

EDC4 Spring Loaded Detector Check Specification

Scope

This specification covers spring loaded detector check valves in sizes 3” through 10”. The preferred detector check shall be Hersey model EDC4.

All detector checks shall be approved by Factory Mutual Research and listed by Underwriters Laboratories.

All detector checks shall be NSF-61 compliant.

The intended use of this detector check is to prevent water from re-entering the potable water system, while detecting leaks in the fire sprinkler system or unauthorized usage of sprinkler system water.

Spring loaded detector check designs are superior to weighted designs since they can be mounted horizontally or vertically. They are smaller in size, weigh less and therefore cost less to install. They offer more versatility than comparable weighted designs.

Operation

The detector check valve shall positively shut off the flow of water through the main line until a pressure differential of approximately 2.0 psi is met through the bypass meter. The main line automatic lever valve shall open freely at 2.0 psi and allow an unobstructed flow through the main line.

The Automatic Lever Valve in the main line shall be a spring loaded design. Spring mechanisms provide for low head loss during fire conditions.

The inlet and outlet of the detector check shall be paralleled and have a common axis.

An air bleeder device shall be provided at the top of the upper main case body.

Detector check must be designed to handle water ranging from 33° to 100° Fahrenheit.

Size

The size of the detector check shall be determined by the nominal size opening of the inlet and outlet.

Sizes available: 3”, 4”, 6”, 8” and 10”

Length

Detector checks 3” through 10” shall be offered in the laying lengths listed below:

Size	Laying Length
3"	15.00"
4"	15.00"
6"	21.00"
8"	25.00"
10"	28.75"

Main Case

The main case of the check valve shall be made of Cast Iron, Fusion Bonded Epoxy Coated inside and out, following AWWA C550. *For the optional bypass meter, please see specifications for a vertical turbine or specifications for a positive displacement meter.*

The size, model, manufacturer's serial number, company name and direction of flow shall be cast, stamped or provided on an etched metal plate mechanically attached on the outer case of the valve.

All operating parts of the spring and clapper mechanism are attached to the cover for easy removal and maintenance. Full spring tension is not achieved until cover is bolted to the body.

Body to be provided with four drilled and tapped holes with plugs whereby a standard 3/4" bypass can be installed after installation of the detector check valve.

Valve Ends

All sizes (3" through 10") shall come with flange ends; follow ANSI class 250 flat-faced flanges.

Pressure Test

Valve shall be guaranteed to operate successfully at working pressure of 175 PSI without leakage or damage to any part. The valve shall also be guaranteed to test successfully at hydrostatic pressure of 350 PSI.

Temperature

33degrees to 110 degrees F

Installation

Detector check must be designed so that it can be installed horizontally or vertically.

Weight

The weight of the detector check shall not exceed the following weights:

Size	Weight
3"	70.00 lbs
4"	79.25 lbs
6"	166.50 lbs
8"	318.00 lbs
10"	501.00 lbs

Optional Separate Bypass Trim Kits and Bypass Meters

The detector check shall be compatible with an optional, standardized no lead trim kit and the customer's choice of bypass meter as separate line items.

The separate prefabricated no lead bypass shall be comprised of preformed $\frac{3}{4}$ " copper tubing, a lockable ball valve on the inlet side of the bypass and a spring actuated check valve on the outlet side of the bypass to prevent backflow through the bypass meter.

The bypass shall be elevated above the centerline of the tap bosses and no greater than 10-7/8" from the centerline of the main valve to the centerline of the bypass when installed.

Bypass pipe size for all sizes shall be $\frac{3}{4}$ " diameter.

A separate magnetic vertical turbine meter or positive displacement meter shall be available as specified by customer.

Bypasses designs shall be of a prefabricated no lead design and shipped separately from the detector check.

The bypass meters approved for this detector check bypass are the $\frac{3}{4}$ " Hersey MVR 30 magnetic vertical turbine meter or the Hersey 420 positive displacement meter. No other meters are approved.