LIMITED WARRANTY

The UMAC Excess Flow Valve (EFV) is manufactured by GasBreaker according to its specifications. The manufacturer agrees to supply a replacement for any product which fails to function correctly under normal conditions and after proper installation. Such warranty is limited exclusively to the sale price of any UMAC EFV which has been proven defective in such circumstances and excludes, without limitation, all costs and expenses of any kind relating to the testing, removal or replacement of EFVs. THE REMEDY HEREBY PROVIDED SHALL BE THE EXCLUSIVE AND SOLE REMEDY OF BUYER, AND NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY IS MADE WITH RESPECT TO THE UMAC EFV OR ANY GasBreaker PRODUCT. In no event shall GasBreaker be liable for any loss, damage, expenses, direct or consequential, arising out of the installation or use of this product, including, without limitation, claims made by persons other than the direct purchaser of this product, and claims for loss of profits, business interruption, property damage or personal injury.

Manufactured By:

GasBreaker™

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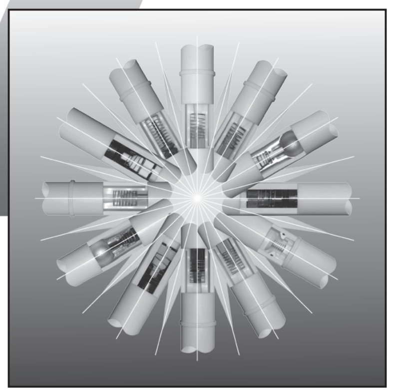
REVISED 09/14

IMPORTANT INSTALLATION NOTICE

The UMAC Excess Flow® Valve ("EFV") is a precision instrument requiring particular care in installation. Failure to observe the following warnings can result in defective installation that will destroy or impair the effectiveness of the EFV. **FAILURE TO READ AND FOLLOW INSTRUCTIONS CAREFULLY BEFORE INSTALLING OR OPERATING COULD CAUSE PERSONAL INJURY, PROPERTY DAMAGE, OR EVEN RESULT IN DEATH.**

GasBreaker™



GENERAL - ALL MODELS

1. The arrow on the EFV must always be pointed in the same direction as the flow of gas in the pipe. The EFV will not function if it is installed against the flow of gas. It is essential that the direction of the arrow on the EFV be pointed in the same direction as the flow of gas.
2. Do not allow dirt or other contaminants to get into the EFV. Dirt, stones, liquid, plastic shavings or other contaminants may cause the EFV to malfunction. Keep the EFV out of dirt and keep the protective packaging on until the EFV is to be joined to the line.
3. No customer modifications can be made to standard EFV models supplied by GasBreaker.
4. All EFVs supplied can be pressure tested to DOT Code 192 requirements for maximum allowable operating pressure (MAOP).
5. Do not install tubing with a bend radius under the minimum cold bending radius allowed by the tubing manufacturer.
6. For EFVs supplied with mechanical fittings (compression, stab or crimp type) please refer to the specific fitting manufacturer's installation instructions.
7. The EFV must be properly sized for the minimum design pressure of the system, the length and diameter of the service line and the maximum anticipated customer load (SCFH). Consult GasBreaker for the Performance Characteristics and Maximum Recommended Length of Service to be used with the EFV.
8. If the EFV is not properly sized, flow to the customer may be restricted and/or the EFV may not close if the service line is ruptured downstream.
9. The EFV may be back pressure tested.
10. Perform functional flow test as directed on reverse side.

PLASTIC (PE) MODELS

1. UMAC Model 32 - All EFVs supplied in plain and polyethylene tubing must be fabricated in the field with mechanical couplings or butt fused into place to prevent movement of the internal EFV body. This model may not be socket fused or electro-fused in the field.
2. UMAC Model 41 - May be installed by any field method.
3. Protection sleeves must be used to eliminate stress risers at fitting connections.

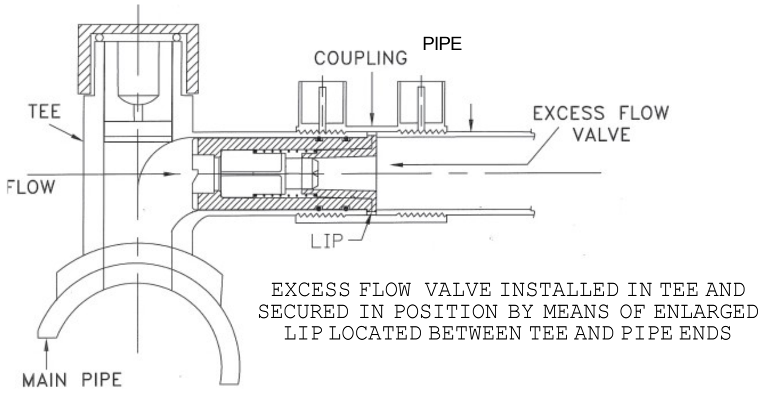
STEEL AND STEEL-TO-PLASTIC (PE) MODELS

1. All Models - Do not cut or shorten EFV (Pipe).
2. Threaded End Models - Wrench EFV only where marked - Do not wrench between indentations (crimps).
3. Compression End Models - Lock type compression fittings are required on the inlet end of the EFV
4. Welded End Models - Keep welding flame at the ends of EFV. Careless application of flame to the center of the EFV could cause the mechanism to melt. Wet Rag procedures must be followed on all weld installations.

"LIP" TYPE EFV FOR INSERTION INTO TEE FOR ELECTROFUSION

(Refer to Figure Below)

1. Ensure that the Electrofusion Tee outlet is square and has an internal chamfer maximum 1/8" (3mm) length at 15 degrees.
2. Lubricate the EFV 'O'-rings with soap solution or non-petroleum based lubricant.
3. Install the EFV into the end of the Tee outlet until the "LIP" meets the square end of the Tee.
4. Insert the appropriate electrofusion fitting onto the tee outlet and fuse in line, following the manufacturer's normal instructions. Insert the P.E. service pipe into the fitting and fuse per the manufacturer's instructions.



EXCESS FLOW VALVE INSTALLED IN TEE AND SECURED IN POSITION BY MEANS OF ENLARGED LIP LOCATED BETWEEN TEE AND PIPE ENDS

FUNCTIONAL FLOW TEST, COMMISSIONING, AND RESET INSTRUCTIONS FOR AUTOMATIC RESET BLEED-BY MODELS (EFVB)

(Figure 1)

Functional Flow Test

1. Close downstream Manual Meter Stop Valve B and disconnect union between Valve and Service Regulator.
2. Pressurize service line up to Stop Valve B
3. Rapidly open Stop Valve to exhaust pressure. This excessive surge in flow will actuate EFV if properly installed.
4. After actuation, close Stop Valve B
5. Reconnect union between Stop Valve B and Service Regulator
6. Proceed with the commissioning steps as follows:

Commissioning a new valve installation:

1. Close downstream Manual Meter Stop Valve B
2. Slowly pressurize inlet side of UMAC EFV A. Allow pressure to equalize across the EFV.
3. Please see chart 1 for Pressure Equalization Reset Times.
4. Make sure all connections downstream of valve B are secure and fully gas tight.
5. SLOWLY open valve B to initiate gas service to the customer. Opening valve B quickly may cause the UMAC EFV valve to close prematurely in which case you must repeat steps 1 thru 3.

Resetting an existing valve after closure: *(Figure 1)*

1. Repair all damage to service line downstream of UMAC EFV A location. All downstream piping must be made gas tight.
2. Close all valves downstream of UMAC EFV A.
3. Please see chart 1 for Pressure Equalization Reset Times.
4. SLOWLY open valve B downstream of UMAC EFV A to initiate gas service to the customer. Opening valve B quickly may cause the UMAC EFV to close prematurely in which case you must repeat steps 2 and 3.
5. The UMAC EFV may be back pressure tested.

Figure 1

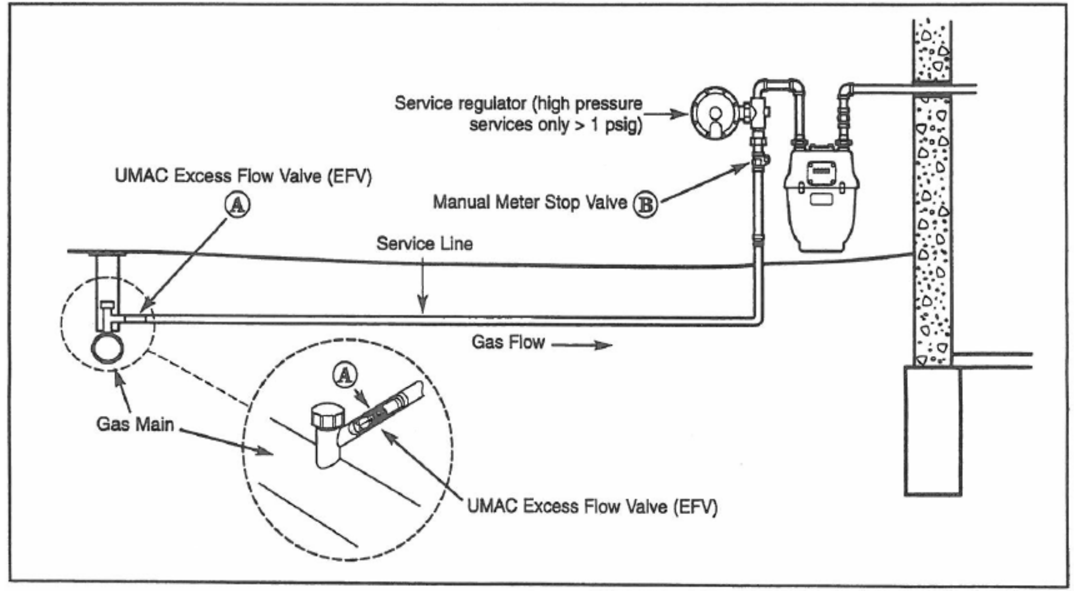


Chart 1 - Pressure Equalization Reset Times in Minutes

Inlet Pressure (psi)	Service Length (ft)	1/2" CTS	1/2" IPS - 3/4" CTS	3/4" IPS - 1"CTS	1" IPS	1-1/4" IPS	1-1/2" IPS	2" IPS
10	1-100	1	2	3	3	5	7	11
	101-200	1	3	5	6	10	14	22
50	1-100	2	4	6	7	12	17	27
	101-200	3	7	11	14	24	33	54
100	1-100	2	4	6	7	12	17	27
	101-200	3	7	11	14	24	33	54
150	1-100	2	3	5	6	11	14	23
	101-200	3	6	10	12	21	28	46

*For service lengths longer than 200 ft. - consult factory.