spirax sarco®

Noise Diffuser
D Series

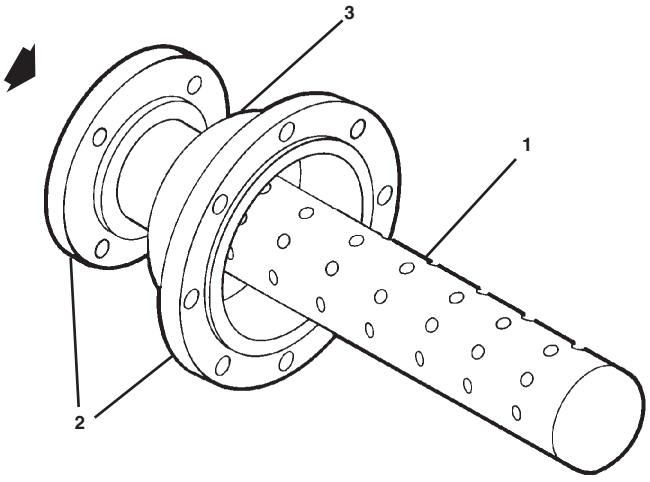
The D Series Noise Diffuser is designed to reduce Pressure Reducing Valve noise generation. The diffuser breaks up the normal exit turbulance of the steam flow using an engineered orifice pattern in a pipe nozzle inserted on the downstream side of a pressure reducing valve. The amount of noise level reduction produced by the diffuser will be approximately 15 dBA. Pressure drop through the diffuser will not exceed 1% of line pressure upstream of the pressure reducing valve.

Model ➪	D-1 to D-24
PMO	320 psig
Sizes	1/2"x 2" to 6"x20" (see over)
Connections	Male NPT/ANSI Flgd. (see over)
Construction	Carbon Steel Body
Options	Buttweld outlet connection

Limiting Operating Conditions

Max. Operating Pressure (PMO) 320 psig
(*22 barg*)

Max. Operating Temperature 600˚F
(*260˚C*) at all operating pressures



Construction Materials

No.	Part	Material	
1	Pipe	Steel	ASTM A106 GrB ASTM A-53-GrB ASTM A516 Gr70
2	Flanges	Steel	ASTM A105
3	Head	Steel	ASTM A-516 Gr70

Sample Specification

An in-line noise diffuser shall be installed directly attached to the downstream connection of a pressure reducing valve to reduce noise output by approximately 15 dBA when measured by a sound level meter meeting ANSI standards. Noise Diffuser shall be manufactured of rolled and welded steel components that have been welded in accordance with ASME Section IX weld procedures. Pressure drop through the diffuser shall not exceed 1% of line pressure upstream of the pressure reducing valve. No additional pipe expansion shall be necessary downstream of the diffuser.

Capacities:

For sizing and selection data, see overleaf.

Installation

The Noise Diffuser inlet should be directly attached to the outlet of the Pressure Reducing Valve. This type of installation is recommended to avoid the generation of flanking noise normally found when separately installing the Pressure Reducing Valve and Diffuser with a section of pipe between them.

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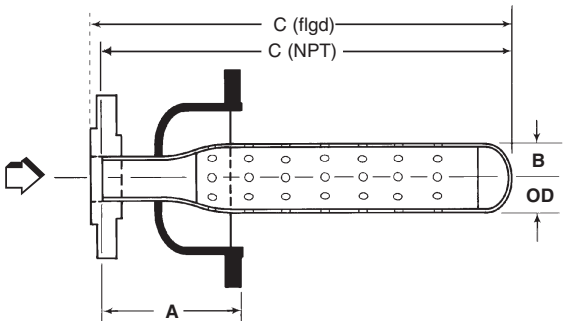

Dimensions nominal in inches

Model	Inlet [1]	Outlet [2]	A	B	C	Maximum Weight[3] NPT/150# 150#/150#	Maximum Weight[3] NPT/300# 300#/300#	Model
D1	1/2 to 1	2	5.5	1.32	10.5	6.8	8.8	D1
D3					13.5	7.1	9.1	D3
D4	3/4 to 2	4	6.5	2.38		18.6	27.6	D4
D5	3/4 to 2-1/2			2.88	16.5	25.8	34.8	D5
D6	1-1/4 to 3	6	8	3.5	17	39	64	D6
D8	1-1/2 to 4	8	10	4.5	17	72.9	109.9	D8
D10	2 to 6	12	12	6.625	21	131.2	202.2	D10
D12	2-1/2 to 6				21	131.6	202.6	D12
D14	3 to 6				28	132.6	203.6	D14
D16	4 & 6	16		8.625	24	196.2	308.2	D16
D18					31	196.4	308.4	D18
D20	6	20		10.75	26	297.1	467.1	D20
D24					32	298.4	468.4	D24

[1] Available inlet sizes: Male NPT – 1/2", 3/4", 1", 1-1/4", 1-1/2", 2" ; ANSI 150 or 300 flanged - 2-1/2", 3", 4", 6".
[2] All outlets are ANSI 150 or 300 flanged.
[3] The weight shown is for the largest inlet size. If precise weights are required, please contact the factory.

Capacities – Pounds of Saturated Steam per Hour

Inlet Steam Press. to PRV psig	Model No D1	D3	D4	D5	D6	D8	D10	D12	D14	D16	D18	D20	D24
15	1000	1500	3000	4000	6000	10,000							
20	1000	1500	3000	4000	6000	12,000	15,000						
25	1000	1500	3000	4000	6000	12,000	16,500						
30	1000	1500	3000	4000	6000	12,000	18,000						
40	1000	1500	3000	4000	6000	12,000	18,000						
50	1000	1500	2000	4000	6000	12,000	18,000	25,000					
60	1000	1500	2000	4000	6000	12,000	18,000	25,000	35,000				
75	1000	1500	2000	4000	6000	12,000	18,000	25,000	35,000	40,000	50,000		
85	1000	1500	2000	4000	6000	12,000	16,800	25,000	35,000	40,000	50,000		
100	1000	1500	2000	4000	6000	12,000	15,000	25,000	35,000	40,000	50,000		
125	1000	1500	2000	4000	6000	10,000	15,000	25,000	35,000	40,000	50,000		
150	1000	1500	2000	4000	6000	10,000	15,000	25,000	35,000	40,000	50,000	75,000	
175	1000	1500	2000	4000	6000	10,000	15,000	25,000	35,000	40,000	50,000	75,000	
200	1000	1500	2000	4000	6000	10,000	15,000	25,000	35,000	40,000	50,000	75,000	100,000
225	1000	1500	2000	4000	6000	10,000	15,000	25,000	35,000	40,000	50,000	75,000	100,000
250	1000	1500	2000	4000	6000	10,000	15,000	25,000	35,000	40,000	50,000	75,000	103,000
275	1000	1500	2000	4000	6000	10,000	15,000	25,000	35,000	40,000	50,000		
300	1000	1650	2000	5000	6600	10,000	16,500	27,000	35,000	40,000	55,000		

Diffuser capacity depends on the inlet steam pressure to the PRV. Choose a diffuser with a capacity equal to or greater than that of the PRV, and check to confirm that the connections are compatible. If not, select the next diffuser that offers the same inlet connection as the PRV outlet.

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