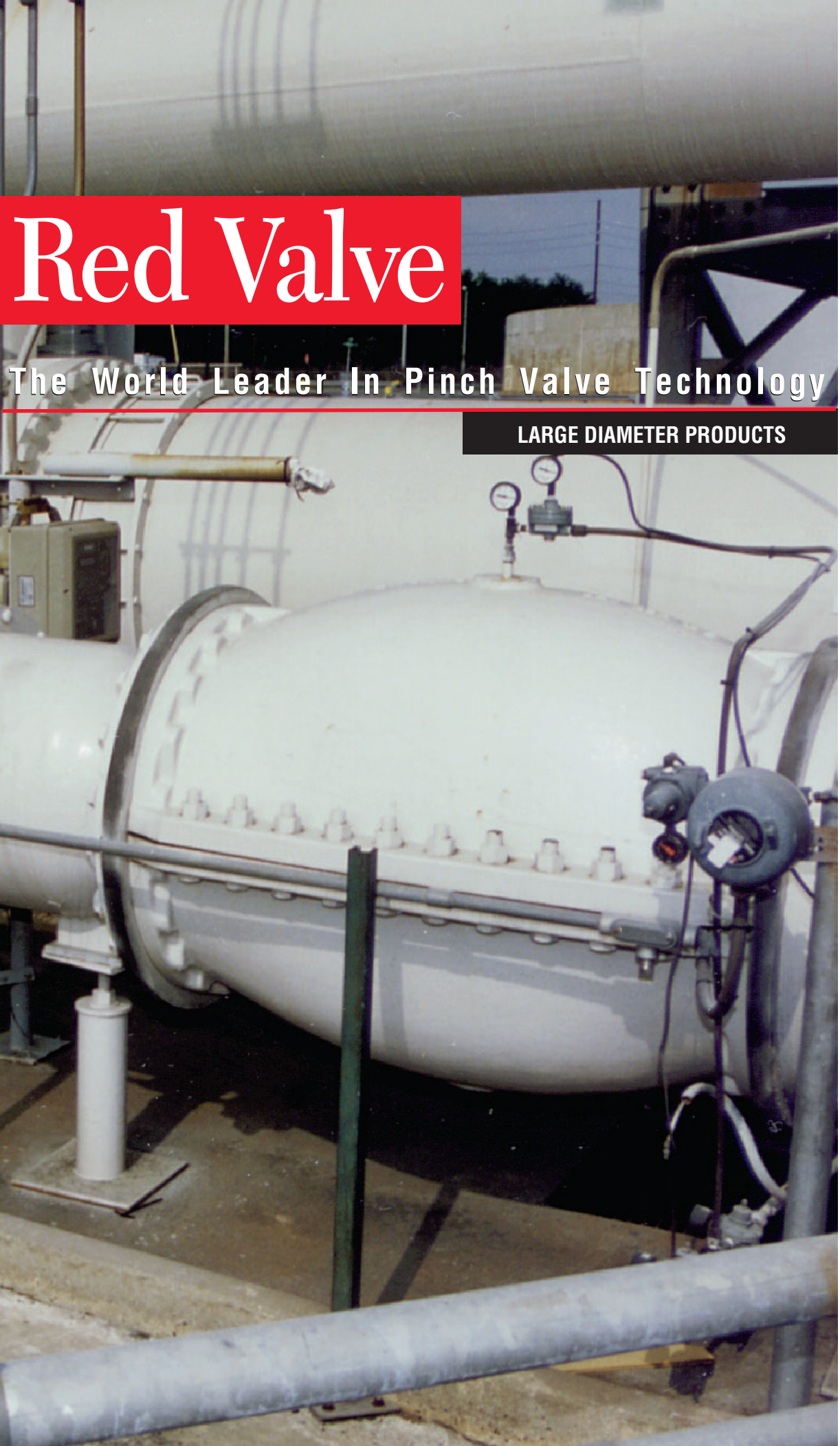
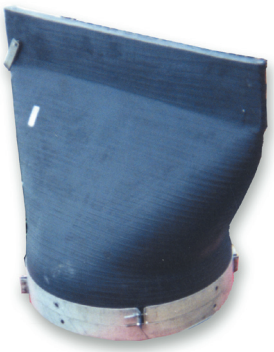
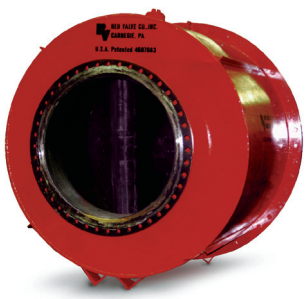
Red Valve

The World Leader In Pinch Valve Technology

LARGE DIAMETER PRODUCTS







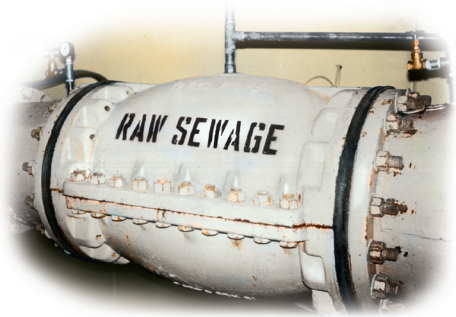
Red Valve Large Diameter Products

Providing Cost-Effective, Reliable Valve Solutions

Red Valve Company is one of the world's leading manufacturers of large diameter valve products. All Red Valve product lines include large diameter designs as a standard. The proper selection of large diameter valves is of critical importance in all applications. Red Valve products are designed to eliminate downtime and routine maintenance. Pinch Valves are designed with a tough, fabric-reinforced elastomer sleeve as the only wetted part of the valve. This eliminates the need for packing and costly exotic metal alloy bodies. The full port of a pinch valve creates no headloss and presents no obstructions, greatly reducing energy costs and maintenance compared to rotating plugs and butterfly disks. Look to Red Valve to provide solutions for your pipeline applications.

- Pinch Valves
- Control Valves
- Check Valves
- Manual Valves
- Expansion Joints
- Slurry Knife Gates

This 66" Type A Megaflex is one of two installed on a stormwater control system. The full port opening and reliable operation make it ideal for this demanding application.



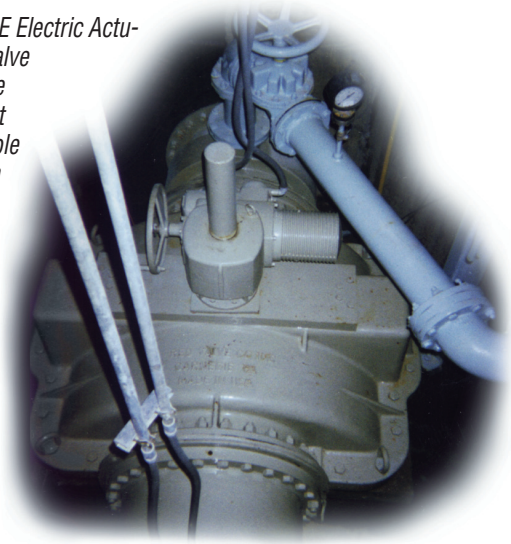
This large diameter Type A Pinch Valve is installed on a raw sewage line in a waste water treatment plant. The flexible elastomer sleeve closes drop-tight on entrapped solids passing through the line.

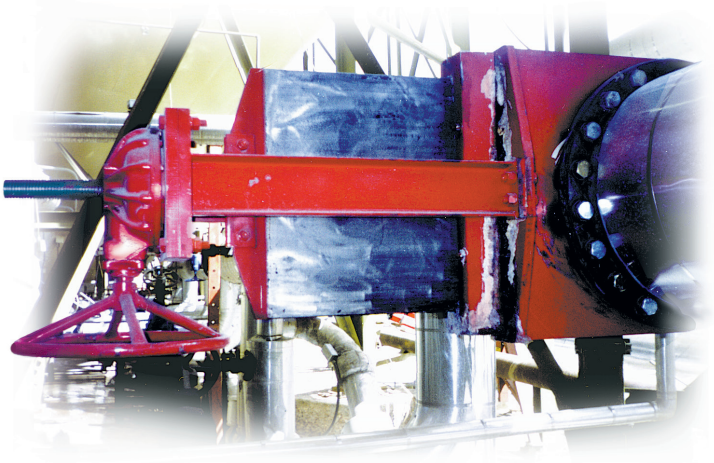
This 20" Series 70 Open Frame Manual Pinch Valve is installed on a pipeline that carries rock tailings from an ore processing plant. The open frame design makes itight-weight and enables the operator to determine valve position at a glance.

This 84" Series 39F In Line Check Valve is being installed at a storm water pump station in California. The valve measures 11-1/2 feet long, with an outside diameter just over 11 feet. Weighing 13-1/2 tons, this Series 39F is one of the largest check valves ever built.

This 54" Series 37 Inline Check Valve is being installed in a concrete pipeline. The Series 37 is designed to fit within the pipe I.D., eliminating the need for valve bodies and simplifying installation.

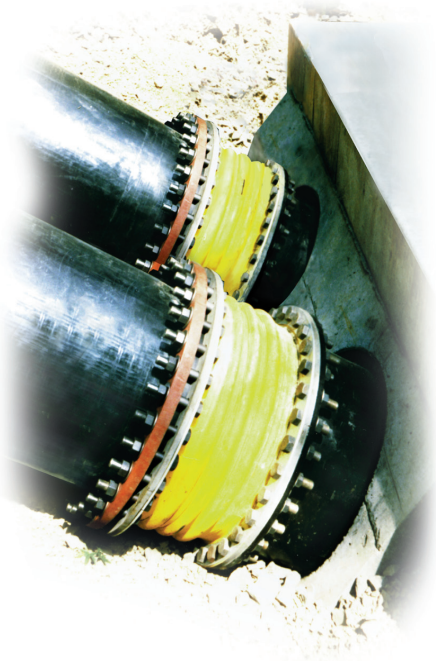
This 30" Series 5200E Electric Actuated Control Pinch Valve is installed in a waste water treatment plant in Georgia. The flexible elastomer sleeve can seal on solids, such as branches, bottles, and other storm-water debris, with-out damaging the valve. The Series 5200E is ideal for on/off control in this service.





This Florida phosphate plant uses Flexgate Slurry Knife Gate Valves on their process lines. The stainless steel wetted parts, heavy-duty replaceable slurry sleeves, and overall rugged construction of the Flexgate valves make them ideal for the highly abrasive phosphate slurry.

These 48" J-3 Triple Arch Redflex® Expansion Joints are installed above a pumping station at a waste water treatment plant. Redflex® Expansion Joints can be custom-made to suit any face-to-face.



This 42" Redflex® J-1 Expansion Joint is installed on a raw sewage intake line. The elastomer joint absorbs vibration and resists abrasion from debris in the waste water.

Type A Megaflex

- **Cost effective large diameter valve**
- **Body acts as built-in actuator**
- **No packing or seats to maintain**
- **Seals on entrapped solids**
- **Full-ported design eliminates headloss, reduces pumping costs**

The Type A Megaflex is the most economical large diameter automatic valve available.

First introduced by Red Valve, the Type A Megaflex Valve, available in sizes 20" to 84", is extremely simple in design and principle. As with every Red Valve Pinch Valve, the elastomer sleeve is the only wearing part, drastically reducing maintenance costs. The Megaflex Valve's full-ported actuation is accomplished by air or hydraulic pressure. The Megaflex Valve's steel body acts as a built-in actuator, eliminating costly pneumatic, electric, or hydraulic components. Pressure within the space between the body and the sleeve can open, throttle, or close the valve. Unlike traditional gate and butterfly valve designs, there are no disks or gates to obstruct flow or create turbulence. 15 psi over line pressure will close the Megaflex.

Like all Red Valve Pinch Valves, Megaflex Valves are full-ported. *Thousands of dollars of savings are realized* because Megaflex Valves have little headloss, substantially reducing pumping costs.

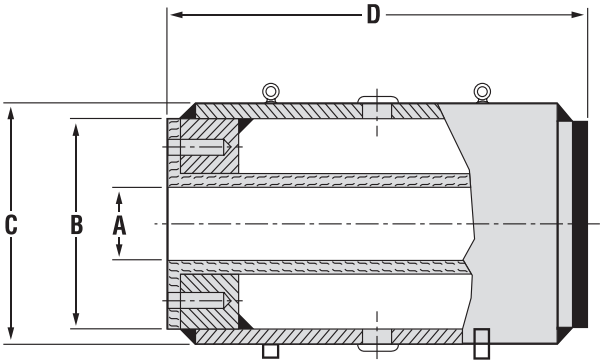

PINCH VALVES SURVIVE DECADES IN ABRASIVE SERVICE

Type A Megaflex Valves are often used as effluent discharge valves controlling raw sewage, storm overflow, flow equalization, tailings in mining operations, and bulk material handling.

Materials of Construction

- **Carbon steel body**
- **Sleeves available in pure gum rubber, Neoprene, Hypalon, Chlorobutyl, Buna-N, Viton, and EPDM**
- **ANSI Class 125/150#**

72" Type A Megaflex Valve being installed in an interceptor vault to control waste water flow for the city of Indianapolis.



Dimensions Type A Megaflex Pinch Valve

Valve Size A	Flange O.D. B	Body O.D. C	Body Length D	Standard Working Pressure (psi)	Weight (lbs)
30"	38-3/4"	40"	60"	50	4100
36"	46"	48"	72"	50	5000
48"	59-1/2"	60"	96"	50	6200
60"	73"	74"	120"	50	7900
72"	86-1/2"	120"	144"	25	9900
84"	99-3/4"	100"	168"	25	10500

Higher Working Pressure Designs ANSI Class 330, 600# Available

Series 75 Megaflex

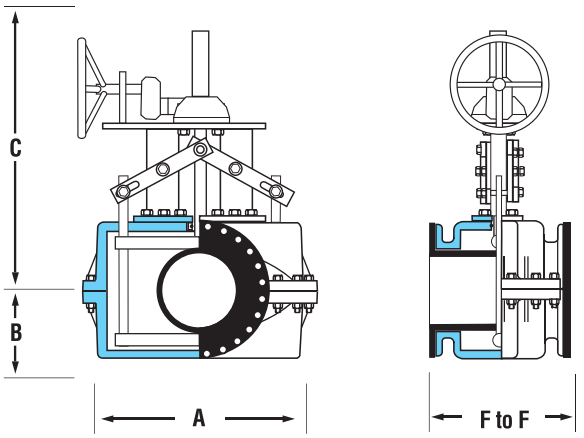
- 100% full port
- Sleeve is only wetted part
- Able to seal on solids
- No packing to maintain
- Non-contaminating, intrinsically safe design
- Ideal for buried service

Megaflex Series 75 Manual Pinch Valves are ideal for reliable operation, long life, and low maintenance. The valves are constructed with a fabricated steel body and a double acting pinch mechanism which closes the sleeve on centerline. Red Valve Megaflex Series 75 Manual Pinch Valves maintain a smooth venturi when closing, with no obstruction to flow. The valve is a true full-ported design, with no crevices or dead spots to bind valve operation.

Megaflex Series 75 Manual Pinch Valves eliminate packing, bearings, and shafts, so maintenance is virtually eliminated. Fully closed, Series 75's have drop-tight shutoff and seal on solids. Because the flexible sleeve is the only part exposed to the line fluid, alloy bodies are not required, and maintenance of shafts and stems is eliminated. The valve's break-away torques always remain constant. Large diameter Series 75's are heavy duty, maintenance free valves. Electric actuators are frequently mounted for remote operation. Series 75 Megaflex Valves are available in standard ANSI flange.

Materials of Construction

- Cast iron or carbon steel body
- Available with stem extension
- Sleeves available in pure gum rubber, Neoprene, Hypalon, Buna-N, Hypalon, Viton, and EPDM
- ANSI Class 125/150



Dimensions Series 75 Megaflex

Size D	Length F to F	Width A	Height		Working Pressure (psi) *	Weight (lbs)
			B	C		
30"	60"	60"	27"	73"	50	5000
36"	72"	78"	31"	78"	50	5500
42"	84"	92"	36"	82"	50	6000
48"	96"	106"	41"	85"	50	6800
54"	108"	120"	48"	90"	50	7400
60"	120"	135"	55"	120"	50	8800
72"	144"	160"	65"	141"	25	10750
96"	192"	210"	90"	175"	25	11200

High Working Pressure Designs Available; ANSI Class 300#, 600#

Control Valves

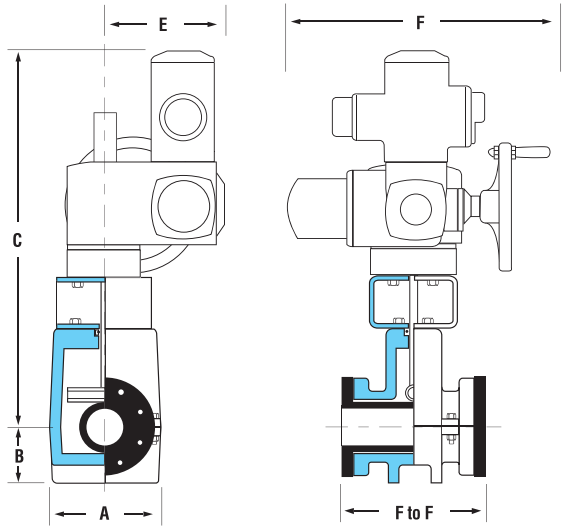
- **Electric actuation provides precise, accurate control**
- **Sleeve is the only wetted part, resulting in constant break-away torques**
- **Bi-directional drop-tight shutoff**
- **Enclosed rising stem design**

The Series 5200E electrically actuated control valve is a reliable, maintenance-free, cost-effective valve, designed for tough slurry and abrasive applications. There are no seats to grind, no stuffing boxes to repack, and no packing glands to adjust, ever. The rugged, self-cleaning elastomer sleeve isolates all mechanical parts of the valve, so the break-away torque remains constant.

Red Valve Series 5200E electric actuated control valves are actuated by AUMA, Rotork, or Limitorque electric operators as a standard, and include heaters, thermostats, position indi-cators, and indication lights. Other electric motor operators are available on specific requests. Declutch and override components are furnished as standard. Controls can be furnished as an integral part of the electric operator or as a separate unit for a remote station. Optional features include: NEMA 7 explosion-proof construction, proportioning control from a 4-20mA instrument signal, and 4-20mA output transmitter.

Materials of Construction

- **Cast iron body or fabricated steel**
- **Sleeves available in pure gum rubber, Neoprene, Hypalon, Chlorobutyl, Buna-N, Viton, and EPDM**
- **Drilled and tapped to mate with ANSI B16.5 Class 150 flanges**
- **AUMA, Limitorque, Rotork, and other electric actuators available**

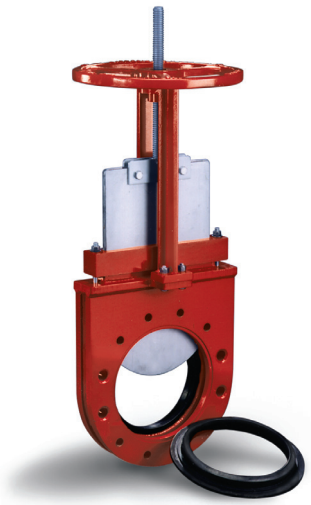


Dimensions Series 5200E Electric Actuated — Modulating Actuator

Flange Size D	Length F to F	Width A	Height		Actuator Width E	Actuator Length F	Working Pressure psi	Valve Weight lb
			B	C				
14”	28”	31”	14”	42-13/16”	12-1/8”	33-7/8”	75	1,490
18”	36”	44”	16-1/2”	43-13/16”	14-7/16”	36-7/16”	50	2,630
20”	40”	40”	17”	46-13/16”	14-7/16”	36-7/16”	50	3,180
24”	48”	57”	20-1/2”	74-1/4”	15-13/16”	41”	50	3,845
30”	60”	78”	20-1/2”	57”	19-1/8”	51”	50	6,930
36”	72”	94”	32”	69”	19-1/8”	51”	40	9,979
42”	84”	110”	38”	80”	20-5/8”	55-5/8”	35	13,583
48”	96”	125”	43”	92”	20-5/8”	55-5/8”	30	17,741
54”	108”	141”	49”	104”	20-5/8”	55-5/8”	25	16,840
60”	120”	156”	54”	115”	22-3/8”	62-1/4”	25	20,790
66”	132”	172”	65”	138”	22-3/8”	62-1/4”	20	25,156
72”	144”	187”	65”	138”	22-3/8”	62-1/4”	20	29,938

Flexgate Slurry Knife Gate

- **Ideal for difficult abrasive slurry applications**
- **Replaceable elastomer cartridges and seats**
- **Heavy-duty 150-psi stainless steel gate**
- **Bi-directional drop-tight shutoff**



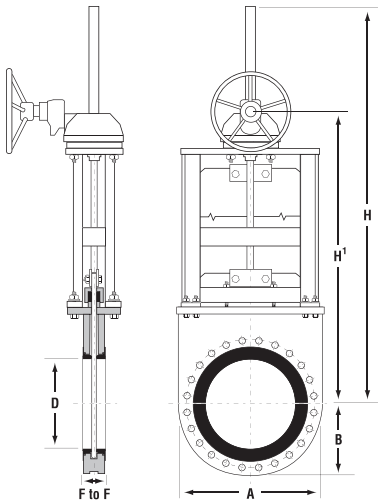
Materials of Construction

- **Cast iron body through 24”; fabricated steel body 30” and up; optional 304SS or 316SS body**
- **Gate ASTM A240 T–316; optional 17-4PH, or Teflon® coated 316 stainless steel**
- **Slurry Sleeves available in pure gum rubber, EPDM, Viton, and Buna-N**

Red Valve’s Flexgate valve is designed with a cast iron or fabricated steel body, stainless steel gate, and two heavy duty elastomer cartridge slurry seats. The port is formed by two heavy duty cartridge elastomer slurry seat halves. The cartridge slurry seats are available in various elastomers for chemical compatibility and abrasion resistance. A flush area at the valve’s base provides a cleanout port.

The Flexgate valve provides a bi-directional shutoff. A heavy duty topworks is standard. The relatively simple design eliminates expen-sive overhauls, unscheduled shutdowns, and costly replacement parts — the only replacement parts are the elastomer cartridge slurry seats. These seats can be replaced without completely removing the valve from the pipeline.

It is recommended that large diameter, manually actuated Flexgate valves be specified with a bevel gear actuator. The bevel gear actuator is available to reduce rim pull and operate the valve. Chainwheel, pneumatic, hydraulic, and electric actuators are also available. Limit switches can be provided upon request.



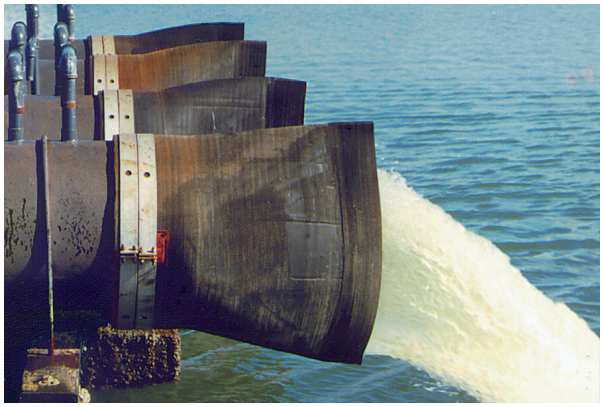
Dimensions Flexgate Slurry Knife Gate Valves

Valve Size D	Length F to F	Width A	Height B	Handwheel Height H_1	Centerline Height H	Overall Stem Diameter	Gate Thickness	Maximum Working Pressure psi Gate Material 316SS	17-4 Ph
20”	4-1/2”	28-1/2”	14-1/4”	50”	76”	1-3/4”	7/8”	100	150
24”	4-1/2”	33-1/2”	17”	62”	92”	2”	1”	100	150
30”	6”	38-3/4”	19-3/8”	75”	111”	2-3/4”	1-1/8”	75	125
36”	7”	46”	23”	90”	132”	3-1/2”	1-3/8”	75	125
42”	7”	53”	26-1/2”	105”	153”	3”	1-3/8”	50	75
48”	7-1/2”	59-1/2”	29-3/4”	120”	174”	3-1/2”	1-1/2”	50	75
54”	9”	66-1/4”	33-1/4”	135”	195”	3-1/2”	1-1/2”	40	60
60”	9”	73”	36-1/2”	150”	216”	3-1/2”	1-1/2”	30	50
66”	9”	80”	40”	165”	237”	4”	1-1/2”	25	50
72”	9-1/4”	86-1/2”	43-1/4”	180”	258”	4”	1-3/4”	25	50

* Sizes 30” and over — fabricated steel body.

Tideflex® Check Valve

- **100% elastomer construction eliminates maintenance**
- **Will not warp or freeze open or shut**
- **Eliminates backflow, seals 100%**
- **Custom built to customer specifications**
- **Lowest headloss**

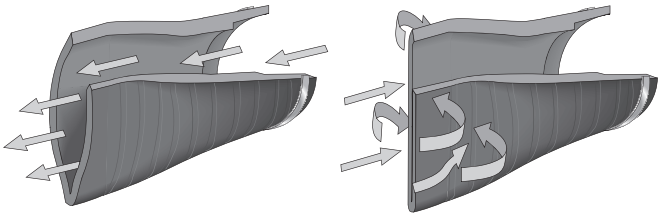


Red Valve's Tideflex® Check Valve has a revolutionary design for backflow prevention in sizes from 1/2" to 120". It offers the lowest headloss of any type of check valve. Red Valve Tideflex® Check Valves require zero maintenance or repair due to their all-rubber construction. Tideflex® Valves are substantially more cost efficient than conventional check valves. They are totally passive valves, operating solely on line and back pressure, and require no outside energy source for operation. Sliding, rotating, swinging, and plunging parts are completely eliminated.

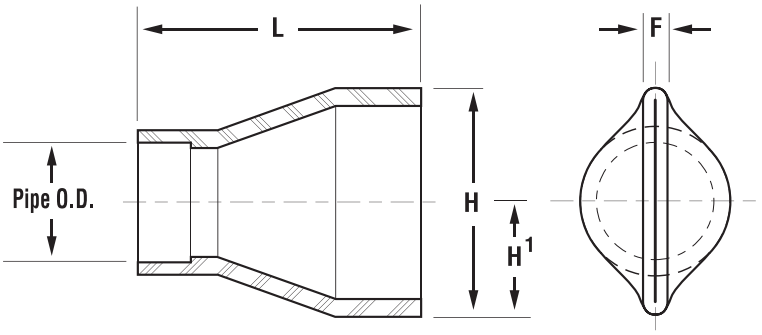
Tideflex® Valves are excellent replacements for ineffective flap gate valves. Millions of dollars each year are lost in the re-treatment of unnecessary backflow because of faulty check valves which have corroded open or have been wedged open by debris. Tideflex® check valves seal and close drop-tight around debris with less than 1 psi of back pressure. Tideflex® valves will not warp or freeze, and are virtually maintenance free. They will handle large obstructions without jamming, and there is no gate to hang open. Tideflex® valves are easily banded on the end of the discharge or storm sewer line, eliminating flanging costs.

Materials of Construction

- **Available in diameters from 1/2 " to 120"**
- **Sleeves available in pure gum rubber, Neoprene, Hypalon, Chlorobutyl, Buna-N, Viton and EPDM**



Engineered rubber duckbill check sleeves have memory: forward hydraulic pressure opens the valve; reverse pressure seals the valve and prevents backflow.

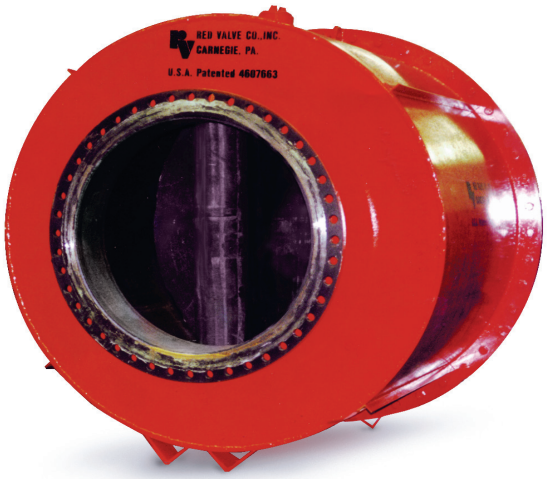


Dimensions Tideflex® Check Valves

Mating Pipe O.D.										
	Minimum	29"	31-1/2"	35-1/4"	42"	48"	60"	72"	84"	90"
	Maximum (less than)	31-1/2"	35-1/4"	42"	48"	60"	72"	84"	90"	96"
Maximum Length L		43"	51-3/8"	49"	54"	59"	74"	95"	92"	100-1/4"
Maximum Height H		49-1/2"	46"	62"	71"	77-1/2"	96-3/4"	102"	110-1/2"	118-1/2"

Series 39F Inline Check

- **Fabricated large diameter check valve design**
- **Seals on entrapped solids**
- **No hinges to bind or freeze — a maintenance-free design**
- **Can be mounted in any position**
- **Silent, non-slamming**



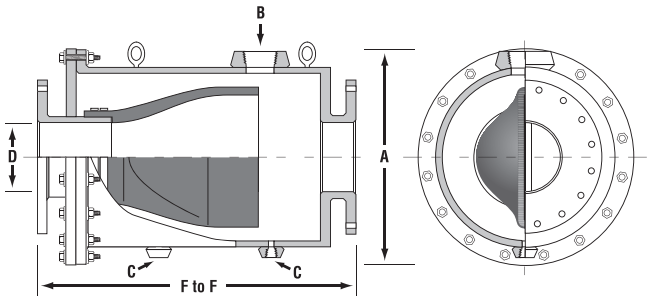
The Red Valve Series 39F Fabricated Slurry Check Valve is designed to handle abrasive slurries, sewage, sludge, and other difficult services. The heart of the check valve is a standard Tideflex® Check Sleeve that provides thruflow at mini-mum pressure drop across the valve at all times. Forward pressure opens the valve automatically, reverse pressure seals the valve.

Wear and deterioration caused by continuous operation of abrasive slurries is minimized because of the inner rubber check valve. There are no mechanical parts such as hinges, discs, or metal seats which can freeze, corrode, or bind valve operation. The Series 39's unique elastomer check sleeve will seal on solids. This valve's operation is silent and non-slamming.

The steel fabricated valve body is designed to permit easy installation or replacement of a standard Tideflex® Check Valve.

Epoxy coating is available. The Series 39F Fabricated Inline Check Valve is provided with an inspection port and bottom flush ports.

Face-to-Face dimensions meet ANSI B16.10 specs. The valve has tapped flange holes. When ordering, advise line pressure and back pressure.



Materials of Construction

- **Check Valve sleeves available in pure gum rubber, Neoprene, Hypalon, Chlorobutyl, Buna-N, Viton, and EPDM**
- **Fabricated steel ASTM A285 Grade C or stainless steel 304SS ASTM A240 or 316SS ASTM A240**
- **Epoxy coating available**
- **ANSI Class 125/150 Flanges**

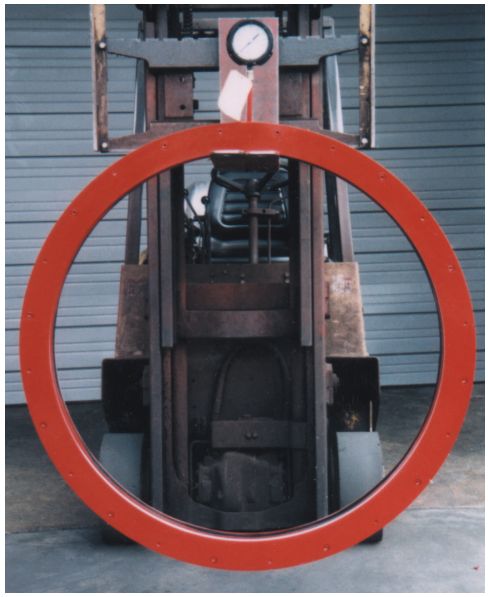
Dimensions Series 39F Inline Check Valve Large Diameter Fabricated Body

Size D	Length F to F	O.D. A	Clean Out Plug Dia. B	Flush Port Dia. C	Max. Back Pressure (psi)*
30"	60"	66"	6"	1"	50
36"	77"	77"	6"	1"	50
42"	80"	90"	6"	1"	25
48"	90"	102"	6"	1"	25
54"	101"	114"	6"	1"	25
60"	105"	126"	6"	1"	25
72"	118"	150"	6"	1"	25

* Higher backpressure designs available — Consult factory.

Pressure Sensors

- **Wafer design reduces costs**
- **Protects and isolates instrumentation**
- **Fits 150 and 300 lb. flanges**
- **Lightweight design**



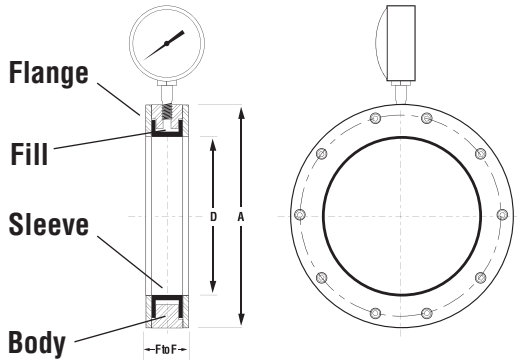
Red Valve's Series 48 Pressure Sensor protects and isolates instrumentation, eliminating plugging and fouling that can occur in slurry and hard-to-gauge liquid applications. The economical Series 48 is designed to fit inside the bolt pattern of the pipe flanges, allowing for ease of installation and reducing the size of the unit. Series 48 sensors are designed to fit Class 150 and 300 flange drilling, DIN, BS NP10, or any customer specified piping systems.

Reliable, accurate instrument readings are often difficult or even impossible to obtain in pipelines carrying slurry, solids or chemical process. Standard diaphragm seals are vulnerable to plugging by debris or deposits and only give a pressure reading from one small area. With the Series 48 Pressure Sensor these problems are eliminated.

The principle of operation is that line pressure is sensed through a flexible rubber sleeve which is a full 360° circumference of the pipe I.D. The captive fluid is displaced through the Series 48 Pressure Sensor body to the instrument's Bourdon tube. All instrumentation is protected from the process, which assures accurate, repeatable pressure readings.

Materials of Construction

- **Carbon steel body**
- **Flanges carbon steel, 316 stainless steel, PVC, Teflon® coated carbon steel**
- **Sleeves available in pure gum rubber, Neoprene, Chlorobutyl, Buna-N, Hypalon, Viton, EPDM, and White Food Grade Elastomers, Teflon® coated Buna-N, or Teflon® coated Viton**
- **Fill Fluid Ethylene Glycol & Water 200° F, Vegetable Oil 230° F, Silicone Oil 400° F**



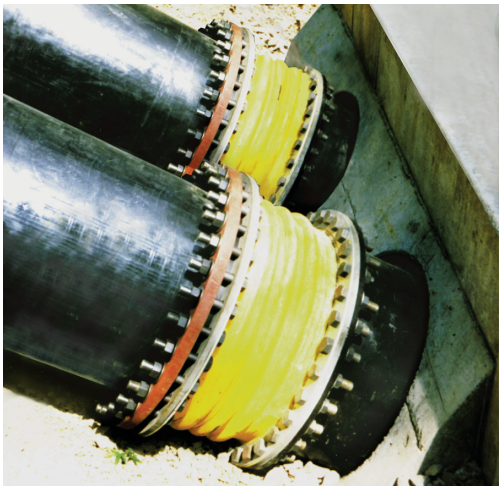
Dimensions Series 48 Pressure Sensor

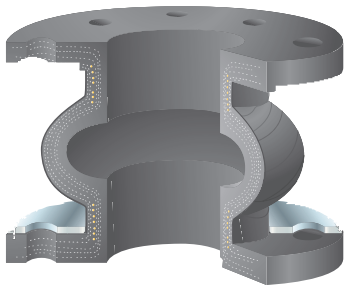
Nominal Size	Dimension D	Outside Diameter A	Length F to F	100°F Working Pressure (psi)*	Weight (lbs)
20"	19 1/4"	23 3/4"	3"	720	80
24"	23 1/4"	28 1/8"	3"	720	115
30"	29 1/4"	34 5/8"	3"	720	150
36"	35 1/4"	41 1/8"	4"	720	248
42"	41 1/4"	47 1/8"	4"	720	319
48"	47 1/4"	54 3/8"	4"	720	392

* PVC Unit has a Working Pressure of 200 psi

Redflex® Expansion Joints

- **Expansion Joints alleviate piping stress, noise, and vibration**
- **Permit axial compression, elongation, lateral and angular movement**
- **Custom fabricated rubber fittings**
- **Non-corrosive and abrasion resistant**





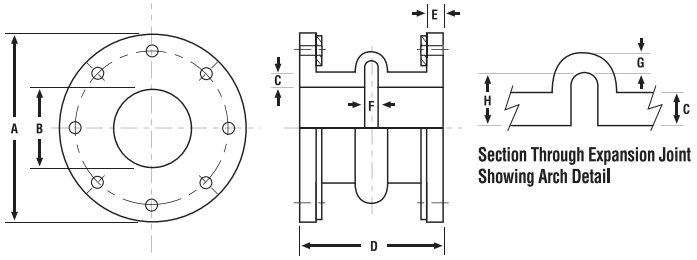
Redflex® Expansion Joints are designed to alleviate stresses caused by thermal expansion and contraction in piping systems and reduce noise and vibration. The flexibility of these durable expansion joints permits the connecting of misaligned piping which is caused by worn parts, foundations settling, or in the operating of systems and mechanical equipment. Red Valve Company's Redflex® Expansion Joints are manufactured like a heavy-duty truck tire. The abrasion resistant, all-elastomer expansion joints are designed for maximum flexibility and are available in sizes 1" — 84". Redflex® Expansion Joints are reinforced with wire and synthetic fabric for additional strength.

The construction of Redflex® Expansion Joints includes: a tube, body cover, and flanges. The tube is a protective leakproof liner made of an elastomer, and is the only wetted part. The body consists of fabric and various rubber compounds and is reinforced with rings of steel wire for strength. The cover is formed from the desired elastomer, normally Neoprene or Butyl. The flanges are made of rubber construction to resist stresses and provide a tight seal with the companion pipe flanges, eliminating the need for gaskets. The flanges are full face-to-face ANSI Class 125#. Redflex® Expansion Joints may also be made to meet Coast Guard and military specifications.

Elastomers are available in Pure Gum Rubber, Neoprene, Hypalon, Chlorobutyl, Buna-N, Viton, and EPDM.

Materials of Construction

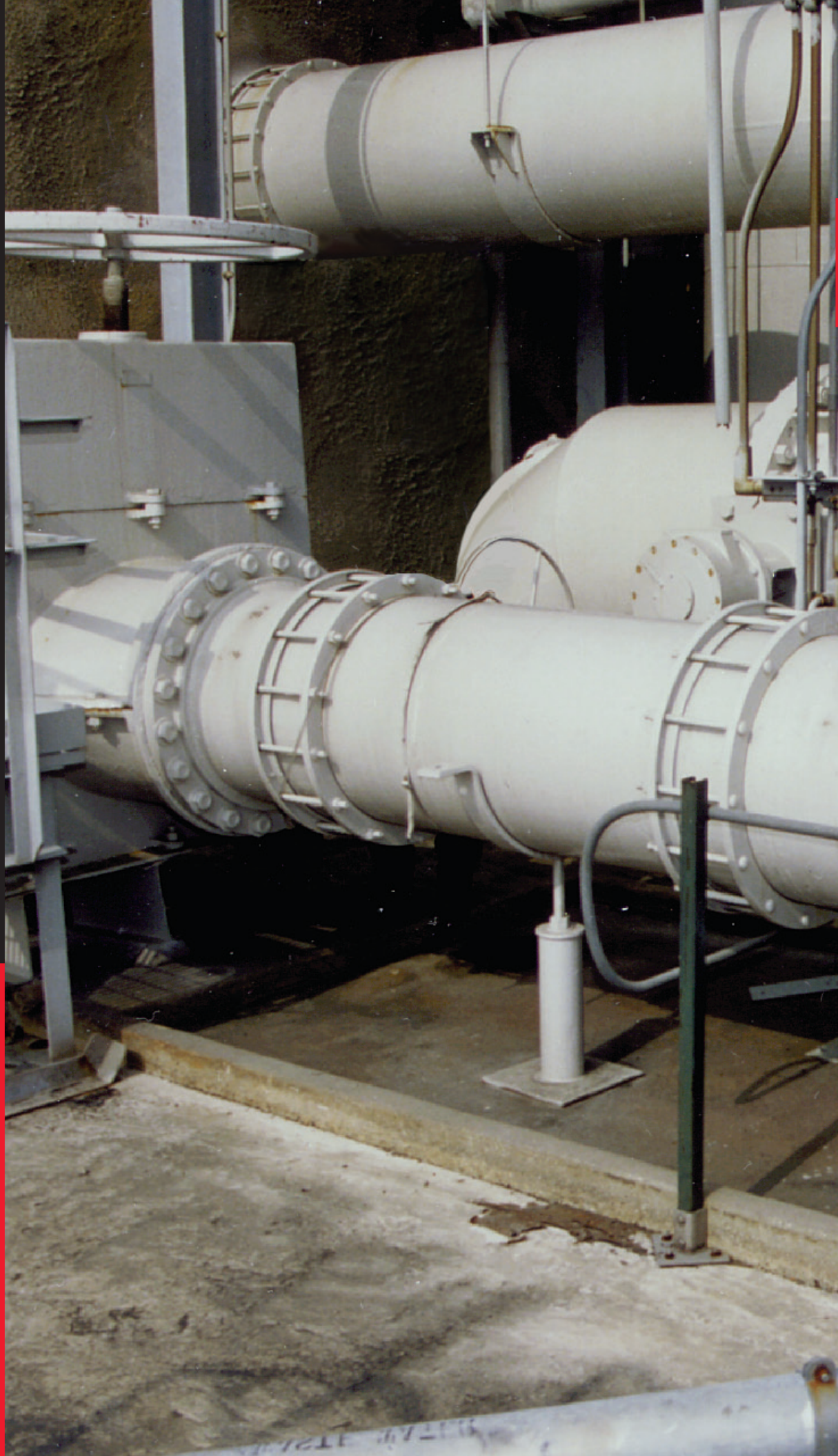
- **Control Rods and Retaining Rings**
  Galvanized Steel, Stainless Steel
- **Class I to 180°F**
  Pure Gum Rubber, Neoprene, Hypalon, Buna-N
- **Class II to 250°F**
  Chlorobutyl, EPDM, Viton-lined, Teflon®-lined
- **Class III to 400°F**
  Solid Viton



Section Through Expansion Joint Showing Arch Detail

Dimensions Single and Multiple Arch Expansion Joints

Size	A	B	C	Face-to-Face D No. Arches 1	2	3	E	F	G	H	Bolt Circle Dia.	Number of Bolts	Bolt Dia.	Drilled Hole Dia.	Approx. Weight Lbs.
30"	38-3/4"	30"	1-3/8"	10"	14"	18"	1"	1"	3/4"	2-1/4"	36"	28	1-1/4"	1-3/8"	101-1/2
36"	46"	36"	1-3/8"	10"	14"	18"	1"	1"	3/4"	2-1/4"	42-3/4"	32	1-1/2"	1-5/8"	137-1/2
42"	53"	42"	1-1/2"	12"	14"	20"	1-3/16"	1-1/8"	7-8"	2-1/2"	49-1/2"	36	1-1/2"	1-5/8"	182-1/2
48"	59-1/2"	48"	1-1/2"	12"	14"	20"	1-3/16"	1-1/8"	7-8"	2-1/2"	56"	44	1-1/2"	1-5/8"	211
54"	66-1/4"	54"	1-1/2"	12"	14"	20"	1-3/16"	1-1/8"	7-8"	2-1/2"	62-3/4"	44	1-3/4"	2"	265-1/2
60"	73"	60"	1-1/2"	12"	14"	20"	1-3/16"	1-1/8"	7-8"	2-1/2"	69-1/4"	52	1-3/4"	2"	309
72"	86-1/2"	72"	1-1/2"	12"	14"	20"	1-3/16"	1-1/8"	7-8"	2-1/2"	82-1/2"	60	1-3/4"	2"	385
78"	93"	78"	1-1/2"	12"	14"	20"	1-3/16"	1-1/8"	7-8"	2-1/2"	88-3/4"	60	2"	2-1/4"	410
84"	99-3/4"	84"	1-1/2"	12"	14"	20"	1-3/16"	1-1/8"	7-8"	2-1/2"	95-1/2"	64	2"	2-1/4"	480



Red Valve Company, Inc.

600 N. Bell Avenue
Carnegie, PA 15106

PHONE:
412 279-0044

FAX:
412 278-7878

www.redvalve.com

The information presented in this catalog is provided in good faith. Red Valve Company, Inc. reserves the right to modify or improve its design specifications without notice, and does not imply any guarantee or warranty for any of its products from reliance upon the information contained herein. All orders are subject to Red Valve's standard terms and warranty and are subject to final acceptance by Red Valve.

Viton and Hypalon are registered trademarks of DuPont Dow Elastomers. Teflon is a registered trademark of the DuPont Company. Redflex, Tideflex, Red Valve, and the Red Valve "rv" logo are registered trademarks of Red Valve Company, Inc.

RECYCLABLE PAPER

RVLDP 10/09