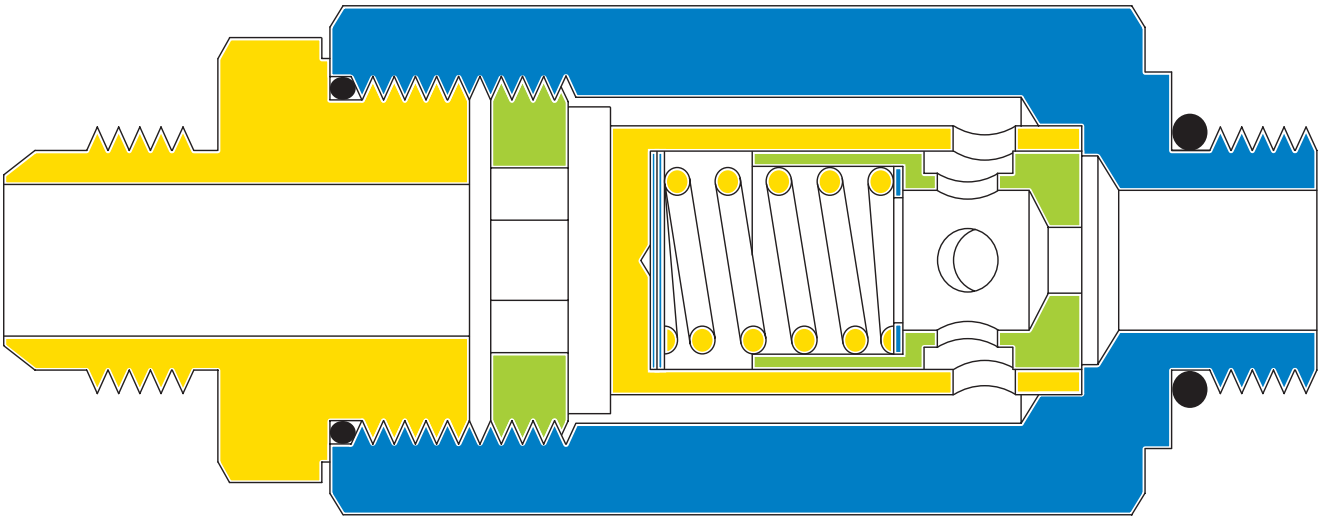
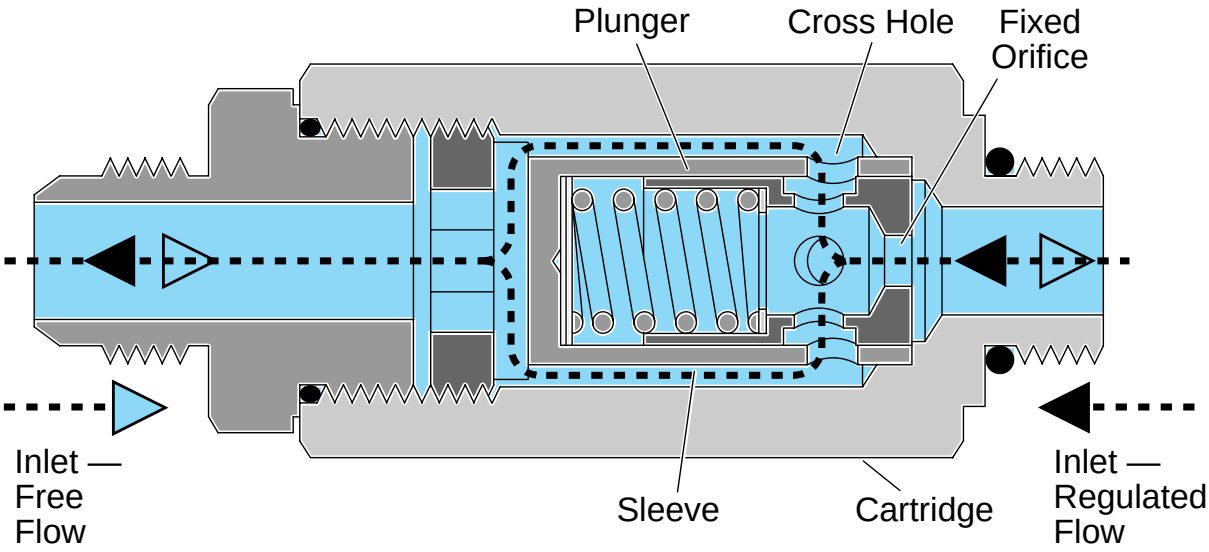
Eaton®
Hydraulic Valves

April, 1996



32604 In-Line Flow Control Valve

Operation and Application



In-Line Flow Control Operation

Oil flow entering the In-line Flow Control passes through the fixed orifice in the plunger, then out the cross holes in the plunger and sleeve. The oil then flows around the sleeve and out the Flow Control. When the oil flows through the fixed orifice it creates a pressure differential across the fixed orifice. As oil flow volume increases the pressure differential increases. This pressure differential causes the plunger to move, compressing the spring and gradually closing off the cross holes. The spring rate and cross hole design causes a restriction that regulates the predetermined flow rate of the flow Control. This Flow Control is regulated flow in one direction and free flow in the opposite direction. The Flow Control is flow sensitive and not pressure sensitive. The flow rate is factory set and is not field adjustable.

Application of In-Line Flow Control

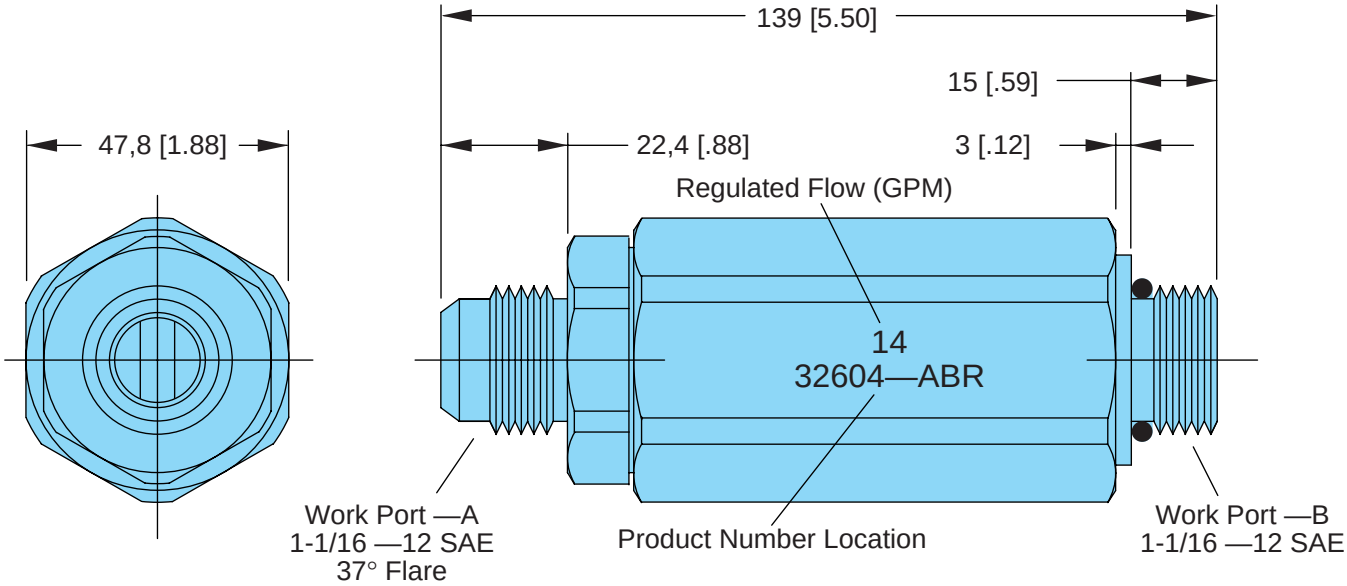
Hydrostatic Limited Slip Differential - Used to prevent over speed of Hydraulic Motors when two motors are teed together. By installing one in each motor work port, it will control maximum flow in both directions.

Motor Over speed from external over run - Used in motor outlet port to prevent an external load from causing the motor to over speed.

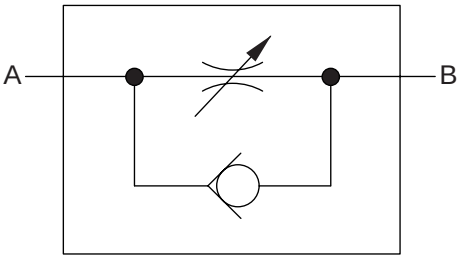
Controlled Flow to Hydraulic circuit - Used in multiple circuits to control maximum flow to or from a single hydraulic circuit.

Speed Control for Multiple motors connected in parallel - Used to control flow rate to individual motors to allow all motors to turn at the same speed regardless of load on motor.

Specifications and Dimension Data



Max. Operating Pressure 345 Bar [5000 PSI]
Max. Surge Pressure 379 Bar [5500 PSI]
Weight 1 Kg [2.5 lb]
Material — All Steel
Flow Tolerance ± 5,7 LPM [1.5 GPM]

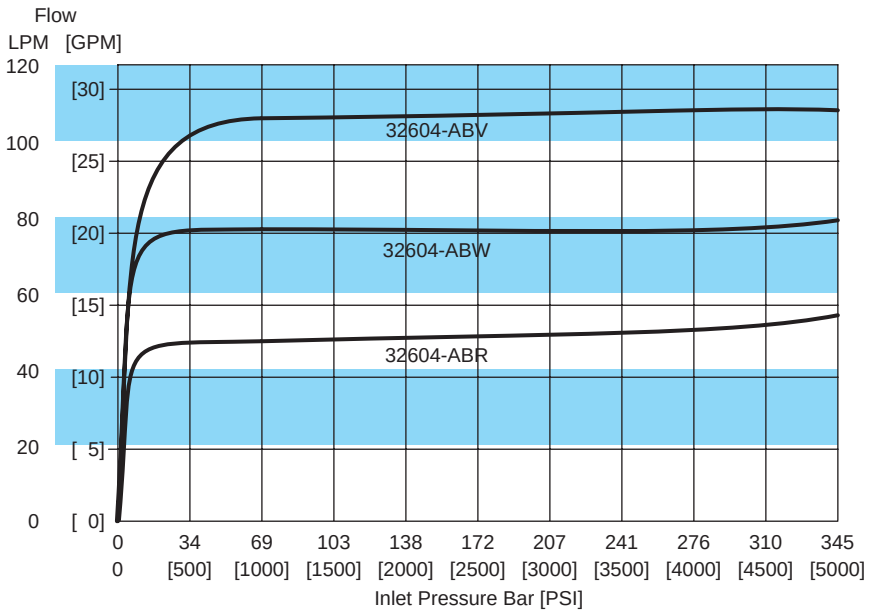


Ordering Information

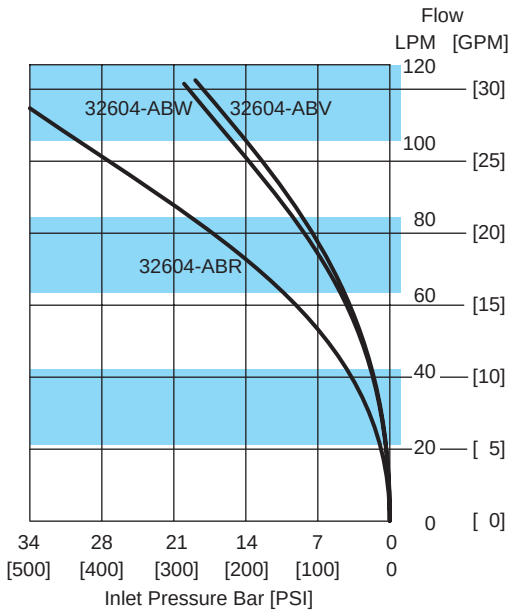
Product Number	Regulated Flow
32604-ABR	53 LPM [14 GPM]
32604-ABW	80 LPM [21 GPM]
32604-ABV	106 LPM [28 GPM]

Other Settings Available — Contact your Eaton Representative.

Performance Curves



Controlled Flow



Reverse Flow

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