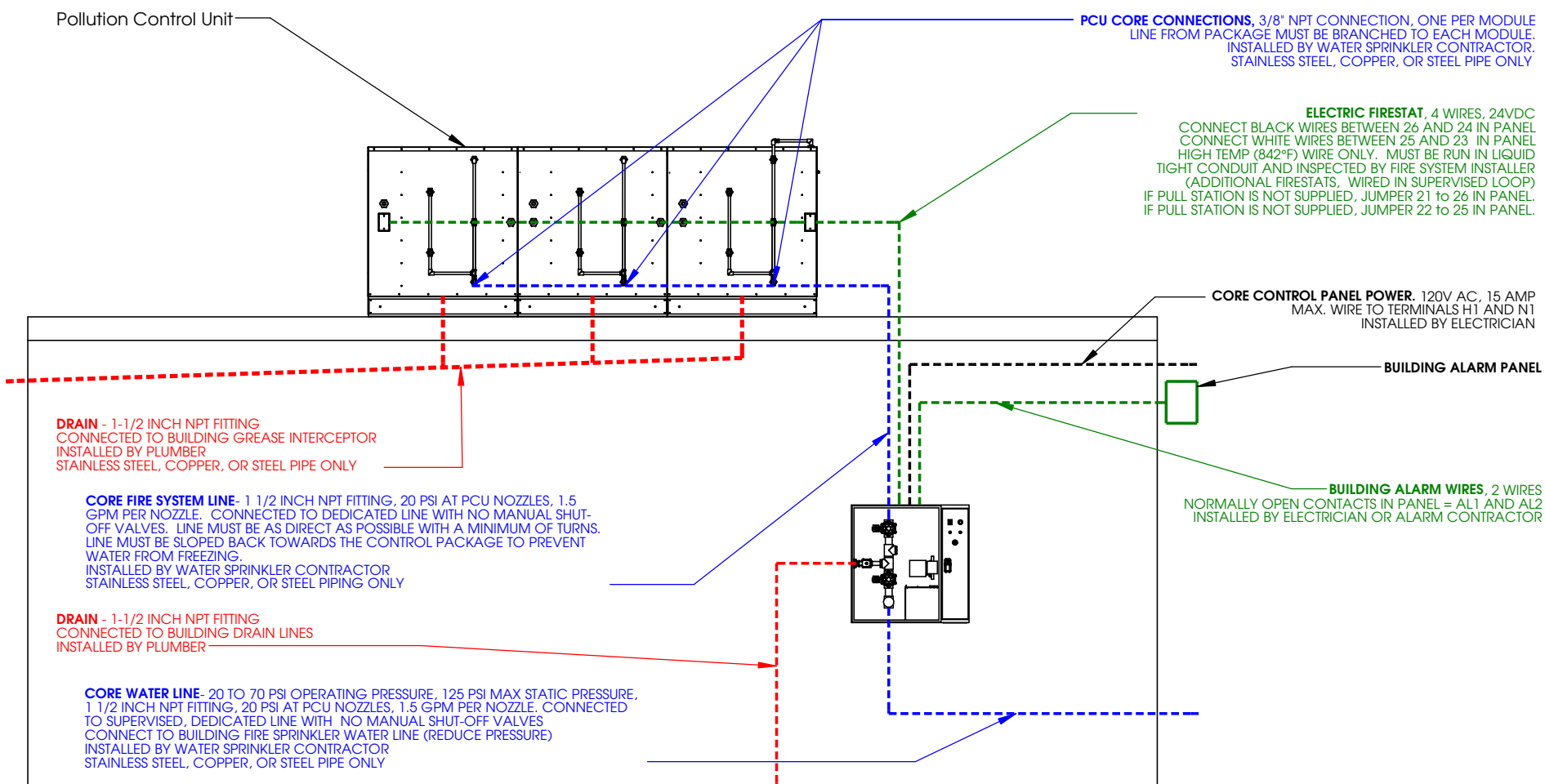


24V PCU CORE FIRE PROTECTION INSTALLATION SUMMARY



NOTE: See Installation, Operation, and Maintenance Manual for further instructions

24V PCU CORE INSTALLATION RESPONSIBILITY

PLUMBER:

- 1) Connect Package Drain.
- 2) Connect Pollution Control Drain. **Stainless Steel, Copper, Steel Pipe Only**

PLUMBING CONTRACTOR REQUIREMENT					
Item	Connection	Temperature	Pressure*	Flow Rate	Comments
Package Drain	1 1/2 NPT	N/A	Sprinkler System Pressure	Capacity of the Sprinkler System	Connect to Building Drain Capable of Handling Water Volume. Line must be sloped away from panel.
Pollution Control Unit Drain	1 1/2 NPT	N/A	N/A	Capacity of the Sprinkler System	Connect to Building Grease Interceptor. Line must be sloped away from Pollution Control Unit.

BUILDING SPRINKLER CONTRACTOR:

- 1) Connect CORE Water Line to Building Wet Sprinkler System. **Stainless Steel, Copper, Steel Pipe Only**
- 2) Connect CORE Package to PCU Spray Bars. **Stainless Steel, Copper, Steel Pipe Only**

SPRINKLER CONTRACTOR REQUIREMENT					
Item	Connection	Temperature	Pressure**	Flow Rate	Comments
CORE Package Water Line	1 1/2" NPT	Non-Heated	20 to 70 PSI	See Table Below	Water Line Must Be Supervised and Have No Manual Shut-Off Valves
CORE Package to PCU	1 1/2" NPT	Non-Heated	20 to 70 PSI	See Table Below	Water Line Must Be Sloped Back to Control Package To Prevent Standing Water

**20 to 70 psi operating pressure. 125 psi max static pressure. Regulator is not included to meet this pressure from sprinkler line and must be provided by, installed by, and adjusted by the sprinkler contractor to meet our incoming pressure requirements. A regulator such as the Elkhart Brass Model Number URFA-20S-2.5" or the UR-20 Series Parts Kits should be utilized. This must be confirmed with Fire Marshal.

Fire System Water Consumption Based on PCU Size In GPM

PCU Size	# of Modules				
	1	2	3	4	5
PCU 1	7.5	14	20	26	32
PCU 2	11	18	26	33	41
PCU 3	11	18	26	33	41
PCU 4	15	24	33	42	51
PCU 5	17	27	38	48	59
PCU 6	17	27	38	48	59

BUILDING/SAFETY ALARM CONTRACTOR:

1. Wire Remote Firestat Sensor(s), Link CORE systems and Building Alarm Contacts.
2. Perform Final Fire System Test.
3. Complete Final Hookup of System.
4. Inspect all wiring to Pollution Control Unit.
5. Fill Surfactant Tank.

FIRE SYSTEM CONTRACTOR REQUIREMENT					
Item	Connection in Panel	Connection on Device	Voltage	Amperage	Comments
Remote Firestat Sensor(s)	25 and 23 = Line 1 26 and 24 = Line 2	Black & White	24 VDC	< 1.0 Amps	Wire fire sensor black wires between terminals 25 and 23. Wire fire sensor white wire between hood terminals 26 and 24. High Temp (842°F) Wire Only.
Building Alarm	AL1, AL2	Varies	MAX 120 VAC	Up to 10 Amps	Wire to AL1 & AL2 for Normally Open Contact.
Hood/PCU CORE Interlock	ILA, ILB, ILC	ILA, ILB, ILC	24 VDC	<1.0 Amps	CORE SYSTEM 1 ILA, to CORE SYSTEM 2 ILA. CORE SYSTEM 1 ILB, to CORE SYSTEM 2 ILB. CORE SYSTEM 1 ILC, to CORE SYSTEM 2 ILC.
Trouble Relay	TBC, TBL, TOK	Varies	MAX 120 VAC	Up to 10 Amps	Trouble Relay Contacts for Building Mangement System Trouble Input or Building Fire Alarm System Trouble Input.

ELECTRICIAN:

- 1) Wire main control panel per included schematic.

ELECTRICAL CONTRACTOR REQUIREMENT					
Item	Connection in Panel	Connection on Device	Voltage	Amperage	Comments
Control Panel Power	H1 & N1	Circuit Breaker	120 VAC	15 Amps	Control Panel Power MUST Not Be Run Through Shunt Trip Breaker

APPLICABLE STANDARDS:

- 1) Meets requirements of NFPA 96 (Standard for the Installation of Equipment for the Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment)
- 2) NFPA 17A (Standard on Wet Chemical Extinguishing Systems)

24V PCU CORE CONTROL CABINET VIEW

CORE WATER LINE- 20 TO 70 PSI OPERATING PRESSURE, 125 PSI MAX STATIC PRESSURE. 1.5 GPM PER NOZZLE, QUANTITY VARIES BY UNIT SIZE.
 1 1/2 INCH NPT FITTING, LINE MUST BE INSTALLED WITH MINIMUM OF FITTINGS. CONNECTED WITH NO MANUAL SHUT-OFF VALVES. INSTALLED BY WATER SPRINKLER CONTRACTOR
 PIPE MUST SLOPE FROM PCU DOWN TO CONTROL PANEL FOR FREEZE PROTECTION.
 STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY

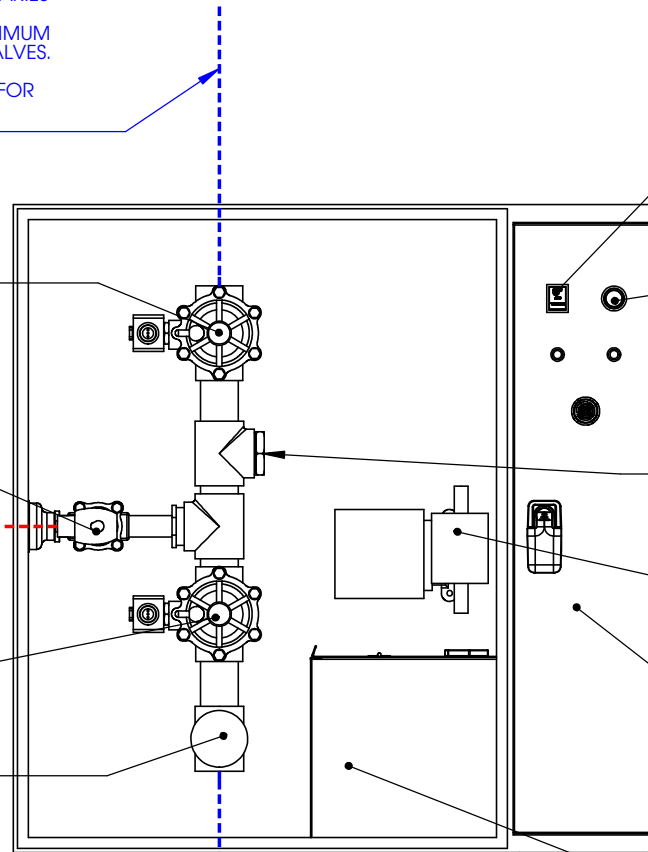
1 1/2" Solenoid Normally Open

3/4" Solenoid Normally Open

1 1/2" Solenoid Normally Closed

Temperature and Pressure gauge

PANEL DRAIN, 1 1/2 INCH NPT FITTING, DRAINS TO BUILDING DRAIN LINE. FLOW RATE AND VOLUME WILL MATCH INCOMING SPRINKLER LINE
 INSTALLED BY PLUMBER



Test/Armed Switch. (RB24GD1100)

Prime Push Button (D7-F2X1).

Surfactant Injection with check valve.

Surfactant Pump. (50000-805)

CORE ELECTRICAL CABINET. CONTAINS POWER SUPPLY (1606-XLP), CORE CONTROL (CPUCORE), BATTERIES (BP7-12), AND TERMINAL BLOCKS.

Surfactant Tank (WWSCTANK2.0CORE) Screwed to Cabinet (2 Places)

CORE WATER LINE- 20 TO 70 PSI OPERATING PRESSURE, 1.5 GPM PER PCU NOZZLE, QUANTITY VARIES BY UNIT SIZE. 125 PSI MAX STATIC PRESSURE. 1 1/2 INCH NPT FITTING, CONNECTED TO SUPERVISED, DEDICATED LINE WITH NO MANUAL SHUT-OFF VALVES
 CONNECT TO BUILDING FIRE SPRINKLER WATER LINE (REDUCE PRESSURE)
 INSTALLED BY WATER SPRINKLER CONTRACTOR
 STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY

24V CORE BASIC OPERATING INSTRUCTIONS

3/15/2010 Rev. 1

CORE Protection Fire System

The Self Cleaning hood is required to be installed to achieve CORE Protection. The daily basic operation of the CORE Protection system is identical to the Self Cleaning hood. In the event of a hood fire, CORE Protection is activated.

If the hood Firestat installed in the riser senses a temperature hotter than its internal set point or if the remote manual pull station is pulled, an electric signal is sent to the appliance protection fire system and the hood duct and plenum water system. An electric solenoid operated Automan activates the appliance surface protection system. An electric water solenoid is energized allowing the flow of water to the hood duct and plenum through the Self Cleaning hood spray bar. At the same time, surfactant is continually injected into the water stream to help suppress the fire.

Once the fire system is activated, a "Fire System Activated" light is illuminated on the hood control panel and an audible alarm sounds. All gas and electric appliances under the hood must be electrically interlocked to shut off. This is achieved via a gas valve relay and/or a shunt trip breaker. A timer is also energized upon fire system activation. The timer is set for 30 minutes and keeps the water spray system running for a minimum of 30 minutes. This is necessary to help extinguish all remaining duct fire potential.

The fire system is electrically operated and thus requires a battery backup system. In the event of a loss of electrical power, all gas and electric appliances under the hood must be electrically interlocked to shut off. This is achieved via a gas valve relay and/or a shunt trip breaker. The battery backup will automatically energize upon a loss of power. The battery backup will monitor the fire system circuit for up to three days and be able to operate the fire system circuit for a minimum of 30 minutes. Once power is restored, the battery will automatically recharge.

CORE Protection Reset Overview

There are multiple actions required to reset the fire system. First, the duct Firestat must be cooled to below its internal set point and the remote pull station must be reset using a standard Allen wrench key. Once both of these devices have been reset, the timer will automatically stop the fire system once its time duration has ended. An alternative method to bypassing the timer is to press the fire system reset button on the face of the CORE control cabinet. This will de-energize the timer and reset the system. NOTE: The Firestat must be cool and the remote pull station must be reset for this button to work.

The appliance protection fire system must be recharged with liquid agent, a new canister must be installed and the fire system must be re-armed. Fill the surfactant tank with surfactant.

After a fire, full inspection by a certified professional must be conducted prior to restarting the fire system.

CORE Application Specific Details

Self Cleaning Hoods

Self Cleaning Hood option is required to apply CORE Protection. High Efficiency, High Velocity Cartridge, SOLO, or COMBO filters are required. If substitute filters are utilized, product warranty is void and there is no guarantee in performance.

Solid Fuel Appliances

Solid Fuel Appliances produce sparks that can travel into ductwork. These appliances require SOLO filters and an additional Firestat at the duct discharge near the fan if the ductwork exceeds 10 feet in length or contains horizontal duct runs. Indicate on ductwork drawing where Firestat is to be installed with quick seal. All additional Firestats are wired into the supervised loop with the first Firestat. Duct should be insulated per code requirements. If substitute filters are utilized, product warranty is void and there is no guarantee in performance. Self Cleaning Hoods and ETL listed ductwork are also required.

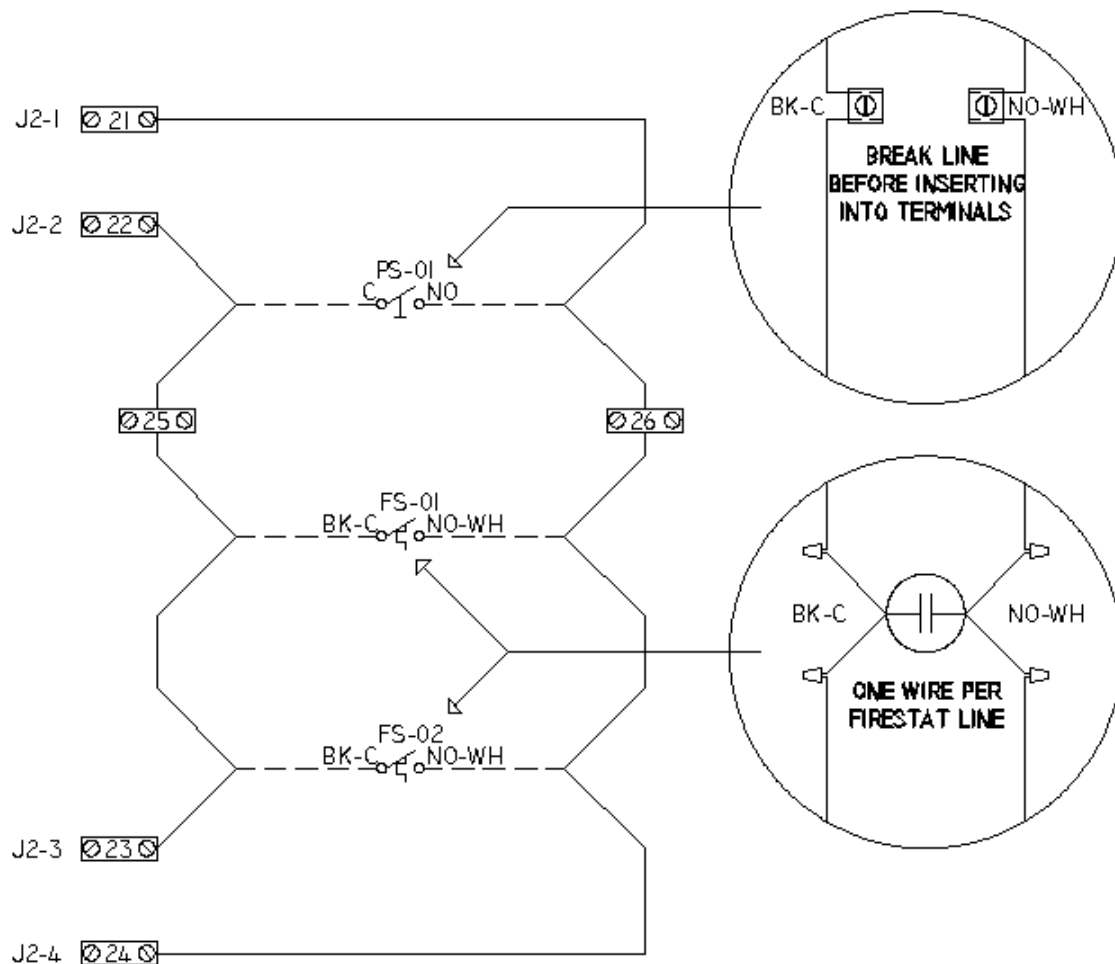
Duct Firestats

A Firestat must be installed at 50 Foot intervals when the duct length exceeds 50 Feet.

IMPORTANT:

Any deviation from any of the manufacturer's recommendations in this document or the operation and installation manual must be approved by the owner of this equipment and voids the warranty and performance guarantee of this product.

24V SUPERVISED LOOP INSTRUCTIONS



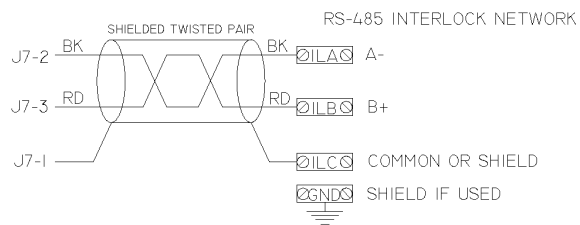
Supervised Loop Installation

Loop must be continuous between the Firestats and Pull Stations. Quantity of each components may vary.

Pollution Control Unit may not have a pull station installed.

Multiple pull stations and fire sensors can be used on each panel.

Connection Between Multiple CORE Systems



There is an RS-485 connection in each CORE panel. To connect multiple CORE panels, simply connect matching terminlas from one panel to the next in series. Use 18 to 24 GA shielded, single twisted pair wire for wire runs.

PRESSURE REDUCING VALVE WITH SUPERVISION SWITCH AND PRESSURE MONITORING SWITCH



Valve Supervision Switch

The pressure reducing valve must be installed with an approved supervision switch. Switch part numbers and support brackets are listed in the table. The switch comes with two single pole, double throw switches for connections to the building panel.

The Switch must be attached per Pressure Reduction Valve Bracket instructions.

Valve Supervision Switch Bracket

Valve Bracket contains necessary parts and instructions to adapt the supervision switch to the valve.

Pressure Reducing Valve

The pressure reducing valve must be installed before the CORE Protection package to reduce the sprinkler line incoming pressure and volume. This pressure reduction is based upon the incoming pressure and volume. See table for reduction percentage.

Valve is available in 1 1/2" NPT connections.

Pressure Monitoring Switch

The pressure Monitoring Valve comes with two single pole, double throw switches, each with an adjustable setpoint. This setpoint can be anywhere between 10 and 60 PSI.

Switch is available with a 1/2" NPT connection.



Reduced Pressure (PSI)	UR-20 Valve	Incoming Pressure (PSI)												
		50	60	70	80	90	100	110	120	130	140	150	160	170
UR-20-W		35.65	42.78	49.91	57.04	64.17	71.3	78.43	85.56	92.69	99.82	106.95	114.08	121.21
UR-20-X		33.1	39.72	46.34	52.96	59.58	66.2	72.82	79.44	86.06	92.68	99.3	105.92	112.54
UR-20-Z		21.75	26.1	30.45	34.8	39.15	43.5	47.85	52.2	56.55	60.9	65.25	69.6	73.95

Complete Parts Kit	UR-20 Valve	Reduction Presentage	Supervision Switch	Switch Bracket
UR-20-W KIT	UR-20-W	28.7%	PL-PCVS2	80574001
UR-20-X KIT	UR-20-X	33.8%	PL-PCVS2	80574001
UR-20-Z KIT	UR-20-Z	56.5%	PL-PCVS2	80574001

Wiring Connections For Supervision Controls

BUILDING FIRE ALARM OR MONITORING SYSTEM

