

PROINERT® ACTUATION PACKAGES (MASTER/SLAVE)

DESCRIPTION

Each ProInert cylinder or group of cylinders being actuated simultaneously (up to 60 cylinders) requires a nitrogen actuator for valve activation.

There are two types of Actuation Packages that can be used to actuate ProInert cylinder valves, Master Actuator Package (P/N IG71-017) and Slave Actuator Package (P/N IG71-019). These two Actuation Packages are also used to operate Fike's Selector Valve Assemblies.

MASTER ACTUATION PACKAGE (P/N IG71-017)

The Master Actuation Package contains an electrically activated solenoid valve connected to a rechargeable nitrogen cylinder, that when operated allows pressure from the nitrogen cylinder to flow into the pneumatic actuator on the control valve, activating the pressure-differential valve on the cylinder, resulting in agent flow.

By pneumatically connecting the pneumatic actuators on multiple cylinders, a single master ProInert Actuation Package can activate up to 60 ProInert discharge valves. Additional cylinders require additional slave actuation packages

The ProInert Actuation Package may be activated electrically or manually. Electrical activation is accomplished via a 24VDC signal from the control panel. To initiate manual activation, remove the locking pin and press down on the manual activation button.

Also included in the package are:

Item	Description
1	Manual Discharge Station Sign P/N 02-13420 for IG-01 P/N 02-10759 for IG-55 P/N 02-13421 for IG-100 P/N 02-13419 for IG-541
2	P/N 02-10824 Connector G $\frac{1}{4}$ to G $\frac{1}{4}$ with 60° Cone Seat
3	P/N 02-10797 Adaptor R $\frac{1}{2}$ to G $\frac{1}{4}$ with 60° Cone Seat
4	P/N C02-1280 Elbow $\frac{1}{4}$ " NPT x $\frac{1}{4}$ " JIC
5	P/N 02-10926 Sealing Washer
6	P/N 02-11902 R $\frac{1}{2}$ Plug
7	P/N IG71-026 Vent Assembly
8	P/N 02-10801 Pilot Actuator Pneumatic Hose



These items are to be used for connecting all the actuators on a system to the actuation package and terminating the end of the pneumatic actuation line.

The installer must provide a diode (IN4004) for connection to the electric control panel. (Refer to control panel manual for connection details).

APPROVAL



Certification
Number 654a

SPECIFICATIONS

Electric Solenoid

Nominal Supply Voltage:	24VDC
Minimum Signal Duration:	2 seconds
Maximum Supervision Current:	10mA
Minimum Fire Current:	0.6 Amp
Electrical Connection:	DIN 43650 (Hirshmann)
Operating Temperature Range:	20°C to 50°C

Pressure Switch

Temperature Limits:	-40°C to 60°C
Housing Classification:	IP65
Contact Rating:	Normally Closed at >120 bar Contacts rated at 5 – 100mA
Electrical Connection:	DIN 43650 Compact (Hirshmann) supplied w/ 0.3m cable
Pressure Setting:	135 bar decreasing

Nitrogen Cylinder

Fill Pressure:	160 barg @ 50°C
Volume:	410ml
Classification:	2.2
Temperature Limitations:	-20°C to 49°C

Important Note: Fike actuator cylinders are LPCB component approved for a service temperature range of -20°C to 49°C. However, the ideal operating conditions are in a climate controlled atmosphere with an ambient temperature between 16°C to 27°C range. This device is not approved for extreme conditions outside the temperature range and should not be installed outdoors. If the master and slave actuators are to be stored in an area that exceeds the ideal operating conditions of 16°C to 27°C range, the actuating cylinders are REQUIRED to be replaced every three years from date of installation.

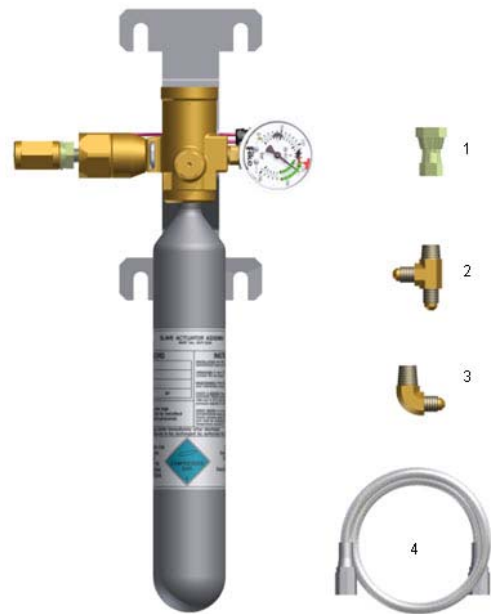
SLAVE ACTUATION PACKAGE (IG71-019)

The Slave Actuator Assembly consists of a pneumatic valve assembly and a rechargeable nitrogen cylinder. The Slave Actuator Assembly is pneumatically operated from the Master Actuator Assembly (P/N 70-202). Once activated, the nitrogen pressure will operate up to 60 ProInert Cylinder valves and/or additional Slave Actuators.

Also included in the package are:

Item	Description
1	P/N 02-10930 Adaptor 1/4" JIC to G1/4 with 60° Cone
2	P/N C02-1291 Run Tee 1/4" NPT x 1/4" JIC
3	P/N C02-1280 Elbow 1/4" NPT x 1/4" JIC
4	P/N 02-10801 Pilot Actuator Pneumatic Hose

The minimum actuation pressure required to operate the valve is 12 barg.



Note: The ProInert Actuation Package MUST be mounted in the bracket provided by Fike and the bracket MUST be securely anchored in an accessible location where it will not be damaged. The Nitrogen Cylinder and Pressure Gauge with Switch utilized on the Slave Actuator Assembly are the same items that are on the Master Actuator Assembly.

INSTALLATION

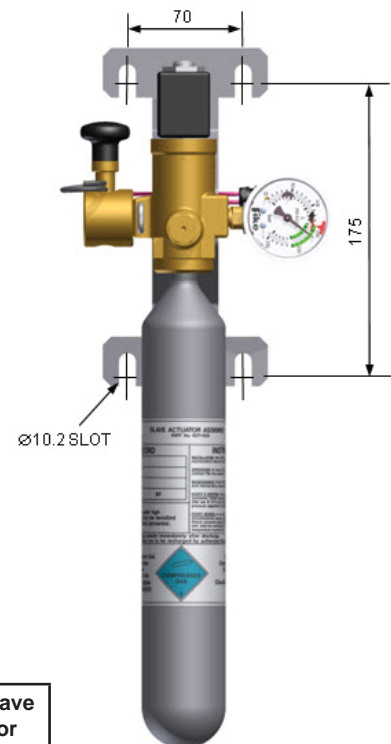
The ProInert Actuation Package should be the last component installed on the Fike ProInert system. The following items should be completed prior to final installation of the Actuator:

- Cylinder installation should be complete and secured in place
- Discharge piping installation should be complete and all bracing, brackets, etc. in place
- The discharge nozzles should be installed
- The detection & control system installation should be complete & tested – no faults shall be present

In some cases the Master Actuator Assembly may need to be mounted some distance from the cylinder bank. The table below shows the maximum distance the electric actuator may be mounted from the ProInert cylinder bank. In no case shall more than 60 ProInert cylinders and / or slave actuators be operated from a single actuator.

Note: The table below must be observed to assure correct system actuation.

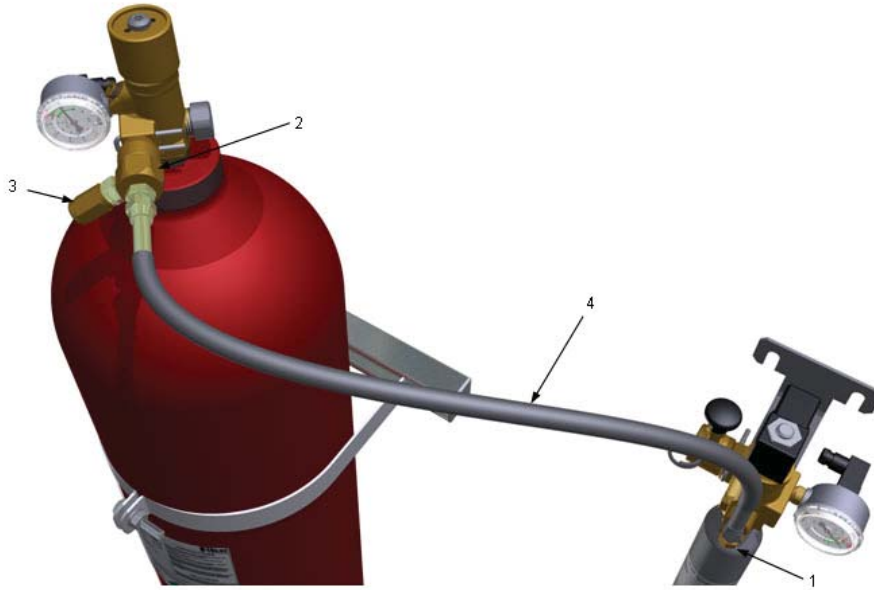
Material	Length Limitation	No. of ProInert Cylinders or Slave Actuators per Master Actuator
6mm Stainless Steel Tube (0.9mm wall)	10 m	60
6mm Copper Tube (1.0mm wall)		
3/16 Carbon Steel Bundy (0.7mm wall)		



The Actuator Assembly Mounting Bracket must be secured to a solid, load-bearing surface using a minimum of four fasteners and positioned so that the total length of the actuation line does not exceed 180.0 feet (55m). As an option, the brackets may be welded into place.

SINGLE CYLINDER INSTALLATION

The solenoid actuator can be connected to a single cylinder in accordance with the following procedure:



Step	Details
1	Remove the Safety Plug from the Master Actuator Assembly outlet port.
2	Install Elbow ¼" NPT x ¼" JIC (Item 1 – P/N C02-1280) into Master Actuator outlet port.
3	Remove hose from Pneumatic Actuator (Item 2 - P/N IG71-002).
4	Install Adaptor R ⅛" x G ¼" Adaptor, Sealing Washer and Vent Assembly (Item 3 - P/Ns 02-10797, 02-10926 & IG71-026). Ensure that the threaded connection into the Pneumatic Actuator (Item 2) is made with either Teflon tape or thread sealant (Loctite 542 or equivalent).
5	Install the ¼" JIC side of Actuation Hose (Item 4 - P/N 02-10801) onto the Elbow (Item 1).
6	Install Pneumatic actuator into actuation port of valve and secure in position with the retaining pin.
7	Install the G ¼" side of the Actuation Hose onto the Pneumatic Actuator (Item 2).

Note: All connections must be wrench tight.

SINGLE ROW INSTALLATION

The solenoid actuator can be connected to a single row of cylinders in accordance with the following procedure:

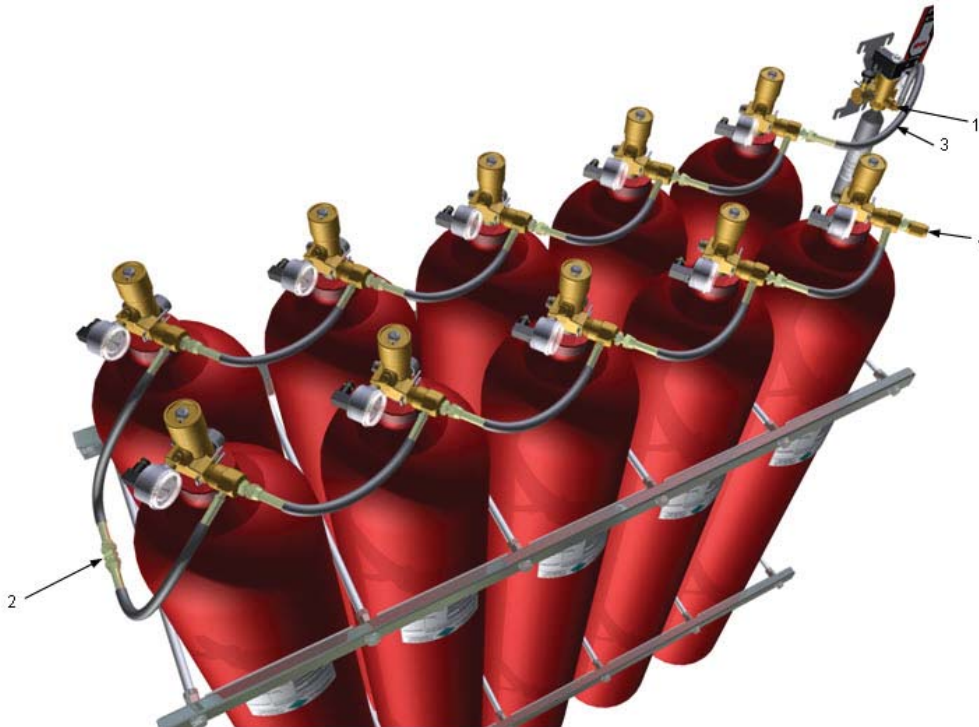


Step	Details
1	Remove the Safety Plug from the Master Actuator Assembly outlet port.
2	Install Elbow ¼" NPT x ¼" JIC (Item 1 – P/N C02-1280) into Master Actuator outlet port.
3	Remove hose from the last Pneumatic Actuator (Item 2 - P/N IG71-002) in the cylinder bank.
4	Install Adaptor R ½" x G ¼" Adaptor, Sealing Washer and Vent Assembly (Item 3 - P/Ns 02-10797, 02-10926 & IG71-026). Ensure that the threaded connection into the Pneumatic Actuator (Item 2) is made with either Teflon tape or thread sealant (Loctite 542 or equivalent). Install this Pneumatic Actuator to the last cylinder in the bank and secure in position with the retaining pin. NOTE: Ensure that the actuator is in the RESET position.
5	Install the ¼" JIC side of Actuation Hose (Item 4 - P/N 02-10801) onto the Elbow (Item 1).
6	Install the remaining Pneumatic Actuators on to the cylinder valves and secure them in position with the retaining pins. Connect the hoses on these actuators in a daisy chain as shown. NOTE: Ensure that the actuators are in the RESET position.
7	Install the G ¼" side of the Actuation Hose onto the first Pneumatic Actuator as shown.

Note: All connections must be wrench tight.

DOUBLE/MULTIPLE CYLINDER INSTALLATION

The solenoid actuator can be connected to a double row of cylinders in accordance with the following procedure:



Step	Details
1	Remove the Safety Plug from the Master Actuator Assembly outlet port.
2	Install Elbow 1/4" NPT x 1/4" JIC (Item 1 – P/N C02-1280) into Master Actuator outlet port.
3	Install the Pneumatic Actuators on to the cylinder valves and secure them in position with the retaining pins. NOTE: Ensure that the actuators are in the RESET position.
4	Connect the hoses on these actuators in a daisy chain as shown. Connect the actuator hoses between rows with the G 1/4 x G 1/4 adaptor (Item 2 – P/N 02-10824, 1 off supplied with actuator kit – If more than 1 is required these must be ordered separately).
5	Install the 1/4" JIC side of Actuation Hose (Item 3 - P/N 02-10801) onto the Elbow (Item 1).
6	Install the G 1/4 side of the Actuation Hose onto the first Pneumatic Actuator as shown.
7	Install Sealing Washer and Vent Assembly (Item 4 - P/Ns 02-10797, 02-10926 & IG71-026) on the last Pneumatic Actuator as shown.

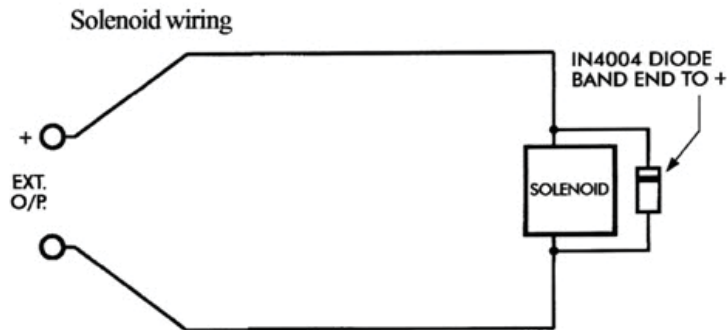
Note: All connections must be wrench tight.

SOLENOID WIRING

The solenoid coil is not polarity sensitive and can be wired as shown below. Final termination is through the DIN connector supplied with the unit. If your control circuit is not shown below, contact Fike for proper wiring instructions. The installer must provide a Diode (IN4004) for connection to the control panel.

Note: The convention shown below indicates the normal state being the activated state. Not all manufacturers follow this convention with panel markings, verify the polarity of the circuit with a voltmeter and wire per diagram below. The details below are for polarity reversing panels. If your panel is not a polarity reversing type, connect the solenoid per the solenoid only diagram and make sure that the supervisory current is at or below 10 mA.

Note: Always refer to the manual & wiring requirements for the specific control panel being used.



Copyright © Fike Corporation All Rights Reserved.
Form No. C.2.50.01 December, 2011 Specifications are subject to change without notice.