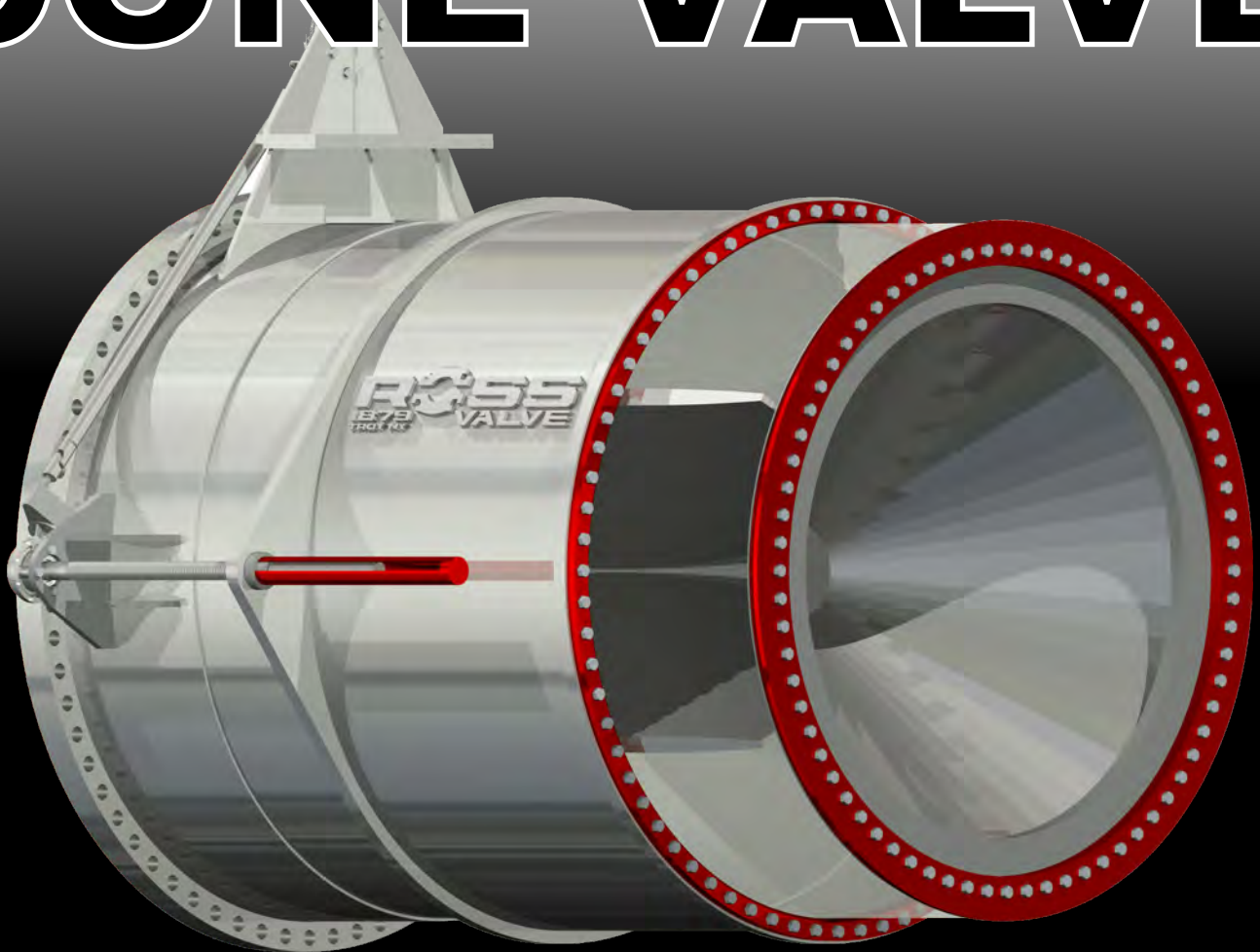




FIXED CONE VALVE



MODEL ROSS FCV
FIXED CONE VALVE

ROSS

FIXED CONE VALVE

A New Standard in C Value.

ROSS

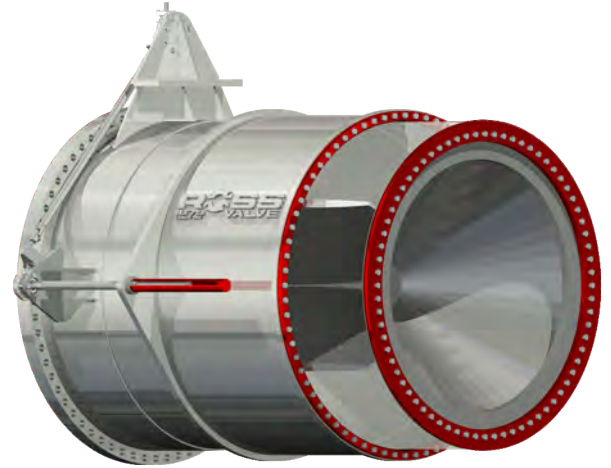
CV

VALUE SINCE 1879

FIXED CONE VALVE (FCV)

FEATURES & BENEFITS

- **PRECISION CONTROL** over entire gate opening/closing stroke through the use of twin ACME threaded power screws. Significance of this? Able to precisely control and maintain flow at any gate opening/closing position from 1% open to full 100% open.
- **LONG LIFE** – Metal to metal stainless steel fully replaceable body & gate seats provides excellent sealing in closed and seated position with minimal drip tight leakage.
- **VIBRATION AND CAVITATION FREE OPERATION** – Totally symmetrical balanced rib & discharge cone design and construction. Significance of this? Results in vibration and cavitation free operation over entire gate opening/closing stroke.
- **MAINTENANCE ABSOLUTELY MINIMIZED** – Rugged design and construction results in maintenance absolutely minimized. Grease lubrication to critical twin ACME threaded power screws provided for ease of periodic maintenance.
- **DROP TIGHT SHUTOFF** – Long life metal to metal monel seating provides excellent sealing in closed and seated position with minimal drip tight leakage.
- **OPTIONAL HOODED CONSTRUCTION** – For purposes of containing fixed cone discharge, most fixed cone valves are provided with either discharge hoods integrally mounted to traveling gate OR separately mounted stationary hoods
- **UNIFORM FLOW PATTERN** – Fully circular uniform discharge flow pattern at all discharge openings.



IN FULL COMPLIANCE WITH ALL THE LATEST AWWA STANDARDS AND SPECIFICATIONS

General Specifications

The Fixed Cone Valve (FCV) shall be as manufactured by Ross Valve or approved equal.

Design

The FCV shall be designed as a free discharging fixed cone valve capable of operating throughout its range without cavitation or vibration. The FCV shall be metal to-metal seated achieving drip tight shut off.

Valve Body

The body will be of a cylindrical design with an upstream flange for connecting to a conduit pipe. The downstream end will contain a metal seat ring. The body will incorporate ribs designed as stabilizers to allow the valve gate to travel from open to closed without vibration. The body seat will be field replaceable without removing the valve from the line.

Valve (Sleeve) Gate

The sleeve gate is cylindrical and uses a linear motion to open and close the valve. Seating is achieved by a metal seat ring which contacts the body seat at the end of its stroke.

Hoods

When a hood is required to direct the discharge flow stream it may be attached directly to the sleeve gate separately mounted or attached.

Actuation

Fixed cone valves can be actuated using either electric motors, hydraulic cylinders or manual actuators. The chosen method shall be sized to perform the function for which it is required. Actuators shall conform to AWWA C542 / C541


Testing

The valve shall be hydrostatically tested at 1.5 times maximum static head for 30 minutes and shall show no sign of leakage at the welded areas or through the body or gate sleeve. The body and gate (sleeve) seat when in the closed position shall be drip tight.

Coating

Before coatings are applied, blast clean all unmachined areas to SSPC-SP10 standards. Coat surfaces with two coats of high solids epoxy paint or the engineer's recommended coatings.

ROSS CONE VALVE - OPERATORS



**Electric Motor Operated
Valve Actuator**

Fully modulating
controls through analog
signal such as flow
meter or pressure



**Hydraulic Cylinder
Water or Oil**

Utilizes a linear double
acting piston actuator to
open and close Rotary
Cone Valve through the

HOOD - INTEGRALLY ATTACHED TO TRAVELING GATE

FIXED CONE VALVE HOODED

FIXED CONE VALVE WITH DETACHED SEPARATELY MOUNTED CONSTRAINED STATIONARY HOOD UNBAFFLED OR BAFFLED

APPROXIMATELY 2-1/2 TO 2-3/4 TIMES VALVE SIZE

CONNECTION FLANGE AWWA C207 CLASS E

FIXED CONE VALVE WITH DETACHED SEPARATELY MOUNTED STATIONARY HOOD (LINED TUNNEL)

APPROXIMATELY 2-1/2 TO 2-3/4 TIMES VALVE SIZE

FIXED CONE VALVE UNHOODED

VALVE SIZE	A	B	C	D(UH)	UNHOODED D(H)	HOODED E	F
6	4 1/2	6 1/2	9 3/4	28	27 1/8	33 1/8	11
8	4 1/2	8 3/4	13	30	28 7/8	36 7/8	14
10	4 1/2	10 7/8	16 3/8	32	30 5/8	40 5/8	18
12	6	13 1/8	19 5/8	38	36 3/8	48 3/8	21
14	6	15 1/4	22 7/8	40	38	52	25
16	6	17 1/2	26 1/8	42	39 3/4	55 3/4	29
18	9	19 5/8	29 3/8	48	45 1/2	63 1/2	32
20	9	21 3/4	32 5/8	50	47 1/4	67 1/4	35
24	9	26 1/8	39 1/8	54	50 5/8	74 5/8	42
30	10 1/2	32 3/4	49	64	59 3/4	89 3/4	52
36	10 1/2	39 1/4	58 3/4	70	65	101	62
42	10 1/2	45 3/4	68 1/2	76	70 1/8	112 1/8	72
48	12	52 3/8	78 3/8	86	79 1/4	127 1/4	82
54	12	58 7/8	88 1/8	92	84 1/2	138 1/2	92
60	15	65 3/8	97 7/8	102	93 5/8	153 5/8	102
66	15	72	107 3/4	108	98 3/4	164 3/4	112
72	18	78 1/2	117 1/2	118	107 7/8	179 7/8	122
78	18	85 1/8	127 1/4	124	113 1/8	191 1/8	132
84	18	91 5/8	137 1/8	134	122 1/4	206 1/4	142
90	18	98 1/8	146 7/8	140	127 3/8	217 3/8	152
96	21	104 3/4	156 5/8	150	136 1/2	232 1/2	162
102	21						
108	21						
114	21						
120	21						
126	21						
132	24						
138	24						
144	24						
150	24						
156	24						
162	24						
168	24						

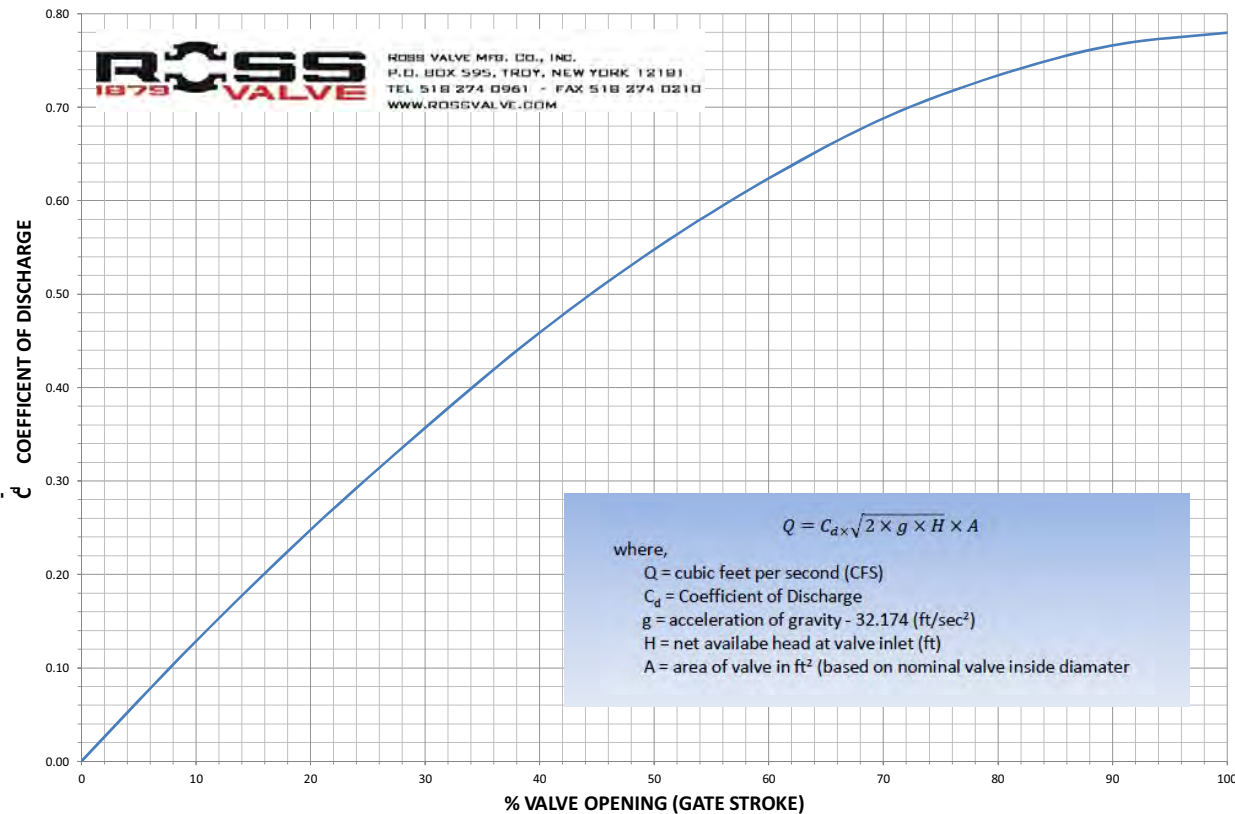
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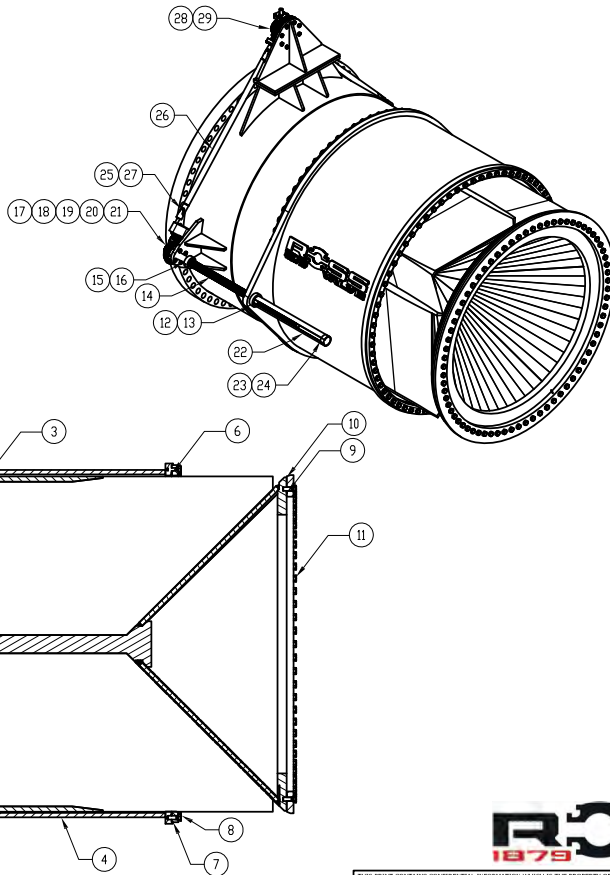
"USE DETACHED SEPARATELY MOUNTED HOOD"

ROSS VALVE MFG. CO., INC.
 79 102nd St, Suite 100, TROY, NEW YORK, 12180 - TEL: (518) 274 - 0961
 POST OFFICE BOX 595 - TROY, NY 12181 FAX (518) 274 - 0210
 WEBSITE: www.rossvalve.com - E-MAIL: sales@rossvalve.com
 DRAWING: FCV FIXED CONE VALVE DIM DATE: 01/02/2015
 BODY: FCV NO SCALE FIGURE -
FIXED CONE VALVE (FCV) DIMENSION CHART & SPECIFICATIONS

THIS PRINT CONTAINS CONFIDENTIAL INFORMATION WHICH IS THE PROPERTY OF ROSS VALVE BY ACCEPTING THIS INFORMATION THE BORROWER AGREES THAT IT WILL NOT BE USED FOR ANY PURPOSE OTHER THAN THAT WHICH IT IS LOANED. NOTE: The Ross Valve Mfg. Co., Inc. reserves the right to modify valve construction which will result in equal or superior performance to existing designs. These modifications may be made at any time and at the sole discretion of the manufacturer.

FIXED CONE VALVE (FCV) - W/INTEGRALLY ATTACHED HOOD COEFFICIENT OF DISCHARGE (C_d) vs % VALVE OPENING (GATE STROKE)





FIXED CONE VALVE (FCV)			
BILL OF MATERIAL/MATERIAL SPECIFICATIONS			
FIXED CONE VALVE ASSEMBLY			
ITEM	QTY	DESCRIPTION	MATERIAL
1	1	BODY	STAINLESS STEEL - ASTM A240 304/304L/STEEL - ASTM A516 GR70
2	1	PACKING GLAND	STAINLESS STEEL - ASTM A276 304/304L
3	1	GATE SEAL	NBR/ NITRILE/ BUNA-N
4	1	GATE	STEEL - ASTM A516 GR70/BRONZE
5	A/R	CAPSCREW - HEX HEAD	STAINLESS STEEL 304
6	1	O-RING	NBR/ NITRILE/ BUNA-N
7	1	GATE SEAT/ SEAL RING	STAINLESS STEEL ASTM A240 304/304L
8	A/R	CAPSCREW - HEX HEAD	STAINLESS STEEL 304
9	1	O-RING	NBR/ NITRILE/ BUNA-N
10	1	BODY SEAT/ SEAL RING	STAINLESS STEEL ASTM A240 304/304L
11	A/R	CAPSCREW - HEX HEAD	STAINLESS STEEL 304
12	2	THRUST NUT	BRONZE - B584 C86300
13	16	CAP SCREW - HEX HEAD	STAINLESS STEEL 304
14	2	POWER SCREW	STAINLESS STEEL - ASTM A276 304/304L
15	2	STOP COLLAR	BRONZE - B505 C93200
16	4	SETScrew	STAINLESS STEEL 304
17	2	KEY	STEEL - C1018 CF
18	2	BEVEL GEARBOX	
19	8	CAPSCREW - HEX HEAD	STAINLESS STEEL 304
20	2	LOCKNUT	STEEL - C1018 CF
21	2	SETScrew	STEEL - GR8
22	2	POWER SCREW COVER	STEEL - ASTM A53A106
23	2	GREASE FITTING	STAINLESS STEEL 304
24	2	POWER SCREW COVER CAP	MALLEABLE IRON
25	4	UNJOINT	STAINLESS STEEL 303
26	2	INTERCONNECTING SHAFT	STAINLESS STEEL - ASTM A276 304/304L
27	8	KEY	STEEL - C1018 CF
28	1	TRIPLE PINION GEARBOX	
29	8	CAPSCREW - HEX HEAD	STAINLESS STEEL 304

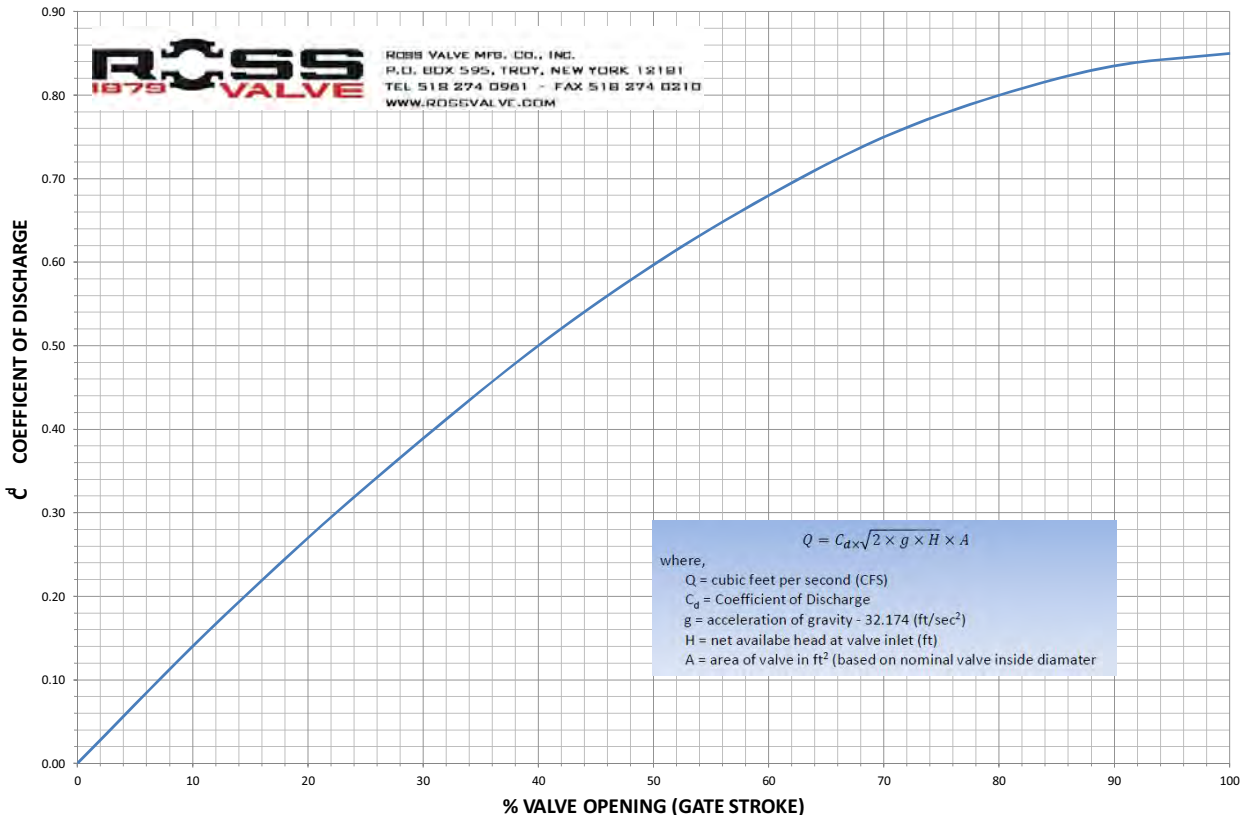
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DRAWING: (FCV) FIXED CONE VALVE BOM DATE 01/02/2015
 BODY: FCV NO SCALE FIGURE -

FIXED CONE VALVE (FCV)
BILL OF MATERIAL & MATERIAL SPECIFICATIONS

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FIXED CONE VALVE (FCV) - UNHOODED COEFFICIENT OF DISCHARGE (C_d) vs % VALVE OPENING (GATE STROKE)



Contact Our Local Representative:

Technical Resources: **1-855-ROSS-VALVE**

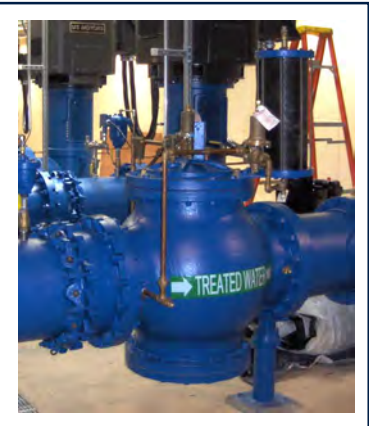
At Ross Valve, we pride ourselves in providing a truly engineered product. With over 135 years of industry experience, Ross Valve offers a variety of in-house resources to ensure your product requests are met:

- Computational Fluid Dynamic Modeling
- Finite Element Analysis
- Pattern Shop and 2 Foundries
- Machine Shop, WaterJet & CNC Centers
- Hydrostatic Test Facilities
- Pre-Packaged Vault Design/Build Center



Design Engineering

- Valve size (in):
- Rated Discharge (cfs):
- Minimum Net Head:
- Maximum Static Head:
- Flange pressure class (AWWA): (E-275psi)
- Operating time (sec):



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Ross Valve manufactures all its products in Troy, NY. Our corporate headquarters are now located in the newly expanded Ross Tech Park.