

# STEAM PROPERTIES & FLOW CHARACTERISTICS

## SIZING STEAM PIPES • Steam Velocity Chart (Schedule 40 pipe)

Saturated steam lines should be sized for a steam velocity of 4800 to 10000 ft/min.

Piping on pressure reducing stations should be sized for the same steam velocity on both sides of the regulator. This usually results in having a regulator smaller than the piping and having larger piping on the downstream side of the regulator.

### Example using Steam Velocity Chart:

100 PSIG Inlet Pressure to control valve; 25 PSIG Outlet Pressure; 1,000 lbs/hr flow rate; Determine pipe size required.

#### Upstream Piping:

Enter Velocity Chart at **A** 1000 lbs/hr. Follow line to **B** 100 PSIG Inlet Pressure. Follow line vertically upwards to **C** 1 1/2" Pipe Diameter. Steam Velocity at **D** shows 4800 ft/min.

#### Downstream Piping:

Enter Velocity Chart at **A** 1000 lbs/hr. Follow line to **E** 25 PSIG Outlet Pressure. Follow line vertically upwards to **F** 2 1/2" Pipe Diameter. Steam Velocity at **G** shows 5500 ft/min.

