

Spark Detection and Extinguishment



GreCon®

Spark Detection and Extinguishment System

GreCon Spark Detection and Extinguishment Systems protect against dust fires and explosions in pneumatic conveying and exhaust systems. Sparks and other sources of ignition are detected and extinguished immediately - before they reach the filter media.

Production is uninterrupted, equipment damage is reduced, and personnel injuries from fires and explosions are eliminated.



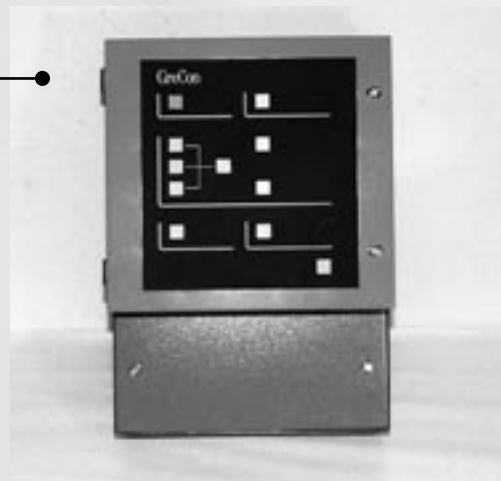
Control Consoles

GreCon Control Consoles receive and process signals from sensors, and automatically activate individually controlled countermeasures including: extinguishment, deluge, abort, or automatic machinery shutdown. Console enclosures are IP55* (NEMA 4), suitable for severe industrial surroundings. Menus display all functions and test procedures for the console, sensors and extinguishment devices, and a 2,500 recallable event memory can be displayed or printed. Fully warranted and Factory Mutual (FM)* Approved.

CC-700

A streamline, low cost version of the CC-701. Single zone console, motherboard construction; 1 or 2 sensors; non-expandable; LED information display. NEMA 12. (Not FM Approved.)

PART#	ITEM
581607	CC-700 Console



CC-701, 702, 702+2

1, 2, or 4 zone capacity consoles; motherboard construction; 1 or 2 sensors per zone (optional interface for up to 8 pairs of sensors); microprocessor based LCD-LED information display. NEMA 4.

PART#	ITEM
581608	CC-701 Console
581609	CC-702 Console
581609B	CC-702+2 Console



CC-704, 708, 712

4, 8, or 12 zone capacity consoles; modular construction; 1 to 4 sensors per zone (optional interface for up to 8 pairs of sensors); microprocessor based LCD-LED information display. NEMA 4.

PART#	ITEM
581610	CC-704 Console
581612	CC-708 Console
581620	CC-712 Console

CC-724

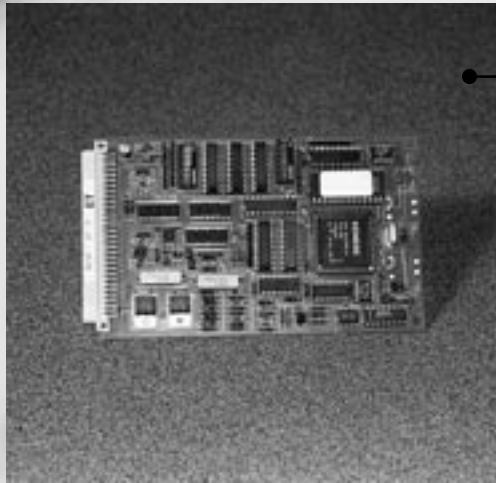
1-24 zones, modular construction; 1 to 4 sensors per zone (optional interface for up to 8 pairs of sensors); microprocessor based LCD-LED information display. NEMA 4.

PART#	ITEM
581625	CC-724 Console



Line Cards and Input/Output Cards

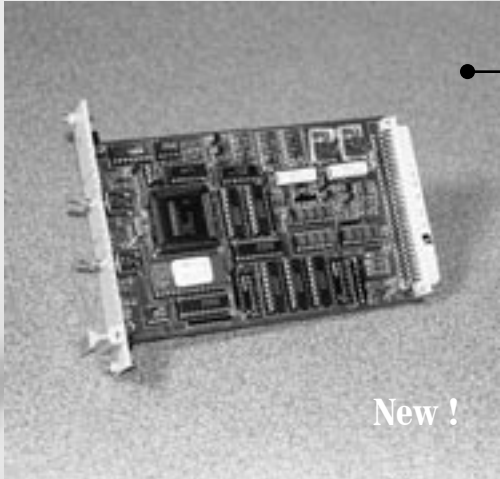
For use with all modular BS-7 microprocessor consoles. Line Cards and Input/Output Cards can be used in any combination to suit individual system requirements. FM Approved.



LC/72 Line Counter Card

Plug-in line card for the supervision and control of 2 zones. Sparks, wire rupture, or short circuit recognition. Activation of 2nd Alarm Relay if extinguishment or spark count thresholds are exceeded.

<u>PART#</u>	<u>ITEM</u>
581709	LC/72 Line Card



LC/73 Line Counter Card

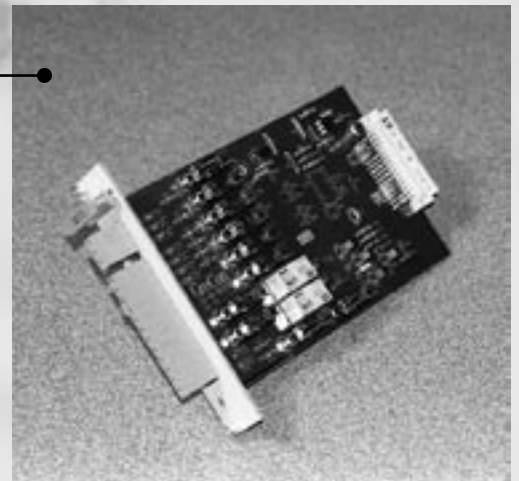
Plug-in line card for the supervision and control of 2 zones. Sparks, wire rupture, or short circuit recognition. Activation of 2nd Alarm Relay if extinguishment or spark count thresholds are exceeded. Two toggle switches for disabling zones without accessing console menu.

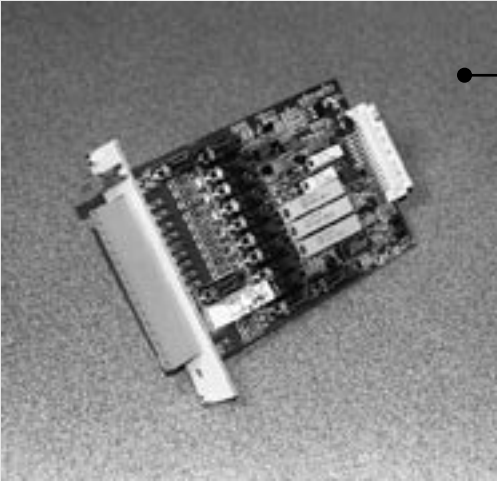
<u>PART#</u>	<u>ITEM</u>
581708	LC/73 Line Card

IO/71 Input/Output Card

Plug-in card for the wiring connection of spark sensors, extinguishment valve, water flow switch and dry relay contacts for Alarm 1 or 2. Detects and activates extinguishment in 1 area.

<u>PART#</u>	<u>ITEM</u>
581715	IO/71 Card





IO/72 Input/Output Card

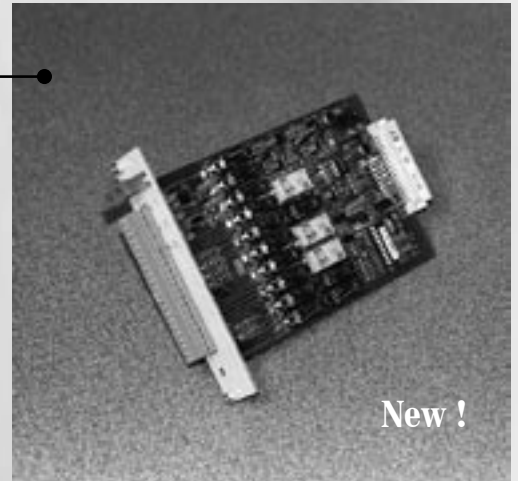
Accepts up to 3 additional valve inputs from IO/71 cards to activate a common extinguishment from an alarm in up to 4 detection areas. Single relay for Alarm 1, 2, or trouble. Contacts to disable valve using an access door limit switch.

<u>PART#</u>	<u>ITEM</u>
581714	IO/72 Card

IO/73 Input/Output Card

Terminal connection for additional pair of sensors. Alarm from either pair of sensors activates extinguishment. Normally used in detection before and after fan with extinguishment prior to fan. Relays for Alarm 1, 2, or trouble; time delay status relay for fan shutdown.

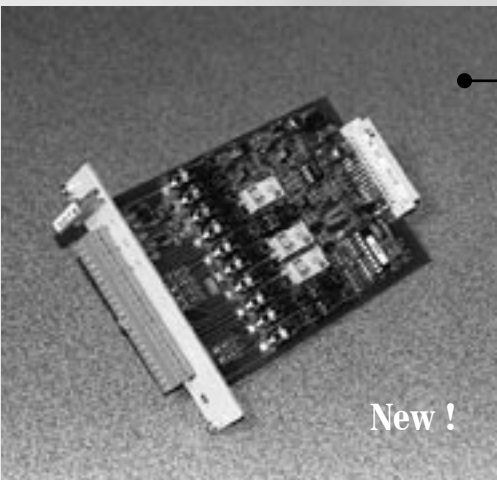
<u>PART#</u>	<u>ITEM</u>
5817145	IO/73 Card



IO/74 Input/Output Card

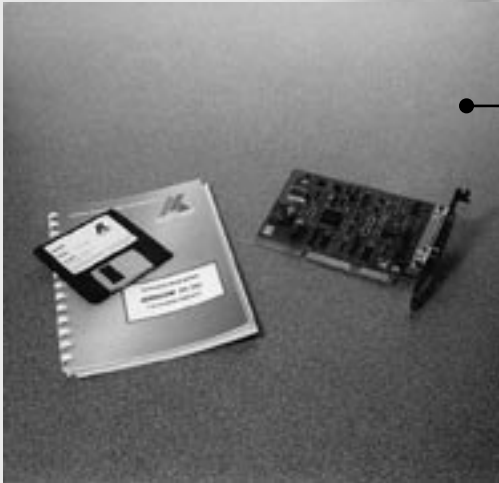
Terminal connection for additional pair of sensors. Alarm from either pair of sensors activates extinguishment. Normally used in detection before and after fan with extinguishment prior to fan. Relays for Alarm 1, 2, or trouble; immediate status relay for fan shutdown.

<u>PART#</u>	<u>ITEM</u>
58171451	IO/74 Card



New Line Cards and Input/Output Cards with breakthrough capabilities provide new options in system customization for individual application solutions.

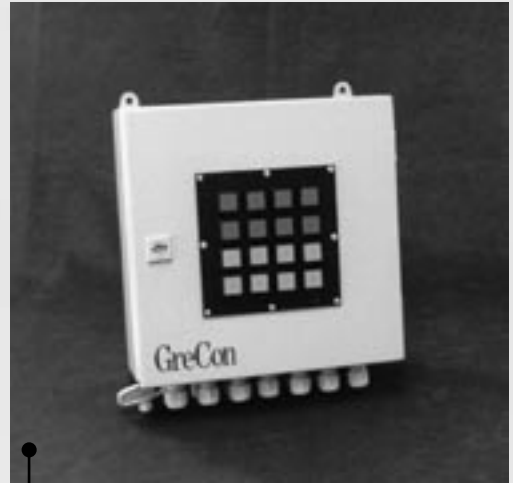
Options and Accessory Equipment for BS-7 Systems



Fire Protection Monitor Software

System Software for interfacing up to 6 Control Consoles to a dedicated PC.

PART#	ITEM
405051	RS-485 Interface Card for Fire Monitor
NS	Fire Monitor Software



CI/16 Interface

For monitoring capability of up to 8 pairs of sensors per zone. (Not available for CC-700 models.)

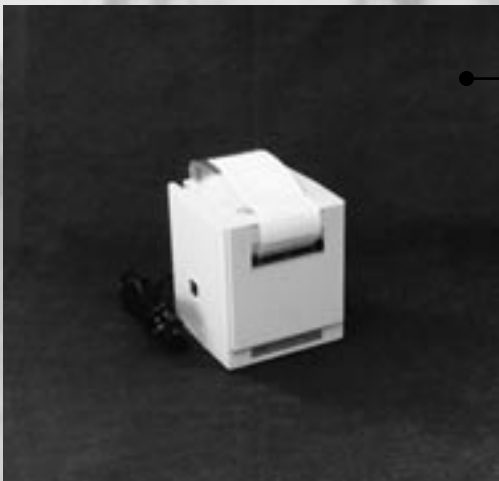
PART#	ITEM
581668	CI/16 Interface (BS-701 through BS-712)
581669	CI/16 Interface (BS-724)



Built-in Event Printer

Built-in Event Printer for models CC-704 through CC-724.

PART#	ITEM
581770	IC/71 Interface Card
581870	BS7 Printer
571871	PR/71 Control Card
571873	Printer Cable
571872	Printer Cable (to LC/71)
562596	Printer Lid with Holder



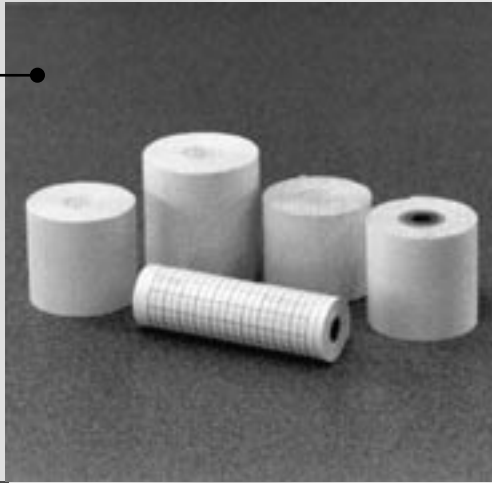
Remote Printer

Stand-alone event printer for separate connection to console via the RS-485 serial port. Requires separate 120 VAC power supply.

PART#	ITEM
404332	EP/7-485 Citizens Printer

Printer Accessories

<u>PART#</u>	<u>ITEM</u>
404323	2.38" wide Paper Roll (for built-in printers)
404324	3" wide Paper Roll (for remote printers)
404333	6' Connecting Cable (for remote printers)

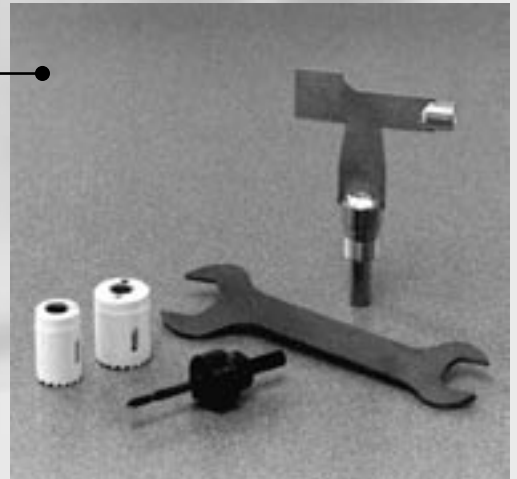


All BS-7 Systems are quoted and sold as custom systems. Be sure to check for the correct Eprom Program Version when ordering spare parts. Please speak with your Sales Representative or a GreCon Technician if you have any questions.

Tool Kit

For easy assembly of all mounting adapters. Kit (581856) includes:

<u>PART#</u>	<u>ITEM</u>
558923	R1 - Hole Saw Arbor with 1/2" Shank
5589199	R2 - Hole Saw (32mm)
558922	R3 - Hole Saw (40mm)
558925	R4 - Quad-Tool
5589251	R5 - Wrench



Control Console Spare Parts

<u>PART#</u>	<u>ITEM</u>	<u>PART#</u>	<u>ITEM</u>	<u>PART#</u>	<u>ITEM</u>
581677	CC-701/702 Motherboard	581647	MP/71&RS-485 Serial Port	581665	SO/71 System Output Card
581676	DZC/71 Double Zone Card (" +2" Motherboard)	581633	PC/71 Power Control	558276	Transformer 2 x 120 V
5816765	NT-DZC/71 Power Supply (CC-702+2)	581630	PL/71 Logic Power Supply	558141	Battery 12V x 6.5Ah
581682	FP/71 Front Board (CC-704 through 712)	571871	PR/71 Printer Control Card	581696	Battery Cable (BS-7 with spade)
581645	MC/71 Multiplex Card	581631	PS/72 Power Supply	581697	Battery Cable (BS-7 with plug)
581640	MP/71 Master Proc. Card	581675	PT/71 Transformer Line Conditioner	581574	KKS 1/8 Spark Switch Terminal Box
		551635	COU/71 Card	558699	KKS 1/8 Mounting Plate
		581650	SI/71 System Input Card		

Detection

GreCon Sensors contain photo diode elements which detect even the smallest spark's infrared radiation. Fiber optic cables and sensors are available for high temperature applications up to 1830°F. An internal test light validates the electrical circuitry and wiring. IP 65 (NEMA 4) enclosures. Electronics are shielded against UHF, VHF, or other interference. Sensors are easily installed or removed with mounting adapters and quick disconnect electrical plug* at sensor.



FM 1/8 Sensor

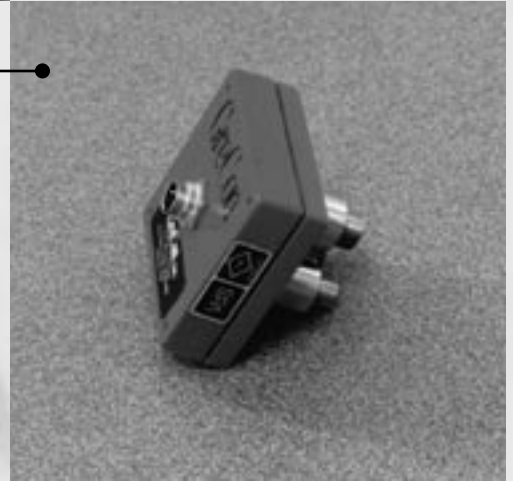
Low temperature/pressure application sensor for the detection of infrared radiation in the 400-1,200 nm range.

PART#	ITEM
581540	FM 1/8 Sensor

FM 3/8 Sensor

High temperature/pressure application sensor for the detection of infrared radiation in the 400-1,200 nm range. Sensor is linked to the duct via 3 fiber optic cables. Stainless steel cover protects cables against mechanical damage.

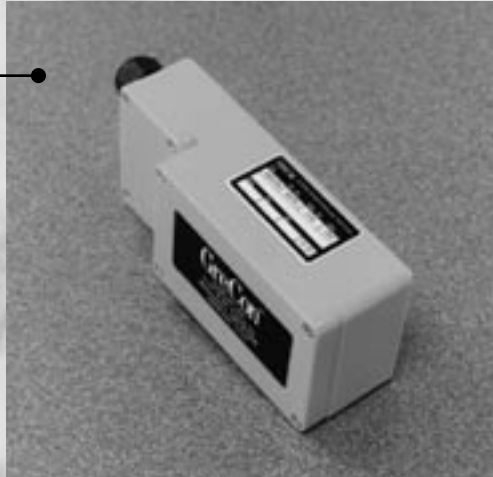
PART#	ITEM
581550	FM 3/8 Sensor



DLD 1/8-A Daylight Sensor

Low temperature application sensor for the detection of infrared radiation in the 2,500-5,000 nm range where ambient light is present.

PART#	ITEM
581591	DLD 1/8-A Sensor



KK 1/8 Terminal Box

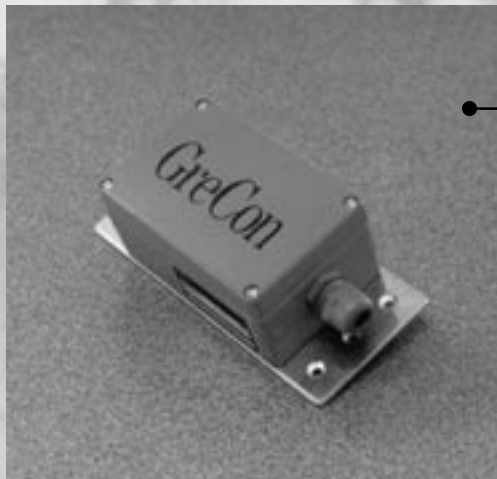
Junction box for connecting FM sensors to console. Provides for sensors of different generations and individual 12/24 VDC sensor testing.

PART#	ITEM
581580	KK 1/8 Terminal Box

TM 1/8 Rate-of-Rise Sensor & Circuit Board

Heat sensor for early detection of temperature rise caused by fire. Standard activation temperatures: 140°F, 190°F, 225°F. (Sensor Probe listed separately.)

PART#	ITEM
581530	TM 1/8 Sensor
566831	TM 1/8 Circuit Board



*DLD 1/8 & TM 1/8 excluded

Fiber Optic Cables, Sensor Probes, and Sensor Mounting Hardware



Fiber Optic Cables

Fiber Optic Cables for FM 3/8 high temperature/pressure sensors.

<u>PART#</u>	<u>ITEM</u>
558956	1 Meter Cable
558957	2 Meter Cable



Rate-of-Rise Sensor Probes

Sensor Probes for TM 1/8 Rate-of-Rise Sensors. (Other temperature ratings are available.)

<u>PART#</u>	<u>ITEM</u>
404010	Sensor Probe - 140°F
404012	Sensor Probe - 190°F
404014	Sensor Probe - 225°F

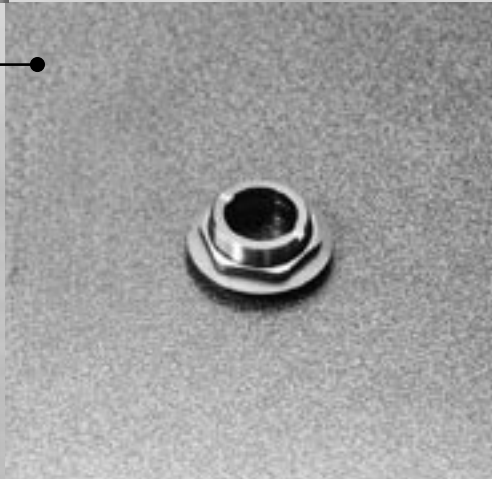
NOTE: When replacing obsolete FM 1/6, FM 1/7, FM 3/6, or FM 3/7 sensors with the newer FM 1/8 or FM 3/8 models, KK 1/8 Terminal Boxes, SMA bushings, and mounting plates and brackets will be furnished as required.

1/8 Sensor Mounting Adapter

Easy installation and removal adapters for mounting FM 1/8 sensors to application sidewalls. Assembly (581565)* includes:

<u>PART#</u>	<u>ITEM</u>
5583750	Sensor Adapter Body
404150	Split Washer
404152	Solid Washer
404154	Lock Nut
404156	O-Ring

*(2) O-Rings included in assembly



Cable Mounting Adapter

Easy installation and removal adapters for mounting FM 3/8 sensor cables. Assembly (581398) includes:

<u>PART#</u>	<u>ITEM</u>
558423	Sensor Adapter Body
404170	Wing Screw
404160	Split Washer
404162	Solid Washer
404164	Lock Nut



DLD Sensor Mounting Adapter

Easy installation and removal adapters for mounting DLD 1/8-A sensors to application sidewalls. Assembly (581397)* includes:

<u>PART#</u>	<u>ITEM</u>
558376	Sensor Adapter Body
404160	Split Washer
404162	Solid Washer
404164	Lock Nut
404166	O-Ring

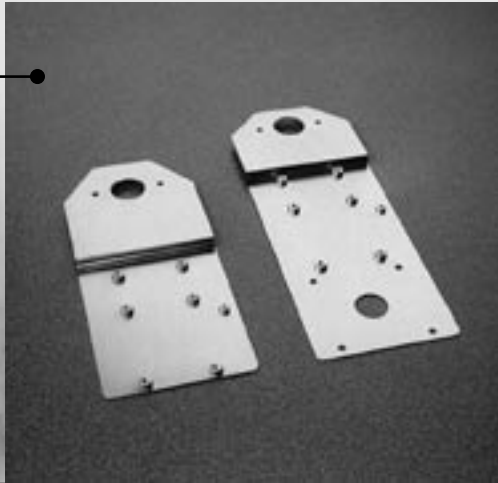
*(2) O-Rings included in assembly



Mounting Plates

KK 1/8 Mounting Plates for FM 1/8 and FM 3/8 sensors.

PART#	ITEM
558693	KK 1/8 Mount Plate for FM 1/8 (SMA)
558697	KK 1/8 Mount Plate for FM 3/8 (CMA) without SHS



Sensor Mounting Band

For mounting FM 1/8 Sensors to small diameter or heavy wall pipe. Includes Band and (2) Sensor Mounting Sleeve Assemblies.

PART#	ITEM
404290**	Sensor Mounting Band
404111	Sensor Mounting Sleeve Assembly

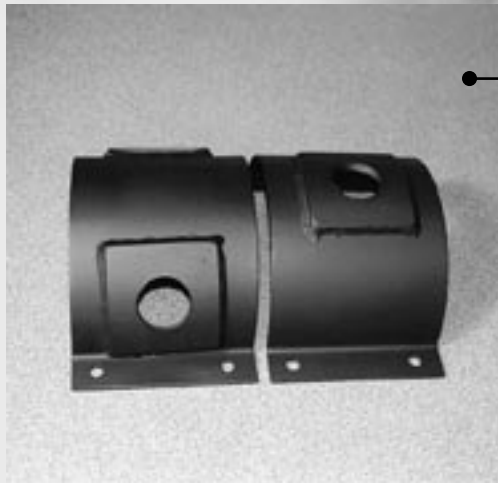
** = pipe diameter

Cable Mounting Band

For mounting FM 3/8 Sensor Cables to small diameter or heavy wall pipe. Includes Band and (3) Cable Mounting Sleeve Assemblies.

PART#	ITEM
404255**	Cable Mounting Band
404107	Cable Mounting Sleeve Assembly

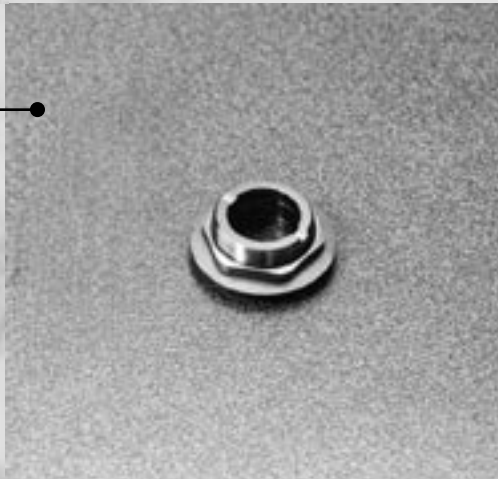
** = pipe diameter



Sensor Mounting Adapter Bushing

Adapter Bushing for mounting FM 1/8 in FM 1/7 or FM 1/6 Mounting Adapter. Assembly (581569) includes Bushing Body and (2) O-Rings.

PART#	ITEM
5583751	Adapter Bushing Body
404166	O-Ring



Cable Mounting Sleeve

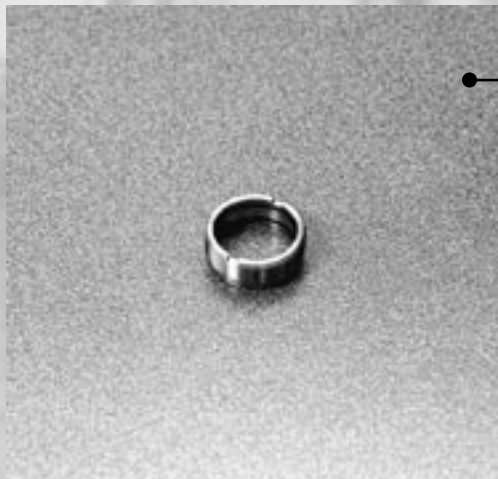
Mounting Sleeve for connecting FM 3/8 Cables to Mounting Band. Assembly (404107) includes Sleeve Body, Wing Screw, and Lock Nut.

PART#	ITEM
404106	Cable Mounting Sleeve Body
404170	Wing Screw
404164	Lock Nut

Sensor Mounting Sleeve

Mounting Sleeve for connecting FM 1/8 to Mounting Band. Assembly (404111) includes Sleeve Body, Lock Nut, and (2) O-Rings.

PART#	ITEM
404110	Sensor Mounting Sleeve Body
404154	Lock Nut
404156	O-Ring

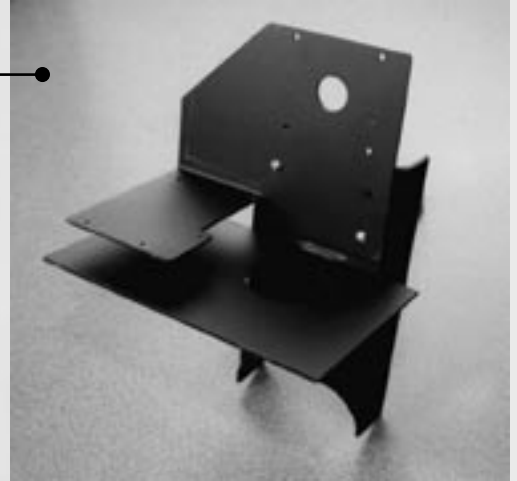


Sensor Accessories and Spare Parts

Sensor Mounting Bracket

For mounting FM 3/8 Sensor and KK 1/8 Junction Box to the duct. Provides a heat shield for high temperature applications. Assembly (486851) includes Heat Shield and Adapter Plate for mounting KK 1/8 and FM 3/8.

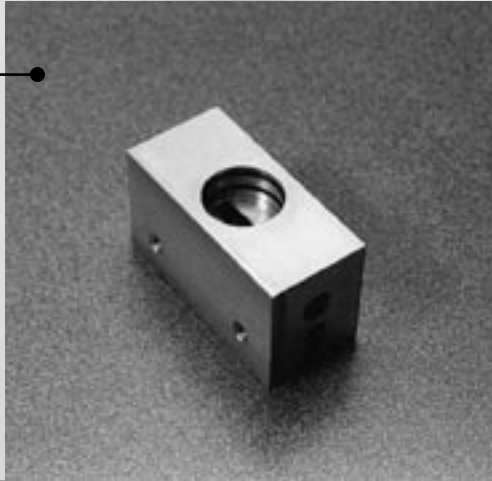
PART#	ITEM
486850	Sensor Heat Shield
486852	SHS Adapter Plate



Narrow Scope Adapter*

For use with DLD 1/8-A Sensors in special applications. Assembly (404122) includes Narrow Scope Adapter and (2) O-Rings.

PART#	ITEM
404120	Narrow Scope Adapter
404166	O-Ring



*Optional Air Purge available

Sensor Air Plenum

For use with FM 1/8 Sensors in applications where material buildup can blind sensor lens. Assembly (404127) includes Air Plenum Body and Sensor Mounting Sleeve Assembly.

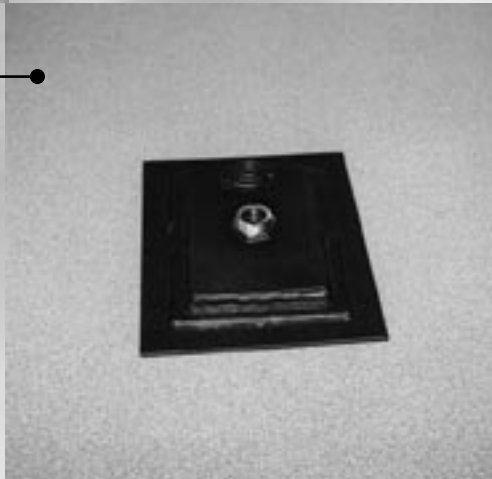
PART#	ITEM
404129	Sensor Air Plenum
404111	Sensor Mounting Sleeve Assembly



Cable Air Plenum

For use with FM 3/8 Sensors in applications where material buildup can blind cable lens. Assembly (404130) includes Air Plenum Body and Cable Mounting Sleeve Assembly.

PART#	ITEM
404128	Cable Air Plenum
404107	Cable Mounting Sleeve Assembly



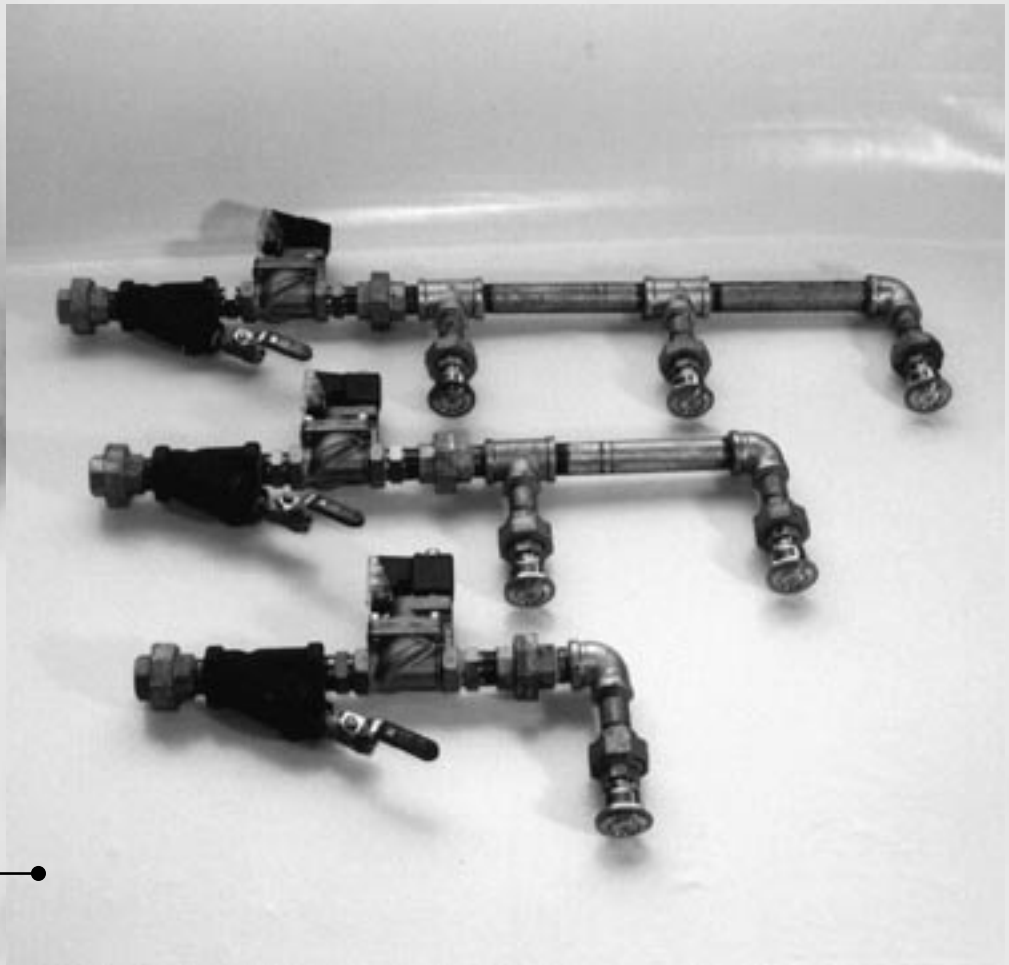
For accessories, replacement parts, or adapters for all older models, please contact your Sales Representative or a GreCon Technician.

Sensor Spare Parts

PART#	ITEM
5583841	VHT Adapter
558627	Cable Lens Cover
5583812	VHT Adapter Lens Cover

Extinguishment

Upon sensor detection of infrared radiation, the GreCon Extinguishing Assemblies release an atomized water spray to immediately extinguish any sparks. Water extinguishment does not adversely affect the filter media. Optional non-water suppressant methods available. Nozzles are pressure activated and contamination free. Nozzle type determines either a fine mist or deluge water spray. All Extinguishing Assemblies are available with either Stainless Steel or Brass nozzles. Stainless Steel mounting adapters allow for easy installation and removal.



Extinguishing Assemblies

1-3 nozzle extinguishing assemblies include Connecting Pipe, Valve Assembly, Plug, Coil (6, 12, 24VDC), Nozzle(s), and Nozzle Mounting Adapter(s).

PART#	ITEM
486002	LS-1-BR 12V
486004	LS-1-BR 24V
486004B	LS-1-BR 24V (band)*
486014	LS-1-SS 12V
486016	LS-1-SS 24V
486016B	LS-1-SS 24V (band)*
486006	LS-2-BR 12V
486008	LS-2-BR 24V
486017	LS-2-SS 6V
486018	LS-2-SS 12V
486019	LS-2-SS 24V STEAM
486020	LS-2-SS 24V
486010	LS-3-BR 12V
486021	LS-3-SS 6V
486022	LS-3-SS 12V
<u>for BS-700 Models only</u>	
486190	LSA-1-BR 24V
486190B	LSA-1-BR 24V (band)*
486194	LSA-1-SS 24V
486194B	LSA-1-SS 24V (band)*
486192	LSA-2-BR 24V
486196	LSA-2-SS 24V

*Nozzle Mounting Adapter not included

Model Designation:

1st number = number of nozzles
 BR = brass nozzles
 SS = stainless steel nozzles
 End number = DC Voltage

For Assemblies to be equipped with Deluge Nozzles - add "D" after the part number.



Deluge Valve Assemblies

Deluge Solenoid Extinguishing Valve Assemblies for 3/4" to 2 1/2". Assemblies include Solenoid Valve, "Y" Strainer, and Ball Valve.

PART#	ITEM
486269	3/4" 24VDC ASC*
486270	1" 24VDC ASC*
486271	1 1/4" 24VDC ASC*
486272	1 1/2" 24VDC ASC*
486274	2" 24VDC ASC*
486275	2 1/2" 24VDC ASC*
486289	3/4" 120VAC ASC
486262	1" 120VAC ASC
486263	1 1/4" 120VAC ASC
486264	1 1/2" 120VAC ASC
486266	2" 120VAC ASC
486267	2 1/2" 120VAC ASC

*24V DC Power Supply Required



1" Standard Valve Assembly

Standard 1" Solenoid Extinguishing Valve Assembly (486066) includes:

<u>PART#</u>	<u>ITEM</u>
5614617	1" Solenoid Valve BJ
479000	1" Close BR Hex Nipple (2)
479303	3/8" Close Nipple
480308	1" Union
484308	1" "Y" Strainer
486303	3/8" Ball Valve

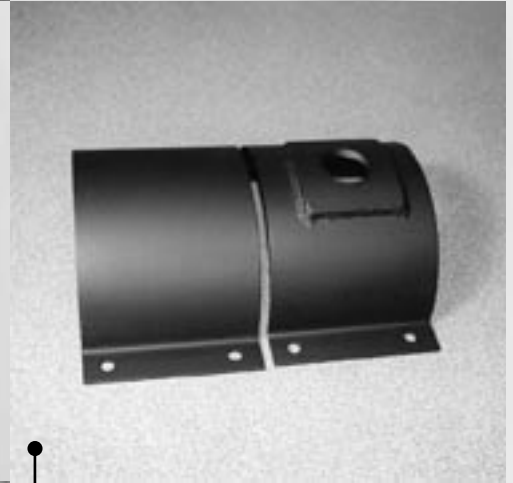
Note: Special 3/4" Valve Assembly for replacement of former Herion Valve available.



"Y" Strainer Assembly

"Y" Strainer with Ball Valve Assembly (486085) includes:

<u>PART#</u>	<u>ITEM</u>
484308	1" "Y" Strainer
479303	3/8" Close Nipple
486303	3/8" Ball Valve



Nozzle Mounting Band

For mounting Nozzle to application pipe up to 10"Ø or all heavy wall pipes.

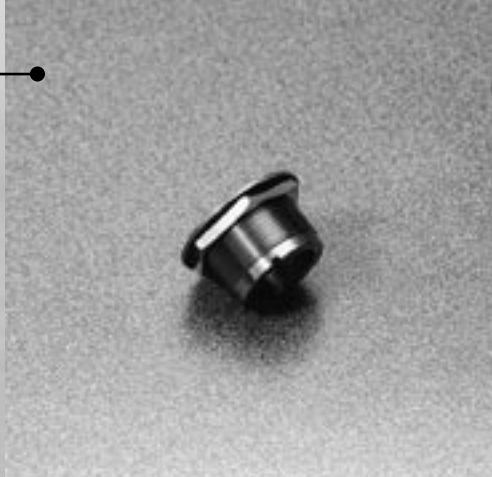
<u>PART#</u>	<u>ITEM</u>
404280**	Nozzle Mounting Band
404182	Nozzle Mounting Sleeve

** = pipe diameter

Nozzle Mounting Adapter

For mounting Nozzle to application pipe. Assembly (581429) includes:

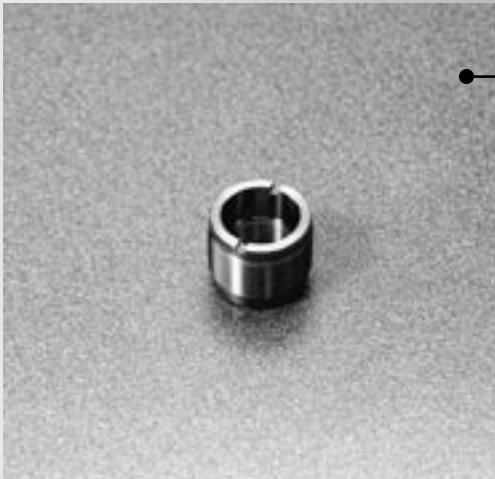
<u>PART#</u>	<u>ITEM</u>
404180	Nozzle Adapter Body
404160	Split Washer
404162	Solid Washer
404164	Lock Nut



Nozzle Mounting Sleeve

Mounting Sleeve for connecting Nozzle to Nozzle Mounting Band. Assembly (404184) includes:

<u>PART#</u>	<u>ITEM</u>
404182	Nozzle Mounting Sleeve
404164	Lock Nut



Extinguishment Valves and Nozzles



Solenoid Valves

PART#	ITEM
486230	3/4" 24VDC ASC
486232	1" 24VDC ASC
486234	1 1/4" 24VDC ASC
586236	1 1/2" 24VDC ASC
569240	2" 24VDC ASC
586242	2 1/2" 24VDC ASC
486200	3/4" 120VAC ASC
486204	1" 120VAC ASC
586208	1 1/4" 120VAC ASC
586212	1 1/2" 120VAC ASC
586220	2" 120VAC ASC
586224	2 1/2" 120VAC ASC
5614617	1" Valve BJ
5614611	1 1/4" Valve BJ
5614613	1 1/2" Valve BJ
5614614	2" Valve BJ



Extinguishing Nozzles

PART#	ITEM
561523	Brass - Extinguish
561522	Stainless Steel - Extinguish
404195	Brass - Deluge
404196	Stainless Steel - Deluge

Extinguishment Accessories and Spare Parts



Freeze Protection

Insulation jackets protect the extinguishment devices against freezing. Oil, acid, and alkaline resistant weatherproof material.

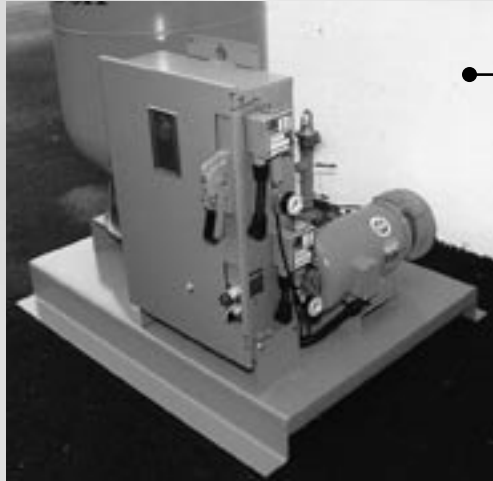
PART#	ITEM
404400	EJ/0 Jacket (Deluge)
404402	EJ/1 Jacket (for LS1)
404404	EJ/2 Jacket (for LS2)
404406	EJ/3 Jacket (for LS3)

Extinguishment Spare Parts

PART#	ITEM
404180	Nozzle Mounting Adapter Body (all models)
404182	Nozzle Mounting Sleeve Body (all models)
561459	12V Solenoid Coil
561462	24V Solenoid Coil
561515	6V Solenoid Coil
5614592	Plug for Coil
484308	1" "Y" Strainer with Screen
484305	Screen for "Y" Strainer
561504	FS8W Flow Switch

Water Supply Systems

GreCon Water Pressure Booster Pumps provide increased water pressure and flow rates for sufficient extinguishment operation. Standard Booster Pumps are designed to increase plant pressure up to 65psi. Automatically self-activated, the pumps can be monitored by the GreCon BS-7 Control Console. Booster pumps consist of 80, 160, or 240 gallon capacity pressure tank(s), pump, motor, and pre-wired electrical panel - all mounted on a steel frame; connecting Sch. 40 pipe; pressure gauges and switches.



Pressure Booster Pumps

Pumps are equipped with high and low pressure switches, a pressure relief valve, and flow switch. Available in either 240/480 or 575 Voltage with 5 or 7½ horsepower.

PART#	ITEM
488220	GWS 5/80-480 Pump
488230	GWS 5/80-575 Pump
488240	GWS 5/160-480 Pump
488250	GWS 5/160-575 Pump
488260	GWS 7/160-480 Pump
488270	GWS 7/160-575 Pump
488280	GWS 7/240-480 Pump
488290	GWS 7/240-575 Pump



Pressure Tanks (80 Gal.)

PART#	ITEM
486401	Tank w/Bladder (Sta-Rite)
486402	Bladder for Tank (Sta-Rite)
486404	Tank w/Bladder (Elbi)
486404-1	Bladder for Tank (Elbi)



RBS-4 Abort Gate

Includes the Abort Gate, Weather Hood, (2) Transitions, Power Reset, and Relay Control Panel.

PART#	DUCT DIAMETER
404840**	12-16"
404850**	17-22"
404860**	23-28"
404870**	29-32"
404880**	33-36"
404890**	37-42"
404900**	43-46"
404910**	47-50"
404920**	51-60"

** = nominal pipe diameter

Abort Gate Spare Parts

- 440020 RU-1 Rectifier
- 440810 Electro Magnet
- 496275 Gasket Rope
- 440910 Minipak Actuator (12"-28")
- 440913 Minipak Actuator (29"-36")
- 440912 Superpak Actuator (37"-42")
- 440918 Superpak Actuator (43"-60")
- 496201 EPDM Rubber ½" x 11½" W
- 440330 Limit Switch
- 440332 Limit Switch Arm

Abort Gate Systems

GreCon Fail-safe™ Abort Gates exhaust hazardous air flow from the ducting. Activated by the sensors, a spring-loaded gate closes in less than 500 milliseconds. NFPA 664 Standard 8-4 compliant; heat resistant electromagnet and chromed magnet contact plate; stainless steel side seals; corrosion and abrasion resistant high temperature gate seals; automatic vacuum relief; accelerating springs; and electric powered gate reset. Optional co-flanges, manual reset, reverse or side discharge direction available. Requires 120 VAC.



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