



Con Edison **TECO FireBag®**

Thermal Activated Shut-Off (TAS) Installation & Training Course

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Agenda

- Product Overview
 - F&B's
 - Testing
- Industry Safety Devices
 - Fire Safety Facts
- Installation Instructions
 - Operations Video
 - Con Edison Drawings
 - Trouble Shooting
- Question & Answers



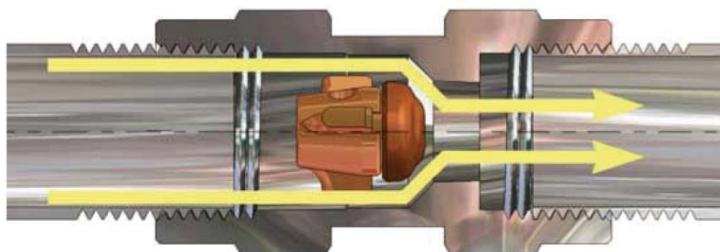


Product Summary



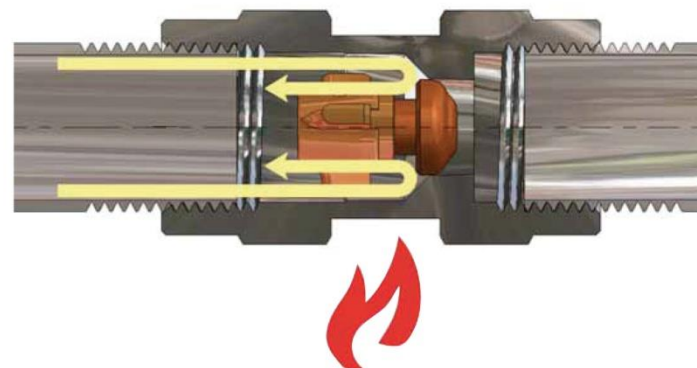
FIREBAG®

Inactive = $T < 95^{\circ}\text{C}$



FIREBAG®

Active = $T > 100^{\circ}\text{C}$



- **TECO FireBag®** : Thermal Activated Shut-off (TAS) to stop the flow of natural gas, propane or butane in the unfortunate event of a fire.
- **How the FireBag® works:** When exposed to fire and the TAS reaches 212°F , a thermal alloy metal and spring will release and drive a shuttle cock; stopping the flow of gas for at least 60 minutes at a temperature of $1,697^{\circ}\text{F}$.





TECO FireBag® Features

Maximum Pressure
100 PSI (NPT) MAOP

Temperature Range
-40°F to 176°F

Housing and Finishing
Zinc-plated steel

Set-off Temperature
203°F to 212°F

Heat Resistance

1,697°F for 60 minutes at 72.5 PSI (NPT) per DIN 3586

Can be installed Indoors and Outdoors in any direction – horizontal, vertical or oblique





TECO FireBag®

Testing and Certifications

- Designed to meet and exceed **German DIN 3586** testing standards for thermal safety device for gas appliances.
- Tested and certified by **Gas Technology Institute (GTI)** (Independent - 2011) (OTD - 2019)
- Approved for use by **Massachusetts Department of Public Utilities (DPU)** – Installation and Design of Automatic Gas Shut Off Devices G.L c. 164, § 75A (2012)
- Approved for use under **CMR 248, Mass Fuel Gas & Plumbing Code** (2011)
- **Con Edison** – Independent testing by Fire Alliance based on **NYC Fire Department Code (2019)**
- **CSA** – Developing Testing Documents (2019)





Examples of Safety Devices

- In Dwelling Applications:
 - Smoke Detectors
 - Carbon Monoxide Detectors
 - Methane Detectors
- Utility Applications:
 - Excess Flow Valves (EFV)
 - **Thermal Activated Shut Off Valves (TAS)**
 - Over Pressure Detection Shut Offs



Increased Redundancy Builds Improved Safety

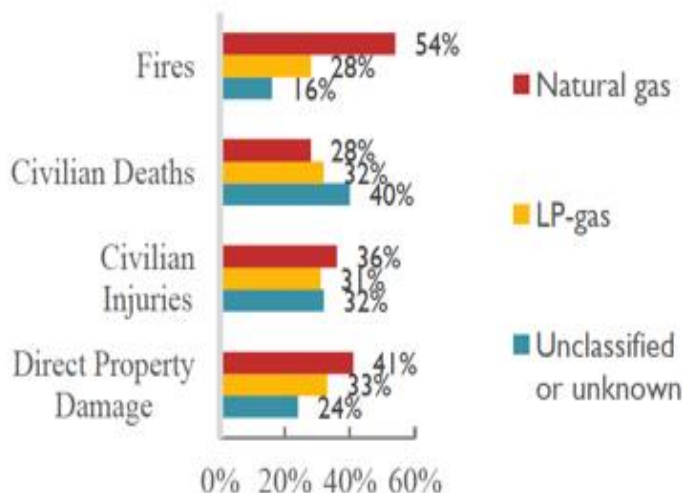




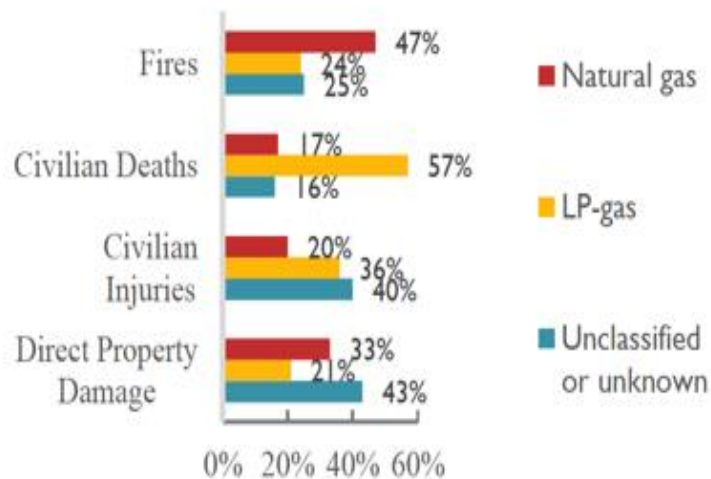
Fire Fact Sheet



Home Structure Fires Involving Flammable Gas

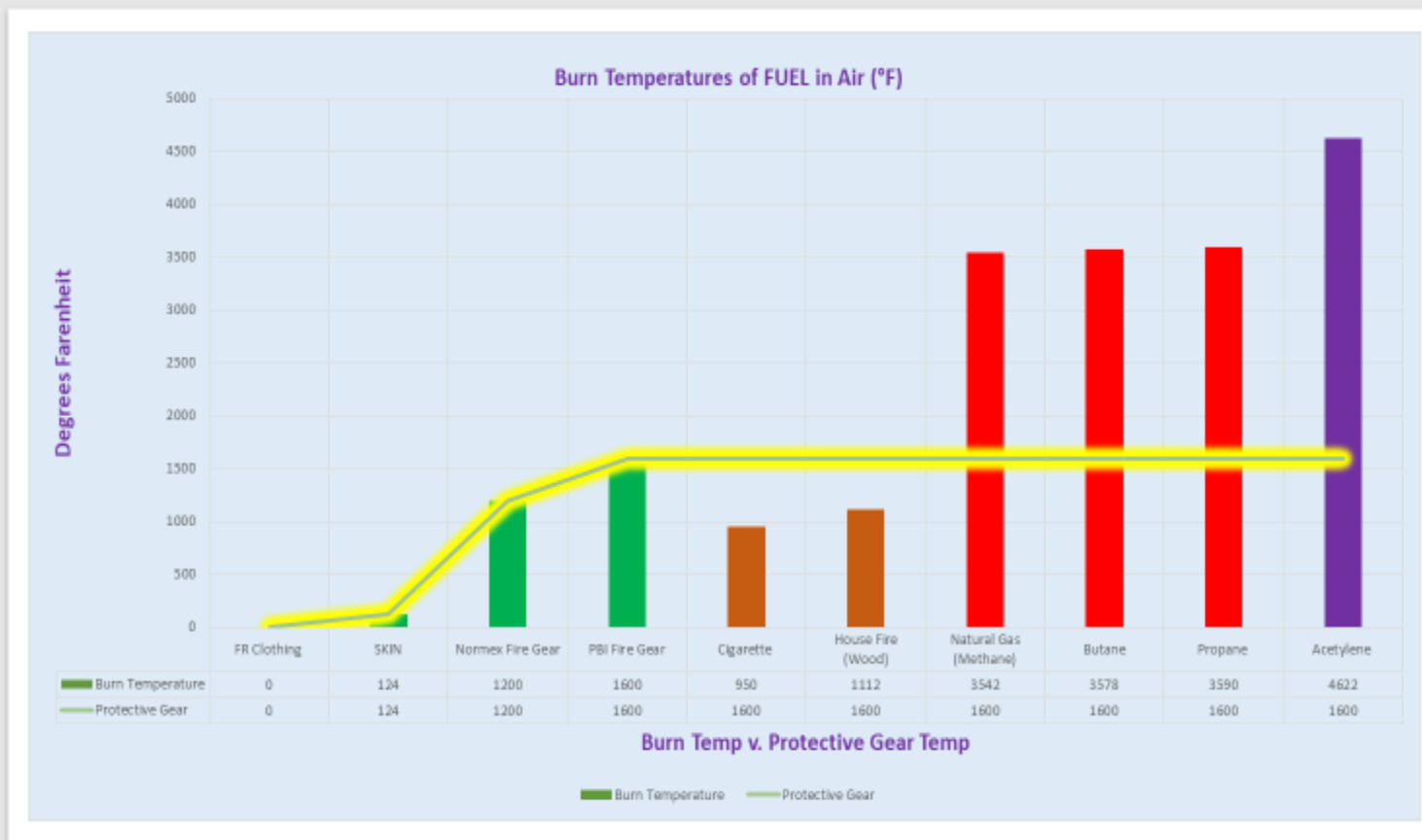


Non-Home Structure Fires Involving Flammable Gas





First Responder Exposure Temperatures

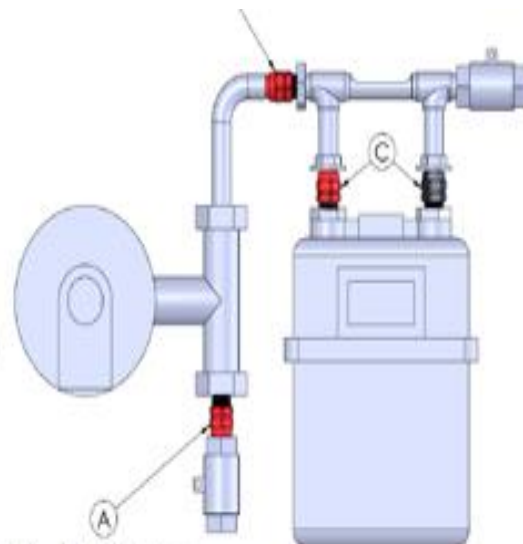




Single Meter Applications

Single Residential & Commercial Metering Applications

FireBag Thermal Activated Shutoffs are available in multiple piping configurations and sizes to accommodate the varying piping requirements of a natural gas or propane system. A recommended FireBag piping orientation and design illustration is highlighted as follows or simply contact your local Firebag distributor for additional information and specifications:



A — Upstream of the Regulator

Installed prior to the regulator, Male x Female FireBag configurations are available in $\frac{3}{4}$ " – 2" NPT sizes.

B — Upstream of the Meter Bar

For installations after the regulator and prior to the meter bar, Female x Male FireBag configurations are available in $\frac{3}{4}$ " – 1- $\frac{1}{2}$ " NPT sizes.

C — In-Line with the Meter Swivels & Nuts

A FireBag Meter Connection Kit can easily be installed on new or existing meter installations by utilizing a FireBag fitting in-line with the inlet swivel of the meter and accompanied by a BLANK companion fitting installed with the outlet swivel, keeping the meter balanced and level. Sizes include a $\frac{1}{2}$ " x $\frac{3}{4}$ " reducing kit, $\frac{3}{4}$ ", and 1" NPT Male x Female configurations.





Multi-Meter Applications

Multi-Meter Gas Manifold Metering Applications

Natural gas and propane utilities now are able to add thermal shutoff protection to multi-meter installations at residential and commercial buildings, adding a level of fire safety previously unattainable. Various FireBag configurations are available for multi-meter gas manifolds, where each residence or business has its own gas meter. The FireBag configuration and sizes are available to utilities to meet the following installation options.

A — In-line with the Manifold

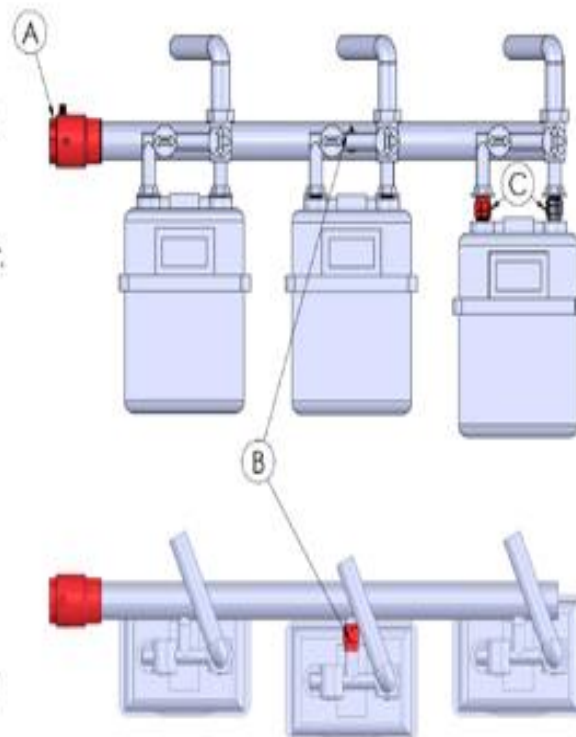
FireBag thermal shutoffs can be installed "prior-to" or "coupled-with" a multi-meter manifold to provide protection to multiple meters using just one device. Sizes include 1-1/4", 1-1/2" and 2" in Female x Female configurations.

B — In-line with the Manifold Nipples to the Meter

Individual Firebag installations place the thermal activated shutoff fittings between the manifold nipple and inlet to the meter bar. Sizes include 1", 1 1/4" and 1 1/2" NPT Female x Male configurations.

C — In-Line with the Meter Swivels & Nuts

A FireBag Meter Connection Kit can easily be installed on new or existing meter installations by utilizing a FireBag fitting in-line with the inlet swivel of the meter and accompanied by a BLANK companion fitting installed with the outlet swivel, keeping the meter balanced and level. Sizes include a 1/2" x 3/4" reducing kit, 3/4", and 1" NPT Male x Female configurations.



CON Edison Yellow Book Updates



Med/High Pressure Service Lines (only)

— **NO Low Pressure Applications**

- **TECO FireBag® Fittings in STOCK**
 - 1" MxM - with BMI Bell Coupling (PN: 3771916)
 - 1" FxM – no coupling required (PN: TBA)
 - 2" FxM - (PN: 3771917)
- Reference **Con Edison** Drawing Numbers:
 - 506175
 - 514203
 - EO-14166
 - EP-16726-A
 - EO-16585-A
 - EO-14158
 - EO-16511-B





FireBag® Installation Guide

- Follow **Manufacturers Installation Instructions** as included in each package.
- Follow **Con Edison** drawings for FireBag® orientation.
- Flow Arrow** - installation can be 360° taking care the flow direction, as indicated by the arrow on the device.
- Thermal Sensor** – do not cover the temperature sensor or do not install the FireBag so that the sensor would find itself concealed by another object that could delay/inhibit the reaction to fire.

Flow
Arrow



IT Le istruzioni sottostanti sono relative all'installazione del dispositivo ad attivazione termica **FireBag®**, in impianti gas. Il **FireBag®** può essere fornito come singolo raccordo o filettato e integrato nella valvola di intercettazione. L'utilizzo non corretto del dispositivo può comportare il rischio di esplosione a causa della fuoriuscita di gas.

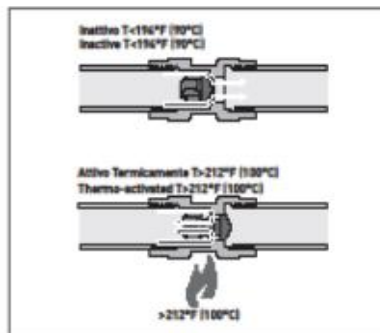
INSTALLAZIONE **FireBag®**:

- Assicurarsi che prima dell'installazione e della messa in funzione dell'impianto il dispositivo non entri in contatto con lo sporco.
- Prima del montaggio verificare che il dispositivo non sia scattato, verificando che vi sia passaggio.
- Non installare in luoghi con temperature ambiente superiore ai 140°F (60°C).
- Assicurarsi che i materiali dell'impianto e le relative connessioni a monte del **FireBag®** possano garantire la resistenza termica fire resistant.
- La posizione di installazione è a 360° facendo attenzione alla direzione del flusso, come indicato dalla freccia su dispositivo.
- Il dispositivo non deve essere in alcun modo isolato o rivestito.
- La connessione della valvola all'impianto deve essere eseguita con la chiave adatta, senza superare le coppie di serraggio previste dalla norma.
- Utilizzare sigillante certificato per idoneo gas, eccessivo materiale sigillante può portare alla rottura del manicotto di connessione.
- Verificare la tenuta della valvola dopo l'installazione e la messa in funzione dell'impianto.

EN The below instructions refers to the installation of the thermo-activated device **FireBag®** in gas installations. The **FireBag®** can be supplied as single fitting or threaded or integrated in the valve. Incorrect use of the device may lead to possible explosion due to gas leakage.

FireBag® INSTALLATION:

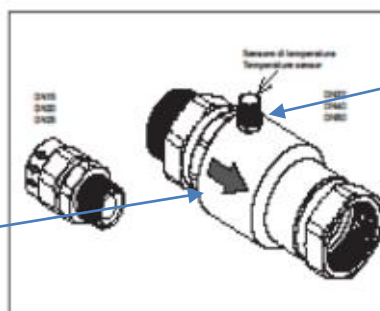
- Do not install the valve if in doubt about the compatibility of the connection fitting with the system.
- Ensure that the device has the adequate capacity for his use.
- Inspect the **FireBag®** to insure there is no dirt or debris inside the **FireBag®**.
- Check that the **FireBag®** is not tripped and that it is installed in the proper flow direction.
- Make sure the ambient temperature will not exceed 140°F (60°C).
- Make sure the upstream/downstream piping is fire resistant (not plastic etc.).
- The installation position can be 360° taking care to the flow direction, as indicated by the arrow on the device.
- Do not install insulation on the **FireBag®**, this will delay the reaction time.
- Do not cover the temperature sensor or do not install the **FireBag®** so that the sensor would find itself concealed by another object that could delay / inhibit the reaction to fire.
- Install with normal gas piping installation procedures using the proper tools and gas compatible pipe sealant to insure a proper thread seal and test fitting connections to insure there is no leakage.
- Use gas compatible sealant, excessive sealing material can lead the sleeve connection to break.
- After installation and activation of the system, check the tightness of the valve.



IT In condizioni di chiuso il dispositivo **FireBag®** garantisce una perdita massima di 1.06 ft³/h (30u/h) per 30' a 140°F (60°C) per le versioni DN15-20-25, e 1.06 ft³/h (30u/h) per 30' a 120°F (50°C) per le versioni DN32-40-50.

EN In tripped condition the **FireBag®** guarantees a maximum admitted leakage of 1.06 ft³/h (30u/h) for 30' at 140°F (60°C) for the versions DN15-20-25, and 1.06 ft³/h (30u/h) for 30' at 120°F (50°C) for the versions DN32-40-50.

Thermal
Sensor

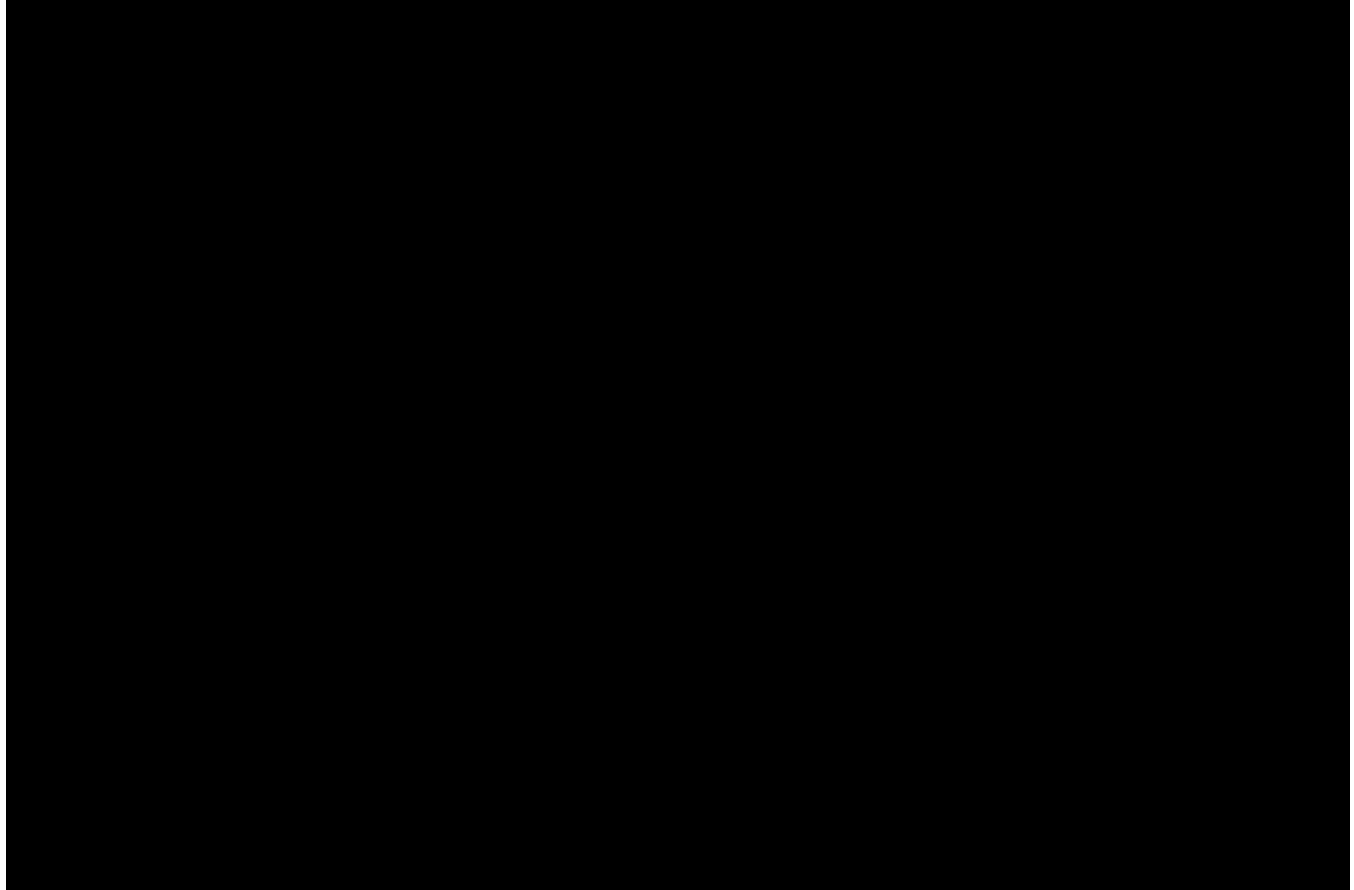


IT Aspetto e direzione del flusso
L'immagine è SOLO a scopo illustrativo. Le connessioni del dispositivo possono variare a seconda del modello. Seguire la freccia del flusso sul raccordo da installare.

EN Design and flow direction
Picture is for illustration purposes ONLY. Thread configurations may vary by model. Follow the flow arrow on the fitting to be installed.



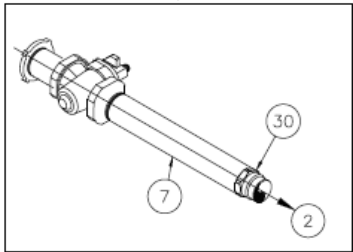
FireBag® Introduction



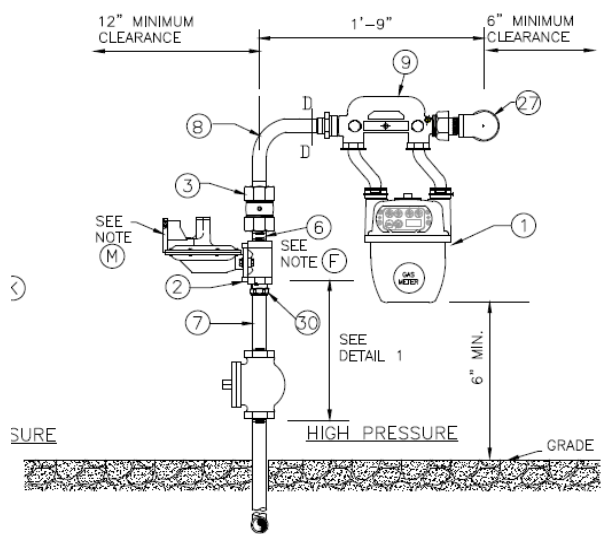


DWG: 506175

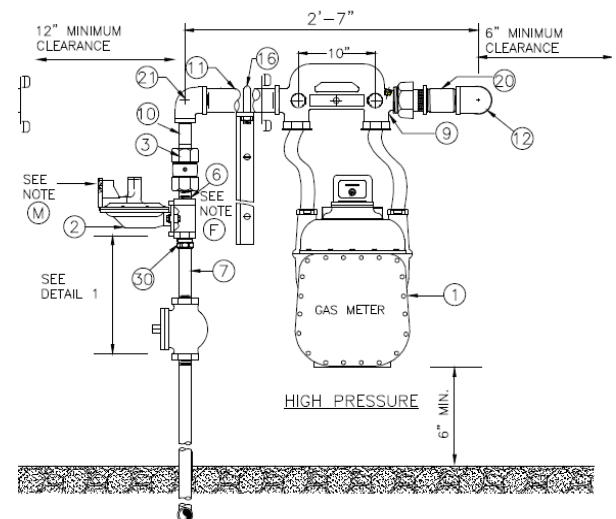
DETAIL 1
FOR 1" & 1 1/4" REGULATORS



PLAN



CLASS 500 TC METER SETS
ELEVATION



CLASS 1000 TC METER SET
ELEVATION

BILL OF MATERIAL

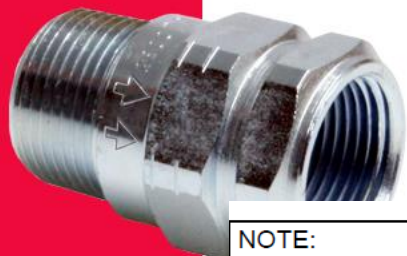
ITEM NO.	CLASS & STOCK NO.	DESCRIPTION	LOW PRESSURE INSTALL SIZE		HIGH PRESSURE INSTALL SIZE		SPEC. OR DWG. NO.
30	377 - 1916	TA-VALVE					-
		1" F x M NPT TA-VALVE OR 1 INCH M X M NPT TA-VALVE WITH 1 INCH M X F BELL COUPLING, BLACK MALLABLE IRON.	-	-	X	X	



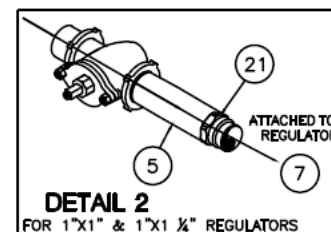
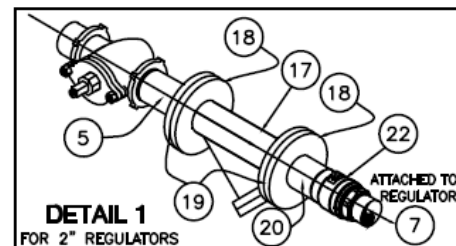
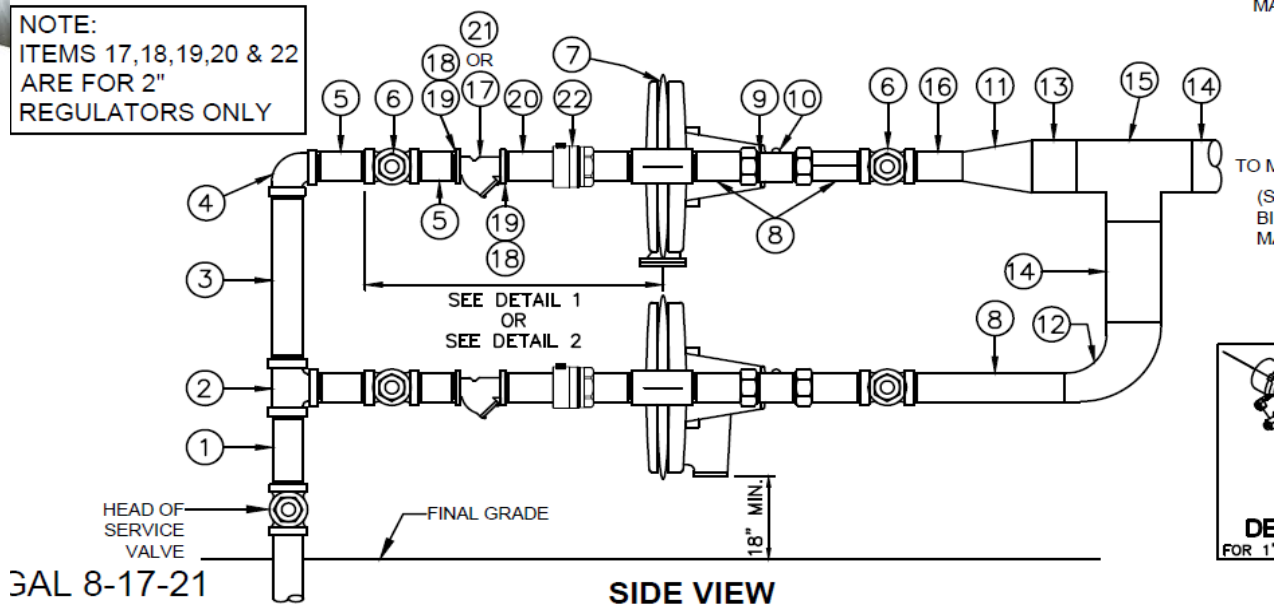
**Refer to Con Edison Yellow
Book Drawings for full details**

INSTALLATION OF METER PIPING FOR CLASS 500TC TO 1000TC DIAPHRAGM GAS METERS - OUTDOORS			
CONSOLIDATED EDISON COMPANY OF N.Y., INC. GAS ENGINEERING DEPT			
DATE	11/24/15	DWG. NO.	506175
LAST REV.	XX/XX/21	REV.	6
SHEET 1 OF 2			

DWG: 514203



NOTE:
ITEMS 17,18,19,20 & 22
ARE FOR 2"
REGULATORS ONLY



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M.

DE
FOR 1"

BILL OF MATERIALS					
ITEM No.	DESCRIPTION	SPEC./STD.	REGULATOR SIZE		
			1" x 1" x 3/4"	1" x 1-1/4" x 1"	2" x 2" x 2-1/2"
21	1 INCH F X M NPT TA-VALVE (CLASS & STOCK # 3771916) OR 1 INCH M X M NPT TA-VALVE (CLASS & STOCK # 3771916) WITH 1 INCH M X F BELL COUPLING, BLACK MALLABLE IRON.	-	1"	1"	-
22	2 INCH F X M NPT TA-VALVE (CLASS & STOCK # 3771917)	-	-	-	2"

**Refer to Con Edison Yellow
Book Drawings for full details**

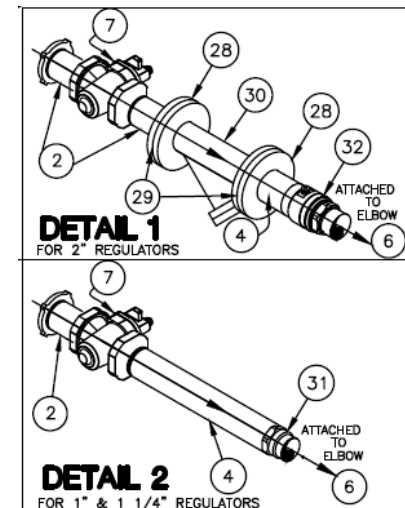
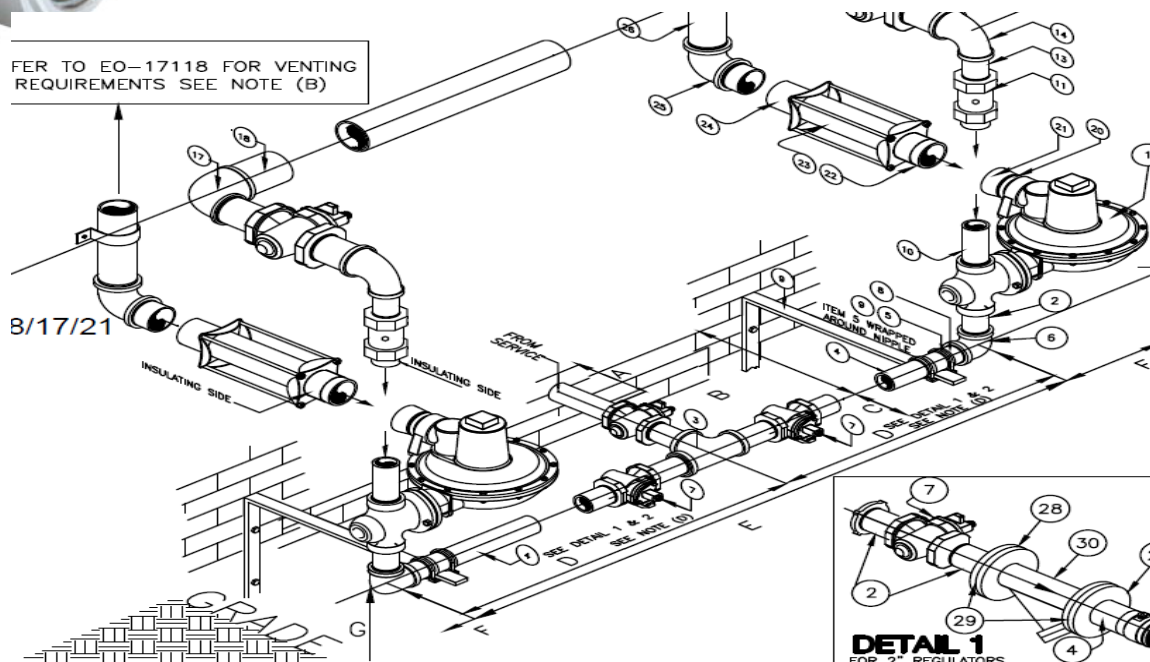
OUTDOOR INSTALLATION OF TWIN
GAS REGULATORS - 1" TO 2" BODY

CONSOLIDATED EDISON COMPANY OF N.Y., INC.
GAS ENGINEERING DEPT

DATE 10/26/2016 DWG. NO. 514203 REV. 04
LAST REV. xx/xx/2021



DWG: EO-14166



BILL OF MATERIAL					
NO. ITEM	DESCRIPTION	DWG. NO. SPEC. OR	SIZE IN INCHES		
31	1 INCH FxM NPT TA-VALVE (CLASS & STOCK # 3771916) OR 1 INCH MxM NPT TA-VALVE (CLASS & STOCK # 3771916) WITH 1 INCH M X F BELL COUPLING, BLACK MALLABLE IRON.		1	1	
32	2 INCH FxM NPT TA-VALVE (CLASS & STOCK # 3771917)				2

Refer to Con Edison Yellow Book Drawings for full details

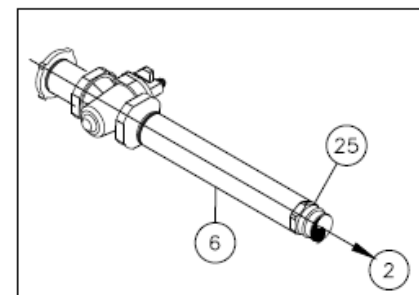
INSTALLATION OF TWIN GAS REGULATORS INDOORS (1" TO 2")

CONSOLIDATED EDISON COMPANY or N.Y., INC.
GAS ENGINEERING DEPT

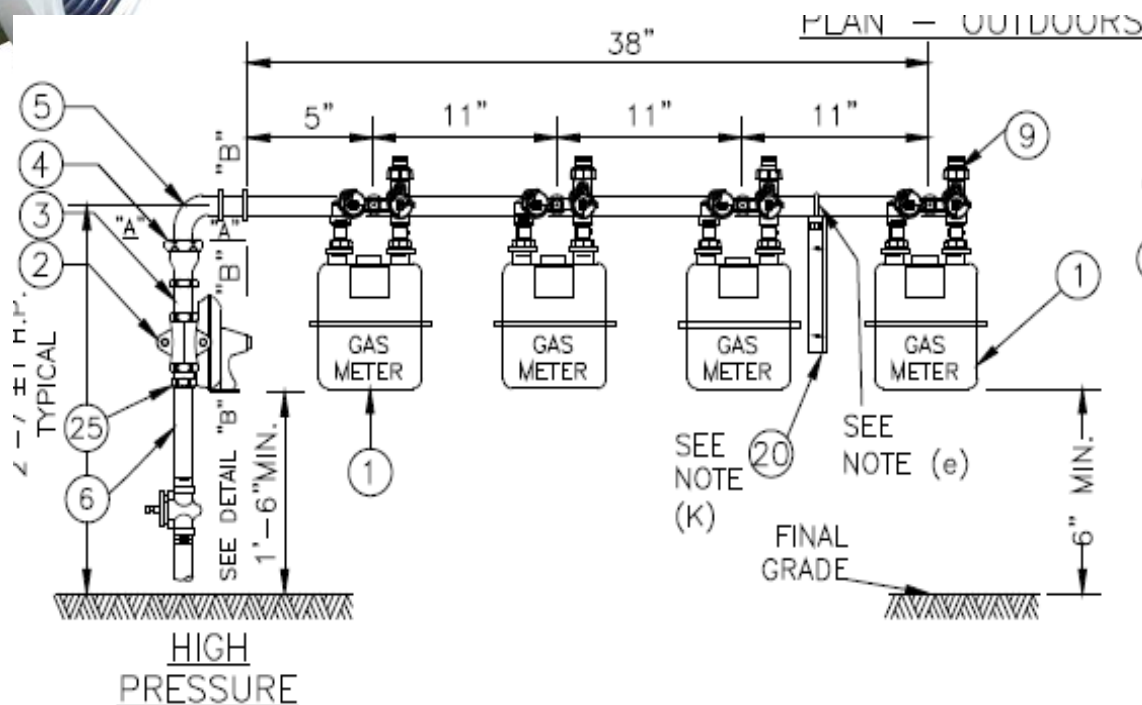
DATE 05/18/2008 DWG. NO. EO-14166 REV. 28
LAST REV. XX/XX/2021



DWG: EO-16726-A



DETAIL "B"
FOR 1" & 1 1/4" REGULATORS



ITEM NO.	DESCRIPTION	STOCK NO.	LOW PRESSURE INSTL. SIZE	HIGH PRESSURE INSTL. SIZE	SPEC. OR DWG. NO.
25	1 INCH F X M NPT TA--VALVE OR 1 INCH M X M NPT TA--VALVE WITH 1 INCH M X F BELL COUPLING, BLACK MALLABLE IRON.	3771916	—	X	X

**Refer to Con Edison Yellow
Book Drawings for full details**

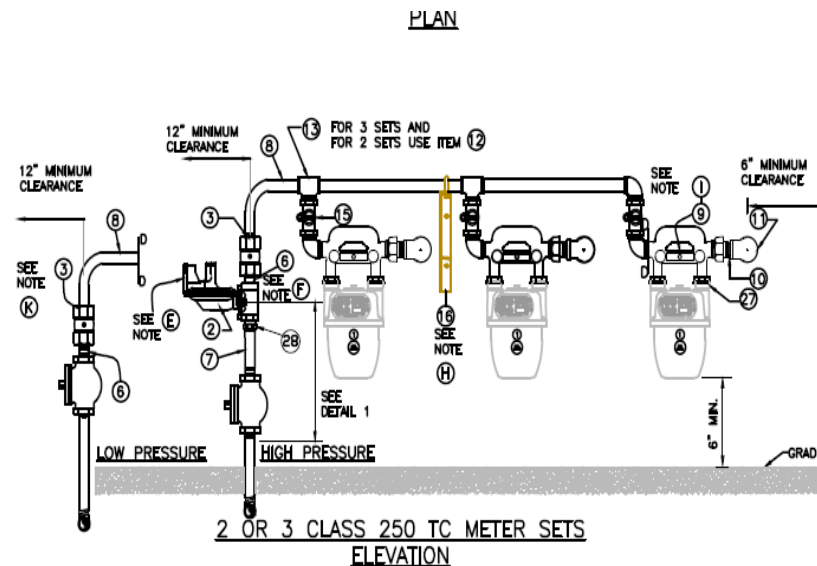
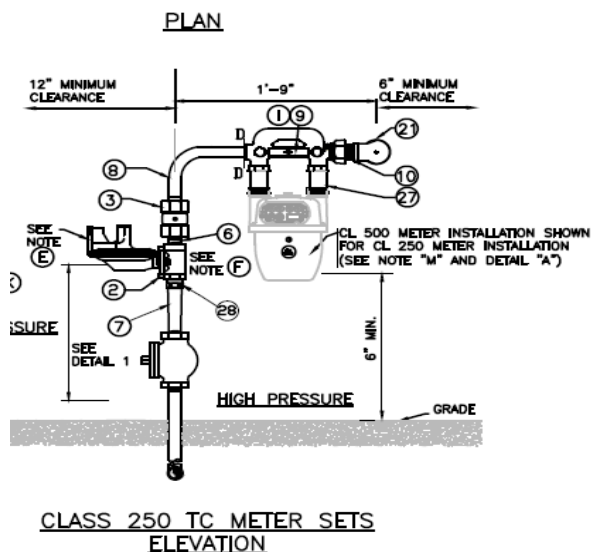
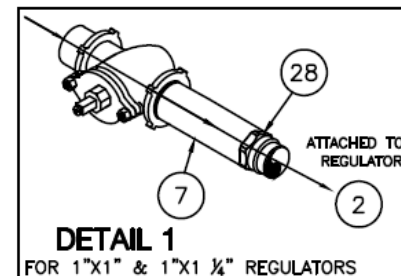
INSTALLATION OF 2 TO 6 UNIT
PREFABRICATED METER SETS FOR
CLASS 250TC METERS - INDOORS OR OUTDOORS
SHEET 1 OF 2

CONSOLIDATED EDISON COMPANY OF N.Y., INC.
GAS ENGINEERING DEPT

DATE 02-25-86 DWG. EO-16726-A REV. 12
LAST REV. XX-XX-21 NO



DWG: EA-16585-A



BILL OF MATERIAL

ITEM NO.	CLASS & STOCK NO.	DESCRIPTION	LOW PRESSURE INSTALL SIZE	HIGH PRESSURE INSTALL SIZE	SPEC. OR DWG. NO.
28	377 - 1916	1 INCH F X M NPT TA-VALVE OR 1 INCH M X M NPT TA-VALVE WITH 1 INCH M X F BELL COUPLING, BLACK MALLABLE IRON.	-	1"	-

**Refer to Con Edison Yellow Book
Drawings for full details**

**INSTALLATION OF METER PIPING
FOR CLASS 250TC DIAPHRAGM
GAS METERS - OUTDOORS**

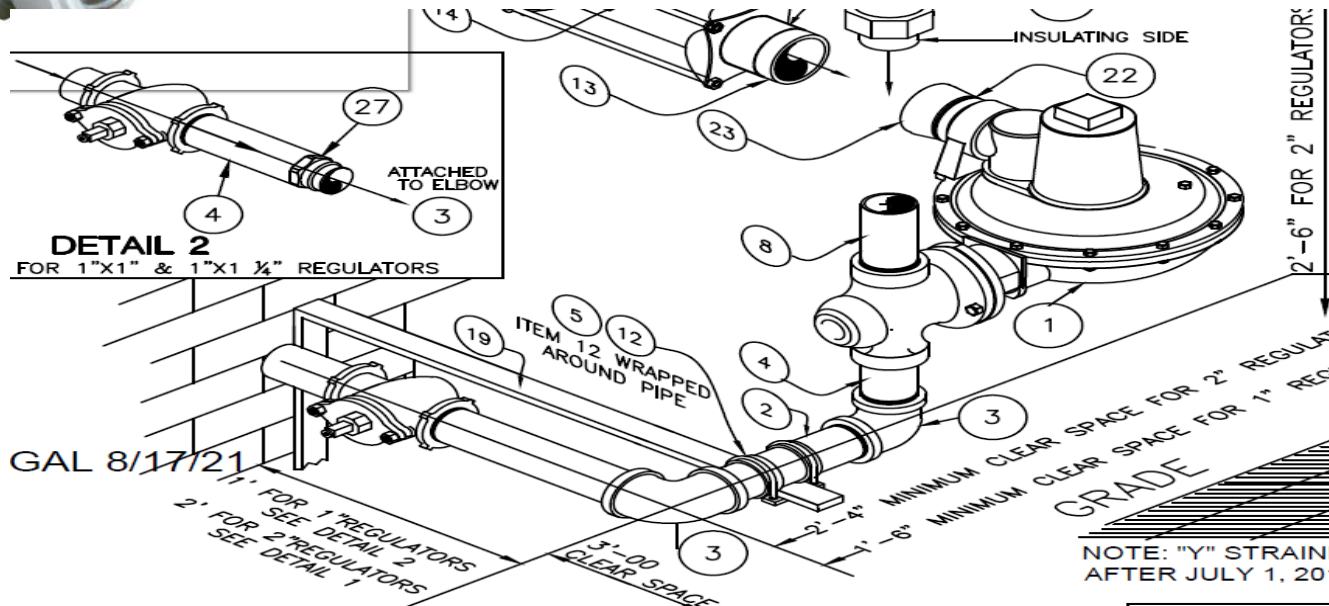
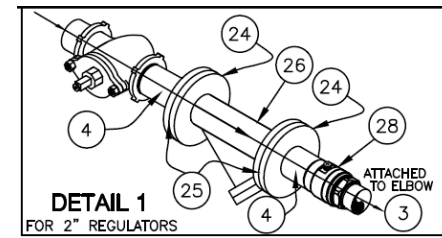
**CONSOLIDATED EDISON COMPANY OF N.Y., INC.
GAS ENGINEERING DEPT**

DATE 12/08/1983
LAST REV. XX/XX/2021

DWG. NO. **EO-16585-A** REV. **17**
SHEET 1 OF 2



DWG: EA-14158



ITEM NO.	DESCRIPTION	SPEC OR DWG. NO.	SIZE IN INCHES		
27	1 INCH F X M NPT TA-VALVE (CLASS & STOCK # 3771916) OR 1 INCH M X M NPT TA-VALVE (CLASS & STOCK # 3771916) WITH 1 INCH M X F BELL COUPLING, BLACK MALLABLE IRON.		1	1	
28	2 INCH F X M NPT TA-VALVE (CLASS & STOCK # 3771917)				2

**Refer to Con Edison Yellow
Book Drawings for full details**

SPEC. NO. G-413

INSTALLATION OF GAS SERVICE REGULATORS
INDOORS (1' TO 2')

CONSOLIDATED EDISON COMPANY OF N.Y., INC.
GAS ENGINEERING DEPT.

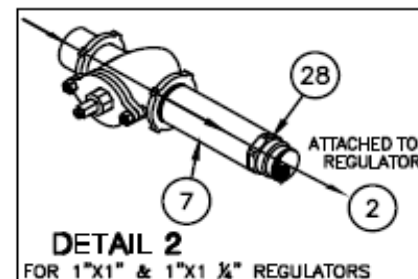
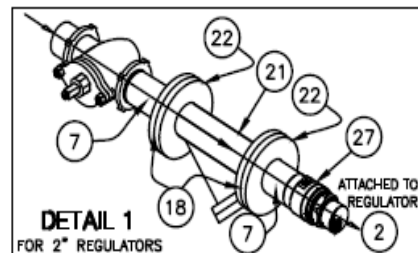
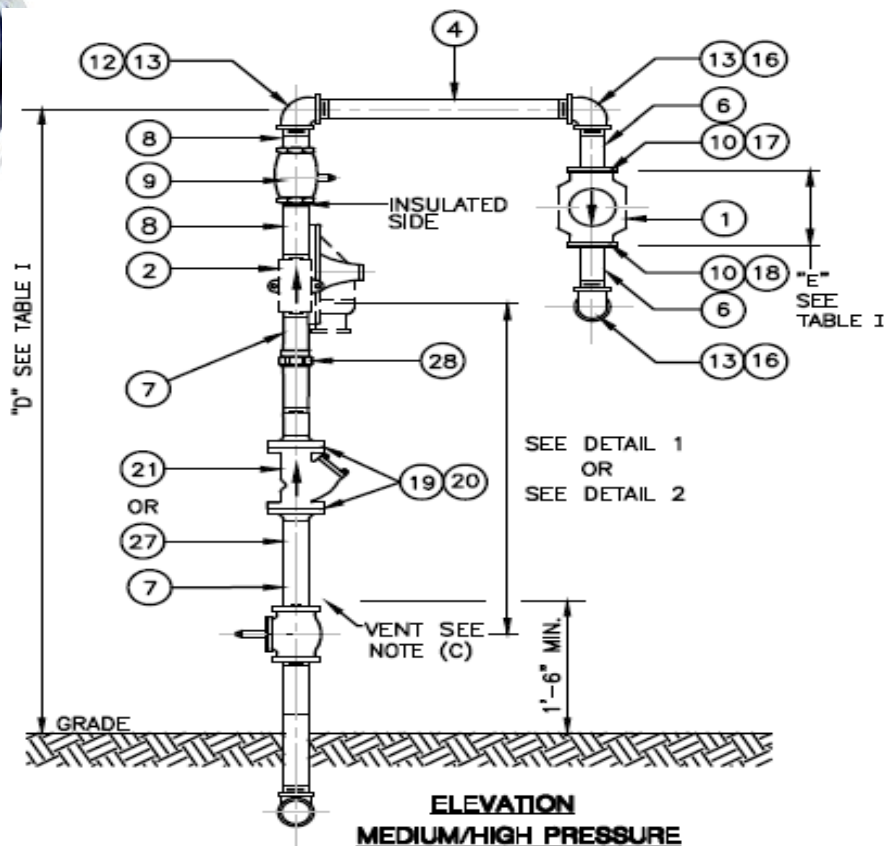
DATE 04/18/2006

LAST REV. XX/XX/2021

DWG. NO. **EO-14158** REV. **29**



DWG: EO-16511-B



ITEM NO.	DESCRIPTION	DWG. OR SPEC NO.	LOW PRESSURE INSTALLATION SIZE				HIGH PRESSURE INSTALLATION SIZE		
27	1 INCH F X M NPT TA-VALVE (CLASS & STOCK # 3771916) OR 1 INCH M X M NPT TA-VALVE (CLASS & STOCK # 3771916) WITH 1 INCH M X F BELL COUPLING, BLACK MALLABLE IRON.	—	—	—	—	—	1"	1"	—
28	2 INCH F X M NPT TA-VALVE (CLASS & STOCK # 3771917)	—	—	—	—	—	—	—	2"

Refer to Con Edison Yellow Book Drawings for full details

INSTALLATION OF METER PIPING FOR CLASS 3000R-TC TO CLASS 23000R-TC ROTARY METERS - OUTDOORS		
CONSOLIDATED EDISON COMPANY of N.Y., INC. GAS ENGINEERING DEPT.		
DATE 10/23/1981	DWG. NO EO-16511-B	REV. 16
LAST REV. XX/XX/2021		



Wrap Up Time:

Questions and Answers:



TECO FireBag Troubleshooting

- FireBag is One Time activation
- In the event of a fire and unit is tripped
 - Replace unit
 - Tag and save for evidence in litigation.
- Tech Support: www.tecoamericas.com
 - Downloadable CAD Drawings
 - Video Animation
 - Datasheet
 - Installation & Maintenance Manual





THANK YOU

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