

Technical Bulletin 43

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Compressed Airflow Through Orifices

by Brian S. Elliott

Many instances can arise within the context of the compression system that may call for the use of compressed air to flow unimpeded through an orifice. Generally speaking, this practice is considered the improper use of compressed air and should be avoided. However, there are those exceptions that simply can't be avoided. In these cases, the airflow through any given size orifice is critical to the application and the compression system it's attached to. The chart below shows the SCFM requirement for various orifices at common pressures.

		Pressure (PSI)					
		90	100	125	150	175	
Orifice Diameter (Inch)	1/64	0.32	0.35	0.43	0.51	0.66	Air Flow (SCFM)
	1/32	1.29	1.40	1.71	2.02	2.64	
	3/64	2.87	3.15	3.85	4.55	5.95	
	1/16	5.10	5.60	6.85	8.09	10.60	
	3/32	11.50	12.60	15.40	18.20	23.80	
	1/8	20.40	22.40	27.40	32.40	42.30	
	3/16	45.60	50.40	61.60	72.80	95.20	
	1/4	81.60	89.60	110.00	129.00	169.00	
	3/8	184.00	202.00	246.00	291.00	381.00	
	1/2	326.00	358.00	438.00	518.00	677.00	
	5/8	510.00	560.00	685.00	809.00	-	
	3/4	734.00	806.00	986.00	-	-	
7/8	999.00	-	-	-	-		

SCFM: Standard Cubic Foot of Air Per Minute

SCF: 1 Cubic Foot of Air at Atmospheric Pressure

PSI: Pounds Per Square Inch

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