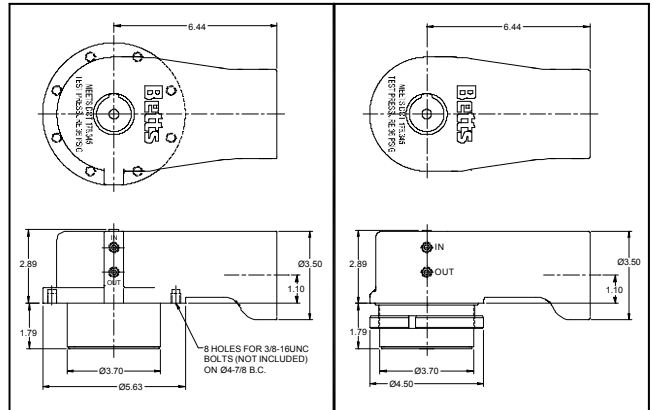
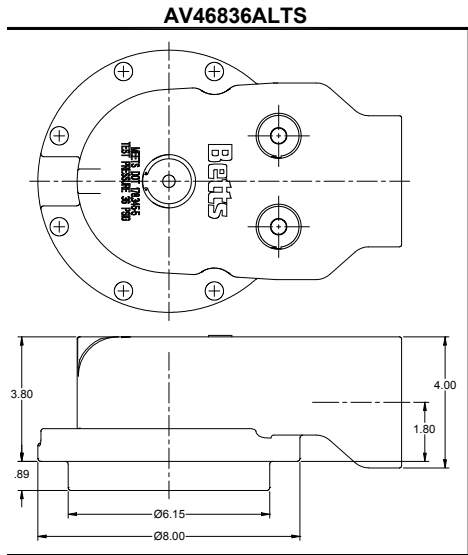


Vapor Recovery Vents

Betts

Bolted Model: AV46850ALTS

Threaded Model: AV46855ALTS

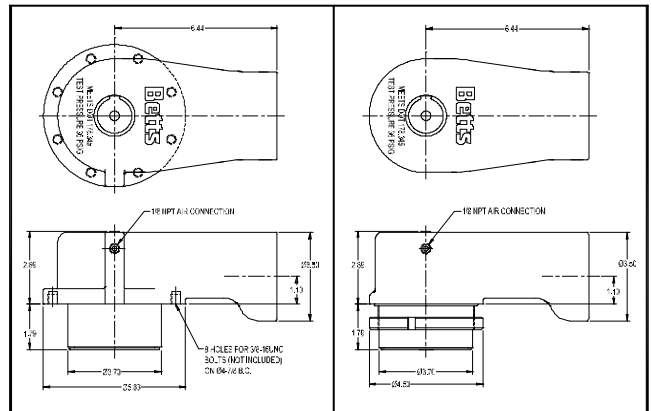


Betts 3-1/2" Sequential Vapor Valves are designed for use as positive vapor recovery valves on cargo tanks

Sequential Vent

Bolted Model: AV46865ALTS

Threaded Model: AV46864ALTS



Non-Sequential Vent

Sequential Vapor Valve is designed for use as a positive vapor recovery valve or

Civacon



T195SV

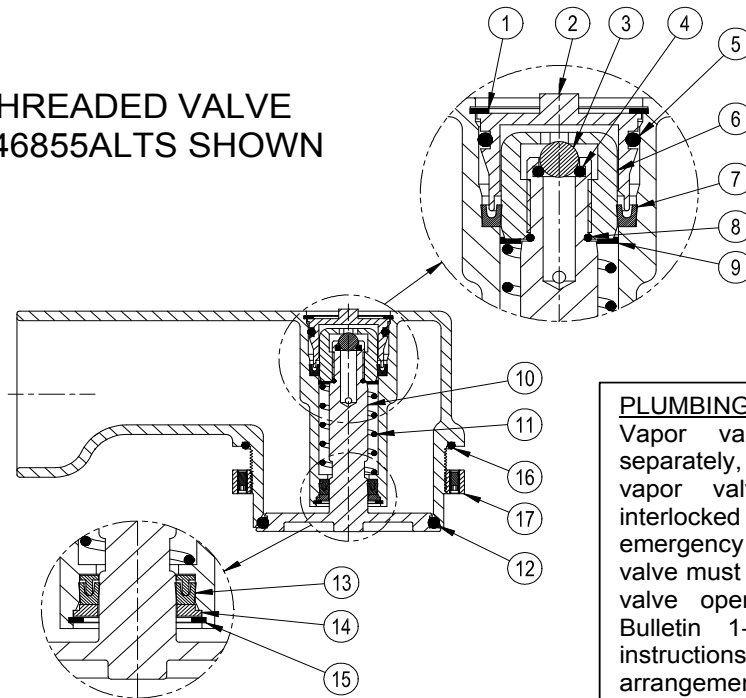


T196SV

PARTS LIST

3-1/2" Aluminum Vapor Valve

THREADED VALVE
 AV46855ALTS SHOWN


PLUMBING INFORMATION:

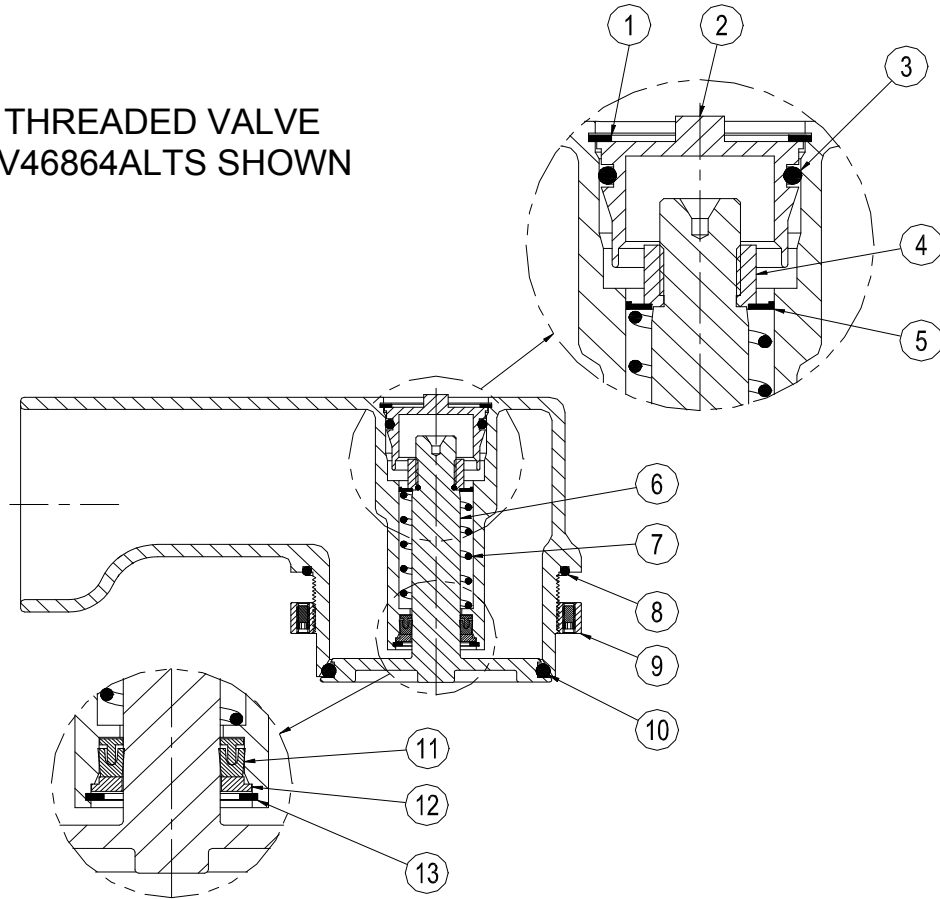
Vapor valves may be plumbed separately, in sequence with other vapor valves, or they may be interlocked with an air operated emergency valve so that the vapor valve must open before the emergency valve opens. Refer to Engineering Bulletin 1-2001 for more detailed instructions on suggested plumbing arrangements.

NO.	REQ'D	DESCRIPTION	MATERIAL	Part No.	
				Bolted Style	Threaded Style
1	1	Retaining Ring – Cap	Steel/Zn Plt.	9Q4977	9Q4977
2	1	Air Cylinder Cap	Alum./E-coat	19957ALEY	19957ALEY
3	1	Interlock Ball	Steel/Chrome	9Z4856	9Z4856
4	1	O-ring – Interlock	Buna	19467BN	19467BN
5	1	O-ring – Cap	Buna	19971BN	19971BN
6	1	Piston	303 SS	19956SL	19956SL
7	1	Seal – Piston	PTFE/SS	19972SSTF	19972SSTF
8	1	O-ring - Piston	Buna	19931BN	19931BN
9	1	Spring Retainer Washer	Brass	19959BR	19959BR
10	1	O-ring Holder & Stem	Alum.	28033AL	28033AL
11	1	Spring	302 SS	19960SL	19960SL
12	1	O-ring – Seat	Tef-Sil	19930TS	19930TS
13	1	Seal – Shaft	PTFE/SS	19973SSTF	19973SSTF
14	1	Shaft Seal Retainer	Alum.	19958AL	19958AL
15	1	Retaining Ring – Shaft Seal	Steel/Zn Plt.	9Q4976	9Q4976
16	1	O-ring – Mounting	Viton	N.A.	17657VT
17	1	Mounting Ring w/ Set Screws	Alum.	N.A.	19950AL

PARTS LIST

3-1/2" Aluminum Vapor Valve

THREADED VALVE
AV46864ALTS SHOWN

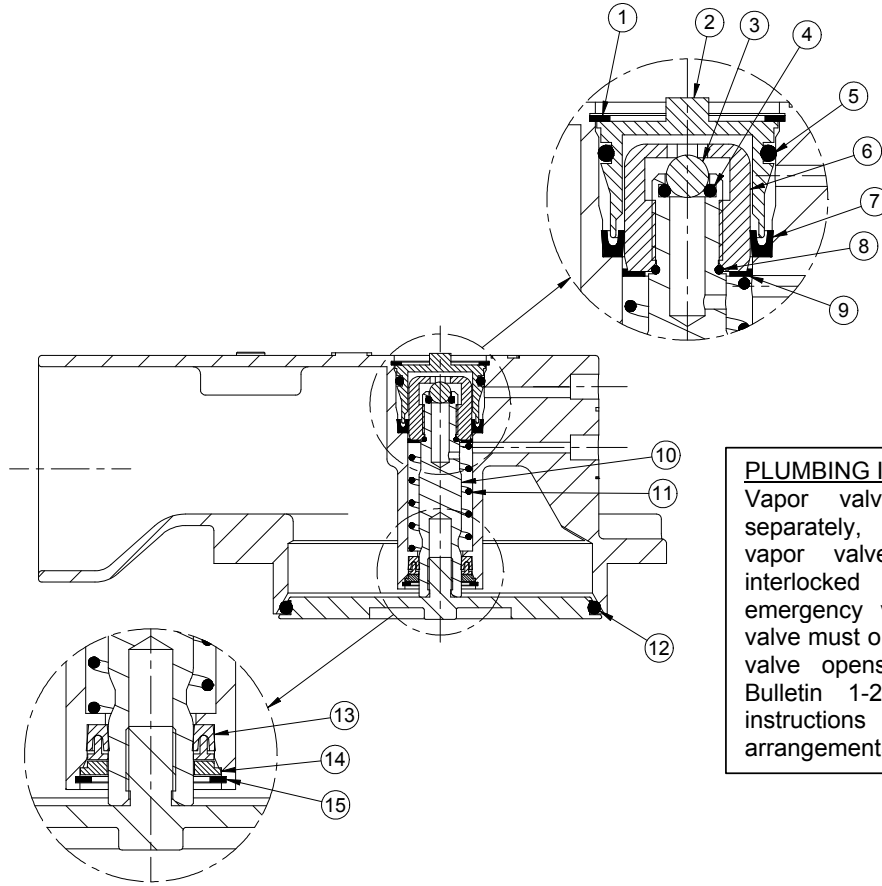


NO.	REQ'D	DESCRIPTION	MATERIAL	Part No.	
				Bolted Style	Threaded Style
1	1	Retaining Ring – Cap	Steel/Zn Plt.	9Q4977	9Q4977
2	1	Air Cylinder Cap	Alum./E-coat	19957ALEY	19957ALEY
3	1	O-ring - Cap	Buna	19971BN	19971BN
4	1	Spring Retainer Nut	Alum.	19934AL	19934AL
5	1	Spring Retainer Washer	Brass	19959BR	19959BR
6	1	O-ring Holder & Stem	Alum.	28071AL	28071AL
7	1	Spring	302 SS	19960SL	19960SL
8	1	O-ring - Mounting	Viton	N.A.	17657VT
9	1	Mounting Ring w/ Set Screws	Alum.	N.A.	19950AL
10	1	O-ring - Seat	Tef-Sil	19930TS	19930TS
11	1	Seal - Shaft	PTFE/SS	19973SSTF	19973SSTF
12	1	Shaft Seal Retainer	Alum.	19958AL	19958AL
13	1	Retaining Ring – Shaft Seal	Steel/Zn Plt.	9Q4976	9Q4976

Betts

PARTS LIST

4" Aluminum Vapor Valve

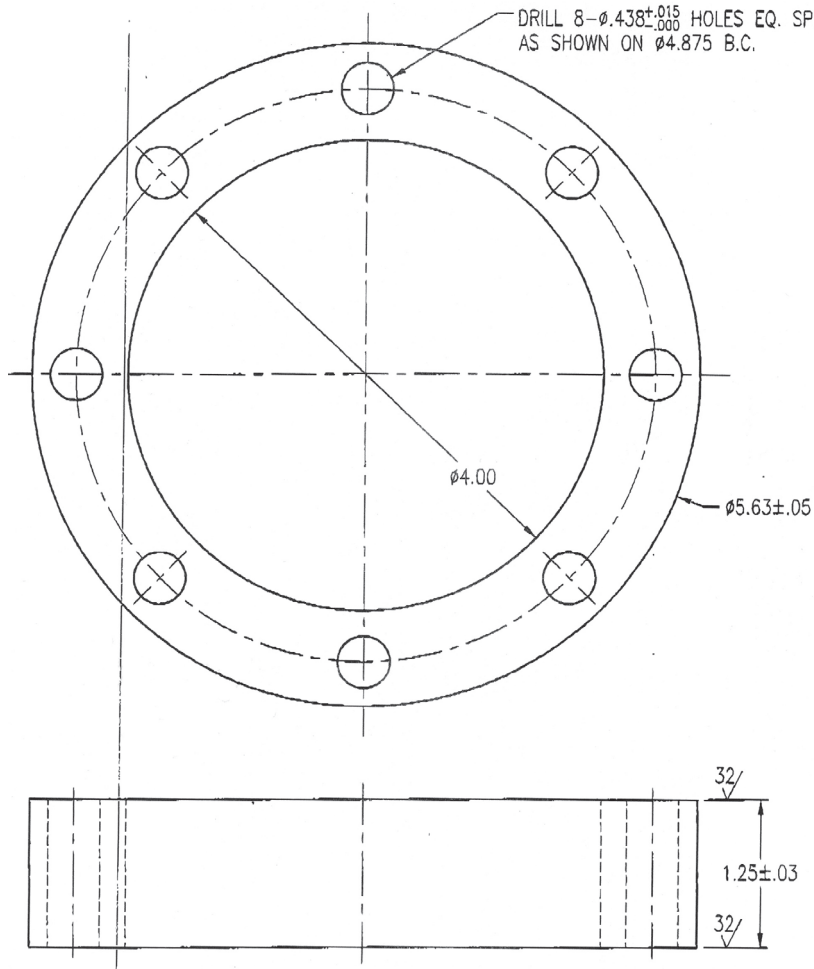


PLUMBING INFORMATION:

Vapor valves may be plumbed separately, in sequence with other vapor valves, or they may be interlocked with an air operated emergency valve so that the vapor valve must open before the emergency valve opens. Refer to Engineering Bulletin 1-2001 for more detailed instructions on suggested plumbing arrangements.

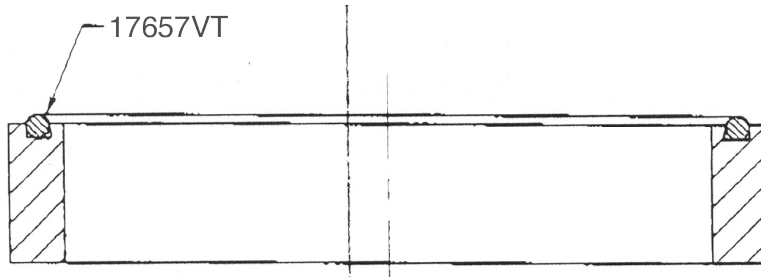
NO.	REQ'D	DESCRIPTION	MATERIAL	Part No.
1	1	Retaining Ring – Cap	Steel/Zn Plt.	9Q4977
2	1	Air Cylinder Cap	Alum./E-coat	19957ALEY
3	1	Interlock Ball	Steel/Chrome	9Z4857
4	1	O-ring – Interlock	Buna	19467BN
5	1	O-ring – Cap	Buna	19971BN
6	1	Piston	303 SS	19956SL
7	1	Seal – Piston	PTFE/SS	19972SSTF
8	1	O-ring - Piston	Buna	19931BN
9	1	Spring Retainer Washer	Brass	19959BR
10	1	O-ring Holder & Stem	Alum.	28117AL
11	1	Spring	302 SS	19960SL
12	1	O-ring – Seat	Tef-Sil	19935TS
13	1	Seal – Shaft	PTFE/SS	19973SSTF
14	1	Shaft Seal Retainer	Alum.	19958AL
15	1	Retaining Ring – Shaft Seal	Steel/Zn Plt.	9Q4976

Spacers for new style vapor vents



75126AL

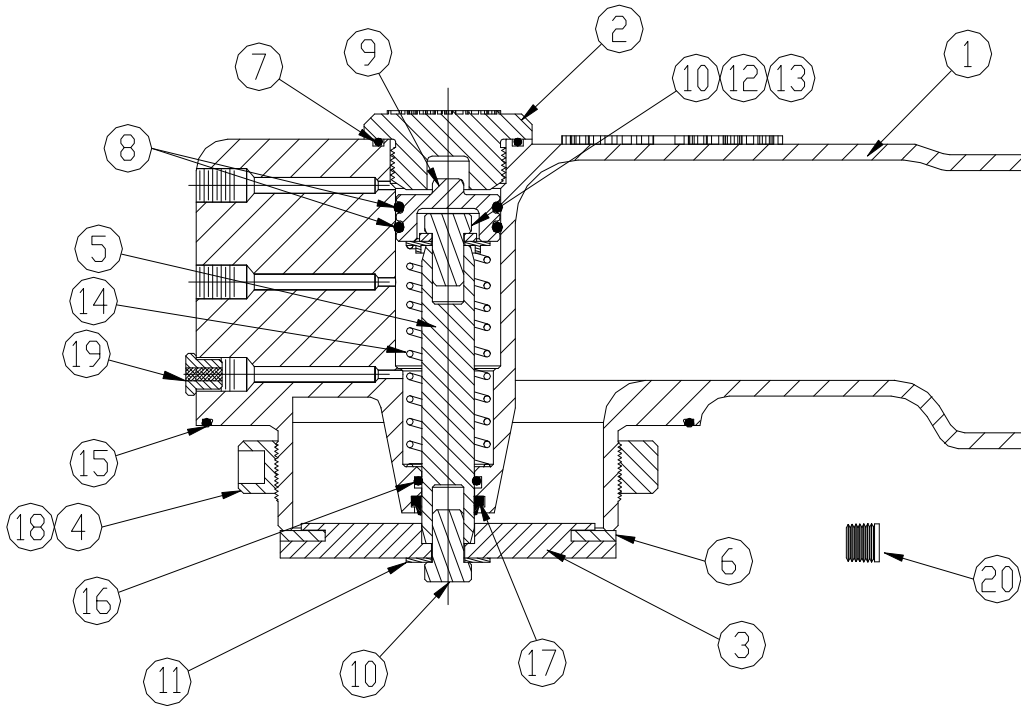
Riser flange for
3" aluminum flange mount
vapor valves



75089ALVT

Riser flange for
3" aluminum threaded
vapor valves

T195SV Vapor Recovery Vent

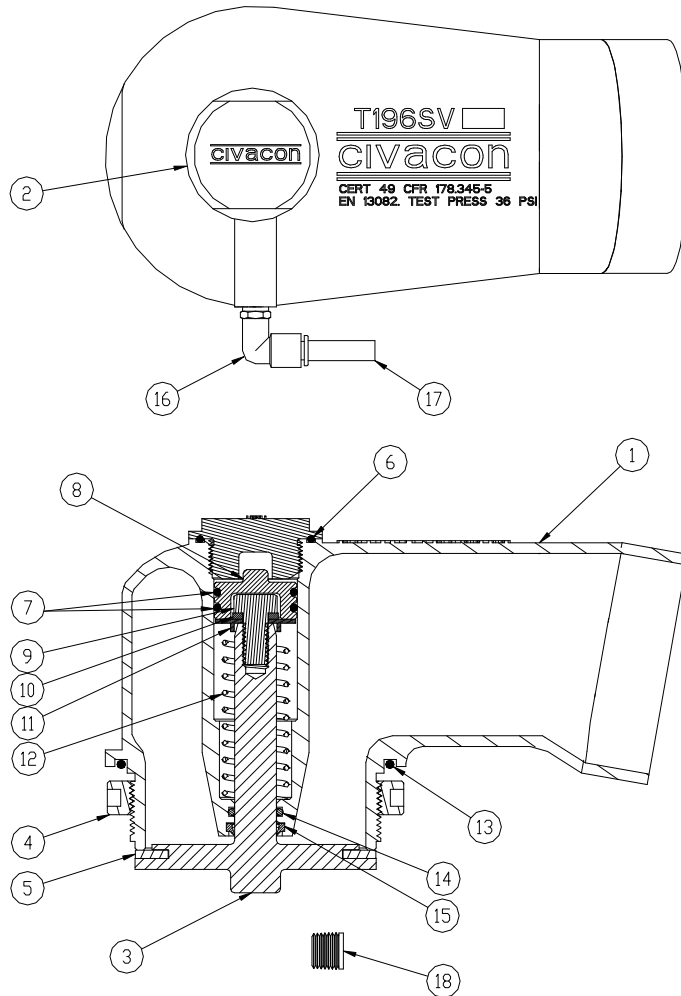


ITEM	PART NUMBER	DESCRIPTION	QTY.
1	11669	BODY, MACHINED	1
2	11672	CAP	1
3	11677	POPPET	1
4	11678	LOCKING RING	1
5	11673	SHAFT	1
6	11699 ¹	GASKET, VITON GF	1
7	11692 ¹	O-RING, VITON GF	1
8	11776 ¹	O-RING, FLUOROSILICON	2
9	11772 ¹	PISTON	1
10	H20518M	SCREW	2
11	11774	SEAL WASHER	1

ITEM	PART NUMBER	DESCRIPTION	QTY.
12	1760	LOCK WASHER	1
13	11990	SPRING GUIDE	1
14	11694	SPRING	1
15	11695 ¹	O-RING, VITON GF	1
16	10681M ¹	O-RING, VITON GF	1
17	11696 ¹	WIPER	1
18	11697	SET SCREW	1
19	11775	EXHAUST FITTING	1
20	H52199M	PLUG, 1/8" NPT	1
REPAIR KITS			
T195SVRK		REPAIR KIT FOR T195SV	

1 - Included in T195SVRK

T196SV Vapor Recovery Vent



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	11964	BODY, MACHINED	1
2	11672	CAP	1
3	11986	POPPET, MACHINED	1
4	H20083M	LOCKING RING	1
5	12007 ¹	GASKET, VITON GF	1
6	11692 ¹	O-RING, VITON GF	1
7	11776 ¹	O-RING, FLUOROSILICON	2
8	11772 ¹	PISTON	1
9	H20518M	SCREW	1
10	1760	LOCK WASHER	1
11	11990	SPRING GUIDE	1

ITEM	PART NUMBER	DESCRIPTION	QTY.
12	11694	SPRING	1
13	H20124M ¹	O-RING, VITON	1
14	10681M ¹	O-RING, VITON GF	1
15	11696 ¹	WIPER	1
16	12066	ELBOW MALE, 1/8" NPT	1
17	12001BK	TUBING, BLACK	1.25"
18	H52199M	PLUG, 1/8" NPT	1

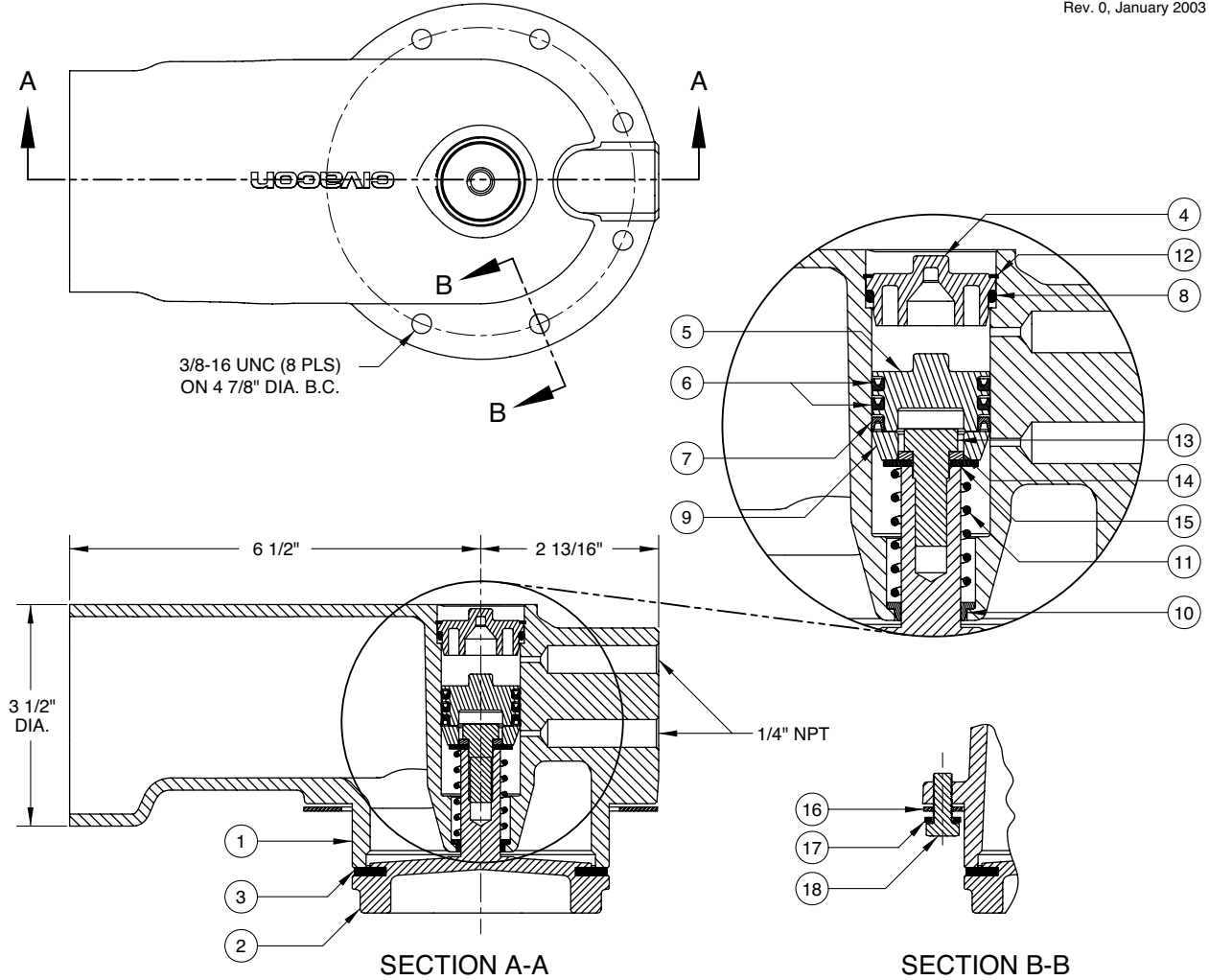
REPAIR KITS	
T196SVRK	REPAIR KIT FOR T196SV

1 - Included in T196SVRK

1985SV 3" Sequential Vapor Vent

Replacement Parts

Rev. 0, January 2003



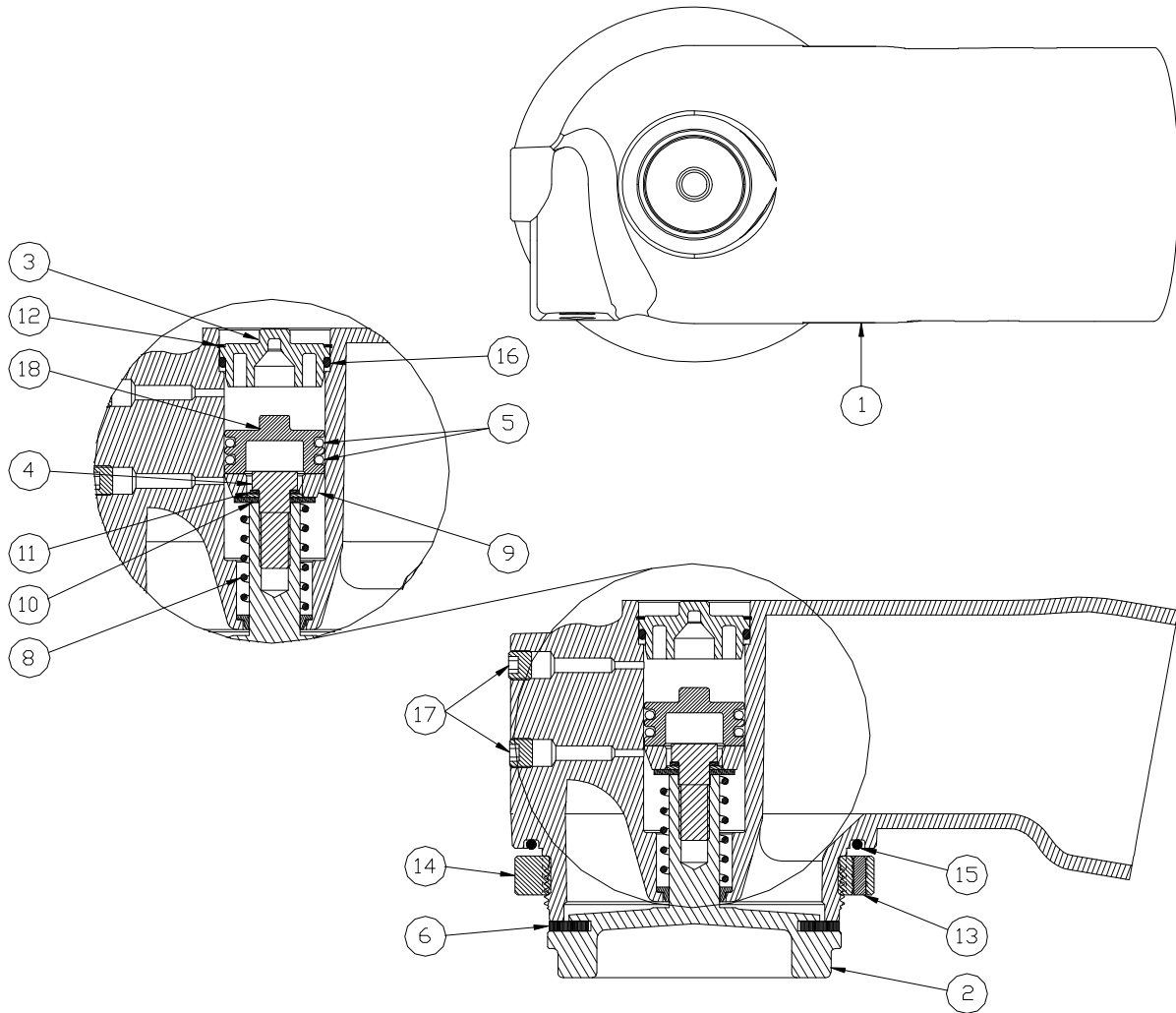
ITEM	PART NUMBER	DESCRIPTION	QTY.
1	E52313A	BODY	1
2	C10010A	POPPET	1
3	H20750M	SEAT DISC (VITON) ¹	1
4	H20516M	PLUG ¹	1
5	C52147RP	PISTON ¹	1
6	H20639M	SEAL (BUNA U-CUP) ¹	2
7	H20206M	SEAL RING (TEFLON)	1
8	H20249M	O-RING (BUNA) ¹	1
9	H52172RP	DISC (ACETAL) ¹	1
10	H20517M	BEARING	1
11	H52179M	SPRING	1

ITEM	PART NUMBER	DESCRIPTION	QTY.
12	H20066M	RETAINING RING	1
13	H20070M	CAP SCREW	1
14	H04467M	WASHER (LOCKING)	1
15	H05487M	WASHER (FLAT)	1
16	C10011M	FLANGE GASKET	1
17	H20074M	SEAL WASHER	8
18	H20518M	CAP SCREW	8

REPAIR KITS		
PART NUMBER	DESCRIPTION	QTY.
1985SVRK	VENT REPAIR KIT	N/A

1 - Included in 1985SVRK

1986SV 3" Sequential Vapor Vent



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	E52162A	MACHINED BODY	1
2	C10045A	MACHINED POPPET	1
3	H20516M ¹	PLUG, DELRIN	1
4	H20070M	SCREW, 3/8-24 X 1 SS	1
5	11776 ¹	O-RING, FLOUROSILICONE	2
6	H20749M ¹	GASKET, VITON	1
7	H52172RP ¹	DISC, ACETAL	1
8	H52179M	SPRING	1
9	H20517M	BEARING, DELRIN	1
10	H05487M	WASHER	1
11	H04467M	LOCK WASHER	1

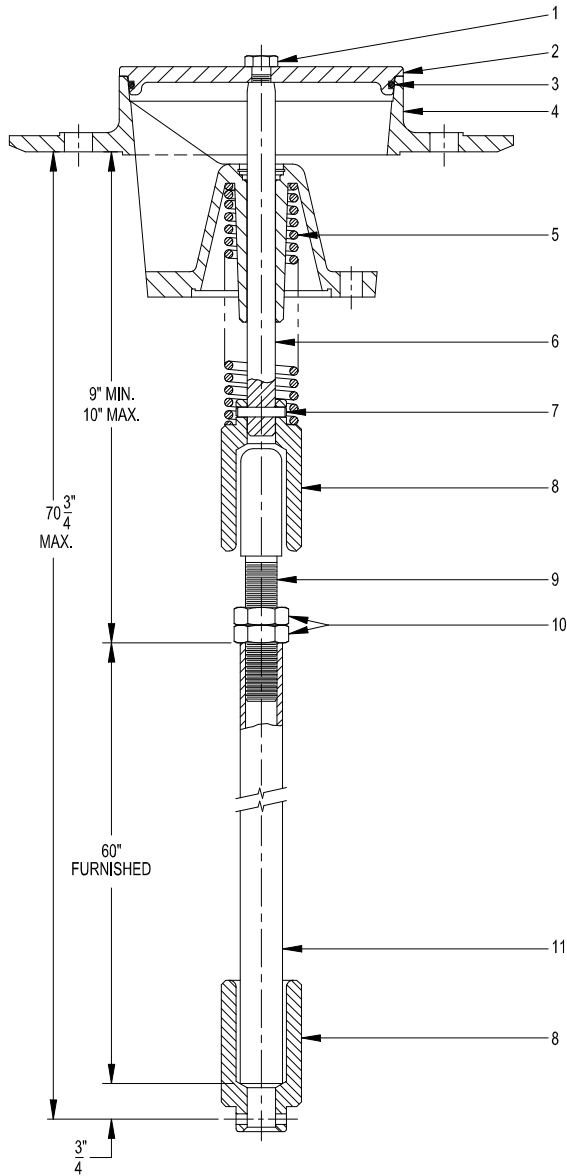
ITEM	PART NUMBER	DESCRIPTION	QTY.
12	H20066M ¹	RETAINING RING	1
13	H20123M	SET SCREW	1
14	H20083M	LOCKING RING	1
15	H20124M	O-RING, VITON	1
16	H20249M ¹	O-RING, BUNA-N	1
17	H52199M	PLUG, 1/8 NPT	2
18	11772 ¹	PISTON	1

REPAIR KITS	
1986SVRK	VENT REPAIR KIT

¹Included in 1986SVRK

Betts

5" Push Vent



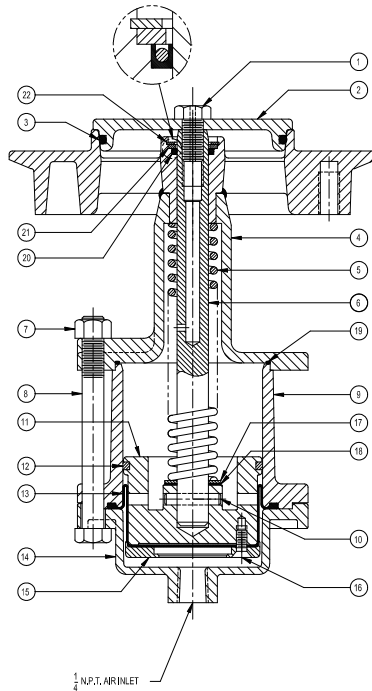
No.	Description	Req.	Material	Part No.
1	Cap Screw $\frac{3}{8}$ -16x $\frac{3}{4}$	1	Stnls	9Q5884
2	O-Ring Holder	1	Alum	26909AL
3	O-Ring	1	Tef/Sil	18250TS
4	Body	1	Alum	45736AL
5	Spring	1	Stnls	17052SL
6	Stem	1	Alum	16971AL
7	Spirol Pin $\frac{3}{16}$ x1	1	Stnls	9Q5901
8	Spring Retainer	2	Alum	16974AL
9	Adjusting Bar	1	Alum	16554AL
10	Hex Jam Nuts $\frac{5}{8}$ -18 Thd	2	Stnls	9Q5868
11	Push Rod	1	Alum	17074AL

Betts

Discontinued - Parts Only

PARTS LIST

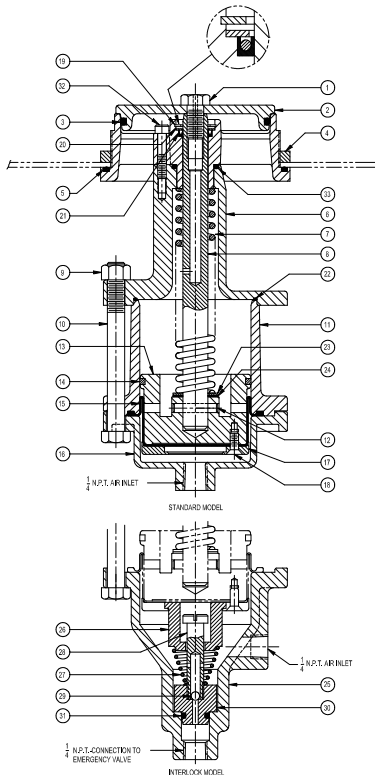
3 1/2" Air-Operated Vent



No.	Description	Req.	Material	Part No.
1	Hex. Hd. Cap Screw	1	Aluminum	18088AL
2	O-Ring Holder	1	Aluminum	17841AL
3	O-Ring	1	Tef/Sil	18106TS
4	Body	1	Aluminum	26818AL
5	Spring	1	"E" Coated Stl.	15956EY
6	Stem	1	Aluminum	16971AL
7	3/8"-16UNC-2A Hex. Nut	3	Stainless	9Q5809
8	3/8"-16UNC-2Ax3 1/4 Hex. Hd. Bolt	3	Stainless	9Q5891
9	Cylinder	1	Aluminum	26368AL
10	3/16 X 1 Spirol Pin	1	Stainless	9Q5901
11	Piston	1	Aluminum	26376AL
12	Wear Ring	1	Teflon	17213TF
13	Diaphragm	1	Hydrin	17212HD
			Fluorosilicone	17212FS
14	End Cap	1	Aluminum	26369AL
15	Retainer Plate	1	Aluminum	17196AL
16	Machine Screw	3	Steel Zinc. Plt.	9Q5892
17	Washer	1	Aluminum	17419AL
18	Washer	1	Teflon	17419TF
19	O-Ring	1	Viton	18108VT
20	Seal-Stem	1	Teflon	19326TF
21	Washer	1	Aluminum	17928AL
22	Lock-Ring	1	Stainless	9Q4929

PARTS LIST

Air-Operated Vents

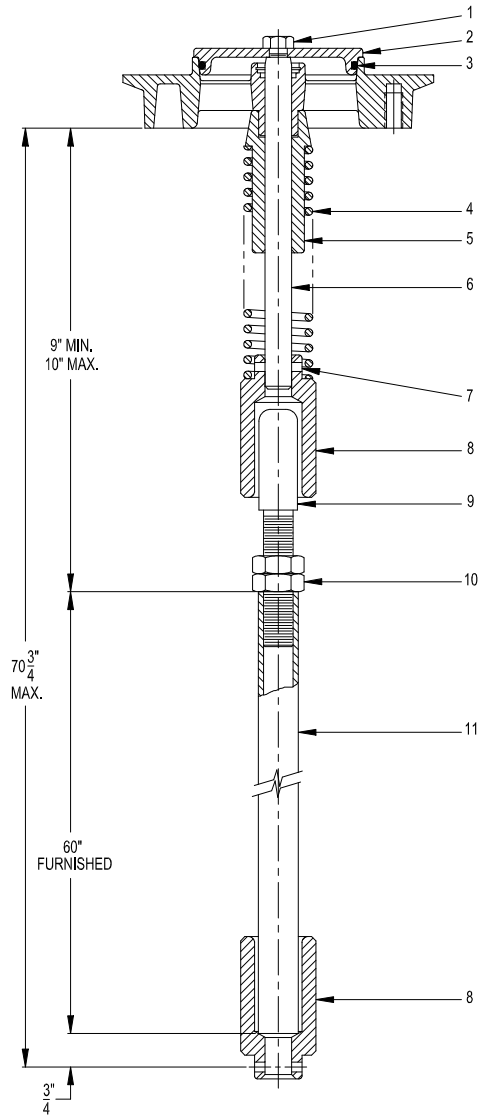


No.	Description	Req.	Material	Part No.
1	Hex. Hd. Cap Screw	1	Aluminum	18088AL
2	O-Ring Holder	1	Aluminum	17841AL
3	O-Ring	1	Tef/Sil	18106TS
4	Mounting Ring	1	Aluminum	17567AL
5	O-Ring	1	Viton	17657VT
6	Body	1	Aluminum	26816AL
7	Spring	1	"E" Coated Stl.	15956EY
8	Stem	1	Aluminum	16971AL
9	3/8"-16UNC-2A Hex. Nut	3	Stainless	9Q5809
10	3/8"-16UNC-2Ax3 1/4 Hex. Hd. Bolt	3	Stainless	9Q5891
11	Cylinder	1	Aluminum	26368AL
12	3/16 X 1 Spirol Pin	1	Stainless	9Q5901
13	Piston	1	Aluminum	26376AL
14	Wear Ring	1	Teflon	17213TF
15	Diaphragm	1	Hydrin	17212HD
			Fluorosilicone	17212FS
16	End Cap	1	Aluminum	26369AL
17	Retainer Plate	1	Aluminum	17196AL
18	Machine Screw	3	Steel	9Q5892
19	Lock-Ring	1	Stainless	9Q4929
20	Washer	1	Aluminum	17928AL
21	Seal-Stem	1	Teflon	19326TF
22	O-Ring	1	Viton	18108VT
23	Washer	1	Aluminum	17419AL
24	Washer	1	Teflon	17419TF
25	End Cap	1	Aluminum	26370AL
26	Hub	1	Aluminum	17053AL
27	Spring	1	Stainless	16041SL
28	Stem	1	Aluminum	15948AL
29	3/16 Dia. Ball	1	Stainless	9Z4853
30	O-Ring Holder	1	Aluminum	18140AL
31	O-Ring	1	Buna-N	18141BN
32	#10-32UNF-2A x 1 Lg. SHCS	3	Stainless	9Q5049
33	O-Ring	1	Tef/Sil	16844TS

Betts

Discontinued - Parts Only

3 1/2" Push Vent



PARTS LIST

No.	Description	Req.	Material	Part No.
1	Cap Screw $3/8$ -16x $3/4$	1	Stnls	9Q5884
2	Disc Holder	1	Alum	17841AL
3	O-Ring	1	Tef/Sil	18106TS
4	Spring	1	Stnls	17052SL
5	Body	1	Alum	26856AL
6	Stem	1	Alum	16971AL
7	Spirol Pin $3/16$ x1	1	Stnls	9Q5901
8	Spring Retainer	2	Alum	16974AL
9	Adjusting Bar	1	Alum	16554AL
10	Hex Jam Nuts $5/8$ -18 Thd	2	Stnls	9Q5868
11	Push Rod	1	Alum	17074AL

Vent Accessories

EMISSION COLLECTION HOOD

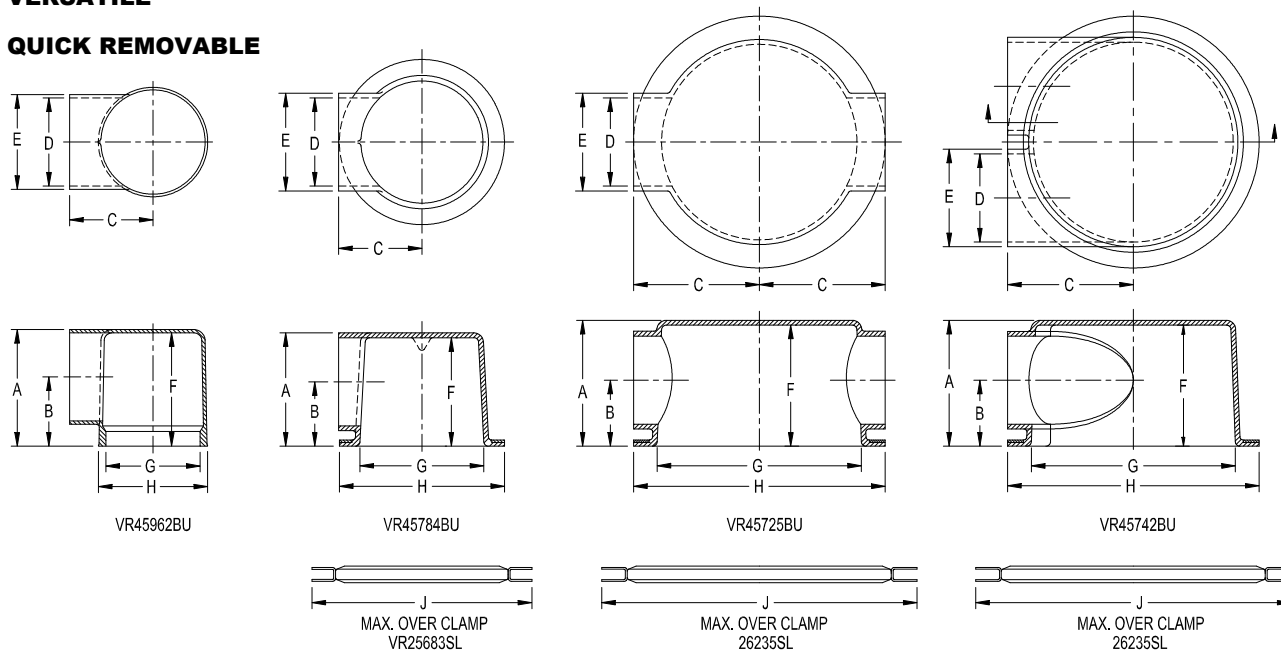
Use with Betts Push Type
or Air Operated Vents

ATTACHES TO POSITIVE VENT

MOLDED URETHANE

VERSATILE

QUICK REMOVABLE



The Betts emission collection hood provides an economical means of collecting the vapors generated while filling the tank. The hood is designed to collapse in case of rollover without adversely affecting the product retention of the cargo tank. Large hoods with two outlets are provided with end cap for lugging one outlet, if necessary.

NOTE: Effective protection against overfilling should be provided.

*To order hood assemblies less mounting clamp, add suffix "001" to assembly number.
Example: VR45725BU001

DIMENSIONS

MODEL	A	B	C	D	E	F	G	H	J
45742	5	2 ⁵ / ₈	5	3 ¹ / ₂	3 ¹ / ₈	4 ¹³ / ₁₆	8 ¹ / ₈	10	12 ¹ / ₄
45725	5	2 ⁵ / ₈	5	3 ¹ / ₂	3 ¹ / ₈	4 ¹³ / ₁₆	8 ¹ / ₈	10	12 ¹ / ₄
45784	4 ¹ / ₂	2 ⁹ / ₁₆	3 ³ / ₈	3 ¹ / ₂	3 ³ / ₈	4 ⁵ / ₁₆	4 ¹⁵ / ₁₆	6 ⁵ / ₈	8 ³ / ₄
45962	4 ⁵ / ₈	2 ⁷ / ₈	3 ⁵ / ₁₆	3 ⁹ / ₁₆	3 ¹³ / ₁₆	4 ¹ / ₂	3 ¹³ / ₁₆	4 ⁷ / ₁₆	---

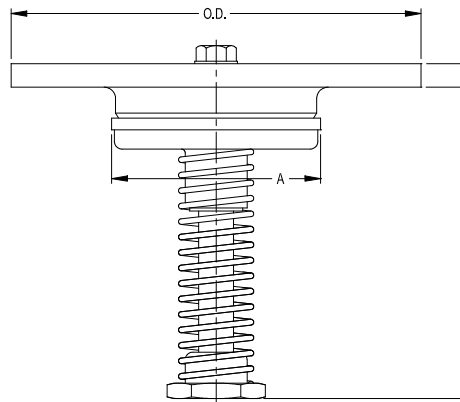
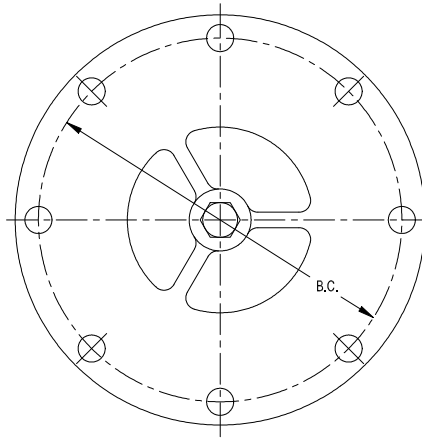
Description	Material	Wt.	Assembly No.
* Two Outlets – 180° Apart	Urethane	3.5	VR45725BU
Two Outlets – Same Side			VR45742BU
Includes mounting clamp 26235SL, two outlet clamp 17191SL, and coupling cap 16968AL, and one coupling 16451AL.			
These hoods designed for 5" vents.			
NOTE: Mounting flange may be drilled to fit the bolt circle of other vents.			
One Outlet (small size)	Urethane	2.1	VR45784BU
* Includes mounting clamp VR25683SL, outlet clamp 17191SL, and coupling 16451AL.			
This hood designed for 3 ¹ / ₂ " bolted style vents.			
One Outlet (small size)	Urethane	1	VR45962BU
Indicates mounting clamp 17630SL, outlet clamp 17191, and coupling 16451AL.			
This hood designed for 3 ¹ / ₂ " threaded style vents.			

Vents

VAPOR SYSTEM VENT

Inbreathing Vent

EASILY INSTALLED
ADDS TANK PROTECTION
THRU AREA – SIX SQUARE INCHES



Dimensions

A	B	C	Mounting Flange				Disc Travel
			O.D.	B.C.	N.H.	S.H.	
3 ³ / ₈	5/ ₈	4 ¹³ / ₁₆	6 ⁵ / ₈	5 ⁷ / ₈	8	7 ⁷ / ₁₆	2"

Note: When vent is mounted in tubing, a 4³/₈ Minimum I.D. is required to provide sufficient area around disc holder assembly.

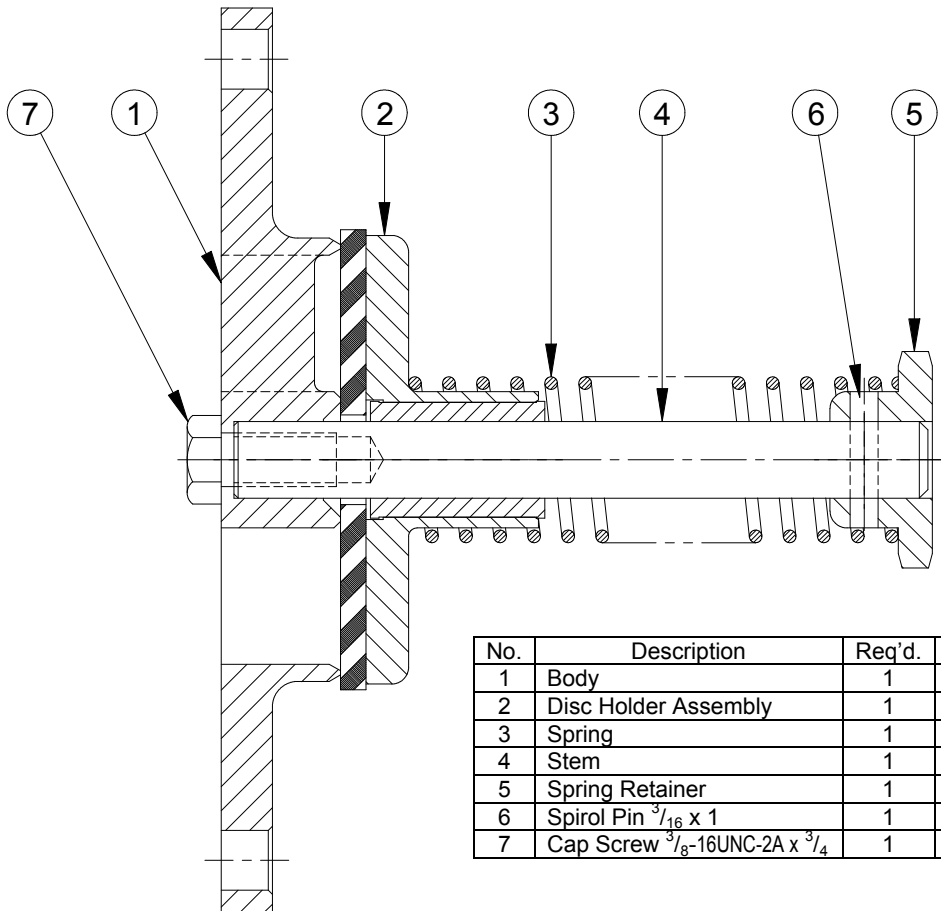
Opening Pressure: 6 oz. per sq. in.
Venting Capacity Air:
12,000 cu. ft. hr./1 psig

A supplemental vent designed for installation in tank vehicle vapor recovery system to provide venting protection in the event the vapor recovery system should be closed or blocked while discharging product from the tank. This vent mounts to a 4" TTMA flange.

Description	Material	Wt.	Assembly No.
Vent Assembly	Aluminum/Stainless with Buna-N Disc	2.0	PV26364-AL-B
Gasket	Cork-Buna-N		RGA 401-CB

PARTS LIST

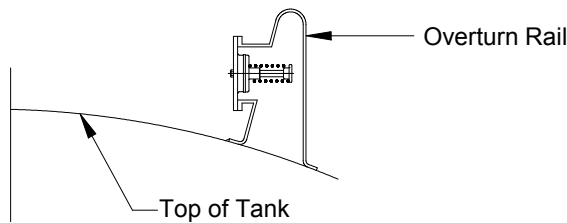
VAPOR SYSTEM VENT



No.	Description	Req'd.	Material	Part No.
1	Body	1	Aluminum	26381AL
2	Disc Holder Assembly	1	Alum/Buna-N	17209AB
3	Spring	1	Steel "E" Coated	17192EY
4	Stem	1	Stainless	17205SL
5	Spring Retainer	1	Aluminum	17051AL
6	Spirol Pin $\frac{3}{16} \times 1$	1	Stainless	9Q5901
7	Cap Screw $\frac{3}{8}$ -16UNC-2A x $\frac{3}{4}$	1	Stainless	9Q5884

INSTALLATION

Vent is designed to bolt to a standard 4" TTMA outlet flange. A minimum $4\frac{3}{8}$ " I.D. should be provided to allow sufficient venting area between the O.D. of disc holder and I.D. of mounting. Care should be taken to provide adequate space for the spring end of the vent.



NOTE: The above is not intended to be a recommendation that overturn rails be used for conduits in vapor recovery system or that vent must be mounted as shown. It merely shows one type of mounting to illustrate that clearance is needed for the spring end of vent to insure proper operation.