

**TO ALL SC-LICENSED FIRE SPRINKLER CONTRACTORS, LICENSED
CONTRACTORS AND LICENSED PLUMBING CONTRACTORS**

On behalf of The Commissioners of Public Works (CPW) of The City of Charleston, SC, we would like to make you aware of a continuing situation involving the vertical installation of Double Check Valve Assemblies (DCVA) used within CPW=s service area. As you know, CPW requires **ALL** backflow prevention assemblies installed within our service area to be approved by the **UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH (USC-FCCC&HR)**, hereafter referred to as **The Foundation**,=

Over the years, we have had to fail numerous DCVA=s which were installed vertically. Without singling out any specific manufacturer, not all models or sizes have been approved for a vertical orientation by The Foundation. Although a manufacturer may advertise their product is approved for a vertical orientation, that approval is usually provided by Underwriters Laboratory, Factory Mutual, or ASSE. There is not a standard requirement for a manufacturer to obtain approval from The Foundation although most manufacturers use the Foundation’s lab and field evaluation process.

Additionally, CPW **DOES NOT APPROVE THE INSTALLATION OR USE OF THE DOUBLE CHECK DETECTOR ASSEMBLY (DCDA)**. The DCDA was designed to be used on non-metered fire sprinkler systems. The DCDA has a small bypass water meter and a 3/4" DCVA. Also, the first check valve spring of the main body is loaded considerably higher than that of a comparable DCVA, creating additional and unacceptable head-loss. During unauthorized water uses, the flow of water would be Adetected≅ by the bypass water meter. However, since the bypass included a 3/4" DCVA (with inlet and outlet shut-off valves) a customer could circumvent its intended purpose by closing one of these shut-off valves. Furthermore, since 1985 CPW has been using a dual purpose, fire-rated water meter on all fire sprinkler systems. This special water meter has a built in bypass water meter which also detects and measures low water flow.

The following list contains **ALL VERTICALLY APPROVED DCVA=S** for use within CPW=s service area based on the Foundation’s latest revision (September 16, 2003):

Ames	2000B	3/4 thru 2 inch
Ames	2000 CIV	4 thru 10 inch
Ames	Colt a & Na	2.5 thru 6 inch (NEW)
Ames	Maxim a & Na	2.5 thru 4 inch (NEW)
Conbraco	DC (4-S Series)	2.5 thru 10 inch (NEW)
Febco	850	3/4 thru 8 inch
Febco	870/870V	2.5 thru 10 inch
Watts	007	2.5, 3 inch
Watts	007M1QT	1” and 2 inch only
Watts	007M2QT	3/4 & 1.5 inch only
Watts	007M3QT	3/4 inch only
Watts	709	4 thru 10 inch
Watts	757 a & Na	2.5 thru 6 inch
Watts	767 a & Na	2.5 thru 4 inch

Watts	775QT	1/2 thru 2 inch
Wilkins	350	2.5 thru 10 inch
Wilkins	350G	2.5 thru 6 inch
Wilkins	450	2.5 thru 10 inch
Wilkins	950G	4 & 6 inch
Wilkins	950	4 thru 8 inch
Wilkins	950XL	3/4 inch
Wilkins	950XLD	3/4 inch

If the majority of licensed contractors & plumbers were aware of this requirement prior to bidding a job, the vast majority of near-completion discrepancies could be avoided at a job site.

Equally important is the Foundation requirement to use only those inlet/outlet valves that were a part of the assembly when it was evaluated and approved by the Foundation. As an example, the Febco 4-inch 850 was approved using ONLY the following gate valves: AVK series NRS or OS&Y, Kennedy Ken Seal I or II, American Flow Control (Waterous) Series 500, or the Kennedy Ken Seal II Post Indicator/Tapping Valve. Therefore, if the contractor purchases a “device” (without the Foundation-approved gate valves) and separately purchases a set of Clow, Mueller, Apollo or any other valve, CPW has no alternative but to disapprove & fail the installation since the use of incorrect gate valves invalidates the USC Approval.

Please feel free to call any CPW Cross-Connection Control Associate if we can offer further technical assistance in the selection for Foundation-approved assemblies.

Sincerely,

THE COMMISSIONERS OF PUBLIC WORKS

Dale Strong,
 Cross-Connection Manager
 November 13, 2000

xc: CPW Web Master
 Design & Construction Department
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