

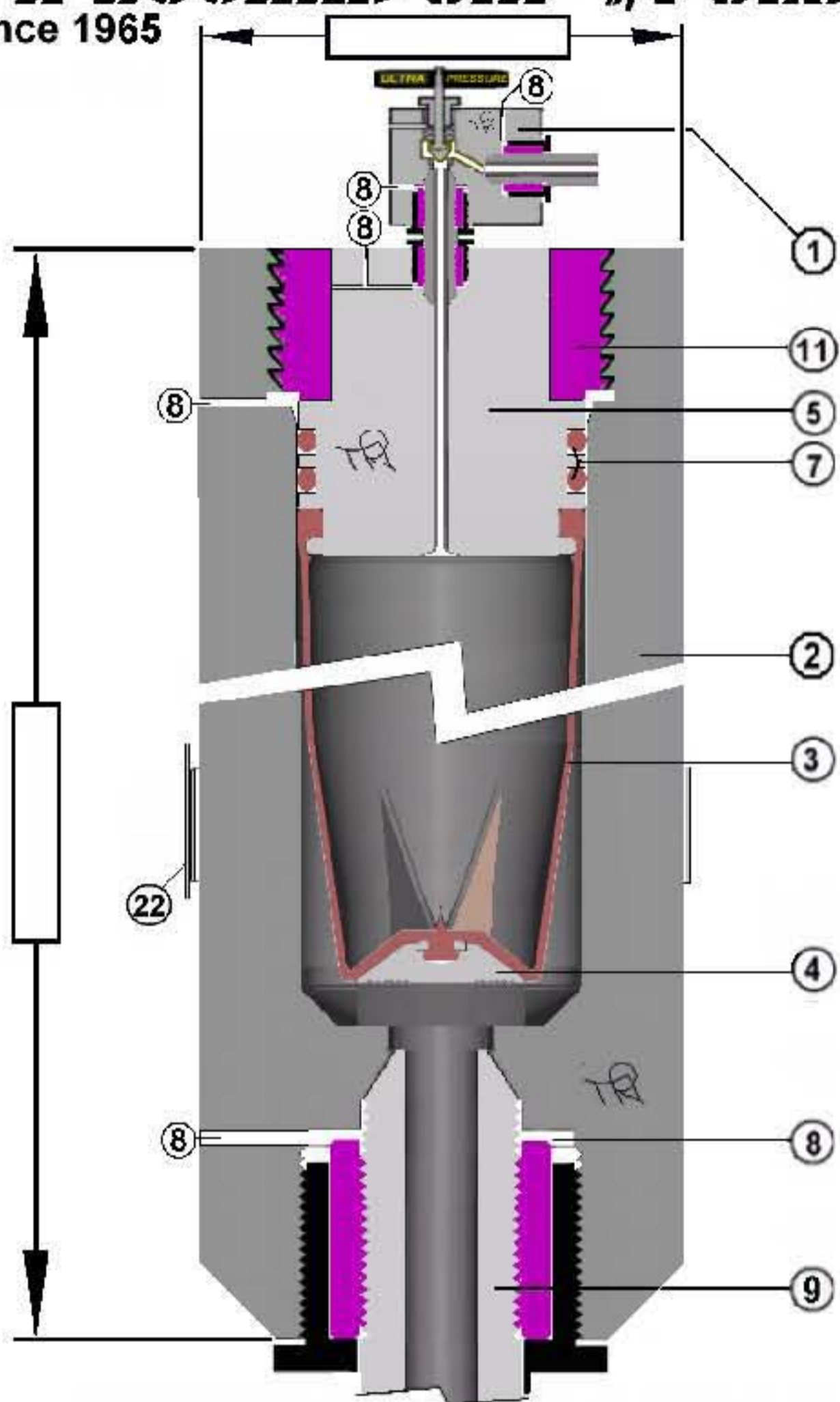


P&PE
PUMPS & PROCESS EQUIPMENT INC.

To Request a Quote,
CALL US 1-847-882-8116

"PIPEGUARD UHP" by PULSEGUARD "Pig/UHP" Pulsation Dampner, ULTRA PRESSURE Series, & Options

Since 1965



Duplex & Super Duplex Stainless Steel wetted metal parts + EP, Nitrile, Hypalon, Fluorel etc gas bags.

We are able to warrant safety when following our own 30 year proven methods :-
We can not accept end user statement that design pressure is working pressure

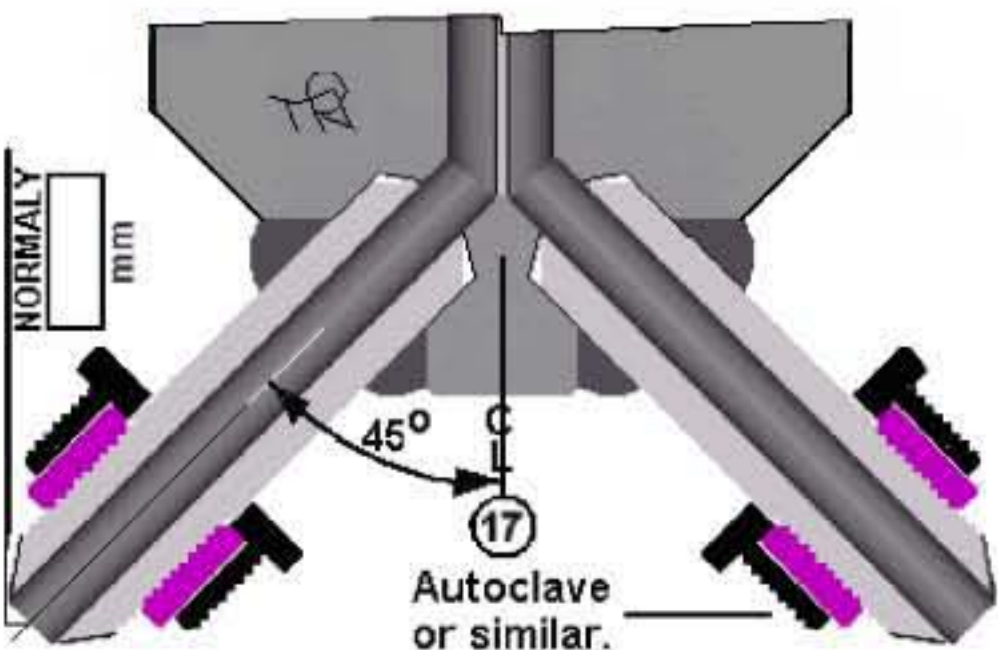
Where Allowable Working Stress = S
 Design Pressure $P = \frac{MAWP + 10\% + 15\%}{RV \cdot RV_{Acc}}$
 Joint Efficiency = E
 RV is for relief safety valve set pressure
 RVacc for relief valve accumulation pressure
 E is 1.0 No Welds, or radiographed.
 E is 0.7 Welded but not radiographed.
 $T = \frac{\text{Design Pressure} \times \text{Radius Internal}}{S(\text{From Pt. II D 1992}) \times E} - (0.6P)$

The ASME have increased allowable working stresses, enabling cheaper less safe vessels, so that their "U" certification business can be expanded against international competition, and the income of ASME International increased.
 In any event Div. 1 is for up to 3000 psi service.

Concurrently European Pressure Equipment Directive, the "DEP" enforced by criminal law, has no "SAFETY COEFFICIENTS" in its "ESRs" -Essential Safety Requirements- approved for soft cyclic duty snubber dampers, whilst also allowing ductility as low as 14%.

These codes prevent code dampers being warranted safely suitable for purpose.

CONNECTION OPTION "45-45 MALE"
 TechLock / GL / SL / etc HUBS also available



Typical UHP Duplex Stainless and Elastomer Gas Bag Damper.bmp

● Diametral Static "O" Seals
90 IRH / Shore "A"
"B" diam, mm

"y" is gas bag length, mm

Anti-Extrusion Plate

Spares Kit
Pt Nbr. SK/
B.....y.....

Enter * Letters Denoting Elastomer Typer Required
 E = EPT/EPDM
 N=Nitrile
 H=Hypalon
 B=Butyl
 V=Fluoro Elastomer etc.

DECLARATION as required by PED Mandatory Essential Safety Requirement "ESR" state under design 2 at 2.1 the use of:

"SAFETY COEFFICIENTS" this can not be complied with because neither EN 5500 nor EN 13445 have any Safety Coefficients.

Accordingly:
 It must be a fraud for any notified body to issue a certificate of conformity to ISO9001-2000 holders claiming any suitability for purpose from their quality system.

M. Packer, designer and "responsible party".

Item Nbr	Description / function	Internal "Heat/Cast No" PURCHASE No
22	Stainless Data Plate on stainless banding.	IDENTIFICATION / TRACEABILITY
18	60° Male Connections Coned are easier to refurbish, but make seal & bag service harder.	
17	60° Cone Ended Heavy Wall tube	
16	Escape hole, leakage overload prevention.	
15	45°x45° to Center Line - Connection Orientation	
14	Left Hand Threaded Tube Ring	
13	Hollow Nut	
12	Buttress Thread Ring	
11	Twin Port Thru-Flow "Interceptor" with weir plate	
10	Single Connection, Autoclave Type.	
9	Escape hole, leakage overload prevention.	
8	"Header Plug" - static diametral seals "O" ring	
7	End Closure "Header Plug" Prefill Gas charge point.	
6	Anti Extrusion Plate	
5	Gas Bag "Bladder" "B---y---" (mm Dia x mm high)	
4	Body From Solid Billet	
3	Nitrogen Pre-Fill Valve - Customer choice.	

Scale : Please do not print without "MAINTAIN ASPECT RATIO" on, Use A3 paper on A3 paper, Landscape 420mm wide

Part Nbr. / Drawing Ref : _____ Date _____ th 200__ Rev Nbr Δ
 Pig/Dss/ ___i/ ___p/B___y___ / or 45°x45° ___x___ Duplex

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