

### **AMEREX INDUSTRIAL SYSTEM**

# PARTS BOOK & COMPONENT OVERVIEW

(P/N 27429)



### AMEREX

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#### **Training Website**



https://training.amerex-fire.com/

#### **McWane Pocket Engineer**



**Android** 

https://pe.mcwane.com/

If accessed online, this booklet utilizes hyperlinks. Every part in the Index is linked and the Amerex logo located at the bottom left returns to Page I of the Index.



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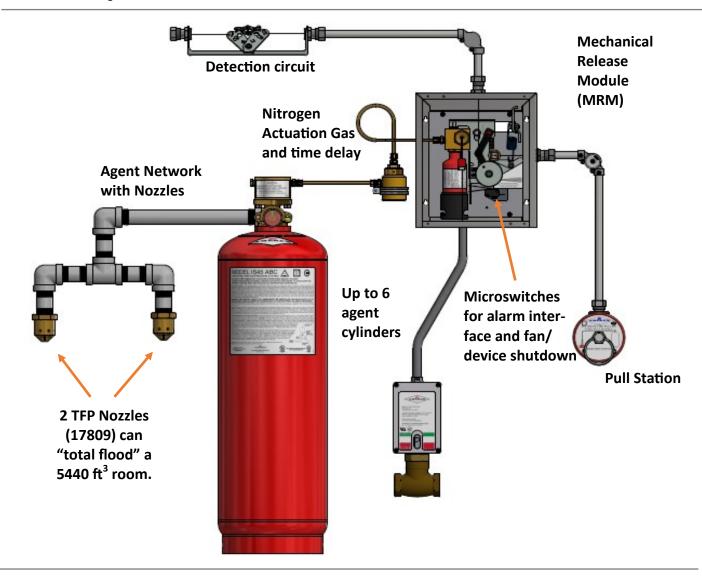




### INDUSTRIAL SYSTEM OVERVIEW DATA SHEET



#### MRM/PRM MECHANICAL SYSTEM OVERVIEW



MRM and PRM systems utilize link based detection or pressurized tubing to detect a fire. Both detection types then mechanically release a puncture pin into a pressurized nitrogen cylinder. The pressure in this cylinder then travels through the actuation line and opens the valves on the top of the pressurized agent tanks. The ABC agent then travels through the agent network and out the nozzles to extinguish the fire. The system can be similarly fired by means of pulling a manual pull station. Both MRM and PRM systems can manually connect to gas valves and utilize microswitches to trip electrical appliances or trigger alarms in fire alarm control panels.



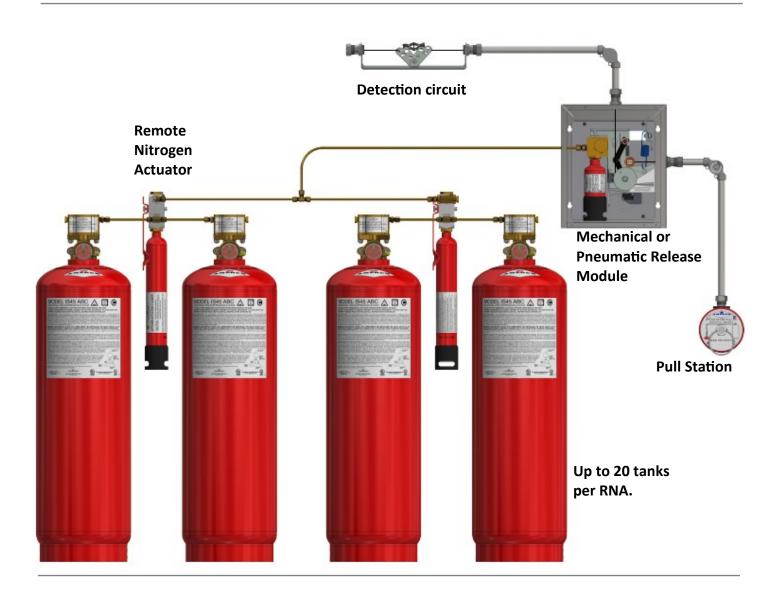
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### INDUSTRIAL SYSTEM OVERVIEW DATA SHEET



#### MRM/PRM OVERVIEW WITH RNA



The Remote Nitrogen Actuator (P/N 16166) can be use to enable a MRM/PRM system to fire more than 6 cylinder with a 10 in^3 nitrogen cartridge. Each RNA can release an additional 20 cylinders by utilizing at 28 in^3 nitrogen cartridge. Large Rooms or other applications can be total flooded by up to 40 IS cylinders with the setup above. A Mechanical time delay can be added for applications that require it.

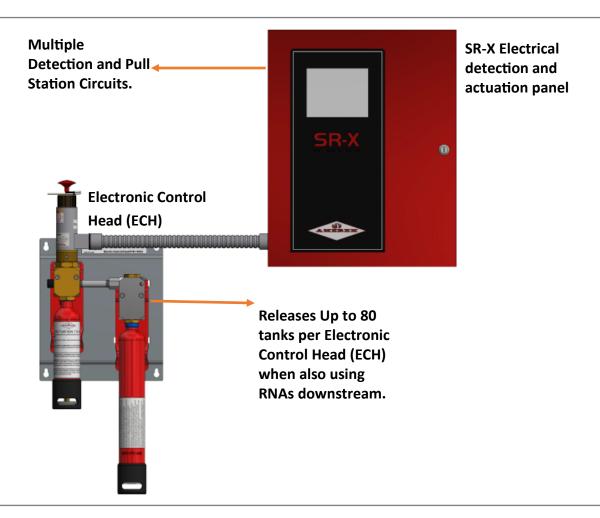




### INDUSTRIAL SYSTEM OVERVIEW DATA SHEET



#### SR-X ELECTRICAL SYSTEM OVERVIEW



The SR-X Releasing Panel can be used on large IS jobs where electrical detection and actuation is required. Electrical Spot Detectors and electrical pull stations are used to activate the system and the ECH is fired by a solenoid to release a 500 psi nitrogen cartridge that can then open the high pressure actuation cartridge.

The 500 psi ECH cartridge requires a separate refill adapter and different threads to ensure that safety discs and refill pressures are not confused with the higher pressure actuation cartridges.

The SR-X Panel has outputs to other devices, various inputs, and connections for fire alarm control panels.

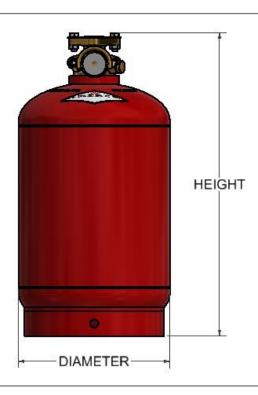






#### **AGENT CYLINDER - IS18ABC**





IS18ABC	U.S.	METRIC
Height	17 13/16 in	45.2 cm
Diameter	9 in	22.9 cm
Weight Full	39 lbs.	17.69 kg
Agent Weight	18 lbs	8.16 Kgs

#### P/N: 16206

IS18 Agent Cylinders utilize our highest MAP ABC powder formula, 350 psi (2413 KPa) fill pressure, Zinc Primed for corrosion resistance, and a rugged brass machined valve. The agent cylinders can be used in temperature ranging from -40 °F to 120 °F (-40 °C to 49 °C). They are shipped with 2 safety plates installed in order to prevent accidental activation, both plates must be removed prior to installation.



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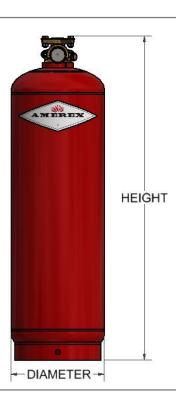
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#### **AGENT CYLINDER - IS35ABC/IS45ABC**





IS35ABC/IS45ABC	U.S.	METRIC
Height	31 in	78.7 cm
Diameter	9 in	22.9 cm
IS35ABC - P/N 16207	U.S.	METRIC
Weight Full	69 lbs.	31.3 kg
Agent Weight	35 lbs	15.88 kg
IS45ABC - P/N 16208	U.S.	METRIC
Weight Full	79 lbs.	35.83 kg
Capacity	45 lbs	20.41 kg

#### P/N: 16207 / 16208

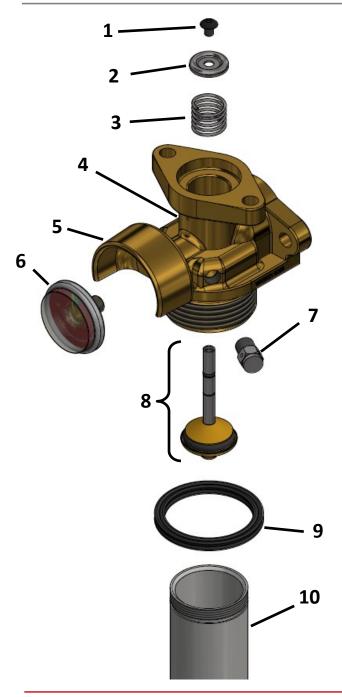
IS35/IS45 Agent Cylinders utilize our highest MAP ABC powder formula, 350 psi (2413 KPa) fill pressure, Zinc Primed for corrosion resistance, and a rugged brass machined valve. The agent cylinders can be used in temperature ranging from -40 °F to 120 °F (-40 °C to 49 °C). They are shipped with 2 safety plates installed in order to prevent accidental activation, both plates must be removed prior to installation.







#### AGENT CYLINDER DISCHARGE VALVE ASY



Item	Description	Part No.
1	Valve Stem Screw	16215-P012
2	Spring Washer	10102-P012
3	Spring	15834-P006
4	Valve Body	N/A
5	Gauge Guard	08680-P001
6	Rupture Disc Assembly	15609-P001
7	Pressure Gauge, 350 PSI	08714-P001
8	Valve Stem Asy	*
9	Collar O-Ring	05239-P012
10	IS18 Downtube	16212-P001
10	IS35 and IS45 Downtube	16213-P001

<sup>\*</sup> available in valve rebuild kit 20660 on next page

#### P/N: 15830-P001/15831-P001

The machined brass Discharge Valve, when mated to the Pneumatic Control Head, is actuated pneumatically from either the Mechanical Release Module (MRM), the Pneumatic Release Module (PRM), or the Electronic Control Head (ECH). Valve replacement components are shown at right. The complete Discharge Valve Assembly for the two cylinder sizes are:

IS18 Discharge Valve Asy: P/N 15830-P001

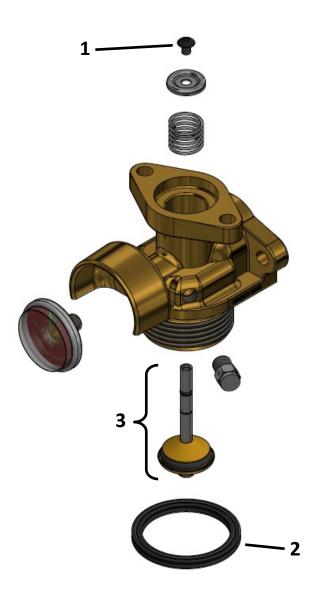
IS35 / 45 Discharge Valve Asy: P/N 15831-P001







#### **VALVE REBUILD KIT**



Item	Part No. (ref only)	Qty	Description
1	16215	1	Valve Stem Screw
2	05239	2	Collar O-Ring
3	16214	1	Valve Stem Assembly
	15832	1	Cup Stem
	15833	1	Brass Ring
	15835	1	O-Ring Seal
	10098	1	Valve Stem
	10733	1	Valve Stem O-Ring

P/N: 20660

IS valve rebuild kit. Contains all the parts necessary to rebuild an IS valve.



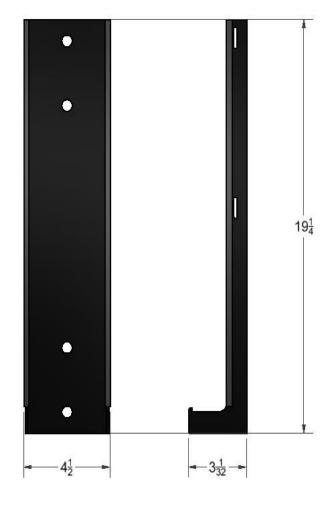


#### AGENT CYLINDER BRACKET



#### P/N: 14929

The agent cylinder bracket is constructed from 1/8 inch (3.2mm) steel & powder coated black. This bracket assembly will accommodate either the IS18 or the taller IS35/45 agent cylinders, and contains two stainless steel Bracket Straps (P/N 14927-P002) for securing the cylinder to the bracket back. Only one strap is needed for the IS18 cylinder.





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#### AGENT CYLINDER BRACKET, HEAVY DUTY

P/N: 10180



P/N: 10181

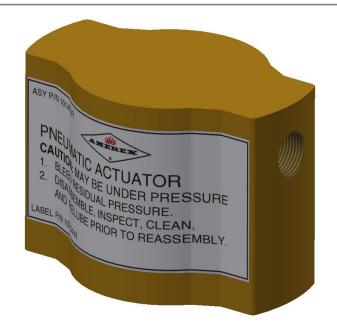


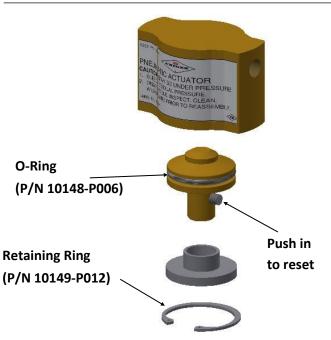
These Heavy Duty IS Brackets are Zinc Primed and Red Powder Coated to prevent damage and extend life in salt laden or highly corrosive environments. The brackets are constructed of heavier-gauge steel (3/16" and 1/4" with stainless steel strap-retaining hardware). P/N 10180 is used for the IS18, while the P/N 10181 is used for either the IS35 or the IS45. Each bracket uses two straps. These brackets are the same style as the rugged Vehicle Brackets.

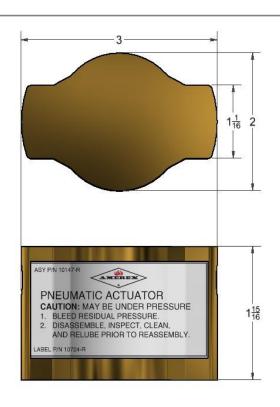




#### PNEUMATIC CONTROL HEAD







#### P/N: 10147

The Pneumatic Actuator is required for every pneumatically actuated, IS Agent Cylinder Assembly. The actuator is bolted directly to the top of the agent cylinder discharge valve. When actuation occurs at the MRM or PRM, the pneumatic pressure from the nitrogen cylinder enters the actuator through ¼" NPT threaded ports on either side. The actuation pressure forces the piston inside to extend and depress the valve stem of the discharge valve. Resetting is easier than the previous discontinued Actuator P/N 15157.



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#### IS DISCHARGE NOZZLES

APPLICATION TYPE	PART NO.
Local Application, Overhead (LAOH) Nozzle	16216
Tankside (TS) Local Application Nozzle	16170
Total Flood (TF) Nozzle	16172
Three-Way Nozzle	16174
Duct and Plenum (D/P) Nozzle	16190
Screening (SCR) Nozzle	16192
Total Flood, Perimeter (TFP)	17809

Covers 2720 ft<sup>3</sup> per nozzle in TF applications



P/N 17809 - TFP 1" Female Threads & 17810-P006 blowoff cap



P/N 16170 - TS



P/N 16172 - TF







These 6 nozzles use 3/4" Male threads & P/N 14988 -P006 blowoff caps

P/N 16192 - SCR P/N 16216 - LAOH

P/N 16174 - 3 Way

The AMEREX IS system uses 7 different nozzles, each type of nozzle is specifically machined so it can be identified by touch and are also stamped with the part number. All AMEREX IS nozzles come with a protective cap installed on the nozzle assembly.

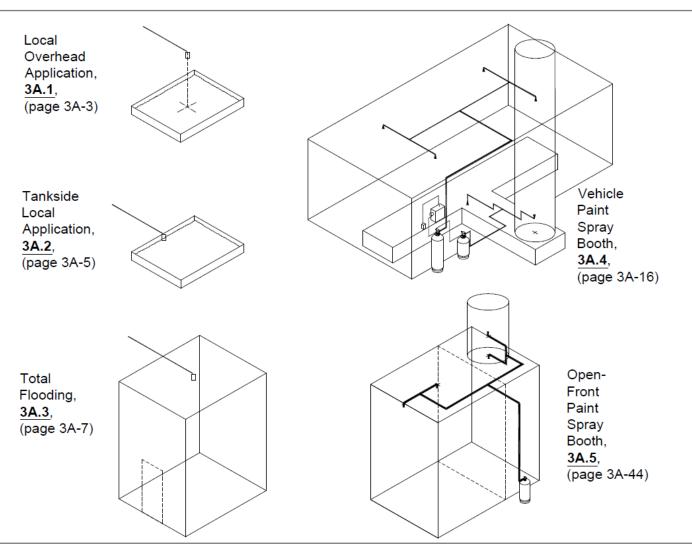


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#### IS HAZARDS CATEGORIES



It is necessary for the system designer to consider the physical characteristics and layout of the hazard area to ensure proper protection. The system must meet the criteria for a particular hazard and the requirements of NFPA 17 for the system to be effective. Underwriters Laboratories, under the UL 1254 test protocol, has evaluated the AMEREX Industrial Dry Chemical System in each of five separate hazard categories. Each category has its own specific installation requirements. It is imperative that the system designer properly identify the fire hazard in order to effectively remain within the UL listing parameters.







#### **MECHANICAL RELEASE MODULE (MRM)**



#### P/N: 18001

The new MRM combines the same features and functionality as the original MRM along with increased detection capabilities and far simpler means of setting the detection cable tension. The slide plate and collapsible column are now Teflon coated. The MRM is available in the above configurations, now preinstalled in its own enclosure.

Setting the detection cable tension does not require the use of any tools (once the cable is locked down into the large, knurled ratchet wheel). A large lever to the right of the ratchet wheel is used to increase the cable tension. Alignment of the bottom edge of the lever with markings on a label indicates when the proper tension has been achieved. Lowering cable tension to change out detection links is now also much simpler.

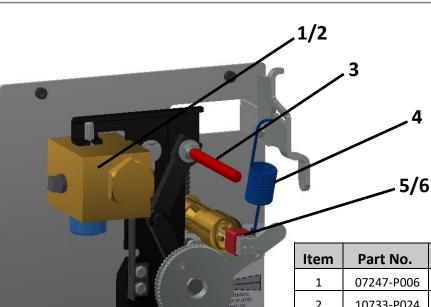
There is also a MRM available without the enclosure, P/N 11977. This has the same purpose and functionality as the MRM (P/N 18001). It is often used in conjunction with the MRM Enclosure (P/N 11978) or to upgrade from the MRM I.







#### **MRM SPARE PARTS LIST**



#### **Backplate Assembly (P/N 11977)**

Spare Parts for the MRM (18001) or MRM Backplate (11977) are shown above. If other components are needed please contact AMEREX technical support.

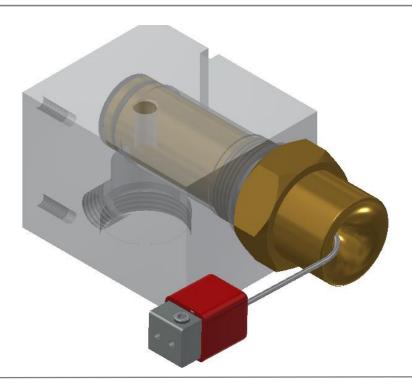
item	Part No.	Description
1	07247-P006	Gasket Hose
2	10733-P024	O-Ring - Valve Stem
3	12811-P006	Vinyl Screw Cap - Red
4	12721-P001	Spring Link Act
5	13342-P001	Connection Cable - Gas Valve
6	13612-P001	Vinyl Cable Cap - Red
*	12744-P012	Screw Set (#10-32)
*	12733-P012	Screw Tap (#8-18)
*	12859	Cable Terminal End
*	13393	MRM Enclosure
*	13323	KP/IS Spare Parts Kit ( <u>p. 61</u> )
*	14899	KP/IS Spare Parts Kit with PRM Parts (p. 62)
*	01387-P100	Lockwire Seal
*	13390-P010	Crimp
*	13119-P001	Label Indicator MRM
*	12868-P025	Caution Label - KP Hood
* PART NOT SHOWN		

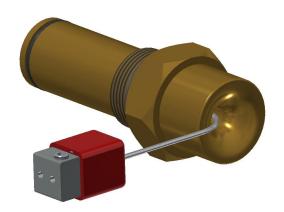
Description





#### **GAS TRIP ASSEMBLY**





#### P/N: 12740-P001

Operation of one or two mechanical gas valves may be accomplished with the Gas Trip Assembly (P/N 12740-P001) which is included in the AMEREX Mechanical Gas Valve.

The cable for the gas valves, manual pull stations and detection network may be attached to the MRM from either the top or bottom.





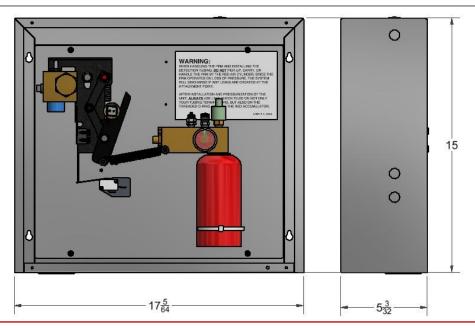


#### PNEUMATIC RELEASE MODULE



#### P/N: 16795

The Pneumatic Release Module uses a simple linear pneumatic detection interface. The mechanism interfaces with control mechanical manual pull station(s), actuation networks; mechanical gas valves, and offers electrical contacts for shutdown functions. A pressure switch is provided for connection to an alarm panel and/or the optional low pressure indicator. Supplied with the PRM are an End of Line Fitting and two sealing balls. When the pressurized tube is broken by excessive heat the line and accumulation bottle is relieved of pressure and the system actuates.





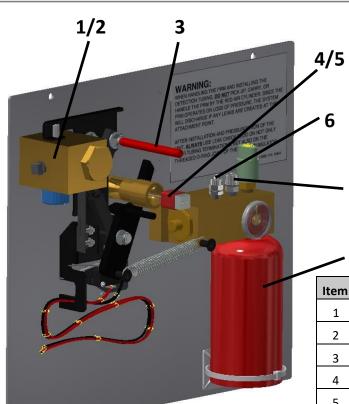
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#### PRM SPARE PARTS LIST



#### Backplate Assembly (P/N 25697)

Spare Parts for the PRM (16795) or PRM Backplate (25697) are shown above. If other components are needed please contact AMEREX technical support. Note that the entire backplate assembly should be purchased to replace a PRM 1 when the hydrotest comes due.

Item	Part No.	Description	
1	07247-P006	Gasket Hose	
2	10733-P024	O-Ring - Valve Stem	
3	12811-P006	Vinyl Screw Cap - Red	
4	13342-P001	Connection Cable - Gas Valve	
5	13612-P001	Vinyl Cable Cap - Red	
6	13871-P001	1/8" NPT Male Fitting	
7	00155-P002 or P012	Valve w/ Core & Cap	
8	22678-P001	Replacement Accumulator Assembly	
*	12733-P012	Screw Tap (#8-18)	
*	13323	KP/IS Spare Parts Kit ( <u>p. 61</u> )	
*	14899	KP/IS Spare Parts Kit with PRM Parts (p. 62)	
*	01387-P100	Lockwire Seal	
*	13390-P010	Crimp	
*	16555-P006	Installation Label	
* PAF	* PART NOT SHOWN		



#### PRM LOW PRESSURE MODULE



#### P/N: 17484

The Low Pressure Module monitors the accumulator and PRM tubing pressure in order to alarm the user when a slow leak, which could eventually falsely trip the system, is occurring. Cables connect the 17484 to the PRM in order to allow for low pressure alarming.

#### **Cable Lengths**

Part #	Length (ft)
17564	2.5
17565	5.0
17666	10
17567	15
17568	20
17569	30







#### PRM DETECTION TUBING



Part No.	Length
16557	25 Feet
16551	50 Feet
16579	100 Feet
16552	150 Feet
16554	300 Feet

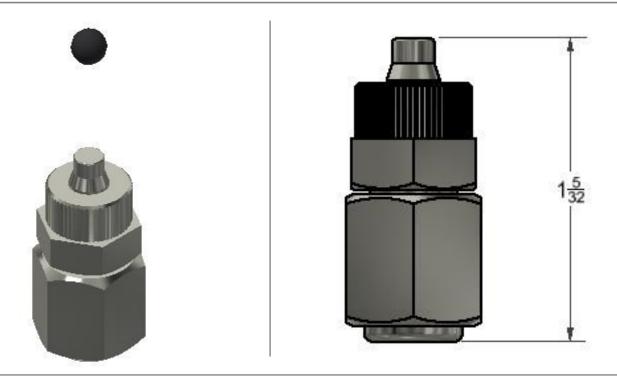
%" pressurized thermal responsive tubing provides a mechanical movement via loss of pressurization anywhere along its entire length that results in system actuation. Detection temperature is at 435°. Tubing requires an End of Line Fitting to operate which is included with the PRM. The replacement interval is every 3 years.







#### PRM END OF LINE FITTING



#### P/N: 16506

The "End of Line Fitting" is installed at the end of the pneumatic detection network. The sealing ball must be installed in the end of the tubing. One End of Line Fitting and two Sealing Balls are supplied with each PRM.



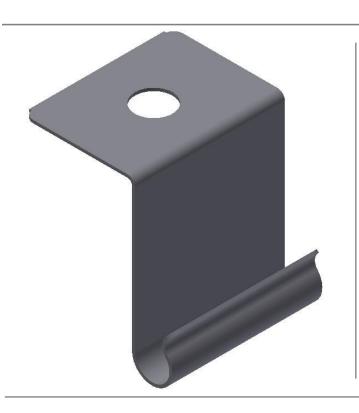
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### PRM/LHD TUBING SUPPORT CLIP

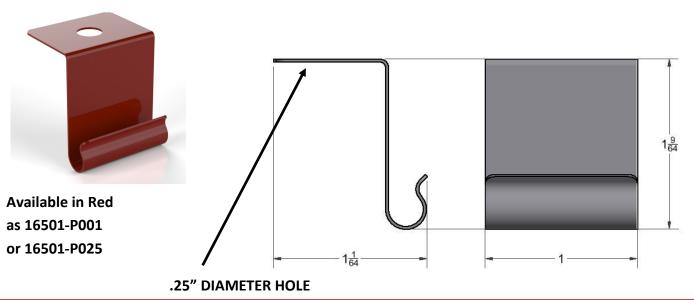


#### P/N: 23524

The Tubing Support Clip is used in the pneumatic detection network to provide a means of support for the pressurized responsive tubing. A Tubing Clip is required for every 18" of tubing. A Tubing Clip is also required within one inch of the End of Line Fitting.

Available as singles (P/N 23524-P001) or in bulk (P/N 23524-P025)

Red powder coated clips are also available, P/N 16501-P025, if those are preferred over stainless steel.









#### **MRM ACCESSORIES**

#### **Copper Actuation Tubing**



#### P/N: 22278

50 feet of ¼" O.D. x 0.049 wall thickness copper tubing. Use this tubing to connect the MRM or PRM to the actuation port of the agent cylinder. Fittings used with tubing are to be brass or steel compression style fittings.

#### **Stainless Steel Cable**



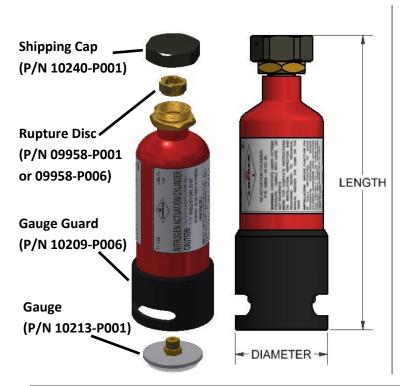
#### P/N: 12553

This stainless steel cable connects the MRM or PRM to the detection line, pull station, and gas valve. Contains 500' of coiled steel cable





#### **NITROGEN ACTUATION CYLINDERS**



Part No.	Diameter	Length	
12856 (10 in <sup>3</sup> )	1.998 in	6 3/8 in	
12856 (10 III )	5.07 cm	16.19 cm	
09956 (15 in <sup>3</sup> )	1.998 in	9 11/25 in	
	5.07 cm	24 cm	
16197 (28 in <sup>3</sup> )	1.998 in	13 31/32 in	
	5.07 cm	35.56 cm	

Typical Pressure	All 1800 psi cylinders		
@ 40°F	~1700 PSI	~11722 kPa	
@ 70°F	1800 PSI	12411 kPa	
@ 100°F	~1900 PSI	~12893 kPa	

#### P/N: 12856 / 09956 / 16197

The  $N_2$  Actuation Cylinder supplies nitrogen gas pressure to the Agent Cylinder Discharge Valve through the actuation network for the purpose of opening the Agent Cylinder. Each Actuation Cylinder is charged to 1800 psig (12410 KPa) at 70° F (21° C)

The 10 in<sup>3</sup> N<sub>2</sub> Actuation Cylinder (P/N 12856) contains enough nitrogen to actuate up to six IS Agent Cylinder Assemblies in any combination.

The 15 in<sup>3</sup> N<sub>2</sub> Actuation Cylinder (P/N 09956) contains enough nitrogen to actuate up to ten total IS Agent Cylinders Assemblies in any combination.

The 28 in<sup>3</sup> N<sub>2</sub> Actuation Cylinder (P/N 16197) Activates the RNA and the ECH. It should not be installed directly into a MRM or PRM. It can actuate up to 20 total IS cylinders with a Copper Actuation Tubing (P/N 22278) limit of 100' in either direction.

A Replacement Rupture Disc is available for all cylinders for use by certified AMEREX installers when recharging, for recharge adapter please see the parts and service section.

CYLINDERS ARE LESS THAN 2" IN DIAMETER AND DO NOT REQUIRE HYDROTEST PER DOT.





### ADDITIONAL COMPONENTS AND TOOLS DATA SHEET



#### MECHANICAL TIME DELAY



Part No.	Part Description
15763-P001	Plug
15767-P001	Flow Restrictor Replacement Kit
15766-P006	Set Screw
12645-P001	Nut
12003-P001	Сар
10513-P012	O-Ring For Cap
15768-P001	Spring
15762-P001	End Cap

#### P/N: 15765

The Mechanical Time Delay is used on a nitrogen actuation line when a Discharge Time Delay is required (Refer to UL 1254 Standard for details). It is the first component to connect into the MRM, and is packaged with its own mounting clamp. Positioning of the device can be seen in the System Overview Section. In the event of system actuation, the Mechanical or Electrical Gas Valves trip immediately, along with any electrical component connected the Microswitch (es), but the high pressure nitrogen actuation gas will be delayed before entering the Actuation Network. The reason for this is to allow for exhaust fan run-down in certain paint spray booth applications.

The spare parts list above is for service of the time delay, the flow restrictor 15767-001 is to be replaced after use. The 15767-001 includes the Flow Restrictor (P/N 15767) and O-Ring (P/N 05235).



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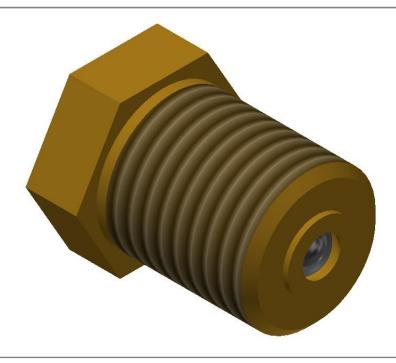
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# ADDITIONAL COMPONENTS AND TOOLS DATA SHEET



#### **VENT PLUG**



P/N: 10173

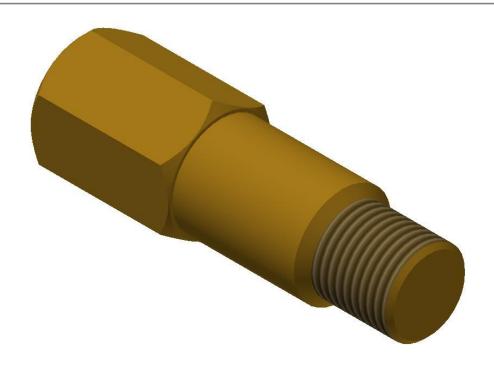
The vent plug is required in the system actuation network to allow a means of relieving pressure in the actuation piping after a system discharge, and to prevent a slow build-up of pressure in the actuation line.



## ADDITIONAL COMPONENTS AND TOOLS DATA SHEET



#### **CHECK VALVE**



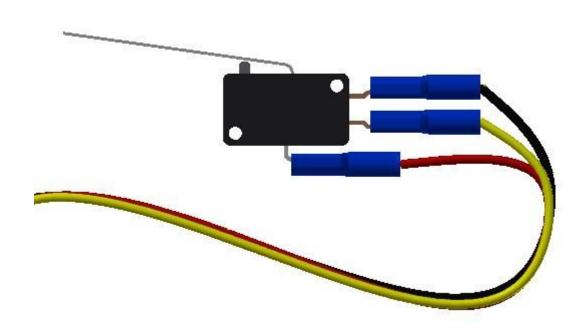
#### P/N: 10262-P001

Is only used in 'Dual' systems, when the actuation outputs of two different control units (MRMs/ PRMs, etc) are interconnected together to protect a single fire hazard. It is  $\frac{1}{2}$ " female NPT by  $\frac{1}{2}$ " male NPT.





#### **MICROSWITCH**



#### P/N: 12524

Designed to be mounted in the Mechanical Release Module (MRM / MRM II) and the Pneumatic Release Module (PRM), microswitches are used to control various output functions. These output functions may involve turning off or turning on power. Examples of output functions are: Sounding a visual or audible alarm, operate an Electrical Gas Valve, shut off Supply Air Fans or other electrical devices designed to shut off or turn on upon system actuation. Two field-useable P/N 12524 SPDT (Single Pole, Double Throw) switches are preinstalled in the both the MRM and the PRM (a wire gutter is provided to aid in electrical installation). Up to two additional SPDT switches may be added to the MRM and PRM for the following configurations: SPDT, DPDP, 3PDT, and 4PDT (MRM). Microswitches are intended for indoor use only. All Microswitch connections are to be made outside the MRM / PRM in an approved junction box.

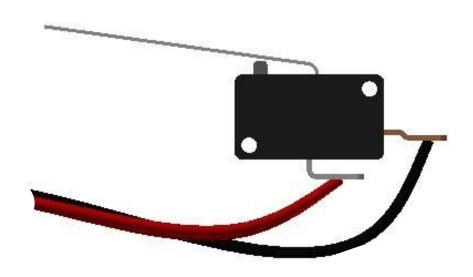
Color Code: Red = Common, Yellow = N.O., Black = N.C.







#### **ALARM-INITIATING MICROSWITCH**



#### P/N: 18312

The optional alarm initiating microswitch is used when it is required to be electrically connected to a fire alarm system per NFPA 17 and NFPA 72 in a supervised, four-wire manner. It is designed to be mounted in the Mechanical Release Module (MRM / MRM II) and the Pneumatic Release Module (PRM) only for the purpose of initiating an alarm in a fire alarm system. All Microswitch connections are to be made outside the MRM / PRM in an approved junction box.







### **REMOTE NITROGEN ACTUATOR (RNA)**



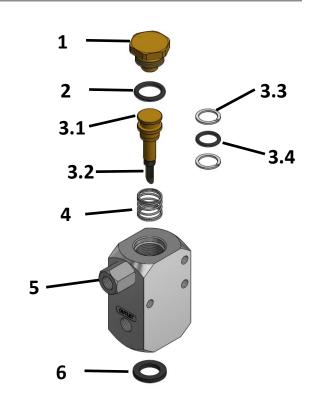
#### P/N: 16166

RNA is used when there is a need to have more than the typical number of Agent cylinders on a actuation line. It contains an actuation head and a mounting bracket. [The 28 in<sup>3</sup> nitrogen actuation cylinder, P/N 16197 is purchased separately]. The nitrogen cylinder that is mounted in the MRM/ PRM or ECH uses its pressure to actuate this device thus firing an additional nitrogen source.

The RNA is used when the number of Agent Cylinders in a system exceeds the capacity of traditional system configurations. Either one or two RNA's can be used with a single Control Panel. Each Actuator can fire up to 20 Agent Cylinders, branched through a tee, with 10 Agent Cylinders on either side of the tee. Each branch from the tee has a maximum length of 100 feet (21.3 meters) to the last control head. Multiple RNA's can be used in a network to activate up to 80 IS cylinders.

Item	Part No.	Part Description	
1	16165-P001	Plug	
2	10513-P012	O-Ring (For Plug)	
3	10265	Puncture Stem Assembly	
3.1	09985**	Puncture Stem	
3.2	16163**	Puncture Point	
3.3	09993**	Back-Up O-Ring	
3.4	09989**	O-Ring #113 .103 x .549 (2)	
4	10097-P006	Spring	
5	16167-P001	Adapter	
6	07247-P006	Gasket	
*	16168-P001	Band Clamp	
*	10573-P012	Screws (Bracket Mount)	

<sup>\*</sup> PART NOT SHOWN; \*\* INCLUDED IN 10265 ONLY





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### DETECTION COMPONENTS DATA SHEET



#### TYPE "K" FUSIBLE LINKS



10 ft spacing for smooth ceiling up to 12 ft in height, consult NFPA 72 for spacing above 12 ft.

EXPOSURE LIMIT					
Part No.	Link Rating		Max. A	mbient	
42226	242° F	400° C	450° 5	cc° c	
12326	212° F	100° C	150° F	66° C	
12327	280° F	138° C	225° F	107° C	
12328	360° F	182° C	300° F	149° C	
12329	450° F	232°C	375° F	191°C	

Multiple temperature ratings of fusible links are available. They are assembled using solder which will melt at a predetermined temperature allowing the two halves of the link to separate, triggering the detection network.

Available as singles or as bulk packs with P/N ####-P025





### DETECTION COMPONENTS DATA SHEET



#### **JOB QUICK RESPONSE LINKS**



20 ft spacing for smooth ceiling up to 12 ft in height, consult NFPA 72 for spacing above 12 ft.

Part No.	•	Link Rating		Max. A	
	Type			Tempe	rature
16225	Quick	200° F	93° C	150° F	66° C
16226	Quick	286° F	141° C	225° F	107° C
16227	Quick	360° F	182° C	300° F	149° C
16445	Quick	450° F	232° C	375° F	191° C
16446	Quick	500° F	260° C	425° F	218° C

Multiple temperature ratings of the Job Links are available. They are constructed of two metal struts held intension by a small, glass bulb that ruptures at the appropriate temperature rating. The detector bracket (P/N 12508-P001) will support either the Globe Type 'K' fusible links or the Job links, and the same detector limitations apply for both types of detector.

Available as singles or as bulk packs with P/N ####-P005

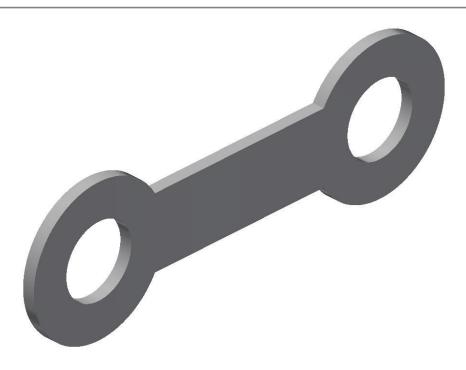




### DETECTION COMPONENTS DATA SHEET



#### **TEST LINKS**



#### P/N: 12891

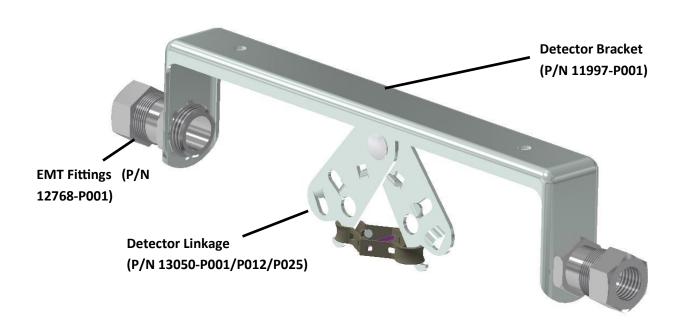
Test links are available for conducting functional tests of the detection system. This device fits the detector linkage in the same manner as the fusible link, is normally placed on the terminal detector and can be cut, simulating a fusible link separating under fire conditions. Available as singles (P/N 12891) or in packs of 10 (P/N 12891-P010).

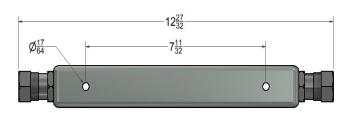






### **FUSIBLE / JOB LINK DETECTOR BRACKET**





Available as singles (P/N 12508-P001) or in bulk (P/N 12508-P012)

#### P/N: 12508-P001

**Each Detector Bracket in the AMEREX IS** System is comprised of three parts the Bracket Detector (11997-P001), Detector Linkage (13050-P001/P012/ P025) and two EMT fittings (12768-P001). The fusible link is ordered separately. The bracket serves as support for the linkage and is attached to a rigid surface. The linkage supports the fusible link and a continuous cable run under tension. At a predetermined temperature the fusible link will separate, relieving tension on the cable and actuating the system.

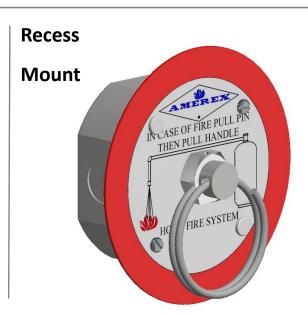






#### MANUAL PULL STATION





This Manual Pull Station may either be surface or recess mounted. The oversized cover is large enough to cover the sheetrock access hole for the standard 4" octagonal box and remain attractive and functional. Manual Pull Stations should be located in the path of egress and mounted at a height conforming to the local code requirements. The pull stations are composed of the Ring Pin (P/N 00160-P024), Cover Screw (P/N 13257-P012), Screw Set (P/N 12744-P012), and the Pull Handle (P/N 12766-P001)

Part No.	Description
21481	Manual Pull Station - English (Recess or Surface Mount)
27195	Manual Pull Station Recess Only - English
27196	Manual Pull Station Surface Only - English
22116	Manual Pull Station - English/Spanish (Recess or Surface Mount)
27197	Manual Pull Station Recess Only - English/Spanish
27198	Manual Pull Station Surface Only - English/Spanish
22117	Manual Pull Station - English/French (Recess or Surface Mount)
27199	Manual Pull Station Recess Only - English/French
27200	Manual Pull Station Surface Only - English/French



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#### **CORNER PULLEY - AMEREX**

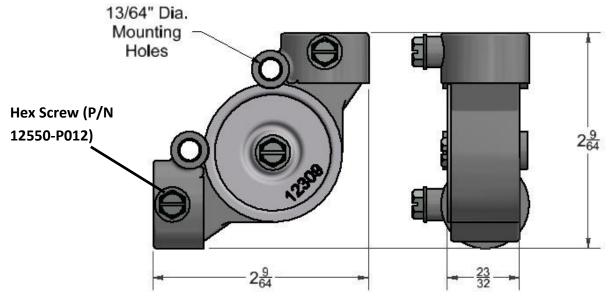


#### P/N: 12309

The AMEREX IS System uses a "high temperature" corner pulley to change direction of the cable by 90°. This corner pulley may be used in environments with temperatures up to 700°F (371°C). Mounting holes are provided for anchoring the corner pulley where allowed by local codes.

Available as singles or bulk packs (P/N 12309 or P/N 12309-P050)

Utilizes #8-32 Hex Screw (P/N 12550-P012)









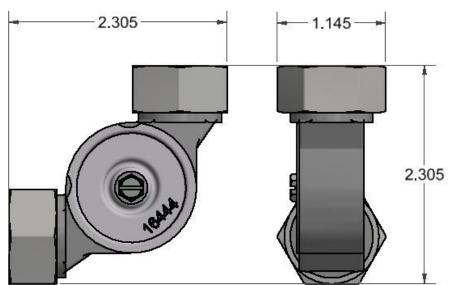
### **CORNER PULLEY - BROOKS CP5**



### P/N: 16444

This compression corner pulley, Brooks Model CP5, allows complete assembly of conduit and corner pulleys prior to installing the cable. Like the AMEREX Corner Pulley (P/N 12309) it is used to change direction of the cable by 90°

Available as singles (P/N 16444) or as bulk (P/N 16444-P050)









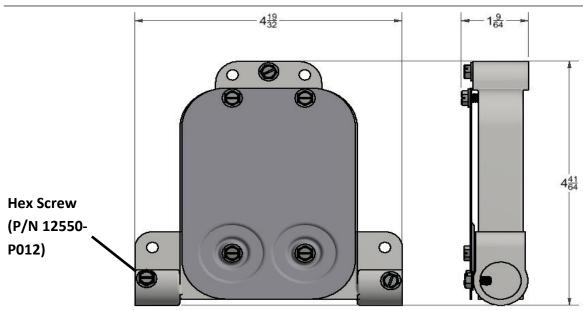
#### **PULLEY TEE**



#### P/N: 12506

A pulley tee is used to change the direction of two cables by 90° (Limit of one per line). This device can be used with mechanical gas valves and manual pull stations but not fusible link detectors. It allows two gas valves to be tripped by a single gas trip assembly or two pull stations to trigger a single system. It cannot be used where temperatures exceed the range of 32 °F to 120 °F (0 °C to 49 °C).

Utilizes #8-32 Hex Screw (P/N 12550-P012)





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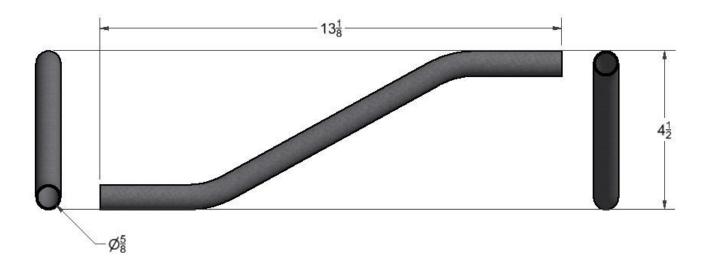
#### **CONDUIT OFFEST**



#### P/N: 12507

The conduit offset is used to allow a smooth transition for cable runs into or out of the MRM & PRM without using pulley elbows. It may be used with the detection network, manual pull stations or mechanical gas valve actuation network. The use of this device does not reduce the maximum number of corner pulleys allowed in the system. The Conduit Offset may only be attached to the enclosure of either the MRM or PRM.

EMT Conduit (P/N 12886) is also available and sold by the foot.









### **SR-X RELEASING PANEL**



### P/N: 19340

The SR-X Electrical Release Module is UL listed to standard 864 as a local alarm and release type control panel. It can be used in cases where electrical detection is desired or required due to physical hazard size or other design considerations.







### **SR-X Panel Battery 12 VDC**



#### P/N: 17601

Sealed Lead Acid batteries used in conjunction with the SR-X Panel P/N (19340). Two batteries are required for each panel in order to provide backup power in the event of a power failure.







### **ELECTRIC CONTROL HEAD (ECH)**



#### P/N: 19352

The ECH is fired by a 24V circuit and is to be used in cases where electrical detection is desired or required, due to physical hazard size or other design considerations.

An installed ECH has the capability of pneumatically firing up to twenty AMEREX Dry Chemical cylinders. Additional RNA assemblies in the actuation network can fire a total of 80 (eighty) AMEREX Dry Chemical cylinders. Manual actuation can be accomplished with the optional P/N 17001 Manual Actuation Button installed on top of the P/N 17014 Electric Actuator, and/or with AMEREX Electric Pull Station(s) connected to the AMEREX SR-X Releasing Panel.

See the relevant sections of this manual for design, installation and servicing requirements. The ECH is intended for indoor use, only. Two stainless steel band clamps (not shown) are included with the ECH assembly for securing the two nitrogen cylinders to their brackets. The ECH is not supplied with an outer enclosure.





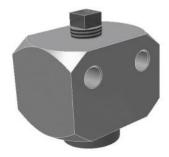


#### **ECH ACTUATION CYLINDER**





Part No.	19347 (500 PSI)	
Cyl. Diameter	1.998 in	5.07 cm
Length	6 3/8 in	16.19 cm



P/N 19126

Recharge adapter for 500psi nitrogen cylinder.

#### P/N: 19347

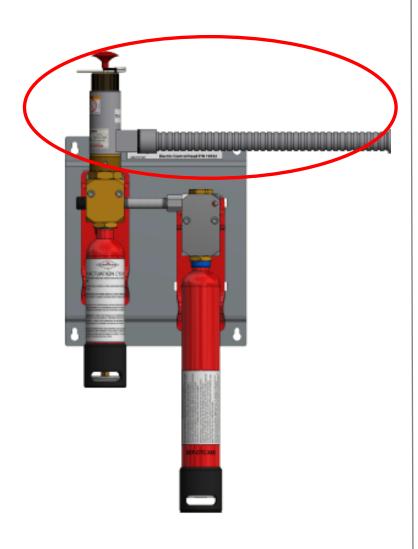
The ECH Actuation Cylinder is used as the primary pressure source to release the pressure of the larger 28in³ cylinder (P/N 16197) mounted on the right side of the ECH assembly. The cylinder is charged to 500 psig (3,447 kPa) at 70 °F (21 °C). Upon system actuation, a pin inside the ECH depresses a Schrader valve installed inside the fitting of this cylinder. Therefore, the unit is field rechargeable without the need for rupture disc replacement (unlike the larger P/N 16197 cylinder). In order to prevent confusion with existing nitrogen cylinders, the threads of the fitting are different, as is the labeling, and it is designed only to thread into the left side port on the ECH assembly. Proper charge pressure is indicated by a pressure gauge located on the cylinder bottom and protected by an impact resistant plastic gauge guard. The N2 cylinder is shipped fully charged from the AMEREX factory with a protective shipping cap installed on the outlet threads. The cap must be removed at installation but must remain in place at all other times. (Retain the shipping cap to reuse when recharging the cylinders). Cylinder does not require periodic hydrostatic testing due to being less than 2" in diameter and less than 2' long.







### **ELECTRONIC ACTUATOR**



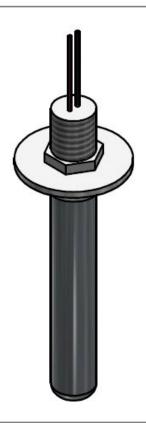
#### P/N: 17014

The Electronic Actuator is attached to the top of the ECH in order to fire the 19347 500psi nitrogen cylinder. The ECH is fired by connecting it an SR-X panel (P/N 19340).





#### **ELECTRIC THERMAL DETECTORS**



Part #	Temp (°F)	Temp (°C)
16194	190	88
16236	194	90
16195	225	107
16196	325	163

### P/N: 16194, 16236, 16195, 16196

The quantity of detectors to be used in a system will depend on the ceiling area and height. The maximum number of detectors that can be used for a given system is 400. Detectors can be spaced every 20 feet for smooth ceilings up to 12 feet high. A detector is required at the interface of the duct and plenum, as well as downstream of any obstruction (such as a damper) or ignition source (such as a fan). Consult NFPA 72 for reductions in spacing for ceiling heights in excess of 12 feet.







#### **ELECTRIC MANUAL PULL & CABLES**



Part #	Length (ft)
17564	2.5
17565	5.0
17566	10
17567	15
17568	20
17569	30

#### P/N: 19432

This manual pull stations is designed to be integrated with the SR-X panel on IS installs where electronic detection and activation is required. It measures 3.25" wide by 4.75" tall.

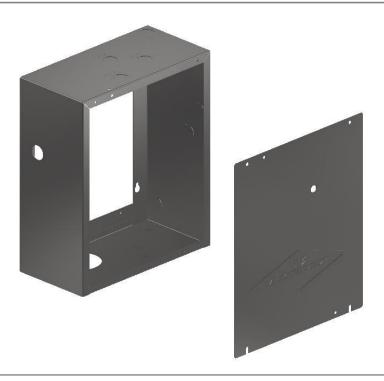
These cable assembles are made to make it easy to connect various devices in a SRX based detection circuit. They all use the same quick connect connections that are consistent with our SRX devices like manual pulls and alarm bells.







### **MRM ENCLOSURE**



P/N: 13393

For secure mounting of the MRM. Knockouts are provided for installation of all external devices. Viewports for system status indicator and external inspection of nitrogen actuation cylinder are provided.







### **IS18 TEST CYLINDER**



P/N: 16441

Test Cylinders are used in system testing when it is required to prove the firing of a cylinder. It is a empty IS18 agent cylinder with a fully functioning valve.



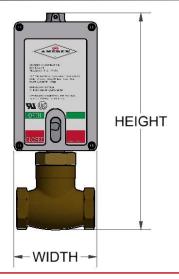


#### **MECHANICAL GAS SHUT-OFF VALVE**



All sources of heat must be removed when an IS system In the event that the source of heat is a gas operated boiler or heater an AMEREX Gas Valve can be integrated with the system in order to shut off the gas supply. The AMEREX Mechanical Gas Valves are held open with a latching device. Upon system discharge a piston in the MRM, PRM, or SRM will pull on a cable connected to the latch in the gas valve actuation box, releasing the latch and allowing the gas valve spring to close the valve. These valves are considered to be "Pull to Close" valves. The valve bodies are made of brass and threaded with female NPT threads on both ends and are UL listed for natural gas and propane in ¾", 1", 1¼", 1½", and 2" sizes. The Gas Trip Assembly (P/N 12740-P001) is included with all AMEREX Mechanical Gas Valves.

If spare parts are needed, Cover Enclosure (P/N 12772-P001) and the #8-32 Hex Screw (P/N 12550-P012)



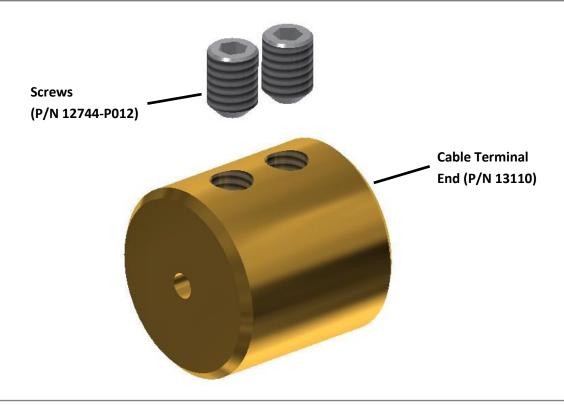
Part No.	Size	Height	Width	Pressure
12790	3/4 in	10 5/16 in	3 3/4 in	
12791	1 in	(26.2 cm)	(9.525 cm)	10 PSIG
12792	1 1/4 in	11 9/16 in	4 7/8 in	
12793	1 1/2 in	(29.369 cm)	(12.383 cm)	(69 kPa) Max
12794	2 in	12 1/2 in	6 in	iviax
12/34	2 111	(31.75 cm)	(15.24 cm)	







#### **CABLE TERMINAL END**



#### P/N 12859

This assembly includes the Connection Cable End (P/N 13110 \*NOT SOLD SEPARATELY\*) and screws (P/N 12744-P012). The screws clamp the adapter to the detection cabling to properly terminate the detection line at the exit of a detection bracket. This part is included in the MRM or available in the Spare Part Bag Assembly (P/N 14899) or 13323 parts bag.

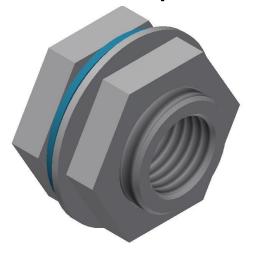






#### PIPE SEAL ADAPTERS

#### "Quick Seal" Adapters



#### P/N: 14204 / 16234 / 18252

This adapter is used to create a liquid tight seal around discharge piping where the piping penetrates an enclosure or duct. It is threaded internally to accept threaded pipe.

P/N 14204 is sized for ½" pipe.

P/N 16234 is sized for Schedule 40, ¾" pipe.

P/N 18252 is sized for 1" pipe.

#### "Compression Seal" Adapters



#### P/N: 12512 / 16235

This adapter is a "Listed Mechanical Bulkhead" fitting that produces a liquid-tight seal around discharge piping where the piping penetrates an enclosure or duct. Unlike the Quick-Seal Adapter, the Compression Seal Adapter is not threaded to accept pipe and does not require pipe to be cut or threaded.

P/N 12512 is sized for ½" conduit.

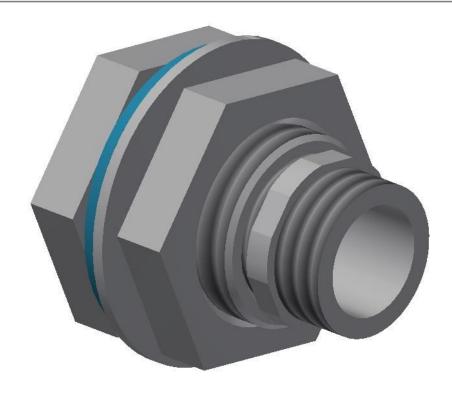
P/N 16235 is sized for Schedule 40, ¾" pipe.







### **QUICK SEAL CORNER PULLEY ADAPTER**



### P/N 22279 - EMT THREAD - HOLE SIZE 1-1/8" DIA.

This listed mechanical bulkhead fitting provides a close connection to a CP5 corner pulley. The close coupling of the two assist in alignment of the conduit run to a detection bracket.







#### MANUAL RESET RELAY



### P/N: 12526

Anytime an electrical gas valve is connected to an AMEREX Kitchen Fire Suppression System, a Manual Reset Relay must be used. After an electrical gas valve has closed (either because of system discharge or because of power failure), the gas valve cannot be opened without manually pressing the reset button on the Manual Reset Relay. This operation is to guard against a momentary loss of power closing the valve, extinguishing the pilot lights and allowing gas to escape when power is restored. All Reset Relays are UL listed and have a pilot lamp to indicate their status.







### **HORN & STROBE**



#### P/N: 21396 / 19705

The Horn & Strobe Assembly is provided for use when visual and sound warnings are required at system actuation. The unit requires the use of a 4" square (10.16cm sq.) x 2 1/8" (5.5cm) deep back-box with ½" conduit entrance on the top of the box.

21396-120 VAC

19705—24 /12 VDC

Can be ordered as an explosion proof versions as follows:

- Horn 24 VDC, explosion proof—P/N 19706 (note draws 1.2 Amps)
- Strobe 24 VDC, explosion proof P/N 19707 (note draws 1.9 Amps)







### **ALARM BELLS**



#### P/N: 19702 / 16386

The 24 VDC Alarm Bell (P/N 19702) has a 21-30 VDC input; .070 amp current; 88 dBA typical output. This audible device may be desired or required in ERM installations, or in MRM installations tied into building alarm systems. Comes with quick connections.

The 115 V AC Alarm Bell (P/N 16386) has .085 amp current; 86 dBA typical output. This audible device may be desired or required in MRM installations.







#### **EXPLOSION-PROOF PRESSURE SWITCH**



#### P/N: 16384

SPDT, 15 Amps 125 / 250 / 480 VAC resistive. This pressure switch is designed to be installed in the discharge network of an agent cylinder in hazardous locations. Complies with NEMA 4X; 7; 9; IP66 requirements. ¾" NPT electrical connection. ½" NPTF pressure connection. Suitable for hazardous locations.



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### **DRY CHEMICAL AGENT**



### P/N: 09781 CHARGE 555 (REQUIRED FOR IS)

For recharging of the Agent Cylinder Assemblies following a discharge: AMEREX multipurpose ABC Dry Chemical in 50 lb. pails is P/N 09781, (CH 555 Dry Chemical) MSDS and HMIS information on these agents are found in the Appendix Section of this manual.

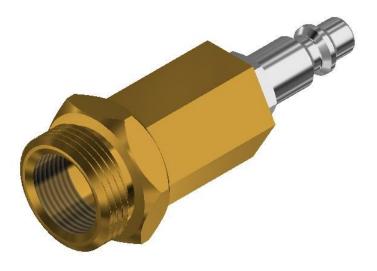
Per NFPA 17 agent may not be reused at hydrotest, it must be replaced.







### **ACTUATION NETWORK ADAPTER**



#### P/N: 10895

The Actuation Network Adapter can be used in conjunction with an outside regulated source of nitrogen into the MRM or the PRM for testing of an agent distribution network. It has the same threads as the 10 in<sup>3</sup>, 15 in<sup>3</sup>, and 28 in<sup>3</sup> nitrogen cylinders.

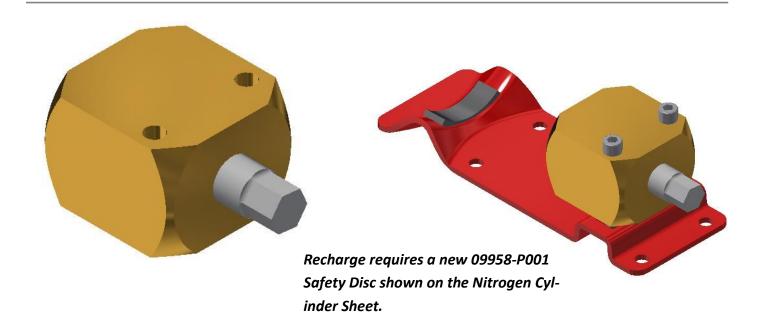
With this adapter inserted into a MRM or PRM it can show the actuation of a network without using a nitrogen cylinder.







#### **NITROGEN CYLINDER RECHARGE ADAPTERS**



#### P/N: 10270

The Nitrogen cylinder recharge adapter was made to recharge nitrogen cylinders (P/N 12856/09956/16197) by authorized distributors. A replacement safety disc/cap assembly is also required.

### P/N: 13430

The Nitrogen cylinder recharge adapter with bracket was made to recharge nitrogen cylinders (P/N 12856/09956/16197) by authorized distributors. The bracket is for ease of recharging. A replacement safety disc/cap assembly is also required.

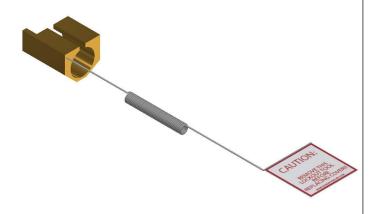






#### **MRM RESET TOOLS**

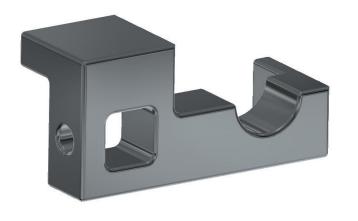
#### **Setup / Lockout Tool**



#### P/N: 12738

The setup and lockout tool is to be used on the MRM/PRM to prevent accidental actuation of the system during setup or maintenance. To use set-up/lock-out tool over the manual pull cam housing until it rests against the outside edge of the link plate. Draw tension on to the cable through the connector until the link plate is drawn against the set-up tool, then tighten the set screw on the connector. Remove the set-up tool and raise the tension bar to test cable run.

#### **Cocking Tool**



### P/N: 13341

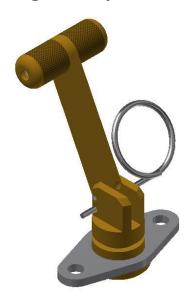
Use the AMEREX Cocking Tool, in conjunction with a 3/8" drive socket wrench and extension, re-cock the Collapsible Column on the MRM or PRM. This is accomplished by simultaneously pushing in on the Lock Spring while turning the Cocking Tool counterclockwise.





#### AGENT CYLINDER ADAPTERS

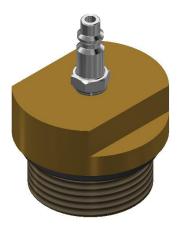
#### **Recharge Adapter**



#### P/N: 10134

In order to recharge IS cylinders, attach the recharge adapter (P/N 10134) to the top of the discharge valve and pressurize the cylinder using nitrogen to 350psi.

#### **Hydrotest Adapter**



### P/N: 05152

In order to recharge IS Cylinders, attach the recharge adapter (P/N 05152) to the valve discharge port after it has been confirmed that all pressure has been relived form the cylinder and the valve and stem assembly has been properly inspected.



### **KP/IS SPARE PARTS KIT**

Part No.	Description	Quantity
12352	Lockwire Seal (Green Replacement)	2
12386	KP Owners Manual	1
13110	Cable Termination Block	1
12744	Cable Termination Block Screws	3
12868	Warning Label WetSystems Equipment	1
13614	Plastic Wire Mount	3
13615	Wire Mount Instructions	1
19422	Cable Clamp Tie MRM/PRM	1
14293	Screw #10-32 x 3/8	1

P/N: 13323

The KP MRM Spare Parts Bag is the bag of parts that comes with the MRM (P/N 18001). It contains owners manuals, labels, cable termination block, etc.





### **KP/IS SPARE PARTS KIT WITH PRM PARTS**

Part No.	Description	Quantity
12733	Screw Tap #8-18 3/8 ST	6
13117	Screw Cap #10-32 1/4 ST	4
09137	Hex Nut 1/4-20 ST	2
12778	Ring Retaining .05 X .875	2
12550	Screw Hex #8-32 5/16 SL ST	6
12744	Screw Set #10-32 1/4 SS	8
07247	Gasket Hose 1/2" (N2 cart. Seal)	2
13110	Cable Termination Piece	1
13390	Crimp Stainless Steel	2
13612	Cap Vinyl 1/2 Square—Red	2
13342	Connection Cable Gas Valve	2
16550	Plug Snap 5/8"	1
00158	Cap Air Valve	2
12352	Lockwire Seal (Replacement GR)	4
16555	Label Tubing Replace PRM	2
11263	Wire Grip Body Size 9	1
11264	Wire Grip Nut Size 9	1
16506	PRM End of Line Fitting	1

P/N: 14899

The PRM Spare Parts Kit contains various fasteners, screws, and connectors for PRM KP systems conveniently packaged in one kit.





# INDUSTRIAL SYSTEM OVERVIEW DATA SHEET



#### WARRANTY INFORMATION

Amerex IS Fire Suppression Systems are manufactured under the ISO Quality System and to ANSI/UL Standards. They are warranted for three (3) years. To protect the U.L. listing and to keep the warranty in effect you must use Amerex replacement parts.

Genuine factory parts are available to insure proper maintenance - use of other manufacturer's parts releases Amerex of its warranty obligations. Amerex parts have machined surfaces and threads which are manufactured to exacting tolerances. O-rings, hoses, nozzles and all metal parts meet precise specifications and are subject to multiple in-house inspections and tests for acceptability. The Amerex Warranty is voided by use of generic, off-the-shelf or substitute parts. DO NOT SUBSTITUTE!

Amerex Corporation does not install, service, maintain nor recharge IS Fire Suppression Systems. This Parts Book and the Amerex system service manuals are published as guides to assist qualified personnel in the proper selection of parts and the design, installation, maintenance and recharge of Amerex IS Fire Suppression Systems only. FAILURE TO USE AMEREX REPLACEMENT PARTS OR FOLLOW THE SERVICE MANUAL INSTRUCTIONS COULD CAUSE MALFUNCTION OF THE SYSTEM RESULTING IN SERIOUS INJURY OR PROPERTY LOSS.

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