



# SERIES CAFE MULTI-VOLTAGE ELECTRIC ACTUATORS

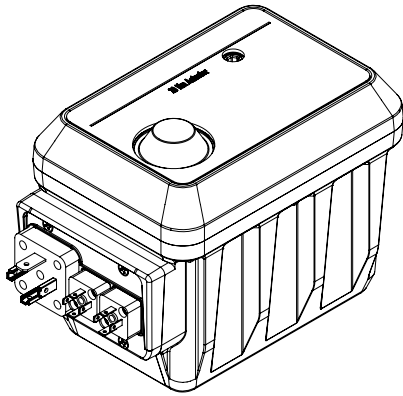
## Installation, Operation, & Maintenance Quick Guide

Damage caused by non-compliance to these instructions will not be covered by our warranty. Read these instructions BEFORE installing or connecting the actuator. Electric actuators operate with the use of live electricity. It is recommended that only qualified electricians or people instructed in accordance with electrical engineering, and familiar with local electrical, health and safety directives, be involved in the connection of these actuators. It is strongly recommended that each actuator has its own independent fused system to protect it against the influence of other electrical devices connected to the system. Follow instructions carefully. This unit is designed to be connected to equipment which can be hazardous to persons and property if used incorrectly. Remove power to unit before wiring connections. Do not use unit if plastic enclosure is cracked or broken.

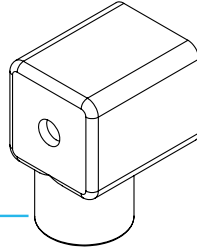
**SCAN FOR COMPLETE INSTRUCTIONS**



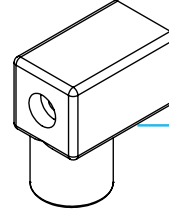
# CAFE PARTS LIST



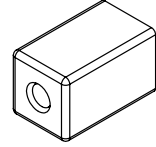
CAFE Actuator x1



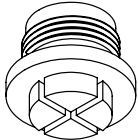
Large DIN Connector x1



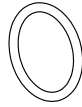
Small DIN Connector  
(12 o'clock Ground) x1



Small DIN Cap x1



Large DIN Cap  
x1



Large DIN Cap  
Ring x1



Plastic  
Shroud x1



Plastic Gland  
Shroud x1

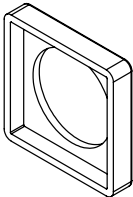


Rubber Gland  
x1

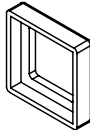


Small DIN  
Shipping Gasket  
x1

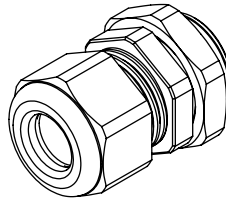
For Shipping Purposes Only



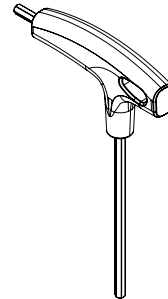
Large DIN Gasket  
x1



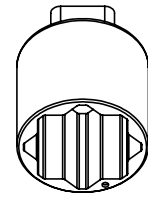
Small DIN Gasket  
x2



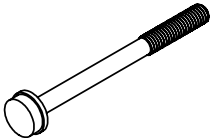
Cable Gland x1



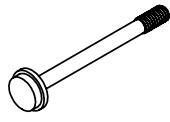
Manual Handle  
x1



14mm Double Square  
Coupler x1



Large DIN Screw  
x1



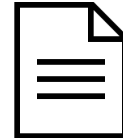
Small DIN Screw  
x2



Large DIN Screw  
Gasket x1



Small DIN  
Screw Gasket x2



Documentation



**WARNING/CAUTION/DANGER INDICATES A POTENTIAL HAZARD. FAILURE TO FOLLOW ALL WARNINGS MAY LEAD TO EQUIPMENT DAMAGE, INJURY, OR DEATH.**

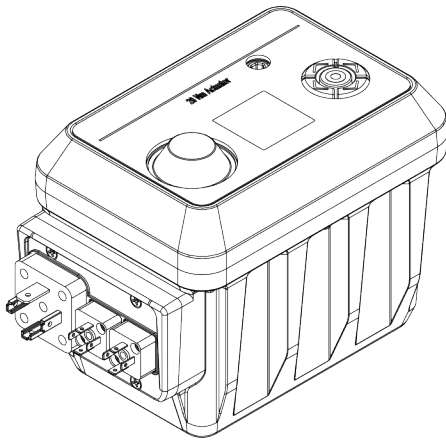


**ELECTROSTATIC DISCHARGE (ESD)/ ELECTROCUTION DANGER ALERTS USER TO RISK OF POTENTIAL DAMAGE TO PRODUCT BY ESD, AND/OR RISK OF POTENTIAL OF INJURY OR DEATH VIA ELECTROCUTION.**



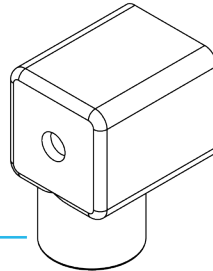
**Fcc compliance statement – this device complies with part 15 of the fcc rules. Operation is subject to the Following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept Any interference received, including interference that may cause undesired operation.**

# CAFE NITRO PARTS LIST

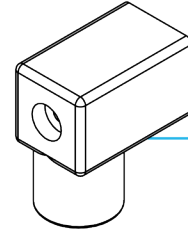


CAFE NITRO Actuator x1

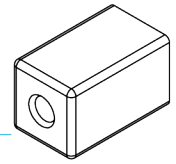
For ON/OFF NITRO,  
Small DIN Cap (x1) is  
used in place of 2nd  
small DIN connector.



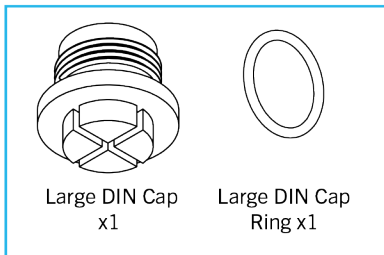
Large DIN Connector x1



Small DIN Connector  
(12 o'clock Ground) x1

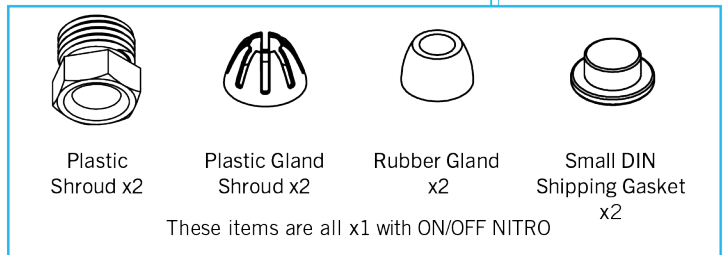


Small DIN Connector (6  
o'clock Ground) x1  
Modulating NITRO only



Large DIN Cap  
x1

Large DIN Cap  
Ring x1



Plastic  
Shroud x2

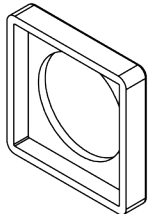
Plastic Gland  
Shroud x2

Rubber Gland  
x2

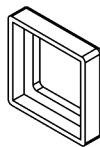
Small DIN  
Shipping Gasket  
x2

These items are all x1 with ON/OFF NITRO

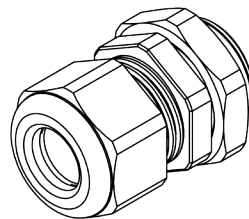
For Shipping Purposes Only



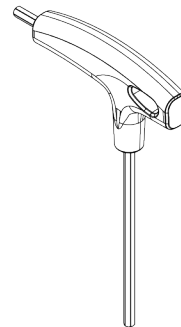
Large DIN Gasket  
x1



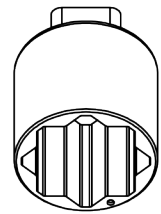
Small DIN Gasket  
x1



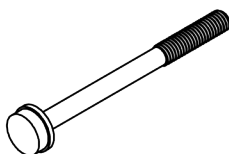
Cable Gland x1



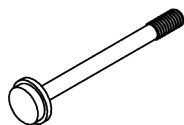
Manual Handle  
x1



14mm Double Square  
Coupler x1



Large DIN Screw  
x1



Small DIN Screw  
x2



Large DIN Screw  
Gasket x1



Small DIN  
Screw Gasket x2

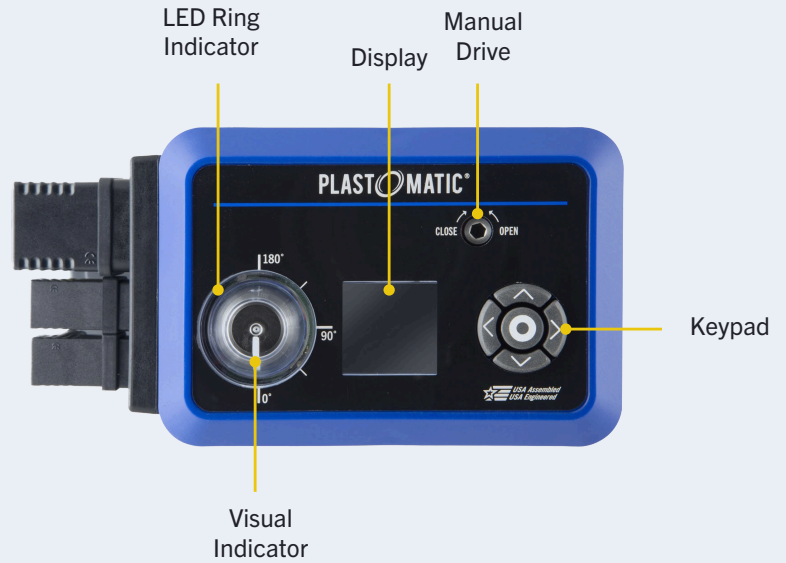


Documentation

SCAN FOR COMPLETE INSTRUCTIONS



# INTRO TO WIRING & OPERATION



BEFORE connecting, ensure the voltage to be applied is within the range shown on the ID label. Do NOT connect a voltage in excess of the intended design or irreparable damage will be caused and will NOT be covered by our warranty. Actuator Power Supply must be on a dedicated circuit and must be grounded.

Protection against electric shock - Class I (earthed device).

ALL pole disconnection is required.



Café actuators are multi-voltage capable with automatic voltage sensing. All connections are made using the supplied external DIN plugs. The DIN base orientation is factory set so under normal circumstances there is no need to remove the base to connect electrically – in fact removing the base may invalidate the warranty.



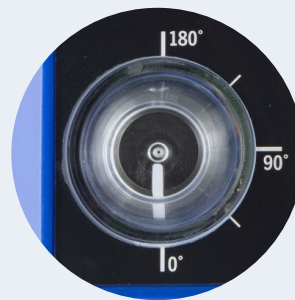
**WATER TIGHTNESS:** Ensure that all rubber gaskets are correctly installed when securing the Field attachable connectors to the actuator. Failure to do so could allow water ingress. Damage caused by this installation error will invalidate any warranty. Do not over-tighten the securing screw. Note that the profile gasket is part of the Field attachable connector.



**SCAN FOR COMPLETE INSTRUCTIONS**



**Manual Drive:** Use a 4 mm hex wrench to drive the actuator manually. Rotating counter clock wise the Manual Drive will move from close to open a valve that is set in the Closed position. Rotating clock wise the Manual Drive will move from open to close a valve that is set in the open position.



**Visual Indicator:** Graphically indicates the approximate position of the valve with respect to the full working angle. Typical working angles are 90° or 180°. A valve that has been set up as Normally Closed, the indicator will move from 0° to Max Working angle when opening. The action is reverse when closing the valve.



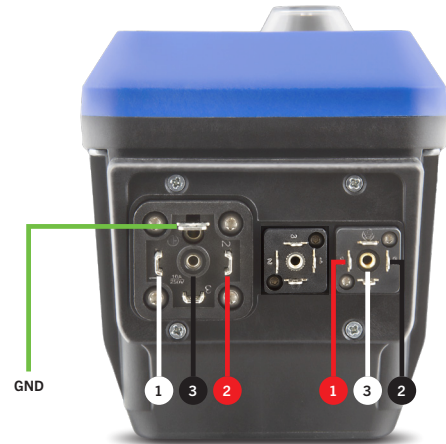
**LED Ring Indicator:** The base ring of the barrel type indicator will illuminate according to different states of running conditions in the actuator. Scan QR code and see chart “LED RUNNING STATES”

- The Center pad is SELECT.
- < When driving the actuator in keypad control the < pad rotates the actuator counter clockwise.
- > When driving the actuator in Keypad Control the > pad rotates the actuator clockwise.



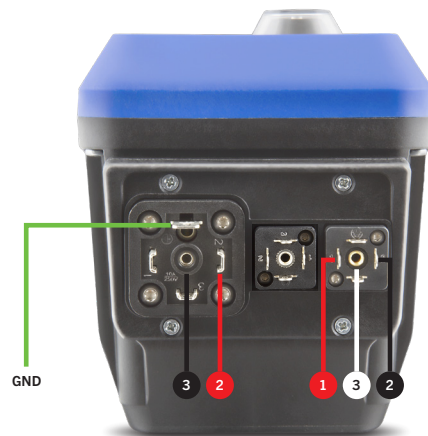
# ON/OFF WIRING

## (3 WIRES AC/DC)



PINOUT		INPUT POWER				ANALOG IN/OUT				DISCRETE OUTPUT (RELAYS)			
		1	2	3	⏏	1	2	3	⏏	1	2	3	⏏
ON	AC	(N)	–	(L)	(GND)	–	–	–	–	COMMON		*ON	–
	DC	(-)	–	(+)	(GND)	–	–	–	–	COMMON		*ON	–
OFF	AC	(N)	(L)	–	(GND)	–	–	–	–	COMMON	**OFF		–
	DC	(-)	(+)	–	(GND)	–	–	–	–	COMMON	**OFF		–

## (2 WIRES DC)



PINOUT		INPUT POWER				ANALOG IN/OUT				DISCRETE OUTPUT (RELAYS)			
		1	2	3	⏏	1	2	3	⏏	1	2	3	⏏
ON	–	–	–	–	–	–	–	–	–	–	–	–	–
	DC	–	(-)	(+)	(GND)	–	–	–	–	COMMON	–	*ON	–
OFF	–	–	–	–	–	–	–	–	–	–	–	–	–
	DC	–	(+)	(-)	(GND)	–	–	–	–	COMMON	**OFF	–	–

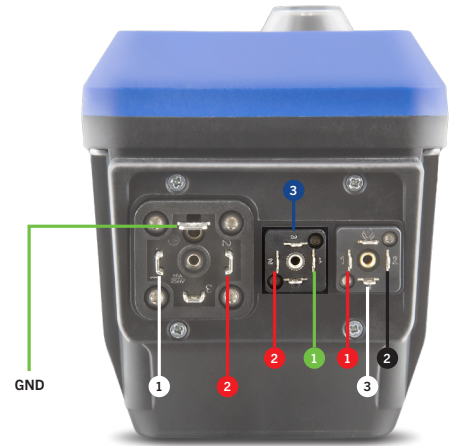


DISCRETE OUTPUTS: Chart indicates settings from Factory. Configuration can be changed via User Interface.

\*The corresponding Relay closes to indicate ON position \*\*The corresponding relay closes to indicate OFF position

# MODULATION WIRING

(mA) or (V)



PINOUT	INPUT POWER				ANALOG IN/OUT				DISCRETE OUTPUT (RELAYS)			
	1	2	3	⏏	1	2	3	⏏	1	2	3	⏏
AC	(N)	(L)	–	(GND)	COMMON	IN	OUT	–	COMMON	**OFF	*ON	–
DC	(-)	(+)	–	(GND)	COMMON	IN	OUT	–	COMMON	**OFF	*ON	–



DISCRETE OUTPUTS: Chart indicates settings from Factory. Configuration can be changed via User Interface.  
 \*The corresponding Relay closes to indicate ON position \*\*The corresponding relay closes to indicate OFF position

## MODBUS



PINOUT	INPUT POWER				MODBUS				DISCRETE OUTPUT (RELAYS)			
	1	2	3	⏏	1	2	3	⏏	1	2	3	⏏
AC	(N)	(L)	–	(GND)	COMMON	A-D-D0	B+D+D1	–	COMMON	**OFF	*ON	–
DC	(-)	(+)	–	(GND)	COMMON	A-D-D0	B+D+D1	–	COMMON	**OFF	*ON	–



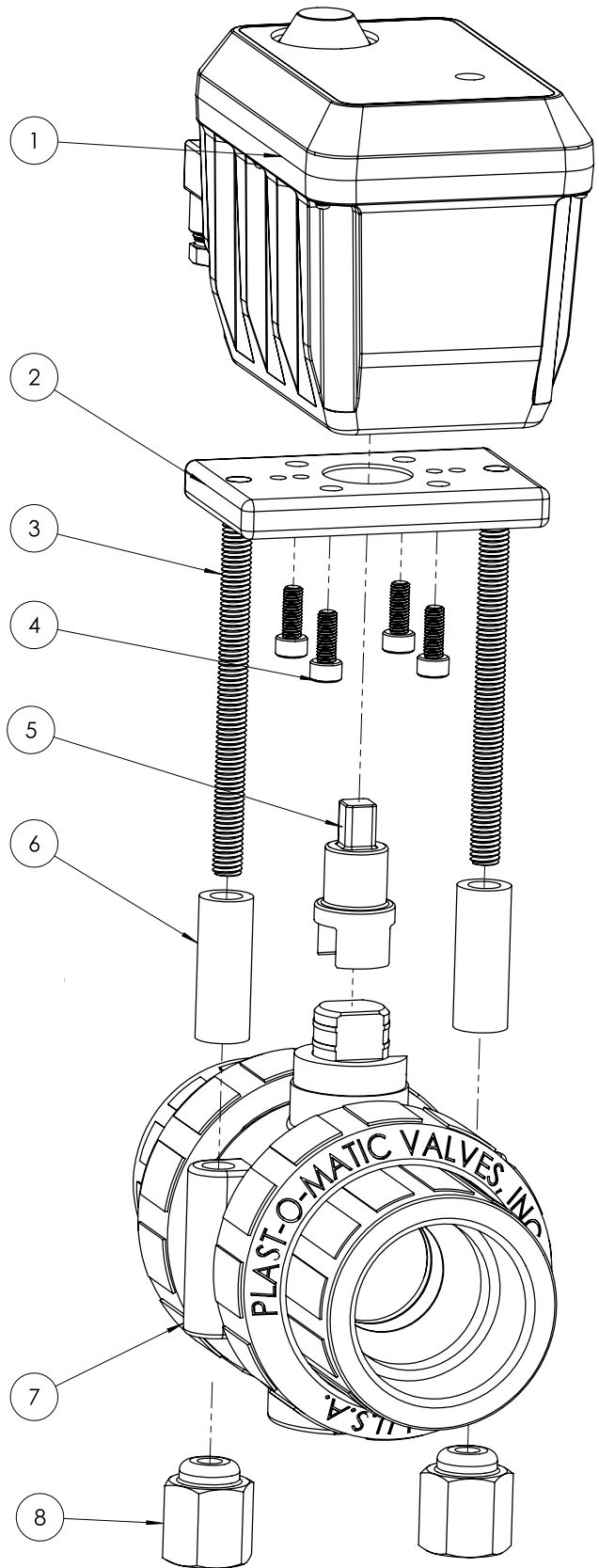
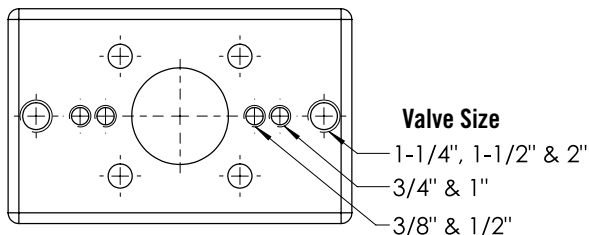
DISCRETE OUTPUTS: Chart indicates settings from Factory. Configuration can be changed via User Interface.  
 \*The corresponding Relay closes to indicate ON position \*\*The corresponding relay closes to indicate OFF position

# DIMENSIONS

1. Ensure the ball valve and the actuator are set to the closed position. The ball valve stem must be perpendicular to the flow direction, see drawing view
2. Thread the (2) mounting studs (item 3) into the mounting plate (item 2). Refer to the mounting plate detail view to determine which holes in the mounting plate are used for the appropriate valve size. Thread the studs into the bracket so that they are approximately flush with the top of the mounting plate. Use of a thread locking fluid, such as Loctite thread locker is recommended.
3. Install the mounting plate (item 2) onto the actuator (item 1) using the (4) Assembly screws (item 4). Tighten to 40 in. lbs. Use of a thread locking fluid, such as Loctite threadlocker is recommended.
4. Install the coupler (item 5) onto the shaft of the ball valve (item 7). Assemble the ball valve (item 7) onto the actuator (item 1). The coupler (item 5) is inserted into the output drive of the actuator and the mounting studs go through the spacers (item 6) and the ball valve mounting lugs.
5. Install the hex nuts (item 8) onto the mounting studs (item 3) and tighten. For 3/8"-1" valves, tighten to 15 in. Lbs. for 1-1/4" - 2" valves, tighten to 25 in. Lbs.

MOUNTING KIT COMPONENTS		
Item No.	Description	Qty
1	Cafe or Cafe Nitro Actuator	1
2	Mounting Plate	1
3	Mounting Studs	2
4	Assembly Screws	4
5	Coupler	1
6	Spacers	2
7	2-Way or 3-Way Ball Valve	1
8	Hex Nuts	2

## MOUNTING PLATE DETAIL



# INSTALLATION

## CAUTION!

Final Determination of Suitability of this product for the use contemplated by the user, the manner of that use, and safety of that use, is the sole responsibility of the user.



**DANGER: DO NOT USE PLASTIC VALVES FOR COMPRESSED AIR OR GAS**

Chlorine Gas (vacuum only): Plastic Valves should only be used as specified by an engineer or designer experienced in handling chlorine. Otherwise, DO NOT USE.



Proper care must be taken when installing a plastic valve into a piping system or failure of the valve body may result

**NOTE: TO ACHIEVE MAXIMUM CYCLE LIFE, VALVE MUST BE MOUNTED IN UPRIGHT POSITION**

**WARNING: THIS VALVE MUST BE INSTALLED IN CLOSED POSITION.**

**FLOW DIRECTION:** Due to the Trunnion design these valves are capable of handling flow and pressure in either direction.

**ALWAYS INSTALL WITH MOUNTING SUPPORTS:** The weight of the valve will place undue stress on the connections. This stress can eventually cause the body or pipe to crack.

**THREADED CONNECTIONS:** Use PTFE tape or a suitable pipe sealant on threaded connections. Use a strap wrench to tighten up to 1/4 turn more than hand tight. Do not use metal pipe wrenches. Metal pipe wrenches will distort or crack the valve body and components. Do not attach female threaded plastic valves directly to metal pipe or fittings. Metal pipe should only be used with an intervening plastic nipple.

**SOCKET CONNECTIONS:** (PVC and CPVC only). Cut pipe ends square and deburr. Clean mating surfaces with proper solvent.

Apply cement to surfaces and immediately assemble with 1/2 turn rotating motion. Caution: Do this disassembled from valve to avoid damage.

Primer and/or solvent cement/glue used improperly will permanently damage this valve. Do not allow primer and/or solvent cement to touch any area other than the piping socket. Use of excessive amounts may run, drip, or otherwise enter sensitive working parts of the valve.

### FUSED CONNECTIONS:

For Polypropylene Thermal Socket Fusion, follow the fusion equipment manufacturer's instructions. For more information contact your Plast-O-Matic distributor.

### FOR PROPER VALVE PERFORMANCE, IT IS IMPORTANT TO CORRECTLY TIGHTEN THE UNION NUTS:

1. Turn the ball valve to the closed position before tightening.  
2. Tighten the union nuts "hand tight" plus up to one quarter-turn tighter using a strap wrench.

**ADJUSTMENTS:** If valve is leaking at the PTFE seats or end O-rings simply tighten the union nuts with the valve in closed position.

Use a strap wrench to tighten up to 1/4 turn more than hand tight.

Do not use metal pipe wrenches. If leaking continues then replacement of faulty part is necessary. If leaking occurs at the stem O-ring then replacement is necessary.

### DISASSEMBLY OF DOWNSTREAM PIPING:

The Trunnion design of this valve enables you to disassemble the downstream piping from the valve by unscrewing the valve's downstream union without leakage from the upstream pressure. To do this, first close the valve, then slightly loosen the downstream union, then tighten the upstream union and then completely remove the downstream union. Use extreme caution with dangerous fluids.

**VALVE REMOVAL FROM PIPING:** The True Union design enables you to simply unscrew the two valve union nuts and slide the valve body away from the piping. Pressure or liquid head must be removed from both sides of valve before doing this. Use extreme caution with dangerous fluids.



**ALWAYS UTILIZE THE MOST APPROPRIATE PPE DURING INSTALLATION AND SERVICE.**

## SCAN FOR COMPLETE INSTRUCTIONS

