For Balancing and Flow Measurement Applications

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

Series TDV

Triple Duty Valves

Sizes: 2½" – 12" (65 – 300mm)

Series TDV Triple Duty Valves are designed for use on single, double, and vertical in-line pump applications. The TDV combines the functions of a positive hand-tight shutoff valve, check valve, and flow control valve into one versatile package, and eliminates the need to utilize three separate valves on the pump system. By using the series TDV, fewer components and fewer connections are required. Therefore, installation time is reduced, less space is needed, and the potential for leaks is reduced: adding up to significant cost savings.

The field-convertible design allows the TDV to be changed from the factory-standard, straight pattern to an optional angle pattern by using standard tools, and no additional parts. This allows the TDV to be used as a replacement for angles and elbows, and generates even greater savings on space and connections.

The TDV is designed for easy field serviceability with bonnet O-rings that can be replaced under pressure by backseating the valve, and seats that can be changed without the use of special tools.

Features

- Reduced field installation and material cost
- Eliminates requirement of three valves on pump discharge
- Soft seat to ensure tight shutoff
- Spring closure design, non-slam silent check valve feature
- Valve Cv designed to ASHRAE flow recommendations for quiet system operation
- Grooved end connections with optional flange adaptors

Specifications

A Triple Duty Valve shall be installed on the discharge side of each pump as indicated on the plans. The valve body shall be ductile iron with grooved ends and anti-rotation lugs on the inlet and outlet of the body. The valve shall have two ¼" (6mm) NPT connections on each side of the valve seat. Two connections to have brass pressure metering ports with check valve and gasketted caps. Two other connections to be supplied with brass drain plugs. Metering ports are to be inter-changeable with brass drain plugs. The valve disc shall be bronze plug type with engineered resin seat 2½" – 6" and EPDM for 8" – 12". Valve stem shall be stainless steel with wrench flats. Flange adaptors, where necessary, shall be class 125 ductile iron flanges with anti-rotation lugs and EPDM gaskets. Valve shall be a Watts Series TDV.

Angle Pattern

Straight Pattern

Materials

Body:	Ductile Iron ASTM A536 GR65-45-12
Disc:	Bronze ASTM B584 C-84400
Seat:	2½" – 6" Engineered Resin, 8" – 12" EPDM
Stem:	Stainless Steel ASTM S582 Type 416
Spring:	Stainless Steel ASTM S302
O-rings:	Buna-N
Metering Ports:	Brass NPT Brass Body with Cap
Drain Tappings (2):	¼" with Brass plug

Optional equipment

Flange Adapters:	Ductile iron ASTM S536 GR 65045-12
Flange Gaskets:	EPDM
Insulation:	Fiberglass

Flange Adapter Details

VALVE SIZE		125PSI/150PSI DUCTILE IRON				
		Bolt			Bolt Diameter	
		No.	Size			
in.	*mm*		*in.*	*mm*	*in.*	*mm*
2½	64	4	⅝	16	5½	140
3	76	4	⅝	16	6	152
4	102	8	⅝	16	7½	191
5	127	8	¾	19	8½	216
6	152	8	¾	19	9½	214

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

WATTS®

Pressure-Temperature

Grooved Ends Only

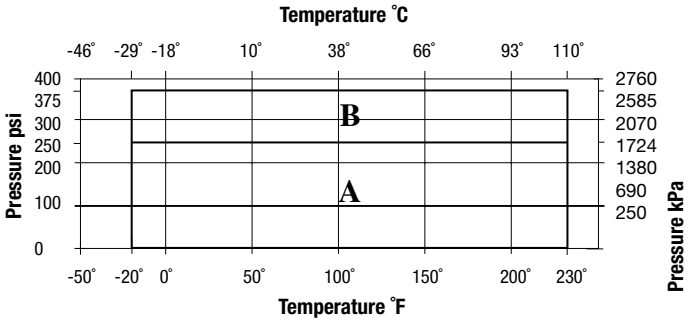
Maximum Working Pressure: 375psi (26.25 bar)

Maximum Temperature: 230°F (110°C)

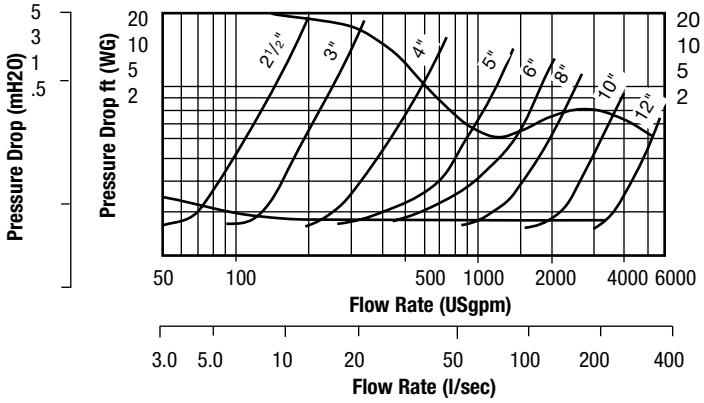
Flange

Maximum Working Pressure: 175psi (12 bar)

Maximum Temperature: 230°F (110°C)



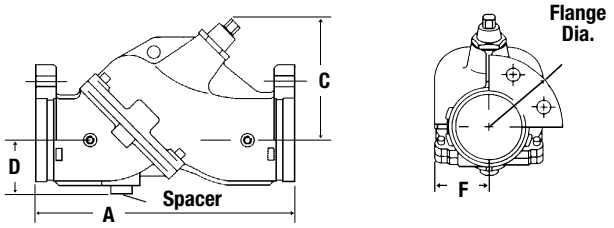
Performance Curve with valve in Open Position



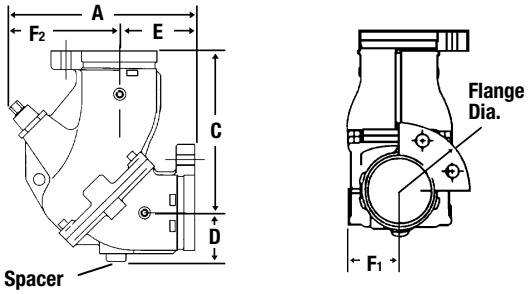
Legend

A Ductile iron flange adapters for ANSI 150# flanges
B Grooved end with 375psi rated pipe coupling

Dimensions-Weights



Straight Pattern (Standard)



Angle Pattern (Convertible)

Straight Pattern

SIZE (DN)		DIMENSIONS								FLANGE DIA.		SPACER		WEIGHT	
		A		C		D		F		125#					
in.	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lbs*	*kgs*
2½	65	12	305	7	178	2¾	70	2 9/16	65	7	178	1	25	19	8.6
3	80	12	305	7 13/16	198	2 7/16	61	3	76	7½	191	1	25	24	10.9
4	100	14	356	8	203	3	76	3 7/16	87	9 1/4	235	1 1/4	32	42	19.0
5	125	17½	445	10 1/8	257	3 5/8	92	4 15/16	125	10	254	1 1/4	32	81	36.7
6	150	20 11/16	526	10 3/8	264	4 7/16	113	5 7/8	149	11	279	2	51	120	54.4
8	200	28 3/16	716	22 13/16	579	5 11/16	144	7 7/8	200	13½	343	2 1/4	57	310	140.6
10	250	30	762	28 5/8	727	6 9/16	167	9 15/32	240	16	406	2 1/4	57	460	208.6
12	300	38 1/16	967	32 5/8	829	7 5/8	194	12 5/8	321	19	483	2 1/4	57	870	394.6

Angle Pattern (Field Convertible*)

SIZE (DN)		DIMENSIONS												FLANGE DIA.		SPACER		WEIGHT	
		A		C		D		E		F1		F2		125#					
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs	kgs
2½	65	11 5/8	295	7 3/8	187	2¾	70	4 5/8	117	2 9/16	64	7	178	7	178	1	25	19	8.6
3	80	11 11/16	297	8 3/8	213	2 7/16	61	3 7/8	98	3	76	7 13/16	199	7½	191	1	25	24	10.9
4	100	12 3/8	314	9 5/8	245	3	76	4 3/8	111	3 7/16	87	8	200	9 1/4	235	1 1/4	32	42	19.0
5	125	15 5/8	397	12	305	3 5/8	92	5½	140	4 15/16	124	10 1/8	253	10	254	1 1/4	32	81	36.7
6	150	17	432	14 1/8	359	4 7/16	111	6 5/8	168	5 7/8	149	10 3/8	264	11	279	2	50	120	54.4
8	200	32	813	18 15/16	481	5 11/16	145	9 3/16	234	7 7/8	200	22 13/16	580	13½	343	2 1/4	57	310	140.6
10	250	38 7/8	975	20 5/16	516	6 9/16	161	9¾	248	9 15/32	240	28 5/8	727	16	406	2 1/4	57	460	208.6
12	300	46 5/8	1184	24 1/16	612	7 5/8	194	14	356	12 5/8	321	32 5/8	825	19	483	2 1/4	57	870	394.6

*Series TDV valves are shipped as straight pattern from factory. To convert to angle pattern refer to instruction sheet shipped with valve.

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