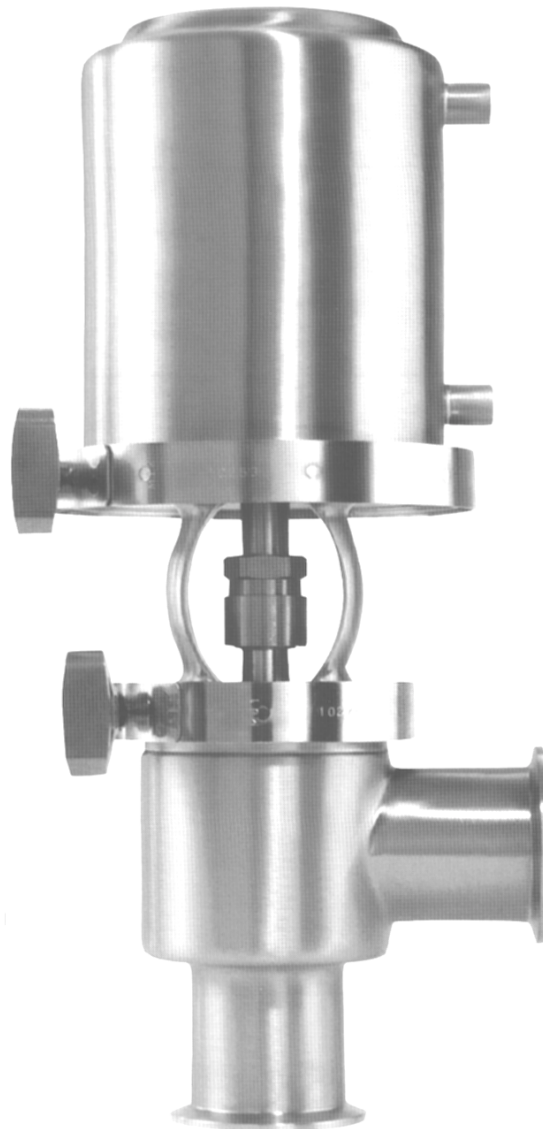




**Waukesha
Cherry-Burrell**



Flowmaster™ K67/K69 Series Sanitary Air-Actuated Valve

**OPERATION
MAINTENANCE
& PARTS LIST**

GENERAL INSTRUCTIONS

DISASSEMBLY AND REASSEMBLY

This manual contains disassembly and reassembly instructions with parts lists for the Series K67/K69 FLOWMASTER™ Sanitary Air Actuated Valves. The Series K67/K69 valves are designed for use as shut off or divert valves. For further information, refer to catalog F7902.

WARNING

Keep hands away from valve coupling and upper body when applying or releasing air. The actuator stem assembly may move with extreme force and suddenness when air pressure is applied or released.

Make sure all valve bodies are mated properly before securing with clamps. Tighten all clamps securely to assure proper alignment.

When disassembling and assembling valve, bench area should be clean to prevent damage to valve seats.

Valve Disassembly - Models K67 and K69 with type **AL** actuator. (See Figure 1.)

1. Remove body clamp, lower body and O-ring.
2. Apply air to actuator. (See Figure 2.)
3. Lift sleeve on coupling unit and remove valve stem and remove O-ring from valve stem. (See Figure 3.)
4. Release air supply.
5. Remove actuator clamp and upper body.

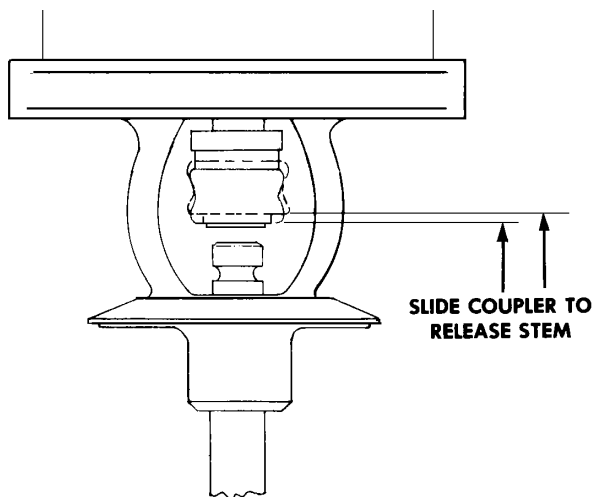


FIGURE 3. COUPLER RELEASE

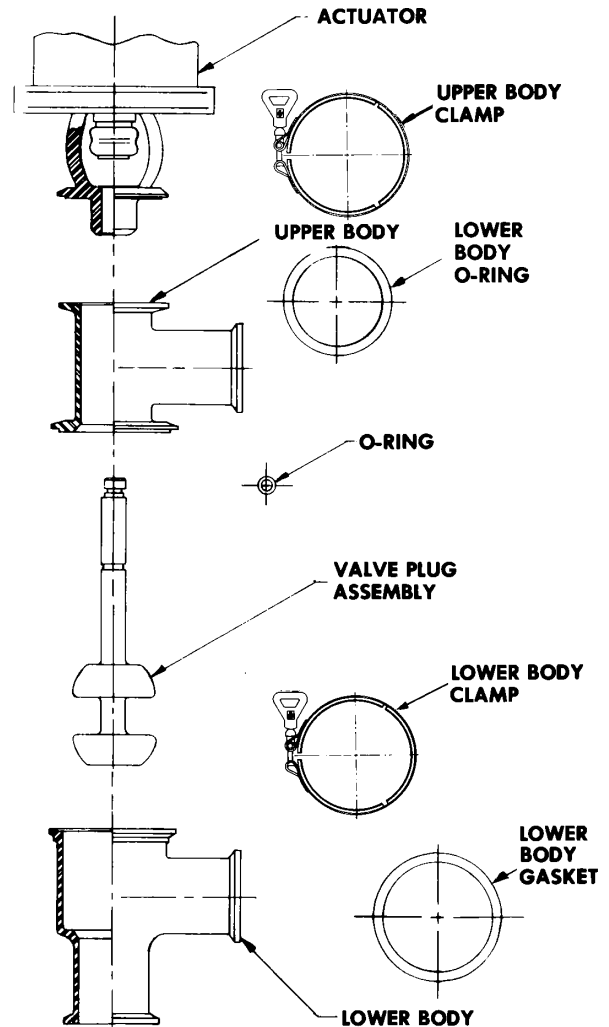


FIGURE 1. VALVE ASSEMBLY

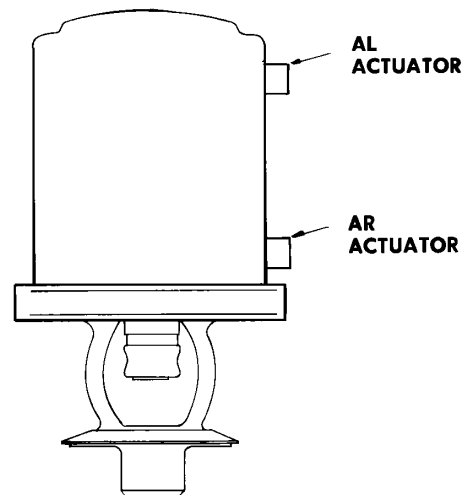


FIGURE 2. AIR CONNECTIONS

GENERAL INSTRUCTIONS

Valve Assembly

1. Clamp actuator to upper body with actuator clamp.
2. Install O-ring on valve stem.
3. Apply air supply to actuator, lift sleeve on coupling unit and insert stem into coupling unit. Release coupling sleeve and air supply.
4. Replace O-ring, lower body and body clamp.

Valve Disassembly (Models K67 and K69 with type **AR** actuator). (See Figure 1.)

1. Apply air to actuator.
2. Remove body clamp, lower body and O-ring.
3. Release air supply, lift sleeve on coupling unit and remove valve stem. Remove O-ring from valve stem.
4. Remove actuator clamp and upper body.

Valve Reassembly

1. Connect actuator to upper body with actuator clamp and install O-ring on valve stem.
2. Lift sleeve on coupling unit, insert valve stem into coupling and release sleeve.
3. Apply air to actuator. Replace lower body O-ring and body clamp. Release air supply.

INSPECTION PROCEDURE

- Carefully examine the hard rubber valve plug seats for signs of cracking, checking, or excessive wear.
- Inspect the valve stem and stem bore in valve upper body or bonnet for signs of galling.
- Inspect the valve seats in the valve bodies for nicks, scratches and other irregularities that can damage the hard rubber valve seat.
- Examine the gaskets used at the port connections and body O-rings for cuts, abrasions or other damage that could cause leakage or ineffective cleaning.
- Carefully examine the stem O-ring for cuts, abrasions or damage that would allow leakage or ineffective cleaning.
- Check the coupler to see that the balls are in place and move freely when the coupler sleeve is raised. If replacement is required, see Actuator Service Bulletin.
- Inspect all air lines and fittings for leaks and tighten where necessary. Replace worn or damaged parts.
- Operate each valve after assembly to be sure it functions correctly.

PARTS LIST

The exploded views (Figures 4 and 5) and parts list should be used to order replacement parts. All parts shown are keyed to the parts list.

All orders for repair parts must contain the following data:

1. Complete model number (located on actuator name plate) including size.
2. Valve serial number (located on nameplate).
3. Description and part number (from the parts list).

HOW TO ORDER PARTS

By Phone

Telephone your repair parts or fittings order to your Distributor.

To speed your order and avoid delays, please have your **equipment model** and **serial number** and the **part numbers** from the parts list before you call your Distributor.

If you do not know your Distributors number, call Waukesha Cherry-Burrell Customer Service at:

Phone: **800-252-5200 or 414-728-1900**

Fax: **800-252-5012 or 414-728-4904**

Your call will be directed to a specialist who can provide you with Distributor information for your area.

How to Return Parts

Parts may be returned for credit, subject to the conditions of our return goods policy. To obtain authorization to return a part, contact your Distributor.

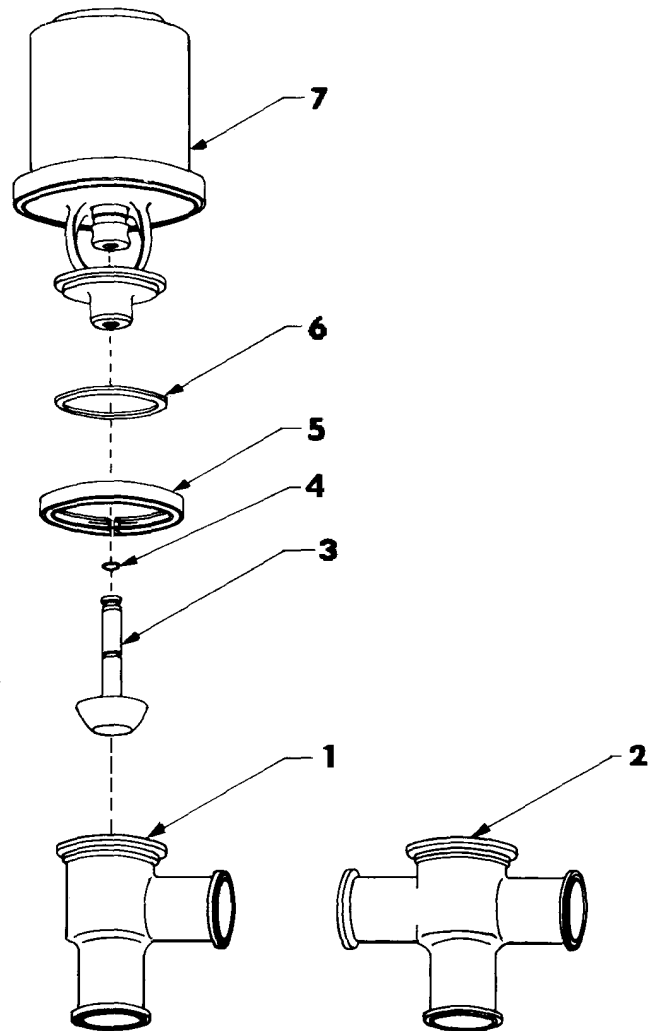
Please give the following information:

- Invoice number and date
- Quantity
- Part Number (from parts list)
- Exact reason for return

Your Distributor will provide a Return Goods Authorization. (*Returns will not be accepted without advance authorization.*)

FIGURE 4. PARTS LIST FOR SHUT-OFF VALVES

ITEM	DESCRIPTION	SIZE	PART NO.
1	*VALVE BODY - TEE K67	1	212-392X
		1-1/2	212-273X
		2	212-274X
		2-1/2	212-275X
		3	212-276X
2	* VALVE BODY - CROSS K69	1	212-393X
		1-1/2	212-277X
		2	212-278X
		2-1/2	212-279X
		3	212-280X
3	VALVE PLUG ASSEMBLY (Teflon Seats)	1	262-374X
		1-1/2	262-374X
		2	262-375X
		2-1/2	262-376X
		3	262-377X
	Replacement Teflon Seats	1	20-240
		1-1/2	20-240
		2	20-241
		2-1/2	20-242
		3	20-243
4	O-RING-VALVE PLUG STEM	1	9-57
		1-1/2	9-57
		2	9-57
		2-1/2	9-57
		3	9-57
5	BODY CLAMP	1	119-63
		1-1/2	119-63
		2	119-64
		2-1/2	119-65
		3	119-66
6	BODY O-RING	1	9-49
		1-1/2	9-49
		2	9-50
		2-1/2	9-51
		3	9-52
4	9-56		



7 Actuators*

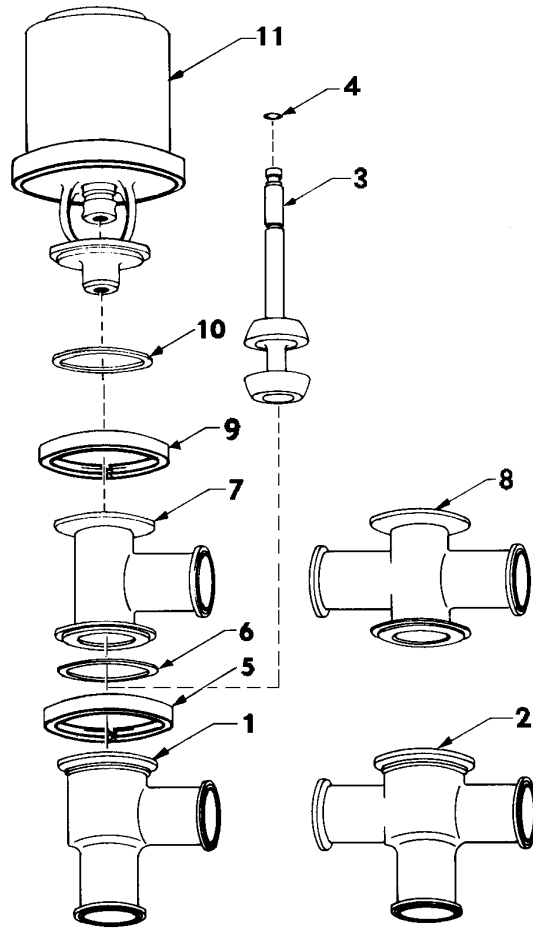
Shut-Off Valves	1-1 /2	2	2-1 /2	3	4
K67-AR	256-37	256-124	256-125	256-126	256-26
K67-AL	256-37A	256-124A	256-125A	256-126A	256-26A
K67-AA	256-37R	256-124R	256-125R	256-126R	256-26R
K67-AR-MSW	256-133	256-134	256-135	256-136	256-137
K67-AL-MSW	256-133A	256-134A	256-135A	256-136A	256-137A
K67-AA-MSW	256-133R	256-134R	256-135R	256-136R	256-137R

*Legend: **AR** - Air to raise **AL** - Air to Lower **AA** - Air to Air
AR-MSW Air to Raise/2 Micro Switches
AL-MSW - Air to Lower/Micro Switches
AA-MSW - Air to Air/Micro Switches

FIGURE 5. PARTS LIST FOR DIVERT VALVES

ITEM	DESCRIPTION	SIZE	PART NO.
1	*LOWER VALVE BODY K67-7 K67-9	1	212-392X
		1-1/2	212-273X
		2	212-274X
		2-1/2	212-275X
		3	212-276X
2	*LOWER VALVE BODY CROSS K69-7 K69-9	1	212-393X
		1-1/2	212-277X
		2	212-278X
		2-1/2	212-279X
		3	212-280X
3	VALVE PLUG ASSEMBLY (Teflon Seats)	1	262-380X
		1-1/2	262-380X
		2	262-381X
		2-1/2	262-382X
		3	262-383X
	Replacement Teflon Seats	1	20-240
		1-1/2	20-240
		2	20-241
		2-1/2	20-242
		3	20-243
4	O-RING-VALVE PLUG STEM	1	9-57
		1-1/2	9-57
		2	9-57
		2-1/2	9-57
		3	9-57
5	BODY CLAMP-LOWER	1	119-63
		1-1/2	119-63
		2	119-64
		2-1/2	119-65
		3	119-66
6	BODY O-RING-LOWER	1	9-49
		1-1/2	9-49
		2	9-50
		2-1/2	9-51
		3	9-52
7	*UPPER VALVE BODY - TEE K69-7 K69-7	1	212-416X
		1-1/2	212-281X
		2	212-282X
		2-1/2	212-283X
		3	212-284X
8	*UPPER VALVE BODY-CROSS K67-9 K69-9	1	212-417X
		1-1/2	212-285X
		2	212-286X
		2-1/2	212-287X
		3	212-288X
		4	212-449X
		4	212-450X

ITEM	DESCRIPTION	SIZE	PART NO.
9	BODY CLAMP UPPER	1	119-62
		1-1/2	119-62
		2	119-62
		2-1/2	119-63
		3	119-64
10	BODY O-RING-UPPER	1	9-53
		1-1/2	9-53
		2	9-54
		2-1/2	9-49
		3	9-50
		4	9-56



11 Actuators*

Divert Valves	1-1/2	2	2-1/2	3	4
K67-7-AR	256-24	256-1	256-123	256-124	256-36
K67-7-AL	256-24A	256-1A	256-123A	256-124A	256-36A
K67-7-AA	256-24R	256-1R	256-123R	256-124R	256-36R
K67-7-AR-MSW	256-128	256-129	256-130	256-131	256-132
K67-7-AL-MSW	256-128A	256-129A	256-130A	256-131A	256-132A
K67-7-AA-MSW	256-128R	256-129R	256-130R	256-131 R	256-132R

*Legend: **AR** - Air to raise **AL** - Air to Lower **AA** - Air to Air
AR-MSW Air to Raise/2 Micro Switches
AL-MSW - Air to Lower/2 Micro Switches
AA-MSW - Air to Air/2 Micro Switches

AIR ACTUATOR for FLOWMASTER™ AIR ACTUATED VALVE-SERIES K67/K69

GENERAL

Air actuators are available in three types:

AR - Air to open, Spring to close.

AL - Air to close, Spring to open.

AA - Air to air.

This air actuator is designed for years of maintenance-free service. The need for service will probably be limited to drawing water accumulated from air lines, lubricating seats or reversing the spring action.

ACTUATOR DISASSEMBLY

Select a clean open work space and then follow these steps:

1. Remove actuator clamp (3). Note that the caged spring assembly (9) is compressed 1/8" which will cause a quick short movement. Use of end pressure on the actuator in a drill press may be desirable when removing clamp.
2. Remove the actuator cylinder (1) from piston (6).
3. Disassemble the actuator stem group using open end wrenches. Note: Wrench flats are on the hex nut (4), connector (18) and actuator stem (11) near the piston.
4. Removal of stem bushing (14) may not be necessary. If required, use ring pliers on retaining ring (12) and carefully slide bushing from bonnet (17).
5. Carefully remove seals and O-rings. Check for excessive wear, cuts or breaks.
6. Check all moving parts for wear or scratches. Check the connector for free movement of locking sleeve and bearings. Inspect air connections for leaks.

ACTUATOR ASSEMBLY

1. Lubricate* and assemble all O-rings and seals. Note proper direction of piston seals (7) and stem seal (13) as shown in drawing on reverse side.
**STP or equal is recommended. (STP is registered trademark of S.T.P. Corporation.)*
2. Assemble stem bushing (14) and retaining ring (12).
3. Assemble actuator stem group. Note the location of connector (18) during assembly. Tighten parts securely.
4. Check all parts for free movement.
5. Install piston unit in actuator cylinder (1). Compress the actuator assembly in a small drill press approximately 1/8" and install the actuator clamp (3).

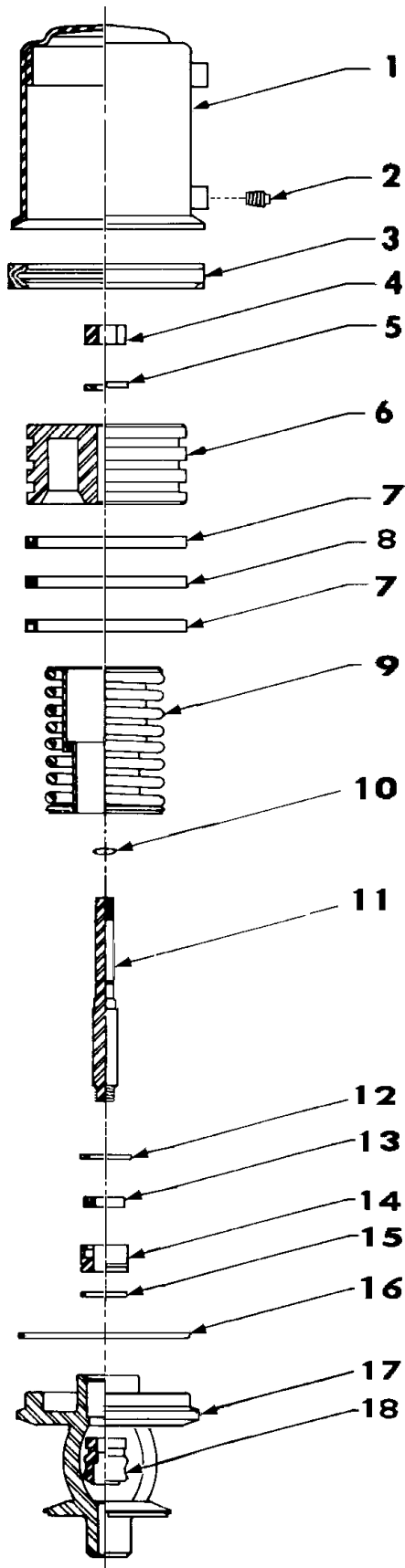
NOTE: To convert the **AL** type actuator (shown in Figure 1) to the **AR** type actuator: reverse the piston (6) and place the spring assembly (9) above the piston (6). The **AA** type actuator requires the removal of spring assembly (9) and vented plug (2).

ORDERING PARTS

All orders for repair parts must contain the following:

1. Complete model number (see nameplate).
2. Serial number (nameplate).
3. Part number and description from parts list (see reverse side).

FIGURE 6. AIR ACTUATOR REPAIR PARTS - SERIES K67/K69



ITEM	DESCRIPTION	PART NO.	
		1" - 3"	4"
1	ACTUATOR CYLINDER	156-1	156-26
2	VENTED PLUG	78-8	78-8
3	ACTUATOR CLAMP	119-60	119-71
4	NUT	36-38	36-46
5	LOCK WASHER	43-16	43-35
6	PISTON	58-10	58-14
* 7	PISTON SEAL (2 REQUIRED)	57-3	57-4
* 8	FELT OIL RING	57-1	57-6
9	SPRING ASSEMBLY 1" - 2-1/2"	124-10	124-21
9	SPRING ASSEMBLY 3"	124-59	-
*10	O-RING	9-6	9-59
11	ACTUATOR STEM	62-29	62-65
12	RETAINER RING	43-17	43-36
*13	STEM SEAL	57-2	57-5
*14	STEM BUSHING	23-6	23-25
*15	O-RING	9-32	9-73
*16	O-RING	9-33	9-58
17	BONNET-SHUT OFF 1" - 1-1/2"	52-21X	52-56X
17	BONNET-SHUT OFF 2"	52-22X	-
17	BONNET-SHUT OFF 2-1/2"	52-23X	-
17	BONNET-SHUT OFF 3"	52-24X	-
17	BONNET-DIVERT 1" - 1-1/2"	52-55X	52-59X
17	BONNET-DIVERT 2"	52-25X	-
17	BONNET-DIVERT 2-1/2"	52-21X	-
17	BONNET-DIVERT 3"	52-22X	-
18	CONNECTOR 1" - 3"	62-30	62-64

*Recommended Spare Parts

WAUKESHA CHERRY-BURRELL WARRANTY

Seller warrants its products to be free from defects in materials and workmanship for a period of one (1) year from the date of shipment. This warranty shall not apply to products which require repair or replacement due to normal wear and tear or to products which are subjected to accident, misuse or improper maintenance. This warranty extends only to the original Buyer. Products manufactured by others but furnished by Seller are exempted from this warranty and are limited to the original manufacturer's warranty.

Seller's sole obligation under this warranty shall be to repair or replace any products that Seller determines, in its discretion, to be defective. Seller reserves the right either to inspect the products in the field or to request their prepaid return to Seller. Seller shall not be responsible for any transportation charges, duty, taxes, freight, labor or other costs. The cost of removing and/or installing products which have been repaired or replaced shall be at Buyer's expense.

SELLER EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE. THE FOREGOING SETS FORTH SELLER'S ENTIRE AND EXCLUSIVE LIABILITY, AND BUYER'S EXCLUSIVE AND SOLE REMEDY, FOR ANY CLAIM OF DAMAGES IN CONNECTION WITH THE SALE OF THE PRODUCTS. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY SPECIAL CONSEQUENTIAL INCIDENTAL OR INDIRECT DAMAGES (INCLUDING WITHOUT LIMITATION ATTORNEYS' FEES AND EXPENSES), NOR SHALL SELLER BE LIABLE FOR ANY LOSS OF PROFIT OR MATERIAL ARISING OUT OF OR RELATING TO THE SALE OR OPERATION OF THE PRODUCTS WHETHER BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE.



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