

## Flat Explosion Vent - Standard Sizes

Type	External Dimensions mm	Internal Dimensions mm	Vent Area m <sup>2</sup>	Product Code
Round Flat	1220	1100	0.93	VNT-XRF
Round Flat	1090	1000	0.77	VNT-XRF
Round Flat	990	900	0.62	VNT-XRF
Round Flat	890	800	0.49	VNT-XRF
Round Flat	784	700	0.37	VNT-XRF
Round Flat	695	610	0.28	VNT-XRF
Round Flat	640	550	0.23	VNT-XRF
Round Flat	578	500	0.19	VNT-XRF
Round Flat	553	450	0.15	VNT-XRF
Round Flat	473	400	0.12	VNT-XRF
Round Flat	440	350	0.09	VNT-XRF
Round Flat	390	300	0.07	VNT-XRF

Elfab can manufacture Explosion Vents outside of these standard sizes. Please contact us for other requirements.

### Support Frames and Gaskets

Steel, stove enamelled frames are available for installation of all panels. The frames have built-in support bars to prevent panel implosion. Support bar configurations can be designed to suit specific vacuum and back pressure requirements.

### Vent Sizing

Over the years, many methods have been adopted for sizing vents. At Elfab we are able to calculate sizes using any of the recognised methods. Our standard method is to use "Win-Vent" sizing software.

#### H and D

Height and diameter of vessel (or equivalent)

#### Kst

Maximum rate of pressure rise of media (dp/dt) as determined from tests in 1m<sup>3</sup> vessel

#### Pred

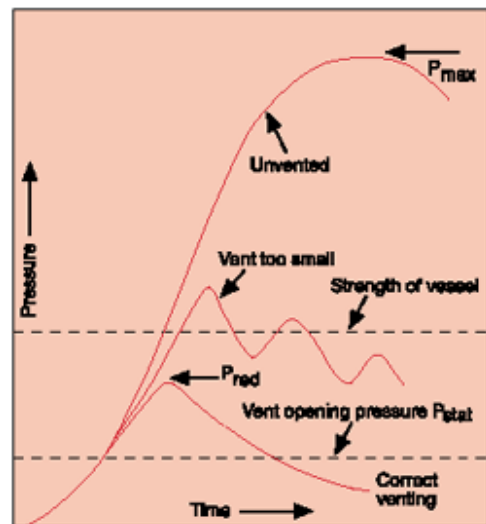
Maximum pressure permitted in the event of an explosion.

#### Pstat

is also required for sizing, being the set pressure of the panel. Elfab can provide this information.

#### Pmax

Maximum pressure reached during an explosion in a closed vessel, based on 1m<sup>3</sup> vessel tests (is only required if using Scholl equation stated in VDI 3673)



Under severely turbulent conditions, an explosion may be much more violent than conditions assumed in the above methods. These circumstances need to be identified, as larger vent areas are required.

Explosions, when they occur, should be vented direct to atmosphere. The discharge must be to a safe place and may require a duct. The length and configuration of duct may significantly affect the relief and must be taken into account when calculating vent area.

Elfab are able to offer advice on the application and sizing of explosion vents, based upon many years of experience and involvement in the latest developments in this field.

### Flo-Tel™ Detection

Elfab is unique in supplying a burst panel detection, ATEX approved to category II 1GD EEx ia IIC. EC-Type Examination Certificate ITS03 ATEX 11359, as standard with its panels. (Must be connected to an intrinsically safe circuit)

#### ELECTRICAL INFORMATION TEMPERATURE LIMITS

Panel Flo-Tel™ should be connected to an Intrinsically safe supply that is compatible with values:

$U_i = 30\text{v}$ .

$I_i = 100\text{mA}$ .

$P_i = 0.75\text{W}$ .

Supplied with a 2m cable.  $-100^{\circ}\text{C}$  to  $200^{\circ}\text{C}$

