Pulsation Dampener Size Selection Tables for use in systems where flow is from Packed Plunger Pumps. P20

1 *Dampers listed below are from 1000s of "off the shelf" inventory dampers, for preventing pipe systems from converting plunger flow fluctuation into pressure pulsation. Prices are tabulated for you at www.pulseguard.com. Call toll free 1-888-DAMPERS(326-7377) for discounts etc. Choose a damper matching your pump connection size, for standard damping. Or allow us to calculate for you, from your smoothness required and your system data.*

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2. *The right pipe bore improves pressure pulse damping and saves more pipe than damper costs. Where an area of 2 suits constant suction velocity, 6 suits peak velocity suction stabilizer to pump inlet. 3 suits pump outlet to discharge bottle and 1suits constant discharge out of bottle.*

The PipeHugger HP
With ELASTOMER BLADDER
No flow reversal pressure generation in a single connection.
Perfect discharge acceleration head prevention , and pressure pulsation interception

Please State Material preferences and model Number below when ORDERING :	Connections To Pump	to Sys.	Connct. Type	Length (Without Pipes) L Inch.	Diam D Inch	Weight in 316ss Lbs.	Vol. In³	Pres. @93 C Lbs/In²	Wetted your choice Dims. For	Spares Kit	*
PkPl-Phr-40	1/2" x	3/8"	F NPT	11	5.9	52	40	5,250	316 L	D100L	?
PkPl-Phr-61	3/4" x	1/2"	F NPT	9.8	6.6	48	61	1,500	316 L	D125L	?
PkPl-Phr-61	3/4" x	1/2"	F NPT	11.2	7.0	75	61	4,300	316 L	D125L	?
PkPl-Phr-122	1.0" x	3/4"	F NPT	9.4	6.6	33	122	1,050	316 L	D145L	?
PkPl-PhrO-122	1.25" x	1.0"	Sch 160	13	7.9	112	122	3,950	316 L	D145L	?
PkPl-PhrO-200	1.5" x	1.25"	Sch 80	9.6	8.5	56	200	1,200	316 L	D191M	?

The PipeHugger LP
No flow reversal pressure loss in a single connection.
Perfect suction acceleration head loss recovery.

Please State Material preferences and model Number below when ORDERING :	Connections Max on Piping Base To Pump	to Sys.	Connct. Type	Length (Without Pipes) L Inch.	Diam D Inch	Weight in 316ss Lbs.	Vol. In³	Pres. @93 C Lbs/In²	Wetted your choice Dims. For	Spares Kit	*
PkPl-PhrLP"0"20	/+PB4.0 3/8"	x 3/8"	/ F npt /	5.4	4.0	10	/20i/	650p/	316L	/ D85L	?
PkPl-PhrLP"0"40	/+PB5.0 1/2"	x 1/2"	/ F npt /	6.3	5.0	17	/40i/	600p/	316L	/ D115L	?
PkPl-PhrLP"0"90	/+PB6.0 3/4"	x 3/4"	/ F npt /	6.9	6.5	21	/90i/	500p/	316L	/ D145L	?
PkPl-PhrLP"0"180	/+PB8.0 1.0"	x 1.0"	/ M npt /	8.5	8.5	38	/180i/	400p/	316L	/ D191L	?
PkPl-PhrLP"0"360	/+PB9.0 1.25"	x 1.25"	/37° BW /	9.4	10.4	55	/360i/	400p/	316L	/ D244L	?
PkPl-PhrLP"0"720	/+PB12 1.5"	x 1.5"	/37° BW /	10.1	12.7	80	/720i/	250p/	316L	/ D285L	?

The Flexorber HP
With FLEXFLON or PTFE DIAPHRAGM
No flow reversal pressure generation in a single connection.
Perfect discharge acceleration head prevention , and pressure pulsation interception

Please State Material preferences and model Number below when ORDERING :	Connections To Pump	to Sys.	Connct. Type	Length (Without Pipes) L Inch.	Diam D Inch	Weight in 316ss Lbs.	Vol. In³	Pres. @93 C Lbs/In²	Wetted your choice Dims. For	Spares Kit FlexFlon
Above 1" Pipe thread, and all Flexorbers above 40 In3						MeterGuard Piping block		Connections male & FROM A "METERGUARD"		
PkPl-Flo 61	1.0" x	0.75"	Sch XX 37°BW	10.0	12.5	300	61	5,500	316 L	DW 187tfe
PkPl-Flo 80	1.25" x	1.0"	Sch XX 37°BW	11.0	13.5	350	80	5,250	316 L	DW 200tfe
PkPl-Flo 122	1.5" x	1.25"	Sch XX 37°BW	11.5	14	400	122	5,000	316 L	DW 223tfe
PkPl-Flo 180	2.0" x	1.5"	Sch XX 37°BW	12.5	16	550	180	4,500	316 L	DW 268tfe
PkPl-Flo 240	2.0" x	2.0"	Sch XX 37°BW	13	17	675	240	4,000	316 L	DW 280tfe
PkPl-Flo 300	2.5" x	2.0"	Sch XX 37°BW	15.2	18	800	300	3,500	316 L	DW 305tfe

The Flexorber LP
No flow reversal pressure loss in a single connection.
Perfect suction acceleration head loss recovery.

Please State Material preferences and model Number below when ORDERING :	Connections Norm on Piping Base To Pump	to Sys.	Connct. Type 37° BW or	Length (Without Pipes) L Inch.	Diam D Inch	Weight in 316ss Lbs.	Vol. In³	Pres. @93 C Lbs/In²	Wetted your choice Dims. For	Spares Kit FlexFlon
PkPl-SogHP30	/ 0.375" x	0.375" /	M npt	6.42	9.0	40	/30i	/ 2,250p /	316L	/ DW160
PkPl-SogHP60	/ 0.5" x	0.5" /	M npt	6.0	10.2	54	/60i	/ 1,450p /	316L	/ DW175
PkPl-SogHP100	/ 0.75" x	0.75" /	M npt	8.0	11.4	72	/100i	/ 1,650p /	316L	/ DW200
PkPl-SogHP230	/ 1.0" x	1.0" /	M npt	8.75	14.6	125	/230i	/ 1,250p /	316L	/ DW268
PkPl-SogHP320	/ 1.5" x	1.5" /	M npt	8.75	18.5	220	/320i	/ 1,450p /	316L	/ DW268

The PipeGuard HP
The original "ELASTOMER GAS BAG" damper from its originators.
For externally corrosive environments, economical high pressure capability by tall and slim, but sacrifices high frequency capability of the larger diameter true DAMPERS - the Pipehugger and the Flexorber above.

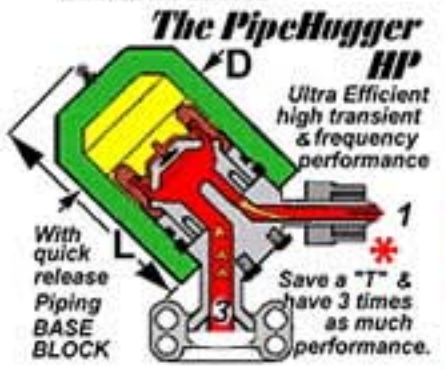
Please State Material preferences and model Number below when ORDERING :	Connections To Pump & to Sys.	Connct. Type	Length (Without Pipes) L Inch.	Diam D Inch	Weight in 316ss Lbs.	Vol. In³	Pres. @93 C Lbs/In²	Wetted your choice Dims. For	Spares Kit
PkPl-Pig-HP 6	SF-375CX Male	Autoclave/PPI	7.5	3.5	17	6	15,000	Duplex SS	B44x75
PkPl-Pig-HP 15	SF-500CX Male	Autoclave/PPI	10.0	4.0	26	15	11,250	Duplex SS	B57x98
PkPl-Pig-HP 60	SF-750CX Male	Autoclave/PPI	16.0	5.1	70	60	11,000	Super Dplx SS	B72x255
For flow fluctuation smoothing PIPEGUARD MP with METERGUARD PIPING BASE with SO pipe ends.									
PkPl-Pig-MP-120	1" x	1" Sch 160	11.8	6.7	65	120	3,500	316 L	B139x105
PkPl-Pig-MP-240	1.5" x	1.5" Sch 160	15.7	6.7	81	240	3,500	316 L	B139x205
PkPl-Pig-MP-460	2" x	2" Sch 160	24	6.7	101	460	3,500	316 L	B139x420

4. ** The question mark "?"* = Letters, showing your choice of compatible elastomer, add the letter to ordering Pt. Nbr. - N=Buna N, E=EP, H=Hypalon,x V=Fluoro-Carbon,x x= addition to cost*
A20 =Alloy 20, H22 =Hasteloy 22, Ti2 =Titanium 2, Tan =Tantalum, Zir Zirconium, DSS = Duplex Stainless, SDSS =Super Duplex.

When you see a damper or a pump of particular interest, please request literature dedicated to that subject.

3. *Where no OSHA requirement for in place flush before service, nor process need for 1st in 1st out, constant temp., change of liquid pumped, interception of pressure pulsation ; use second connection to save a "T" for RV. PI, or System Drain. 2 connection dampers are standard lowest cost. Waveguard and Dampers for 10Hz & above, IE systems 300 meters (1000 ft.) or less, must use FLOW-THROUGH*

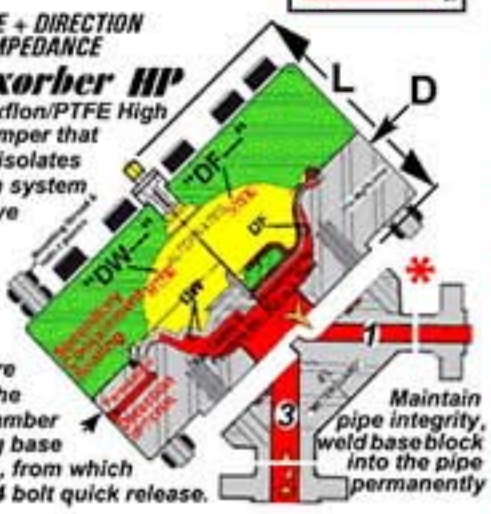
CAPACITANCE + DIRECTION CHANGE IMPEDANCE



PERFORMANCE REQUIRES :
1. CLOSE COUPLING TO THE PUMP
2. NO OVERSIZED PIPE
3. STRAIGHT SHOT OR 5D BEND FROM PUMP TO DAMPER

The only Suction Damper that can be fitted exactly where it belongs, close coupled directly at the suction check valve of the pump it protects.

CAPACITANCE + DIRECTION CHANGE IMPEDANCE



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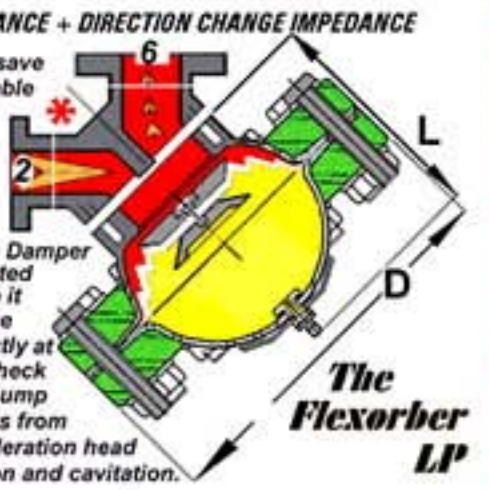

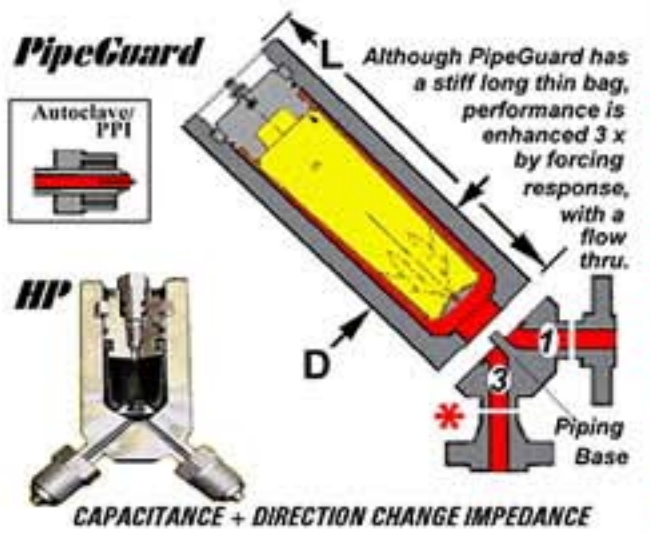

CAPACITANCE + DIRECTION CHANGE IMPEDANCE

Ideal Ratio of Cross Sectional Pipe Areas :
2 From supply into suction system loss preventor.
6 From acceleration head loss remover to pump .
3 From pump discharge check, into damper.
1 Discharge system responses intercepted from pump.

**For piping bases GOTO http://www.pulseguard.com/pulsation_dampening/select_smooth_pipe_method/pipe_method.htm#smooth_percentage/flow_or_pressure/find_pump_f/calc_damper_volume/select_pipe_method/pipe_method.htm*

PUMPS make FLOW, SYSTEMS cause PRESSURE, pressure pulsation is a system response, AND a system responsibility NOT a pump manufacturers liability.