

412 Cylinder Force Reference

This graph will aid in the selection of the correct fusion machine cylinder force option. First, select the range of pipe and DR to be fused in the machine (largest pipe – smallest DR and smallest pipe – highest DR). Second, select the type of pipe to be fused. The pipe type will determine the correct interfacial pressure to use. Your pipe manufacturer can help you with this number. Third, use the graph to determine which machine is best suited for the task. You can derive from the graph, that when using high interfacial pressures, the best choice is a High Force machine. When fusing at low interfacial

pressures, such as 22 PSI, the best choice is a Low Force machine. It is important to note that if the pipe sizes chosen results in a low gauge pressure (less than 100 PSI), the speed of the hydraulic jaws will be greatly reduced and a smaller fusion machine would be a better choice. A Low Force machine has a higher hydraulic jaw speed than a High Force machine. The graph shown does not include drag force. Drag force is the force required to move the pipe once clamped in the machine. In some circumstances drag can be high, such as a tie-in of two long lengths of pipe.

