

"PIPEHUGGER HP" by PULSEGUARD & Typical "Phr" Series Pulsation Dampener, with options.

Since 1980

316L, or A20, Tit2, Hasteloy etc wetted metal parts + EP, Nitrile, Hypalon, Fluorel etc bladder.

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

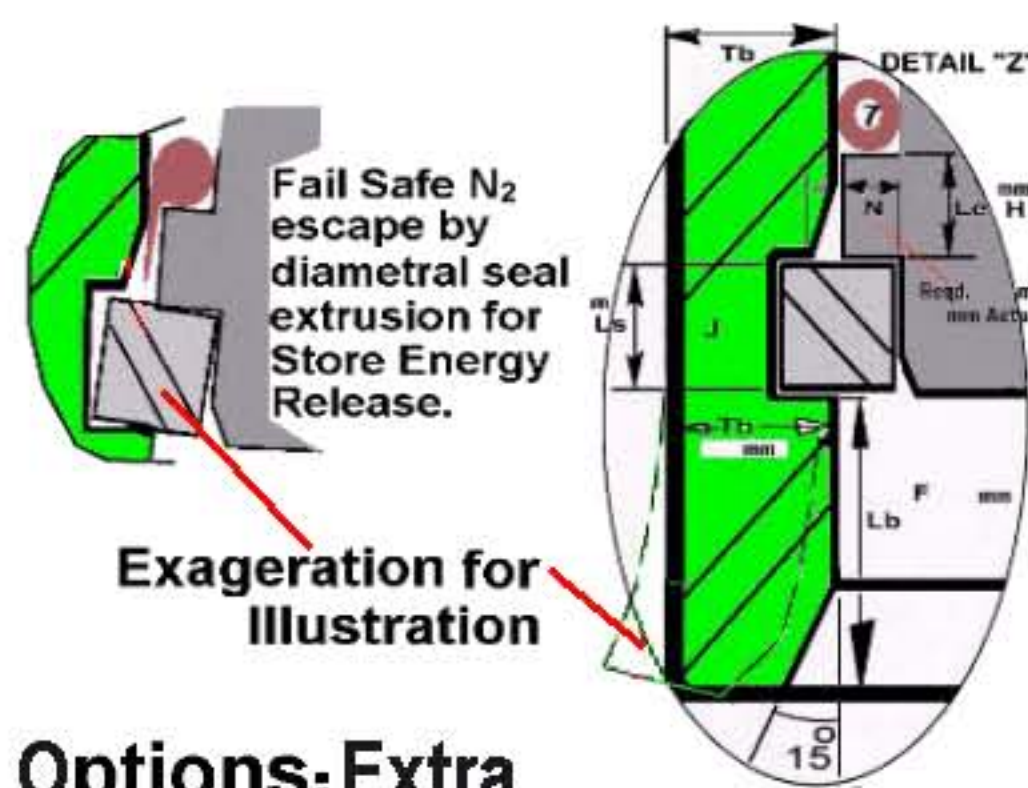
Where Allowable Working Stress = S
 Design Pressure P = MAWP + 10% + 15%
 Joint Efficiency = E RV RVacc
 RV is for relief safety valve set pressure
 RVacc for relief valve accumulation pressure
 E is 1.0 No Welds, or radiographed.
 E is 0.7 Welded but not radiographed.

$$T = \frac{\text{Design Pressure} \times \text{Radius Internal}}{S(\text{From Pt. II D 1992}) \times E - (0.6P)}$$

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.

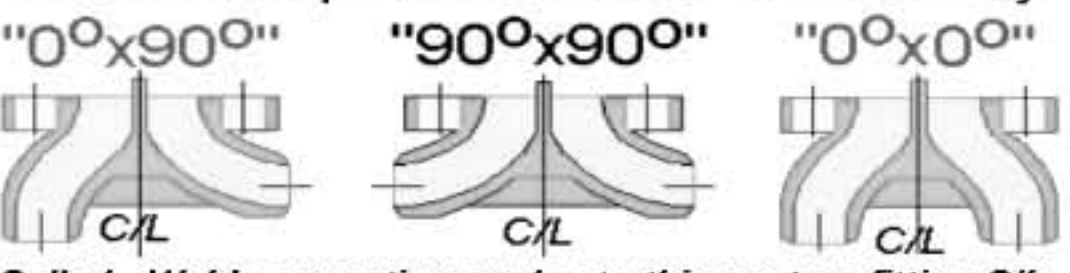
Concurrently European Pressure Equipment Directive, the "DEP" enforced by criminal law, has no "SAFETY COEFFICIENTS" in its "ESRs" -Essential Safety Requirements- approved for soft cyclic duty snubber dampers, whilst also allowing ductility as low as 14%.

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

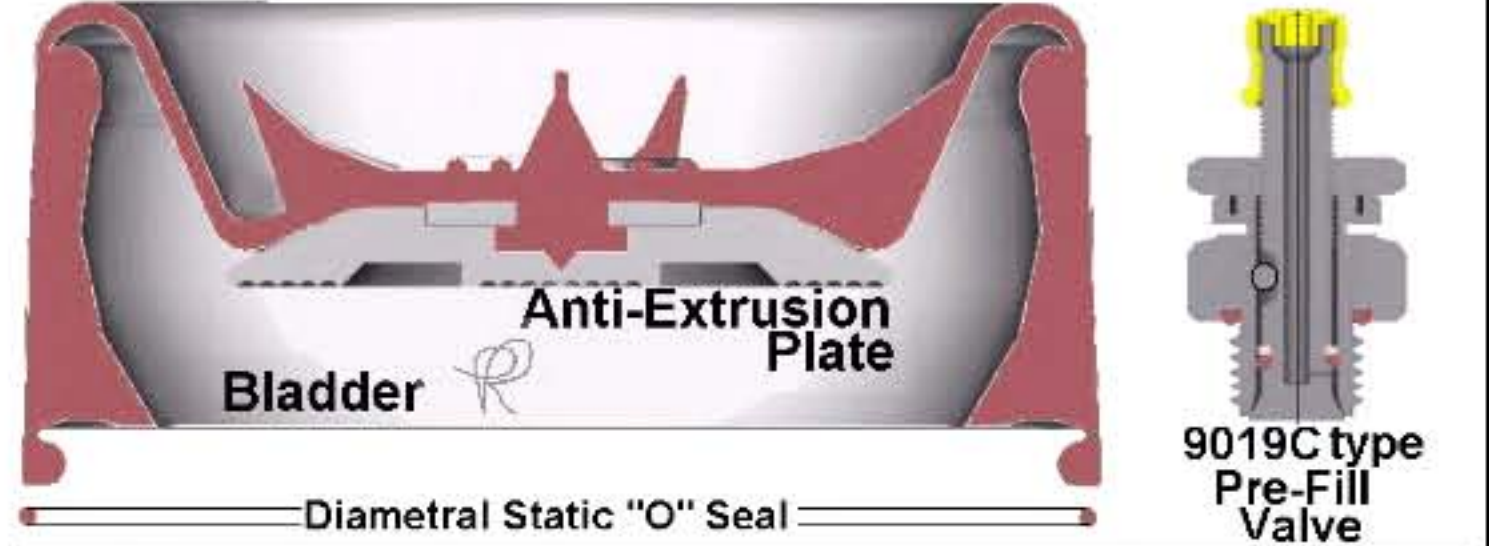


Options:Extra

PulseGuard "Y-T" block, best flanging to system. In place of System "T", better flushing, & intercepts Pressure wave pulsation. For 37.5° butt weld only.



A full Spares Kit Consists of : Pt Nbr. SK/-----



| Item Nbr | Description / function | Internal "Heat/Cast No" PURCHASE No |
|----------|--|-------------------------------------|
| 22 | | IDENTIFICATION / TRACEABILITY |
| 19 | | |
| 18 | | |
| 17 | | |
| 16 | | |
| 15 | | |
| 14 | Retaining Plate | |
| 13 | | |
| 12 | Stainless Data Plate on stainless banding. | |
| 11 | Hex Head Screws, 2 Places. Diam. Lgth UH | |
| 10 | Full Diameter Opening, ease of service. | |
| 8 | Lock Ring, tamper-proof, 3 segments of circle. | |
| 7 | "Base Plug" - static diametral seals "O" ring | |
| 6 | End Closure / "base plug" - liquid contact part. | |
| 5 | Body From Solid Billet | 13818c |
| 4 | Anti Extrusion Plate | |
| 3 | Liquid Bladder "D--- y---" (mm Dia x mm high) | |
| 2 | | |
| 1 | Nitrogen Pre-Fill Valve 9019c type, | |

Scale : Please do not print without "MAINTAIN ASPECT RATIO" on, Use A3 paper on A3 paper, Landscape 420mm wide
 Part Nbr. / Drawing Ref : Phr/TD/18 i/ 4300p/D77L / 1" FNPT /316L- EP
 Date Jan 14th 2014 Rev Nbr 1

PulseGuard <http://www.PulseGuard.com>
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