

SEWON

EMERGENCY MANHOLE COVER VENT



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WEIGHT LOADED EMERGENCY VENT

SPRING LOADED EMERGENCY VENT

SEWON SEA CONVENTIONAL EMERGENCY VENT

MODEL SEA
EMERGENCY VENT

NOMINAL SIZE	CONNECTIONS
• 16", 18", 20", and 24" • Other sizes or specifications are available upon request.	• API 650 Flange drilling (For 20" & 24" only) • ANSI/ASME 150lbs Flange drilling • KS/JIS 5K Flange drilling • KS/JIS 10K Flange drilling

ENABLES EMERGENCY RELIEF WHEN FIRE EXPOSURE

REMAINS CLOSED POSITION WHEN NORMAL OPERATING CONDITION

CAN BE USED AS MANHOLE COVER FOR STORAGE TANK
MAINTENANCE

AIR-CUSHION PALLET REDUCES THE VAPOR LEAKAGE FROM
STORAGE TANK



SPECIFICATIONS >>>>>>

INSTALLATION	VERTICAL
TYPE	WEIGHT LOADED, CONVENTIONAL VENT
SET PRESSURE	MAXIMUM 700mmH2O

USE SPRING LOADED EMERGENCY VENTS WHEN THE SET PRESSURE OVER 700 mmH2O.
OTHER SPECIFICATIONS ARE AVAILABLE. CONSULT OUR FACTORY.

DRILLING CONFORMING TO API 650, ANSI/ASME B16.5 FOR CLASS 150 FLANGES, OR KS/JIS 5K/10K
FLANGES. OTHER STANDARDS ARE AVAILABLE ON CUSTOMER'S REQUEST. CONSULT OUR FACTORY FOR
SPECIAL APPLICATION OR SPECIAL DESIGN.

..... MATERIALS

PART NAME	MATERIALS	
	STANDARD	OPTIONAL
BODY	CARBON STEEL	304 S.S, 316 S.S, ALUMINUM
PALLET	304 S.S	316 S.S
WEIGHT	A36	304 S.S
DIAPHRAGM / O-RING	TEFLON® (DIAPHRAGM SEAL)	NBR, VITON® (O-RING SEAL)

*Other Special materials are available upon customer's request.

..... BASIC ORDERING INFORMATION

1. MODEL AND TYPE
2. TANK DIAMETER AND HEIGHT
3. TANK TYPE
4. DESIGN PRESSURE OF THE TANK
5. FLUID HANDLING
6. SIZE AND CONNECTION
7. MATERIAL

SEWON SEB CONVENTIONAL EMERGENCY VENT

MODEL SEB EMERGENCY VENT

NOMINAL SIZE	CONNECTIONS
16", 18", 20", and 24" - Other sizes are available upon request.	- API 650 Flange drilling (For 20" & 24" only) - ANSI/ASME 150lbs Flange drilling - KS/JIS 5K Flange drilling - KS/JIS 10K Flange drilling

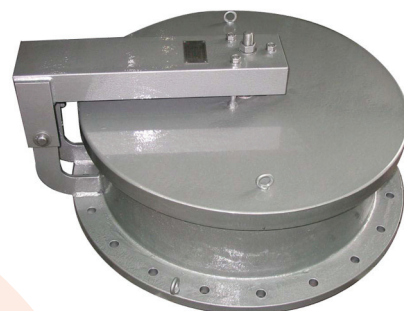
ENABLES EMERGENCY RELIEF WHEN FIRE EXPOSURE

REMAINS CLOSED POSITION WHEN NORMAL OPERATING CONDITION

THE DESIGN ALSO ALLOWS CONVENIENT ACCESS THROUGH THE VENT FOR TANK INSPECTION AND MAINTENANCE

AIR-CUSHION PALLET REDUCES THE VAPOR LEAKAGE FROM STORAGE TANK

DRILLING CONFORMING TO API 650, ANSI/ASME B16.5 FOR CLASS 150 FLANGES, OR KS/JIS 5K/10K FLANGES. OTHER STANDARDS ARE AVAILABLE ON CUSTOMER'S REQUEST. CONSULT OUR FACTORY FOR SPECIAL APPLICATION OR SPECIAL DESIGN.



SPECIFICATIONS >>>>>>

INSTALLATION	VERTICAL
TYPE	WEIGHT LOADED, CONVENTIONAL VENT WITH HINGE MECHANISM
SET PRESSURE	MAXIMUM 700mmH2O

EMERGENCY VENT COVER

..... MATERIALS

PART NAME	MATERIALS	
	STANDARD	OPTIONAL
BODY	CARBON STEEL	304 S.S, 316 S.S, ALUMINUM
PALLET	304 S.S	316 S.S
WEIGHT	A36	304 S.S
DIAPHRAGM / O-RING	TEFLON® (DIAPHRAGM SEAL)	NBR, VITON® (O-RING SEAL)

*Other Special materials are available upon customer's request.

..... BASIC ORDERING INFORMATION

1. MODEL AND TYPE
2. TANK DIAMETER AND HEIGHT
3. TANK TYPE
4. DESIGN PRESSURE OF THE TANK
5. FLUID HANDLING
6. SIZE AND CONNECTION
7. MATERIAL

NOMINAL SIZE	CONNECTIONS
• 16", 18", 20", and 24" • Other sizes are available upon request.	• API 650 Flange drilling (For 20" & 24" only) • ANSI/ASME 150lbs Flange drilling • KS/JIS 5K Flange drilling • KS/JIS 10K Flange drilling

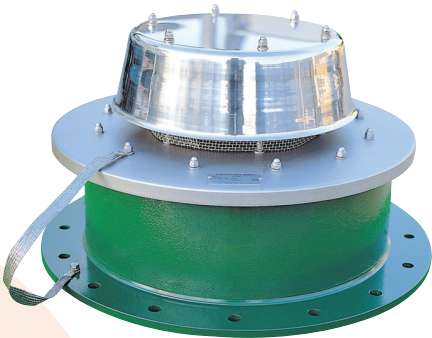
INCORPORATES A VACUUM RELIEF, AND ENABLES PRESSURE AND VACUUM RELIEF WHEN EMERGENCY CONDITION

DESIGNED TO OPEN AND PROVIDE PRESSURE RELIEF BEYOND THE CAPACITY OF THE NORMAL BREATHER VENTS

REMAINS CLOSED POSITION WHEN NORMAL OPERATING CONDITION

AIR-CUSHION PALLET REDUCES THE VAPOR LEAKAGE FROM STORAGE TANK

DRILLING CONFORMING TO API 650, ANSI/ASME B16.5 FOR CLASS 150 FLANGES, OR KS/JIS 5K/10K FLANGES. OTHER STANDARDS ARE AVAILABLE ON CUSTOMER'S REQUEST. CONSULT OUR FACTORY FOR SPECIAL APPLICATION OR SPECIAL DESIGN.



SPECIFICATIONS >>>>>>

INSTALLATION	VERTICAL
TYPE	WEIGHT LOADED, CONVENTIONAL EMERGENCY PRESSURE AND VACUUM RELIEF VENT
SET PRESSURE	MAXIMUM 700mmH2O

..... MATERIALS

PART NAME	MATERIALS	
	STANDARD	OPTIONAL
BODY	CARBON STEEL	304 S.S, 316 S.S, ALUMINUM
PALLET	304 S.S	316 S.S
WEIGHT	A36	304 S.S
DIAPHRAGM / O-RING	TEFLON® (DIAPHRAGM SEAL)	NBR, VITON® (O-RING SEAL)
WEATHER HOOD	304 S.S	316 S.S, ALUMINUM

*Other Special materials are available upon customer's request.

..... BASIC ORDERING INFORMATION

1. MODEL AND TYPE
2. TANK DIAMETER AND HEIGHT
3. TANK TYPE
4. DESIGN PRESSURE OF THE TANK
5. FLUID HANDLING
6. SIZE AND CONNECTION
7. MATERIAL

SEWON SEVH CONVENTIONAL EMERGENCY VENT

MODEL SEVH EMERGENCY VENT

NOMINAL SIZE	CONNECTIONS
• 16", 18", 20", and 24" • Other sizes are available upon request.	• API 650 Flange drilling (For 20" & 24" only) • ANSI/ASME 150lbs Flange drilling • KS/JIS 5K Flange drilling • KS/JIS 10K Flange drilling

ENABLES PRESSURE AND VACUUM RELIEF WHEN EMERGENCY CONDITION

REMAINS CLOSED POSITION WHEN NORMAL OPERATING CONDITION

AIR-CUSHION PALLET REDUCES THE VAPOR LEAKAGE FROM STORAGE TANK

PALLET ASSEMBLY CLOSES AND RESEATS WHEN THE PRESSURE IS REDUCED

DRILLING CONFORMING TO API 650, ANSI/ASME B16.5 FOR CLASS 150 FLANGES, OR KS/JIS 5K/10K FLANGES. OTHER STANDARDS ARE AVAILABLE ON CUSTOMER'S REQUEST. CONSULT OUR FACTORY FOR SPECIAL APPLICATION OR SPECIAL DESIGN.



SPECIFICATIONS >>>>>>

INSTALLATION TYPE	VERTICAL
SET PRESSURE	WEIGHT LOADED, CONVENTIONAL EMERGENCY PRESSURE AND VACUUM RELIEF VENT WITH HINGE MECHANISM
	MAXIMUM 700mmH2O

EMERGENCY VENT COVER

..... MATERIALS

PART NAME	MATERIALS	
	STANDARD	OPTIONAL
BODY	CARBON STEEL	304 S.S, 316 S.S, ALUMINUM
PALLET	304 S.S	316 S.S
WEIGHT	A36	304 S.S
DIAPHRAGM / O-RING	TEFLON® (DIAPHRAGM SEAL)	NBR, VITON® (O-RING SEAL)
WEATHER HOOD	304 S.S	316 S.S, ALUMINUM

*Other Special materials are available upon customer's request.

..... BASIC ORDERING INFORMATION

1. MODEL AND TYPE
2. TANK DIAMETER AND HEIGHT
3. TANK TYPE
4. DESIGN PRESSURE OF THE TANK
5. FLUID HANDLING
6. SIZE AND CONNECTION
7. MATERIAL

SEWON SEAS SPRING LOADED EMERGENCY VENT

MODEL SEAS EMERGENCY VENT

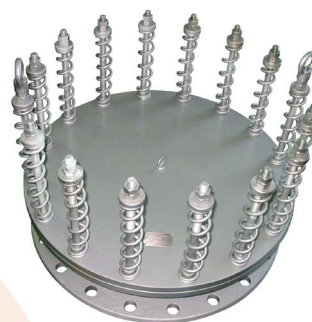
NOMINAL SIZE	CONNECTIONS
16", 18", 20", and 24" - Other sizes are available upon request.	- API 650 Flange drilling (For 20" & 24" only) - ANSI/ASME 150lbs Flange drilling - KS/JIS 5K Flange drilling - KS/JIS 10K Flange drilling

ENABLES PRESSURE RELIEF WHEN EMERGENCY CONDITION

REMAINS CLOSED POSITION WHEN NORMAL OPERATING CONDITION

RESEATS WHEN THE OVER-PRESSURE HAS BEEN DISSIPATED

DRILLING CONFORMING TO API 650, ANSI/ASME B16.5 FOR CLASS 150 FLANGES, OR KS/JIS 5K/10K FLANGES. OTHER STANDARDS ARE AVAILABLE ON CUSTOMER'S REQUEST. CONSULT OUR FACTORY FOR SPECIAL APPLICATION OR SPECIAL DESIGN.



SPECIFICATIONS >>>>>>

INSTALLATION

VERTICAL

TYPE

SPRING LOADED

SET PRESSURE

1 PSI TO 15 PSI

*FOR FLOW CAPACITY, CONSULT OUR FACTORY.

..... MATERIALS

PART NAME	MATERIALS	
	STANDARD	OPTIONAL
BODY	CARBON STEEL	304 S.S, 316 S.S, ALUMINUM
PALLET	304 S.S	316 S.S
O-RING	VITON	NBR, HNBR
SPRING	304 S.S®	316 S.S

*Other Special materials are available upon customer's request.

..... BASIC ORDERING INFORMATION

1. MODEL AND TYPE
2. TANK DIAMETER AND HEIGHT
3. TANK TYPE
4. DESIGN PRESSURE OF THE TANK
5. FLUID HANDLING
6. SIZE AND CONNECTION
7. MATERIAL

Teflon® is registered trademark of the DuPont Company.
Viton® is registered trademark of DuPont Dow Elastomers.

This information contained herein is subject to change without notice.

VALVE CAPACITY & SIZING

MODEL SEA / SEB / SEV / SEVH, Weight Loaded Type

SEA / SEB / SEV / SEVH, Weight loaded

|| EMERGENCY VENT, PRESSURE RELIEF ||

Set Pressure		Air Flow Rates at 100% overpressure (Double of Set Pressure) in 1,000 Nm ³ /h			
mmH ₂ O	mbar	16"	18"	20"	24"
75	7.4	12.799	16.935	20.277	29.308
100	9.8	14.698	19.304	23.316	33.802
125	12	16.420	21.473	26.047	37.810
150	15	17.995	23.476	28.532	41.437
175	17	19.448	25.338	30.817	44.760
200	20	20.799	27.083	32.938	47.839
225	22	22.065	28.728	34.926	50.721
250	25	23.258	30.286	36.802	53.441
275	27	24.389	31.770	38.583	56.024
300	29	25.467	33.188	40.285	58.493
325	32	26.500	34.548	41.917	60.862
350	34	27.492	35.857	43.489	63.145
375	37	28.449	37.118	45.007	65.351
400	39	29.374	38.337	46.477	67.487
425	42	30.271	39.518	47.904	69.560
450	44	31.142	40.662	49.290	71.573
500	49	32.816	42.851	51.952	75.440
600	59	35.929	46.881	56.893	82.601
700	69	38.780	50.512	61.391	89.092

Notes

- 1) Flow rates listed in above Table are based on full open valves at 100% overpressure.
- 2) If the set pressure is not listed above Table, use liner interpolation.
- 3) If the overpressure is less than 100%, calculate the flow rates using the Factor "C".

|| Example of Flow Rate Calculation ||

Model SEB 24"

Set pressure (P_{set}) = 200mmH₂O (20mbar)Valve inlet pressure (P_{in}) = 265mmH₂O

1. Calculate overpressure

$$\text{Overpressure} = \frac{P_{in} - P_{set}}{P_{set}} \times 100 = 33 \%$$

2. Determine Factor C from right Table.

$$C = 0.82$$

3. Read flow rate at 100% overpressure corresponding specified set pressure. The flow rate is 47,839Nm³/h from above Table.

4. Calculate flow rate at specified inlet pressure

$$\text{Flow rate at 265mmH}_2\text{O} = 0.82 \times 47,839 = 39,228\text{Nm}^3/\text{h}$$

Factor C for less than 100% over-pressure										
%	0	1	2	3	4	5	6	7	8	9
10	0.70	0.71	0.73	0.74	0.74	0.75	0.76	0.76	0.77	0.77
20	0.78	0.78	0.78	0.79	0.79	0.79	0.80	0.80	0.80	0.81
30	0.81	0.81	0.82	0.82	0.82	0.83	0.83	0.83	0.83	0.84
40	0.84	0.84	0.85	0.85	0.85	0.85	0.86	0.86	0.86	0.87
50	0.87	0.87	0.87	0.88	0.88	0.88	0.89	0.89	0.89	0.89
60	0.90	0.90	0.90	0.91	0.91	0.91	0.91	0.92	0.92	0.92
70	0.92	0.93	0.93	0.93	0.94	0.94	0.94	0.94	0.95	0.95
80	0.95	0.95	0.96	0.96	0.96	0.96	0.97	0.97	0.97	0.98
90	0.98	0.98	0.98	0.99	0.99	0.99	0.99	1.00	1.00	1.00

VALVE CAPACITY & SIZING

SEV / SEVH

MODEL SEV / SEVH

|| EMERGENCY VENT, VACUUM RELIEF ||

Set Vacuum		Air Flow Rates at 100% negative overpressure (Double of Set Pressure) in 1,000 Nm3/h			
mmH2O	mbar	16"	18"	20"	24"
-22	-2.2	2.438	2.438	2.438	2.438
-25	-2.5	2.582	2.582	2.582	2.582
-50	-4.9	3.627	3.627	3.627	3.627
-75	-7.4	4.459	4.459	4.459	4.459
-100	-9.8	5.148	5.148	5.148	5.148
-125	-12	5.741	5.741	5.741	5.741
-150	-15	6.266	6.266	6.266	6.266
-175	-17	6.743	6.743	6.743	6.743
-200	-20	7.183	7.183	7.183	7.183
-225	-22	7.595	7.595	7.595	7.595
-250	-25	7.983	7.983	7.983	7.983
-275	-27	8.352	8.352	8.352	8.352
-300	-29	8.703	8.703	8.703	8.703
-325	-32	9.039	9.039	9.039	9.039
-350	-34	9.360	9.360	9.360	9.360
-375	-37	9.668	9.668	9.668	9.668
-400	-39	9.964	9.964	9.964	9.964
-450	-44	10.520	10.520	10.520	10.520
-500	-49	11.033	11.033	11.033	11.033
-550	-54	11.507	11.507	11.507	11.507
-600	-59	11.944	11.944	11.944	11.944
-700	-69	12.720	12.720	12.720	12.720

Notes

- 1) Flow rates listed in above Table are based on full open valves at 100% negative overpressure.
- 2) If the set vacuum is not listed above Table, use liner interpolation.
- 3) If the negative overpressure is less than 100%, calculate the flow rates using the Factor "C".

|| Example of Flow Rate Calculation ||

Model SBV, 20"

Set pressure (P_{set}) = -25mmH2O (-2.5mbar)
Valve inlet pressure (P_{in}) = -38mmH2O

1. Calculate overpressure

$$\text{Overpressure} = \frac{P_{in} - P_{set}}{P_{set}} \times 100 = -52 (\%)$$

2. Determine Factor C from right Table.

C = 0.63

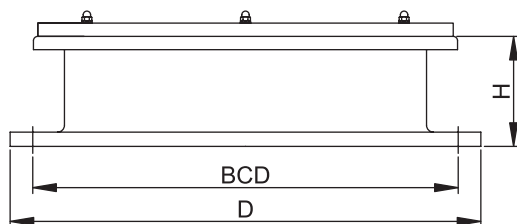
3. Read flow rate at 100% negative overpressure corresponding specified set vacuum. The flow rate is 2,582Nm3/h from above Table.

4. Calculate flow rate at specified inlet pressure

Flow rate at -38mmH2O = 0.63 x 2,582 = 1,627Nm3/h

Factor C for less than 100% negative over-pressure										
%	0	1	2	3	4	5	6	7	8	9
10	-	-	-	-	-	0.20	0.21	0.23	0.24	0.25
20	0.27	0.28	0.29	0.31	0.32	0.33	0.35	0.36	0.37	0.39
30	0.40	0.41	0.42	0.43	0.45	0.46	0.47	0.48	0.49	0.50
40	0.51	0.52	0.53	0.54	0.56	0.57	0.58	0.59	0.60	0.61
50	0.62	0.62	0.63	0.64	0.65	0.66	0.67	0.68	0.69	0.70
60	0.71	0.72	0.72	0.73	0.74	0.75	0.76	0.77	0.77	0.78
70	0.79	0.80	0.81	0.81	0.82	0.83	0.84	0.84	0.85	0.86
80	0.87	0.87	0.88	0.89	0.89	0.90	0.91	0.91	0.92	0.93
90	0.93	0.94	0.95	0.95	0.96	0.97	0.97	0.98	0.99	0.99

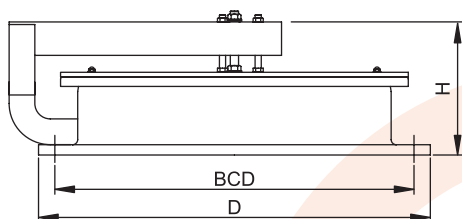
DIMENSIONS



MODEL SEA

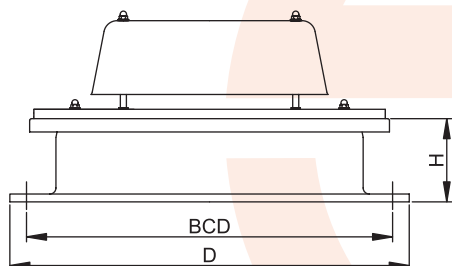
Size (inch)	API 650 ('93 Edition)		API 650 ('98 Edition)		ANSI 150		H (mm)
	BCD (mm)	D (mm)	BCD (mm)	D (mm)	BCD (mm)	D (mm)	
16"	-	-	-	-	539.8	596.9	110
18"	-	-	-	-	577.9	635.0	110
20"	596.9	660.4	590	650	635.0	698.5	110
24"	698.5	762.0	690	750	749.3	812.8	110

MODEL SEB



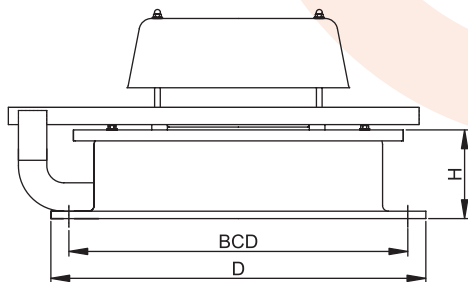
Size (inch)	API 650 ('93 Edition)		API 650 ('98 Edition)		ANSI 150		H (mm)
	BCD (mm)	D (mm)	BCD (mm)	D (mm)	BCD (mm)	D (mm)	
16"	-	-	-	-	539.8	596.9	275
18"	-	-	-	-	577.9	635.0	275
20"	596.9	660.4	590	650	635.0	698.5	295
24"	698.5	762.0	690	750	749.3	812.8	295

MODEL SEV



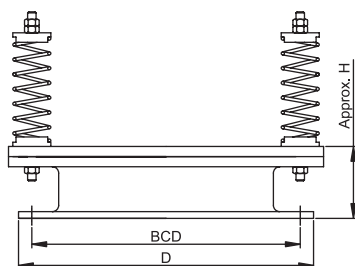
Size (inch)	API 650 ('93 Edition)		API 650 ('98 Edition)		ANSI 150		H (mm)
	BCD (mm)	D (mm)	BCD (mm)	D (mm)	BCD (mm)	D (mm)	
16"	-	-	-	-	539.8	596.9	110
18"	-	-	-	-	577.9	635.0	110
20"	596.9	660.4	590	650	635.0	698.5	110
24"	698.5	762.0	690	750	749.3	812.8	110

MODEL SEVH



Size (inch)	API 650 ('93 Edition)		API 650 ('98 Edition)		ANSI 150		H (mm)
	BCD (mm)	D (mm)	BCD (mm)	D (mm)	BCD (mm)	D (mm)	
16"	-	-	-	-	539.8	596.9	110
18"	-	-	-	-	577.9	635.0	110
20"	596.9	660.4	590	650	635.0	698.5	110
24"	698.5	762.0	690	750	749.3	812.8	110

MODEL SEAS



Size (inch)	API 650 ('93 Edition)		API 650 ('98 Edition)		ANSI 150		H (mm)
	BCD (mm)	D (mm)	BCD (mm)	D (mm)	BCD (mm)	D (mm)	
16"	-	-	-	-	539.8	596.9	130
18"	-	-	-	-	577.9	635.0	130
20"	596.9	660.4	590	650	635.0	698.5	130
24"	698.5	762.0	690	750	749.3	812.8	130

Notes

The overall height may change with set pressure.

Actual dimensions may vary from these listed dimensions due to variations or revisions of specifications, and may change without notice. For more information, consult our factory.

HOW TO ORDER

MODEL	INLET SIZE	MATERIALS	FLANGE DRILLING	OPTION
 SEA SEB SEV SEVH SEAS	 16: 16" 18: 18" 20: 20" 24: 24" SS: Special	 Body Pallet C: Carbon Steel 4: 304 S.S 5 304L S.S 6: 316 S.S 7: 316L S.S A: Aluminum S: Special Material	 PO: API 650 '93 Edition in Inch Unit PN: API 650 '98 Edition in Metric Unit AR: ANSI Class 150 RF AF: ANSI Class 150 FF KR: KS/JIS 10K RF KF: KS/JIS 10K FF 5F: KS/JIS 5K FF 5R: KS/JIS 5K RF NO: No Drilling SS: Special	 0: No Option 4: 304 SS weight 6: 316 SS weight S: Special

EXAMPLE

SEA-24-C4-PN-0

means a 24" model SEA emergency vent with carbon steel body, 304 SS pallet, API 650 '98 Edition in metric flange drilling and no other option.