

A+ Control Box



P/N: 60-120010-001

Effective: August 2012
B-87-009

FEATURES

- *For Use in Range Guard® Commercial Cooking Fire Suppression Systems*
- *Pneumatic Release of Up to 5 Agent Cylinders*
- *Wall Mount in any Orientation*
- *Up to 200 ft. Mechanical Detection Cable*
- *Single or Dual Microswitches*
- *Easy to Install and Maintain*
- *Rugged, Cost-Effective Design*
- *UL & ULC Listed*

DESCRIPTION

The A+ Control Box (Figure 1) is a cost-effective, robust control unit used to actuate up to five agent storage cylinders on a Range Guard wet chemical fire suppression system for commercial cooking operations.

The A+ can be operated via a single detection line with up to 40 fusible link and/or thermo bulb link heat detectors or via a Range Guard in-line remote manual pull station. Upon operation, the A+ discharges the system CO₂ cartridge, pressurizing the actuation line and

System Valve Actuators (SVA) mounted on the cylinder valve(s). The SVA(s) open the cylinder valve(s), discharging the Range Guard system wet chemical suppression agent. A second mechanical cable is used to concurrently close the gas supply valve, shutting off fuel to the appliance(s).

The A+ is UL and ULC listed and includes one System Valve Actuator and two CO₂ actuation cartridges (for test and final set-up).

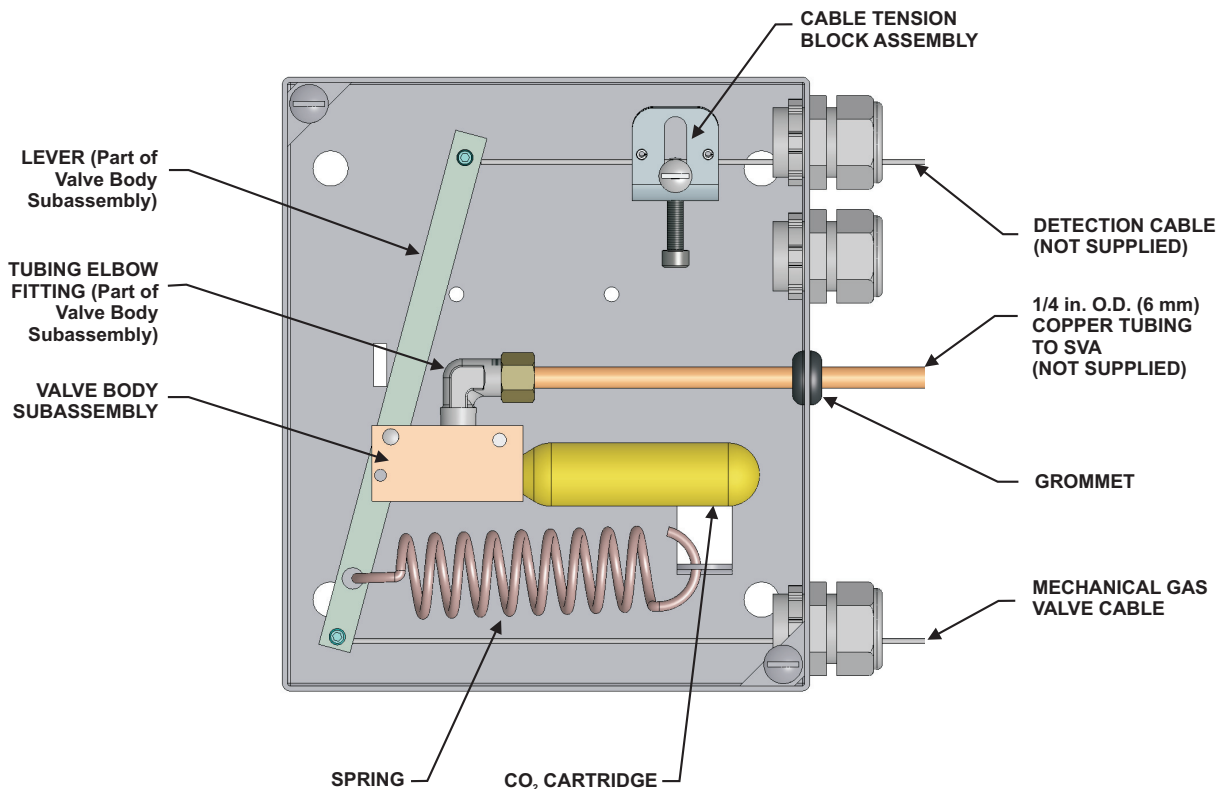


Figure 1. A+ Control Box, P/N 60-120010-001 (Cover Removed)

CO₂ CARTRIDGE, P/N 06-235557-001

When the CO₂ cartridge discharges, the CO₂ gas pressurizes the copper actuation tubing to the System Valve Actuator(s), located on the system Cylinder Valve, and actuates the cylinder(s) (see Figure 2).

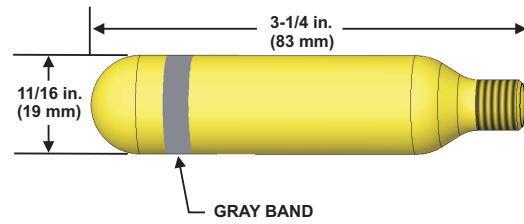


Figure 2. CO₂ Cartridge, P/N 06-235557-001

SYSTEM VALVE ACTUATOR (SVA), (P/N 87-120042-001)

A System Valve Actuator (SVA) is mounted to every wet chemical cylinder valve assembly (Figure 3). The SVA has ports for low profile tubing runs, and is also equipped with a spring loaded plunger that locks the piston in the discharged position, ensuring complete discharge of the cylinder(s) contents.

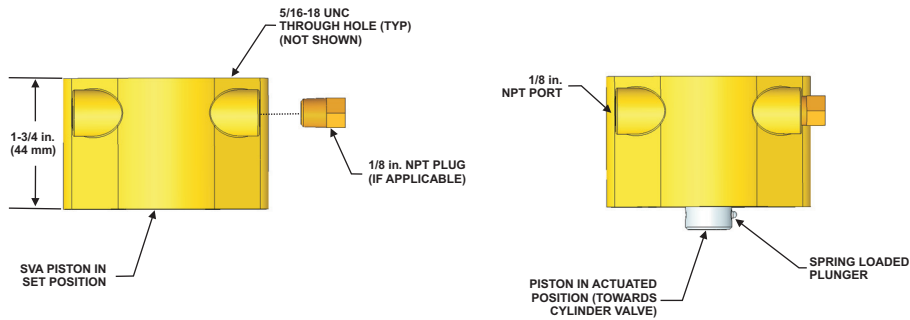


Figure 3. System Valve Actuator, P/N 87-120042-001

CABLE TENSION BLOCK, P/N 60-9197220-000

The Cable Tension Block (Figure 4) is used to set and maintain tension on the detector cable within the A+ Control Box.

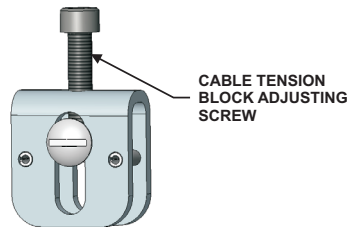


Figure 4. Cable Tension Block, P/N 60-9197220-000

KEEPER PIN, P/N 60-9197108-000

The Keeper Pin (P/N 60-9197108-000) is used to prevent actuation while installing the system.



Figure 5. Keeper Pin, P/N 60-9197108-000

A+ DESIGN PARAMETERS

The following tables detail the mechanical operation and actuation design parameters for the Range Guard A+ Control Box.

Table 1. A+ Mechanical Cable Parameters

Badger Cable Line	Max Cable Length	Max Corner Pulleys	Max Detectors
Detection / In-Line Remote Manual Release	200 ft. (60.96 m)	40	40
Gas Valve	50 ft. (15.24 m)	16	n/a

Table 2. A+ Actuation Parameters

Operating Temperature Range	Number of Extinguishing System Cylinders	Minimum Length Copper Actuation Tubing¹	Maximum Total Length Copper Actuation Tubing¹
0°F to 120°F (-18°C to 49°C)	1 - 5	3 ft. (0.91 m) from A+ to 1st system cylinder	23 ft. (7.0 m)

¹ High pressure 1/4-in. OD x 0.031 wall tubing with compression or flare fittings.

DIMENSIONS

The A+ Control Box (Figure 6) is mounted with four 3/8-inch diameter bolts or screws to a wall. The A+ Control Box may be installed in any position, allowing the cable to enter from the top, bottom or either side.

The cover labels are applied to the outside of the cover after the A+ Control Box is mounted.

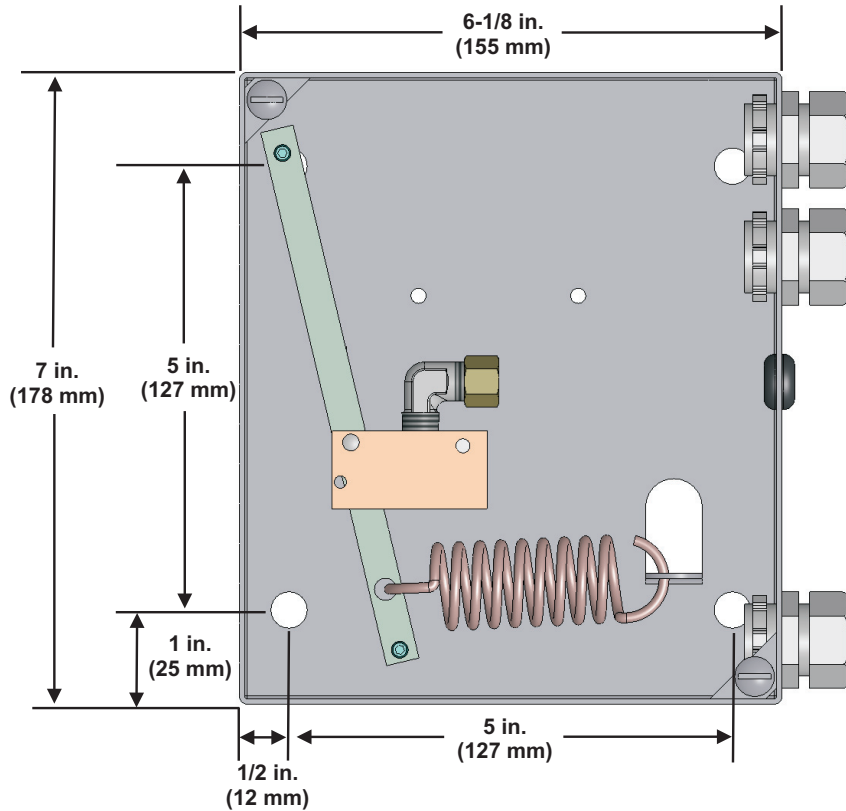


Figure 6. Location of Mounting Holes

ORDERING INFORMATION

Description	Part Number
A+ Control Box includes: 1 ea. 87-120042-001 System Valve Actuator 2 ea. 06-235557-001 CO ₂ Cartridges 1 ea. 60-9197220-000 Cable Tension Block	60-120010-001
CO ₂ System/Test Cartridge	06-235557-001
Cable Tension Block	60-9197220-000
Keeper Pin	60-9197108-000
System Valve Actuator (SVA)	87-120042-001

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