

PRATT®

a MUELLER brand

FIRE PROTECTION PRODUCTS

Engineering Creative Solutions for Fluid Systems Since 1901



MUELLER



a **MUELLER** brand

TABLE OF CONTENTS

FIRE PROTECTION PRODUCTS

Features and Benefits 1

PIVA® Post Indicating Valve Assembly..... 2

Determinig Bonnet Length..... 2

PIVA® Dimensional Data..... 3

IBV Indicating Butterfly Valve..... 4

UL Listed Groundhog® Valves..... 5

Adjustable Indicator Post – Style G..... 6-7

Suggested Specification 8

FIRE PROTECTION PRODUCTS

Features and Benefits of Pratt Fire Protection Products

When we designed the first Post Indicating Valve Assembly (PIVA) with the help of Factory Mutual more than thirty years ago, special emphasis was placed on providing a product that exceeds industry standards. The PIVA has been further refined since its introduction and the product line has been expanded to include the Pratt® UL Groundhog® and Indicating Butterfly Valve (IBV).

While other manufacturers sell industrial fire protection valves at lower costs, no product comes close to meeting the quality of design, materials and workmanship that Pratt fire protection products provide or surpass the features and benefits discussed below.

FEATURES



- The PIVA, UL Groundhog and IBV conform to AWWA C504 standards.
- The PIVA has asymmetrical construction.
- The PIVA is furnished as a complete assembly.
- The PIVA includes a torque spring.
- The PIVA target is visible from 300 feet away.
- The PIVA design includes sequential shear pins.
- The PIVA design in sizes 4" - 18" features a break flange, or break away barrel on 20" - 24" sizes.
- The IBV and PIVA come equipped with a weather proof actuator.
- The UL Groundhog, PIVA and IBV do not require exercising.

BENEFITS

- Meeting AWWA Standards ensures higher quality.
- Cannot be assembled improperly.
- No job site assembly or adjustment is required. Contractor performs installation only, thus alleviating the possibility of problems in the field.
- If the post is sheared, the torque spring will maintain the valve in the open position thus assuring a continued supply of water. This feature is unique to the Pratt PIVA.
- Provides positive assurance of valve position.
- Pins will fracture before enough force can be applied to the target drive train to cause false indication.
- Break flange minimizes the need to excavate the entire assembly if a vehicle damages the post. The post can be replaced without valve removal.
- The IBV is well suited for a wide variety of severe applications including pit service.
- Allows for trouble-free upkeep and lower maintenance costs.

UL LISTED & FM APPROVED

PIVA® POST INDICATING VALVE ASSEMBLY



Foolproof Valve Position Indication

Orientation of valve disc to target mechanism is foolproof. Valve disc position indication is always 100 percent accurate and can be relied upon without manual testing. Protected against damage by sequential shear pin failure, valve “disc target” connection remains intact, even though operator is abused.

Simplified Operation

A detachable crank opens the valve in a counter-clockwise direction. The largest size PIVA® valve can be easily opened or closed by one person – even after many years in one position. Depending on valve size, the crank requires between 28 to 44 turns to swing the valve disc through the full 90 degrees required. This assures sufficient mechanical advantage for all operating conditions.

New Breakflange (4” – 18” Valves only)

The FM-5 PIVA® valve contains a breakflange to minimize the need to excavate the entire assembly if a vehicle were to damage the assembly, as the breakflange will separate. Reassembly of the top works can be accomplished without removing the valve from the line.

Torque Spring

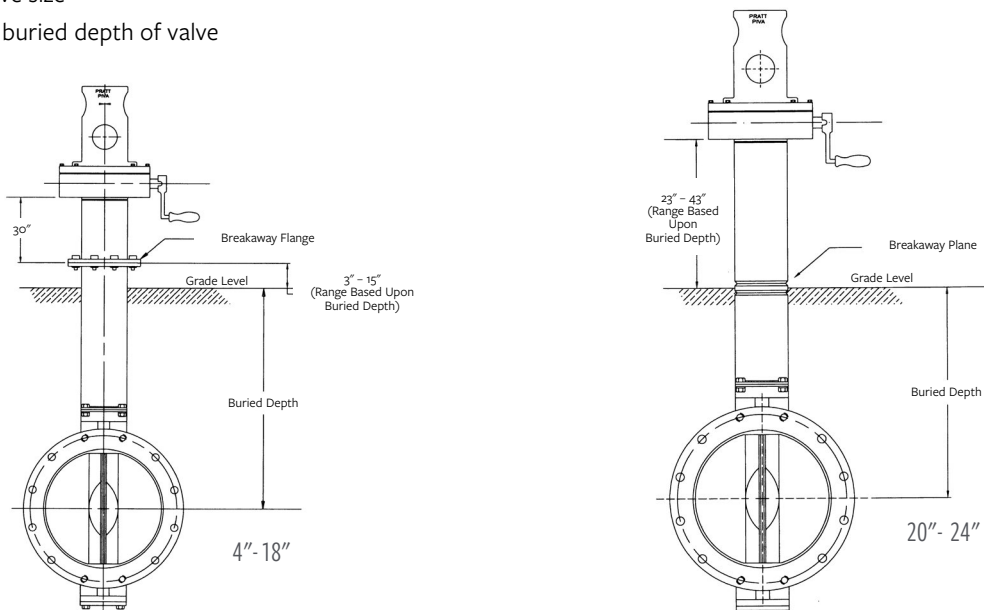
The Pratt PIVA® valve contains a unique feature: the torque spring. If the valve operator fails, or if the operator and extension tube are damaged or severed by a fire truck or other emergency vehicle, the torque spring will maintain the valve in the open position.

20”-24” PIVA

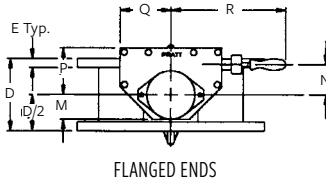
4”-18” PIVA

HOW TO DETERMINE PIVA BONNET LENGTH

1. Choose valve size
2. Determine buried depth of valve



PIVA® DIMENSIONAL DATA

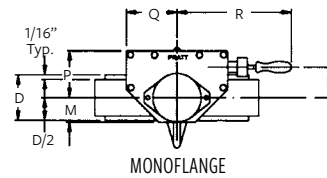


FLANGED ENDS

PIVA VALVE – FLANGED ENDS

VALVE SIZE	A	B	C	D	E	F	G
4	5-7/8	4-1/2	9	5	1	4-3/4	7-1/2
6	6-7/8	5-1/2	11	5	1-1/8	8-3/4	9-1/2
8	8-1/8	6-3/4	13-1/2	6	1-3/16	8-3/4	11-3/4
10	9-3/8	9-7/8	16	8	1-1/8	12-7/8	14-1/4
12	11	11-3/8	19	8	1-5/16	12-7/8	17
14	12-3/8	12-5/8	21	8	1-7/16	12-1	18-3/4
16	14	14-1/2	23-1/2	8	1-1/2	16-1	21-1/4
18	14-7/8	15-1/4	25	8	1-5/8	16-1-1/8	23-3/4
20	16-1/2	17	27-1/2	8	1-3/4	20-1-1/8	25
24	19-3/8	18-1/2	32	8	1-15/16	20-1-1/4	29-1/2

All dimensions shown in inches



MONOFLANGE

PIVA VALVE – MONOFLANGE

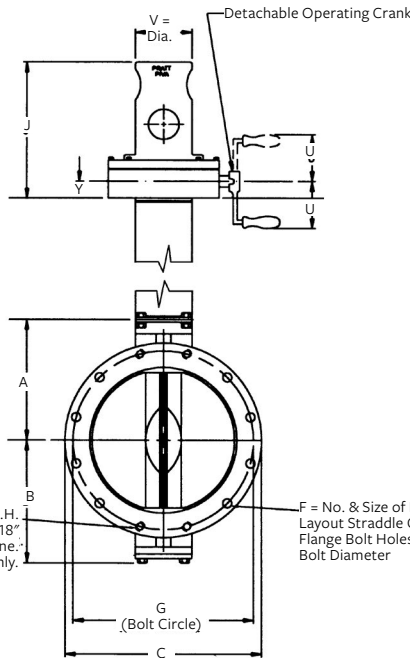
VALVE SIZE	A	B	C	D
4	5-7/8	3-1/2	6-3/4	2-5/16
6	6-7/8	5-1/8	8-5/8	2-15/16
8	8-1/8	6-1/2	10-7/8	3-1/16
10	9-3/8	9-7/8	13-1/4	3-3/16
12	11	11-5/8	16	3-7/16
14	12-3/8	12-3/4	17-5/8	3-11/16
16	14	14-3/8	20-1/8	4-3/16
18	14-7/8	15-1/4	21-1/2	4-11/16
20	16-1/2	16-7/8	23-3/4	5-3/16

All dimensions shown in inches

PIVA VALVE – MECHANICAL JOINT ENDS

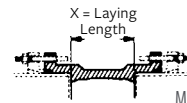
VALVE SIZE	A	B	C	D	E	F	G	X
4	5-7/8	4-1/2	9	8-1/8	1	4-3/4	7-1/2	3-1/8
6	6-7/8	5-1/2	11	8-1/2	1-1/16	6-3/4	9-1/2	3-1/2
8	8-1/2	6-3/4	13-1/4	8-5/8	1-1/8	6-3/4	11-3/4	3-5/8
10	9-3/8	9-7/8	15-9/16	10	1-3/16	8-3/4	14	5
12	11	11-3/8	17-15/16	10-1/2	1-1/4	8-3/4	16-1/4	5-1/2
14	12-3/8	12-5/8	20-5/16	11-1/2	1-5/16	10-3/4	18-3/4	4-1/2
16	14	14-1/2	22-9/16	12	1-7/16	12-3/4	21	5
18	14-7/8	15-1/4	24-11/16	12-1/4	1-3/8	12-3/4	23-1/4	5-1/4
20	16-1/2	17	27-3/32	12-1/2	1-1/2	14-3/4	25-1/2	5-1/2
24	19-3/8	18-1/2	31-9/16	13-1/4	1-19/32	16-3/4	30	6-1/4

All dimensions shown in inches



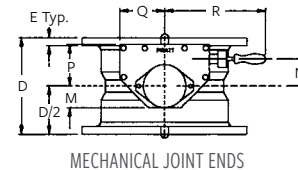
4 Tapped Holes - N.C. - (2) R.H. x E Deep Each Face on Valves 18" & Larger. Straddle Centerline. Flanged Valves Only.

F = No. & Size of Bolts (125# Std. Layout Straddle Centerline) Flange Bolt Holes are 1/8" Larger than Bolt Diameter



MECHANICAL JOINT

Installation Diagram Note: Bolts, Nuts, Glands, and Gaskets Furnished by Others Unless Otherwise Specified in Contract



MECHANICAL JOINT ENDS

The following actuator sizes are furnished:

ACTUATOR SIZE	J	M	N	P	Q	R	U	V	Y	NO. OF TURNS
MDT-2S	12	2-1/8	2	4-1/2	4-1/4	11	8-5/8	4-1/2	2	32
MDT-3S	12-7/8	3-1/4	3-5/32	5-5/8	5-3/8	12-1/2	8-5/8	4-1/2	2-7/16	30
MDT-4S	13-1/2	3-3/8	4	7-5/16	6-3/4	18-11/16	12-9/16	4-1/2	2-13/16	40
MDT-5	14-3/4	4-1/2	5-1/2	8-3/4	10	23-7/8	12-9/16	4-1/2	5-5/8	44

VALVE SIZE	ACTUATOR SIZE
4" thru 8"	MDT-2S
10" thru 14"	MDT-3S
16" thru 20"	MDT-4S
24"	MDT-5S

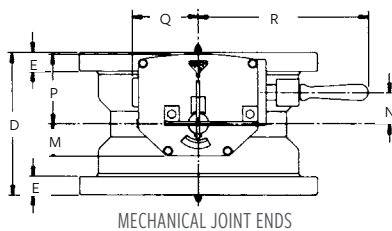
Pratt PIVA® valve bodies are available with wafer, flanged or mechanical joint ends, in sizes 4" through 24". PIVA® valves are available in a variety of post lengths to accommodate varying buried depths. All valves 4" through 24" have a Factory Mutual 175-psi rating. Underwriters Laboratories standards rate sizes 4" through 24" as 250 psi.

IBV INDICATING BUTTERFLY VALVE

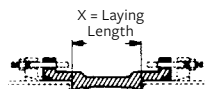
Model A

6" – 24" Flanged & Mechanical Joint Ends, 250 psi rating; UL Approved

The Pratt® IBV® valve is a manually operated rubber seat butterfly valve with a high visibility target. The IBV® valve is designed for indoor or vault service in fire protection sprinkler systems.

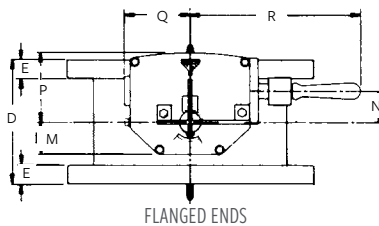


MECHANICAL JOINT ENDS

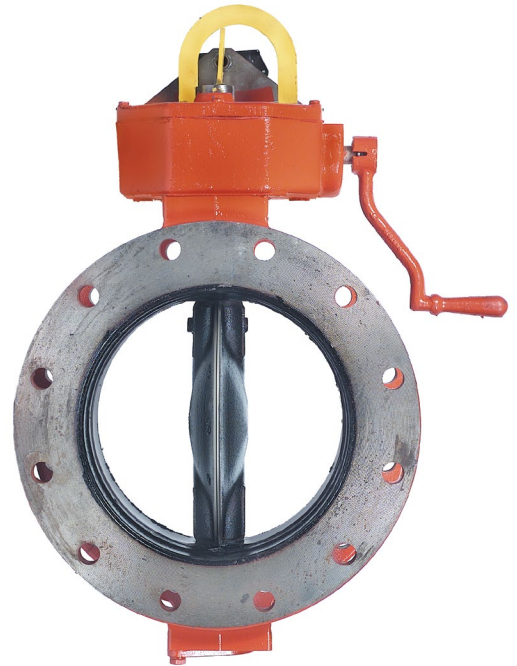
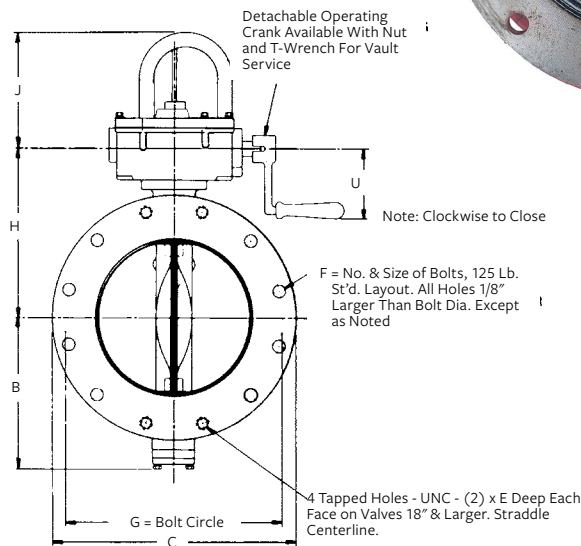


MECHANICAL JOINT

Installation Diagram Note:
Bolts, Nuts, Glands, and
Gaskets Furnished by Others
Unless Otherwise Specified in
Contract



FLANGED ENDS



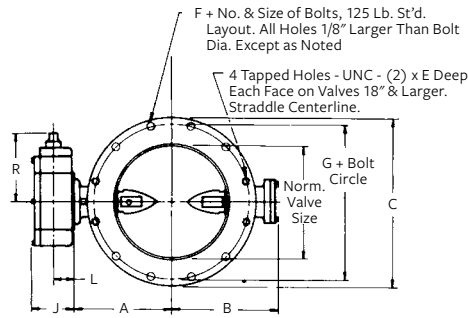
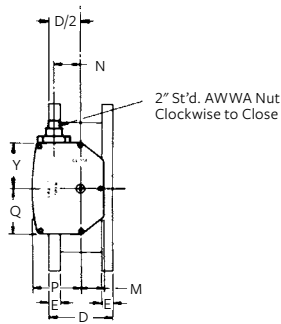
MECHANICAL JOINT ENDS

FLANGED ENDS

NOM. VALVE SIZE	B	C	D	E	F	G	H	J	M	N	P	Q	R	U	X	C	D	E	F	G
4	4-1/2	9	8-1/8	1	4-3/4	7-1/2	7-15/32	7-3/8	2-1/8	2	4-1/2	4-1/2	11	4-9/16	3-1/8	9	5	1	4-3/4	7-1/2
6	5-1/2	11	8-1/2	1-1/16	6-3/4	9-1/2	8-1/2	7-3/8	2-1/8	2	4-1/2	4-1/4	11	4-9/16	3-1/2	11	5	1-1/16	8-3/4	9-1/2
8	6-3/4	13-1/4	8-5/8	1-1/8	6-3/4	11-3/4	9-3/4	7-3/8	2-1/8	2	4-1/2	4-1/4	13-5/16	8-9/16	3-5/8	13-1/2	6	1-3/16	8-3/4	11-3/4
10	9-7/8	15-9/16	10	1-3/16	8-3/4	14	11-7/16	7-21/32	3-1/4	3-5/32	5-5/8	5-3/8	15-7/16	8-9/16	5	16	8	1-1/8	12-7/8	14-1/4
12	11-3/8	17-15/16	10-1/2	1-1/4	8-3/4	16-1/4	12-15/16	7-21/32	3-1/4	3-5/32	5-5/8	5-3/8	15-7/16	8-9/16	5-1/2	19	8	1-5/16	12-7/8	17
14	12-5/8	20-5/16	11-1/2	1-5/16	10-3/4	18-3/4	14-3/4	7-21/32	3-1/4	3-5/32	5-5/8	5-3/8	15-7/16	8-9/16	4-1/2	21	8	1-7/16	12-1	18-3/4
16	14-1/2	22-9/16	12	1-7/16	12-3/4	21	16-11/32	9-7/8	3-3/8	4	7-5/16	6-3/4	18-3/4	12-9/16	5	23-1/2	8	1-1/2	16-1	21-1/4
18	15-1/4	24-11/16	12-1/4	1-3/8	12-3/4	23-1/4	17-7/32	9-7/8	3-3/8	4	7-5/16	6-3/4	18-3/4	12-9/16	5-1/4	25	8	1-5/8	16-1-1/8	22-3/4
20	17	27-3/32	12-1/2	1-1/2	14-3/4	25-1/2	19-15/32	11-5/32	4-1/2	5-1/2	8-3/4	10-1/8	24	12-9/16	5-1/2	27-1/2	8	1-3/4	20-1-1/8	25
24	18-5/8	31-9/16	13-1/4	1-5/8	16-3/4	30	23-5/16	12-1/8	5-1/2	7	10-1/2	15-15/16	26-7/8	12-9/16	6-3/8	32	8	1-7/8	20-1-1/4	19-1/2

Note: All dimensions shown in inches.
±1/16" through 10" valves.
±1/8" for 12" and larger valves

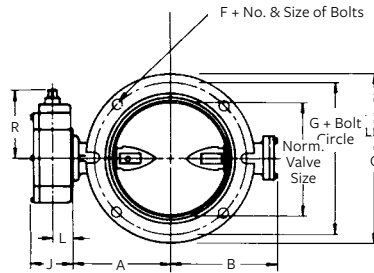
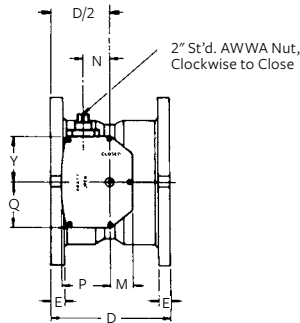
UL LISTED GROUNDHOG® VALVES



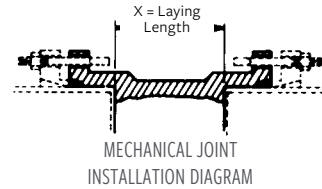
FLANGED ENDS



GROUNDHOG VALVE WITH MECHANICAL JOINT ENDS



MECHANICAL JOINT ENDS



MECHANICAL JOINT
INSTALLATION DIAGRAM

Note: Bolts, nuts, glands, and gaskets furnished by others unless otherwise specified in contract

	BOTH ENDS							FLANGED ENDS							MECHANICAL JOINT ENDS							
VALVE SIZE	A	B	C	D	E	F	G	B	C	D	E	F	G	X	OPER. SIZE							
4	5-1/2	3-1/2	9	5	3/4	8--5/8	7-1/2	3-1/2	9	8-1/8	1	4--3/4	7-1/2	3-1/8	2S							
6	6-1/2	5-1/4	11	5	1	8--3/4	9--1/2	5-1/8	11	8-1/2	1-1/16	6--3/4	9-1/2	3-1/2	2S							
8	7-3/4	6-1/2	13-1/2	6	1-1/8	8--3/4	11-3/4	6-1/2	13-1/4	8-5/8	1-1/8	6--3/4	11-3/4	3-5/8	2S							
10	9	10	16	8	1-3/16	12--7/8	14-1/4	9-3/4	15-8/16	10	1-3/16	8--3/4	14	5	2S							
12	10-1/2	11-1/2	19	8	1-1/2	12--7/8	17	11-3/8	17-15/16	10-1/2	1-1/4	8--3/4	16-1/4	5-1/2	2S							
14	11-7/8	13	21	8	1-3/8	12--1	18-3/4	12-3/4	20-5/16	11-1/2	1-5/16	10--3/4	18-3/4	4-1/2	3S							
16	13-1/2	14-1/2	23-1/2	8	1-7/16	16--1	21-1/4	14-1/2	22-9/16	12	1-3/8	12--3/4	21	5	3S							
18	14-3/8	15-3/8	25	8	1-9/16	16--1-1/8	22-3/4	15-3/8	24-11/16	12-1/4	1-3/8	12--3/4	23-1/4	5-1/4	4S							
20	16	17-1/2	27-1/2	8	1-11/16	20--1-1/8	25	17	27-3/32	12-1/2	1-1/2	14--3/4	25-1/2	5-1/2	5							
24	18-5/8	18-5/8	32	8	1-7/8	20--1-1/4	29-1/2	18-5/8	31-9/16	13-1/4	1-5/8	16--3/4	30	5-3/8	5							
30	21-1/2	24-3/4	38-3/4	12	2-1/8	28--1-1/8	36	24-3/8	39	18	1-13/16	20--1	36-7/8	10	5							
36	25-7/16	28-1/4	46	12	2-7/16	32--1-1/2	42-3/4	28-1/4	45-7/8	22	2	24--1	43-3/4	14	5S							
42	29-7/8	32-7/8	53	12	2-5/8	36--1-1/2	49-1/2	32-7/8	53	22	2	28--1-1/4	50-5/8	14	6S							
48	34-1/16	36-7/8	59-1/2	15	2-3/4	44--1-1/2	56	37-1/8	59-7/8	24	2	32--1-1/4	57-1/2	16	6S							

Rated Working Pressure:

4"-12" - 175 psi

14"-48" - 150 psi

MDT OPERATOR TABLE

OPER. SIZE	J	L	M	N	P	Q	R	Y
MDT-2S	4-3/8	2	2-1/8	2	4-1/2	4-1/4	4-1/2	32
MDT-3S	5-1/8	2-7/16	3-1/4	3-5/32	5-5/8	5-7/16	6-5/8	30
MDT-4S	5-7/8	2-27/32	3-3/8	4	7-5/16	6-3/4	7-5/8	40
MDT-5	7-1/2	3-15/32	4-1/2	5-1/2	8-3/4	10-1/8	13-1/2	44
MDT-5S	8-1/2	3-15/16	5-1/2	7	10-1/2	15-15/16	15-11/16	136
MDT-6S	11	5-1/16	7	8-1/4	12-5/8	26-1/2	22-1/4	215

Notes:

1. All dimensions shown in inches.
2. D +/- 1/16" through 10" valves, +/- 1/8" for 12" and larger valves.
3. Operator mounted in position as shown.
4. For use with butterfly valve indicator post, Style G.
5. Valves manufactured in accordance with Underwriters Laboratories Standard UL-1091, latest edition.
6. Rotation open left.
7. The Pratt UL listed Groundhog Butterfly Valve is suitable for use with the Pratt UL listed Style G Indicator Post or can be installed separately.

UL LISTED BUTTERFLY VALVE AND ADJUSTABLE INDICATOR POST - STYLE G

The Pratt® UL listed butterfly valve and Style G indicator post provides an economical and reliable assembly for use in buried service fire protection lines. It provides easy to see valve position indication from 300 feet away and tight shut off in the service line when required.

Also makes an excellent yard valve for water treatment plant applications.

- Meets AWWA Standard C504 for rubber seated butterfly valves.
- Bubble-tight shut off.
- No exercising required.
- Seat on body design.
- Compact Size.

Wrench Handle Shear Pin Construction

Specially designed with shear pin construction to eliminate over torquing.

Secure from Tampering and Inclement Weather

With a padlock in place, the top cover cannot be opened, thus securing the inner workings against tampering and the elements.

Easy Installation

Install the valve, cut the inner barrel and shaft extension to desired length, position over the 2" square operator nut and backfill.

Rugged Operators

Pratt traveling nut operators can be relied upon to maintain exact valve position under specified design flow conditions. Stop-limiting devices are capable of withstanding 450 ft/lbs. of input torque.

Optimal Butterfly Valve Design

The Pratt butterfly valve is the heart of our fire protection product line. It's UL listed, and built to AWWA standards. Invented by us, the resilient seated butterfly valve is widely used in water distribution where its intrinsic design benefits and superior performance have long been recognized.

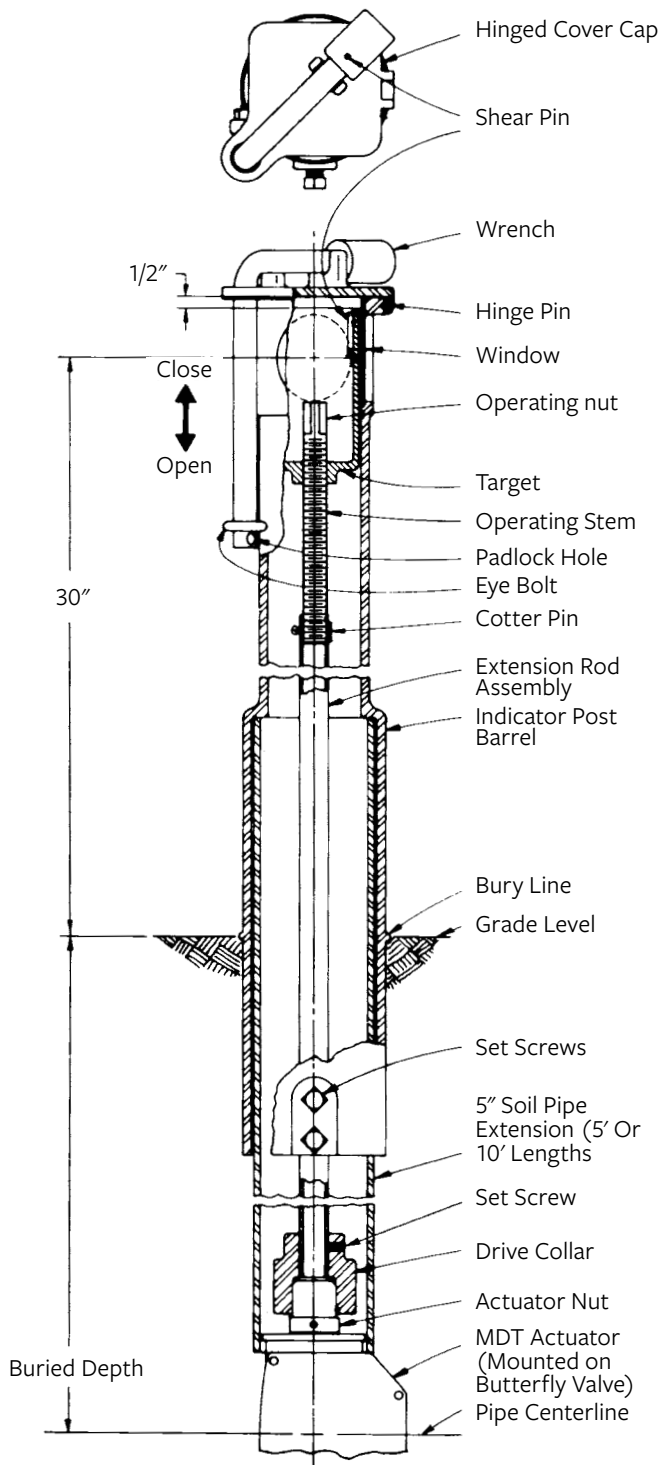
Rated Working Pressure

- 4" - 12" - 175 PSI
- 14" - 48" - 150 PSI

We have been a leader in valve technology for the better part of a century.



UL LISTED ADJUSTABLE INDICATOR POST - STYLE G



Principle of Operation

1. Padlock is removed to gain access to wrench.
2. Top cover is lifted and wrench inserted over operating nut.
3. Operating nut is rotated counter-clockwise through multiple revolutions to open valve.
4. Target lowers with the turning of the operating nut.
5. Round openings in the post are revealed as the target lowers.
6. Cap is closed, wrench is replaced and the padlock replaced to lock the butterfly valve in the open position.
7. The post will then indicate valve position from a distance at a glance. When the round post windows are open, the butterfly valve is open. When the windows are blocked by the red target, the butterfly valve is closed. Reflective white stripes on the target allow easy checking of the valve position at night with a flashlight.

Notes:

1. The Pratt Style G indicator post is intended for use with only Pratt 4" – 48" Groundhog® valves.
2. Indicator post available in 5' and 10' standard extensions. Refer to table below.
3. Installer to provide padlock for insertion in the wrench assembly to lock the valve open.
4. Indicator post designed and tested in accordance with Underwriters Laboratories Test Guide UL-1091.
5. Paint: Bright Red

BURIED DEPTHS AND SOIL PIPE APPLICATIONS

VALVE SIZE	5' SOIL PIPE	10' SOIL PIPE	VALVE SIZE	5' SOIL PIPE	10' SOIL PIPE
4	14-49	14-109	14	17-51	17-111
6	14-49	14-109	16	17-51	17-111
8	14-49	14-109	18	18-52	18-112
10	15-49	15-109	20	23-59	23-119
12	15-49	15-109	24	23-59	23-119
			30	23-59	23-119
			36	26-59	26-119
			42	32-59	32-119
			48	32-59	32-119

All dimensions shown in inches.

FIRE PROTECTION PRODUCTS

Suggested Specifications

PIVA® – POST INDICATING VALVE ASSEMBLY

(Underwriters Laboratories Listed and FM Approved where application conditions allow)

Post indicating valve assembly shall consist of a buried butterfly valve and above grade indicator actuator of the traveling nut type. The actuator shall have a rating of 450 ft.lbs. of torque against the input stops. The target mechanism shall consist of an internal rotating member that contains a 2-3/4" hole on four sides. The outer member is stationary and shall contain similar holes. A fail-safe spring shall be included on the post to preclude accidental closing. The butterfly valve and post assembly shall be the PIVA as manufactured by us, Underwriters Laboratories listed and Factory Mutual approved, where application conditions allow or approved equal. Valves shall be manufactured in accordance with AWWA C-504 (latest revision), Class 250B for flanged and mechanical joint ends, 150B for wafer ends.

UL LISTED GROUNDHOG® AND STYLE G INDICATOR POST

(Underwriters Laboratories Listed)

Each buried butterfly valve shall be equipped with a UL listed indicator post to display valve position above ground. The post target shall consist of a minimum 2-3/4" hole on four sides and be designed to accept a padlock to prevent tampering. The indicator post shall be a Pratt Style G type suitable for use with 4" – 48" Pratt UL listed Groundhog butterfly valves or approved equal. Valves shall be manufactured in accordance with AWWA C-504 (latest revision), Class 150B.

IBV® INDICATING BUTTERFLY VALVE

(Underwriters Laboratories Listed)

Butterfly valves for above ground use shall be of the indicating type with a highly visible yellow flag on the valve actuator that indicates whether the valve is open or closed. The valve actuator shall be a traveling nut type and have an input rating of 450 ft. lbs. of torque against the input stops. Externally, the actuator shall be driven by a crank or 2" nut that is affixed to the input shaft by a shear pin. Butterfly valves shall be Pratt Indicating Butterfly Valves Underwriters Laboratories listed or approved equal. Valves shall be manufactured in accordance with AWWA C-504 (latest revision), Class 250B for flanged and mechanical joint ends.

"OUR EDGE"

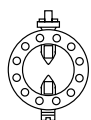
The Pratt PIVA valve contains a torque spring, a unique safety feature that no other fire protection valve, butterfly or gate valve has. Continued water supply is assured by the PIVA torque spring that maintains the valve in the open position even if the extension tube is severed by fire trucks or other vehicles.

NOTES

PRATT®

a **MUELLER** brand

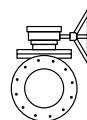
PRATT Product Guide



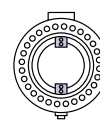
MODEL 2FII



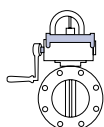
MONOFLANGE MKII



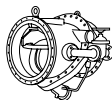
PLUG VALVES



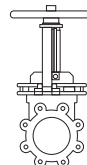
TRITON® XR70



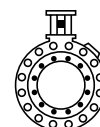
**INDICATING BUTTERFLY
VALVES UL & FM APPROVED**



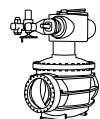
**TILTING DISC
CHECK VALVES**



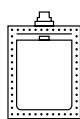
KNIFE GATE VALVES



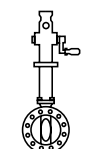
**N-STAMP NUCLEAR
BUTTERFLY VALVES**



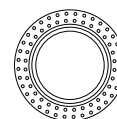
CONE VALVES



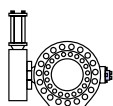
RECTANGULAR



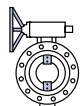
**PIVA POST INDICATING VALVES
ASSEMBLY UL & FM APPROVED**



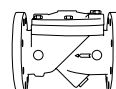
SLEEVE VALVES



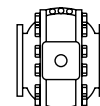
**RUBBER SEATED
BALL VALVES**



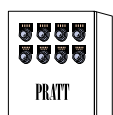
TRITON® 250



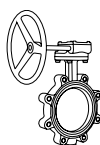
CHECK VALVES



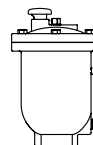
**METAL SEATED
BALL VALVE**



CONTROL SYSTEMS



INDUSTRIAL VALVES



AIR VALVES

For more information about Pratt or to view our full line of water products, please visit www.prattvalve.com or call Pratt customer service at 1.800.423.1323.

Mueller refers to one or more of Mueller Water Products, Inc., a Delaware corporation ("MWP"), and its subsidiaries. MWP and each of its subsidiaries are legally separate and independent entities when providing products and services. MWP does not provide products or services to third parties. MWP and each of its subsidiaries are liable only for their own acts and omissions and not those of each other. MWP brands include Mueller®, Echologics®, Hydro Gate®, Hydro-Guard®, Jones®, Mi-Net®, Milliken®, Pratt®, Singer®, and U.S. Pipe Valve & Hydrant. Please see www.muellerwp.com/about to learn more.

Copyright © 2018 Henry Pratt Company, LLC. All Rights Reserved. The trademarks, logos and service marks displayed in this document are the property of Mueller Water Products, Inc., its affiliates or other third parties. Products marked with a section symbol (§) are subject to patents or patent applications. For details, visit www.mwppat.com. These products are intended for use in potable water applications. Please contact your Mueller Sales or Customer Service Representative concerning any other application(s).

F 13955 11/18

MUELLER