oseco pressure intelligence	Company:	
	Project or Ref #	
	Sales Contact:	
	Rep:	
	Send Copy to:	
	Send Copy to:	

Explosion Vent Sizing Worksheet

General Information

Please fill in all the blanks in the below section. The information listed must be filled out in order for us to properly size your explosion vent.

Required Value	Value	Unit of Measure
Process Media Name The name of the chemical or substance enclosed in the system		
Operation Pressure The vessel's pressure during normal operation		
Operation Temperature The vessel's temperature during normal operation		
Maximum Vacuum The maximum pressure on the vent in the reverse direction of operation		
Pstat The desired burst pressure of the explosion vents. (1.5 psig for stock panels)		
Pred 2/3 of the maximum pressure the enclosure will withstand during a deflagration		
Cycling Is there pressure or temperatue cycling? If so, how often and how much?		
Vessel Volume The total volume of the vessel exposed to the process media		
Vessel L/D Ratio Length / Diameter for circular enclosures or the equation to the right to determine D for non-circular enclosures		none $D = 2\sqrt{\frac{Area}{3.14}}$
Vent Duct Length The length of any ducting attached to the explosion vent outlet		

Process Information

The above information must be filled out for any vent sizing. Once the General Information if filled our the appropriate section 1, 2, or 3 must also be completed.

Section 1 : **Dust or Hybrid mixed process media** This is for dust or hybrid mixture

Section 2 : **High strength enclosures (Gas/Mist Process Media)** This is for enclosures capable of withstanding pressures greater than 1.5 psi or 0.1 bar.

Section 3 : **Low strength enclosures (Gas/Mist Process Media)** This is for enclosures capable of withstanding pressures no greater than 1.5 psi or 0.1 bar.

Section 1: Dust / Hybrid Process Media		
Required Value	**Value**	**Unit of Measure**
Kst (Deflagration Index) Rate of pressure rise of the media during deflagration. See MSDS. External testing is sometimes required		bar-m/sec
Percent Fill (Xr) If known. Testing documentation from an organization having jurisdiction is required.		
Qair Flow rate of air through the equipment, usually in standard cubic feet/min		
Pmax The maximum pressure developed in an unvented vessel. See MSDS or test results		bar

Section 2: High Strength Enclosure (Gas / Mist Process Media)		
The is for enclosures capable of withstanding pressures greater than 1.5psi or 0.1bar		
Kg (Deflagration Index) Rate of pressure rise of the media during deflagration. See MSDS. External testing is		bar-m/sec

Section 3: Low Strength Enclosure (Gas / Mist Process Media)		
The is for enclosures capable of withstanding pressures **no** greater than 1.5psi or 0.1bar		
Internal Surface Area The total area of the vessel exposed to the process media		
Fuel Constant This can be located on the MSDS for the chemical		$\sqrt{p}$

Key:

Information needed for **all** applications to size to NFPA 68, 2007	ALL
Additional information required for **dust** sizing applications:	DUST
Additional information required for **high strength gas** enclosures:	HIGH STRENGTH GAS
Additional information required for **low strength gas** enclosures:	LOW STRENGTH GAS

Additional Comments: