Rev 1
July 2, 2025

Excess Flow Check Valves

A-165, A-168 Installation, Operation, & Maintenance Instructions

CAUTION: IMPORTANT SAFEGUARDS

Midland valves are used in connection with a variety of products, many of which are hazardous materials and could cause serious injury or damage. Always use extreme caution and proper equipment when involved with hazardous materials. The valve should only be handled by qualified personnel. Read the instructions carefully before proceeding.

SAVE THESE INSTRUCTIONS!

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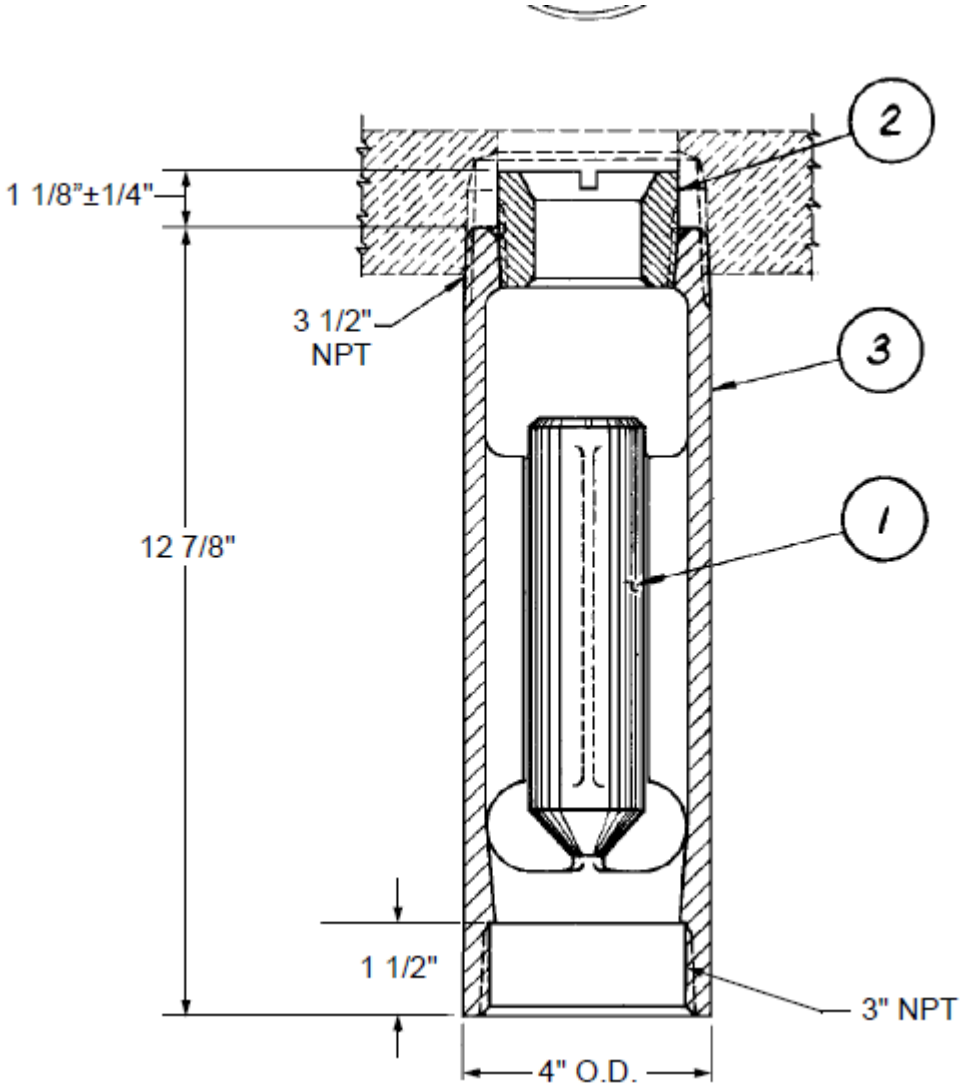

ITEM NO.	QTY.	PART NAME	A-165		A-168	
			MATERIAL	PART NO.	MATERIAL	PART NO.
1	1	FLOAT	STEEL	164-1-CS	STAINLESS	167-1-SS
2	1	PLUG(1)	STEEL	164-2-CS	STAINLESS(2)	167-2-SS
3	1	BODY	STEEL	165-3-CS	STAINLESS	168-3-SS

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Function

It should be fully understood by all users of the restricted usefulness and purpose of excess flow check valves (abbreviated as EFCV). They can be relied upon to close only when the outward flow through the valve exceeds a predetermined amount of product.

WARNING: Valve Misuse EFCV valves are not to be used to protect against product loss during loading or unloading in the event of a line rupture.

Valves designed for line rupture protection are available. These valves provide manual, remote, and thermally activated shut off capability. All operating personnel should be alerted to this limitation of EFCV. In railroad tank car operation, EFCV serve only to protect the tank in the event the exterior valves are compromised.

Operation

1. As stated in the preceding paragraph, the EFCV has a flow rated capacity (subject to a variation or tolerance due to many factors). Most EFCV are equipped with a bypass, so that product will still flow through the valve when it has checked. The bypass is designed into the valve to permit pressure to equalize above and below the float when the valve downstream is closed off, thus enabling the float of the EFCV to unseat. Therefore, it is never safe to remove a valve directly above an EFCV, unless some flow of discharging product can be safely handled.

2. In a derailment accident, where tank cars are rolled over, the gravity actuated float in the EFVC will probably close below the rated capacity of the EFCV because the flow rate capacity is established when the valve is vertical and flow is upward.

Installation

NOTE: Conform to all regulations and your company's installation instructions. It is not the intention of this pamphlet to conflict with or supersede these requirements.

1. If the valve has been disassembled during the installation procedure, it is critical that the float be put back into the valve body in the correct orientation. The top of the float is flat across, with a small (about 1/8" x 45°) chamfer on the O.D. to mate with the valve's seat.

2. Be sure the float will slide freely up and down in the valve body. If the float had been taken out of the valve, inspect it to see that there are no burrs, nicks or gouges on the exterior guiding surfaces that could restrict the free movement of the float.

3. When welding the valve into its mounting, be careful not to get weld splatter on the inside of the valve body. Also, do not permit the valve body to become distorted when welding it in place.

4. If the valve has a removable seat, the valve seat should be tightened down so that it does not become disengaged in transit. Tighten the seat down securely. Midland has a wrench available to tighten down the seat.

Maintenance

1. Remove the plug from the body (using T-312-CS wrench), then remove the float.
2. Body inspection
    a. Clean the interior of the body and
    b. Clean the threads.
    c. Inspect the 3 1/2” NPT male body threads.
        1. Ensure the threads are full and not worn or damaged.
        2. Check with a 3 1/2” NPT ring gauge
    a. Inspect the female 2 ½” NPT female body threads
        1. Ensure the threads are full and not worn.
        2. Check with a 2 ½” NPT plug gauge
    b. Inspect the 3” NPT male threads
        1. Ensure the threads are full and not worn or damaged.
        2. Check with a 3 1/2” NPT ring gauge

    If the body does not meet any of the above criteria, the entire valve must be replaced.

3. Plug
    a. Clean the threads
    b. Visually check the threads to ensure they a full and not corroded.

c. Check with 2 ½” ring gauge.

If the plug does not meet the above criteria, replace it with new.

4. Float
    a. The float should move freely in the body.
        1. The float surfaces should be smooth. If there are burs on the float they may be buffed out.

    If the float does not meet the above criteria, replace it with new.

5. Assembly
    a. On the coupling end of the body, wrap the 2 ½” NPT threads with Teflon. Minimum 2 wraps.
    b. Place the float in the body, with the point of the float put in the body first.
    c. Plug installation:
        1. Carbon steel valves require lubrication. Use lubricant with PFPE (perfluoropolyether) grease (examples include, but not limited to Krytox GLP204, Fluorolube GR-290). Screw the coupling onto the body.
        2. Stainless steel valves require Teflon Tape on the threads with a minimum of two wraps in addition to the grease.
        3. Start threading the plug into the body by hand. The Midland T-312-CS wrench may be used to engage the plug to tool-tight.
    d. Assembly complete.

NOTICES AND WARRANTY

Midland Excess Flow Check Valves are used in a variety of products, many of which are hazardous materials. The acceptance and transportation of the products are regulated by the DOT and AAR in the U.S.A., and in Canada by the CTC and Transport Canada, as well as other governmental bodies, particularly when used in stationary applications. All personnel should be familiar with and follow these regulations. Nothing in this pamphlet is intended to conflict with or supersede these regulations.

Obtaining Product Drawings

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Assembly drawings of Midland Excess Flow Check Valves are available at no charge, and will be mailed upon request. Address any questions concerning valve maintenance or usage to the Engineering Dept., Midland Manufacturing Corp. The information contained herein is thought to be reliable. It was gathered from knowledgeable sources, but Midland Manufacturing Corp. makes no representations or guarantees about its accuracy or completeness and assumes no liability for this information.

Warranty

Midland warrants the products of its own manufacture to be free of defects in material and workmanship, for a period of 1 year from the date of the invoice. Furnished materials and accessories purchased from other manufacturers are warranted only by and to the extent of those manufacturers' warranties, if any.

MIDLAND MAKES NO WARRANTY OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, OTHER THAN AS SPECIFICALLY STATED HERE MIDLAND MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR USE. Midland's obligation under this warranty is strictly limited, at its option, to 1) repair or replacement at its factory of a like quantity of product: 2) refunding to purchaser money paid to Midland for its product: or 3) issuance of written authorization for the Purchaser to repair or replace, at costs comparable to Midland's normal manufacturing costs those parts proven defective, provided that Purchaser has given to Midland immediate notice upon discovery of such defect Merchandise claimed to be defective shall not be returned without first obtaining Midland's written consent. The undertaking of repair or replacement by the Purchaser, or its agents, without Midland's written consent, shall void Midland's warranty and relieve Midland of all responsibility. Under no circumstances shall Midland be liable for any direct, incidental, consequential or other damages of any kind in connection with the installation, operation, maintenance, repair, inspection or other use of any product purchased from it.

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