

VENTING | GAUGE HATCHES

SERIES 4000 MARSH HAWK TRV



Series 4000 Marsh Hawk
Mid-Flange Standard

Series 4000 Marsh Hawk
Bottom-Flange with Manual Relief

Features

- Premium deep-set gauge hatch with integral pressure & vacuum relief offers superior performance in normal and cold conditions.
- Available with Bottom Flange connections suitable for direct tank mounting in non-freezing applications.
- Reliable, bubble-tight sealing with standard FKM (Viton) seal and stainless steel spring.
- Field adjustable pressure settings, from 2 ozsi to 32 ozsi.
- Manual relief, Inconel trim, alternative seals and various coatings optionally available.



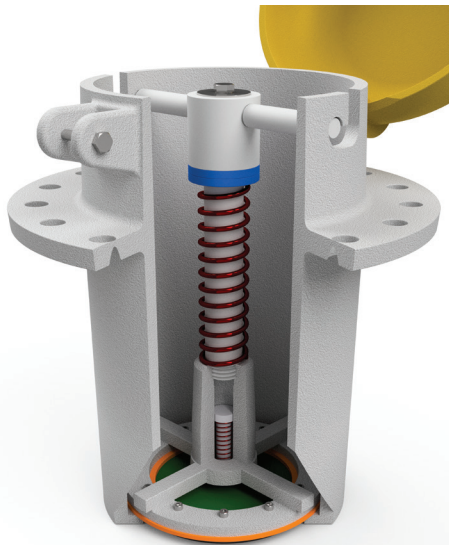
FEATURES

Deep-set venting gauge hatch

- The Series 4000 Marsh Hawk TRV offers tank access combined with pressure and vacuum relief in a deep-set design.
- The mid-flange design situates valve seats below the tank roof and permits latent heat from the product to keep the seals ice-free.
- The bottom-flange options keeps protects the sealing surfaces from dust and rain while providing ease of installation in non-freezing application

Reliable, bubble-tight sealing

- The Series 4000 has class-leading seal performance as compared to any other premium or economy venting gauge hatch currently available.
- Improved sealing performance eliminates flutter and periodic small-scale venting which can cause frost closure in competitor top-mount hatches.



False-colour cutaway of a Series 4000 Marsh Hawk TRV showing the deep-set seal (orange), pressure spacers (blue) and springs (red).

SPECIFICATIONS

Function	Venting Gauge Hatch
Temperature Range ¹	-26°C to 204°C [-15°F to 400°F] (FKM) -9°C to 230°C [16°F to 446°F] (FEPM) -18°C to 250°C [0°F to 600°F] (FFKM)
Pressure Relief Type	Direct-acting, Spring-loaded
Pressure Relief Range	2 to 32 ozsi
Vacuum Relief Range	0.4 ozsi fixed
Tank Connection	8" API (Fig 1 API 12F)

¹Temperatures provided are continuous service temperatures for the indicated seal materials. See the short term extended service temperatures below in "Seal Materials and Configuration" section. Powder coating may lose abrasion resistance at temperatures over 100°C.

Variety of pressure settings

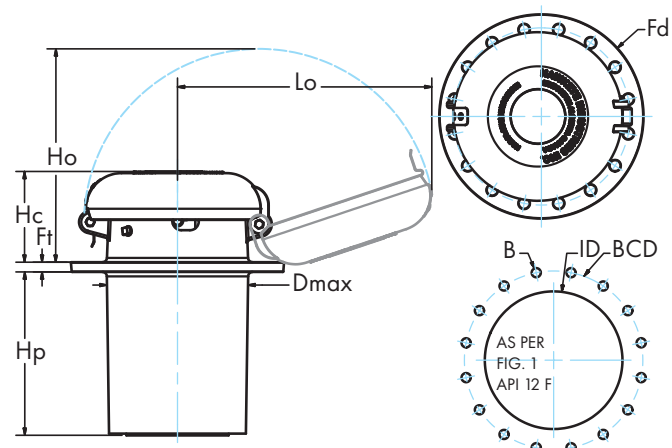
- The Series 4000 Marsh Hawk pressure relief is adjustable between 2 ozsi and 16 ozsi in 2 ozsi increments.
- The optional double-weight spring allows relief pressure between 18 and 32 ozsi, in 2 ozsi increments.
- 1 ozsi increments optionally available for settings under 16 ozsi.
- Vacuum relief is fixed at 0.4 ozsi.

Suitable for Sour Service

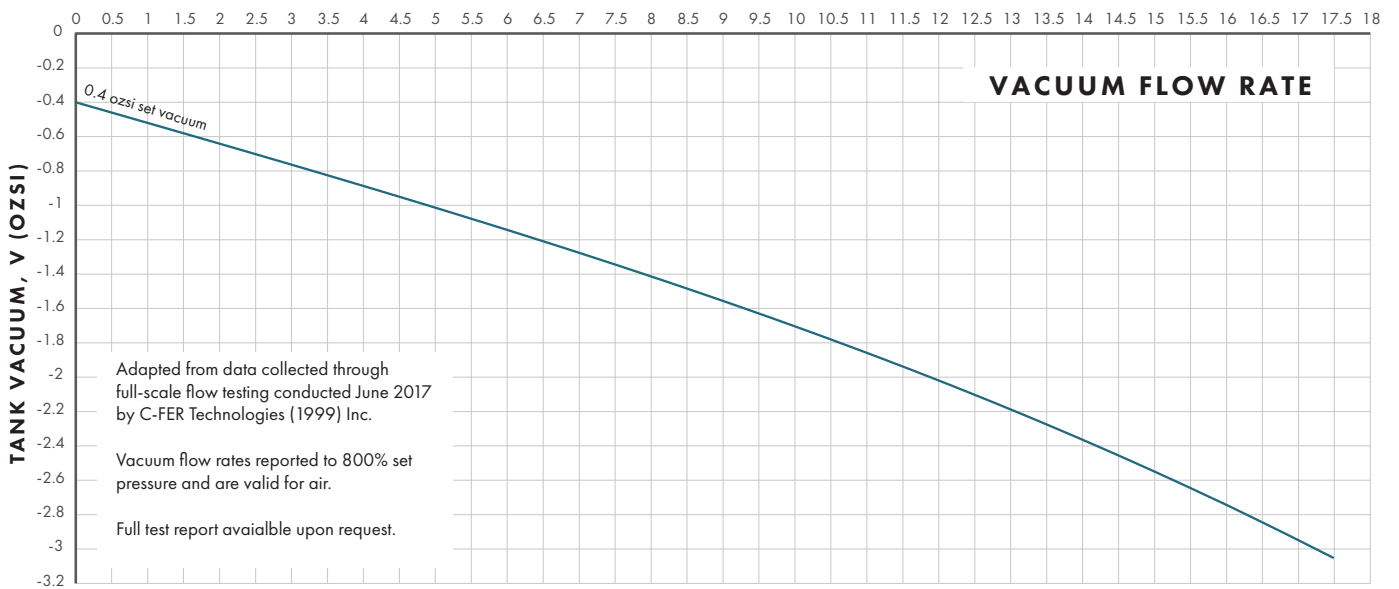
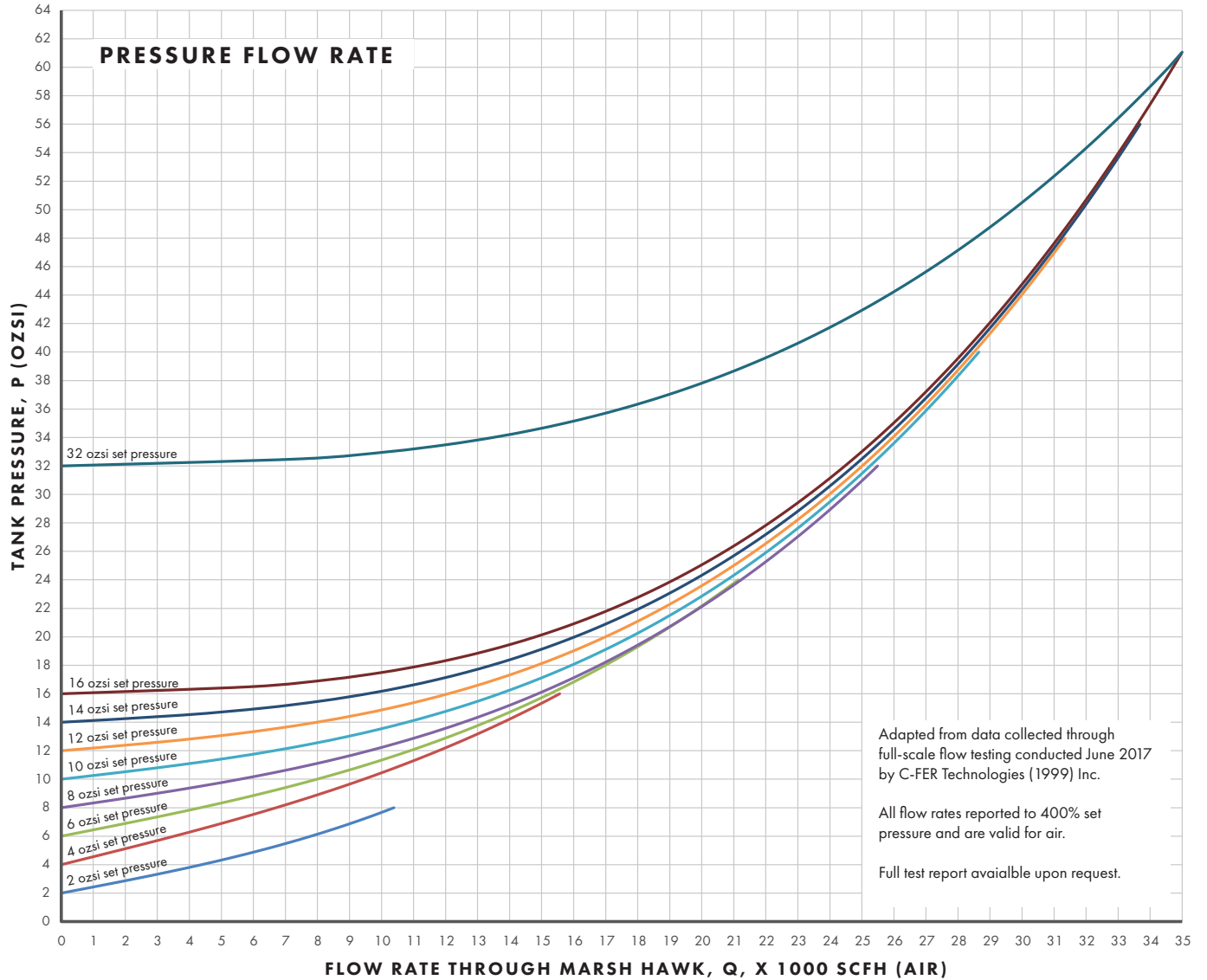
- The Series 4000 is ready for Sour Service out of the box with FKM (Viton) seals and stainless springs.
- For more adverse applications, alternative seal and spring materials are available, along with hard anodization or fusion-bond epoxy coatings.

DIMENSIONS

	Dimension	Value	
		[in.]	[mm.]
Dmax	Body Diameter (max)	7.93	201
F	Flange Thickness	0.6	15.3
Fd	Flange Diameter	12.0	305
Hc	Height (Closed)	5.1	130
Ho	Height (Minimum to Open)	12.5	318
Hp	Height (Penetration in Tank)	9.2	234
Lo	Length (Hatch Open)	14.3	363
	Weight	28 lb	12.7 kg
B	Mounting Bolt Hole	19/32 min	15.1
ID	Minimum Cutout Diameter	7.98" min	203
BCD	Bolt Circle Diameter	10.38	264
	Bolt Quantity & Size	16 × 1/2-13UNC	



FLOW CHARACTERISTIC



OPTIONS AND ACCESSORIES



Series 4000 Marsh Hawk TRV With Manual Relief Option

Manual Relief

The manual relief option allows an operator to manually activate the vent.

Pressing the hatch cover's large red button on the actuates the vacuum pallet, relieving pressure in the tank to allow safe removal of the spider cage assembly for tank gauging or hatch maintenance. The button and actuating poppet are supported independently of the vacuum disc, and do not interfere with normal relieving operation.

Typical Manual Relief Operating Force			
Set Pressure (oszi)	Actuation Force (lbf)	Set Pressure (oszi)	Actuation Force (lbf)
4	5	12	14
6	7	16	19
8	9	32	38



Series 4000 Marsh Hawk TRV with Severe Service Coating

Severe Service Coating

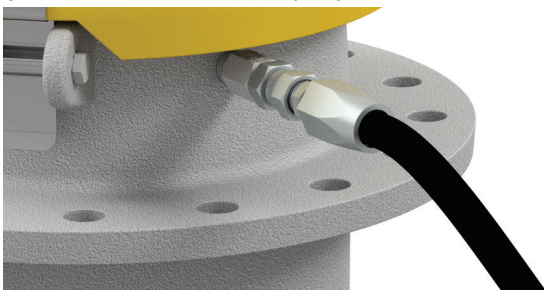
For situations demanding the highest corrosion resistance, consider the Severe Service coating.

The body of the Marsh Hawk is coated with a red Fusion Bond Epoxy (FBE) for resistance to mineral acids, (including sulphuric and hydrochloric acids up to 15%) high-chloride ion solutions (including aluminum chloride, potassium chloride and brine) as well as many other petrochemicals.

The Marsh Hawk internals are coated in a proprietary black PFA (TEFLON) providing the same excellent fluoropolymer chemical resistance as the FBE above.

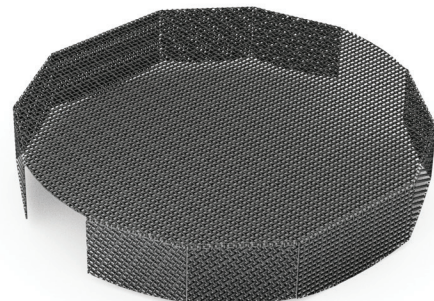
De-icing System

Allows direct injection of a seal-appropriate de-icing solution onto the mid-flange Marsh Hawk internals from ground level. Includes spray nozzle and hose assembly.



Mesh Hat

A formed 10 Mesh 304 stainless steel cover to keep insects and debris from interfering with the Marsh Hawk internals.



MHMS-0000

SEAL CONFIGURATION AND MATERIALS

The Series 4000 Marsh Hawk combines the pressure and vacuum valve in an innovative design that requires only one shared gasket.

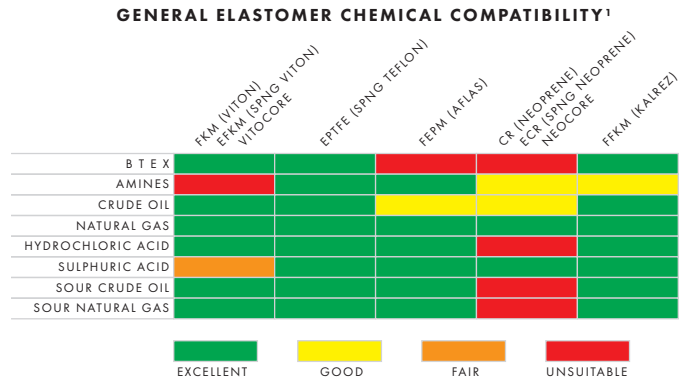
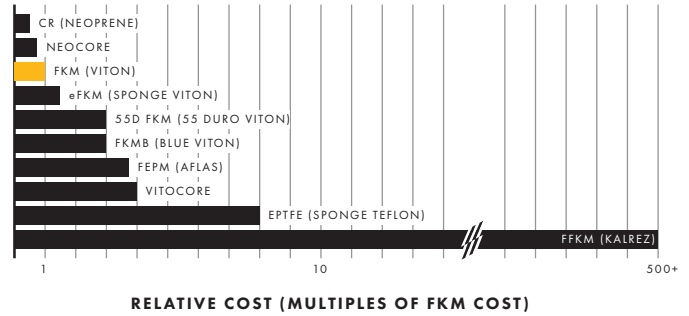
To improve valve sealing performance, gaskets are factory coated with a pliable oil-based sealant suitable for sour service. An optional silane-based sealant is also available. Both sealants are available in small packages for maintenance and reapplication.

Hawkeye offers several material options for the pressure / vacuum seal, beyond the standard FKM (Viton®) seal. See Ordering Information for the full list.

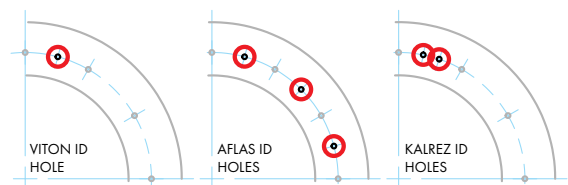
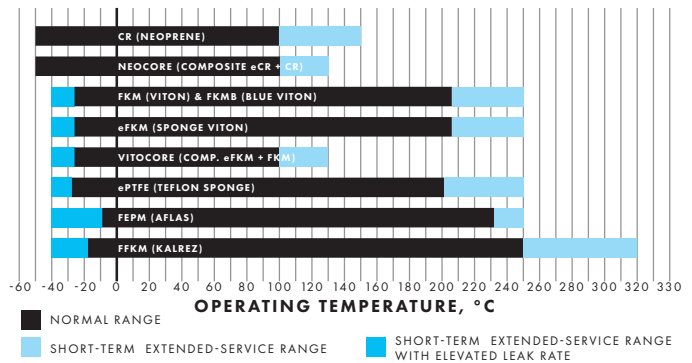
- For applications where sealing is the first priority, Vitocore™ is available with a soft eFKM (expanded Viton®) surface and durable FKM (Viton®) backing. Pure eFKM (expanded Viton®) gaskets are also available, but are not recommended for set pressures greater than 8 ozsi.
- For higher temperatures, minimally freezing conditions and acid service, FEPM (Aflas®) is available.
- For extreme applications FFKM (Kalrez®) is available.

The use of EPDM seals in any Hawkeye vent is contraindicated due to its unsuitability in common petrochemical applications.

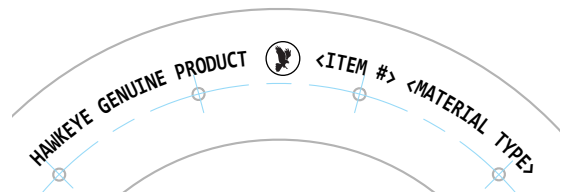
Hawkeye does not recommend using solid fluoropolymer (e.g. PTFE, PFA, FEP, etc.), nor expanded ePTFE (expanded Teflon®) as a seal material in Marsh Hawks as the harder crystalline polymer structure of these materials reduces sealing performance due to the low seal-seat interfacial pressures found in the Marsh Hawk.



N.B.¹ THIS CHART IS FOR REFERENCE ONLY. ALTHOUGH HAWKEYE STRIVES TO ENSURE PRESENTED INFORMATION IS ACCURATE, A QUALIFIED PERSON SHOULD ENSURE THE SUITABILITY OF A SELECTED MATERIAL IN THE SPECIFIC CHEMICAL, TEMPERATURE AND PRESSURE CONTEXT OF THEIR APPLICATION.

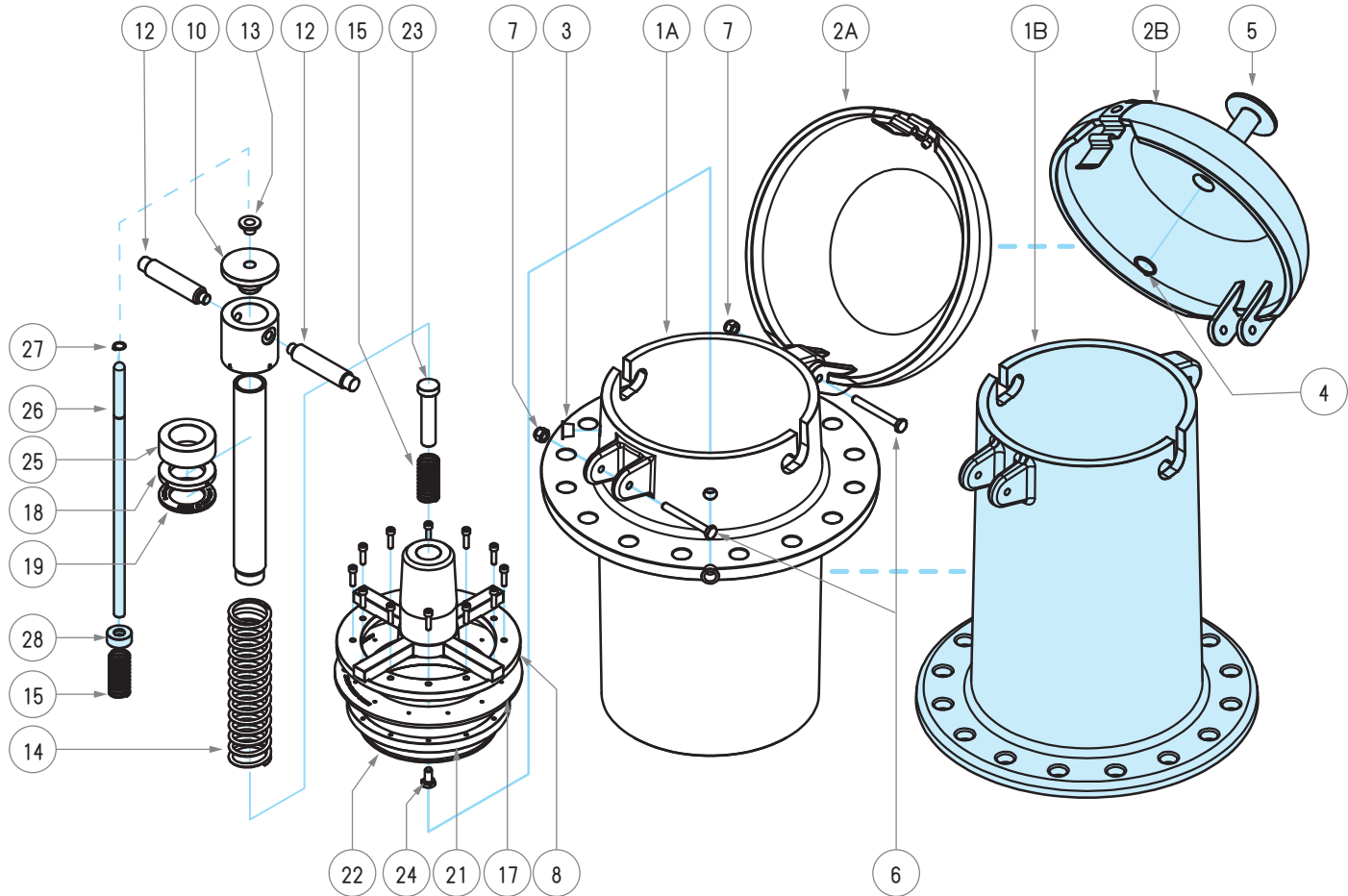


IDENTIFYING MARSH HAWK GASKET MATERIAL (PARTS MFG BEFORE MAR 2023)



IDENTIFYING MARSH HAWK GASKET MATERIAL (PARTS MFG AFTER MAR 2023)

PARTS LIST & MATERIALS OF CONSTRUCTION



Substitutions shown shaded.

BOTTOM FLANGE substitutes 1A with 1B and deletes 3.

MANUAL RELIEF substitutes 2A with 2B, adds 4, 5, 26, 27, 28, an additional 15 and deletes 13.

HIGH PRESSURE substitutes 14 with 16, and adds 25

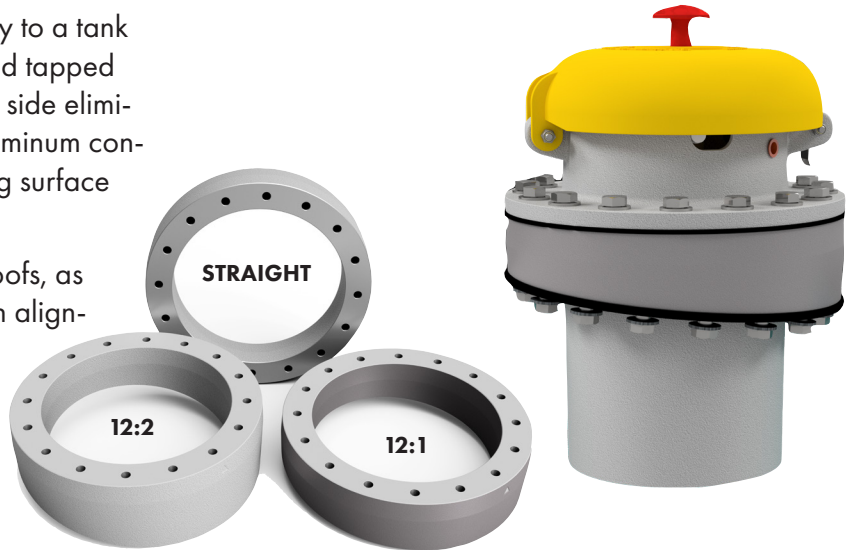
Item	Part #	Part Name	Material	Item	Part #	Part Name	Material
1A	215.300.140	HOUSING-MH	356 Al	14	010.166.020	SPRING-PRESSURE LP	302 SS
1B	215.300.19X	HOUSING-MH BOTTOM FLANGE	356 Al	15	010.166.070	SPRING-VACCUM	302 SS
2A	215.200.010	COVER WITH LATCH	356 Al	16	010.166.110	SPRING-PRESSURE HP	302 SS
2B	215.200.020	COVER WITH LATCH FOR MANUAL RELIEF	356 Al	17	010.318.15X	GASKET-MARSH HAWK P/V SEAL	Varies
3	030.000.300	PIPE CAP-DUAL M/F 1/4 NPS	LDPE	18	215.300.020	SPACER-MH SET PRESS. STD	6061 Al
4	010.0C6.020	RETAINING RING 3/4 SHAFT	18-8 SS	19	215.300.030	SPACER-MH SET PRESS. THIN	6061 Al
5	215.300.044	BUTTON-MH MAN. REL.	6061 Al	20	010.006.010	CAP SCREW-HEX SKT HD #8-32UNC	18-8 SS
6	010.006.050	CAP SCREW-HEX FOR COVER 1/4-20UNC	18-8 SS	21	215.300.070	MH SEAL RETAINER RING	6061 Al
7	010.0A6.060	NUT-HEX NYL. INS. LOCK 1/4-20UNC	18-8 SS	22	215.300.060	VACUUM DISC-M/C	5052 Al
8	215.300.150	SPIDER CAGE-MH M/C FROM CAST	710 Al	23	215.300.100	VACCUM STEM-MH SHLDR'D	6061 Al
9	215.300.090	GUIDE-MH PRES. SPRG	6061 Al	24	010.006.070	CAP SCREW-HEX 1/4-20UNx1/2 L	18-8 SS
10	215.300.050	CAP-MH PRES. SPRNG GD	6061 Al	25	215.300.225	SPACER-MH SET PRESS. BIAS FOR HP	6061 Al
11	215.300.010	COLLAR-MH PRES. SPRNG	6061 Al	26	215.300.120	POPPET-MH MAN. REL. 3/8 ODx10-7/8 L AL BARE	6061 Al
12	215.300.130	HANDLE-MH PRES. SPRNG GD	6061 Al	27	010.0C6.030	RETAINING RING-EXTERNAL LUGS 5100 3/8 SHAFT 18-8 SS	18-8 SS
13	030.000.310	TAPER CAP	LDPE	28	215.300.180	SPRING GUIDE CUP - MH MAN. REL 7/8 OD x 3/8 T ACETAL (DELRIN)	ACETAL

SURESEAL DIRECT MOUNT ADAPTER

The SureSeal Direct Mount Adapter makes it a cinch to mount the Series 4000 Marsh Hawk directly to a tank roof without a need for a riser or spool. Blind tapped holes on the bottom (tank) and top (device) side eliminate fastener leak paths while solid cast aluminum construction provides a rigid and level mounting surface for optimum vent performance.


The SureSeal Adapter is available for flat roofs, as well as 12:1 and 12:2 pitched roofs. Cast-in alignment marks on the 12:1 and 12:2 Adapters ensure correct orientation and alignment for trouble free installation.

See the SureSeal brochure for more information.



VENT MARKING

The spider cage assembly of the Series 4000 Marsh Hawk is tagged with the initial factory configuration of the valve. As the relief pressure is field-adjustable, space is left on the tag to record future set pressures, should they change.

MARSH HAWK TRV			 HAMKEME INDUSTRIES PRODUCT CANADIAN
FACTORY CONFIGURATION			
PRESSURE RELIEF OZ./IN. ²	VACUUM RELIEF 0.4 OZ./IN. ²	<input type="checkbox"/> MANUAL RELIEF	
SEAL MATERIAL			
<input type="checkbox"/> FKM VITON®	<input type="checkbox"/> FEPM AFLAS®	<input type="checkbox"/> FFKM KALREZ®	<input type="checkbox"/> sFKM SPONGE VITON®
<input type="checkbox"/> OTHER			
SPRINGS			
<input type="checkbox"/> 302 STAINLESS		<input type="checkbox"/> ANODIZED	
<input type="checkbox"/> INCONEL		<input type="checkbox"/> SEVERE SERVICE	
RECORD FIELD PRESSURE ADJUSTMENT BELOW			
PRESSURE SET TO ON: _____ OZ./IN. ²	PRESSURE SET TO ON: _____ OZ./IN. ²	PRESSURE SET TO ON: _____ OZ./IN. ²	

PRESSURE TESTING

Series 4000 Marsh Hawks are tested prior to packaging to ensure pressure-tightness and relief setting accuracy. Items passing the quality control measures are marked with the label at right.



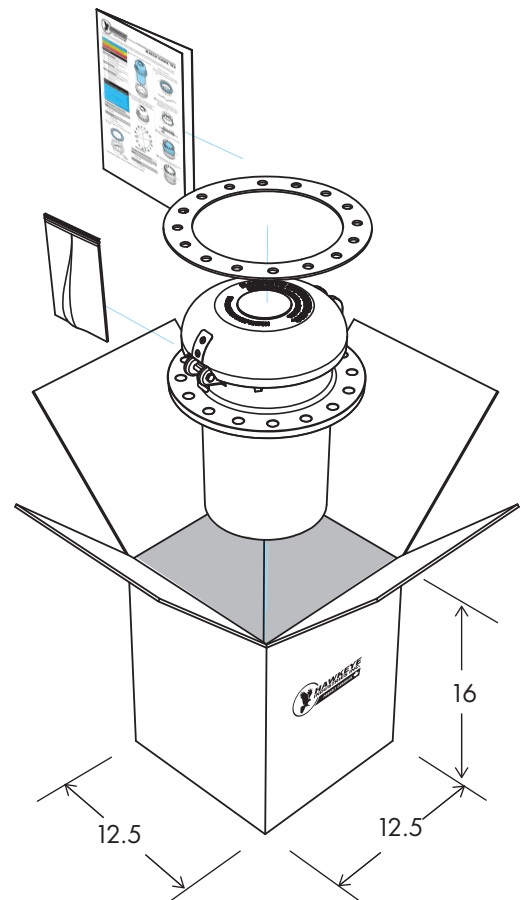
CERTIFICATION

The pressure and vacuum relief settings of the Series 4000 Marsh Hawk can be factory certified at an additional expense. Certified hatches are accompanied by a certificate stating the factory-set relief pressure of the device.

PACKAGING

Series 4000 Marsh Hawks are shipped complete and boxed. In addition to the Marsh Hawk itself, the carton contains installation instructions, as well as gaskets and bolt kits if ordered alongside the device.

Weight is approximately 28 lb [12.7 kg].



ORDERING INFORMATION

Standard Series 4000 Marsh Hawk configurations are stocked ready to ship. Other configurations are typically assemble-to-order and available in under two weeks. Configure your desired Series 4000 Marsh Hawk TRV using the part number legend below. Items in bold are standard items and have fastest lead times. All Series 4000 Marsh Hawks ship standard with a Gr. 5 Bolt kit and CR (Neoprene) Base gasket, both upgradable (see below). For project quantities, contact your Hawkeye sales rep for delivery schedules.

MHWK - **Sp Sp G S** - **M C F**

Set Pressure	
Setting (ozsi)	Flag
2	02
3	03
4	04
5	05
6	06
⋮	⋮
30 ¹	30
32	32

¹ 1 ozsi increments only available at settings under 17 ozsi. 2 ozsi increments for settings at 18 ozsi and over.

[G] Seal Material	
Material	Flag
FKM (Viton)	V
Vitocore™	Z
eFKM (Spng Viton)	S
55 Duro FKM	5
FKMB (Blue Viton)	B
FEPM (AFLAS)	A
FFKM (Kalrez)	K
Neocore™	C
CR (Neoprene)	N
ePTFE (Spng Teflon)	T

[S] Spring Material	
Material	Flag
Stainless Steel	S
Inconel	I

[M] Configuration

Relief Option	Flag
Standard	0
Manual Relief	1
Pipeaway	2

[C] Coatings	
Coating Option	Flag
None	0
Severe Service FBE	2

[F] Body Type	
Relief Option	Flag
Mid-flange	0
Bottom-flange	B

Accessories

Bolting Kit

VCBK - **0 8 0 M** - **0**

[M] Material	
Grade	Flag
Gr. 5	5
Gr. 8	8
18-8 S.S	G

Bolt kits include, Hex Cap Screws, Nuts, Washers, and are sized per the relevant standard and have length to accommodate a standard thickness mounting flange and gasket. Contact us for non-standard lengths.

Base Gasket

VCGA - **0 8 0 M** - **T**

[M] Material		[T] Thickness	
Grade	Flag	Grade	Flag
CR (Neoprene)	N		
FKM (Viton)	V	1/8"	0
FKMB (Blue Viton)	B	1/4"	1
FEPM (Aflas)	A		

Tank gaskets are flat-face and sized to match the relevant standard. 1/8" thick gaskets stock in most materials, 1/4" thick gaskets stocked in FKM (Viton).

Refer to the Venting - Connection Accessories brochure for more information on bolt kits, gaskets as well as mounting options available for the Series 4000 Marsh Hawk.

De-icing System

MHKD - **0 0 0 0**

Mesh Screen

MHMS - **0 0 0 0**

Examples

Series 4000 Marsh Hawk Mid-Flange Venting Gauge Hatch, 8" API, 16 ozsi Relief, Viton Seals, Stainless Trim, No Coating, Std Relief
w/ Gr 5 Bolt Kit and 1/8" Neoprene Tank Gasket
MHWK-16VS-000 & VCBK-0805-0 + VCGA-080N-0

Series 4000 Marsh Hawk Bottom-Flange Venting Gauge Hatch, 8" API, 8 ozsi Relief, Kalrez Seals, Inconel Trim, Severe Service Coating, Manual Relief
w/ Gr 8 Bolt Kit and 1/8" Viton Tank Gasket
MHWK-08KI-12B & VCBK-0808-0 + VCGA-080V-0

Series 4000 Marsh Hawk Mid-Flange Venting Gauge Hatch, 8" API, 32 ozsi Relief, Viton Seals, Stainless Trim, Anodized Type III, Std Relief,
w/ 12:1 API Riser, 18-8 Stainless Bolt Kit and 1/4" Viton Tank Gasket
MHWK-32VS-010 & HRSA-0801-0 + VCBK-080G-0 + VCGA-080V-1

RELATED PRODUCTS



Series 6000 PVRV

The Series 4000 Marsh Hawk is just one part of tankage product lines from Hawkeye Industries, that also includes:

Vapor Control

- Series 5000 EPRV
- Series 6000 PVRV

Mechanical Level Indication

- Model 1000 Redtail Dry Seal Zero Emission Level Gauging Systems
- Model 2000 Goshawk Level Transmitter for Dry Seal Zero Emission Level Gauging Systems

