

# TECHNICAL INFORMATION

## HOSE FLOW CAPACITIES PRESSURE DROP

Hose Dash Size	-4		-5		-6		-8		-10		-12		-16		-20		-24		-32		-40	-48		
Hose I.D. (inches)	0.19	0.25	0.25	0.31	0.31	0.38	0.41	0.50	0.50	0.63	0.63	0.75	0.88	1.00	1.13	1.25	1.38	1.50	1.81	2.00	2.38	3.00		
0.25	10.0	3.1	3.1																					
0.5	19.0	6.0	6.0	2.7	2.7																			
1	40.0	12.0	12.0	5.5	5.5	2.4																		
2	95.0	24.0	24.0	10.0	10.0	4.8	3.5																	
3	185.0	46.0	46.0	17.0	17.0	7.0	5.0	2.2	2.2															
4		78.0	78.0	29.0	29.0	12.0	8.0	3.0	3.0	1.2	1.2													
5		120.0	120.0	44.0	44.0	18.0	12.0	4.5	4.5	1.6	1.6	0.7												
8				95.5	95.0	39.0	26.0	10.0	10.0	3.6	3.6	1.4	0.6											
10						59.0	40.0	15.0	15.0	5.7	5.7	2.0	1.0	0.6										
12						80.0	52.0	20.0	20.0	7.2	7.2	2.6	1.5	0.8	0.4									
15							75.0	30.0	30.0	10.0	10.0	4.2	2.2	1.2	0.7	0.4								
18							107.0	40.0	40.0	15.0	15.0	6.3	3.0	1.5	0.7	0.6	0.4							
20								49.0	49.0	19.0	19.0	8.0	3.4	2.0	1.1	0.7	0.4	0.3						
25								72.0	72.0	26.0	26.0	11.0	5.5	3.0	1.6	1.0	0.6	0.4	0.2					
30										34.0	34.0	14.0	7.0	3.6	2.2	1.3	0.8	0.5	0.2	0.1				
35										47.0	47.0	19.0	9.5	5.0	2.8	1.7	1.1	0.7	0.3	0.2				
40												25.0	12.0	6.5	3.4	2.2	1.4	0.9	0.4	0.2				
50												36.0	17.0	9.0	5.3	3.3	2.0	1.3	0.5	0.4	0.2			
60												50.0	23.0	12.0	7.5	4.4	2.8	1.8	0.8	0.5	0.2			
70													31.0	17.0	9.3	6.0	3.8	2.4	1.0	0.7	0.3			
80														38.0	21.0	12.0	7.1	4.6	3.0	1.2	0.8	0.3	0.1	
90														49.0	27.0	15.0	9.0	5.9	3.8	1.5	1.0	0.5	0.1	
100															33.0	19.0	12.0	7.0	4.7	1.9	1.3	0.6	0.2	
150																60.0	36.0	22.0	13.0	8.5	3.4	2.2	1.0	0.3
200																	36.0	23.0	15.0	6.0	3.9	1.7	0.6	
250																	54.0	33.0	22.0	8.5	5.3	2.5	0.8	
300																		45.0	29.0	12.0	7.5	4.0	1.1	
400																			51.0	21.0	14.0	6.5	2.2	
500																				32.0	20.0	10.0	3.0	
800																						18.0	5.0	
1000																							10.0	

Pressure drop in psi (pounds per square inch) per 10 feet of hose (smooth bore) without fittings.  
 Fluid specification: Specific gravity = 0.85; Viscosity =  $\nu = 20$  centistokes (C.S.), (20 C.S. = 97 S.S.U.)  
 Pressure drop values listed are typical of many petroleum based hydraulic oils at approximately +100° F (+38°C). Differences in fluids, fluid temperature and viscosity can increase or decrease actual pressure drop compared to the values listed.  
 Values rounded to the nearest 1/10 psi.

# TECHNICAL INFORMATION

## NOMOGRAPHIC CHART

### Flow Capacity of Hose Assemblies at Recommended Flow Velocities

Using the formula: 
$$\text{Area (in square Inches)} = \frac{0.321 \times (\text{U.S. gallons per minute})}{\text{Velocity (in feet per second)}}$$

Determine the proper flow rate your system requires, then connect a straight edge from the selected flow rate to the recommended velocity range. The required hose I.D. will appear at the intersection of the straight edge and the middle axis. The example below shows the I.D. needed to transport 20 U.S. gallons per minute (GPM) fluid volume at a recommended velocity range of 7 to 36 feet per second.

Draw a straight line from **20 U.S. Gallons per Minute (on the axis on the far left)** to maximum **Recommended Velocity for Pressure Lines (on the axis on the far right)**. The line intersects **(the middle axis)** indicating a **3/4" Inside Diameter (-12) hose and Inside Area of hose of .45 square inches. This is the smallest hose that should be used.**

**NOTE:** We recommend use of oils with maximum viscosity of 315 S.S.U. at 100° F, operating at temperatures ranging between 65°F and 155°F.

