AIR CYLINDER SPEED

The exact speed of an air cylinder cannot be calculated. Air cylinder sizing depends on the degree of overpowering required to move the load at a desired speed, valving, piping, and other factors which usually are unknown and cannot be measured.

When a fast speed is required, the bore size and line pressure should be twice that which is needed to balance the load resistance. The lines to the valve and cylinder should be as short as possible. When selecting the directional control valve to be used in an air application, the orifice of the valve should be equal to the cylinder port size. The air cylinder speed chart shows the proper port size under average conditions.

NOTE: The air cylinder chart below is based on average conditions. Conditions where the cylinder is operating at twice the thrust force required and a line pressure of 80 to 100 psi.

AIR CYLINDER SPEED								
	Actual Valve Orifice Size							
Bore	1/32	1/16	1/8	1/4	3/8	1/2	3/4	1
1 1/8	5	12	28	85				
1 1/2	3	7	16	50	125			
2	1	4	9	28	70	112		
2 1/2		2	6	18	45	72	155	
3 1/4			3	9	22	36	78	165
4			2	7	17	28	60	130
5			1	4	11	18	40	82
6				3	7	12	26	55
8				1	4	7	15	32
10					2	4	9	20
12					1	3	6	14
Above Figures are in Inches Per Second								