

# HOSE SIZE SELECTION NOMOGRAPH

## INDICATING FLOW CAPACITY OF HOSE ASSEMBLIES AT RECOMMENDED FLOW VELOCITIES SELECTING THE RIGHT HOSE SIZE

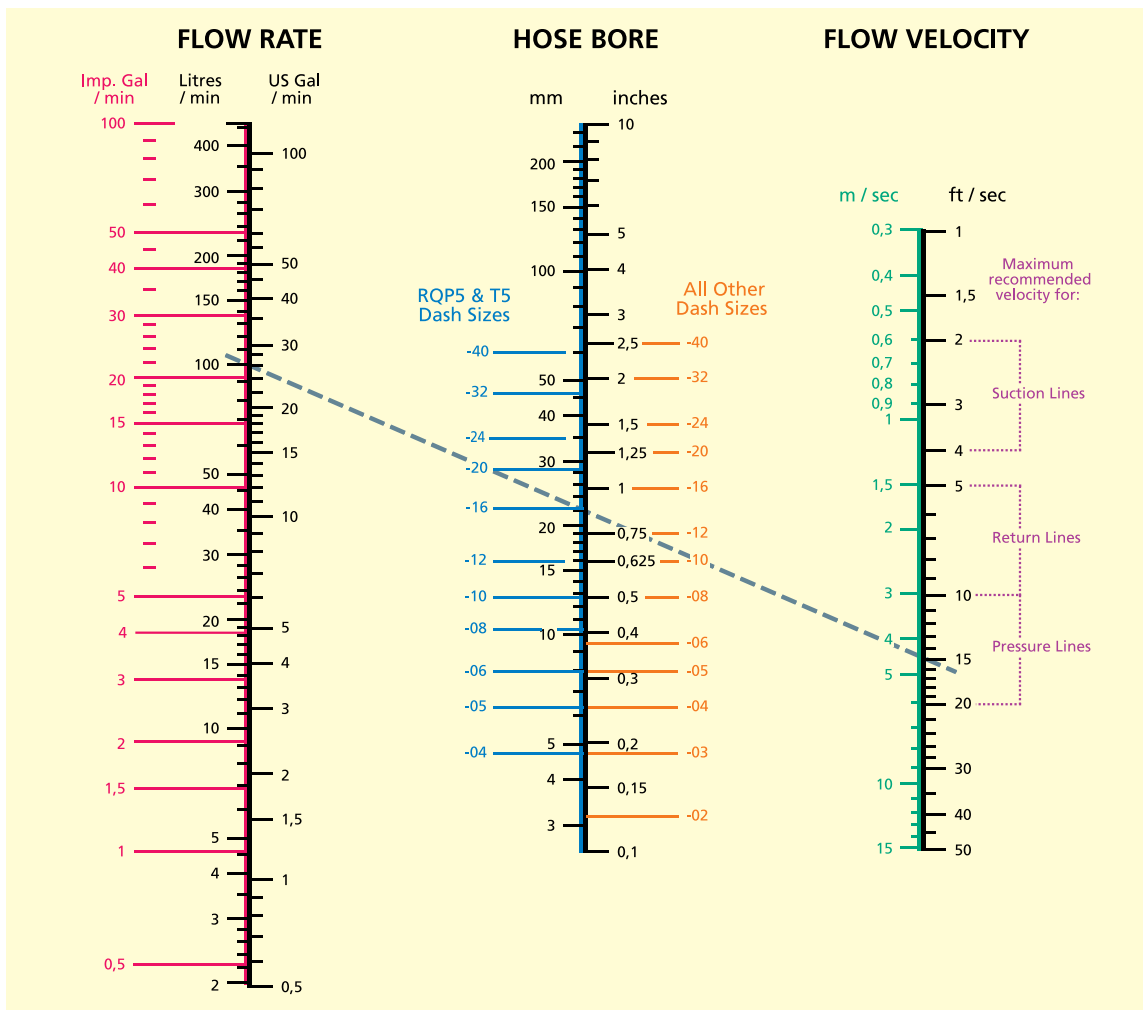
With this nomograph, you can easily select the correct Hose ID size, Desired Flow Rate and Recommended Flow Velocity. If any two of these factors are known, the third can be determined.

### TO USE THIS NOMOGRAPH:

1. Pick the two known values.
2. Lay a straightedge to intersect the two values.
3. Intersection on the third vertical line gives the value of that factor.

**Example:** To find the bore size for a Pressure Line consistent with a Flow Rate of 100 litres per minute (26 US or 22 Imperial gallons per minute), and a Flow Velocity of 4,5 metres per second (14.8 feet per second), connect Flow Rate to Flow Velocity and read Hose Bore on centre scale.

**ANSWER:** THE LINE CROSSES HOSE BORE BETWEEN -12 AND -16 ON "ALL OTHER DASH SIZES" SIDE OF HOSE BORE AXIS, SO A -16 HOSE IS REQUIRED. IF RQP5 OR T5 HOSE IS TO BE USED, FOR THIS EXAMPLE -16 WOULD ALSO BE REQUIRED.



The velocity of the fluid should not exceed the range shown in the right hand column. When oil velocities are higher than recommended in the chart, turbulent flow occurs, resulting in loss of pressure and excessive heating. For long hoses and/or high viscosity oil, or if the flow of hydraulic fluid is continuous, it is recommended to use figures at the lower end of the Maximum Recommended Velocity range. For short hoses and/or low viscosity oil, or if the flow of hydraulic fluid is intermittent or for only short periods of time, figures at the higher end of the Maximum Recommended Velocity range can be used.

### A FURTHER EXAMPLE WILL HELP YOU TO USE THIS CHART:

Determine the hose size required to carry 40 litres of oil per minute and determine the velocity of the oil through the hose assembly. The assembly is to be used as a pressure line and the flow will be continuous.

Locate the flow, 40 litres per minute (left hand column), and velocity, 15 feet per second (right hand column), since 15 is the centre of the Pressure Lines Maximum recommended velocity range. Lay a straight edge across these two points. The straight edge crosses the centre column just above the -08 on "All Other Dash Sizes" side of Hose Bore axis. Keeping the straight edge on 40 litres per minute, cross the centre column at -08 and -10 sizes and read the Flow Velocity in the right hand column. It can be seen that using -08 Hose Size, Flow Velocity will be 18 feet per second, and for -10 Hose Size, Flow Velocity will be 11 feet per second. As the flow is continuous, -10 Hose Size is recommended.