

VENTING | EMERGENCY VENTING
SERIES 5000 EPRV



Features

- Direct-acting automatic reset emergency pressure relief vent.
- Compound lever design on larger sizes reduces vent weight.
- Standard eFKM seal exceeds API 2000 leak requirements.
- Available in 8" Gauge Hatch, 10", 12" and 16" ANSI and 20" & 24" Manway sizes.
- Most configurations stocked for quick delivery.

FEATURES

Direct Acting High Flow Vent

- The Series 5000 EPRV provides high relieving flow rates suitable for emergency venting applications in a robust and reliable direct acting design.
- Self resetting action ensures continued leak-free performance after venting activity without operator intervention.

Compound Lever Design

- The compound lever of the 16", 20" and 24" EPRVs reduces total vent weight, and provides a compact operating envelope.
- Compound-lever EPRVs achieve full-lift at a lower overpressure than comparable single-lever designs.

Wide array of set pressures

- Standard relief pressures from 1 to 16 ozsi, in 1 ozsi increments, with up to 32 ozsi available on the 16", 20" and 24" sizes.



SPECIFICATIONS

Function	Emergency Pressure Relief Vent
Temperature Range ¹	- 26°C to 204°C [-15°F to 400 °F] for FKM (Viton)
Pressure Relief Type	Direct-acting, deadweight
Pressure Relief Range	1 to 16 ozsi (8-12") 1 to 32 ozsi (16-24")
Tank Connection ²	8" API (Fig 1 API 12F) 10" ANSI B16.5 150# FF 12" ANSI B16.5 150# FF 16" ANSI B16.5 150# FF 20" API 650 / ANSI B16.5 150# FF 24" API 650 / ANSI B16.5 150# FF

¹Temperatures provided are continuous service temperatures for the indicated seal materials. Powercoating may lose abrasion resistance starting at 100°C[212°F].

²All Series 5000 vents are furnished with Flat-Face (FF) connections. For low pressure tank equipment, connecting Raised-Face (RF) to FF flanges is allowed, provided the Hawkeye-supplied FF elastomeric gasket is used and the fasteners are torqued per the Hawkeye installation instruction for the specific venting product.



Composite eFKM seals

- The standard high performance composite seal provides bubble-tight sealing to over 90% of set pressure, exceeding API 2000 leak test requirements.
- The Series 5000 is ready for sour service out of the box with eFKM Seals.

Manway Access

- The covers of the 16", 20" and 24" EPRV's can be locked open to provide manway access.

Stocked

- Standard EPRVs in all sizes and bolt patterns are stocked for quick delivery.



LEAK TESTING

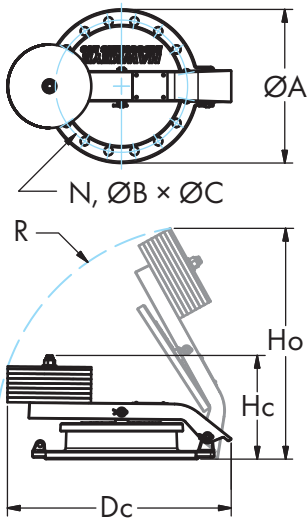
Series 5000 EPRVs are tested before shipment for relief setting accuracy and leak-rates in accordance with API 2000 7th Ed. Section 5.4.2.

Items passing the quality control measures are marked with the labels at right.

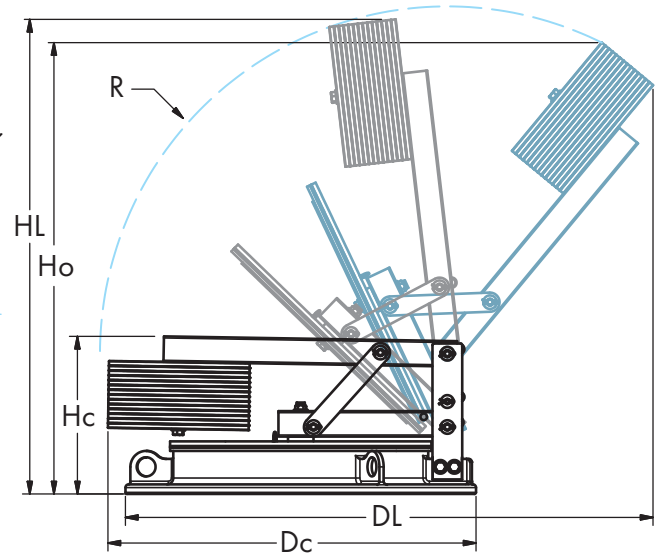
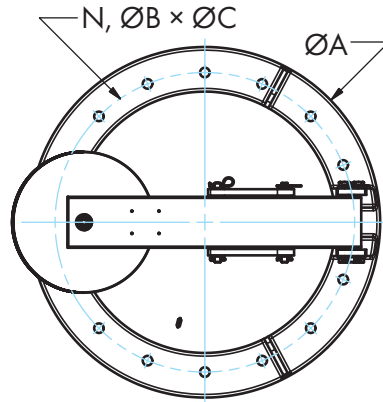


DIMENSIONS

8 API 10" & 12" ANSI



16, 20 & 24 API & ANSI



CLOSED MAX LIFT LOCKED OPEN (16, 20 & 24" sizes only)

Dimension	Value								
	8 API 12F	10 ANSI 150# FF	12 ANSI 150# FF	16 ANSI 150# FF	20 API 650	20 ANSI 150# FF	24 API 650	24 ANSI 150# FF	
	[in.]	[in.]	[in.]	[in.]	[in.]	[in.]	[in.]	[in.]	
A Flange Diameter	12	16.7	20	23.5	27.5	27.5	32	32	
B Bolt Hole Diameter	5/8 min	1	1	1-1/8	3/4	1-1/4	3/4	1-3/8	
C Bolt Circle	10.375	14.25	17	21.25	23.5	25	27.5	29.5	
Hc Height - Closed	8.2	9.1	9.8	12	12	12	13	13	
Ho Height - Max Lift	18	22.5	26.8	32.1	37	37	43.5	43.5	
HL Height - Locked open	n/a	n/a	n/a	25.0	35	35	40	40	
DC Depth - Closed	17.5	22.1	26.7	23.3	29	29	34	34	
DL Depth - Locked open	n/a	n/a	n/a	40.5	42	42	49	49	
R Swing Radius	16.6	21	25.2	21.3	27.5	27.5	32.5	32.5	
W Device Weight ^{1 2}	10-37 lb	24-60 lb	25-84 lb	35-100 lb	57-252 lb	57-252 lb	74-337 lb	74-336 lb	
N Bolt Quantity & Size	16x 1/2- 13UNC	12x 7/8-9UNC	12x 7/8-9UNC	16x 1-8UNC	16x 5/8-11UNC	20x 1-1/8- 7UNC	20x 5/8-11UNC	20x 1-1/4- 7UNC	

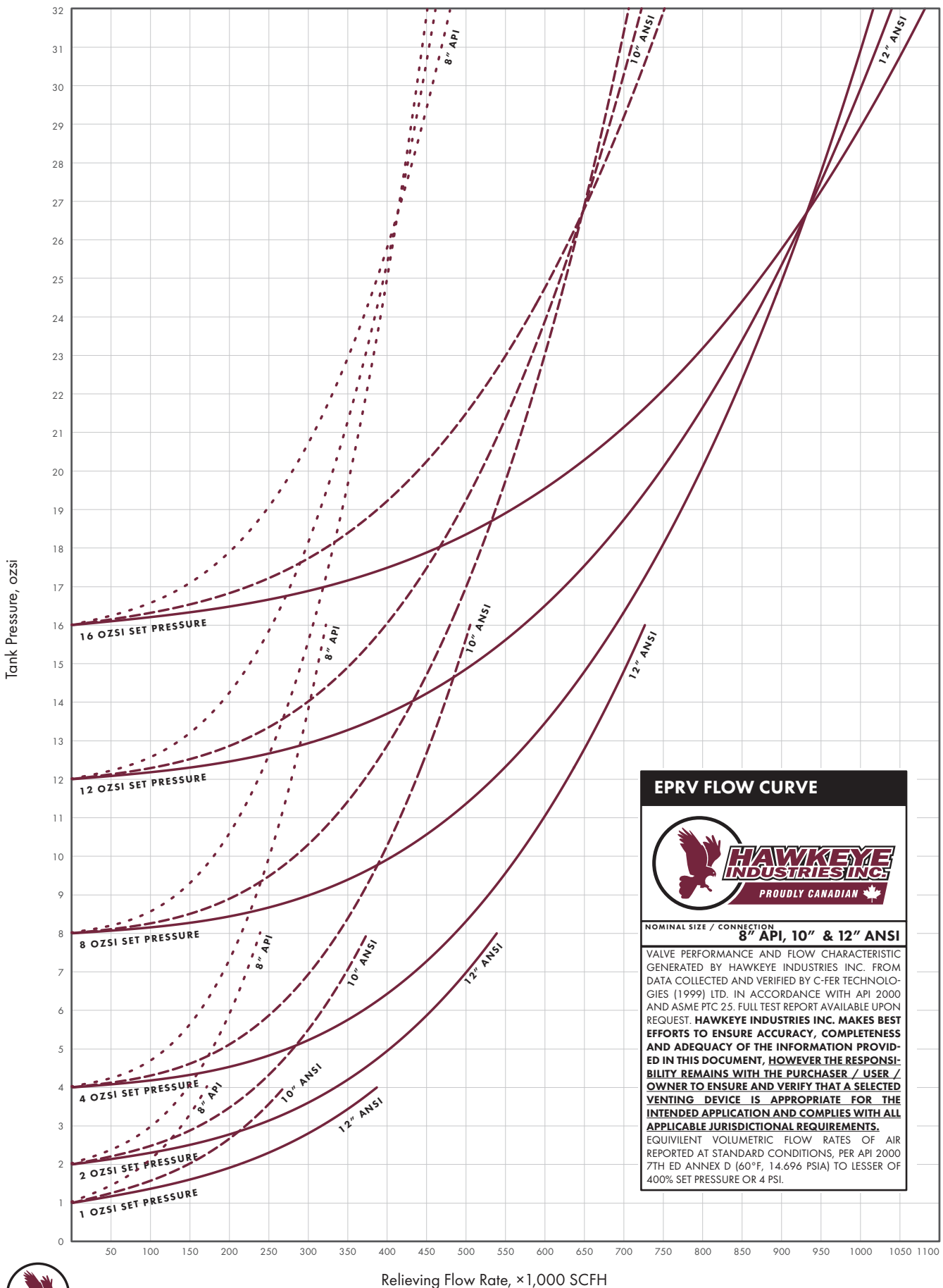
¹ Devices vary in weight due to set relieving pressure. ² Weight excludes mounting hardware, gaskets and packaging. Estimate an additional 40-70 lb [18-32 kg] for total package weight for 16", 20" and 24" sizes, and 5-25 lbs [2.3-6.8 kg] for 8", 10" and 12" sizes.

FLOW CHARACTERISTIC

All Series 5000 EPRV have flow characteristic information available for sizing purposes. Where applicable, relieving rates and behavior determined empirically in accordance with a test regime in consideration of API 2000 7th Ed from data collected and verified by C-FER Technologies (1999) Inc. Their third-party test report outlining the apparatus, procedure, error propagation and other experimental considerations available upon request. Analysis of the data and presentation of relief rates and behavior is the product of Hawkeye Industries Inc., based on API 2000 7th Ed section 5.3.2.1.



FLOW CHARACTERISTIC (CONT'D)



EPRV FLOW CURVE

NOMINAL SIZE / CONNECTION
8" API, 10" & 12" ANSI

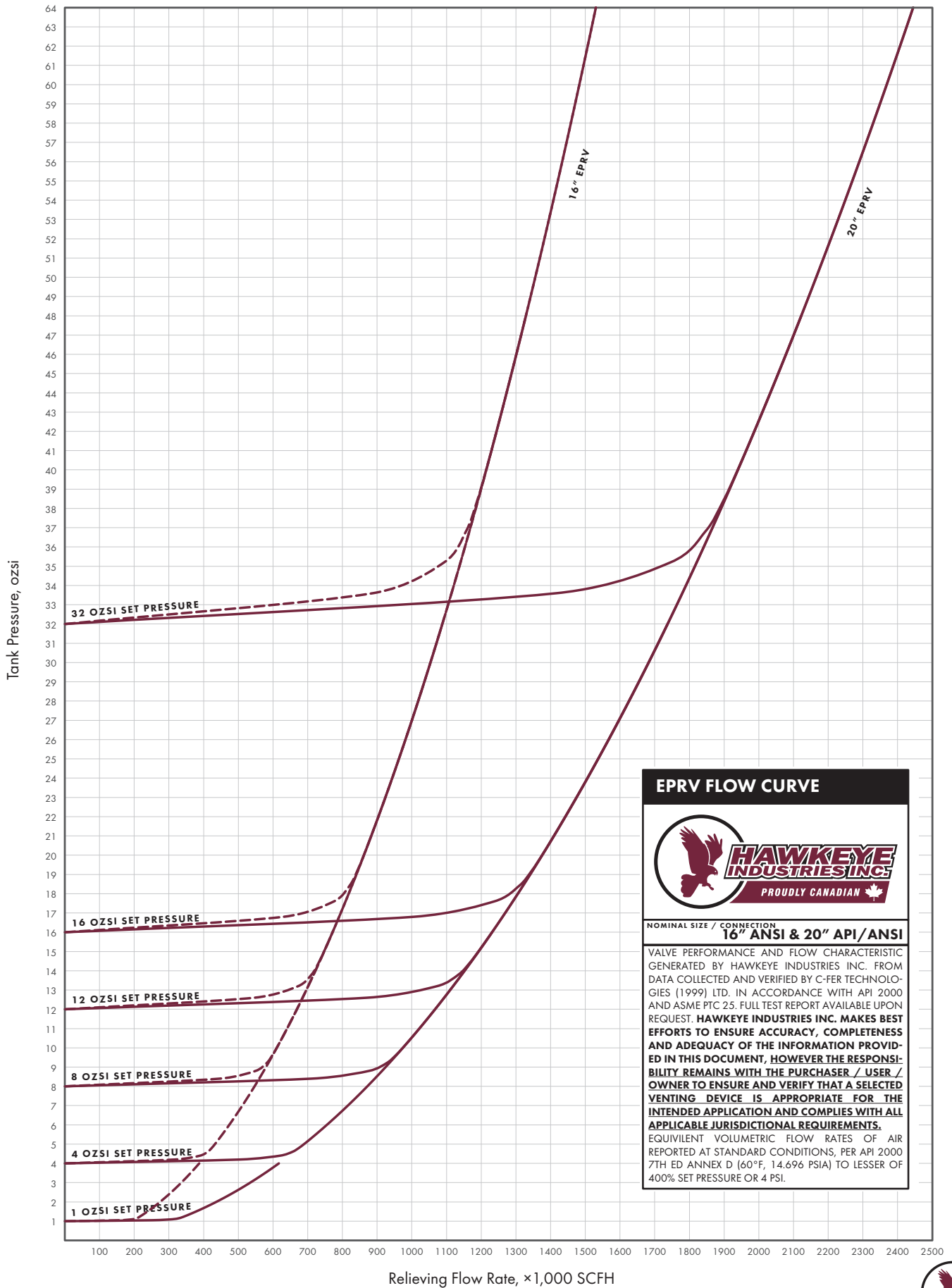
VALVE PERFORMANCE AND FLOW CHARACTERISTIC GENERATED BY HAWKEYE INDUSTRIES INC. FROM DATA COLLECTED AND VERIFIED BY C-FER TECHNOLOGIES (1999) LTD. IN ACCORDANCE WITH API 2000 AND ASME PTC 25. FULL TEST REPORT AVAILABLE UPON REQUEST. **HAWKEYE INDUSTRIES INC. MAKES BEST EFFORTS TO ENSURE ACCURACY, COMPLETENESS AND ADEQUACY OF THE INFORMATION PROVIDED IN THIS DOCUMENT, HOWEVER THE RESPONSIBILITY REMAINS WITH THE PURCHASER / USER / OWNER TO ENSURE AND VERIFY THAT A SELECTED VENTING DEVICE IS APPROPRIATE FOR THE INTENDED APPLICATION AND COMPLIES WITH ALL APPLICABLE JURISDICTIONAL REQUIREMENTS.**

EQUIVALENT VOLUMETRIC FLOW RATES OF AIR REPORTED AT STANDARD CONDITIONS, PER API 2000 7TH ED ANNEX D (60°F, 14.696 PSIA) TO LESSER OF 400% SET PRESSURE OR 4 PSI.

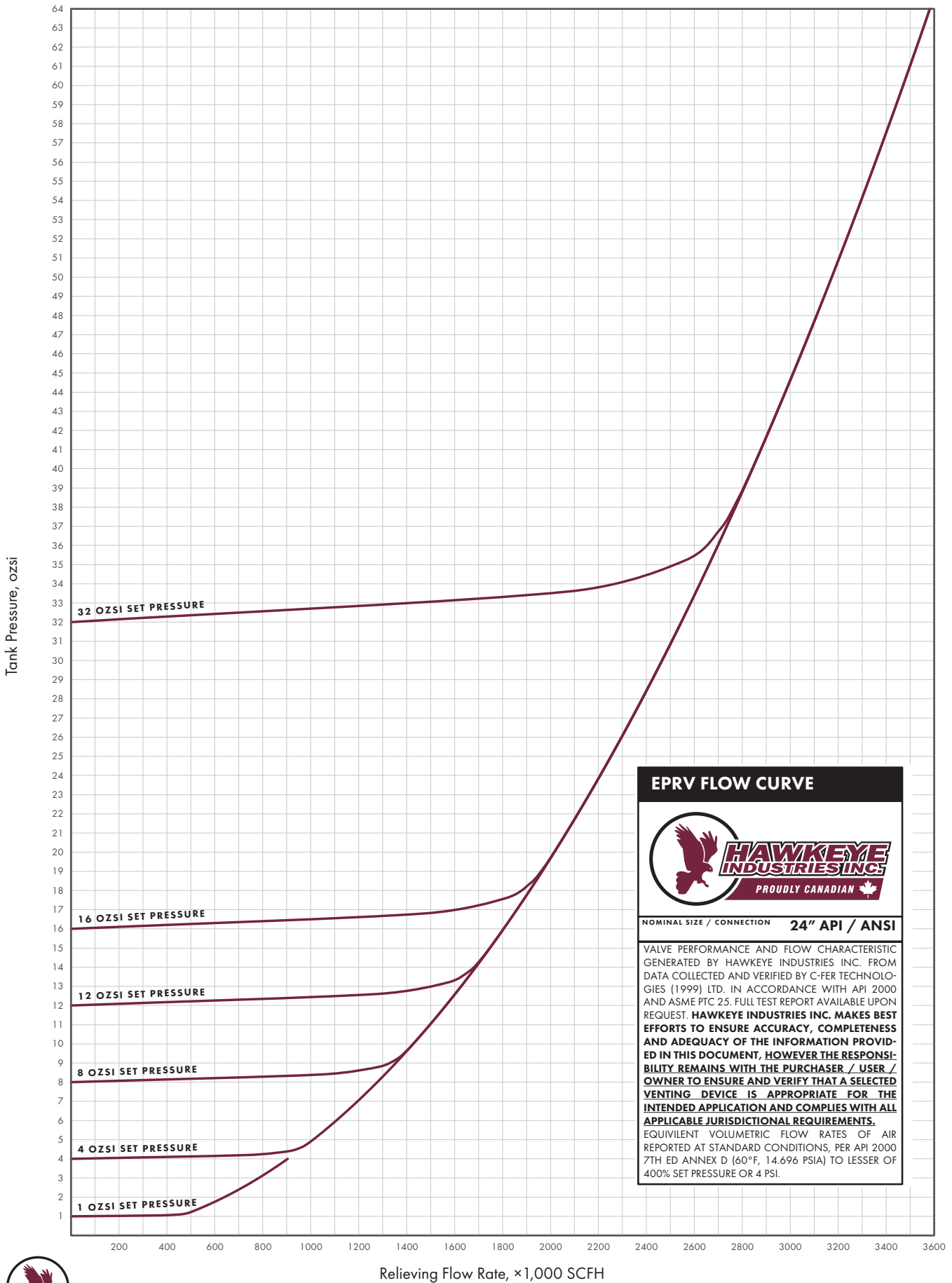


Relieving Flow Rate, x1,000 SCFH

FLOW CHARACTERISTIC (CONT'D)



FLOW CHARACTERISTIC (CONT'D)



EPRV FLOW CURVE

NOMINAL SIZE / CONNECTION 24" API / ANSI

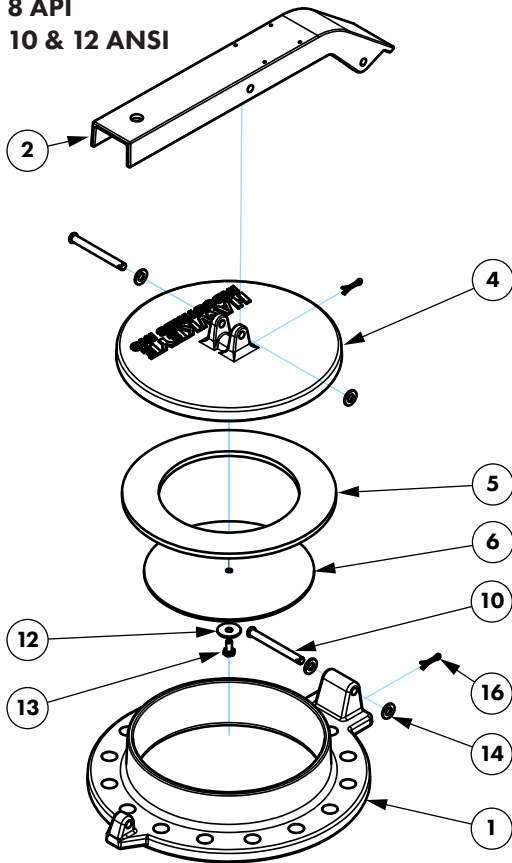
VALVE PERFORMANCE AND FLOW CHARACTERISTIC GENERATED BY HAWKEYE INDUSTRIES INC. FROM DATA COLLECTED AND VERIFIED BY C-FER TECHNOLOGIES (1999) LTD. IN ACCORDANCE WITH API 2000 AND ASME PTC 25. FULL TEST REPORT AVAILABLE UPON REQUEST. **HAWKEYE INDUSTRIES INC. MAKES BEST EFFORTS TO ENSURE ACCURACY, COMPLETENESS AND ADEQUACY OF THE INFORMATION PROVIDED IN THIS DOCUMENT, HOWEVER THE RESPONSIBILITY REMAINS WITH THE PURCHASER / USER / OWNER TO ENSURE AND VERIFY THAT A SELECTED VENTING DEVICE IS APPROPRIATE FOR THE INTENDED APPLICATION AND COMPLIES WITH ALL APPLICABLE JURISDICTIONAL REQUIREMENTS.**

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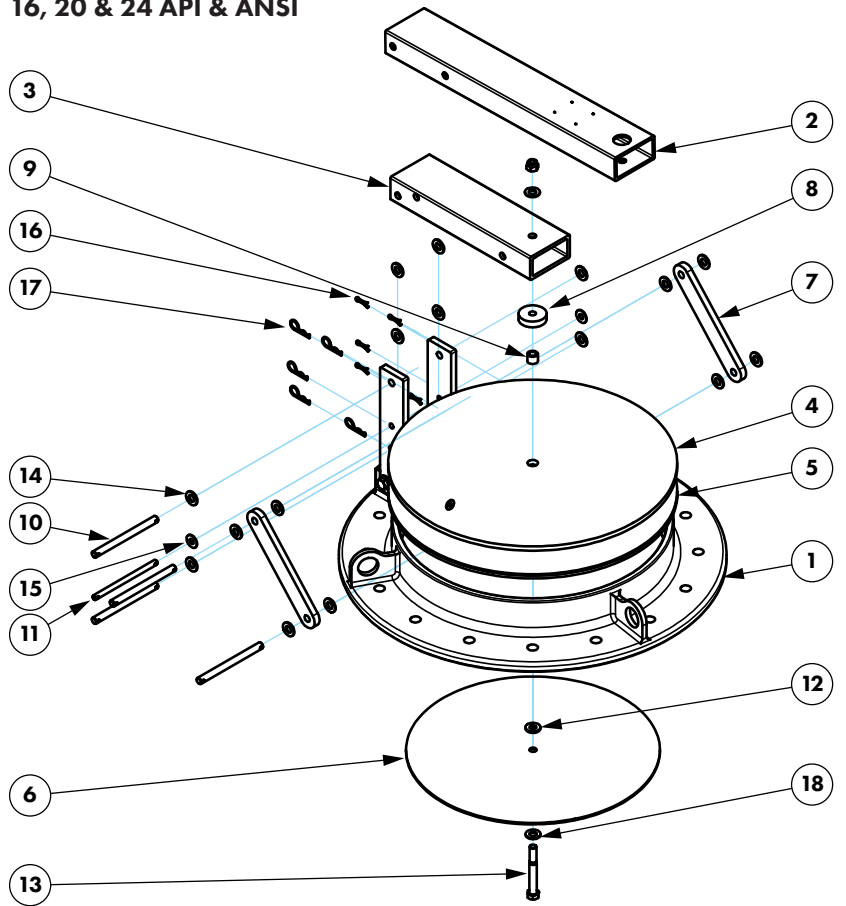


PARTS LIST & MATERIALS OF CONSTRUCTION

8 API
10 & 12 ANSI



16, 20 & 24 API & ANSI



VENT MARKING

Series 5000 EPRVs are tagged permanently with the information illustrated on the tag below, per API 2000 7th Ed, Section 6.

HAWKEYE INDUSTRIES INC.		1-800-910-4295	
www.hawk-eye.com		EDMONTON, ALBERTA, CANADA	
PROUDLY CANADIAN			
MODEL	CONNECTION SIZE & TYPE		
PART NUMBER			
SERIAL NUMBER		MANUFACTURE DATE	
PRESSURE RELIEF			
SET PRESS.	RELIEF CAPACITY	VALVE TYPE	SEAL MATERIAL
OZSI	*1000 SCFH AIR@100% OVER SET		
VACUUM RELIEF			
SET VAC.	RELIEF CAPACITY	VALVE TYPE	SEAL MATERIAL
OZSI	*1000 SCFH AIR@100% OVER SET		
TAG NUMBER			
TAG-VENT-R3			

Item	Part Name	Std. Material	Opt. Material
1	Vent Base	A356 AL	
2	Weight Arm	44W	6061 AL
3	Pallet Arm	44W	
4	Pallet	44W	6061 AL
5	Gasket	FKM + eFKM (Sponge +Std Viton)	
6	Gasket Retainer	5052 AL	
7	Compound Linkage	44W	
8	Bumper	CR (Neoprene)	
9	Pallet Seal	CR (Neoprene)	
10	Hinge Pin	CS ZP	
11	Locking Pin	CS ZP	
12	Gasket Retainer Washer	CS ZP +FKM (Viton)	
13	Pallet Bolt	18-8 SS	
14	Hinge Pin Washer	CS ZP	
15	Locking Pin Washer	CS ZP	
16	Hinge Cotter	CS ZP	
17	Hinge Hairpin	CS ZP	
19	Pallet Washer	18-8 SS	

Not shown: Dead Weights used to set relief pressure. These are 44W ZP.



ORDERING INFORMATION

Most Series 5000 EPRV configurations are near-stock, and we endeavor to ship in 2 - 4 business days ARO. Other configurations are typically build-to-order and available in about two weeks. Configure your desired Series 5000 EPRV using the part number legend below. Coatings, seals and bolt & gasket materials in bold are standard items and have fastest lead times. For project quantities, or configurations not listed here, contact your Hawkeye sales rep for more information.

EPRV - **5** **C** **C** **C** - **Sp** **Sp** - **E** **F** **G**

[CCC] Size Code		Set Pressure		[E] Coatings	
Connection Size (all FF)	Flag	Setting (ozsi)	Flag	Coating	Flag
8" API 12B/D/F	080	1*	01	Standard	0
20" API 650	200	2*	02	Severe Sour FBE	1
24" API 650	240	3*	03		
10" ANSI 150#	105	4	04		
12" ANSI 150#	125		
16" ANSI 150#	165	16**	16		
20" ANSI 150#	205		
24" ANSI 150#	245	31	31		
		32	32		

[F] Seal Material	
Seal Material	Flag
Standard FKM	0
ePTFE (Sponge Teflon)†	1
FEPM (Aflas)†	2
CR (Neoprene)†	3

[G] Reserved	
	Flag
	0

†Vents equipped with solid elastomer or expanded polymer seals may not meet API 2000 leak rate requirements.
 * Set Pressures under 17 ozsi for the 16" ANSI and 4 ozsi for the 20 and 24" API and ANSI EPRVs do not have the compound lever design.
 **Maximum setting for 8", 10" and 12" EPRVs.

Examples
Series 5000 EPRV, 8" API 12B/F, 16 ozsi Relief, Composite Viton Seals, Standard Coating w/ Gr 5 Bolt Kit and 1/8" Neoprene Tank Gasket EPRV-5080-16-000 & VCBK-0805-0 + VCGA-0800-0
Series 5000 EPRV, 20" ANSI B 16.5 150#, 8 ozsi Relief, Composite Viton Seals, Severe Service Coating w/ Gr 8 Bolt Kit and 1/8" Viton Tank Gasket EPRV-5205-08-100 & VCBK-2018-0 + VCGA-2051-0
Series 5000 EPRV, 24" API 650, 32 ozsi Relief, Composite Viton Seals, Standard Coating w/ Gr 8 Bolt Kit and 1/4" Viton Tank Gasket EPRV-5240-32-000 & VCBK-2408-0 + VCGA-2401-1

VCBK - **C** **C** **C** **M** - **0**

[CCC] Size Code	
Connection Size	Flag
Match Size Code From EPRV Matrix (left)	

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

Both 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.

VCGA - **C** **C** **C** **M** - **T**

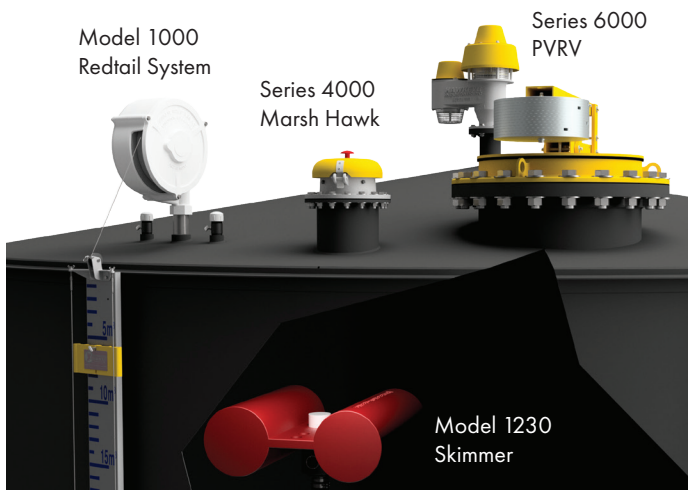
[CCC] Size Code	
Connection Size	Flag
Match Size Code From EPRV Matrix (left)	

[M] Material	
Grade	Flag
CR (Neoprene)	0
FKM (Viton)	1
FEPM (Aflas)	3

[T] Thickness	
Grade	Flag
1/8"	0
1/4"	1

Refer to the Venting - Connection Accessories brochure for more information on bolt kits, gaskets as well as mounting options available for the Series 5000 EPRV.

RELATED PRODUCTS



SEVERE SOUR COATING OPTIONS

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

The components of the Series 5000 EPRV are 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 sour petrochemicals.

