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GRINNELL Model TD830 Flow-Control Triple-Duty Valves

General Description

The GRINNELL Model TD830 Triple-Duty Valve is primarily designed for installation in pump discharge piping where it functions as a spring-loaded silent check valve, flow-control valve, and shut-off valve.

The Model TD830 Triple-Duty Valve operates automatically and silently. Line pressure of approximately 1/4 psi (0,02 bar) will open the disc. The spring closes the disc as the line flow approaches zero in order to prevent flow reversal and water hammer.

The flow through the valve can be adjusted from bubble-tight shut-off to full-flow by the acme threaded rising stem.

The Model TD830 Triple-Duty Valve can be installed quickly into grooved end piping systems with two GRINNELL couplings. This valve offers these features:

- The externally guided disc has a soft seat to ensure a leak-tight seal. It lifts 1/3 inch for each inch of pipe diameter.
- The rising stem design incorporates a graduated position indicator to ensure accurate disc positioning for throttling service.
- The yoke and valve stem are un-wetted external parts so they cannot be corroded or eroded by the line fluid.
- All mating threaded parts are made of dissimilar, non-galling metals.
- An NPT drain plug is provided, as well as bosses for gauge taps at the inlet and outlet.

NOTICE

Never remove any piping component nor correct or modify any piping deficiencies without first de-pressurizing and draining the system. Failure to do so may result in serious personal injury, property damage, and/or impaired device performance.

It is the designer's responsibility to select products suitable for the intended service and to ensure that pressure ratings and performance data are not exceeded. Material and gasket selection should be verified for compatibility with the specific application. Always read and understand the installation instructions.

The GRINNELL Model TD830 Triple-Duty Valve described herein must be installed and maintained in compliance with this document, in addition to the standards of any other authorities having jurisdiction. Failure to do so may result in serious personal injury or impair the performance of these devices.

The owner is responsible for maintaining their mechanical system and devices in proper operating condition. Contact the installing contractor or product manufacturer with any questions.



**10
YEAR
LIMITED
WARRANTY**

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Nominal Pipe Size		Nominal Dimensions Inches. (mm)			Approx. Weight Lbs. (kg)
ANSI Inches DN	O.D. Inches (mm)	A	B OPEN	C NPT	
2 50	2.375 60,3	9.375 238,1	9.625 244,5	1/2 15	23.0 10,0
2-1/2 65	2.875 73,0	10.250 260,4	9.625 244,5	1/2 15	24.0 10,9
3 80	3.500 88,9	11.250 285,8	10.125 257,2	1/2 15	33.0 15,0
4 100	4.500 114,3	15.625 397,9	11.125 282,6	1/2 15	84.0 38,0
5 125	5.563 141,3	15.625 397,9	11.125 282,6	1/2 15	84.0 38,0
6 150	6.625 168,3	19.625 498,5	17.500 444,5	3/4 20	156.0 70,0
8 200	8.625 219,1	23.625 600,0	18.000 457,2	3/4 20	300.0 136,0
10 250	10.750 273,1	28.000 711,2	19.875 504,8	1 25	392.0 178,0
12 300	12.750 323,9	31.625 803,3	25.000 635,0	1 25	496.0 225,0
14 350	14.000 355,6	33.500 851,0	25.000 635,0	1 25	790.0 358,3

Item	Quantity	Valve Assembly Parts
1	1	Body
2	1	Seat Guide
3	1	Disc
4	1	Yoke Cover
5	1	Spring
6	1	Stem
7	1	Seat O-Rings
8	1	Disc O-Rings
9	1	Cover Gasket
10	8	Hex Head Cap Screws
11	1	Gland Packing
12	1	Stem O-Ring
13	1	Flanged Gland

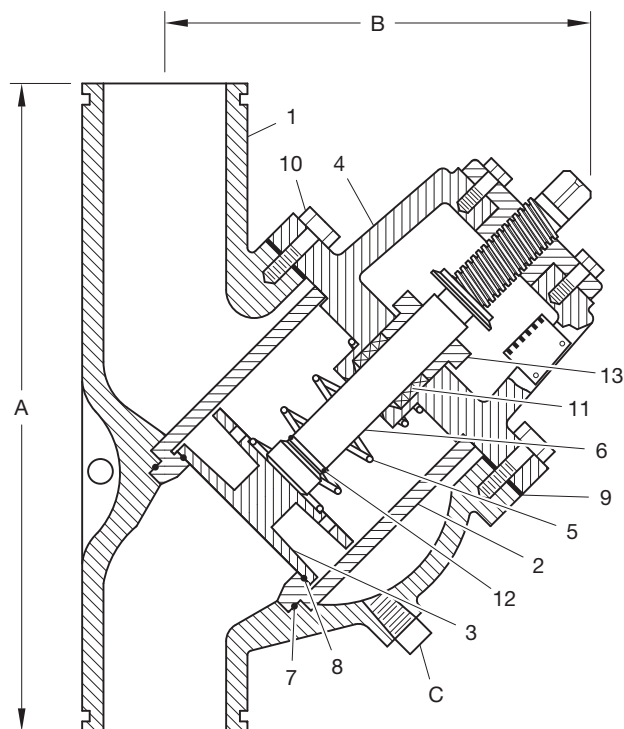
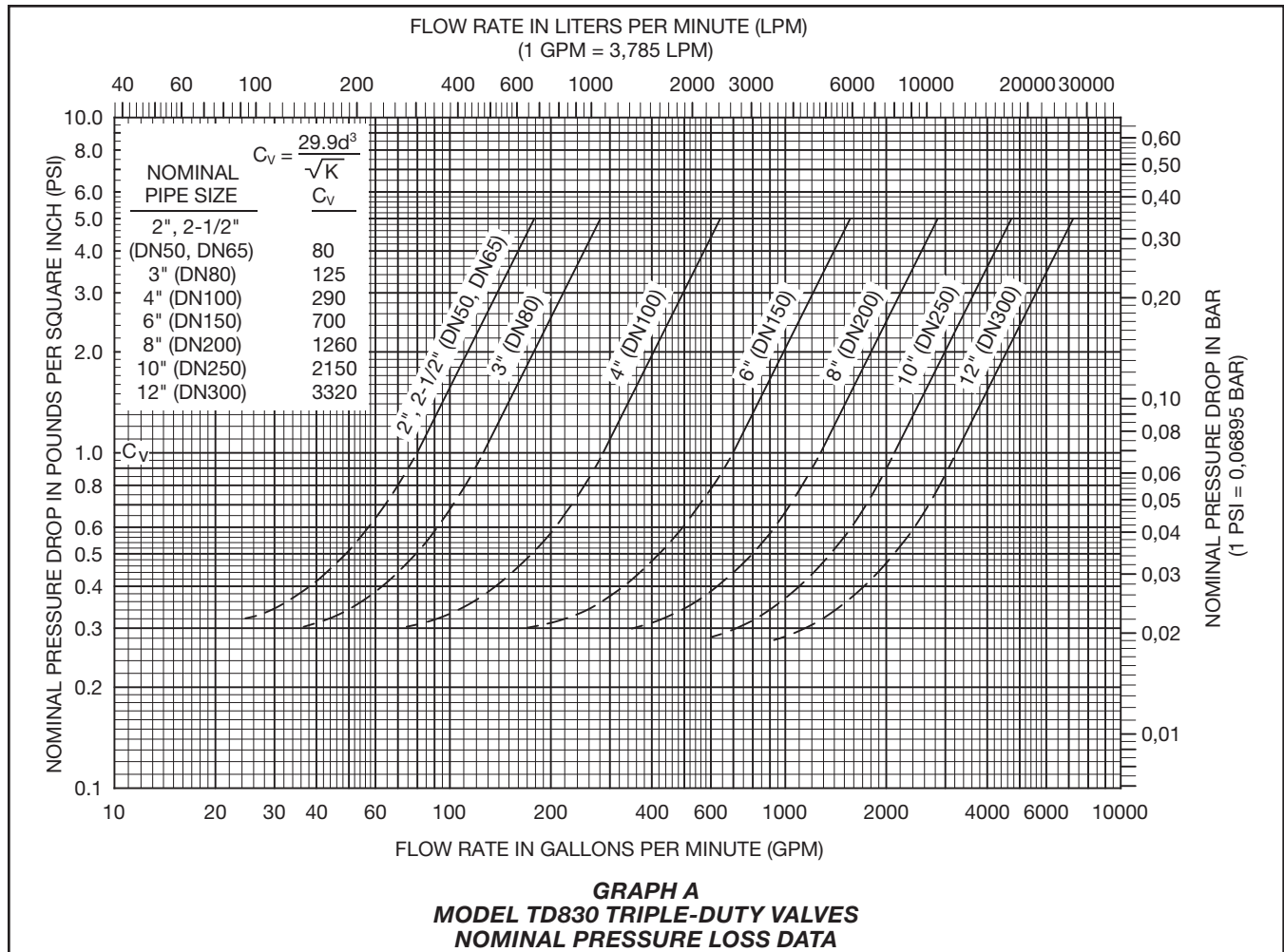


FIGURE 1
MODEL TD830 TRIPLE-DUTY VALVES
NOMINAL DIMENSIONS AND ASSEMBLY PARTS

Size ANSI Inches DN	% Valve is Open	Pressure Drop					
		0.5 psi 0,03 bar	1.0 psi 0,07 bar C _v	1.5 psi 0,09 bar	2.0 psi 0,14 bar	2.5 psi 0,17 bar	3.0 psi 0,21 bar
		Nominal Flow Rate GPM (LPM)					
2 50 2-1/2 65	25%	20 75,7	28 106,0	35 132,5	40 151,4	45 170,3	49 185,5
	50%	29 109,8	40 151,4	49 185,5	54 204,4	64 242,3	70 264,0
	75%	40 151,4	56 211,0	69 261,2	79 299,1	89 336,9	97 367,2
	100%	56 211,0	80 302,8	98 371,0	112 424,0	125 473,2	145 548,9
3 80	25%	33 124,9	46 174,1	57 215,8	66 249,8	74 280,1	81 306,6
	50%	48 181,7	66 249,8	71 268,8	95 359,6	105 397,5	115 435,3
	75%	65 246,1	90 340,7	110 416,4	130 492,1	142 537,5	156 590,5
	100%	91 344,5	125 473,2	155 586,7	180 681,4	200 757,1	220 832,8
4 100 5 125	25%	83 314,2	115 435,3	142 537,5	165 624,6	185 700,3	200 757,1
	50%	115 435,3	160 605,7	195 738,2	225 851,7	250 946,4	275 1041,0
	75%	157 594,3	215 813,9	265 1003,1	205 776,0	340 1287,0	370 1400,6
	100%	220 832,8	290 1097,8	360 1362,7	425 1608,8	465 1760,2	510 1930,6
6 150	25%	215 813,9	300 1135,6	370 1400,6	425 1608,8	480 1817,0	520 1968,4
	50%	290 1097,8	410 1552,0	500 1892,7	590 2233,4	650 2465,5	720 2725,5
	75%	380 1438,5	540 2044,1	660 2498,4	760 2876,9	850 3217,6	930 3520,4
	100%	500 1892,7	700 2649,8	870 3293,3	1000 3785,4	1120 4239,7	1230 4656,1
8 200	25%	450 1703,4	600 2271,2	750 2839,1	860 3255,5	960 3634,0	1050 3974,7
	50%	500 1892,7	800 3028,3	1000 3785,4	1150 4353,2	1270 4807,5	1400 5299,6
	75%	700 2649,8	1000 3785,4	1250 4731,8	1400 5299,6	1570 5943,1	1700 6435,2
	100%	880 3331,2	1260 4769,6	1550 5867,4	1800 6813,7	2050 7760,1	2200 8327,9
10 250	25%	790 2990,5	1100 4164,0	1350 5110,3	1570 5943,1	1750 6624,5	1950 7381,6
	50%	1000 3785,4	1400 5299,6	1750 6624,5	2050 7760,1	2250 8517,2	2450 9274,3
	75%	1250 4731,8	1750 6624,5	2150 8138,6	2500 9463,5	2750 10410,0	3000 11356,0
	100%	1550 5867,4	2150 8138,6	2650 10031,0	3050 11546,0	3400 12870,0	3750 14195,0
12 300 14 350	25%	1200 4542,5	1700 6435,2	2100 7949,4	2450 9274,3	2700 10221,0	3000 11356,0
	50%	1550 5867,4	2150 8138,6	2650 10031,0	3050 11546,0	3400 12870,0	3700 14006,0
	75%	1900 7192,3	2650 10031,0	3300 12492,0	3750 14195,0	4150 15709,0	4650 17602,0
	100%	2400 9085,0	3320 12568,0	4100 15520,0	4750 17981,0	5250 19873,0	5800 21955,0

TABLE A
MODEL TD830 TRIPLE-DUTY VALVES
FLOW RATES AT VARIOUS VALVE OPENINGS



Technical Data

Sizes

2 to 14 Inch (DN50 to DN350)

Maximum Working Pressure

Sizes 2 to 12 Inch (DN50 to DN300):

640 psi (44 bar) at 100°F (38°C)

565 psi (39 bar) at 300°F (149°C)

Size 14 Inch (DN350):

500 psi (34 bar) at 100°F (38°C)

400 psi (28 bar) at 300°F (149°C)

Materials of Construction

Body and Yoke — Ductile iron conforming to ASTM A 536 or A 395

Seat Guide — Bronze conforming to ASTM B 62, 85/5/5/5

Disc — Cast Iron conforming to ASTM A 126B

Spring — 302 Stainless Steel

Stem — Bronze conforming to ASTM B 21

Seat, Disc, and Stem O-Rings — EPDM

Seat — Bronze

Flanged Gland — Cast Iron conforming to ASTM A 126B

Cover Gasket and Packing — Non-Asbestos

Stem Guide — Ductile iron conforming to ASTM A 536 or A 395

Finish

Black paint

Ordering Procedure

GRINNELL Products are available globally through a network of distribution centers. Visit www.grinnell.com for the nearest distributor.

When placing an order, indicate the full product name. Specify GRINNELL Model TD830 Triple Duty Valve, quantity, and size.