279.6	8.99	6.7	96.47	71.9	165.36	123.3
	054	10.43	170.9	81.27	307.2	78.72	297.6	76.87	290.6	9.17	6.8	99.75	74.4	177.46	132.3
	057	11.18	183.2	87.12	329.3	84.57	319.7	82.72	312.7	9.51	7.1	106.57	79.5	189.84	141.6
	062	12.00	196.6	93.54	353.6	90.99	343.9	89.14	336.9	9.88	7.3	114.17	85.1	196.34	146.4
	066	13.00	213.0	101.44	383.4	98.89	373.8	97.04	366.8	10.34	7.7	123.38	92.0	212.46	158.4
	072	13.86	227.1	108.00	408.2	105.45	398.6	103.60	391.6	10.72	7.9	131.04	97.7	225.86	168.4
	085	16.40	268.7	127.79	483.0	126.13 [1]	476.7 [1]	--	--	11.88	8.8	101.66 [1]	75.8 [1]	--	--

1) 085 = 90 bar (1300 psi) max.int.

SINGLE VANE PUMP – INSTALLATION DIMENSIONS

VELJAN

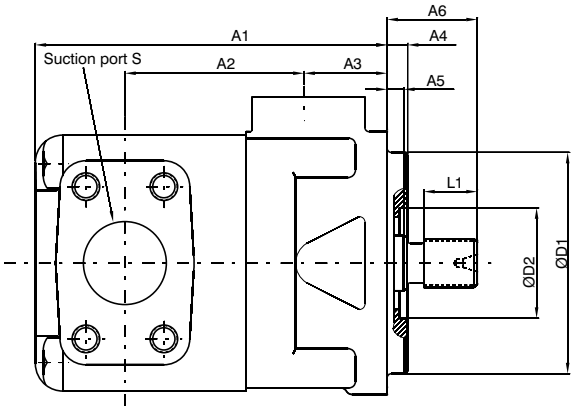


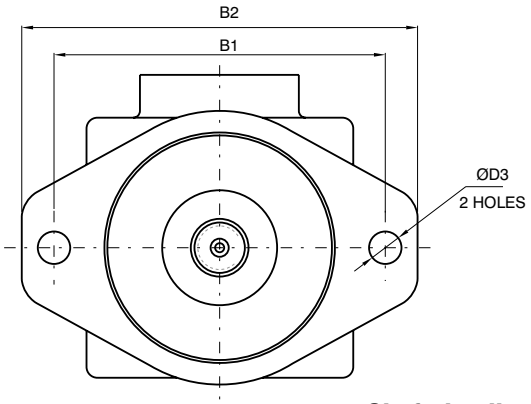
Spline Details				
Series	Code	DP	Teeth	Pressure angle
VT6B	3	16/32	9	30°
	4	16/32	13	30°
	5	16/32	11	30°
	11	16/32	11	30°

*Dimensions for below models

		B1	D1	D3
VT7B	In	5.51	3.937/3.936	0.55
	mm	140.0	99.99/99.97	14.0
VT7QC2	In	7.125	5.000/4.998	0.69
	mm	181.0	127.00/126.95	17.5
VT7D VT7E	In	7.09	4.921/4.919	0.71
	mm	180.0	124.99/124.94	18.0

Spline Details				
Series	Code	DP	Teeth	Pressure angle
VT6C VT7QC	3	16/32	13	30°
VT7BS VT7CSH	4	16/32	15	30°
VT6D VT7DS	3,4	12/24	14	30°
VT6E	3	12/24	14	30°
VT7ES	4	12/24	17	30°





Installation Dimensions

		A1	A2	A3	A4	A5	A6	A7	A8	B1*	B2	D1*	D2	D3*	L3	H1
VT6B	In	5.71	3.38	1.22	0.30	0.30	See shaft	0.44	0.25	4.18	5.12	3.250/3.248	1.85	0.44	0.03	2.75
	mm	145.2	86.0	31.0	7.60	7.6	table	11.2	6.35	106.2	130.0	82.55/82.50	47.0	11.2	0.8	69.8
VT6C VT6CSH VT7BS VT7QC	In	6.36	3.24	1.50	0.38	0.31	See shaft	0.50	0.25	5.75	6.87	4.000/3.998	2.02	0.56	0.05	3.00
	mm	161.6	82.3	38.1	9.7	7.9	table	12.7	6.35	146.0	174.5	101.60/101.55	51.3	14.3	1.30	76.2
	In	6.63														
	mm	168.4														
VT6D VT7DS	In	7.28	3.44	1.50	0.50	0.31	See shaft	0.62	0.25	7.125	8.365	5.000/4.998	2.53	0.69	0.05	3.25
	mm	184.9	87.4	38.1	12.7	7.9	table	15.7	6.35	181.0	212.5	127.00/126.95	64.3	17.5	1.30	82.6
VT6E VT7ES	In	8.87	4.34	2.06	0.50	0.31	See shaft	0.69	0.25	7.125	8.386	5.000/4.998	3.00	0.69	0.05	3.88
	mm	225.3	110.2	52.3	12.7	7.9	table	17.5	6.35	181.0	213.0	127.00/126.95	76.2	17.5	1.30	98.6

Shaft details

Spline shafts				
		A6	L1	L2
Series	Code	In mm	In mm	In mm
VT6B	3,5	1.24 31.5	0.59 15.0	0.06 1.50
	4	1.59 40.4	1.00 25.4	0.06 1.50
	11	2.94 74.7	1.472 37.4	0.06 1.50
VT6C VT7QC	3	1.60 40.7	0.965 24.5	0.06 1.50
VT6CSH VT7B	4	1.79 45.5	0.965 24.5	0.06 1.50

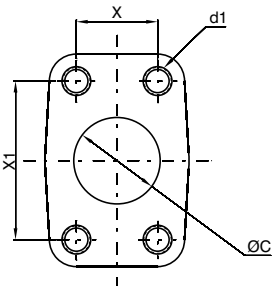
Keyed shafts						
Series	Code	A6	L1	W	D4	Dim
		In mm	In mm	In mm	In mm	In mm
VT6C VT7QC	1	2.81 71.4	1.50 38.1	0.250/0.248 6.35/6.30	0.875/0.874 22.225/22.200	0.982 24.94
VT6CSH	2	2.29 58.2	1.25 31.8	0.187/0.186 4.76/4.71	0.875/0.874 22.225/22.200	0.966 24.54
VT6D	1	3.29 83.6	1.94 49.3	0.312/0.310 7.94/7.89	1.250/1.248 31.75/31.70	1.389 35.27
VT7DS	2	2.88 73.2	1.50 38.1	0.312/0.310 7.94/7.89	1.250/1.248 31.75/31.70	1.389 35.27
VT6E	1	3.58 90.9	2.00 50.8	0.375/0.373 9.52/9.47	1.500/1.498 38.10/38.05	1.668 42.36
VT7ES	2	2.44 61.9	1.50 38.1	0.312/0.310 7.94/7.89	1.250/1.248 31.75/31.70	1.389 35.27

Keyed shafts						
Series	Code	A6	L1	W	D4	Dim
		In mm	In mm	In mm	In mm	In mm
VT6B	1	2.19 55.6	1.25 31.8	0.187/0.185 4.75/4.70	0.750/0.748 19.05/19.00	0.83 21.1
VT7BS	1	2.82 71.6	1.50 38.1	0.250/0.248 6.35/6.30	0.875/0.874 22.225/22.200	0.982 24.94
VT7BS VT7B	2	2.76 70.1	1.57 39.9	0.315/0.276 8.00/7.00	0.987/0.982 25.06/24.94	1.11 28.22
VT7DS VT7D	5	3.44 87.4	1.97 50.0	0.394/0.315 10.00/8.00	1.261/1.260 32.03/32.00	1.389 35.27
VT7E VT7ES	5	3.54 89.9	1.97 50.0	0.394/0.315 10.00/8.00	1.497/1.496 38.02/37.99	1.626 41.30

Spline shafts				
Series	Code	A6	L1	L2
		In mm	In mm	In mm
VT6D VT7DS	3	2.17 55.2	1.50 38.1	0.09 2.30
	4	3.06 77.7	1.89 48.0	0.09 2.30
VT6E	3	2.20 55.9	1.50 38.1	0.09 2.30
VT7ES	4	2.45 62.2	1.24 31.5	0.09 2.30

Note: All spline shafts are Flat root side fit

4-bolt pade per SAE-J518B



Connections		ØC		X		X1		d1
		In	mm	In	mm	In	mm	
Pressure port P	VT6B VT7B/VT7QC (3/4")	0.75	19.0	0.874	22.2	1.87	47.6	3/8"-16 UNC x 0.75 DEEP (M10x19.0 DEEP)
	VT6C/VT7QC VT7B/VT6CSH	1.00	25.4	1.031	26.2	2.06	52.4	3/8"-16 UNC x 0.75 DEEP (M10x19.0 DEEP)
	VT6D/VT7D/VT7DS	1.25	31.8	1.188	30.2	2.312	58.7	7/6"-14 UNC x 0.88 DEEP (M12x22.3 DEEP)
	VT6E/VT7E/VT7ES	1.46	37.1	1.406	35.7	2.75	69.85	1/2"-13 UNC x 0.92 DEEP (M12x23.4 DEEP)
Suction port S	VT6B	1.25	31.8	1.188	30.2	2.312	58.7	7/6"-14 UNC x 0.64 DEEP (M12x15.0 DEEP)
	VT6C/VT7QC VT7B/VT6CSH	1.50	38.1	1.41	35.8	2.75	70.0	1/2"-13 UNC x 0.88 DEEP (M12x22.3 DEEP)
	VT6D/VT7D/VT7DS	2.00	50.8	1.688	42.9	3.062	77.7	1/2"-13 UNC x 0.94 DEEP (M12x23.9 DEEP)
	VT6E/VT7/VT7ES	3.00	76.2	2.438	61.9	4.188	106.4	5/8"-11 UNC x 0.94 DEEP (M16x24.0 DEEP)

SPECIFICATIONS

General

Type	:	Pilot operated Relief /Unloading/Sequence Valve
Design	:	Poppet type
Mounting	:	Flanged According to SAE - 3000 psi (210 bar) e.g. Directly on a pump VR5V12 also 6000 psi (420 bar)
Mounting position	:	Optional
Port sizes (nominal)	:	3/4", 1", 1¼", 1½" (only for VR5V and VR5U)
Direction of flow	:	A— B
Ambient temperature	:	-20°C...+60°C (-4°F...+-140°F)
Special working conditions	:	Consult VELJAN

Hydraulics

Pressure control range	:	Minimum - depends on flow Maximum - 5000 psi (350 bar) For VR5V12 - 6000 psi (420 bar)
Maximum operating pressure	:	
Port A (inlet) Port B (outlet)		5000 psi (350 bar), For VR5V12 - 6000 psi (420 bar) For VR5V and VR5U - 450 psi (30 bar)
Port X (pilot) Port Y, Y1 (pilot drain)		5000 psi (350 bar), For VR5V12 - 6000 psi (420 bar) 450 psi (30 bar)

	:	VR5 *(3/4")	VR5 *(1")	VR5 *(1¼")	VR5 *(1½")
Maximum flow gpm (lpm)	:	24 (90)	80 (300)	159 (600)	159 (600)

Nominal flow gpm (lpm)	:	depends on pump delivery
Fluid	:	Mineral oil as per DIN 51524/25 or other fluids on request
Fluid temperature range	:	- 18° C... + 80° C (0° F...+176°F)
Viscosity Range	:	10 to 650 cSt (60 to 3900 SUS)
Optimum operating viscosity	:	30 cST (180 SUS)
Seal compatibility	:	Code 1 (Buna N) or Code 5 (Viton) (contact Veljan with specific oil details)
Cleanliness recommended	:	better than NAS 1638 Class 8 or ISO 17/14

Adjustment

Manual	:	Hand wheel
Rotation	:	3.75 rev.
Operating torque	:	0.72 Nm.

Electricals (Vent valve VVV01)

	:	Solenoid
Nominal voltage	:	Refer to Oredering Code
Permissible Voltage fluctuation	:	+5....-10
Max. coil temperature	:	+155° C (311° F)
Type of current	:	Alternating Current (AC) / Direct Current (DC)
Input power	:	31 W
Holding	:	78 VA
Inrush	:	264 VA
Relative operating period	:	100
Type of protection	:	1 P 65

ORDERING CODE

VR5* 08 - 5 3 5 - 1 4 - 09 - W07 - A 1 *

Series

VR5V - Pressure Relief Valve

VR5U - Pressure Unloading Valve

Size

06 - 3/4"
08 - 1"
10 - 1¼"
12 - 1½"

Max. pressure of Valve Body

3 - 3000 psi (210 bar) - SAE 61 flange (VR5V12/VR5U12)

4 - 4000 psi (280 bar) - SAE 61 flange (VR5 *10)

5 - 5000 psi (350 bar) - SAE 61 flange (VR5 *06/08)

6 - 6000 psi (420 bar) - SAE 62 flange (VR5V12 only)

Body

Ports X1, Y1,[1] M

1 - 1/4" NPTF
3 - SAE - 4 (7/16"-20 UNF)
9 - G 1/4"

[1] Port Y1 is only available at external drain from the pilot head

Pressure setting range

1 - 100 - 1500 psi (7 - 105 bar)] VR5U:Pressure Differential 20
3 - 100 - 3000 psi (7 - 210 bar)]
5 - 100 - 5000 psi (7 - 350 bar) VR5U:Pressure Differential 15
6 - 100 - 6000 psi (7 - 420 bar) (VR5V12 only)

Type of Control

1 - Hand knob (32 mm dia)
2 - Hand knob (50 mm dia) (not for version with vent valve VV01)
3 - Acron nut with lead seal

Pilot connection

2 - Internal PD - Internal PP (VR5V)
4 - External PD - External PP[2] (VR5U)
5 - Internal PD - External PP[2] (VR5U)
6 - External PD - Internal PP (VR5V)

[2] External pilot pressure connection on flange face

Electrical Vent

(3 way VENT VALVE VVV01)
Omit for non vent version

09 - With manual override (Solenoid de-energized : open to tank, Solenoid Energized : vent line blocked)

10 - Without manual override (Solenoid de-energized : open to tank, Solenoid Energized : vent line blocked)

11 - With manual override (Solenoid de-energized : vent line blocked, Solenoid Energized : open to tank)

12 - Without manual override (Solenoid de-energized : vent line blocked, Solenoid Energized : open to tank)

Solenoid Voltage

(Omit for vent version)

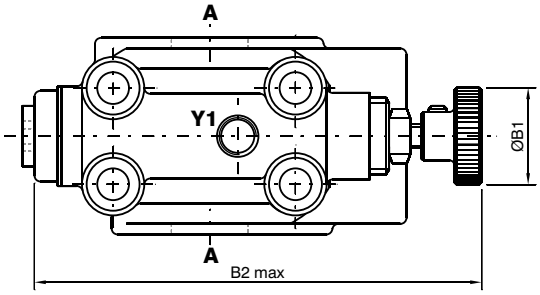
W01 - 115 V/ 60 Hz AC
W02 - 230 V/ 60 Hz AC
W06 - 115 V/ 50 Hz AC
W07 - 230 V/ 50 Hz AC
GOR - 12V DC
GOQ - 24V DC
GOH - 48V DC

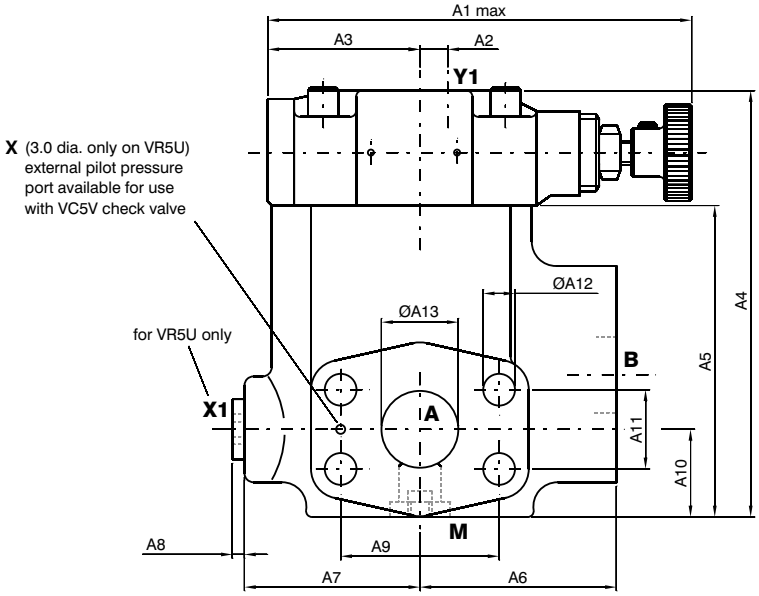
Design letter

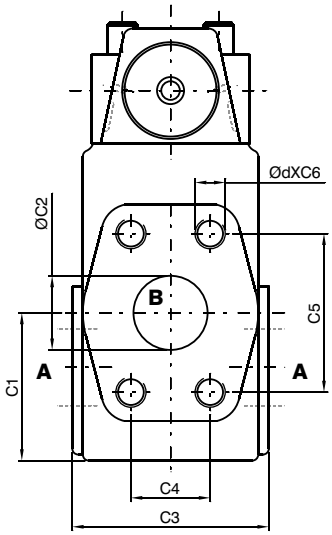
Seal Class

1 - Buna N (standard)
5 - Viton

Modifications







Installation Dimensions

	R5V*(3/4")		R5V*(1")		R5V*(1 1/4")		R5V*(1 1/2")	
	in	mm	in	mm	in	mm	in	mm
A1	5.55	141.0	5.55	141.0	5.55	141.0	5.55	141.0
A2	0.41	10.5	0.2	5.0	0.12	3.0	0.917	23.3
A3	1.93	49.0	2.146	54.5	2.224	56.5	1.417	36.0
A4	4.69	119.2	5.53	140.5	5.87	149.1	6.99	177.6
A5	3.213	81.6	4.055	103.0	4.39	111.5	5.512	140.0
A6	2.48	63.0	2.56	65.0	2.402	61.0	3.642	92.5
A7	2.205	56.0	2.283	58.0	2.441	62.0	2.173	55.2
A8	0.16	4.0	0.16	4.0	0.16	4.0	0.164	4.2
A9	1.874	47.6	2.063	52.4	2.311	58.7	2.75	69.8
A10	1.102	28.0	1.14	29.0	1.35	34.3	1.34	34.0
A11	0.874	22.2	1.032	26.2	1.19	30.2	1.41	35.7
A12	0.41	10.5	0.41	10.5	0.472	12.0	0.531	13.5
A13	0.75	19.0	0.984	25.0	1.26	32.0	1.496	38.0

	R5V*(3/4")		R5V*(1")		R5V*(1 1/4")		R5V*(1 1/2")	
	in	mm	in	mm	in	mm	in	mm
B1	Ø1.26	Ø32.0	Ø1.26	Ø32.0	Ø1.26	Ø32.0	Ø1.26	Ø32.0
B2	5.827	148.0	5.7	145.0	5.77	146.6	6.58	167.2

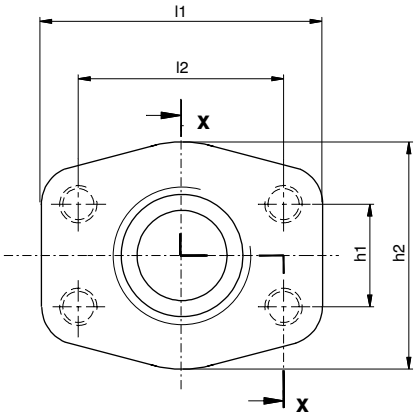
	R5V*(3/4")		R5V*(1")		R5V*(1 1/4")		R5V*(1 1/2")	
	in	mm	in	mm	in	mm	in	mm
C1	1.64	41.6	1.85	47.0	2.51	64.0	2.874	73.0
C2	0.75	19.0	0.98	25.0	1.26	32.0	1.496	38.0
C3	2.362	60.0	2.362	60.0	2.953	75.0	3.15	80.0
C4	0.874	22.2	1.032	26.2	1.19	30.2	1.41	35.7
C5	1.874	47.6	2.063	52.4	2.31	58.4	2.75	69.8
Ød xC6	3/8"UNCx0.79 (M10x20 DP)		3/8"UNCx0.91 (M10x23 DP)		7/16"UNCx0.86 (M12x23 DP)		1/12-13"UNCx1.06 (M12x27 DP)	

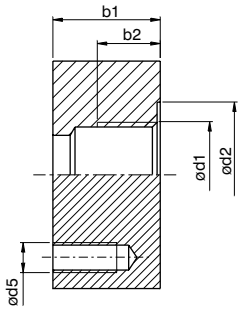
Ports	Function	Port Sizes			
		VR5*06	VR5*08	VR5*10	VR5*12
A (2x)	Pressure	3/4" (SAE -61)	1" (SAE -61)	1 1/4" (SAE -61)	1 1/2" (SAE -61)
B	Tank	3/4" (SAE -61)	1" (SAE -61)	1 1/4" (SAE -61)	1 1/2" (SAE -61)
X1	Ext. Plot port [1)]	1/4" NPTF OR G1/4" OR SAE-4			
Y1	Ext, Drain				
M	Pressure guage				

* 1). CLOSED WHEN SUPPLIED

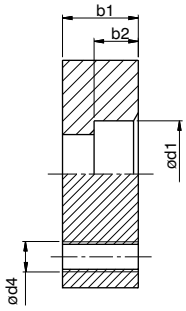
SAE - Flanges

Inlet flange (only for pipe mounting)



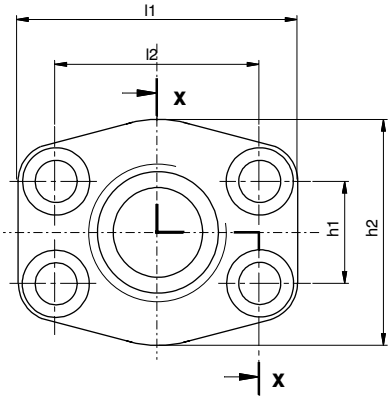


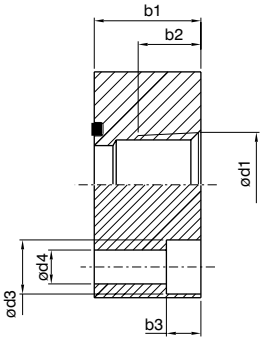
B.S.P.P Flange



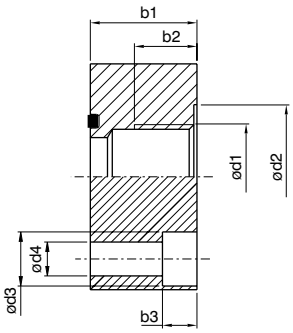
Socket weld

Outlet and tank port flange

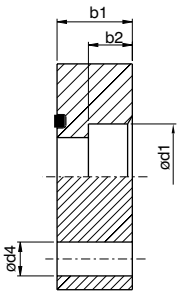




N.P.T.F flange



B.S.P.P flange



Socket weld

Port sizes d1	Inlet flange (without screws) only for pipe mounting	Outlet flange (without screws)	Tank port flange (with screws)												
	Order no.	Order no.	Order no.	l1	l2	b1	b2	b3	h1	h2	ød2	ød3	ød4	ød5
3/4" B.S.P.P	VS16-86520	VS16-86529	VS14-66933	67.0	47.6	34.0	15.9	12.0	22.0	52.0	40.0	16.5	10.5	3/8" UNC
3/4" N.P.T.F.	-	VS16-86530	VS14-66925								-			
3/4" Socket weld	VS16-86519	VS16-86528	VS14-66941			19.0	12.0	-				-		
1" B.S.P.P	VS16-86523	VS16-86532	VS14-66934	72.0	52.4	34.0	20.0	12.0	26.2	58.0	46.0	16.5		
1" N.P.T.F.	-	VS16-86533	VS14-66926				19.0				-			
1" Socket weld	VS16-86522	VS16-86531	VS14-66942			24.0	14.0	-				-		
1 1/4" B.S.P.P	VS16-86526	VS16-86535	VS14-66935	80.0	58.7	39.0	22.0	15.0	30.2	73.0	54.0	17.5	12.5	7/16" UNC
1 1/4" N.P.T.F.	-	VS16-86536	VS14-66927				20.6				-			
1 1/4" Socket weld	VS16-86525	VS16-86534	VS14-66943			24.0	14.0	-				-		
1 1/2" B.S.P.P	VS26-52364	VS26-52215	VS14-66936	94.0	69.8	39.0	24.0	15.0	35.7	82.0	60.0	20.0	14.5	1/2" UNC
1 1/2" Socket weld	VS26-52366	VS26-52217	VS14-66944			26.0	16.0	-			-			
1 1/2" B.S.P.P [1]	V464-01147	V464-01141	V464-01004	112.0	79.4	50.0	28.0	20.0	36.5	94.0	60.0	25.0	17.5	5/8" UNC
1 1/2" Socket weld [1]	V464-01149	V464-01143	V464-01146								-			

1) SAE 62

ORDERING CODE

VC5V 08 - 3 1 1 - A 1

Series

Size

06 - 3/4" 08 - 1" 10 - 1¼" 12 - 1½"

Maximum pressure

3 - 3000 psi (210 bar) (VC5V06/08/10/12 - S.A.E. 61)

6 - 3000 psi (210 bar) (VC5V12 - S.A.E. 62)

Body

1 - with face seal,
2 - with face seal (for unloader application),
3 - without face seal

Spring

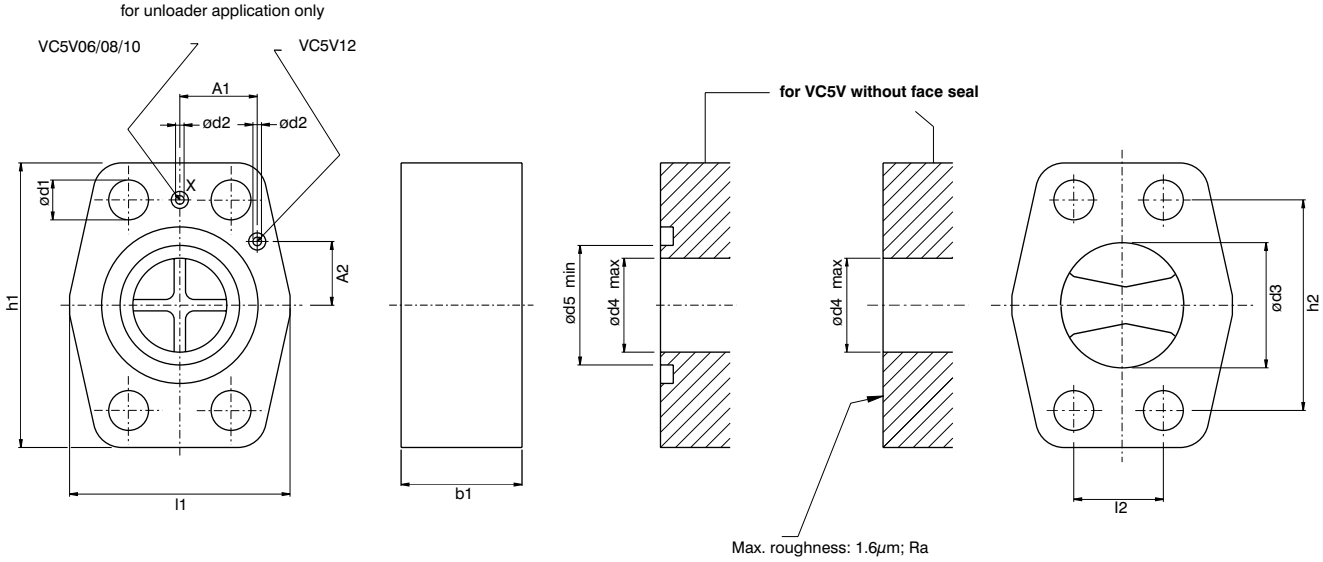
1- Standard

Design letter

Seal class

1 - Standard
5 - Viton
(for special fluids consult **VELJAN**)

Installation



	Dimensions	
	in	mm
A1	1.071	27.2
A2	0.88	22.4

Dimensions

	Size			l1	l 2	h1	h2	b1	ød1	ød2	ød3	ød4 max	ød5 min	Weight
VC5V06	3/4"		in	2.047	0.874	2.638	1.874	1.0	0.413	0.12	0.906	0.748	0.906	1.1 lbs
			mm	52.0	22.2	67.0	47.6	25.4	10.5	3.0	23.0	19.0	23.0	0.5 kg
VC5V08	1"		in	2.283	1.032	2.834	2.063	1.209	0.413	0.12	1.26	0.984	1.181	1.34 lbs
			mm	58.0	26.2	72.0	52.4	30.7	10.5	3.0	32.0	25.0	30.0	0.6 kg
VC5V10	1¼"		in	2.866	1.189	3.142	2.311	1.378	0.472	0.12	1.378	1.26	1.378	2.2 lbs
			mm	72.8	30.2	79.8	58.7	35.0	12.0	3.0	35.0	32.0	35.0	1.0 kg
VC5V12	1½"	S.A.E.61	in	2.953	1.401	4.346	2.748	1.398	0.531	0.12	1.772	1.693	1.713	3.37 lbs
			mm		35.7		69.8		13.5					
		S.A.E.62	in	75.0	1.437	110.4	3.126	35.5	0.669	3.0	45.0	43.0	43.5	1.5 kg
			mm		36.5		79.4		17.0					

SPECIFICATIONS

General

Type	:	3/2 - Vent Valve
Mounting position	:	Optional but horizontal recommended
Port sizes (nominal)	:	Identical with VELJAN Pilot Valve series VR4, VR5,VD4S and VCAR
Ambient temperature	:	-20°C...+ 60°C (-4°F...+140°F)
Special working conditions	:	Consult VELJAN

Hydraulics

Pressure control range		
-Port X (pilot)	:	5000 psi (350 bar)
-Port Y (drain)	:	2030 psi (140 bar)
Nominal flow gpm (lpm)	:	1.0 (3.8)
Fluid Temperature Range	:	- 18°C...+ 80°C (0°F...+ 176°F)
Optimum operating viscosity	:	30 cSt (180 SSU)
Overlap	:	Positive

Actuation

Electric	:	By Solenoid
Type of current	:	AC or DC
Nominal voltage	:	Refer to Ordering Code
Permissible voltage fluctuation	:	+5%...-10%
Max. coil temperature	:	+155° C (311°F)
Input power	:	31 W
Holding	:	78 VA
Inrush	:	264 VA
Relative operating period	:	100%
Type of protection	:	I P 65

Response time	:	AC	DC
Solenoid energized	:	20 ms	46 ms
Solenoid de-energized	:	18 ms	27 ms
Cycle	:	...7200 /h	...16000 /h

ORDERING CODE

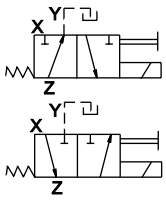
VVV01 - 3 1 1 - W07 - D - 1

Series

Type
3 - 3- way model

Spool position
1-Normal position: free flow from Z to Y
switch position: X to Z

2-Normal position: X to Z
Switch position: free flow from Z to Y



Control
1 - plug - in - type solenoid with manual over-ride
2 - plug - in - type solenoid without manual over-ride
D-Pnuematic
Q -Hydraulic
} On request

Seal Class
1- Buna N
(Standard)
5 - Viton

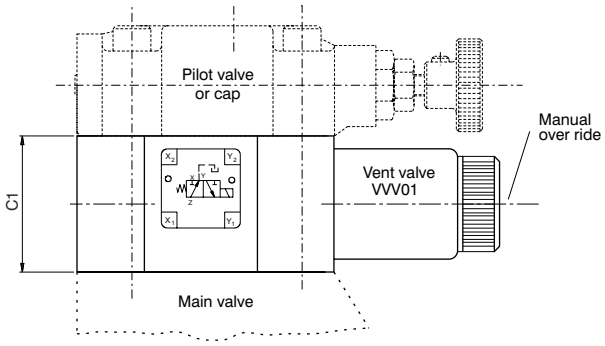
Design letter
D - AC Solenoid
E - DC Solenoid

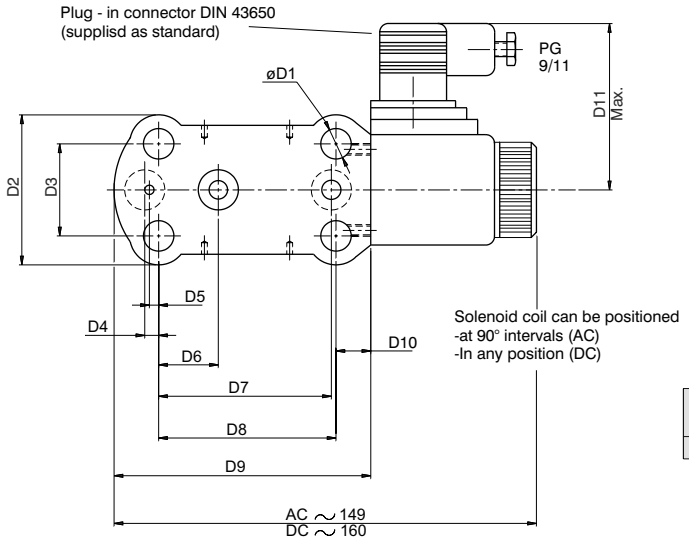
Solenoid Voltage

W01 - 115V/60 Hz AC	GOR - 12V DC
W02 - 230V/60 Hz AC	GOQ - 24V DC
W06 - 115V/50 Hz AC	GOH - 48V DC
W07 - 230V/50 Hz AC	

Installation

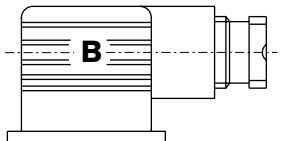
Weight (VVV01) : 3.73 lbs (1.7 kg)





	Dimensions	
	in	mm
C1	1.85	47.0

Note :
For VVV01 with DC solenoid, plug-in connectors must be ordered separately.



Versions	
Standard < 250 VPG 11	V167-01008-8
With LED (red) 15 .. 30 V	V167-01101-8
With bridge rectifier 12 .. 250 V	V167-01014-8

	Dimensions	
	in	mm
D1	ø0.41	ø10.5
D2	2.03	51.8
D3	1.25	31.8
D4	0.18	4.8
D5	0.12	3.2
D6	0.81	20.6
D7	2.31	58.7
D8	2.37	60.3
D9	3.49	88.7
D10	0.51	13.0
D11	2.75	70.0