

Centrifugal Pump Accessories Performance Curves



Bell & Gossett



Triple Duty[®] Valves

TABLE OF CONTENTS

Useful Pump Formulas 2

Performance Curves (% of Stem Rise)

Straight Pattern 3 thru 12

Angle Pattern 13 thru 20

USEFUL PUMP FORMULAS

$$\begin{aligned} \text{Pressure (PSI)} &= \frac{\text{Head (Feet)} \times \text{Specific Gravity}}{2.31} \\ \text{Head (Feet)} &= \frac{\text{Pressure (PSI)} \times 2.31}{\text{Specific Gravity}} \\ \text{Vacuum (Inches of Mercury)} &= \frac{\text{Dynamic Suction Lift (Feet)} \times .883}{\text{Specific Gravity}} \\ \text{Horsepower (Brake)} &= \frac{\text{GPM} \times \text{Head (Feet)} \times \text{Specific Gravity}}{3960 \times \text{Pump Efficiency}} \\ \text{Horsepower (Water)} &= \frac{\text{GPM} \times \text{Head (Feet)} \times \text{Specific Gravity}}{3960} \\ \text{Efficiency (Pump)} &= \frac{\text{Horsepower (Water)}}{\text{Horsepower (Brake)}} \times 100 \text{ Per Cent} \\ \text{NPSH (Available)} &= \text{Positive Factors} - \text{Negative Factors} \end{aligned}$$

Affinity Laws: Effect of change of speed or impeller diameter on centrifugal pumps.

	GPM Capacity	Ft. Head	BHP
Impeller Diameter Change	$Q_2 = \frac{D_2}{D_1} Q_1$	$H_2 = \left(\frac{D_2}{D_1}\right)^2 H_1$	$P_2 = \left(\frac{D_2}{D_1}\right)^3 P_1$
Speed Change	$Q_2 = \frac{RPM_2}{RPM_1} Q_1$	$H_2 = \left(\frac{RPM_2}{RPM_1}\right)^2 H_1$	$P_2 = \left(\frac{RPM_2}{RPM_1}\right)^3 P_1$

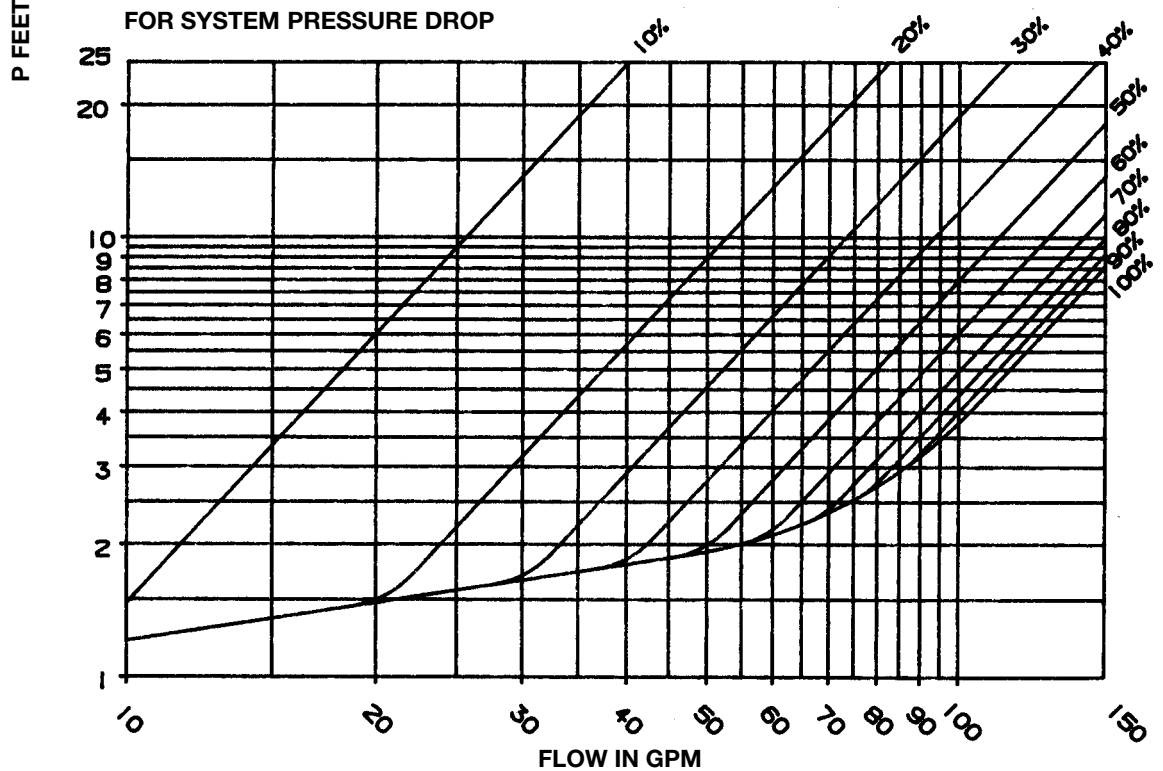
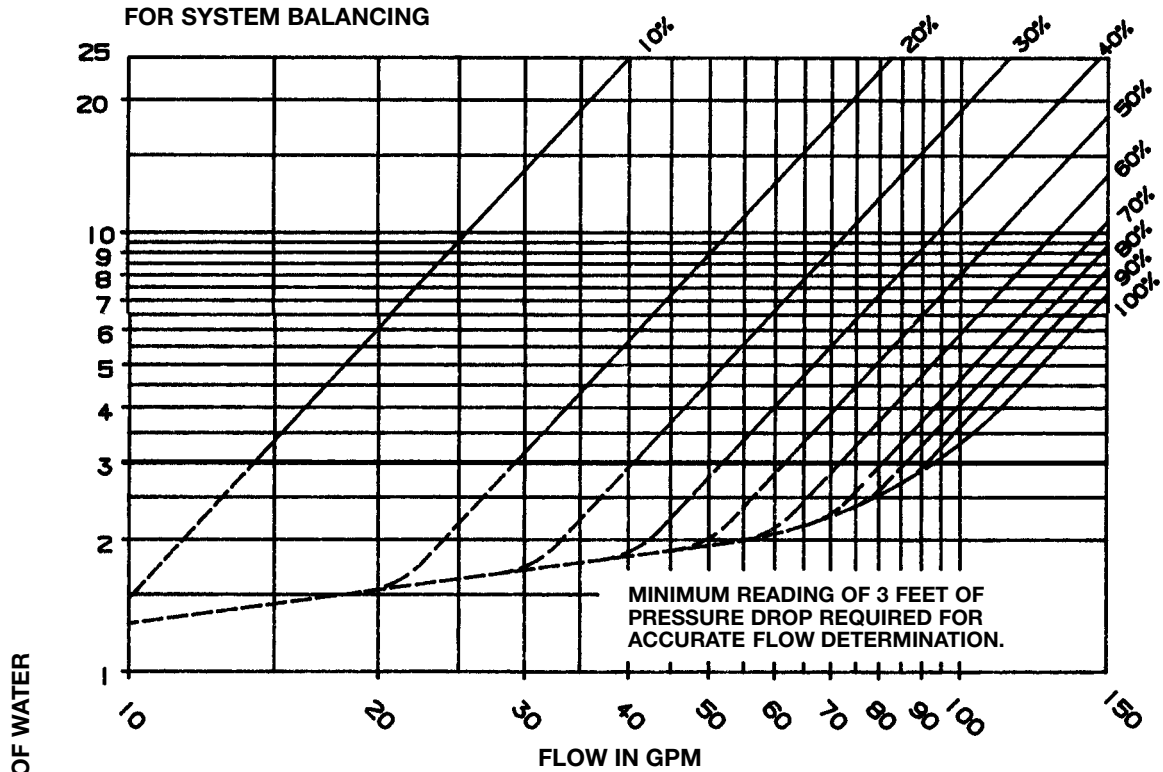
Where Q = GPM, H = Head, P = BHP, D = Impeller Dia., RPM = Pump Speed

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Triple Duty Valve® (Straight Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132121
Part No. 132150

Model No. 3DS-2S
Model No. 3DS-2G

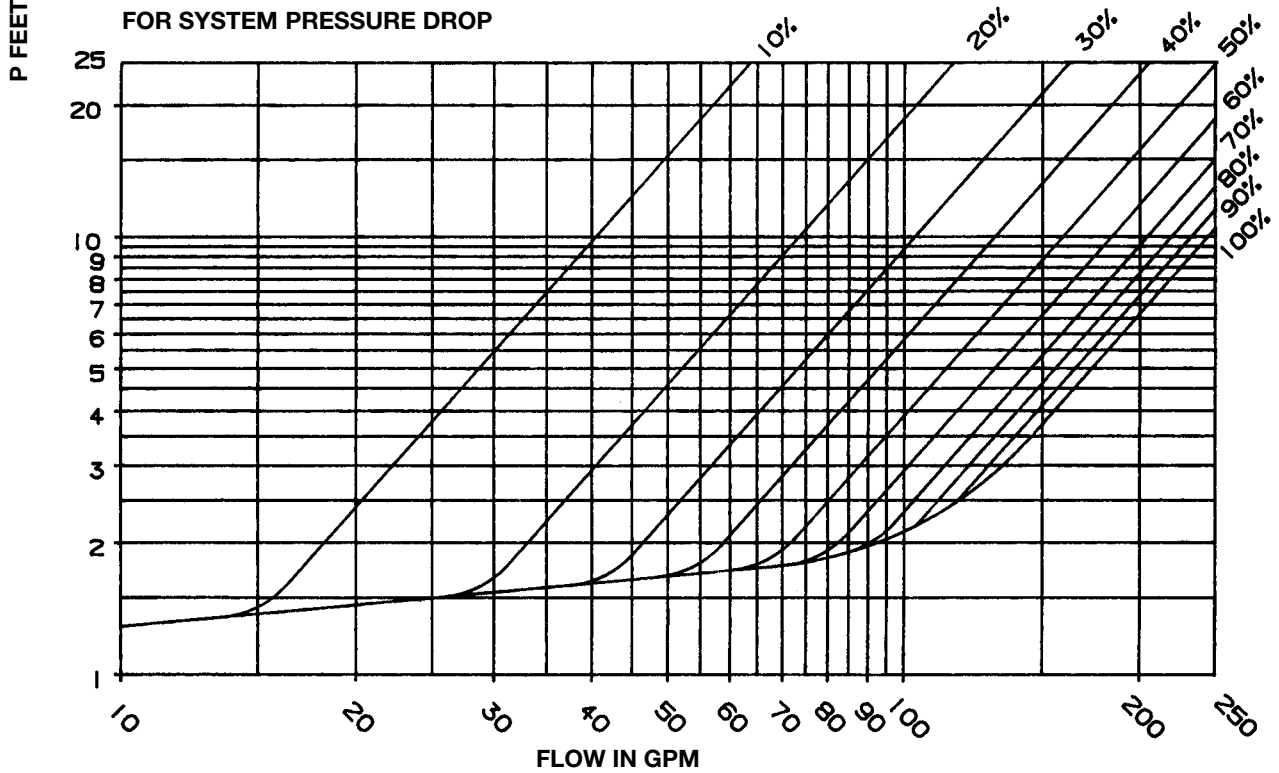
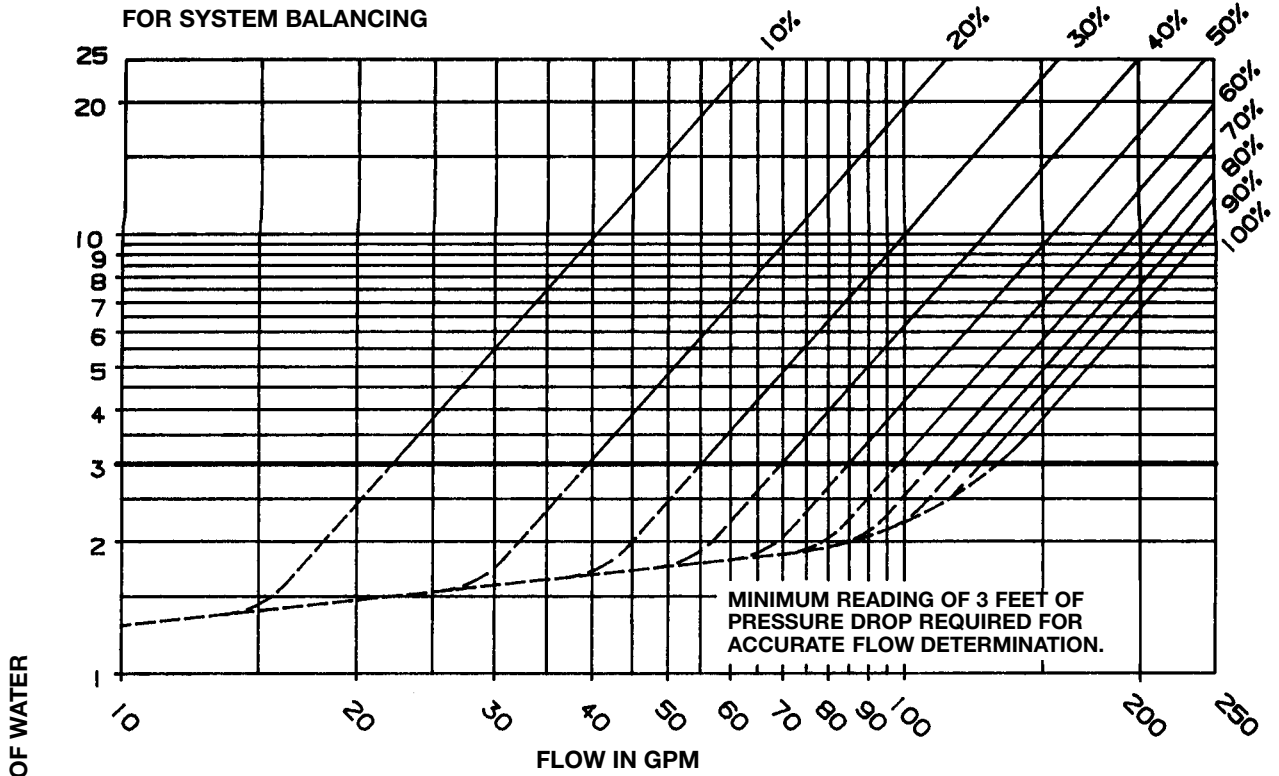


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Triple Duty® Valve (Straight Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132122
Part No. 132151

Model No. 3DS-2½S
Model No. 3DS-2½G

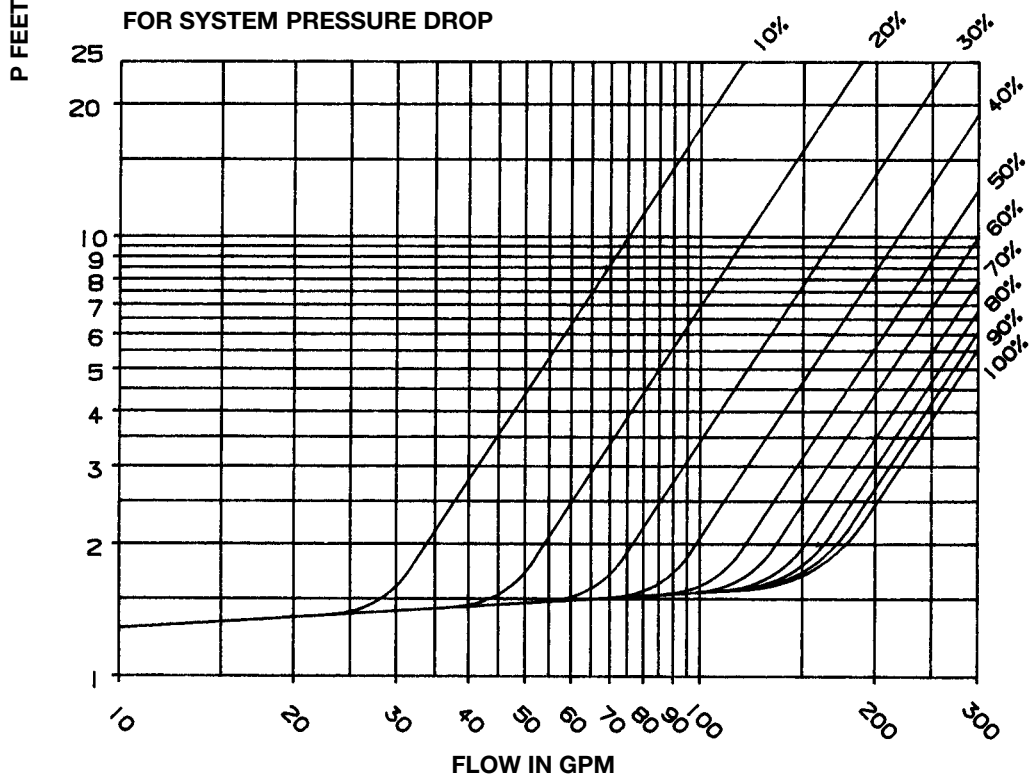
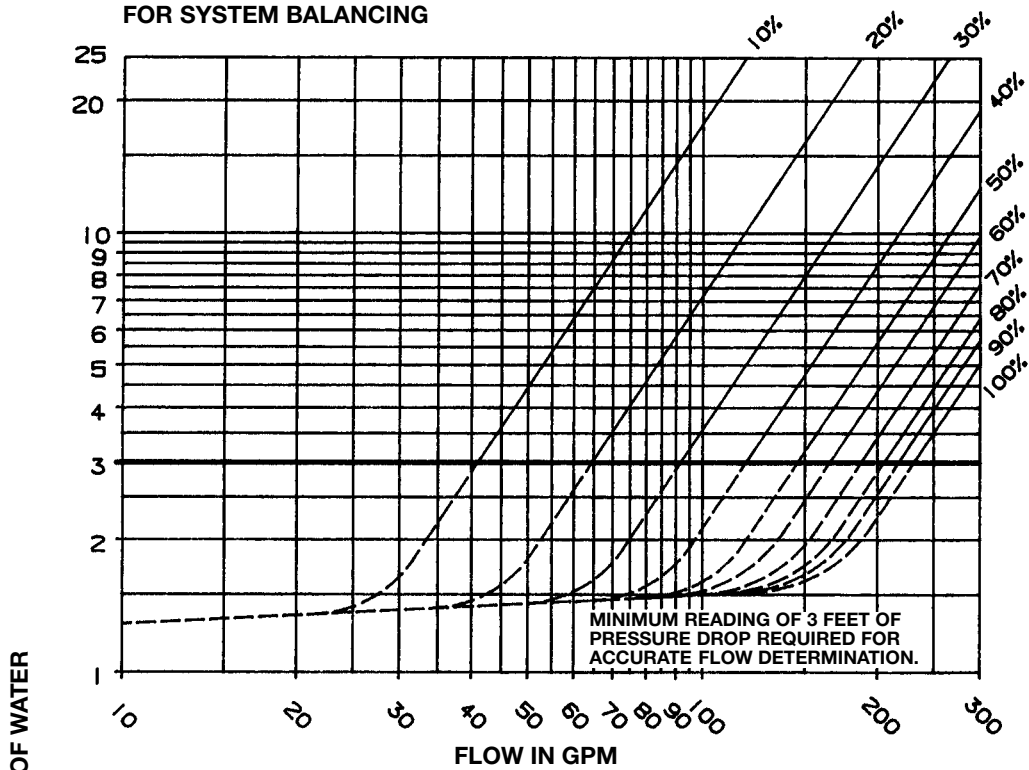


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Triple Duty® Valve (Straight Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132123
Part No. 132152

Model No. 3DS-3S
Model No. 3DS-3G

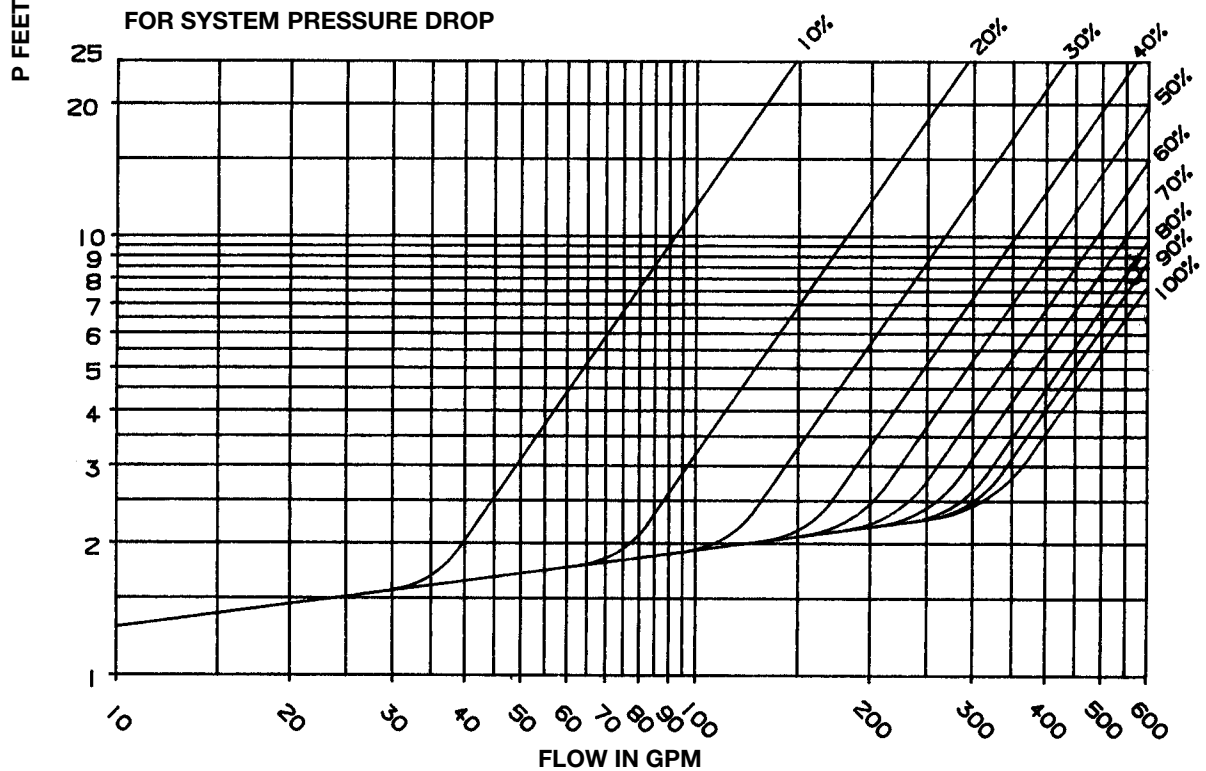
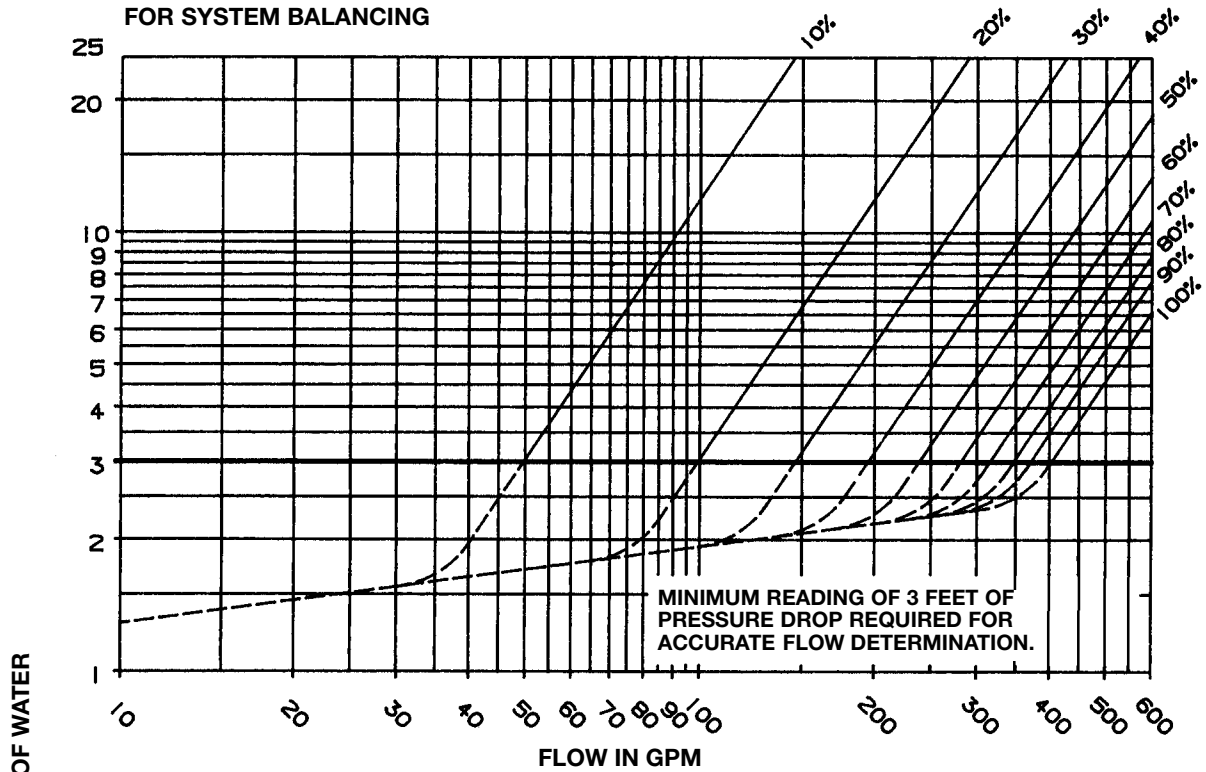


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Triple Duty® Valve (Straight Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132124
Part No. 132153

Model No. 3DS-4S
Model No. 3DS-4G

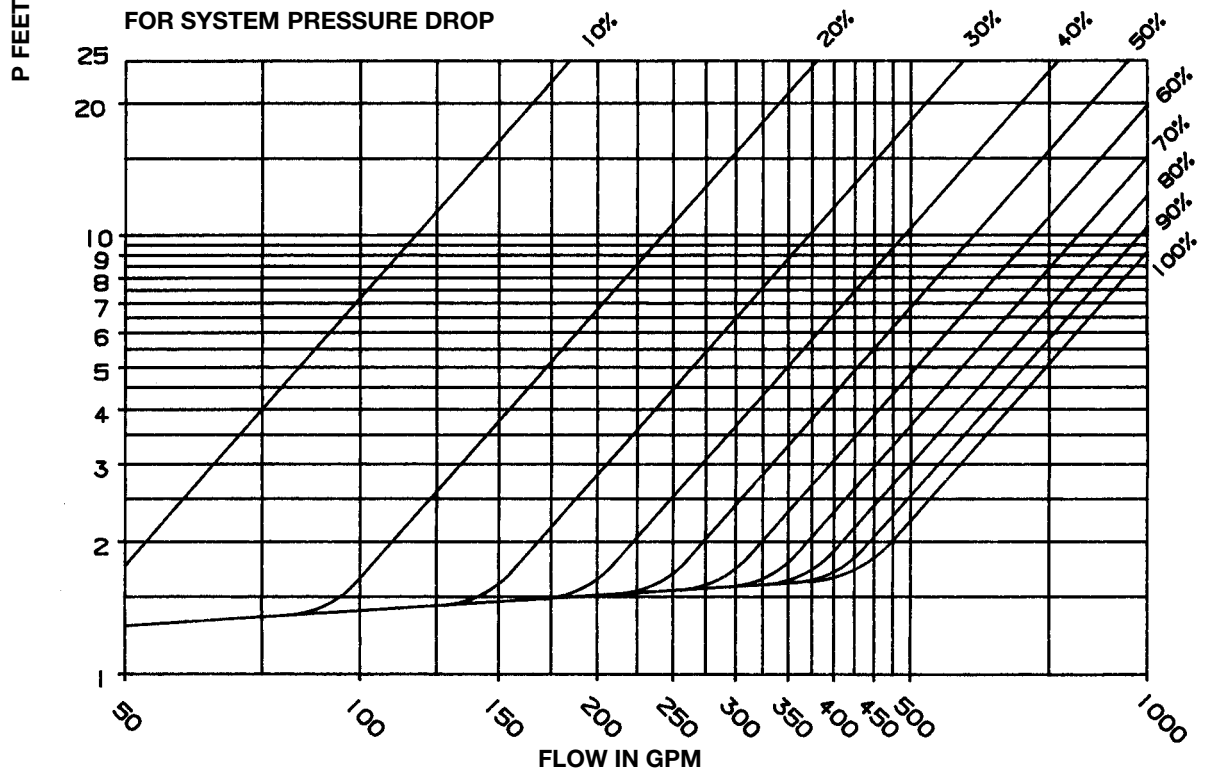
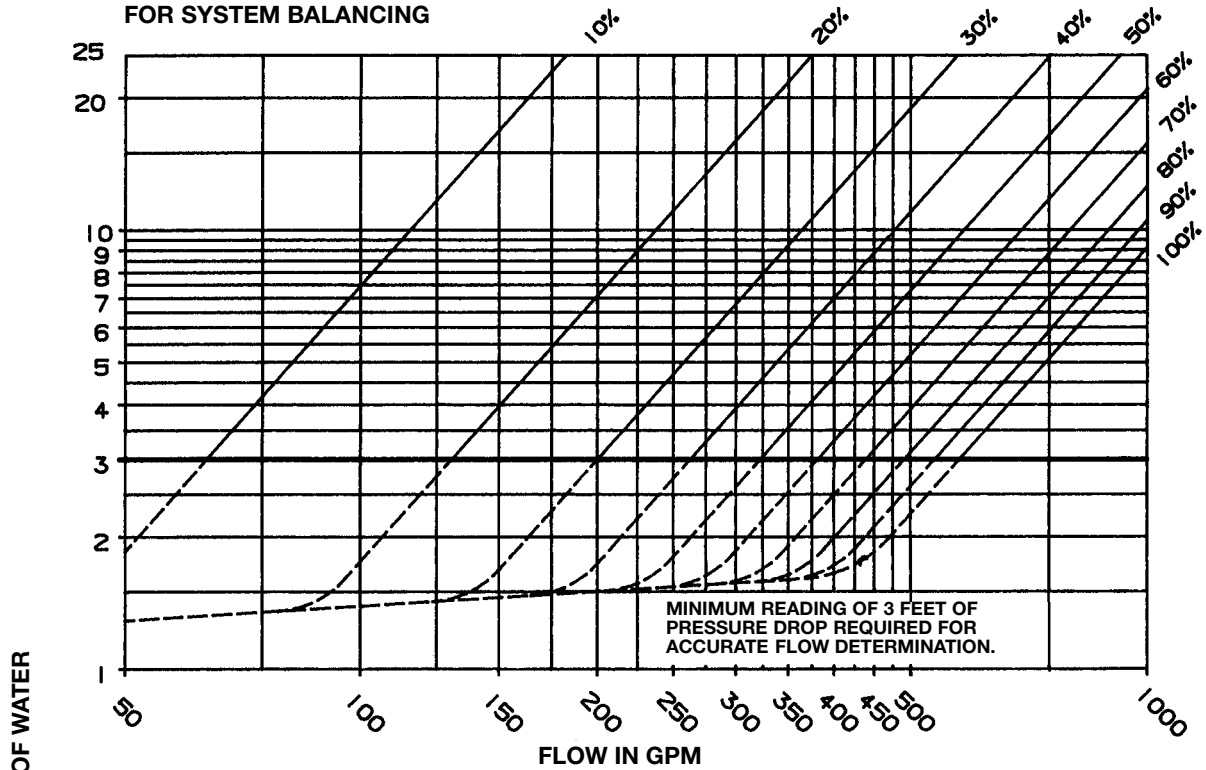


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Triple Duty® Valve (Straight Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132125
Part No. 132154

Model No. 3DS-5S
Model No. 3DS-5G

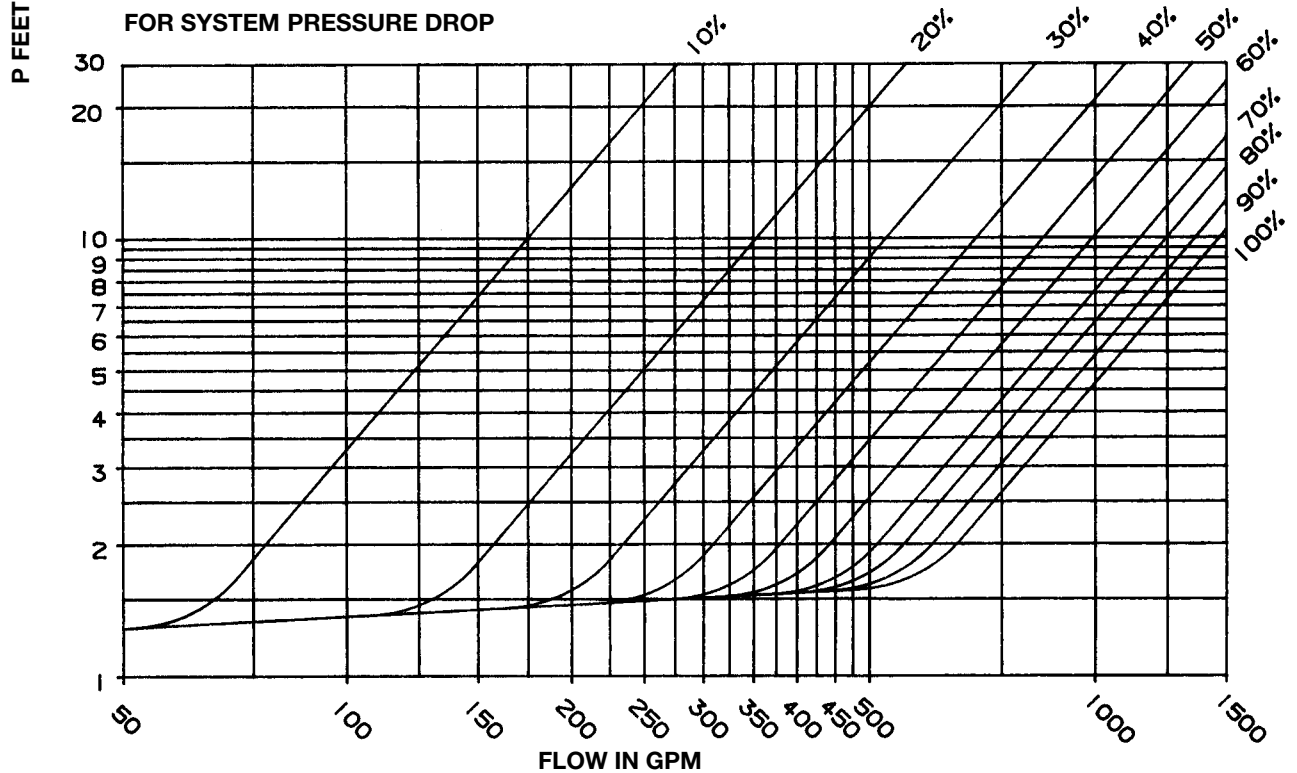
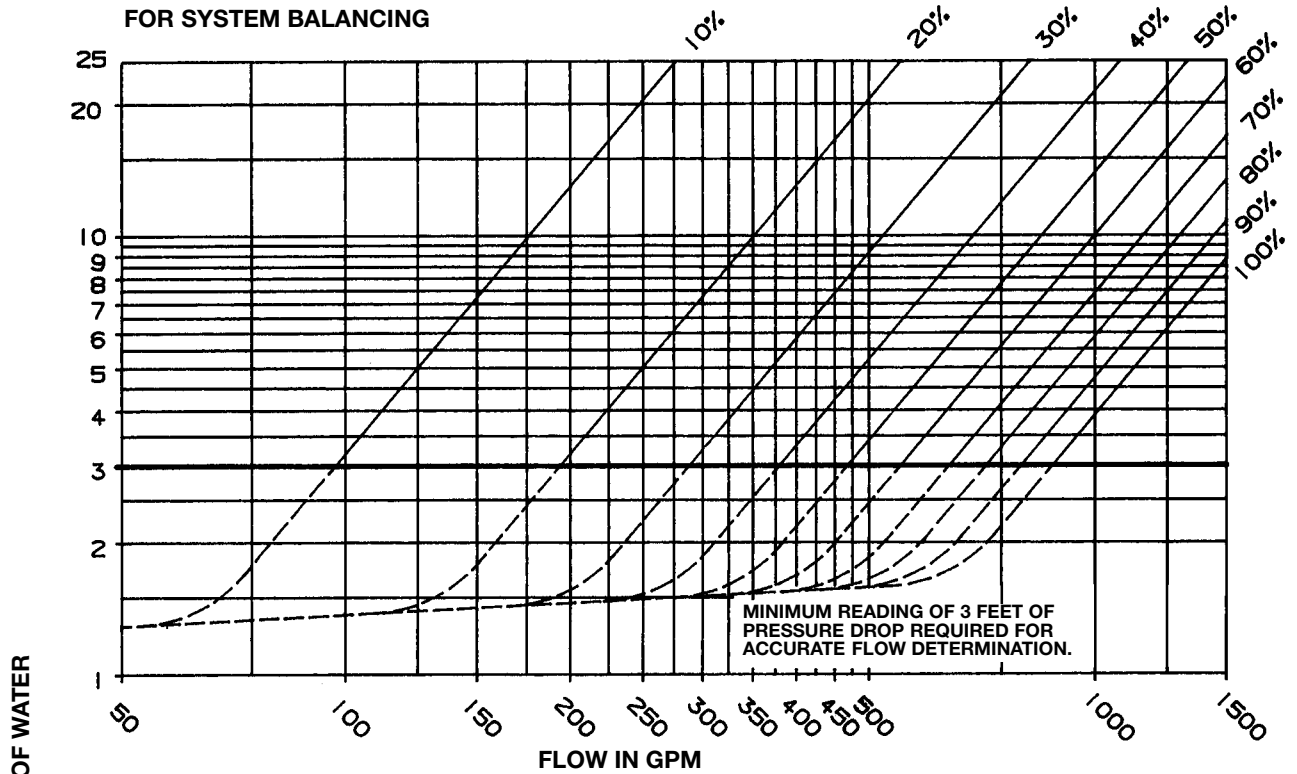


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Triple Duty® Valve (Straight Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132126
Part No. 132155

Model No. 3DS-6S
Model No. 3DS-6G

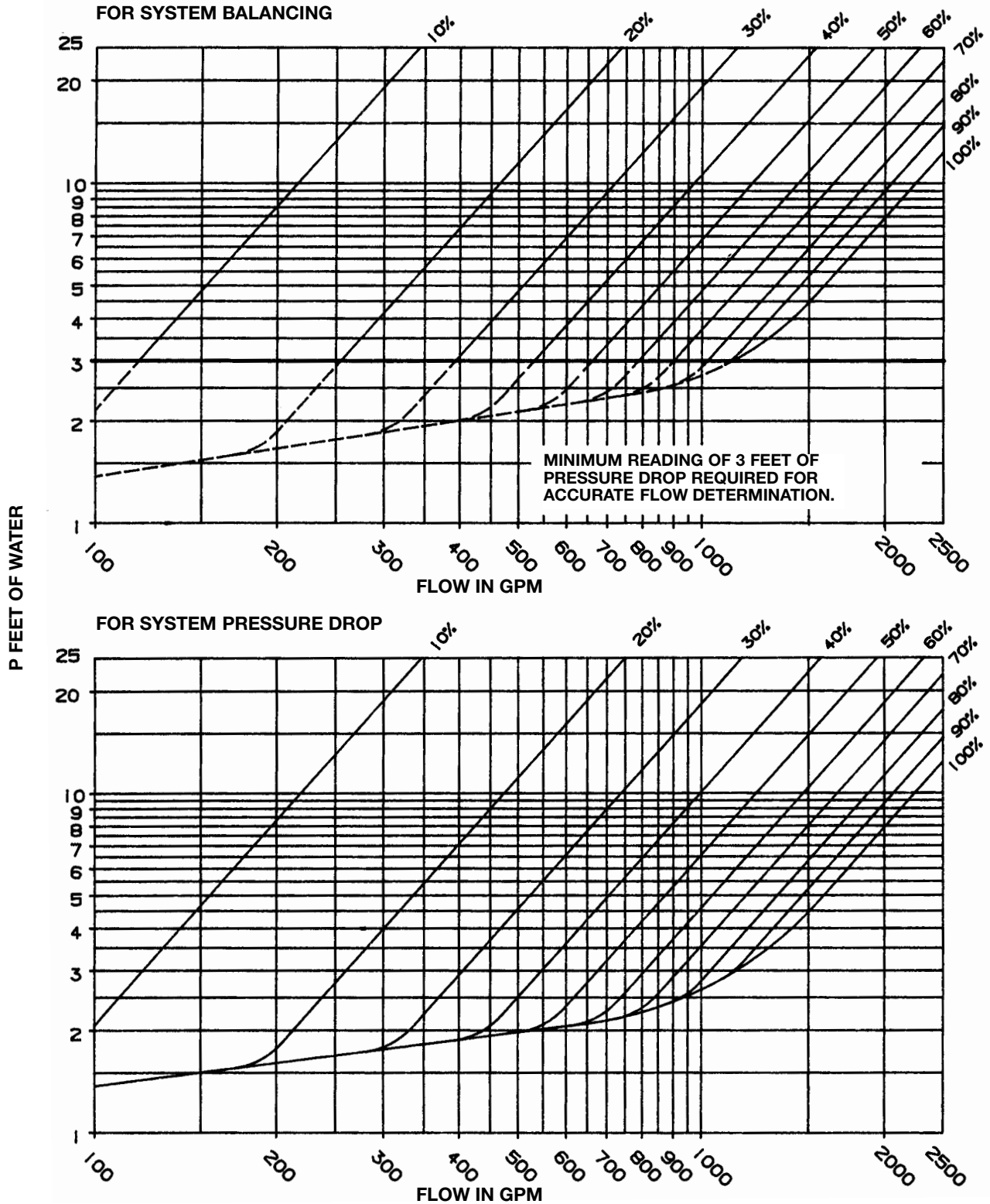


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Triple Duty® Valve (Straight Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132127
Part No. 132156

Model No. 3DS-8S
Model No. 3DS-8G

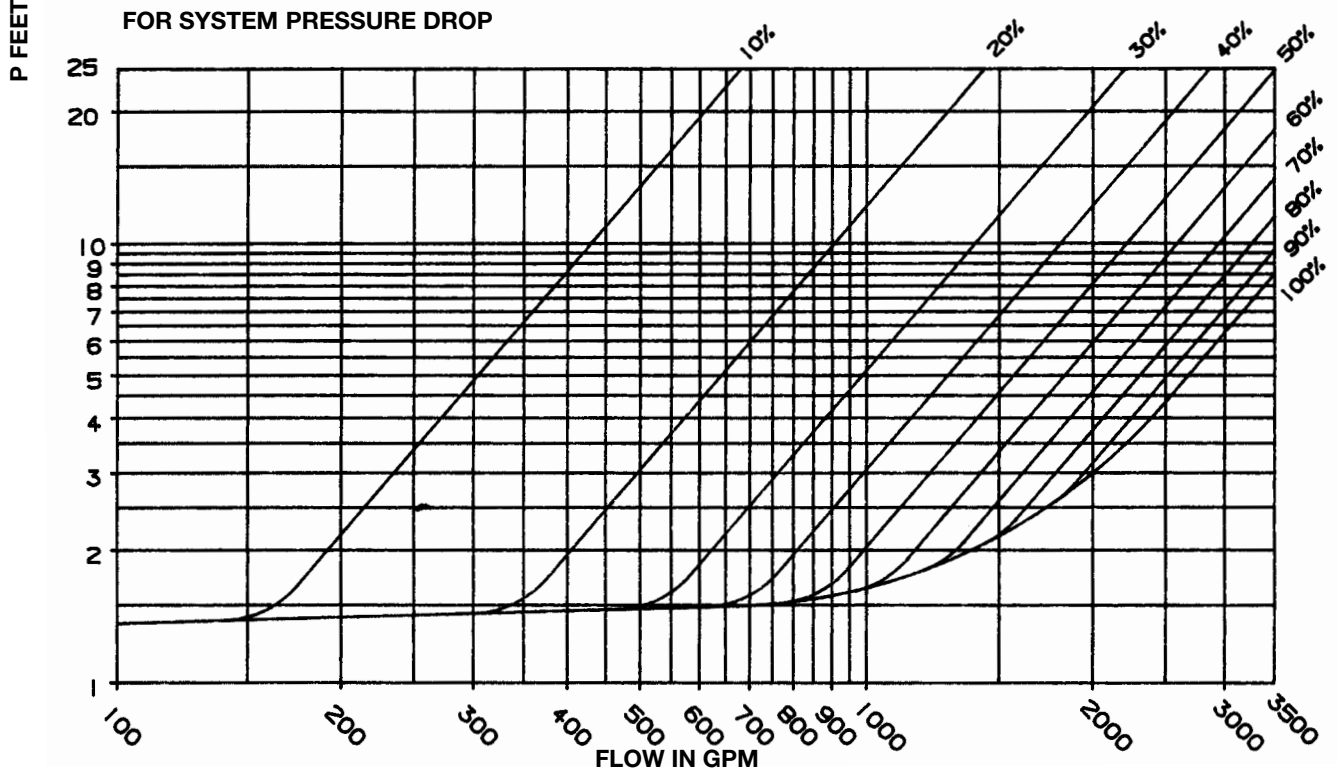
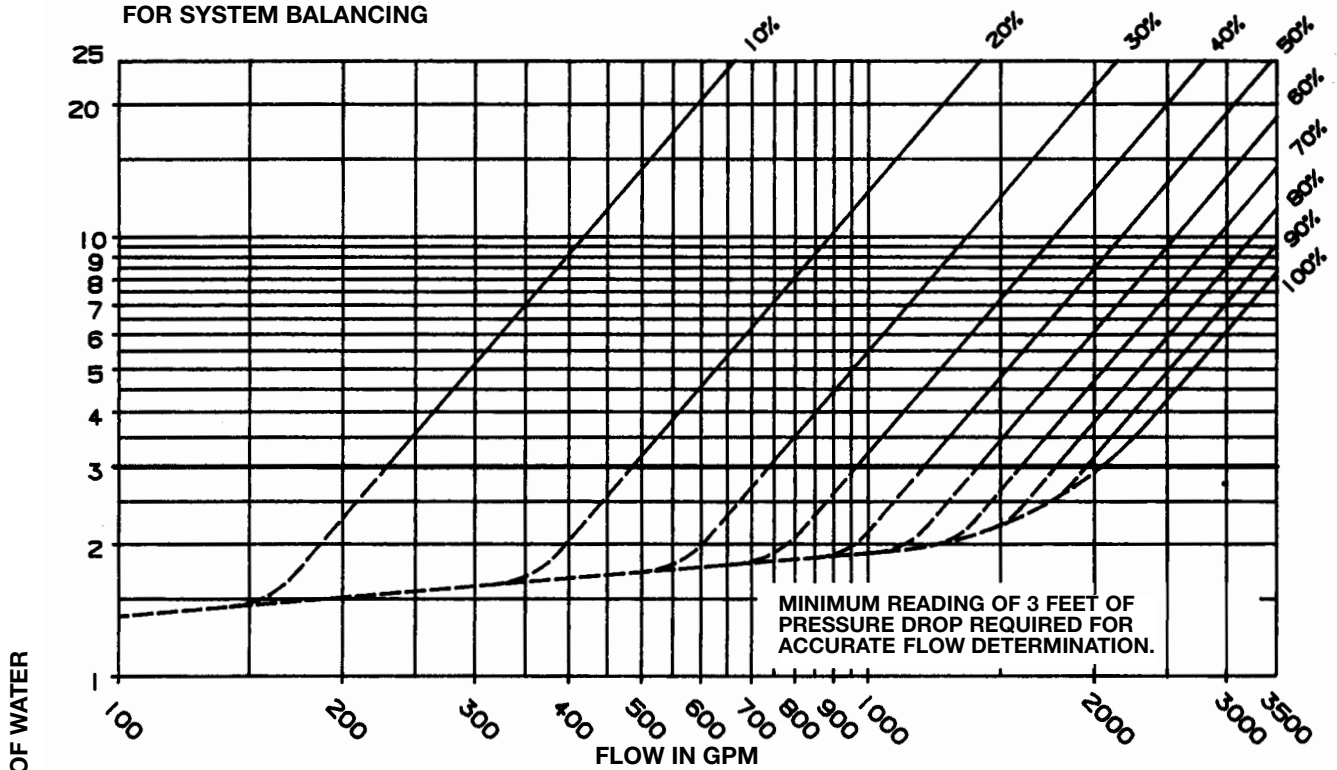


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Triple Duty® Valve (Straight Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132128
Part No. 132157

Model No. 3DS-10S
Model No. 3DS-10G



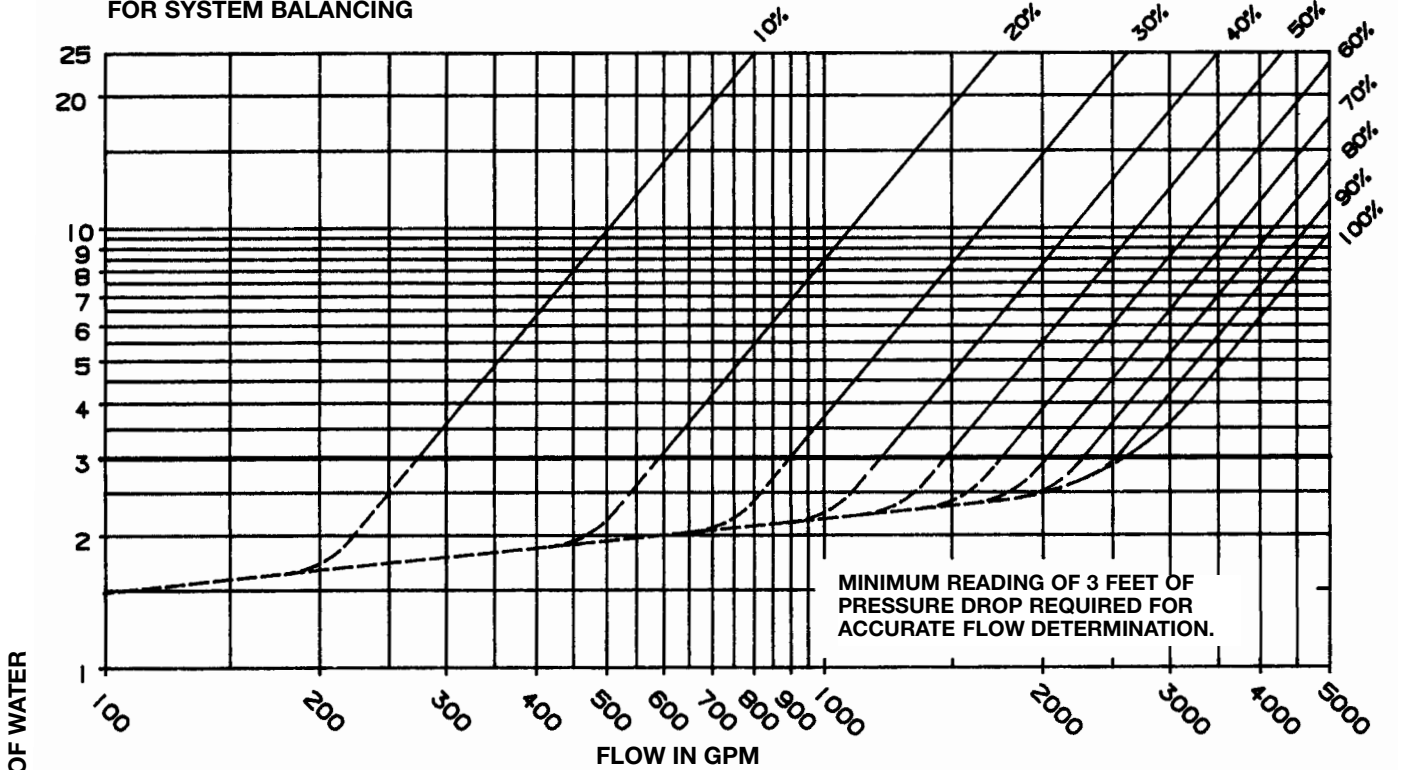
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Triple Duty® Valve (Straight Pattern) PERFORMANCE CHARACTERISTICS

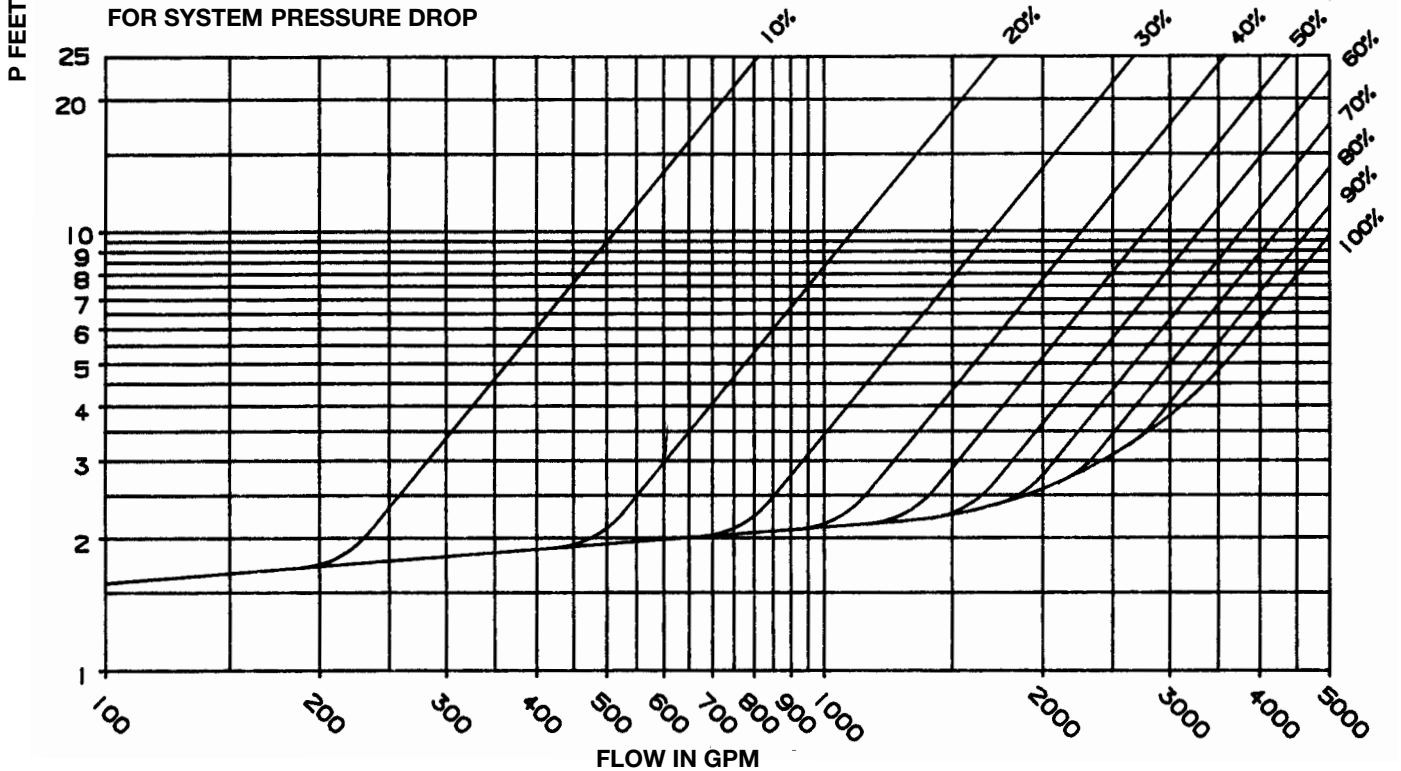
Part No. 132129
Part No. 132158

Model No. 3DS-12S
Model No. 3DS-12G

FOR SYSTEM BALANCING



FOR SYSTEM PRESSURE DROP

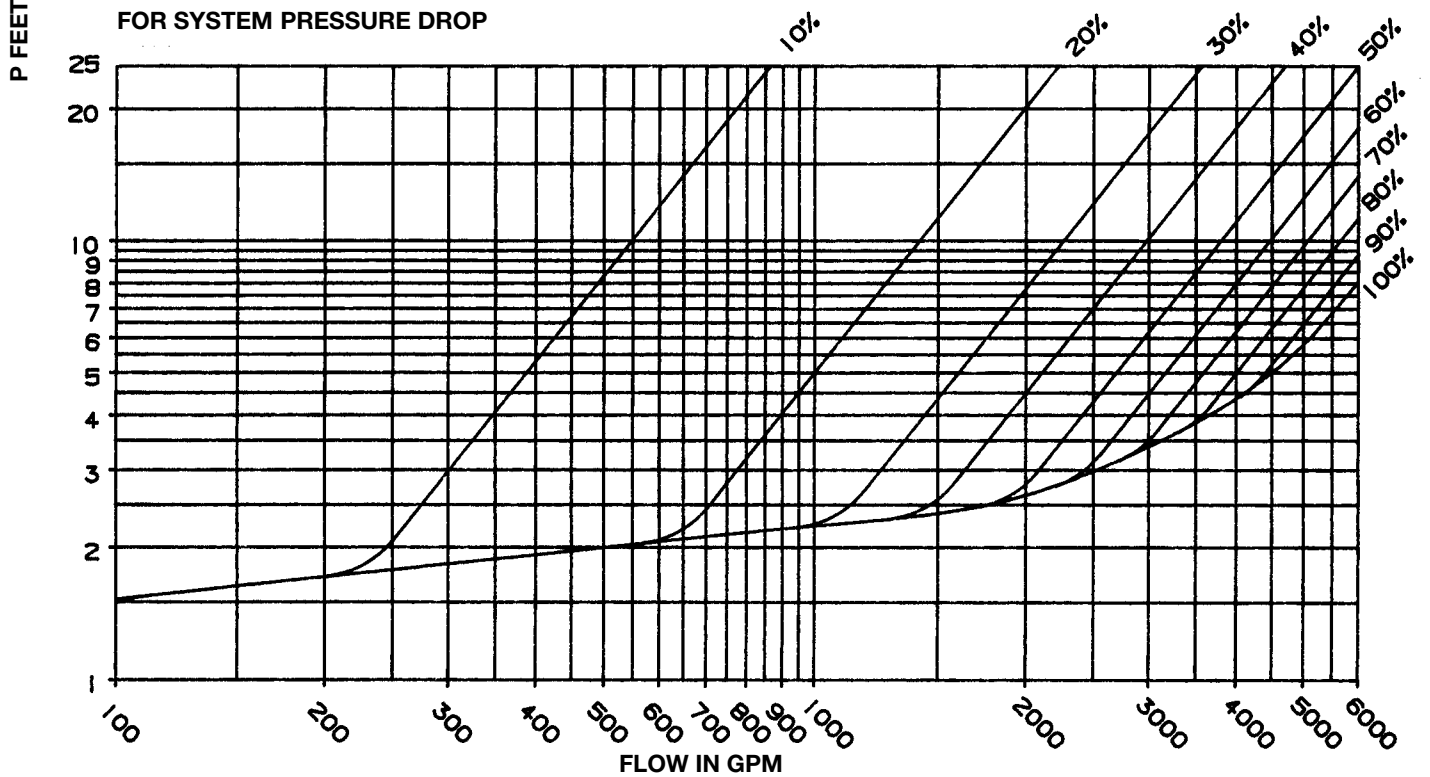
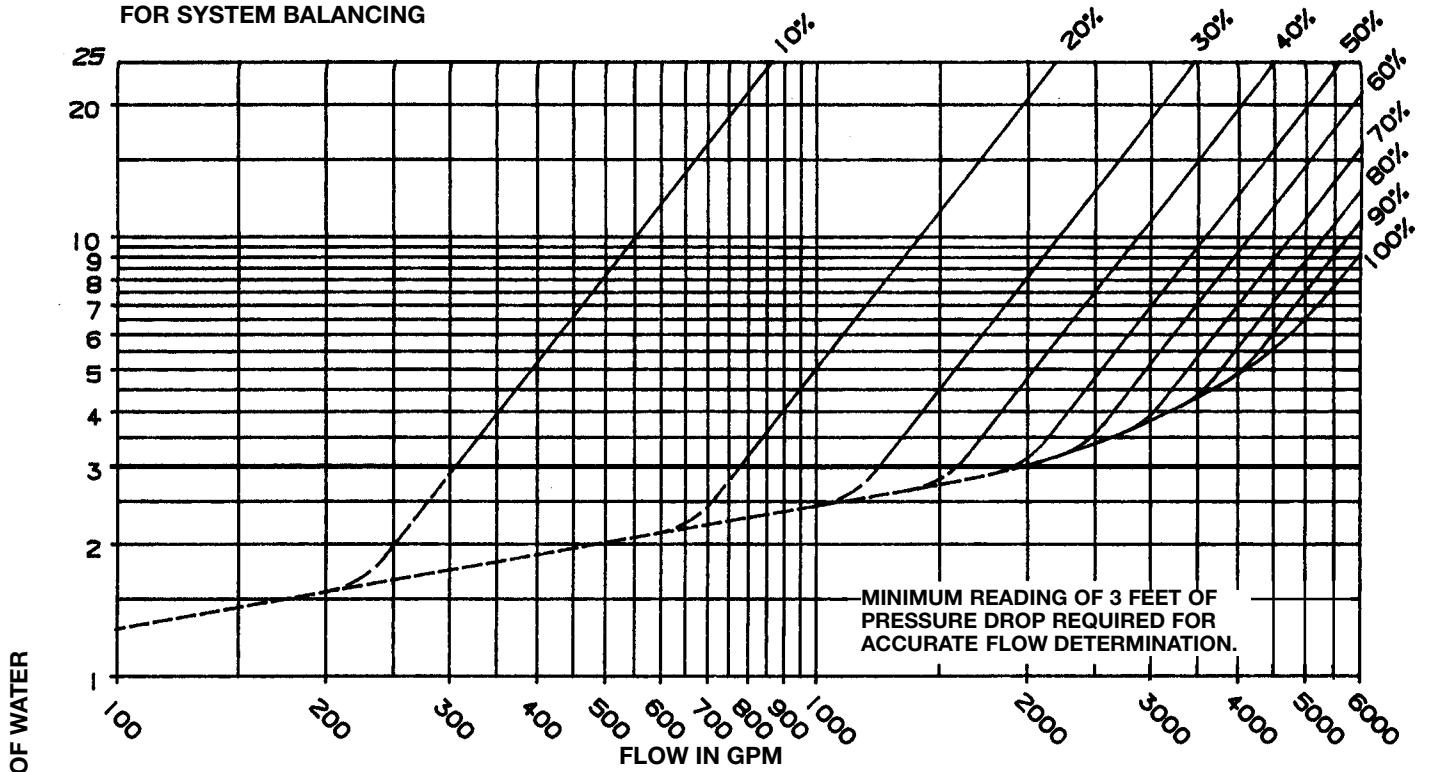


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Triple Duty® Valve (Straight Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132120

Model No. 3DS-14S

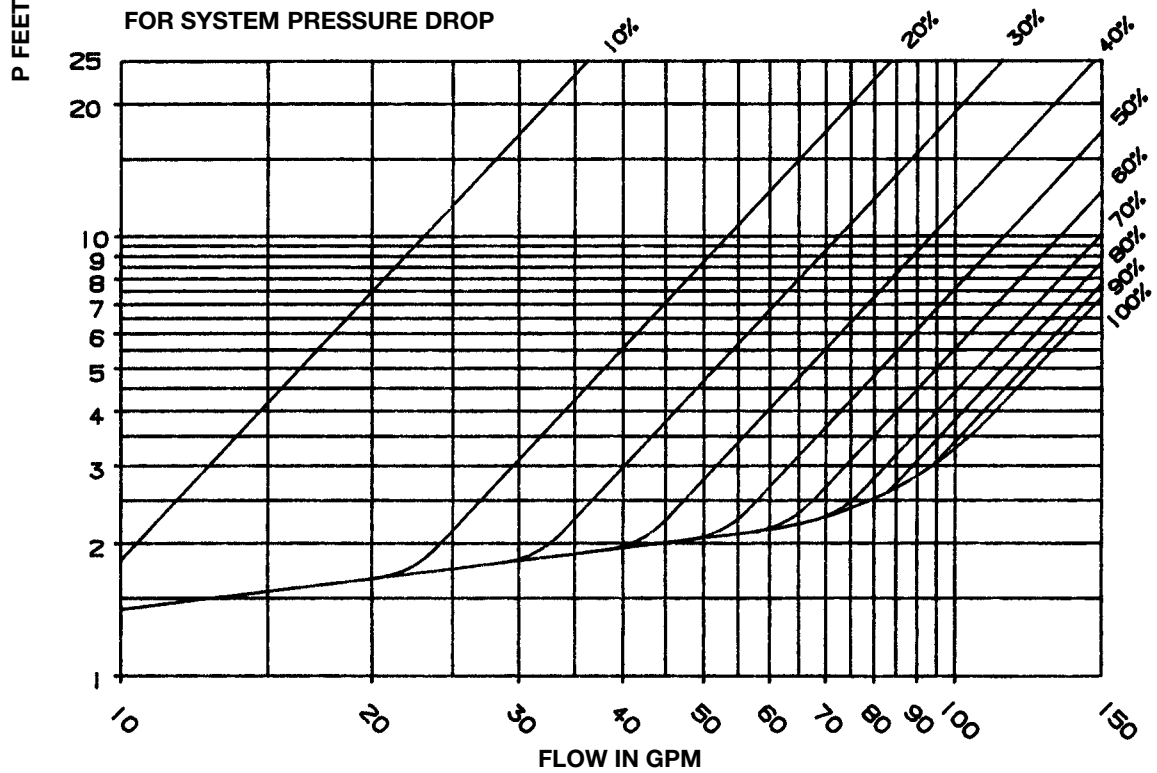
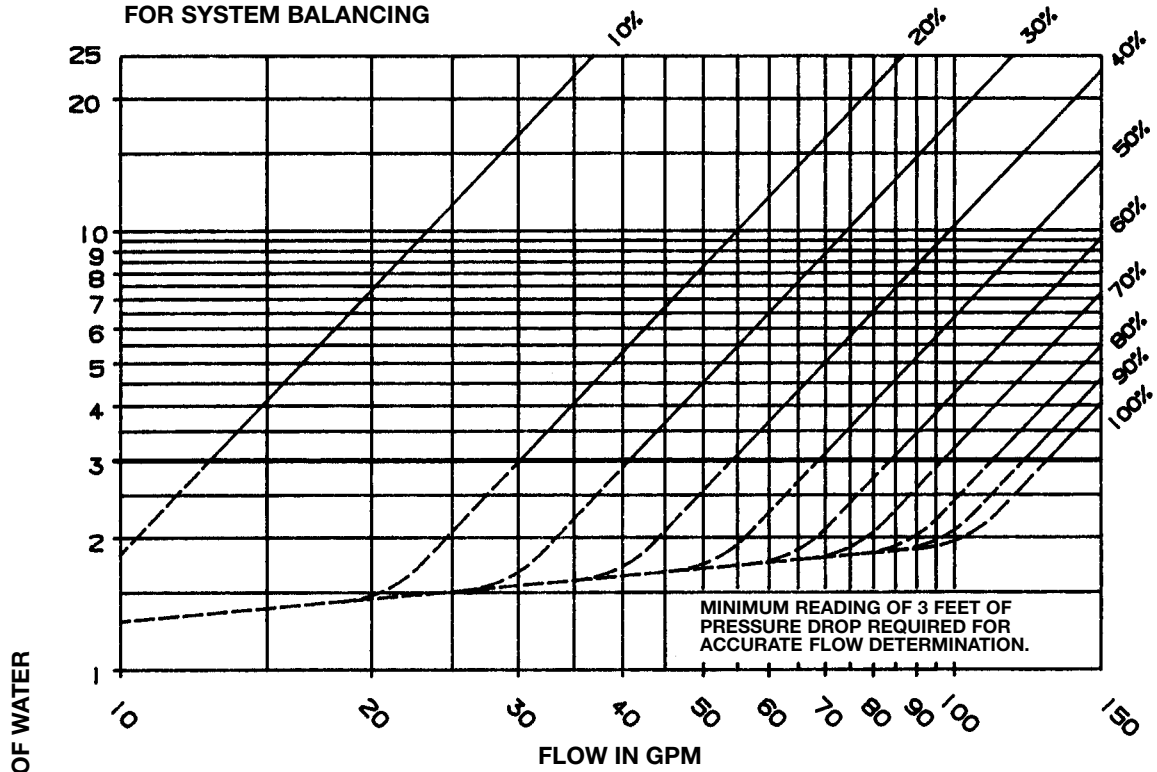


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Triple Duty® Valve (Angle Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132131

Model No. 3D-2S

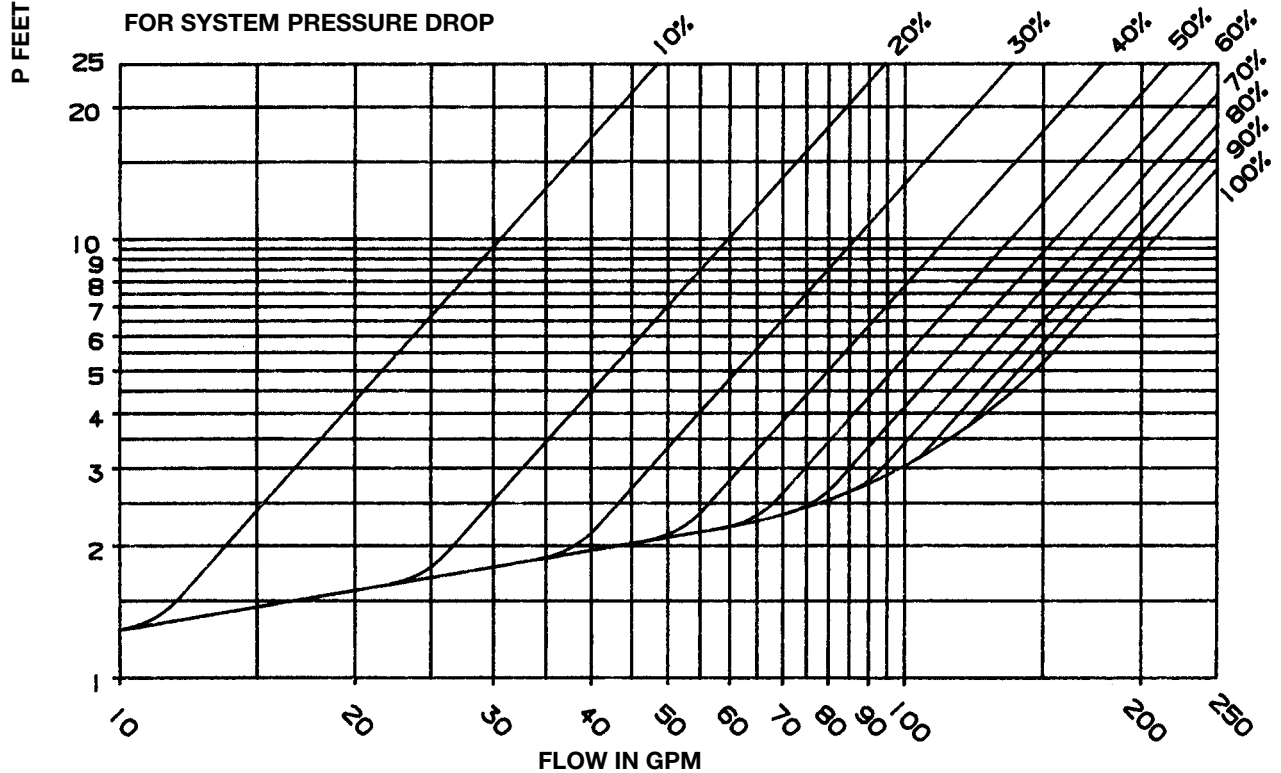
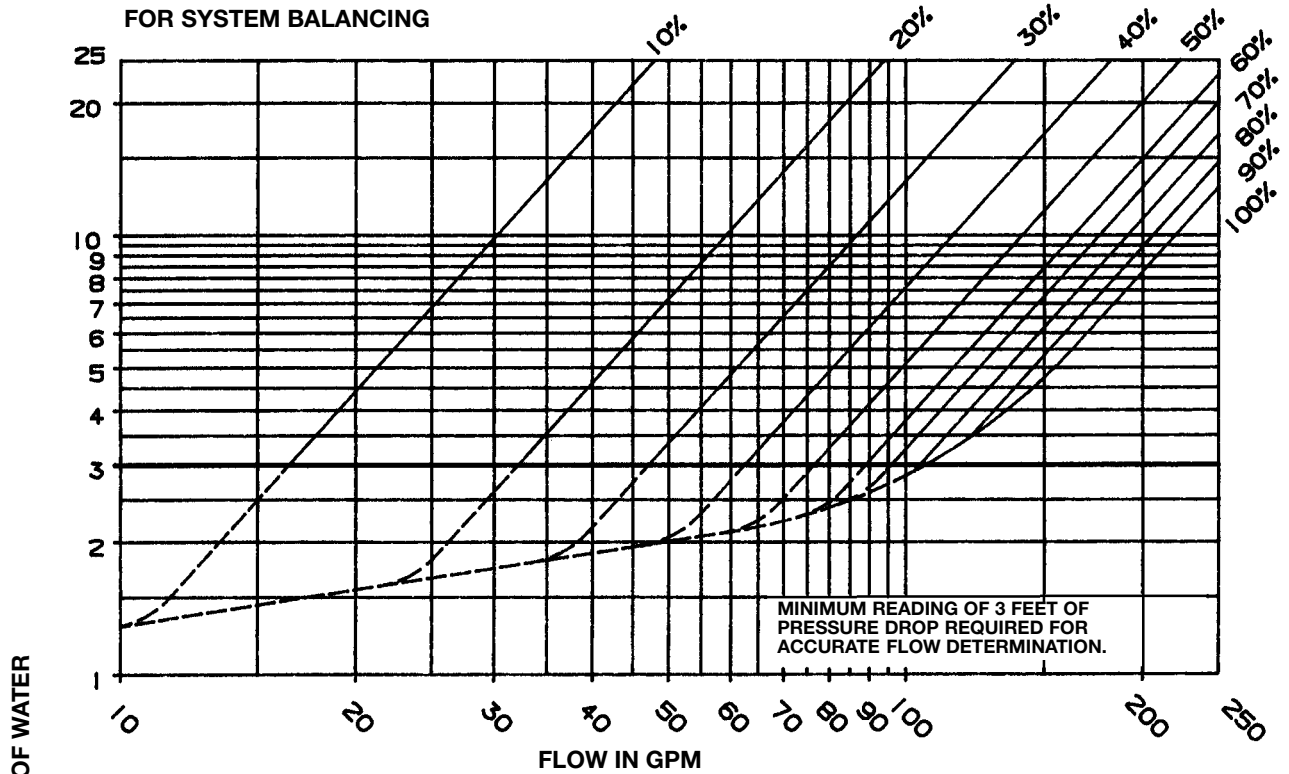


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Triple Duty® Valve (Angle Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132132

Model No. 3D-2½S

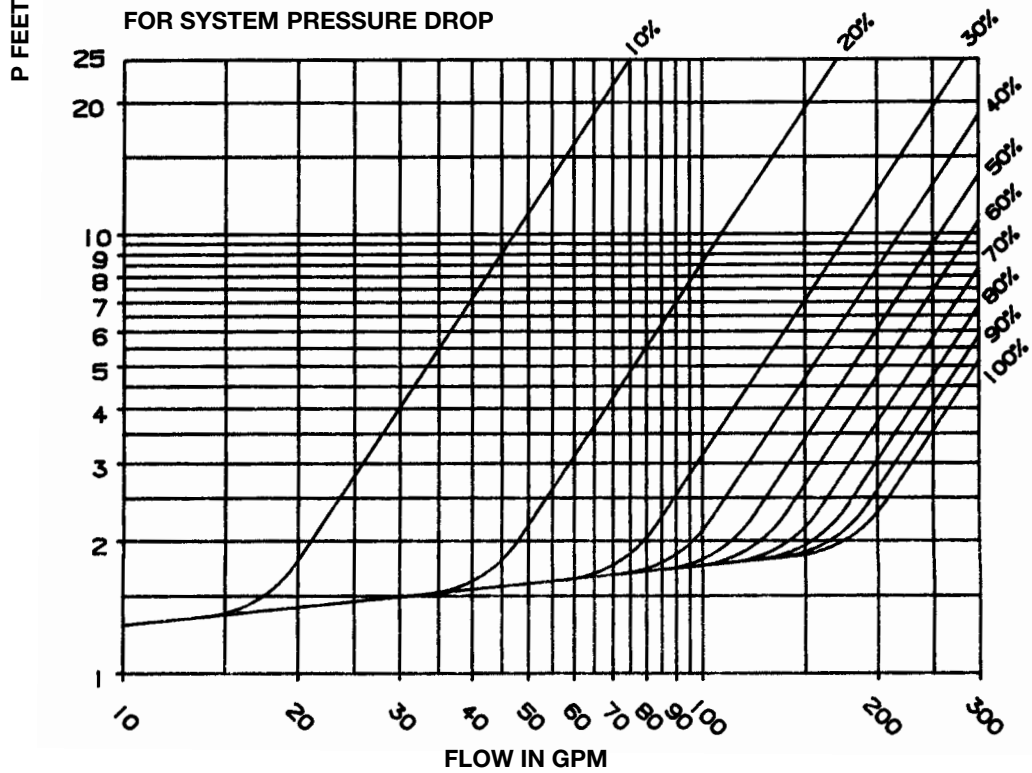
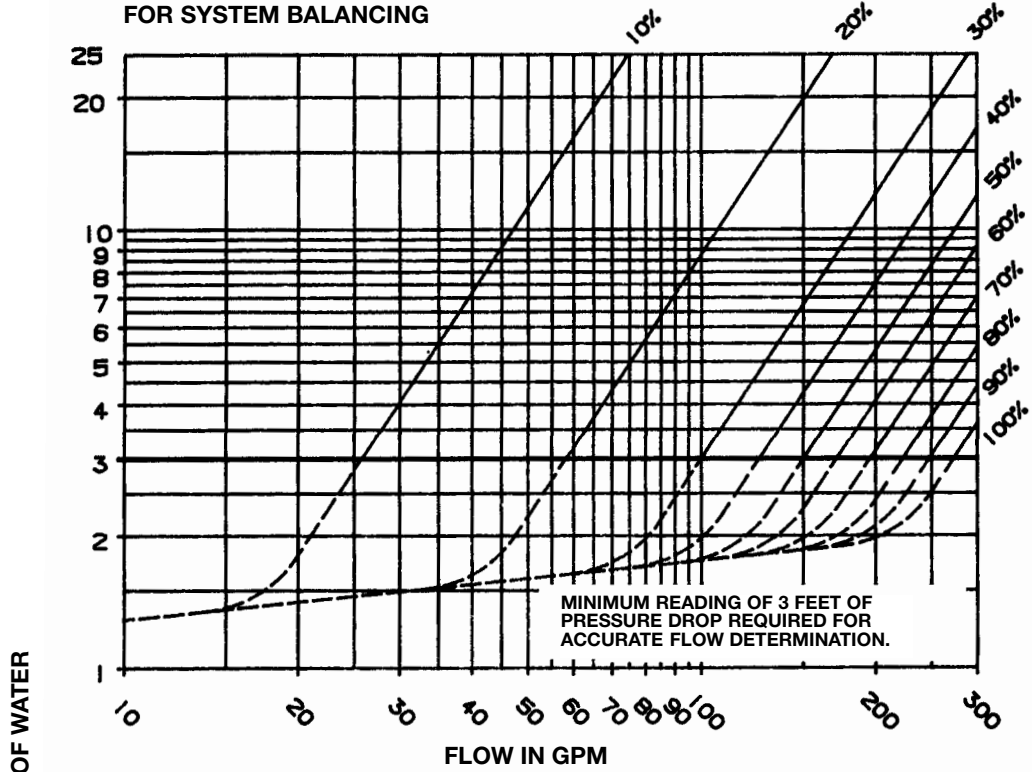


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Triple Duty® Valve (Angle Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132133

Model No. 3D-3S

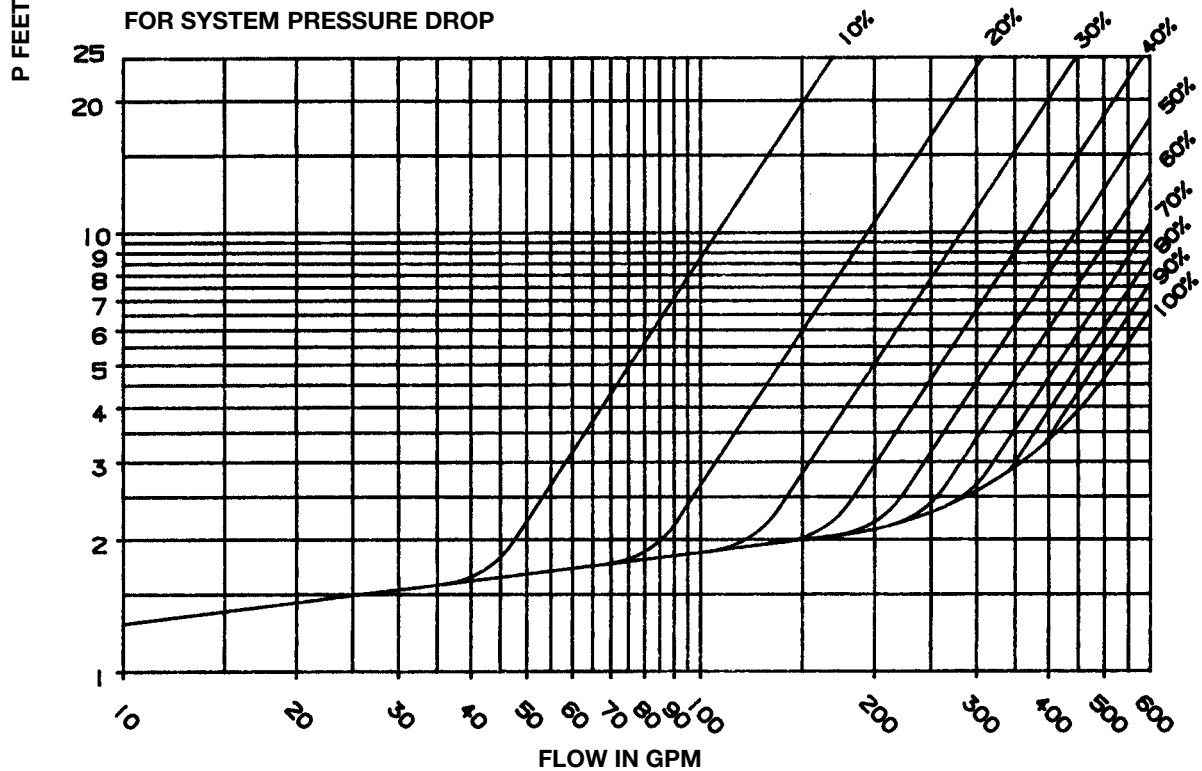
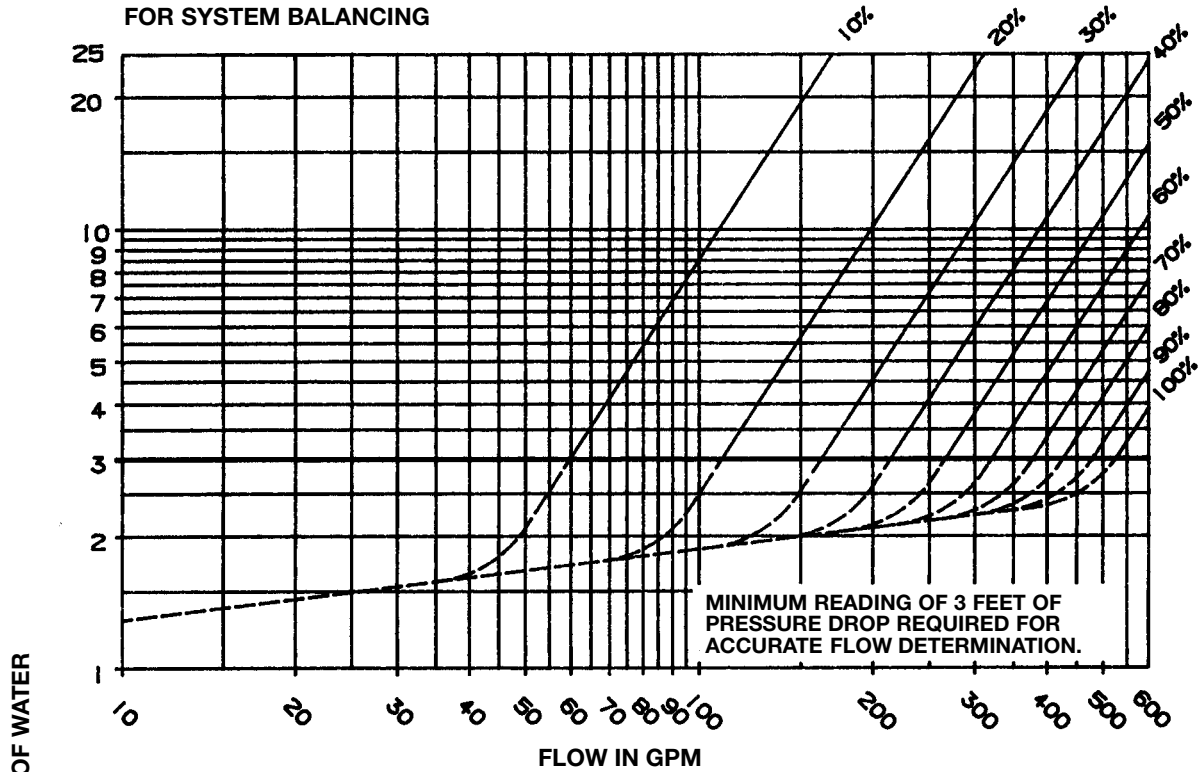


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Triple Duty® Valve (Angle Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132134

Model No. 3D-4S

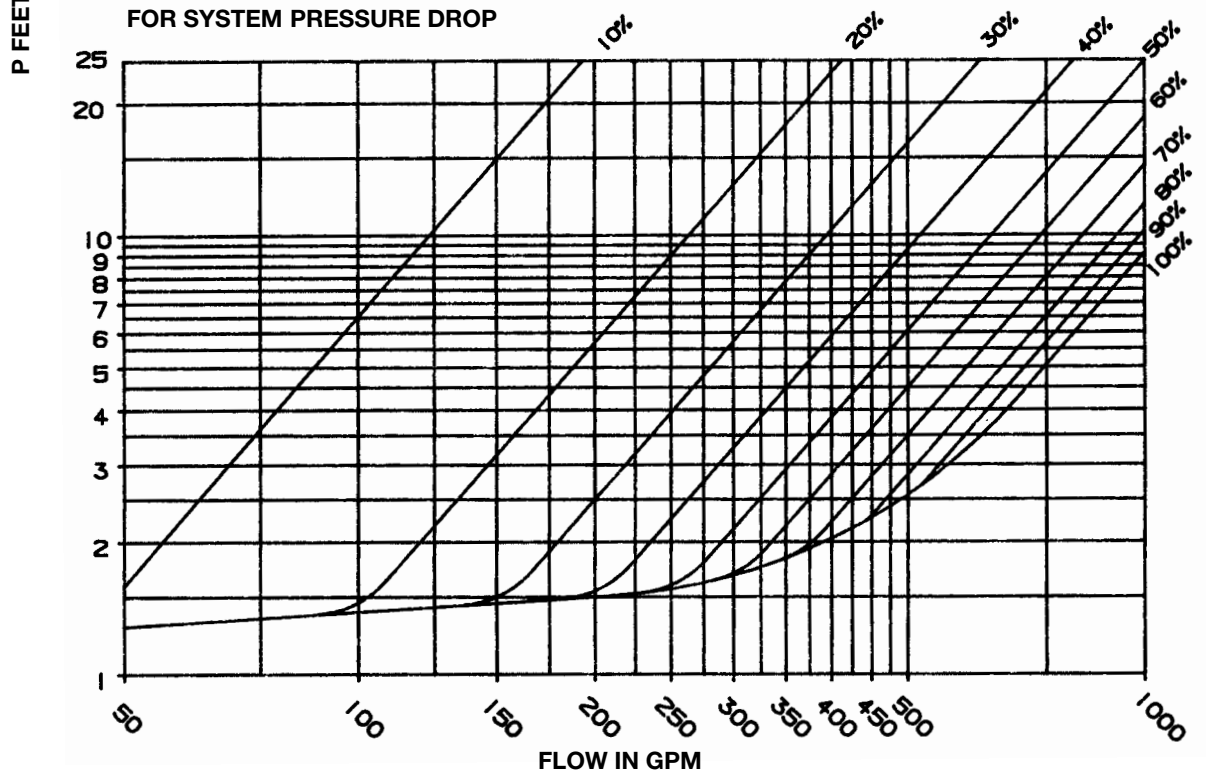
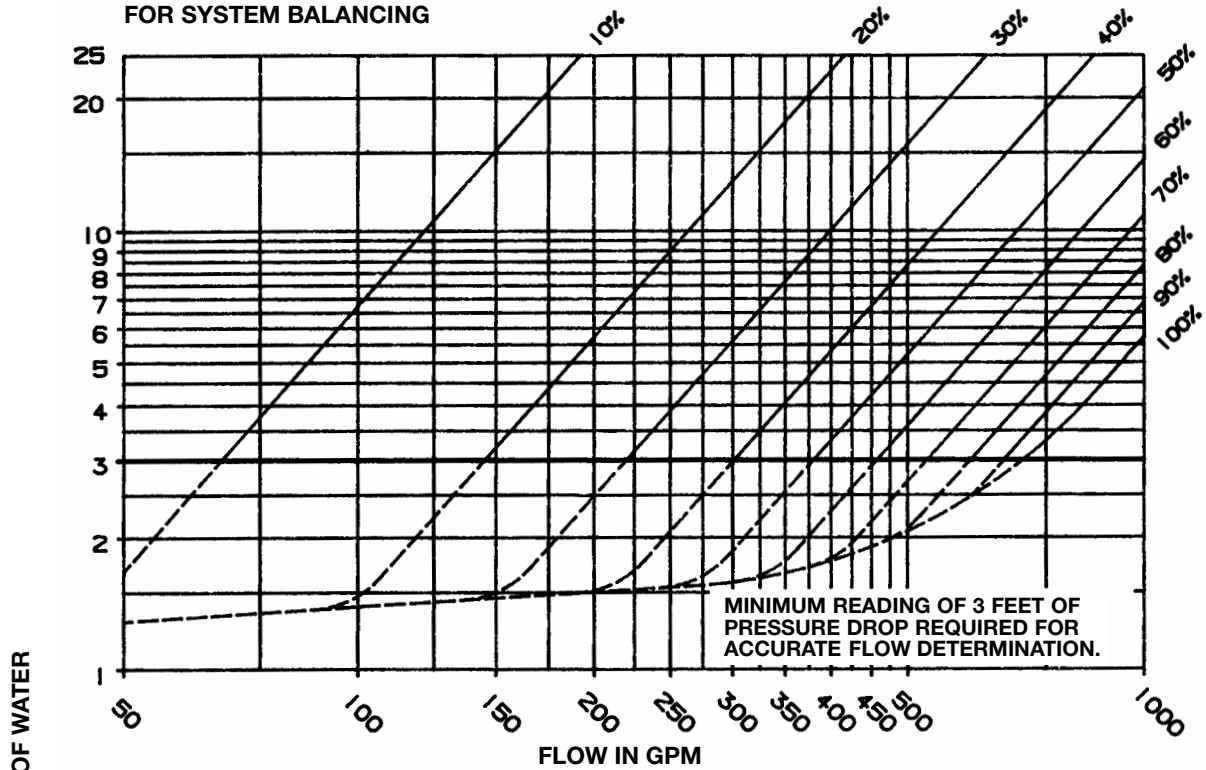


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Triple Duty® Valve (Angle Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132135

Model No. 3D-5S

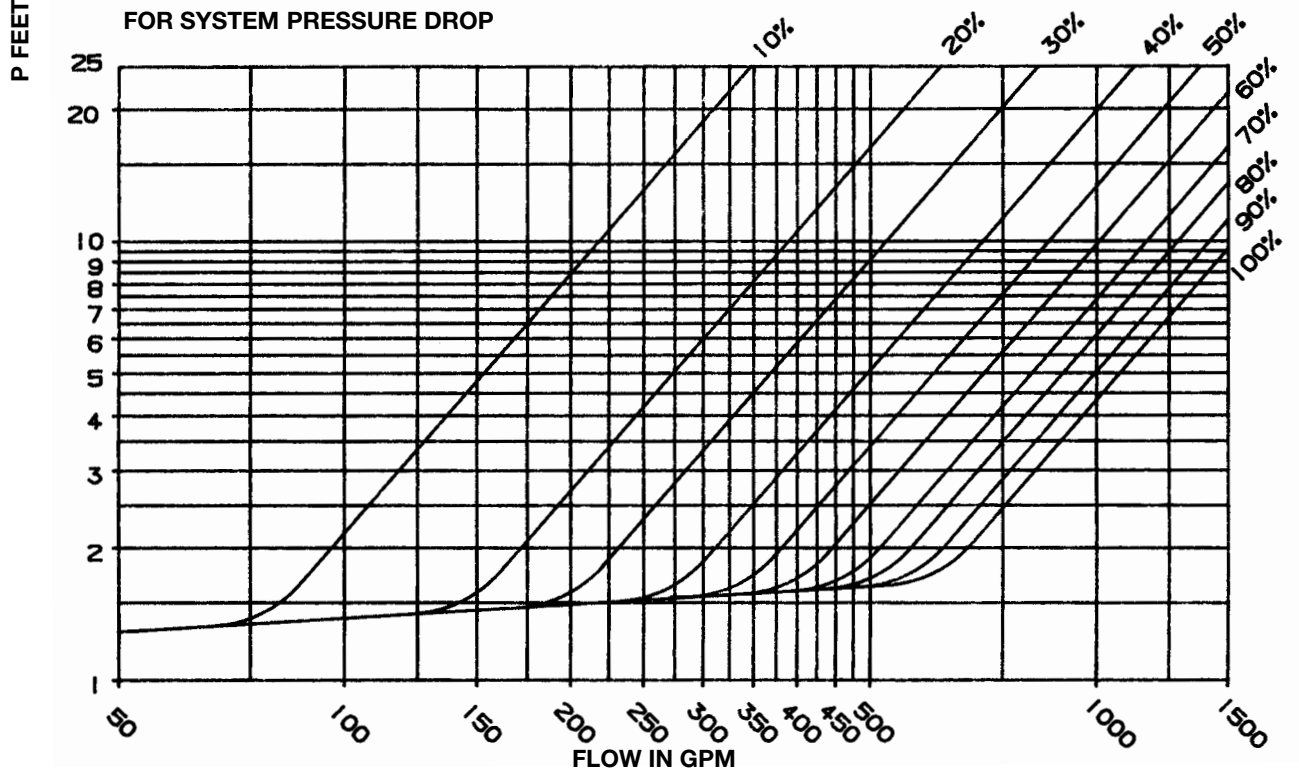
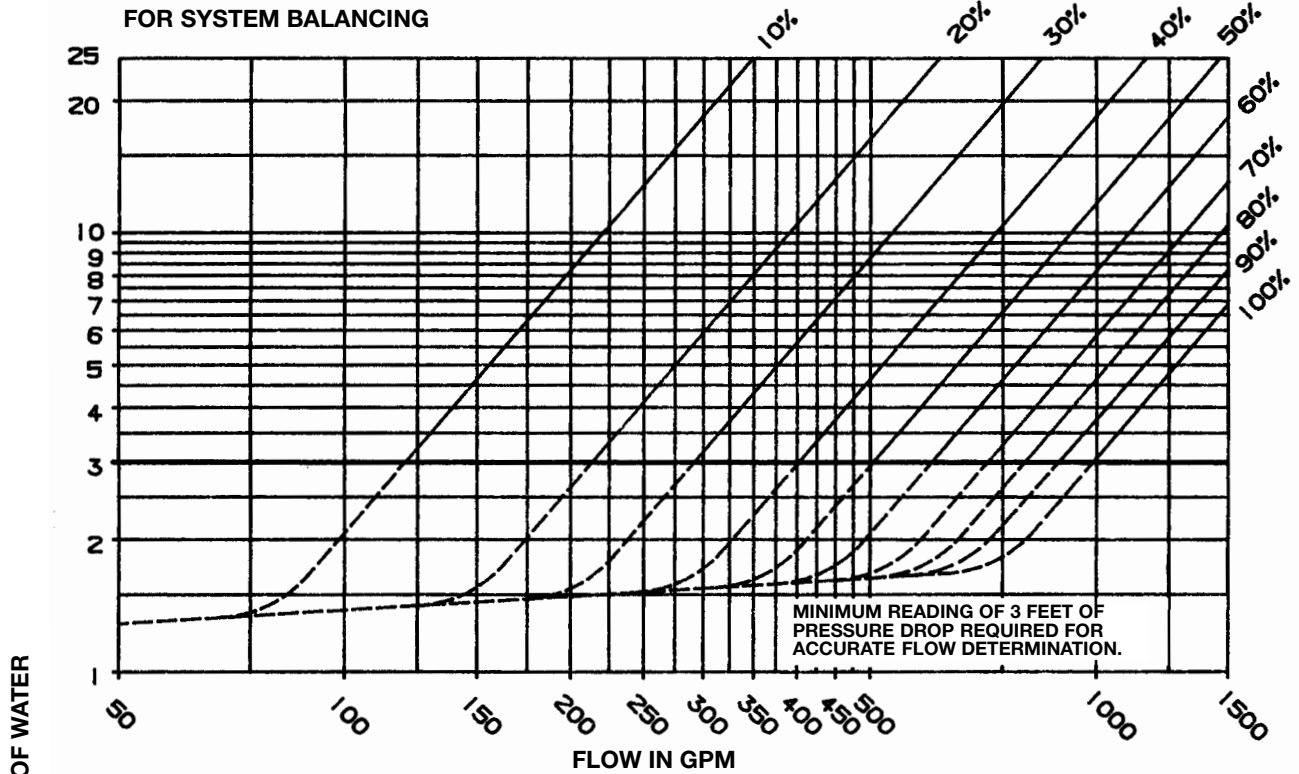


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Triple Duty® Valve (Angle Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132136

Model No. 3D-6S

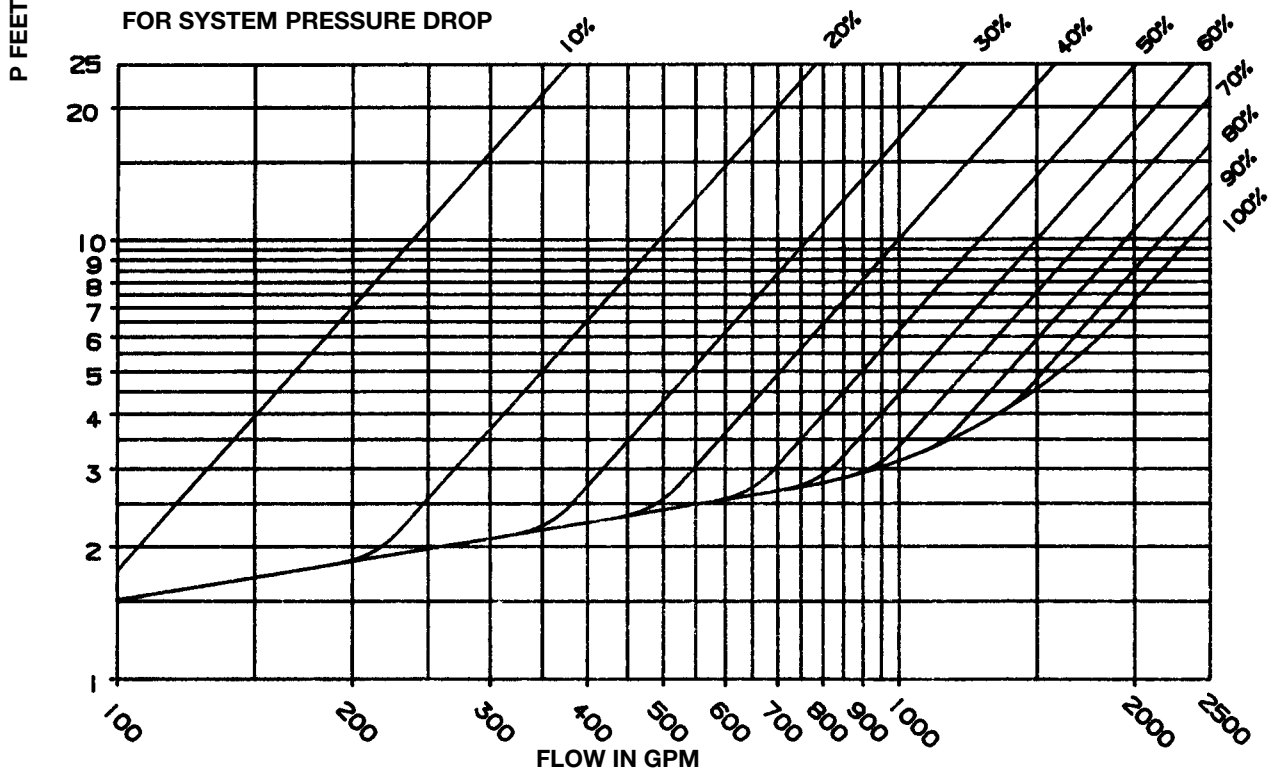
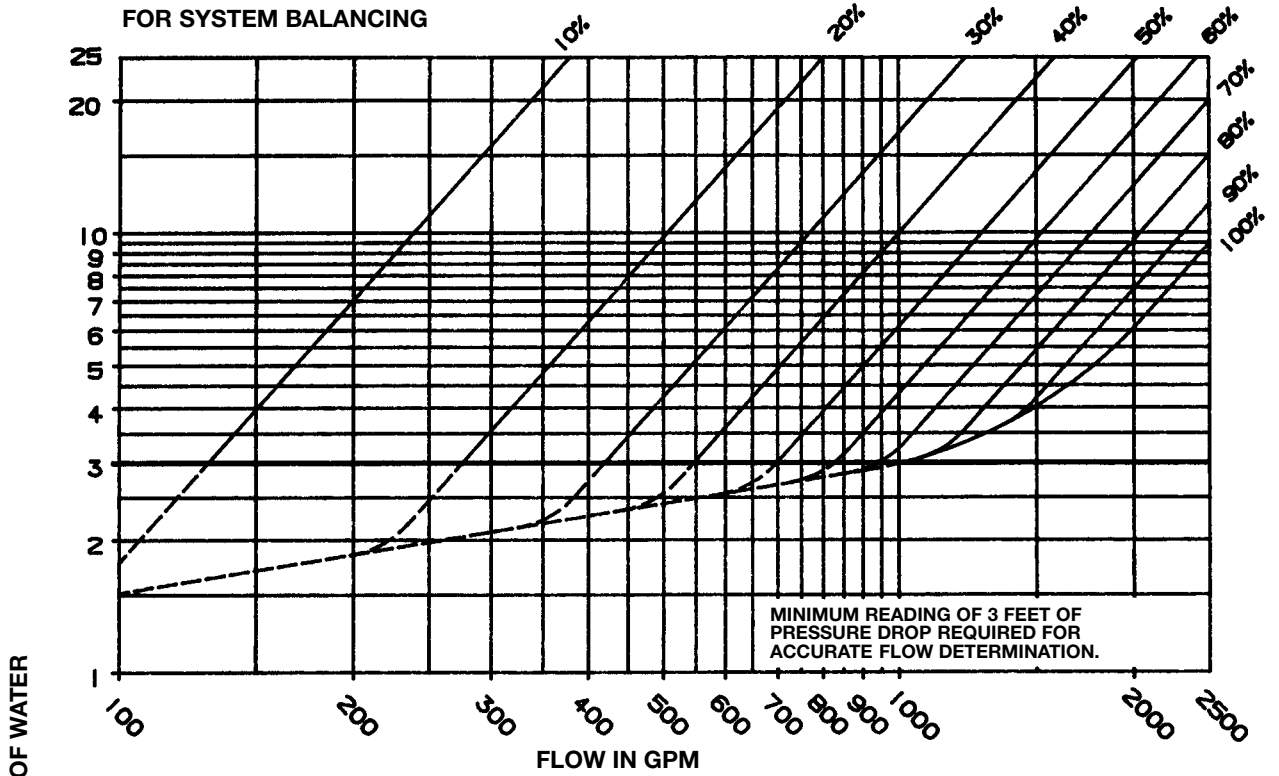


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Triple Duty® Valve (Angle Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132137

Model No. 3D-8S

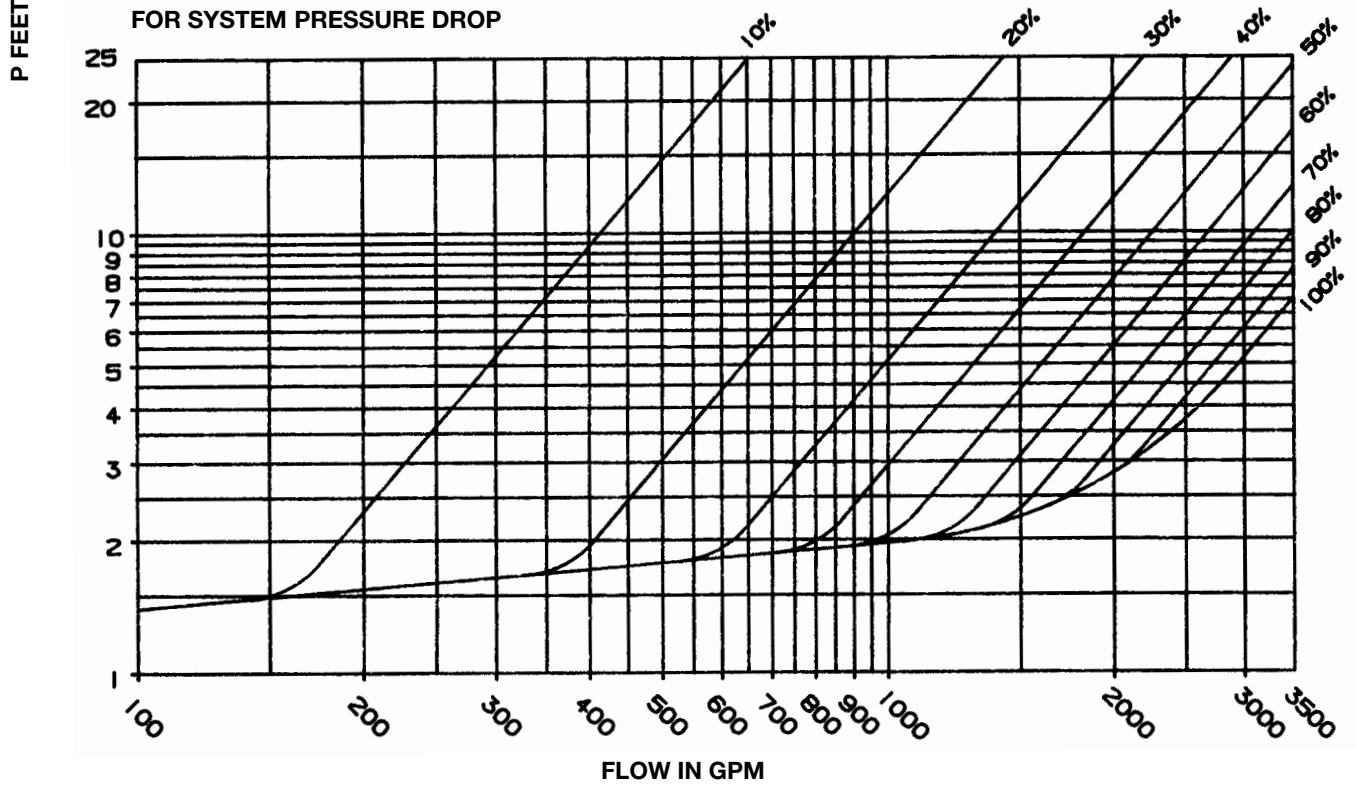
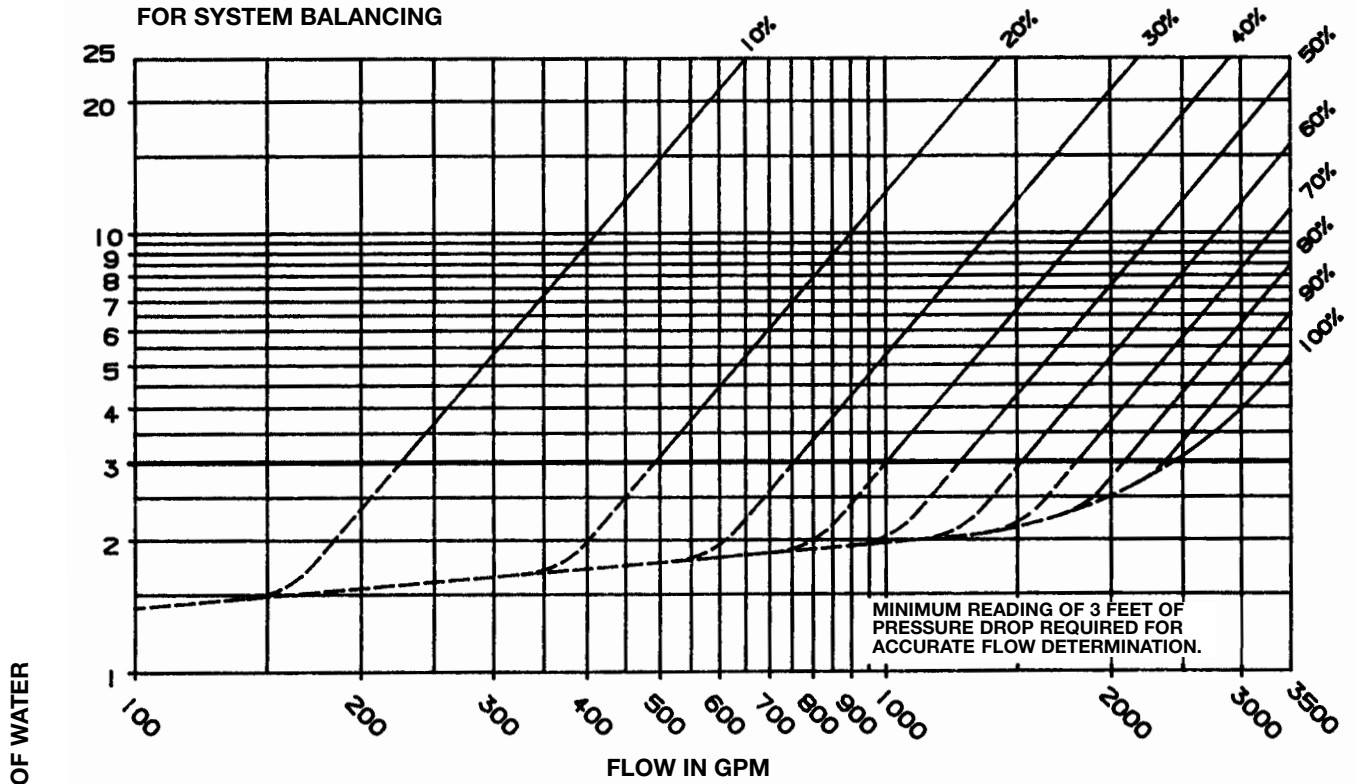


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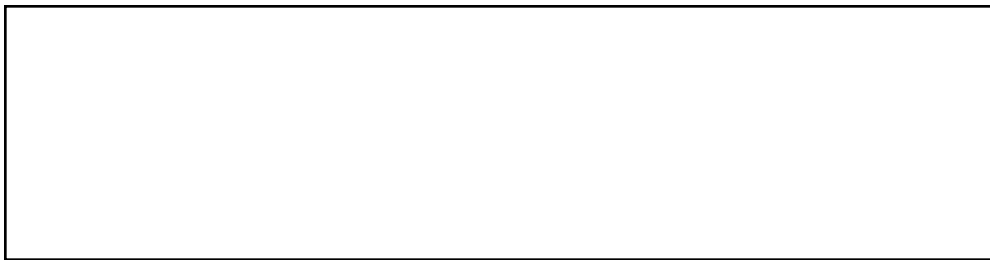
Triple Duty® Valve (Angle Pattern) PERFORMANCE CHARACTERISTICS

Part No. 132138

Model No. 3D-10S



**FOR MORE INFORMATION, CONSULT YOUR LOCAL
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