



ADX FIRE PROTECTION  
2320 LAKECREST DRIVE  
PEKIN, IL 61554  
888-747-4389

## **ADX Series ADX 2140 and ADX 2141**

DESIGN, INSTALLATION, OPERATION, MAINTENANCE AND RECHARGE MANUAL  
SELF-CONTAINED AUTOMATIC FIRE EXTINGUISHER UNITS

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## **\*\*\*WARNING\*\*\***

### **INSTRUCTIONS FOR TOP ASSEMBLY INSTALLATION ON ADX UNITS**

1. Remove top assembly from plastic bag.
2. Remove protective sleeve
3. Center the coupling on the valve assembly.



4. If Center coupling (aluminum piece inside valve assembly) is not centered, it will discharge the unit when attaching the top assembly.
5. Thread top assembly with the coupling centered.
6. Top assembly must be screwed down completely on to valve assembly.



**Please Note: Avoid bending the fusible link during this installation. A bent fusible link may crack which can also cause the unit to discharge.**  
If you have any further questions, please give us a call at 1-888-747-4389.

**CAUTION:**  
**Unit must be discharged before servicing**

**INTRODUCTION**

This manual contains operation, installation and maintenance instructions relevant to ADX Self-Contained Automatic Extinguisher Units outlined below:

**VERTICAL CONFIGURATION**

Model Number	Agent	Fill Weight	Operating Pressure	Operating Temperature Limits
ADX2140	ABC DRY CHEMICAL	16 LBS	100 PSI @ 70 Degree F	0 Degree to 100 Degree F

**HORIZONTAL CONFIGURATION**

Model Number	Agent	Fill Weight	Operating Pressure	Operating Temperature Limits
ADX2141	ABC DRY CHEMICAL	16 LBS	100 PSI @ 70 Degree F	0 Degree to 100 Degree F

These Self-Contained Automatic Extinguisher Units are designed and to be installed in accordance with this manual. These units are to be inspected and maintained in accordance with the Standard for Dry Chemical Extinguishing Systems, NFPA 17. Read this manual carefully before you begin the installation of your unit. Retain this manual for future reference. Improper installation, maintenance or failure to comply with this manual may void your warranty.

These Extinguisher Units are basically a container for dry chemical extinguishing agent under pressure. When operated, the unit discharges the agent completely.

Never try out this unit to see if it functions unless you are prepared to have it recharged or replaced immediately. When the unit operates, it will completely discharge its contents.

NOTE: Extinguisher units may not function properly if the indicated storage temperature range limits are exceeded.

The expellant gas utilized is dry nitrogen.

Install the mounting bracket using fasteners that are adequate to provide for rigid installation. Install the unit in the bracket and securely tighten the retaining bolts on the bracket.

**Optional:** A pressure switch is included with the extinguisher unit and is intended for the control of the auxiliary equipment such as an exhaust fan, a remote buzzer, or indicator lamp. The application, installation and wiring of this pressure switch is to be in accordance with the National Electrical Code, NFPA 70 and other local requirements.

**CAUTION:** These self-contained automatic extinguisher units are designed for the protection of specific size hazards and area coverage's. DO NOT install multiple units to protect larger hazards or coverage areas, as the units are not designed to be interconnected or operate simultaneously.

## OPERATION

These self-contained automatic extinguisher units are designed to activate when the hazard area spot temperature reaches that of the fusible element located at the tip of the top head assembly. The fusible elements are available in 165, 200 or 300 degree F ratings. Care must be exercised to not exceed the extinguisher unit's storage and operating temperature limits of -40 to 100 degrees F for the vertical configuration or 0 to 100 degrees F for the horizontal configuration.

## INSTALLATION

Carefully unpack the extinguisher and verify that the unit is pressurized as intended, with the indicator on the pressure gauge located within the green operating range.

ADX extinguisher units can be mounted in either the vertical or horizontal position (as applicable) and are intended for the spot protection of indoor application BC fires. In the event of a fire, the abnormal rise in temperature causes the fusible link to melt, releasing the extinguishing agent. The units are intended for indoor use only and shall be installed in a relatively draft free area where the hazard does not exceed the dimensions as outlined in the following Table. These extinguisher units are to be mounted with the top assembly directed downward over the hazard using the supplied bracket with the outlet of the nozzle at a distance as noted in the following table. Local authorities having jurisdiction should be consulted as to acceptability for particular hazards and requirements covering installation.

### SERIES ADX2140

Vertical Installation						
Model	Charge Wt ABC Dry Chemical	Maximum Hazard Area	Maximum Dimension	Height		Charges Unit Wt
ADX2140	16.0 lbs	30 sq ft	65.7 in	Max	Min	21 lb 11 oz
				7.5 ft	4.5	
Storage and Installation Temperature Range: 0 degrees to 100 degrees F Pressurized to 100 PSIG at 70 degrees F						

### SERIES ADX2141

Horizontal Installation						
Model	Charge Wt ABC Dry Chemical	Maximum Hazard Area	Maximum Dimension	Height		Charges Unit Wt
ADX2141	16.0 lbs	30 sq ft	65.7 in	Max	Min	22 lb 3 oz
				7.5 ft	4.5	
Storage and Installation Temperature Range: 0 degrees to 100 degrees F Pressurized to 100 PSIG at 70 degrees F						

## RECHARGE

The extinguisher units covered in this manual shall be recharged only by Factory trained service personnel or returned to ADX. To service the ADX unit, you must first discharge the unit (using the discharge adapter part number #3A113110). Visually inspect the extinguisher to verify that the unit has discharged completely and is no longer pressurized. To restore the extinguisher unit, care must be taken to follow the steps outlined below.

Inspect the cylinder for cracks, dents, corrosion. If any irregularities are noted, the cylinder must be hydrostatically tested or discarded. If there is no damage, the cylinder can be recharged.

After inspecting the cylinder, remove the valve and top assembly from the cylinder for vertical unit (model ADX2140). For horizontal unit (model ADX2141) unscrew the elbow and siphon tube from the cylinder. Caution should be observed when removing the valve since these units are pressurized to 100 psig. Never assume that the pressure is zero when disassembling the valve or elbow from the cylinder. Remove the valve or elbow slowly, allowing any pressure in the cylinder to vent through the slot in the threads at the base of the valve body.

To rebuild the top assembly and change the fusible link, you must first remove the deflector. Bend fuse finger by using a finger bending tool, (part no.1A110130). The finger must be bent flat. Thread the reloading tool, (part no.3A113100) onto the top assembly. By turning the wing nut clockwise, this will release the tension from the fusible link. Remove the clip and slide out the fusible link. To remove and inspect the firing pin and spring, turn the wing nut counterclockwise releasing the tension, remove the reloading tool. Replace all necessary parts (fusible link (part no. 3A110165, 3A110200 or 3A110300) firing pin (part no. 1A030115) and fire pin spring (part no. 1A030120). To reassemble, reverse steps. When bending the fuse finger do not twist the fusible link. Bend finger by using an upward motion only.

To rebuild the valve assembly, remove the top assembly from the valve. Replace all o-rings. To replace seat o-ring, remove valve stem, cone spring and coupling. Remove retainer by inserting retainer tool, (part no.3A113120) and turning counterclockwise. Replace the seat o-ring and then reassemble the valve.

Refill the cylinder with agent. Use the table from page two for agent fill weight. Refill with ABC dry chemical for all units.

For horizontal unit (model ADX2041) screw the siphon tube and elbow with valve assembly attached back into the cylinder, for vertical unit (model ADX2040) screw the valve assembly back into the cylinder. Make sure that the valve is screwed completely into the cylinder. Pressurize the cylinder to 100 PSI using dry nitrogen and check unit for leaks.

NOTE: The pressure gauge provided on the unit should not be used to determine when the intended charge pressure is reached. A separate calibrated gauge shall be used to verify the pressure introduced into the unit. A pressure regulator should be used if a high-pressure nitrogen source is used.

Place the top assembly on the valve body. Make sure that the valve stem is centered in the valve.

Never use nonstandard parts or an extinguishing agent other than that specified on the extinguisher label.

## **MAINTENANCE**

Inspect the unit monthly for physical damage, corrosion, tampering, or loss of pressure. Keep all exterior surfaces of the extinguisher unit clean and dry. Make sure that the nozzle is not obstructed. The fusible link should be replaced at least semi-annually or more frequently if necessary, to assure proper operation of the unit. The top assembly and the valve assembly should be replaced in cases where corrosion or excessive build up of foreign matter is noticed on the nozzle.

If the pressure is below operable range, as indicated on the unit's gauge and confirmed by using a separate, calibrated pressure gauge, increase the pressure to within the indicated pressure range appropriate for the particular unit. Weigh the unit at least semi annually. If the weight is 5% below the intended fill weight, then have unit recharged.

Keep the unit clear of obstructions. Do not paint or coat any part of the top or valve assembly, as it may prevent it from operating properly.

### **Hydrostatic Testing**

The dry chemical agent cylinder shall be hydrostatically tested to 200 psi at least every five years. Hydrostatic testing shall be performed by persons trained in pressure-testing procedures and safeguards and having available suitable testing equipment, facilities, and an appropriate service manual(s) as outlined in NFPA 17.

## PRESSURE SWITCH - A (OPTIONAL)

Prior to installation, a licensed electrician should be consulted. **(Pressure Switch is optional)**

The 20 KTS pressure switch is to be in accordance with the National Electric Code, NFPA 70. It should be used in instances where a device(s) is to be actuated or de-actuated.

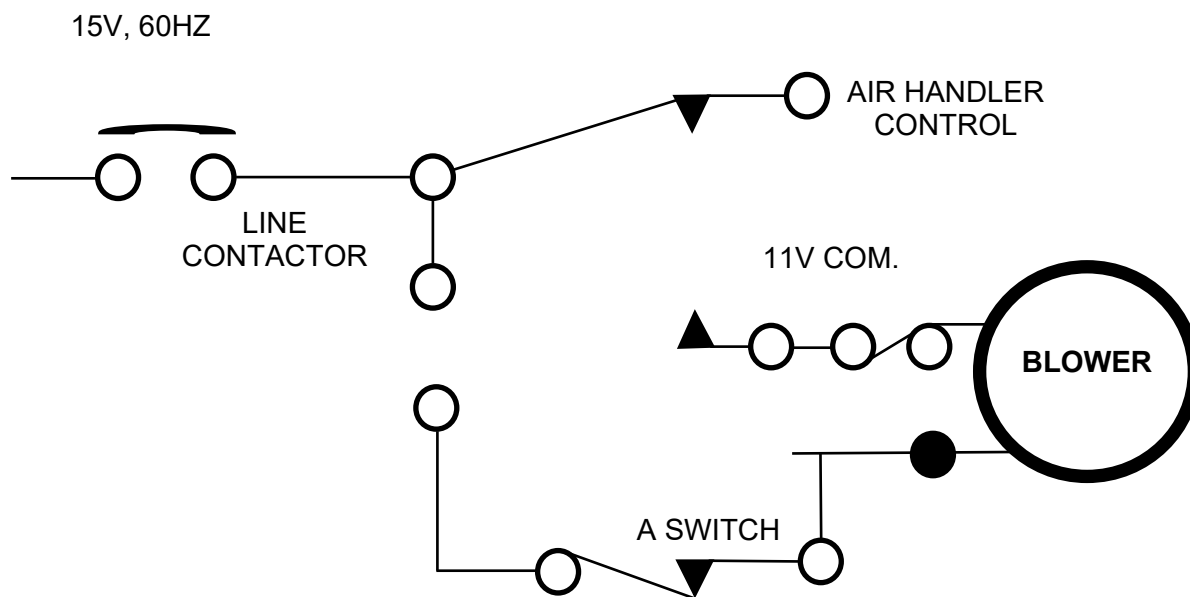
The "A" switch which is normally closed while the unit is under pressure is used to control aux. equipment only, such as an exhaust fan, remote indicator lamp, etc. Please note that this switch is "not eligible," for use as an alarm initiating switch for a said fire alarm. ADX recommends that you consult with a licensed electrician prior to installing any unit with a switch.

To install the pressure switch simply place the switch in line with the power supply of the device that is to be operated by the switch or by connecting the switch to a relay. A relay is to be used in cases where the current load of the device exceeds the operating limits of the pressure switch. All switches are rated for a maximum of 1 AMP at 120/240 VAC and 2 AMPS at 28 VDC. Consult your local electrical distributor for the type of relay to suit your specific requirements.

The 20 KTS pressure switch works on falling pressure. This Extinguisher Unit is initially pressurized to 100 psi. When a unit discharges the pressure begins to drop. Once the pressure reaches 50 psi the switch will de-actuate.

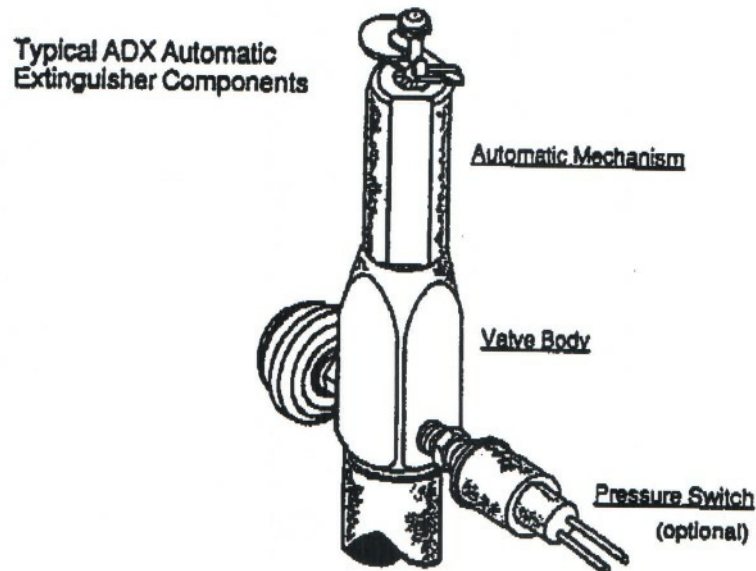
When recharging Extinguisher Unit with pressure switches, it is important to note that the unit must be pressurized to 100 psi. If the unit is not pressurized to 100 psi then the pressure switch will not function upon discharge. To check the pressure switch, use an ohm meter. When the pressure switch is under pressure the ohm meter will read zero ohms for an "A" switch.

## TYPICAL "A" SWITCH HOOKUP



## PARTS LIST

- |   |                   |
|---|-------------------|
| 1. Valve Body Assembly, dry chemical          | Part No. 3A112210 |
| 2. Valve Body Assembly, dry chemical (3 hole) | Part No. 3A112223 |
| 3. Top Assembly, local application            | Part No. 3A112103 |
| 4. Reloading tool                             | Part No. 3A113100 |
| 5. 90 degree elbow/siphon tube                | Call for Part No. |
| 6. Complete Parts List                        | 888-747-4389      |



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## CONTENTS:

ABC Dry Chemical, / HMIS -1-0-0 / Muscovite Mica, Ammonium Phosphate / Ammonium Sulfate / Nuisance Dust, Irritant / Contents Under Pressure