

CITY OF NEW YORK
DEPARTMENT OF BUILDINGS

Pursuant to Administrative Code Section 27-131, the following equipment or material has been found acceptable for use in accordance with the Report of the Material and Equipment Acceptance (MEA) Division.

Patricia J. Lancaster, A.I.A., Commissioner

MEA 283-03-E
Report of Material and Equipment Acceptance Division

Manufacturer – Central Grooved Piping Products, 1550 Valley Central Parkway, Suite 135, Bethlehem, PA 18017.

Trade Name – Central.

Product – Check Valves

Pertinent Code Section(s) – Subchapter 17 and Reference Standard RS-17.

Prescribed Test(s) - UL 312.

Laboratory – Underwriters Laboratories Inc.

Test Report– File Ex5191 Project No. 98NK10710 and 00NK17146 issued July 19, 1999, revised April 27, 2001.

Description – Check Valves, Figure 590F and Figure 590FR to be installed in accordance with NFPA 13.

(See attached for model number, sizes, description and pressure ratings.)

Riser Check Valve

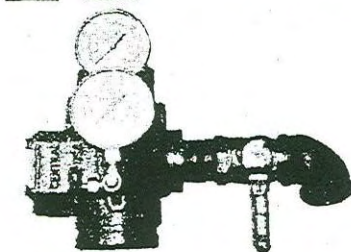
Figure 590FR

Tyco Fire Products --- www.tyco-grooved.com
 451 North Cannon Avenue, Lansdale, Pennsylvania 19446 --- USA
 Customer Service/Sales: Tel: (215) 362-0700 / Fax: (215) 362-5385
 Technical Services: Tel: (800) 381-9312 / Fax: (800) 791-5500



Grooved Piping Products

General Description



See Fire Protection Submittal Sheet for pressure rating and Listing and Approval information

Figure 590FR Fire Protection Riser Check Valves are compact and rugged swing-type units that allow water flow in one direction and prevent flow in the opposite direction. They are manufactured with a ductile iron body and a stainless steel clapper assembly for sizes 2 1/2"-8" (60.3 - 219 mm). A resilient elastomer seal facing on the spring loaded clapper ensures a leak tight seal and a non-sticking operation. All Figure 590FR Check Valves are designed to minimize water hammer caused by flow reversal.

The valves are furnished with grooved ends and can be installed using grooved couplings. The Figure 590FR can be installed with ANSI class 150 Flanges utilizing our Figure 71 flange adapters and also ANSI class 300 Flange Adapters on the upstream connection. Should these connections be desired on the downstream connection, longer 1/4" gauge nipple connections are required for clearance. All Figure 590FR Check Valves have been designed with a removable cover for ease of field maintenance. They may be installed in either horizontal or vertical piping systems.

Applications: Figure 590FR Riser Check Valves are intended for use in a wet type automatic sprinkler system riser, as a more attractive and economical alternative to the alarm check valve. Provision must be made for a local alarm, using an approved flow switch (not included).

Technical Data

Figure: 590FR
Sizes: 2 1/2", 3", 4", 5", 6", and 8"
Maximum Working Pressure:
 300 psi (2068 kPa)
Factory Hydro Test: 100% at 600 psi (4137 kPa) - Seat and Shell
 Complies with test requirements of MSS SP-71, UL, ULC and FM
Approvals: UL, FM, and ULC; See Fire Protection Submittal Sheet for exact Listing / Approval information.
Manufacturing Source: Domestic
Body and Cap: Ductile iron conforming to ASTM A-536, Grade 65-45-12
Clapper: 304 Stainless Steel
Seal: Grade "E" EPDM; See Gasket Grades and Recommendations Sheet for aid in selecting the proper seal.
Protective Coatings:
 Valve Assembly - Non-lead orange paint
 Trim - (sold separately, unassembled) - Black or Galvanized



Ordering Procedure

Ordering Information: When placing an order, indicate the full product name. Please specify the quantity, figure number, type of seal, EPDM "E", and size.

Availability and Service: Grooved Piping Products, valves, accessories and other products are available throughout the U.S., Canada, and internationally, through a network of distribution centers. You may write directly or call 215-362-0700 for the distributor nearest you.

Care and Maintenance

The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in accordance with the applicable standards of the National Fire Protection Association (e.g., NFPA 25), in addition to the standards of any authority having jurisdiction. The installing contractor or product manufacturer should be contacted relative to any questions. Any impairment must be immediately corrected.

It is recommended that automatic sprinkler systems be inspected, tested, and maintained by a qualified Inspection Service.



Limited Warranty

Products manufactured by Tyco Fire Products are warranted solely to the original Buyer for ten (10) years against defects in material and workmanship when paid for and properly installed and maintained under normal use and service. This warranty will expire ten (10) years from date of shipment by Tyco Fire Products. No warranty is given for products or components manufactured by companies not affiliated by ownership with Tyco Fire Products or for products and components which have been subject to misuse, improper installation, corrosion, or which have not been installed, maintained, modified or repaired in accordance with applicable Standards of the National Fire

No. 14-1.0



Limited Warranty

(Cont.)

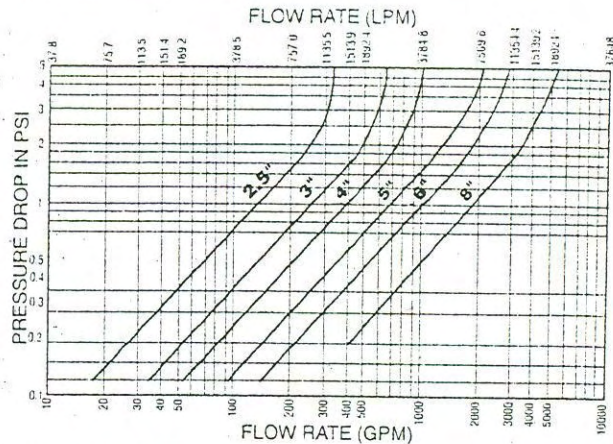
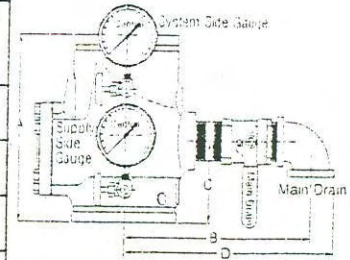
Protection Association (NFPA), and/or the standards of any other Authorities Having Jurisdiction. Materials found by Tyco Fire Products to be defective shall be either repaired or replaced, at Tyco Fire Products' sole option. Tyco Fire Products neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of products or parts of products. Tyco Fire Products shall not be responsible for sprinkler system design errors or inaccurate or incomplete information supplied by Buyer or Buyer's representatives.

IN NO EVENT SHALL TYCO FIRE PRODUCTS BE LIABLE, IN CONTRACT, TORT, STRICT LIABILITY OR UNDER ANY OTHER LEGAL THEORY, FOR INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LABOR CHARGES, REGARDLESS OF WHETHER TYCO FIRE PRODUCTS WAS INFORMED ABOUT THE POSSIBILITY OF SUCH DAMAGES, AND IN NO EVENT SHALL TYCO FIRE PRODUCTS' LIABILITY EXCEED AN AMOUNT EQUAL TO THE SALES PRICE.

THE FOREGOING WARRANTY IS MADE IN LIEU OF ANY AND ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Figure 590FR Check Valve

Size	A Inches mm	B Inches mm	C Inches mm	D Inches mm	Net Wt. lbs. Kg.
2 1/2"	8.00 203.2	12.53 318.3	3.88 98.6	13.20 335.3	10.0 4.5
3"	8.37 212.6	13.02 330.7	3.88 98.6	13.85 346.7	11.0 5.0
4"	9.83 244.6	14.38 365.3	4.96 126.0	15.38 390.7	25.0 11.3
5"	10.50 266.7	14.95 379.7	4.96 126.0	15.95 405.1	29.0 13.2
6"	11.50 292.1	15.25 387.4	4.98 126.5	16.25 412.8	47.0 21.3
8"	14.00 355.6	16.37 415.8	5.48 139.2	17.37 441.2	66.0 29.9



Note: It is good piping practice to apply a safety factor of 15% to 20% to the values in the above table for design purposes.

Trim Kit 2 1/2" & 3" Riser Check Valve
Main Drain 1 1/4" X 2 1/2" Nipple 1 1/4" M X F Ball Valve 1 1/4" 90° Elbow
Gauge (system side) 0-300 psi Gauge 1/4" X 2" Nipple 1/4" Three-Way Globe Valve 1/4" Plug
Gauge (supply side) 0-300 psi Gauge 1/4" X 5" Nipple 1/4" Three-Way Globe Valve 1/4" Plug

Trim Kit 4", 5", 6" & 8" Riser Check Valve
Main Drain 2" X 2 1/2" Nipple 2" M X F Ball Valve 2" 90° Elbow
Gauge (system side) 0-300 psi Gauge 1/4" X 2" Nipple 1/4" Three-Way Globe Valve 1/4" Plug
Gauge (supply side) 0-300 psi Gauge 1/4" X 5" Nipple 1/4" Three-Way Globe Valve 1/4" Plug

Note: Trim Kit is sold separately, unassembled

General Notes: It is the Designer's responsibility to select products suitable for the intended service and to ensure that pressure ratings and performance data is not exceeded. Always read and understand the installation instructions (IH-1000). Never remove any piping component nor correct or modify any piping deficiencies without first depressurizing and draining the system. Material and gasket selection should be verified to be compatible for the specific application.



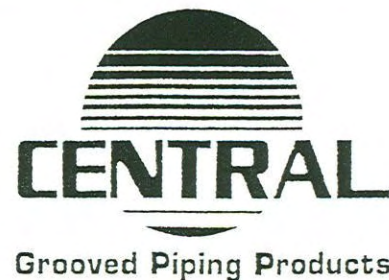
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Printed in U.S.A. 4-01

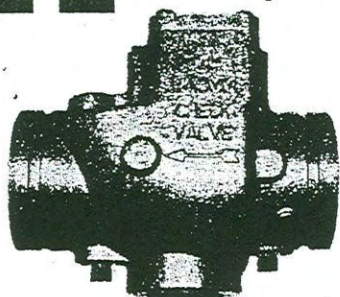
Figure 590F

Check Valve



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General Description



See Fire Protection Submittal Sheet for pressure rating and Listing and Approval information

Figure 590F Fire Protection Check Valves are furnished with grooved ends and can be installed using grooved couplings. The Figure 590F can be installed with ANSI class 150 Flanges utilizing our Figure 71 flange adapters and also ANSI class 300 Flange Adapters. All Figure 590F Check Valves have been designed with a removable cover for ease of field maintenance. They may be installed in either horizontal or vertical piping systems.

A Maintenance Check Valve Kit is available to allow the maintenance procedure of backflushing through the fire department connection without removing the Figure 590F Check Valve from the pipe line.

Technical Data

Figure: 590F

Sizes: 2½", 3", 4", 5", 6" and 8"

Maximum Working Pressure:
300 psi (2068 kPa)

Factory Hydro Test:

100% at 600 psi (4137 kPa) - Seat and Shell Complies with test requirements of MSS SP-71, UL, ULC and FM

Approvals: UL, FM, and ULC: See Fire Protection Submittal Sheet for exact Listing / Approval information.

Manufacturing Source: Domestic
Body and Cap: Ductile iron conforming to ASTM A-536, Grade 65-45-12

Clapper: Stainless Steel

Seal: Grade "E" EPDM;
 See Gasket Grades and Recommendations Sheet for aid in selecting the proper seal.

Protective Coatings:
 Valve Assembly - Non-lead orange paint



Care and Maintenance

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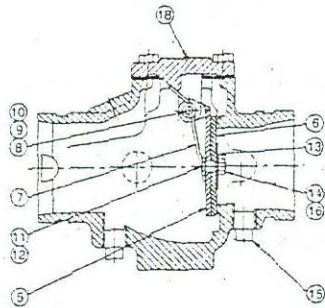
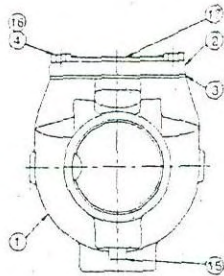
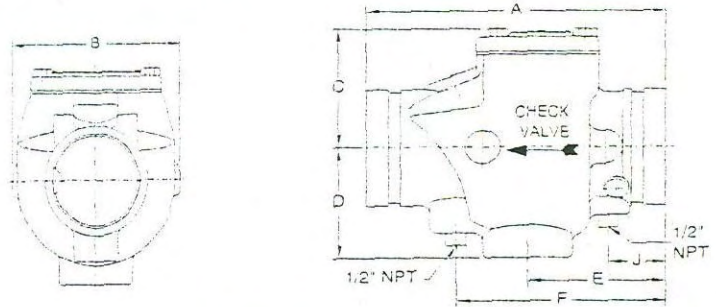
Figure 590F Check Valve



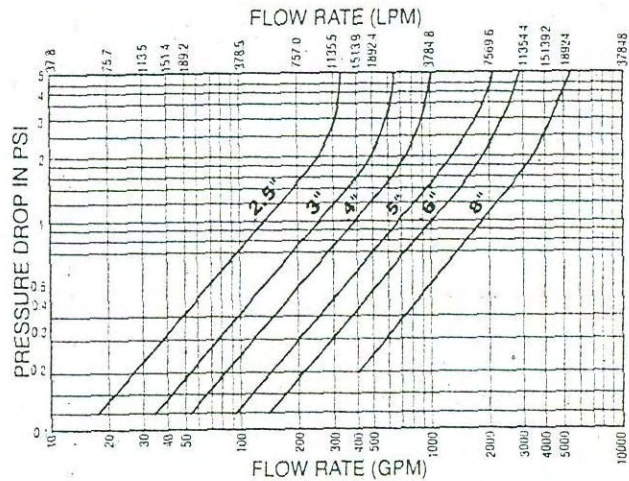
Ordering Procedure

Ordering Information: When placing an order, indicate the full product name. Please specify the quantity, figure number, type of seal, EPDM "E", and size.

Availability and Service: Grooved Piping Products, valves, accessories and other products are available throughout the U.S., Canada, and internationally, through a network of distribution centers. You may write directly or call 215-362-0700 for the distributor nearest you.



Size	A Inches mm	B Inches mm	C Inches mm	D Inches mm	E Inches mm	F Inches mm	J Inches mm	Net Wt. lbs. Kg.
2 1/2"	8.00 203.2	5.80 147.3	3.41 86.6	3.40 86.4	3.88 98.6	6.00 152.4	1.70 43.2	10.0 4.5
3"	8.37 212.6	5.76 146.3	3.60 91.4	3.40 86.4	3.88 98.6	6.00 152.4	1.70 43.2	11.0 5.0
4"	9.63 244.6	6.74 171.2	4.61 117.1	3.63 92.2	4.53 115.1	7.13 181.1	1.84 46.7	25.0 11.3
5"	10.50 266.7	7.50 190.5	5.29 134.4	4.20 106.7	4.90 124.5	7.60 193.0	1.90 48.3	29.0 13.2
6"	11.50 292.1	8.05 204.5	5.75 146.1	4.50 114.3	5.00 127.0	7.60 193.0	1.48 37.6	47.0 21.3
8"	14.00 355.6	10.25 260.4	7.75 196.9	5.62 142.7	5.45 138.4	8.40 213.4	2.20 58.9	66.0 29.9



Note: It is good piping practice to apply a safety factor of 15% to 20% to the values in the above table for design purposes.

General Notes: It is the Designer's responsibility to select products suitable for the intended service and to ensure that pressure ratings and performance data is not exceeded. Always read and understand the installation instructions (IH-1000). Never remove any piping component nor correct or modify any piping deficiencies without first depressurizing and draining the system. Material and gasket selection should be verified to be compatible for the specific application.

Detail	Part	Material	Qty.
1	Body	Ductile Iron	1
2	Cap	Ductile Iron	1
3	Gasket	Synthetic Fiber	1
4	Hex Cap Screw	Steel, Zinc Plated	AR
5	Clapper	Stainless Steel or Ductile Iron	1
6	Seal Facing	EPDM Grade "E"	1
7	Spring	Stainless Steel	1
8	Hinge Shaft	Stainless Steel	1
9	Retaining Ring	Stainless Steel	AR
10	Washer	Teflon	2
11	Retention Bolt	Stainless Steel	1
12	Seal Ring	Neoprene	1
13	Retaining Disc	Stainless Steel	1
14	Locknut	Stainless Steel	1
15	Plug-1/2"-14 NPT	Cast Iron	2
15	Adhesive	Thread Sealer	AR
16	Nameplate	Aluminum	1
17	Rivet	Steel	2



Certified Company

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Pursuant to "Promulgation of the Rules relating to Materials and Equipment Application Procedures" dated November 5, 1992, the Bureau of Fire Prevention has no objections letter dated September 19, 2003, F.P. Index No. 0309024.

Recommendation - That the above units, be accepted on condition that all uses, locations, and installations comply with the New York City Building Code, specifically Subchapter 17, and with the Reference Standards RS 17-2, on further condition that:

1. Underwriters Laboratories Inc.'s listing requirements and limitations shall be adhered to.
2. Manufacturer's installation, maintenance procedures, and limitations shall be complied with.

All shipments and deliveries of such equipment shall be provided with a metal tag, suitably placed, certifying that the equipment shipped or delivered is equivalent to those tested and accepted for use, as provided for in Section 27-131 of the Building Code.

Final Acceptance October 29, 2003
Examined By Donald [Signature]