



## Noise Diffuser D Series

### Description

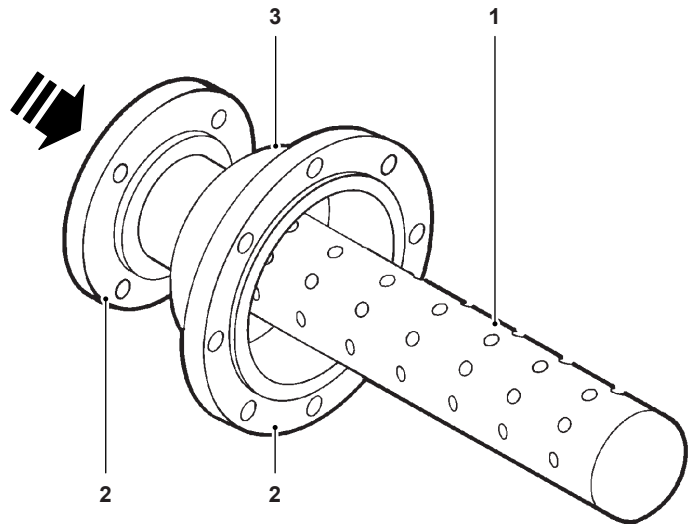
The D Series Noise Diffuser is designed to reduce Pressure Reducing Valve noise generation. The diffuser breaks up the normal exit turbulence of the steam flow using an engineered orifice pattern in a pipe nozzle inserted on the downstream side of a pressure reducing valve.

The amount of noise level reduction produced by the diffuser can be approximately 10-15 dBa depending on frequency. Pressure drop through the diffuser will not exceed 1% of line pressure upstream of the pressure reducing valve.

<b>Model</b>	<b>D-1 to D-24</b>
PMO	320 psi g
Sizes	½"x 2" to 6"x20" (see overleaf)
Connections	Male NPT/ANSI Flgd. (see overleaf)
Construction	Carbon Steel Body
Options	Buttweld outlet connection

### Materials

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



### Limiting operating conditions

PMO	Maximum operating pressure	320 psi g (22 bar g)
TMO	Maximum operating temperature	600 °F (316 °C) at all operating pressures

### 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 up to 10-15 dBa based on frequency 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.

## 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.

**Table 1: Acoustic Diffusers**

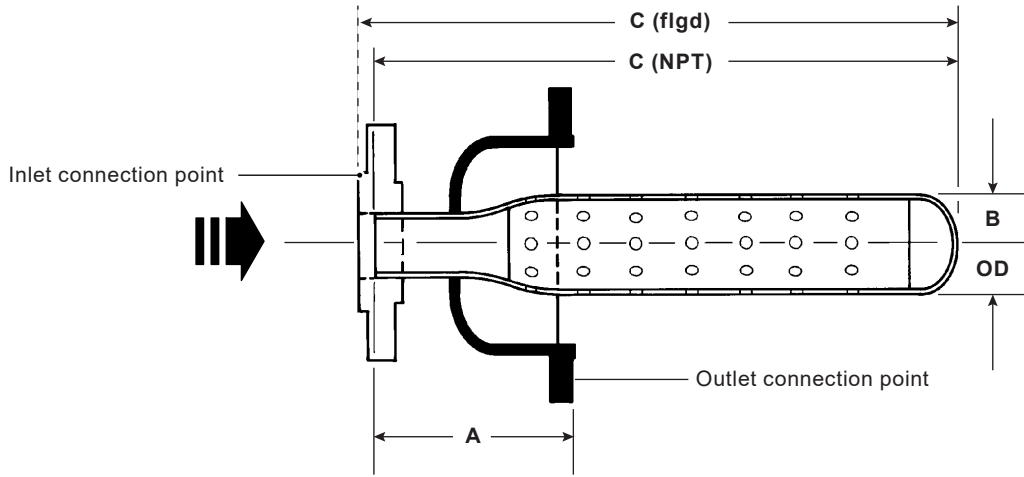
Frequency (Hz)	63	125	250	500	1K	2K	4K	8K
DIL (ΔdBa)	-2	-3	-6	-10	-13	-15	-12	-8

## Capacities – Pounds of Saturated Steam per Hour

Inlet steam Pressure to PRV psi g	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.

**Dimensions** nominal in inches



Model	Inlet <sup>1</sup>	Outlet <sup>2</sup>	A	B	C	Maximum Weight <sup>3</sup>		Model
						NPT/150# 150#/150#	NPT/300# 300#/300#	
D1	½ to 1	2	5.5	1.32	10.5	6.8	8.8	D1
D3					13.5	7.1	9.1	D3
D4	¾ to 2	4	6.5	2.38	16.5	18.6	27.6	D4
D5	¾ to 2½			2.88		25.8	34.8	D5
D6	1¼ to 3	6	8	3.5	17	39	64	D6
D8	1½ to 4	8	10	4.5	17	72.9	109.9	D8
D10	2 to 6				21	131.2	202.2	D10
D12	2½ to 6	12	12	6.625	21	131.6	202.6	D12
D14	3 to 6			28	132.6	203.6	D14	
D16	4 and 6	16	12	8.625	24	196.2	308.2	D16
D18				31	196.4	308.4	D18	
D20	6	20	12	10.75	26	297.1	467.1	D20
D24				32	298.4	468.4	D24	

<sup>1</sup> Available inlet sizes: Male NPT – ½", ¾", 1", 1¼", 1½", 2" ; ANSI 150 or 300 flanged - 2-½", 3", 4", 6".

<sup>2</sup> All outlets are ANSI 150 or 300 flanged.

<sup>3</sup> The weight shown is for the largest inlet size. If precise weights are required, please contact the factory.