

## Wilo Triple Duty Valve / Triple Service Valve

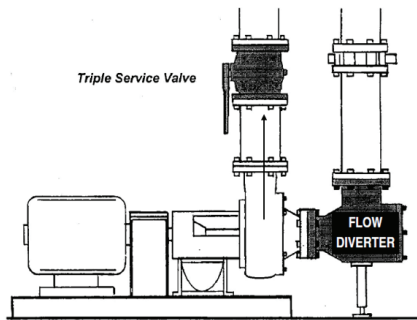
### Technical Bulletin

## 1 Features / Advantages

Available in sizes 1-1/2" through 12" with cast iron bodies and threaded or flanged ends.

Standard features include:

- Schrader valve metering connections
- Memory stop which avoids the need for resetting after shut-down.
- Plug position indicator and calibrated scale for system balancing and flow regulation.
- Spring loaded clapper allows the valve to be installed horizontally 1-1/2" through 8" vertically.
- Dual O-ring stem seals
- Non-lubricated operation
- Bubble-tight shut-off
- In-line serviceability



Proper system installation. Note: Arrow indicates direction of flow

## 2 Multi-function Benefits

- Flow regulator valve
- Positive shut-off valve
- Convenient connections for gauges
- Compact size reduces space requirements

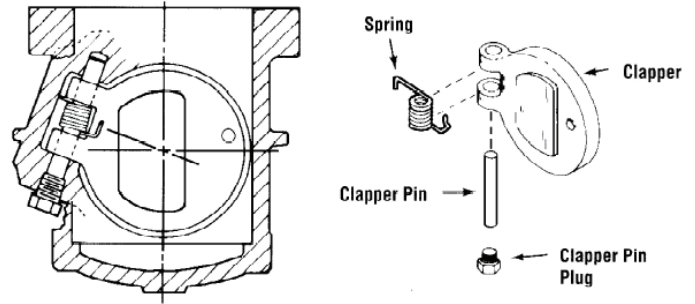
## 3 Backflow Protection - Internal Spring-loaded Clapper

The unique quarter-turn TDV/TSV design offers backflow protection throughout a wide range of system balancing settings.

Upon closing, the plug rotates to block the downstream port of the valve allowing pressure to equalize around clapper so that it closes with little resistance.

Final closing is accomplished by the plug camming against the backside of the clapper. The most satisfactory closure is accomplished by turning the plug to a normal tight fit, then bumping the plug lightly.

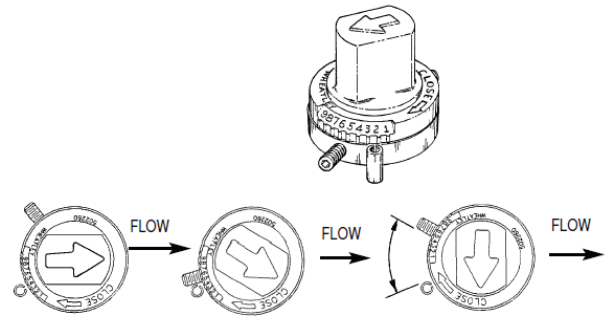
Valve Clappers are internally spring-loaded for a positive check.



Sectional view looking upstream

NOTE: One end of clapper pin is tapped for pin removal

## 4 Memory Stop



Valve is shown in open position. Memory Stop has not been set.

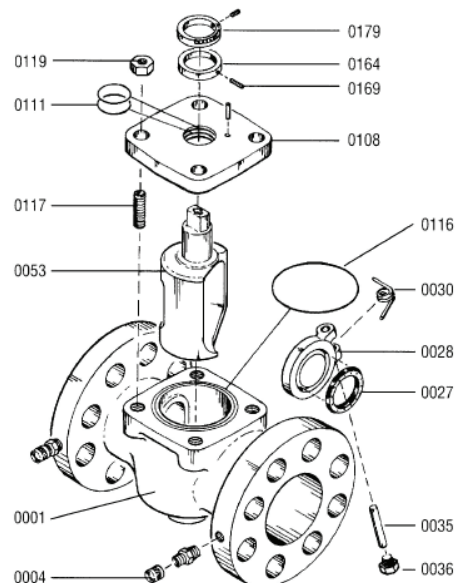
Valve Plug is rotated to selected balance position. Memory stop is rotated until it intercepts the stop on cover. Tighten lock screw on memory stop.

Valve plug may be closed and re-opened to same balance position.

## 5 Operational Limits

Maximum Working Pressure: 175 psi (12 bar) standard  
Maximum Operating Temperature: 250°F (121°C)

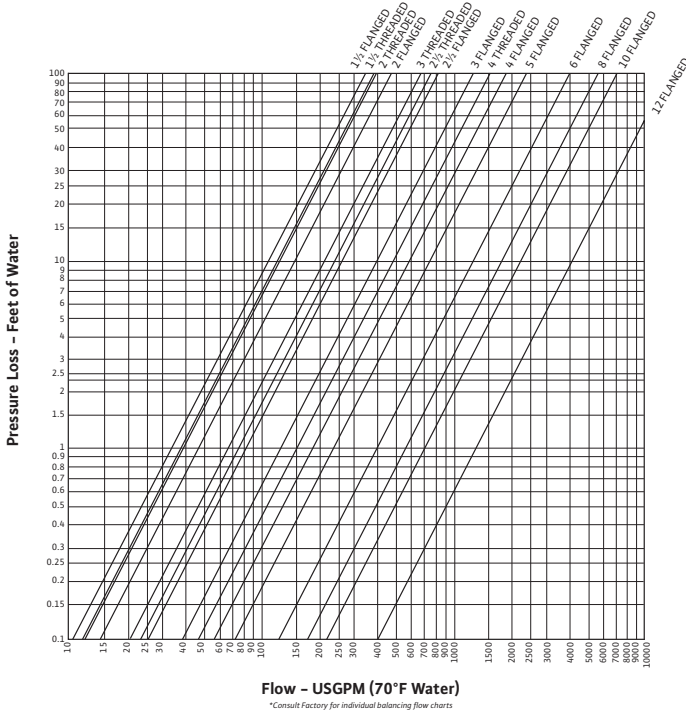
## 6 Materials of Construction



Item Number	Description	Qty	Material
0001	Body	1	Cast Iron ASTM A126 / DI A536
0004	Metering Connector	2	Brass
0027	Clapper Seal	1	Buna
0028	Clapper	1	Cast Iron
0030	Spring	1	Stainless Steel
0035	Clapper Pin	1	Stainless Steel
0036	Pipe Plug	1	Steel
0053	Plug	1	Cast Iron ASTM A126 / DI A536
0108	Cover	1	Cast Iron ASTM A126 / DI A536
0111	O-Ring	2	Buna
0116	O-Ring	1	Buna
0117	Cover Stud	4	Steel
0119	Nut	4	Steel
0164	Memory Stop	1	Steel
0169	Set Screw	1	Steel
0179	Indication Ring	1	Composite

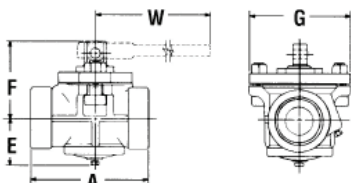
Note: Wilo reserves the right to change materials without notice.  
Exploded view shown on previous page: 10", 175wp., flanged end.

## 7 Pressure Loss Curve for Sizing TDV/TSV Valve

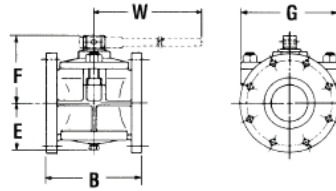


## 8 Dimensions and Weights

### 8.1 Threaded Ends Bolted Covers Wrench Operated Class - 175 lbs. WOG



### 8.2 Flanged Ends Bolted Covers Wrench Operated Class - 175 lbs. WOG



Description	Nominal Pipe Size									
	1½	2	2½	3	4	5	6	8	10	12
End-to-End, Thrd (A)	6.38	6.38	8.25	8.25	9.63	-	-	-	-	-
Face-to-Face, Flgd (B)	7.0*	7.0	8.0*	8.0*	9.0*	10.0	10.5*	11.5*	16.0	19.0
Center of port to top of valve (E)	2.13	2.13	2.75	2.75	3.25	3.38	5.0	5.75	7.50	9.31
Center of port to top of valve (F)	4.31	4.31	5.75	5.75	6.63	6.63	7.13	7.88	9.88	11.38
Extreme width of body (G)	5.0	5.0	6.63	6.63	6.75	6.75	10.63	9.0	10.56	13.38
Wrench Extension (W)	14.0	14.0	16.25	16.25	16.25	16.25	33.13	31.06	33.06	31.06
Weight (approx.) lb., Thrd	13	13	26	-	-	-	-	-	-	-
Weight (approx.) lb., Flgd	-	19	40	42	64	95	122	165	270	385

\* All flange holes tapped size 1½, 2½, 3, 4, 6 and 8 inch valves.  
Flange dimensions per ANSI standard B16. 1, Class 125.  
NPT line pipe threads optional wrench available.

## 9 Typical Specification (All models)

Furnish and install as shown on plans, a TDV/TSV valve designed to perform the functions of a center guided nonslam check valve, shutoff valve and calibrated balancing valve.

The valve shall be of heavy-duty cast iron construction with either NPT connections per ANSI B1.20.1-83 suitable for 175 psi [12 bar] working pressure [NPT models only] or 125 psi [8.62 bar] ANSI flanged connections suitable for 175 psi [1207 kPa] working pressure, for operating temperatures up to 250°F (121°C).

The valve shall be fitted with a cast iron clapper and Buna clapper seal and chatter preventing stainless steel spring and clapper pin.

The valve shall be produced at an ISO 9001 approved facility.

Each valve shall be Wilo No. WTDV-\_\_\_\_\_.

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