

## CHECK VALVE

### Figure 590

### Grooved End Swing Check Valve

Manufactured by: Central Grooved Piping Products  
a Subsidiary of Central Sprinkler Company  
451 North Cannon Avenue, Lansdale, Pennsylvania 19446  
Phone (215) 362-0700 Fax (215) 362-5385



## Product Description

Central Figure 590 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, nickel seat and a stainless steel clapper assembly for sizes 2½"-8" (60.3 - 219.1 mm), and a ductile iron clapper assembly for sizes 10"-12" (273.0 - 323.9 mm). A resilient elastomer seal facing on the spring loaded clapper ensures a leak tight seal and a non-sticking operation. All Central Check Valves are designed to minimize water hammer caused by flow reversal.

The valves are furnished with grooved ends and can be installed using Central grooved couplings. The Figure 590 can be installed with ANSI class 150 Flanges utilizing our Figure 71 flange adapters and also ANSI class 300 Flange Adapters. All Figure 590 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 with the flow in the upward or downward direction.

## Technical Data

**Figure No.:** 590

**Sizes:**

2½", 3", 4", 5", 6", 8", 10" & 12"

**Manufacture Source:**

Domestic

#### **Body/Cap:**

Ductile Iron, ASTM A-536,  
Grade 65-45-12

#### **Clapper:**

Sizes 2½"-8": 304 Stainless Steel  
Sizes 10"-12": Ductile Iron

#### **Seal:**

Grade "E" EPDM or "T" Nitrile

#### **Seat:**

Nickel

#### **Protective Coatings:**

Valve Assembly-  
Non lead - Orange Paint

#### **Maximum Working Pressure:**

300 PSIG (2068 kPa)

#### **Factory Hydro Test:**

100% at 600 PSIG (4137 kPa)  
(Seat and Shell). Complies with test  
requirements of MSS SP-71-1997



## Installation

The Figure 590 Check Valve is designed for installation in either the horizontal or vertical position. When installed in the horizontal position, the removable cover must be on the top side of the valve.

The arrow cast into the valve body must point in the direction of the flow.

**IMPORTANT:** All replacement parts must be obtained from the manufacturer to assure proper operation of the valve.

**Note:** Never remove any piping components without verifying the system is depressurized and drained.

Should the Figure 590 Clapper Sub-Assembly need to be replaced, the following procedure is to be followed:

1. Order a clapper sub-assembly replacement kit from Central.
2. The kit includes a seal/clapper/cap assembly with a new cap gasket and cap bolts.
3. Depressurize and drain system.
4. Remove the old cap assembly along with the gaskets and bolts. Discard these parts.
5. Install the new seal kit per instructions supplied and torque bolts as required.



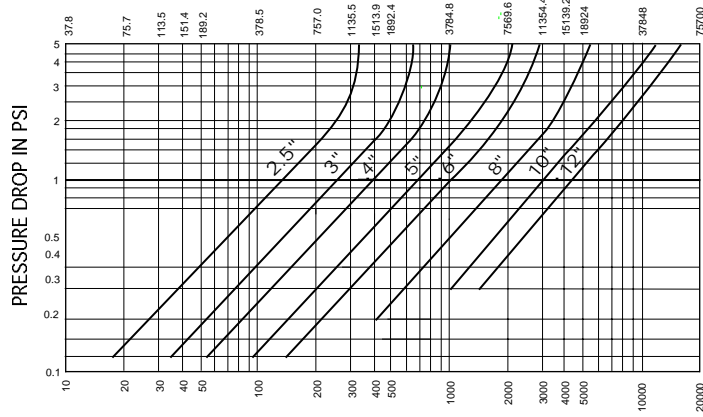
## Ordering Information

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

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

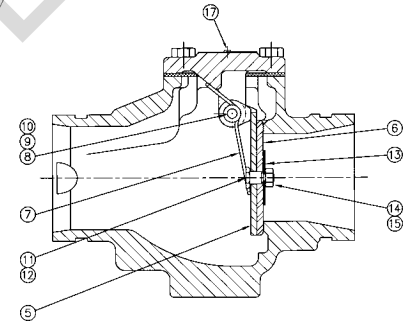
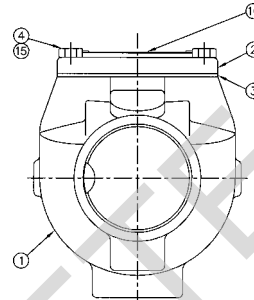
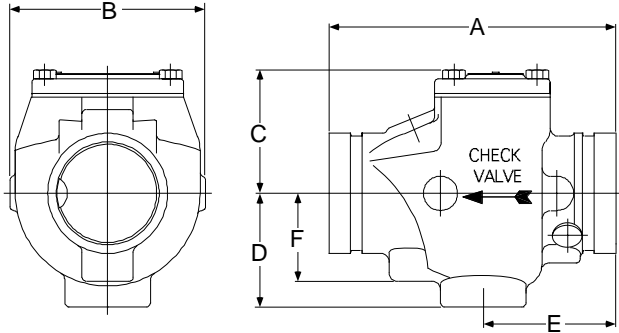
**Warranty:** Central will repair and/or replace any products found to be defective in material or workmanship within a period of one year from the date of shipment. Please refer to the current price list for further details of the warranty.

FLOW RATE (LPM)



FLOW RATE IN G.P.M.

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



Size	A Inches mm	B Inches mm	C Inches mm	D Inches mm	E Inches mm	F Inches mm	Cover Bolt Torq. Lb.-ft. Nm	Weight lbs. Kg.
2 1/2"	8.00 203.2	5.42 136.7	3.41 86.6	3.09 78.5	3.88 98.6	2.29 58.2	30 41	10 4.5
3"	8.38 212.9	5.76 146.3	3.60 91.4	3.31 84.1	3.88 98.6	2.56 65.0	30 41	11 5.0
4"	9.63 245.6	6.74 171.2	4.61 117.1	3.63 92.2	4.53 115.4	2.69 68.3	32 43	25 11.3
5"	10.50 266.7	7.50 190.5	5.29 134.4	4.13 104.9	4.90 124.5	3.20 81.3	32 43	29 13.2
6"	11.50 292.1	8.05 204.4	5.75 146.1	4.50 114.3	5.00 127.0	3.62 91.9	54 73	47 21.3
8"	14.00 355.6	10.25 260.4	7.75 196.5	5.62 142.7	5.45 138.4	4.74 120.4	58 74	66 30.0
10"	18.00 457.0	12.00 304.8	10.50 266.7	7.05 177.8	8.25 209.6	6.00 152.4	83 113	11 49.6
12"	19.50 495.3	14.00 355.6	11.50 292.1	8.75 222.2	9.00 228.6	7.50 190.5	85 115	150 68.0

Det. No.	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 or Nitrile - Grade T	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	Adhesive	Thread Sealer	AR
16	Nameplate	Aluminum	1
17	Rivet	Steel	2

