

24V CORE
INSTALLATION
SUMMARY
10/05/2015

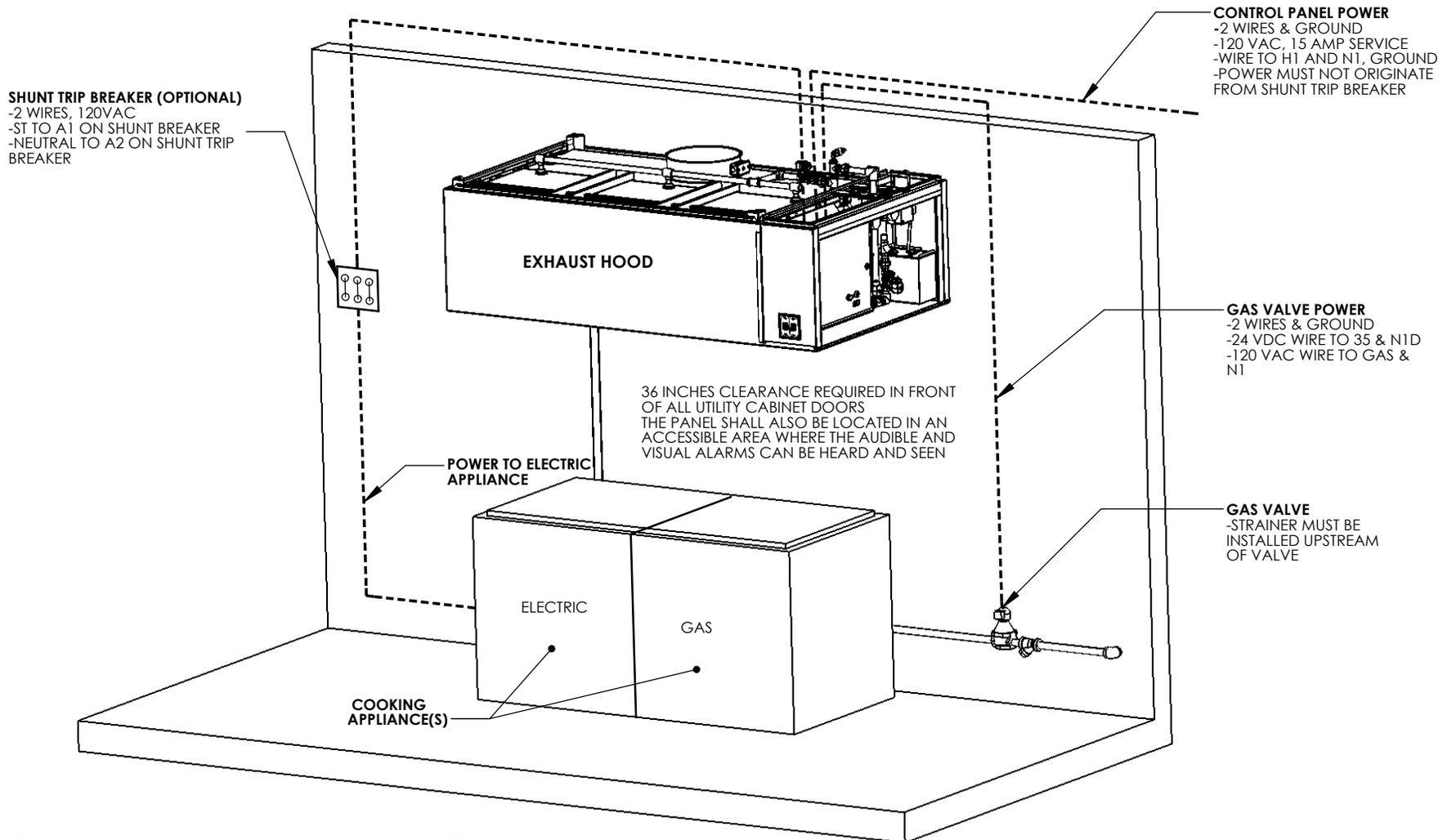
CORE TOTAL FLOOD PROTECTION ELECTRICAL DETAIL

ELECTRICIAN:

1. WIRE MAIN CONTROL PANEL PER INCLUDED SCHEMATIC
2. WIRE ALL FANS PER INCLUDED SCHEMATIC
3. WIRE SHUNT TRIP BREAKER (OPTIONAL)
4. WIRE UDS APPLIANCE KILL SWITCH, IF EQUIPPED (OPTIONAL)
5. WIRE GAS VALVE

ELECTRICAL CONTRACTOR REQUIREMENT

ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
SHUNT TRIP BREAKER (OPTIONAL)	ST & N1	BREAKER COIL (A1 & A2)	120 VAC	< 4 AMPS	ST TO A1 ON SHUNT BREAKER COIL, AND NEUTRAL TO A2 ON SHUNT TRIP BREAKER COIL
CONTROL PANEL POWER	H1 & N1 + GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
UDS APPLIANCE KILL SWITCH (OPTIONAL)	KTS & N1	KTS & N1	120 VAC	< 4 AMPS	KILL SWITCH TERMINALS MUST BE IN SERIES WITH OTHER KILL SWITCHES
REMOTE ANSUL AUTOMAN (OPTIONAL)	AU1, AU2	SOLENOID	120 VAC	< 6 AMPS	120V TO AU1, AU2 TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL
GAS VALVE	35 & N1D (IF 24 VDC) GAS & N1 (IF 120 VAC)	RED/RED/GREEN	24 VDC OR 120 VAC	< 1.0 AMPS	IF 24 VDC - 2 WIRES & GROUND, N1D TO RED, 35 TO RED, AND GREEN TO GROUND IF 120 VAC - 2 WIRES & GROUND GAS TO RED, N1 TO RED, AND GREEN TO GROUND



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

CORE TOTAL FLOOD PROTECTION LOW-VOLTAGE DETAIL

ALARM CONTRACTOR:

1. WIRE MANUAL ACTUATION DEVICE(S), REMOTE FIRESTAT(S), CORE INTERLOCK(S), FIRE SENSOR(S) AND FIRE ALARM CONTACTS
2. COMPLETE FINAL HOOKUP OF SYSTEM
3. PERFORM FINAL FIRE SYSTEM TEST
4. FILL SURFACTANT TANK

ALARM CONTRACTOR REQUIREMENT

ITEM	CONNECTION IN PANEL	CONNECTION ON DEVICE	VOLTAGE	AMPERAGE	COMMENTS
MANUAL ACTUATION DEVICE(S)	101 AND 104 102 AND 103	1 & 2	24 VDC	< 1.0 AMPS	WIRE MANUAL ACTUATION DEVICE TERMINAL 1 BETWEEN CORE PANEL TERMINALS 102 AND 103 WIRE MANUAL ACTUATION DEVICE TERMINAL 2 BETWEEN CORE PANEL TERMINALS 101 AND 104 JUMPER 101 TO 104 AND 102 TO 103 IF NO MANUAL ACTUATION DEVICE IS INSTALLED
MANUAL ACTUATION DEVICE COVER	N/A	N/A	N/A	N/A	MANUAL ACTUATION DEVICE COVER MUST BE INSTALLED IF SURFACE MOUNTED, USE COVER EXTENSION STI-6531B
REMOTE FIRESTAT SENSOR(S)	21 AND 24 22 AND 23	BLACK AND WHITE	24 VDC	< 1.0 AMPS	WIRE FIRE SENSOR WHITE WIRES BETWEEN HOOD CORE PANEL TERMINALS 22 AND 23 WIRE FIRE SENSOR BLACK WIRE BETWEEN HOOD CORE PANEL TERMINALS 21 AND 24 HIGH TEMP (842°F) #CW04427 (WHT) & #CW04427B (BLK) WIRE OR SIMILAR ONLY IF RAN OVER TOP OF HOOD; OTHERWISE BELDEN #6320UL OR SIMILAR PLENUM RATED WIRE; SEE FIGURE 1
FIRE ALARM CONTACT	AL1, AL2	VARIES	50V MAX (AC/DC)	UP TO 1 AMP	FIRE ALARM RELAY CONTACTS FOR BUILDING FIRE ALARM LOCATED IN THE CORE ELECTRICAL CONTROL PANEL
CORE INTERLOCK(S)	ILA, ILB, ILC	ILA, ILB, ILC	RS-485 COMMUNICATIONS SIGNAL		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. USE BELDEN# 88760 OR SIMILAR WIRE
TROUBLE CONTACT	TBC, TBL, TOK	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO TBL & TBC NORMALLY OPEN CONTACT, CLOSSES IN TROUBLE CONDITION
CORE COMMUNICATIONS CABLE	RJ-45 Jack	INTERNET CONNECTION	SIGNAL	<1.0 AMPS	TYPICAL CONNECTION CAT5 CABLE TO LOCAL AREA NETWORK VIA ETHERNET SWITCH OR WIRELESS ROUTER WITH VALID INTERNET CONNECTION

FIRE ALARM CONTACT

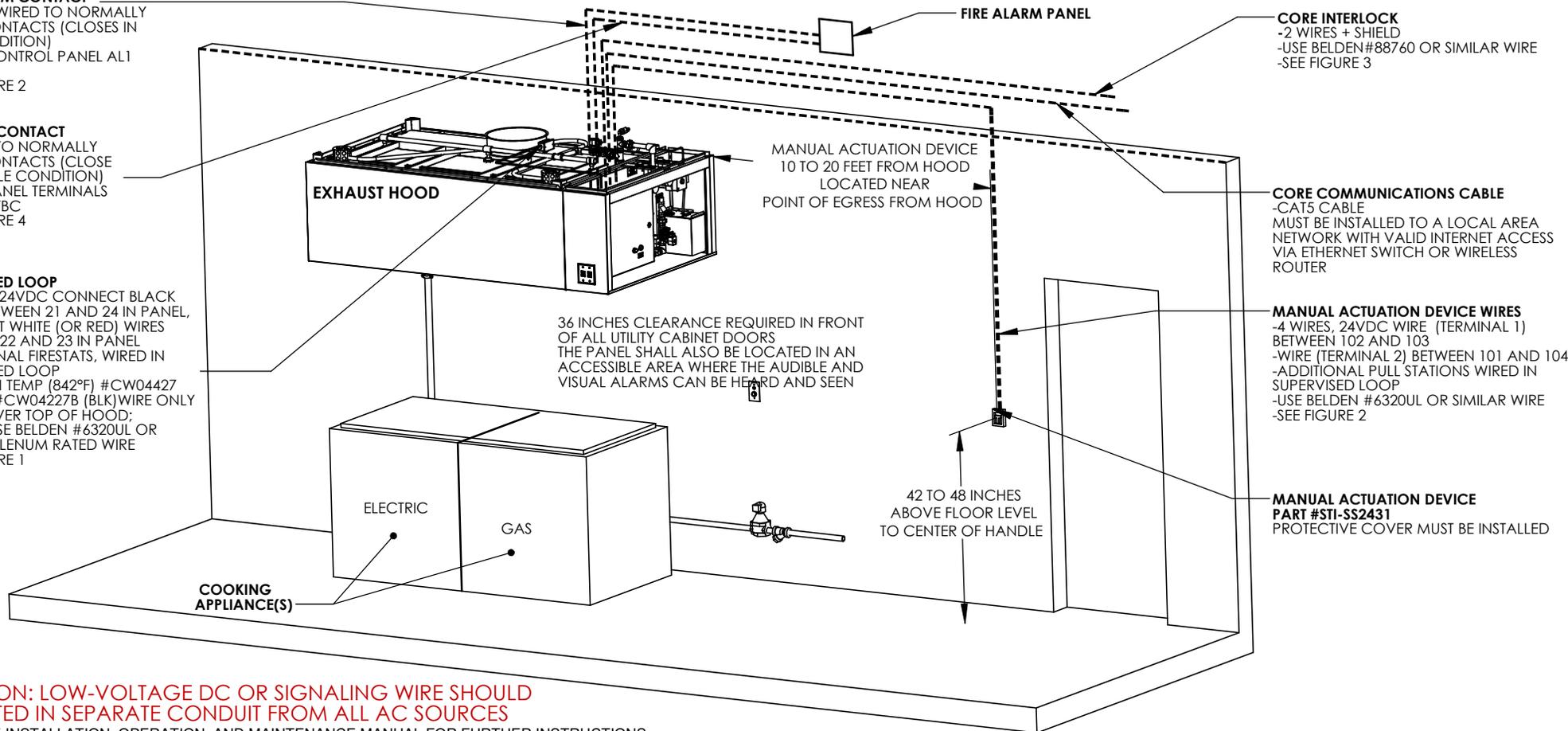
- 2 WIRES WIRED TO NORMALLY OPEN CONTACTS (CLOSES IN FIRE CONDITION)
- CORE CONTROL PANEL AL1 AND AL2
- SEE FIGURE 2

TROUBLE CONTACT

- 2 WIRES TO NORMALLY OPEN CONTACTS (CLOSES IN TROUBLE CONDITION)
- CORE PANEL TERMINALS TBL AND TBC
- SEE FIGURE 4

SUPERVISED LOOP

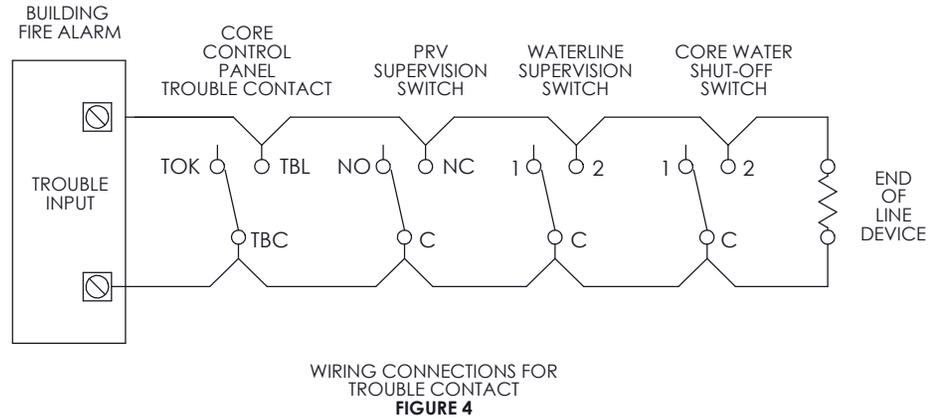
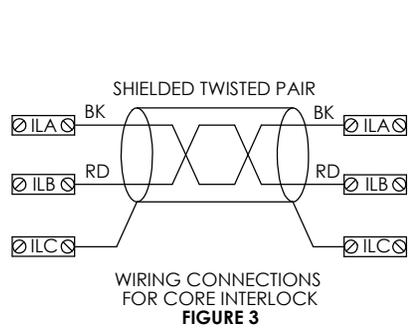
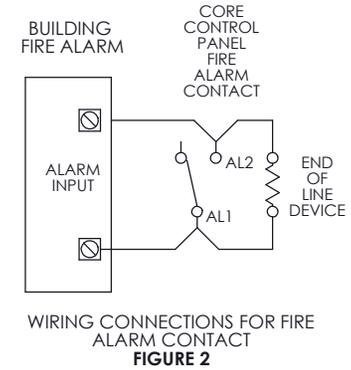
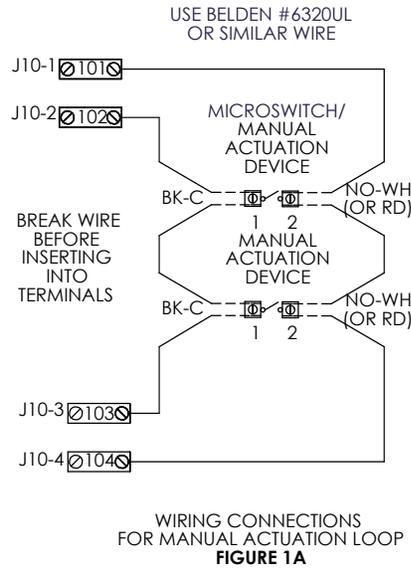
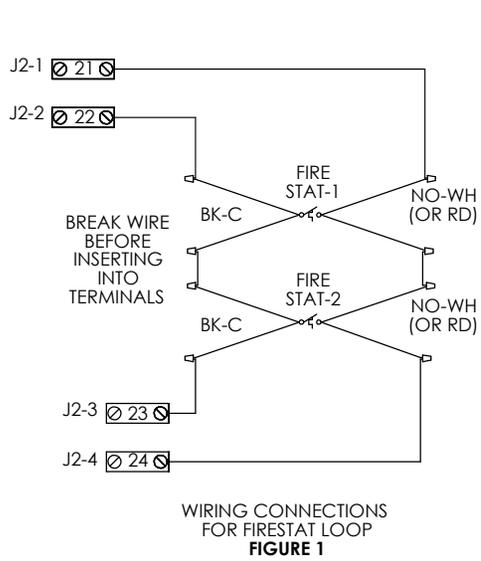
- 4 WIRES, 24VDC CONNECT BLACK WIRES BETWEEN 21 AND 24 IN PANEL, CONNECT WHITE (OR RED) WIRES BETWEEN 22 AND 23 IN PANEL
- ADDITIONAL FIRESTATS, WIRED IN SUPERVISED LOOP
- USE HIGH TEMP (842°F) #CW04427 (WHT) & #CW04427B (BLK) WIRE ONLY IF RAN OVER TOP OF HOOD; OTHERWISE BELDEN #6320UL OR SIMILAR PLENUM RATED WIRE
- SEE FIGURE 1



ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

CORE TOTAL FLOOD PROTECTION LOW-VOLTAGE FIGURES



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

CORE TOTAL FLOOD PROTECTION PLUMBING DETAIL

PLUMBER:

1. CONNECT HOT WATER LINE; PVC, COPPER OR STAINLESS STEEL PIPE ONLY
2. CONNECT HOOD DRAIN(S) STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY
3. CONNECT ALL END-TO-END AND BACK-TO-BACK HOOD WATER LINE CONNECTIONS (PLUMBING IS FIELD SUPPLIED FOR THIS) FIELD PLUMBING MUST NOT EXCEED HEIGHT OF VACUUM BREAKER IN MAIN UTILITY CABINET
- REMOVE PLUG FROM MAIN HOOD SPRAY BAR AND CONNECT TO NEXT HOOD STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY
4. PLUMB GAS VALVE, STRAINER MUST BE INSTALLED UPSTREAM OF VALVE
5. INSTALL FLOOR DRAIN
6. INSTALL BACKFLOW PREVENTER IF CODE REQUIRES

PLUMBING CONTRACTOR REQUIREMENT

ITEM	CONNECTION	TEMPERATURE	PRESSURE	FLOW RATE	COMMENTS
HOT WATER LINE	3/4 INCH NPT	140 to 170°F	XXX TO 70 PSI	XXX GPM (0.7 GPM PER FOOT OF HOOD)	INSULATE HOT WATER PIPE, MINIMUM PRESSURE DEPENDENT ON LENGTH AND CONFIGURATION OF HOOD SYSTEM
HOOD DRAIN(S)	1-1/2 INCH NPT	N/A	GRAVITY DRAIN	XXX GPM PER DRAIN	2 DRAINS ON 24 INCH TALL HOODS WITH 20 INCH TALL FILTERS AND HOODS 10 FEET AND LONGER
END-TO-END CORE CONNECTION	3/4 INCH NPT	N/A	N/A	N/A	CONNECT WITH NPT PIPE, SEAL ALL THREADS, HOOD CONNECTION PROVIDED
BACK-TO-BACK CORE CONNECTION	3/4 INCH NPT	N/A	N/A	N/A	CONNECT WITH NPT PIPE, SEAL ALL THREADS, HOOD CONNECTION PROVIDED
GAS VALVE	VARIES	N/A	SEE CHART	N/A	UP TO 2 INCHES NPT WITH 24V CONTROLS, 2-1/2 AND 3 INCH USE 120V CONTROL
FLOOR DRAIN(S)	1-1/2 INCH	N/A	GRAVITY DRAIN	N/A	USED TO HELP CLEAN UP FIRE SYSTEM DISCHARGE, GREASE INTERCEPTOR MAY BE REQUIRED
BACKFLOW PREVENTER DRAIN LINE (OPTIONAL)	INLET/OUTLET DRAIN	N/A	VARIES	N/A	INSTALLED WHEN PACKAGE HAS A BACKFLOW PREVENTER VALVE, SEE BACKFLOW PREVENTER VALVE MANUAL FOR DETAILS

HOT WATER LINE

- PVC, COPPER, OR STAINLESS STEEL PIPE ONLY
- 140-170°F OPERATING TEMPERATURE
- XXX TO 70 PSI OPERATING PRESSURE
- 125 PSI MAX STATIC PRESSURE
- XXX GPM (0.7 GPM PER FOOT OF HOOD)
- 3/4 INCH NPT FITTING, INSULATED

END-TO-END OR BACK-TO-BACK CONNECTION

- INSTALLED AND PROVIDED BY PLUMBER
- STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY

HOOD DRAIN(S)

- 1-1/2 INCH NPT CONNECTED TO BUILDING GREASE TRAP
- 2 DRAINS ON 24 INCH TALL HOODS WITH 20 INCH FILTERS
- 2 DRAINS ON HOODS 10 FEET AND LONGER
- STAINLESS STEEL, COPPER OR STEEL PIPE ONLY

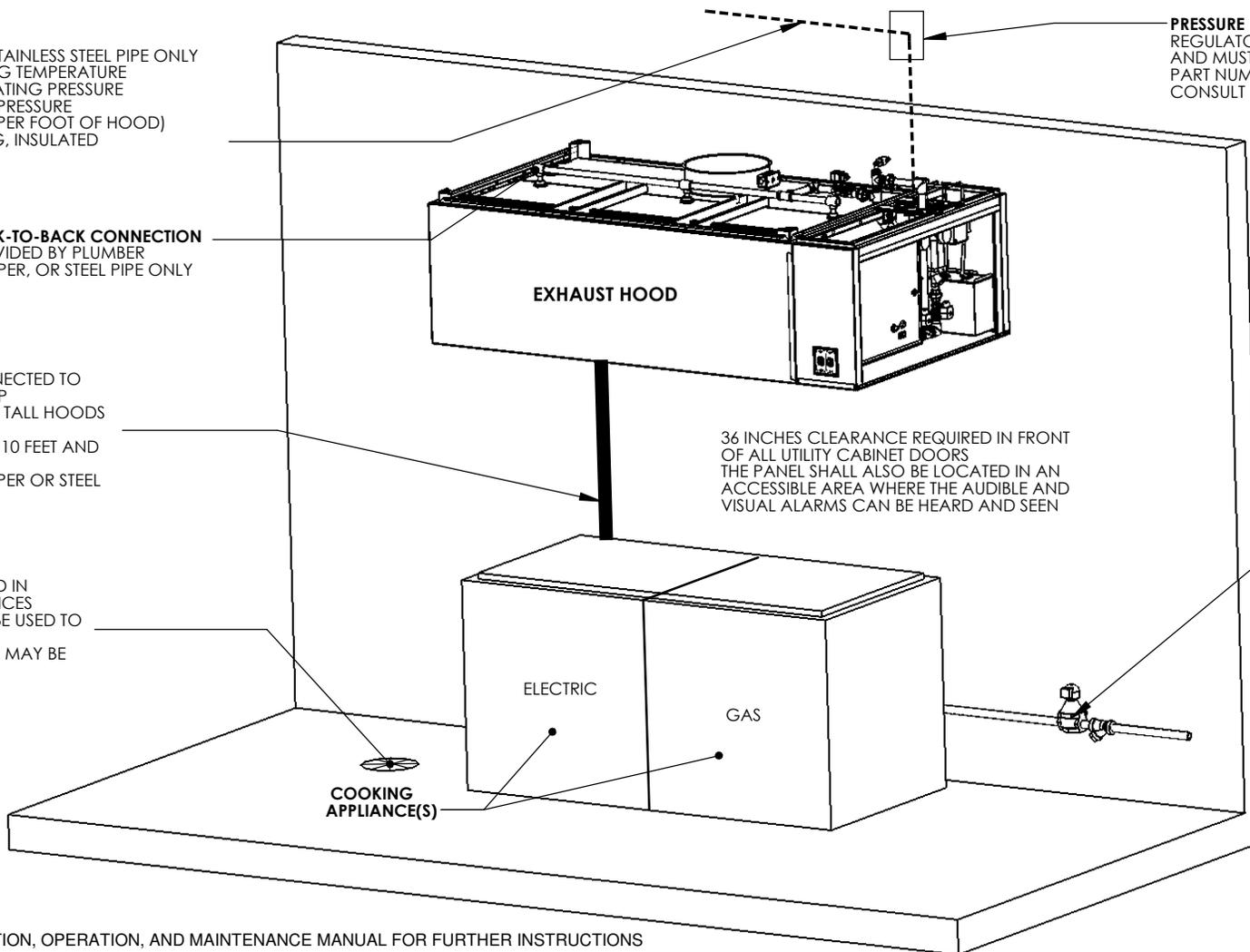
FLOOR DRAIN

- 1-1/2 DRAIN INSTALLED IN FLOOR, NEAR APPLIANCES
- FLOOR DRAINS MAY BE USED TO DRAIN HOOD
- GREASE INTERCEPTOR MAY BE REQUIRED

PRESSURE REGULATOR VALVE

REGULATORS ARE NOT INCLUDED TO MEET REQUIRED PRESSURE AND MUST BE ORDERED SEPARATELY
PART NUMBERS: X65BU(3/4"), X65BU(1"), OR X65BU(1-1/2")
CONSULT FACTORY FOR SIZING

LENGTH OF HOOD (FT)	MINIMUM INLET WATER PRESSURE FOR HOT WATER (PSI)
4	30
8	30
12	30
16	30
20	31
24	32
28	34
32	37
36	39
40	42
44	46
48	50



36 INCHES CLEARANCE REQUIRED IN FRONT OF ALL UTILITY CABINET DOORS
THE PANEL SHALL ALSO BE LOCATED IN AN ACCESSIBLE AREA WHERE THE AUDIBLE AND VISUAL ALARMS CAN BE HEARD AND SEEN

GAS VALVE

- THREADED NPT CONNECTION
- SEE TABLE BELOW FOR MAX PRESSURE
- STRAINER INSTALLED UPSTREAM OF VALVE

SIZE	MAX INLET PRESSURE	VOLTAGE	BTU/HR
3/4"	5	24VDC	593,200
1"	5	24VDC	1,132,300
1-1/4"	5	24VDC	1,925,000
1-1/2"	5	24VDC	2,406,000
2"	5	24VDC	2,940,500
2-1/2"	5	120VAC	5,607,800
3"	5	120VAC	5,661,700

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

CORE TOTAL FLOOD PROTECTION SPRINKLER DETAIL

BUILDING SPRINKLER CONTRACTOR:

1. CONNECT CORE WATER LINE TO BUILDING WET SPRINKLER SYSTEM. STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY

SPRINKLER CONTRACTOR REQUIREMENT

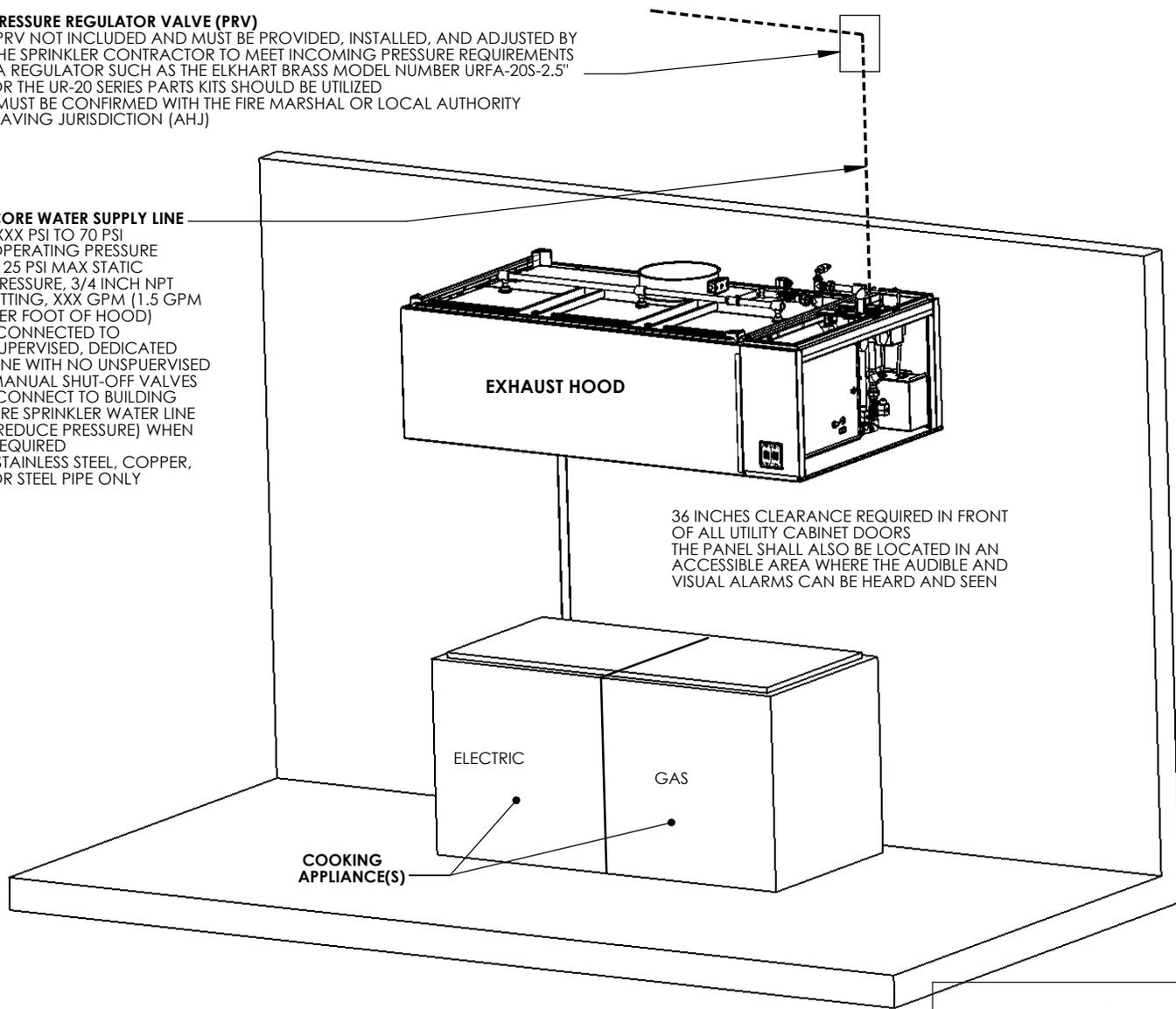
ITEM	CONNECTION	OPERATING PRESSURE	K-FACTOR	FLOW RATE	COMMENTS
CORE WATER SUPPLY LINE	3/4 INCH NPT	XXX PSI TO 70 PSI	XXX	XXX GPM TOTAL (1.5 GPM PER FOOT OF HOOD)	WATER LINE MUST BE SUPERVISED AND HAVE NO UNSUPERVISED MANUAL SHUT-OFF VALVES MINIMUM PRESSURE AND FLOWRATE DEPENDENT ON LENGTH OF HOOD SYSTEM

PRESSURE REGULATOR VALVE (PRV)

-PRV NOT INCLUDED AND MUST BE PROVIDED, INSTALLED, AND ADJUSTED BY THE SPRINKLER CONTRACTOR TO MEET 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
-MUST BE CONFIRMED WITH THE FIRE MARSHAL OR LOCAL AUTHORITY HAVING JURISDICTION (AHJ)

CORE WATER SUPPLY LINE

-XXX PSI TO 70 PSI
-OPERATING PRESSURE
-125 PSI MAX STATIC PRESSURE, 3/4 INCH NPT FITTING, XXX GPM (1.5 GPM PER FOOT OF HOOD)
-CONNECTED TO SUPERVISED, DEDICATED LINE WITH NO UNSUPERVISED MANUAL SHUT-OFF VALVES
-CONNECT TO BUILDING FIRE SPRINKLER WATER LINE (REDUCE PRESSURE) WHEN REQUIRED
-STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY



36 INCHES CLEARANCE REQUIRED IN FRONT OF ALL UTILITY CABINET DOORS
THE PANEL SHALL ALSO BE LOCATED IN AN ACCESSIBLE AREA WHERE THE AUDIBLE AND VISUAL ALARMS CAN BE HEARD AND SEEN

MINIMUM OPERATING PRESSURE REQUIREMENTS

LENGTH OF HOOD (FT)	MINIMUM INLET WATER PRESSURE FOR HOT WATER (PSI)	MINIMUM INLET WATER PRESSURE FOR CORE PROTECTION (PSI)	DISCHARGE COEFFICIENTS (K-FACTOR)
4	30	30	1.3
8	30	30	2.6
12	30	30	4.0
16	30	30	5.3
20	31	33	6.4
24	32	36	7.4
28	34	39	8.3
32	37	44	9.0
36	39	49	9.7
40	42	56	10.2
44	46	63	10.6
48	50	70	11.1

$$\text{TOTAL FLOWRATE} = \text{K FACTOR} \times \text{PRESSURE}^{0.44}$$

NOZZLE HEIGHTS ABOVE HAZARD

NOZZLE PART NUMBER	NOZZLE ABOVE HAZARD	
	MIN	MAX
3070-3/8H-SS10	30"	55"

NOZZLES FOR CORE PROTECTION

DESCRIPTION	PART NUMBER	MACOLA	FLOW RATE
RISER NOZZLE	1/4TT+TP1530+CP1325	A0002784	2.6 GPM @ 30 PSI
SPRAY BAR NOZZLE	1/4TT+TG-4.3W	A0025166	0.7 GPM @ 30 PSI

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

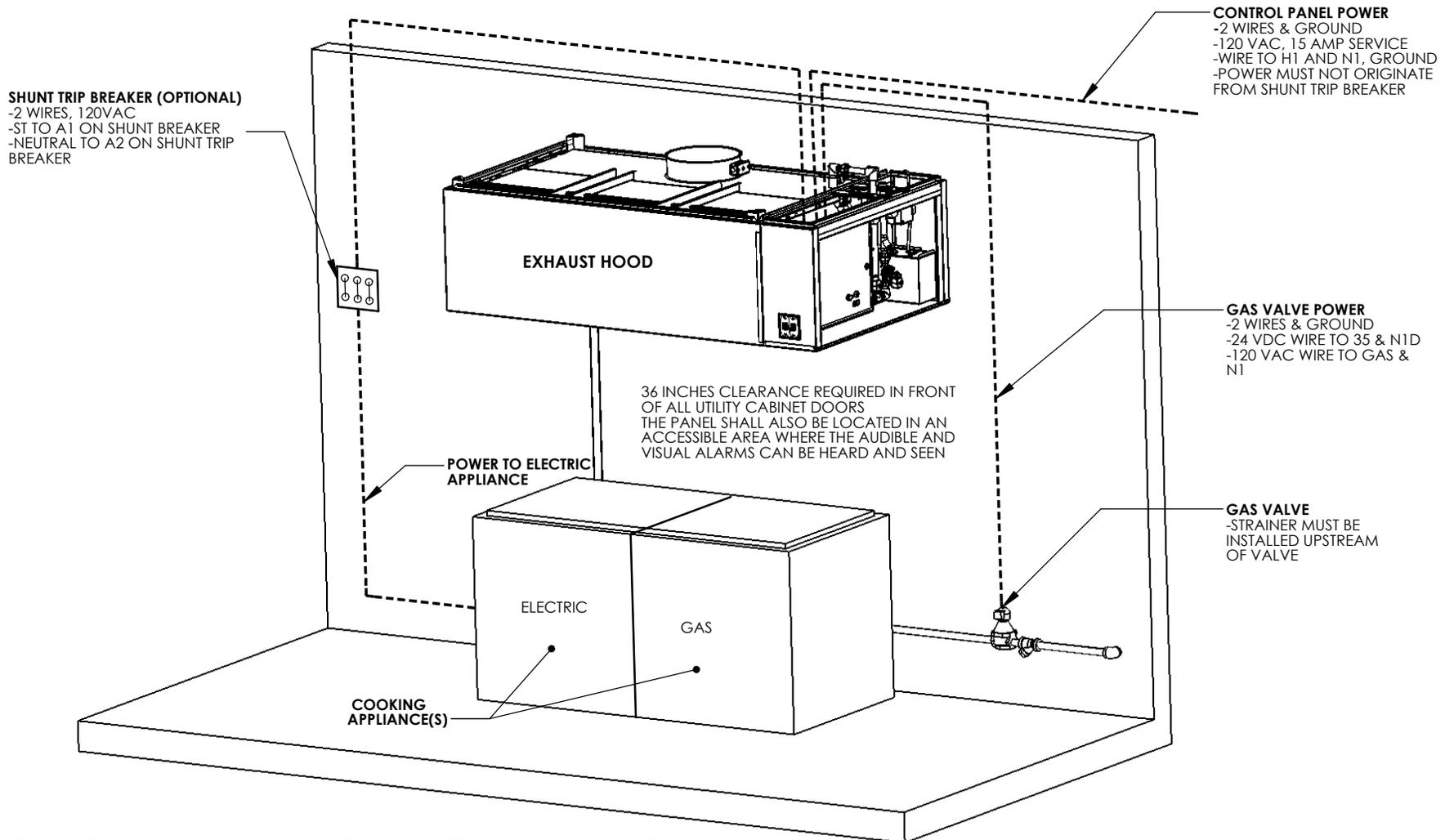
CORE DUCT & PLENUM PROTECTION ELECTRICAL DETAIL

ELECTRICIAN:

1. WIRE MAIN CONTROL PANEL PER INCLUDED SCHEMATIC
2. WIRE ALL FANS PER INCLUDED SCHEMATIC
3. WIRE SHUNT TRIP BREAKER (OPTIONAL)
4. WIRE UDS APPLIANCE KILL SWITCH, IF EQUIPPED (OPTIONAL)
5. WIRE GAS VALVE

ELECTRICAL CONTRACTOR REQUIREMENT

ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
SHUNT TRIP BREAKER (OPTIONAL)	ST & N1	BREAKER COIL (A1 & A2)	120 VAC	< 4 AMPS	ST TO A1 ON SHUNT BREAKER COIL, AND NEUTRAL TO A2 ON SHUNT TRIP BREAKER COIL
CONTROL PANEL POWER	H1 & N1 + GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
UDS APPLIANCE KILL SWITCH (OPTIONAL)	KTS & N1	KTS & N1	120 VAC	< 4 AMPS	KILL SWITCH TERMINALS MUST BE IN SERIES WITH OTHER KILL SWITCHES
REMOTE ANSUL AUTOMAN (OPTIONAL)	AU1, AU2	SOLENOID	120 VAC	< 6 AMPS	120V TO AU1, AU2 TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL
GAS VALVE	35 & N1D (IF 24 VDC) GAS & N1 (IF 120 VAC)	RED/RED/GREEN	24 VDC OR 120 VAC	< 1.0 AMPS	IF 24 VDC - 2 WIRES & GROUND, N1D TO RED, 35 TO RED, AND GREEN TO GROUND IF 120 VAC - 2 WIRES & GROUND GAS TO RED, N1 TO RED, AND GREEN TO GROUND



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

CORE DUCT & PLENUM PROTECTION LOW-VOLTAGE DETAIL

ALARM CONTRACTOR:

1. WIRE MANUAL ACTUATION DEVICE(S), REMOTE FIRESTAT(S), CORE INTERLOCK(S), FIRE SENSOR(S) AND FIRE ALARM CONTACTS
2. COMPLETE FINAL HOOKUP OF SYSTEM
3. PERFORM FINAL FIRE SYSTEM TEST
4. FILL SURFACTANT TANK

ALARM CONTRACTOR REQUIREMENT

ITEM	CONNECTION IN PANEL	CONNECTION ON DEVICE	VOLTAGE	AMPERAGE	COMMENTS
MANUAL ACTUATION DEVICE(S)	101 AND 104 102 AND 103	1 & 2	24 VDC	< 1.0 AMPS	WIRE MANUAL ACTUATION DEVICE TERMINAL 1 BETWEEN CORE PANEL TERMINALS 102 AND 103 WIRE MANUAL ACTUATION DEVICE TERMINAL 2 BETWEEN CORE PANEL TERMINALS 101 AND 104 JUMPER 101 TO 104 AND 102 TO 103 IF NO MANUAL ACTUATION DEVICE IS INSTALLED
MANUAL ACTUATION DEVICE COVER	N/A	N/A	N/A	N/A	MANUAL ACTUATION DEVICE COVER MUST BE INSTALLED IF SURFACE MOUNTED, USE COVER EXTENSION STI-6531B
REMOTE FIRESTAT SENSOR(S)	21 AND 24 22 AND 23	BLACK AND WHITE	24 VDC	< 1.0 AMPS	WIRE FIRE SENSOR WHITE WIRES BETWEEN HOOD CORE PANEL TERMINALS 22 AND 23 WIRE FIRE SENSOR BLACK WIRE BETWEEN HOOD CORE PANEL TERMINALS 21 AND 24 HIGH TEMP (842°F) #CW04427 (WHT) & #CW04427B (BLK) WIRE OR SIMILAR ONLY IF RAN OVER TOP OF HOOD; OTHERWISE BELDEN #6320UL OR SIMILAR PLENUM RATED WIRE; SEE FIGURE 1
FIRE ALARM CONTACT	AL1, AL2	VARIES	50V MAX (AC/DC)	UP TO 1 AMP	FIRE ALARM RELAY CONTACTS FOR BUILDING FIRE ALARM LOCATED IN THE CORE ELECTRICAL CONTROL PANEL
CORE INTERLOCK(S)	ILA, ILB, ILC	ILA, ILB, ILC	RS-485 COMMUNICATIONS SIGNAL		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. USE BELDEN# 88760 OR SIMILAR WIRE
TROUBLE CONTACT	TBC, TBL, TOK	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO TBL & TBC NORMALLY OPEN CONTACT, CLOSSES IN TROUBLE CONDITION
CORE COMMUNICATIONS CABLE	RJ-45 Jack	INTERNET CONNECTION	SIGNAL	<1.0 AMPS	TYPICAL CONNECTION CAT5 CABLE TO LOCAL AREA NETWORK VIA ETHERNET SWITCH OR WIRELESS ROUTER WITH VALID INTERNET CONNECTION

FIRE ALARM CONTACT

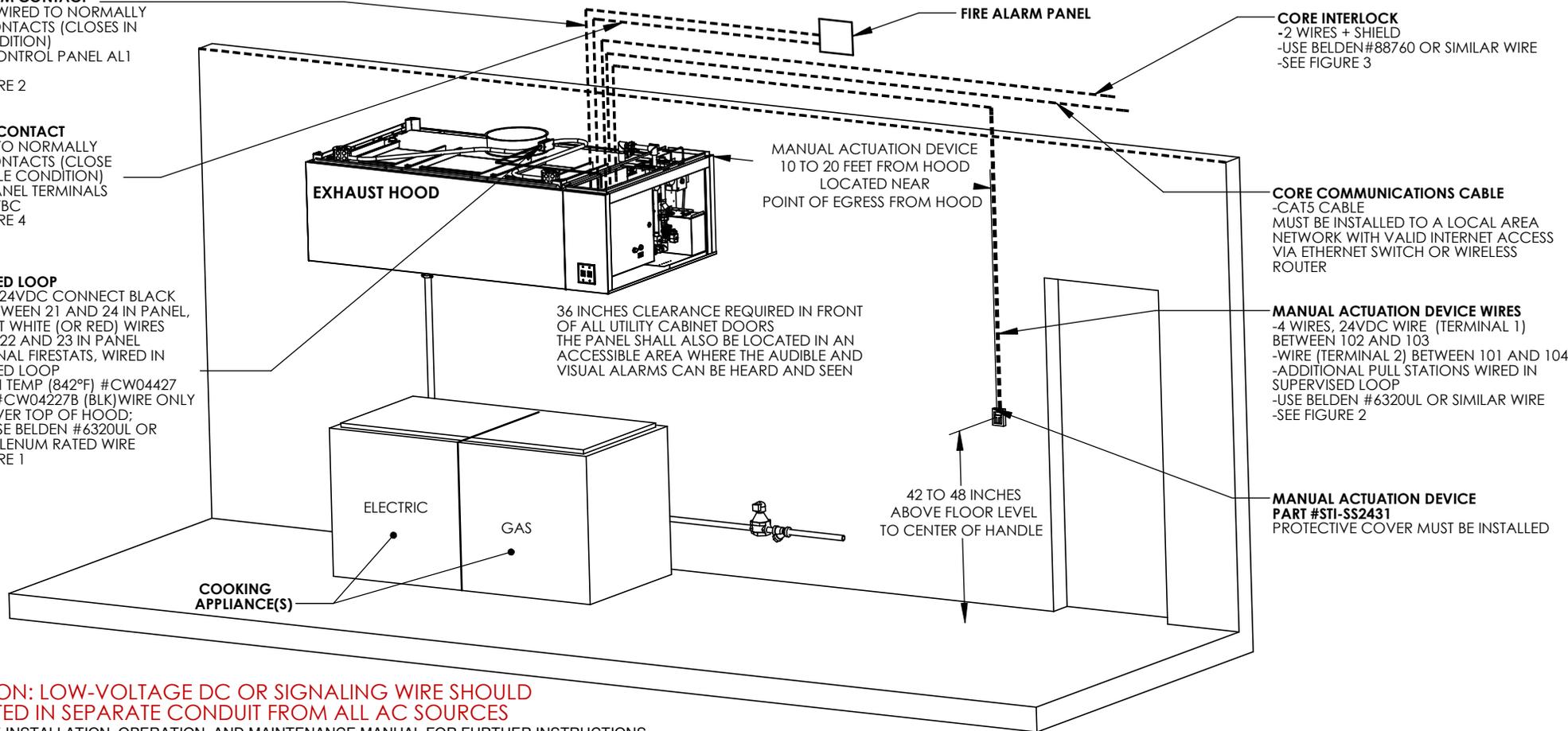
- 2 WIRES WIRED TO NORMALLY OPEN CONTACTS (CLOSES IN FIRE CONDITION)
- CORE CONTROL PANEL AL1 AND AL2
- SEE FIGURE 2

TROUBLE CONTACT

- 2 WIRES TO NORMALLY OPEN CONTACTS (CLOSES IN TROUBLE CONDITION)
- CORE PANEL TERMINALS TBL AND TBC
- SEE FIGURE 4

SUPERVISED LOOP

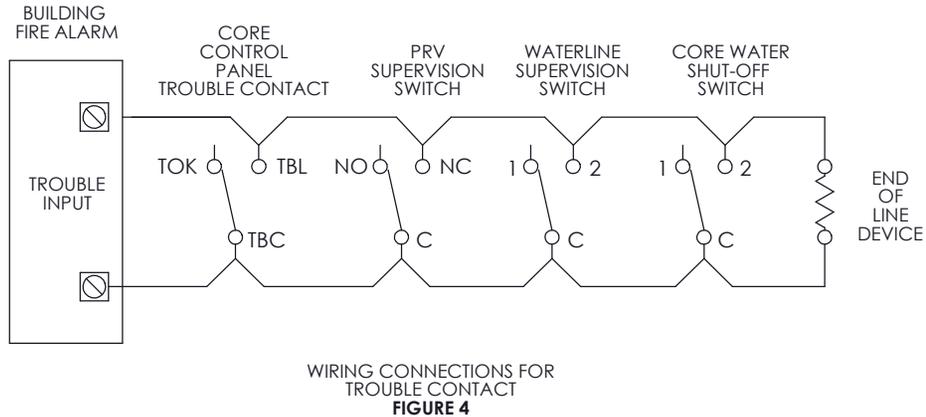
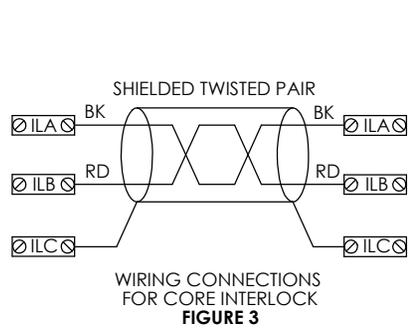
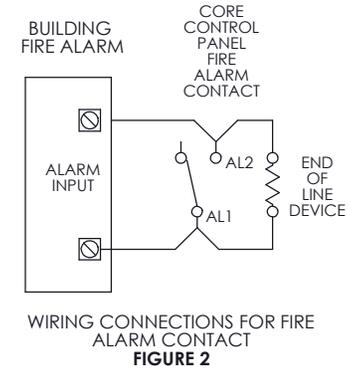
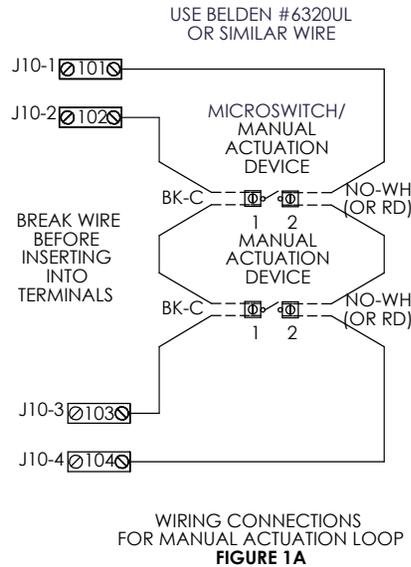
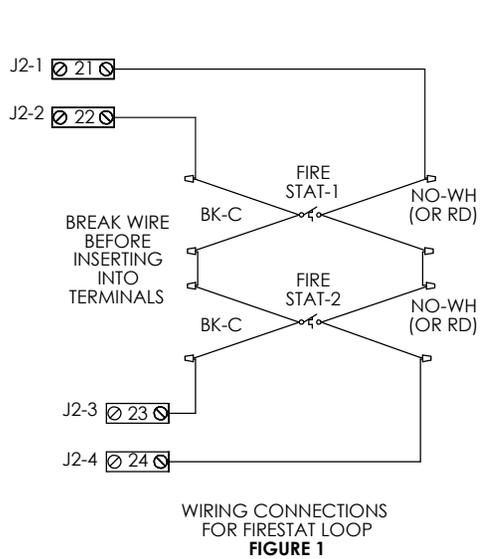
- 4 WIRES, 24VDC CONNECT BLACK WIRES BETWEEN 21 AND 24 IN PANEL, CONNECT WHITE (OR RED) WIRES BETWEEN 22 AND 23 IN PANEL
- ADDITIONAL FIRESTATS, WIRED IN SUPERVISED LOOP
- USE HIGH TEMP (842°F) #CW04427 (WHT) & #CW04427B (BLK) WIRE ONLY IF RAN OVER TOP OF HOOD; OTHERWISE BELDEN #6320UL OR SIMILAR PLENUM RATED WIRE
- SEE FIGURE 1



ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

CORE DUCT & PLENUM PROTECTION LOW-VOLTAGE FIGURES



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

CORE DUCT & PLENUM PROTECTION PLUMBING DETAIL

PLUMBER:

1. CONNECT HOT WATER LINE; PVC, COPPER OR STAINLESS STEEL PIPE ONLY
2. CONNECT HOOD DRAIN(S) STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY
3. CONNECT ALL END-TO-END AND BACK-TO-BACK HOOD WATER LINE CONNECTIONS (PLUMBING IS FIELD SUPPLIED FOR THIS) FIELD PLUMBING MUST NOT EXCEED HEIGHT OF VACUUM BREAKER IN MAIN UTILITY CABINET
- REMOVE PLUG FROM MAIN HOOD SPRAY BAR AND CONNECT TO NEXT HOOD STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY
4. PLUMB GAS VALVE, STRAINER MUST BE INSTALLED UPSTREAM OF VALVE
5. INSTALL FLOOR DRAIN
6. INSTALL BACKFLOW PREVENTER IF CODE REQUIRES

PLUMBING CONTRACTOR REQUIREMENT

ITEM	CONNECTION	TEMPERATURE	PRESSURE	FLOW RATE	COMMENTS
HOT WATER LINE	3/4 INCH NPT	140 to 170°F	XXX TO 70 PSI	XXX GPM (0.7 GPM PER FOOT OF HOOD)	INSULATE HOT WATER PIPE, MINIMUM PRESSURE DEPENDENT ON LENGTH AND CONFIGURATION OF HOOD SYSTEM
HOOD DRAIN(S)	1-1/2 INCH NPT	N/A	GRAVITY DRAIN	XXX GPM PER DRAIN	2 DRAINS ON 24 INCH TALL HOODS WITH 20 INCH TALL FILTERS AND HOODS 10 FEET AND LONGER
END-TO-END CORE CONNECTION	3/4 INCH NPT	N/A	N/A	N/A	CONNECT WITH NPT PIPE, SEAL ALL THREADS, HOOD CONNECTION PROVIDED
BACK-TO-BACK CORE CONNECTION	3/4 INCH NPT	N/A	N/A	N/A	CONNECT WITH NPT PIPE, SEAL ALL THREADS, HOOD CONNECTION PROVIDED
GAS VALVE	VARIES	N/A	SEE CHART	N/A	UP TO 2 INCHES NPT WITH 24V CONTROLS, 2-1/2 AND 3 INCH USE 120V CONTROL
FLOOR DRAIN(S)	1-1/2 INCH	N/A	GRAVITY DRAIN	N/A	USED TO HELP CLEAN UP FIRE SYSTEM DISCHARGE, GREASE INTERCEPTOR MAY BE REQUIRED
BACKFLOW PREVENTER DRAIN LINE (OPTIONAL)	INLET/OUTLET DRAIN	N/A	VARIES	N/A	INSTALLED WHEN PACKAGE HAS A BACKFLOW PREVENTER VALVE, SEE BACKFLOW PREVENTER VALVE MANUAL FOR DETAILS

HOT WATER LINE
 -PVC, COPPER, OR STAINLESS STEEL PIPE ONLY
 -140-170°F OPERATING TEMPERATURE
 -XXX TO 70 PSI OPERATING PRESSURE
 -125 PSI MAX STATIC PRESSURE
 -XXX GPM (0.7 GPM PER FOOT OF HOOD)
 -3/4 INCH NPT FITTING, INSULATED

END-TO-END OR BACK-TO-BACK CONNECTION
 -INSTALLED AND PROVIDED BY PLUMBER
 STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY

HOOD DRAIN(S)
 -1-1/2 INCH NPT CONNECTED TO BUILDING GREASE TRAP
 -2 DRAINS ON 24 INCH TALL HOODS WITH 20 INCH FILTERS
 -2 DRAINS ON HOODS 10 FEET AND LONGER
 -STAINLESS STEEL, COPPER OR STEEL PIPE ONLY

FLOOR DRAIN
 -1-1/2 DRAIN INSTALLED IN FLOOR, NEAR APPLIANCES
 -FLOOR DRAINS MAY BE USED TO DRAIN HOOD
 -GREASE INTERCEPTOR MAY BE REQUIRED

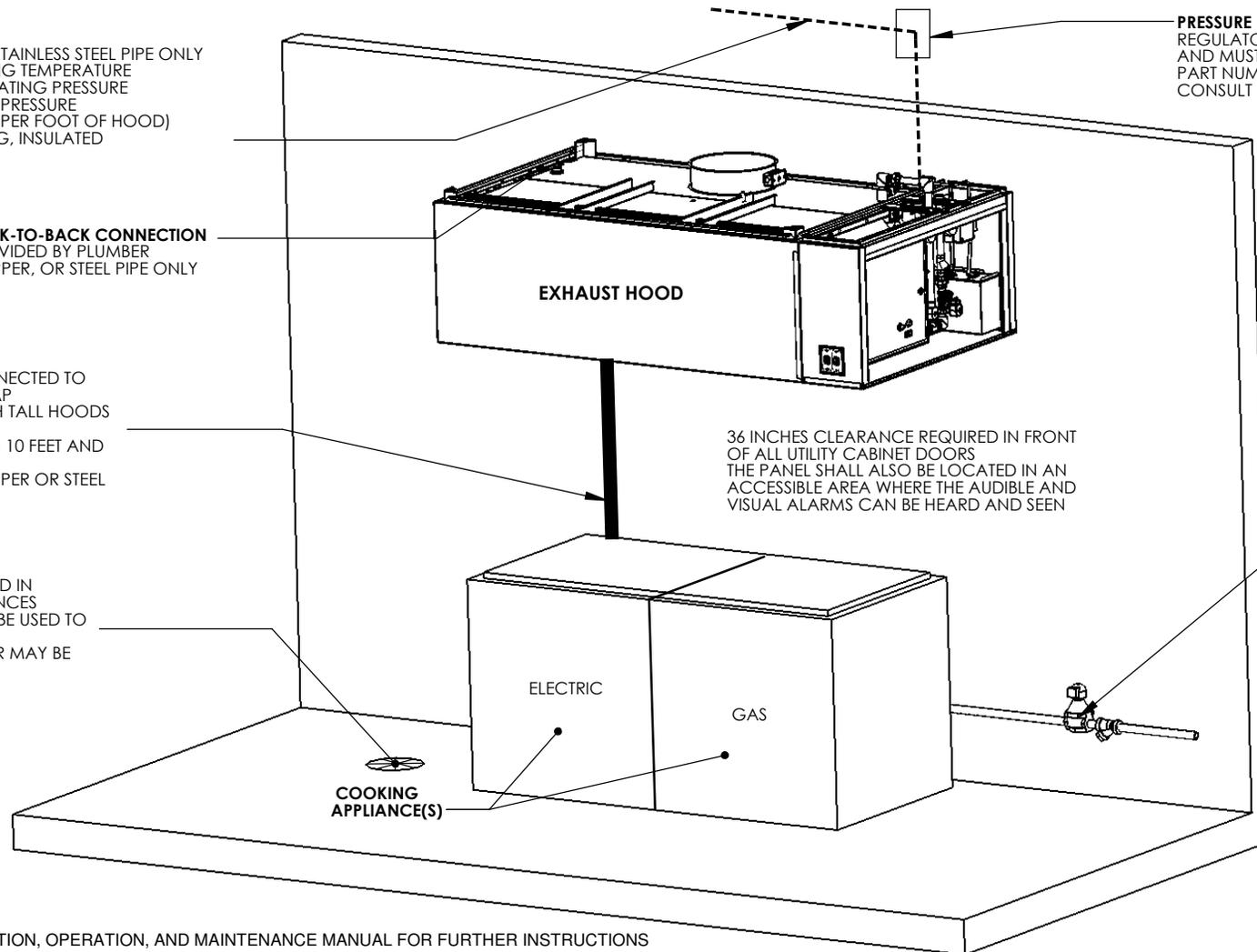
PRESSURE REGULATOR VALVE
 REGULATORS ARE NOT INCLUDED TO MEET REQUIRED PRESSURE AND MUST BE ORDERED SEPARATELY
 PART NUMBERS: X65BU(3/4"), X65BU(1"), OR X65BU(1-1/2")
 CONSULT FACTORY FOR SIZING

LENGTH OF HOOD (FT)	MINIMUM INLET WATER PRESSURE FOR HOT WATER (PSI)
4	30
8	30
12	30
16	30
20	31
24	32
28	34
32	37
36	39
40	42
44	46
48	50

36 INCHES CLEARANCE REQUIRED IN FRONT OF ALL UTILITY CABINET DOORS
 THE PANEL SHALL ALSO BE LOCATED IN AN ACCESSIBLE AREA WHERE THE AUDIBLE AND VISUAL ALARMS CAN BE HEARD AND SEEN

GAS VALVE
 -THREADED NPT CONNECTION
 -SEE TABLE BELOW FOR MAX PRESSURE
 -STRAINER INSTALLED UPSTREAM OF VALVE

SIZE	MAX INLET PRESSURE	VOLTAGE	BTU/HR
3/4"	5	24VDC	593,200
1"	5	24VDC	1,132,300
1-1/4"	5	24VDC	1,925,000
1-1/2"	5	24VDC	2,406,000
2"	5	24VDC	2,940,500
2-1/2"	5	120VAC	5,607,800
3"	5	120VAC	5,661,700



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

CORE DUCT & PLENUM PROTECTION SPRINKLER DETAIL

BUILDING SPRINKLER CONTRACTOR:

1. CONNECT CORE WATER LINE TO BUILDING WET SPRINKLER SYSTEM. STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY

SPRINKLER CONTRACTOR REQUIREMENT

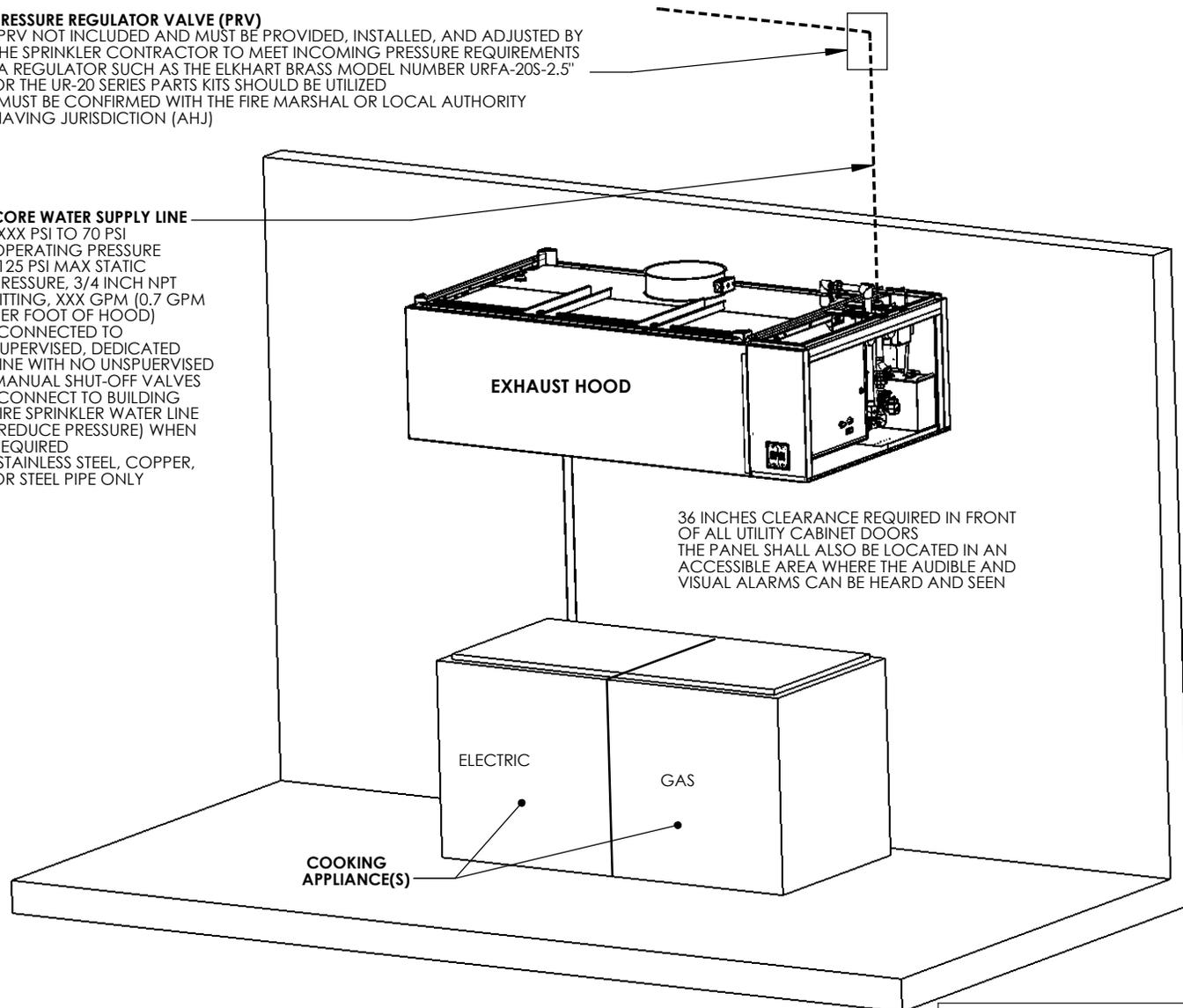
ITEM	CONNECTION	OPERATING PRESSURE	K-FACTOR	FLOW RATE	COMMENTS
CORE WATER SUPPLY LINE	3/4 INCH NPT	XXX PSI TO 70 PSI	XXX	XXX GPM TOTAL (0.7 GPM PER FOOT OF HOOD)	WATER LINE MUST BE SUPERVISED AND HAVE NO UNSUPERVISED MANUAL SHUT-OFF VALVES MINIMUM PRESSURE AND FLOWRATE DEPENDENT ON LENGTH OF HOOD SYSTEM

PRESSURE REGULATOR VALVE (PRV)

- PRV NOT INCLUDED AND MUST BE PROVIDED, INSTALLED, AND ADJUSTED BY THE SPRINKLER CONTRACTOR TO MEET 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
- MUST BE CONFIRMED WITH THE FIRE MARSHAL OR LOCAL AUTHORITY HAVING JURISDICTION (AHJ)

CORE WATER SUPPLY LINE

- XXX PSI TO 70 PSI OPERATING PRESSURE
- 125 PSI MAX STATIC PRESSURE, 3/4 INCH NPT FITTING, XXX GPM (0.7 GPM PER FOOT OF HOOD)
- CONNECTED TO SUPERVISED, DEDICATED LINE WITH NO UNSUPERVISED MANUAL SHUT-OFF VALVES
- CONNECT TO BUILDING FIRE SPRINKLER WATER LINE (REDUCE PRESSURE) WHEN REQUIRED
- STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY



LENGTH OF HOOD (FT)	MINIMUM INLET WATER PRESSURE FOR CORE DUCT AND PLENUM PROTECTION (PSI)
4	30
8	30
12	30
16	30
20	31
24	32
28	34
32	37
36	39
40	42
44	46
48	50

TOTAL FLOWRATE = K FACTOR x PRESSURE^{0.44}

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

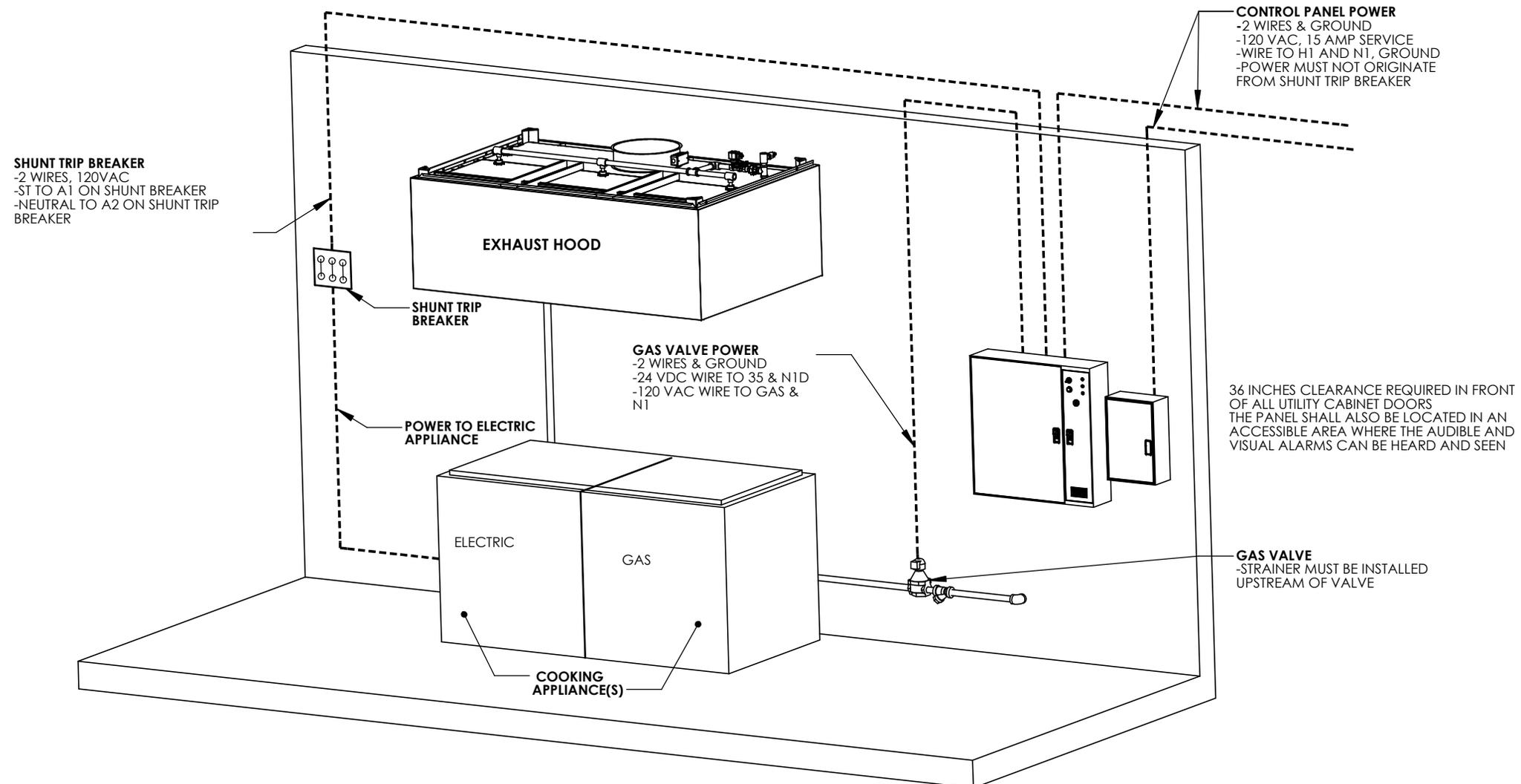
NOZZLES FOR CORE PROTECTION			
DESCRIPTION	PART NUMBER	MACOLA	FLOW RATE
RISER NOZZLE	1/4TT+TP1530+CP1325	A0002784	2.6 GPM @ 30 PSI
SPRAY BAR NOZZLE	1/4TT+TG-4.3W	A0025166	0.7 GPM @ 30 PSI

WALL MOUNTED CORE TOTAL FLOOD PROTECTION ELECTRICAL DETAIL

- ELECTRICIAN:**
 1. WIRE MAIN CONTROL PANELS PER INCLUDED SCHEMATICS
 2. WIRE ALL FANS PER INCLUDED SCHEMATIC
 3. WIRE SHUNT TRIP BREAKER
 4. WIRE UDS APPLIANCE KILL SWITCH, IF EQUIPPED (OPTIONAL)
 5. WIRE GAS VALVE

ELECTRICAL CONTRACTOR REQUIREMENT

ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
SHUNT TRIP BREAKER	ST & N1	BREAKER COIL (A1 & A2)	120 VAC	< 4 AMPS	ST TO A1 ON SHUNT BREAKER COIL, AND NEUTRAL TO A2 ON SHUNT TRIP BREAKER COIL
CONTROL PANEL POWER	H1 & N1 + GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
FIRE INTERLOCK	C1, AR1, TR1	C1, AR1, TR1	MAX 120 VAC	UP TO 6 AMPS	FIRE SYSTEM SIGNAL, WIRE TO LIKE TERMINALS IN ELECTRICAL CONTROL PACKAGE
UDS APPLIANCE KILL SWITCH (OPTIONAL)	KTS & N1	KTS & N1	120 VAC	< 4 AMPS	KILL SWITCH TERMINALS MUST BE IN SERIES WITH OTHER KILL SWITCHES
REMOTE ANSUL AUTOMAN (OPTIONAL)	AU1, AU2	SOLENOID	120 VAC	< 6 AMPS	120V TO AU1, AU2 TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL
GAS VALVE	35 & N1D (IF 24 VDC) GAS & N1 (IF 120 VAC)	RED/RED/GREEN	24 VDC OR 120 VAC	< 1.0 AMPS	IF 24 VDC - 2 WIRES & GROUND, N1D TO RED, 35 TO RED, AND GREEN TO GROUND IF 120 VAC - 2 WIRES & GROUND GAS TO RED, N1 TO RED, AND GREEN TO GROUND



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

WALL MOUNTED CORE TOTAL FLOOD PROTECTION LOW-VOLTAGE DETAIL

ALARM CONTRACTOR:

1. WIRE MANUAL ACTUATION DEVICE(S), REMOTE FIRESTAT(S), CORE INTERLOCK(S), FIRE SENSOR(S) AND FIRE ALARM CONTACTS
2. COMPLETE FINAL HOOKUP OF SYSTEM
3. PERFORM FINAL FIRE SYSTEM TEST
4. FILL SURFACTANT TANK

ALARM CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION ON DEVICE	VOLTAGE	AMPERAGE	COMMENTS
MANUAL ACTUATION DEVICE(S)	101 AND 104 102 AND 103	1 & 2	24 VDC	< 1.0 AMPS	WIRE MANUAL ACTUATION DEVICE TERMINAL 1 BETWEEN CORE PANEL TERMINALS 102 AND 103 WIRE MANUAL ACTUATION DEVICE TERMINAL 2 BETWEEN CORE PANEL TERMINALS 101 AND 104 JUMPER 101 TO 104 AND 102 TO 103 IF NO MANUAL ACTUATION DEVICE IS INSTALLED
MANUAL ACTUATION DEVICE COVER	N/A	N/A	N/A	N/A	MANUAL ACTUATION DEVICE COVER MUST BE INSTALLED IF SURFACE MOUNTED, USE COVER EXTENSION STI-6531B
REMOTE FIRESTAT SENSOR(S)	21 AND 24 22 AND 23	BLACK AND WHITE	24 VDC	< 1.0 AMPS	WIRE FIRE SENSOR WHITE WIRES BETWEEN HOOD CORE PANEL TERMINALS 21 AND 24 WIRE FIRE SENSOR BLACK WIRE BETWEEN HOOD CORE PANEL TERMINALS 22 AND 23 HIGH TEMP (842°F) WIRE ONLY PART #CW04427 (WHT) #CW04427B (BLK) OR SIMILAR
FIRE ALARM CONTACT	AL1, AL2	VARIES	50V MAX (AC/DC)	UP TO 1 AMP	FIRE ALARM RELAY CONTACTS FOR BUILDING FIRE ALARM LOCATED IN THE CORE ELECTRICAL CONTROL PANEL
CORE INTERLOCK(S)	ILA, ILB, ILC	ILA, ILB, ILC	RS-485 COMMUNICATIONS SIGNAL		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. USE BELDEN# 88760 OR SIMILAR WIRE
TROUBLE CONTACT	TBC, TBL, TOK	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO TBL & TBC NORMALLY OPEN CONTACT, CLOSES IN TROUBLE CONDITION
CORE COMMUNICATIONS CABLE	RJ-45 Jack	INTERNET CONNECTION	SIGNAL	<1.0 AMPS	CONNECT CAT5 CABLE TO LOCAL AREA NETWORK WITH VALID INTERNET CONNECTION
CORE APPLIANCE PROTECTION SOLENOID	WS2 & N1D	BLACK AND WHITE	24 VDC	<1.0 AMPS	2 WIRES AND GROUND, BLACK TO WS2, WHITE TO N1D AND GREEN TO GROUND CABLE SECURED TO WATER LINE TO AVOID CONTACT WITH HOOD SURFACE
FIRE INTERLOCK	C1, AR1, TR1	C1, AR1, TR1	MAX 120 VAC	UP TO 6 AMPS	FIRE SYSTEM SIGNAL, WIRE TO LIKE TERMINALS IN ELECTRICAL CONTROL PACKAGE AND AR1 (NOT REQUIRED FOR ECPM03)
EMSPLUS CONTROL PACKAGE OR ECPM03 CONTROL PACKAGE	MBA, MBB, MBC (EMSPLUS) J5 ON CORE BOARD (ECPM03)	MBA, MBB, MBC (EMSPLUS) J3 ON ECPM03	RS-485 COMMUNICATIONS SIGNAL		NETWORK CONNECTIONS BETWEEN WALL MOUNT CORE AND WALL MOUNT EMSPLUS OR CONNECTION BETWEEN CORE BAORD AND ECPM03 BOARD

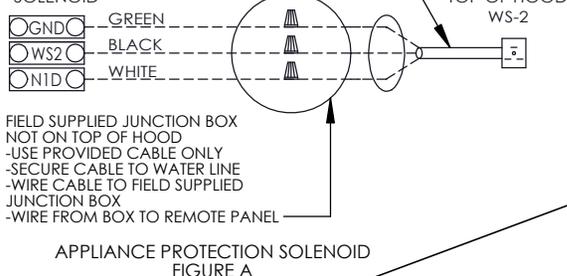
SUPERVISED LOOP

- 4 WIRES, 24VDC CONNECT WHITE (OR RED) WIRES BETWEEN 21 AND 24 IN PANEL, CONNECT BLACK WIRES BETWEEN 22 AND 23 IN PANEL
- ADDITIONAL FIRESTATS, WIRED IN SUPERVISED LOOP
- USE HIGH TEMP (842°F) PART #CW04427 (WHT) #CW04427B (BLK) OR SIMILAR WIRE ONLY
- SEE FIGURE 1

APPLIANCE PROTECTION SOLENOID

- 2 WIRES AND GROUND. BLACK TO WC2, WHITE TO N1D
- WIRE SECURED TO WATER LINE TO AVOID CONTACT WITH HOOD
- SEE FIGURE A

WALL MOUNT CORE PANEL TO HOOD MOUNTED APPLIANCE SOLENOID

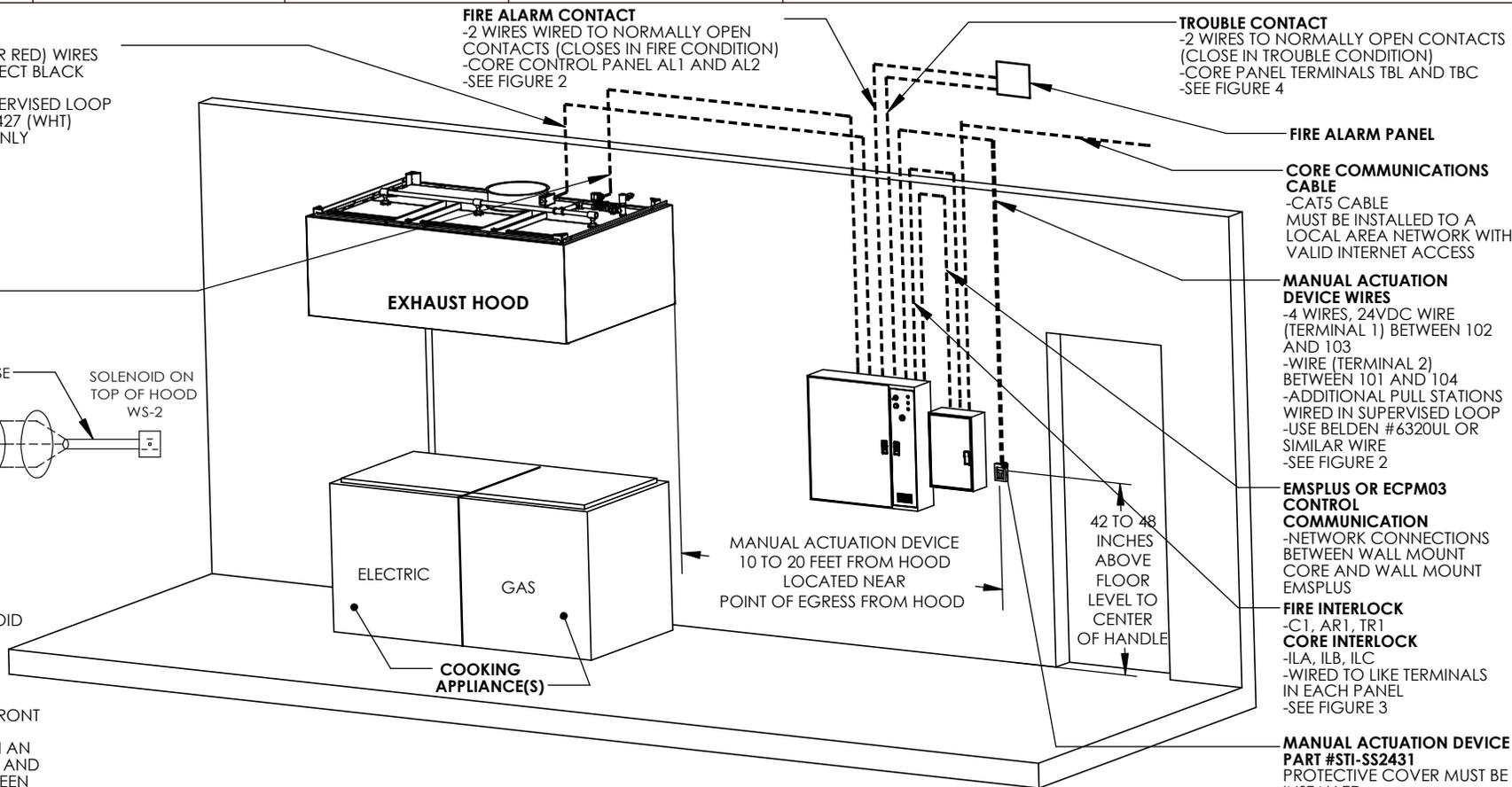


- FIELD SUPPLIED JUNCTION BOX NOT ON TOP OF HOOD
- USE PROVIDED CABLE ONLY
 - SECURE CABLE TO WATER LINE
 - WIRE CABLE TO FIELD SUPPLIED JUNCTION BOX
 - WIRE FROM BOX TO REMOTE PANEL

APPLIANCE PROTECTION SOLENOID FIGURE A

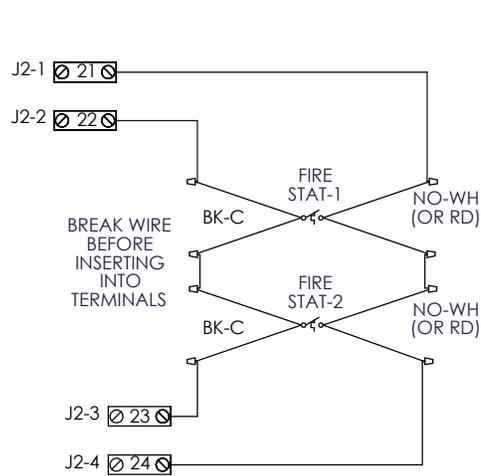
36 INCHES CLEARANCE REQUIRED IN FRONT OF ALL UTILITY CABINET DOORS
THE PANEL SHALL ALSO BE LOCATED IN AN ACCESSIBLE AREA WHERE THE AUDIBLE AND VISUAL ALARMS CAN BE HEARD AND SEEN

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

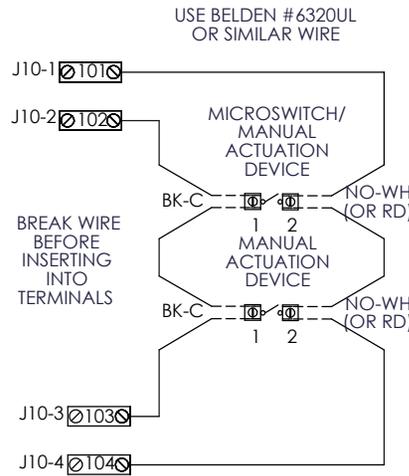


ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

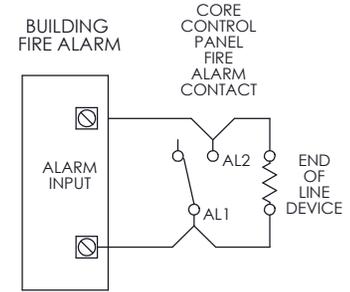
WALL MOUNTED CORE TOTAL FLOOD PROTECTION LOW-VOLTAGE FIGURES



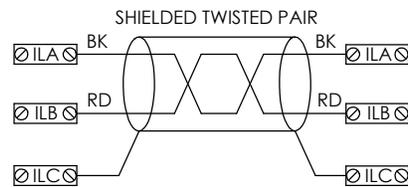
WIRING CONNECTIONS FOR FIRESTAT LOOP
FIGURE 1



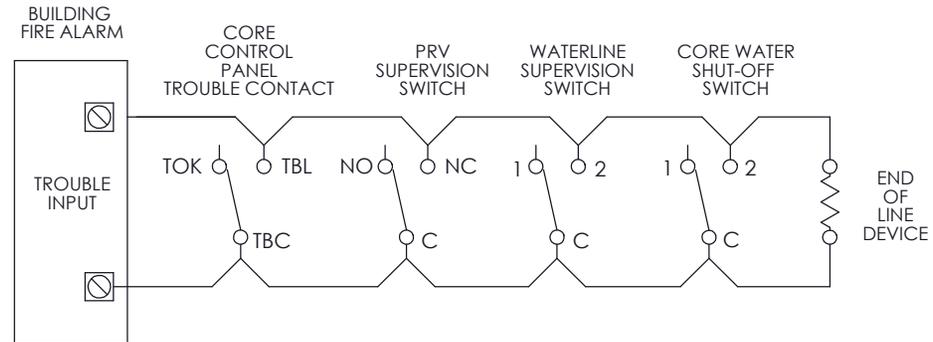
WIRING CONNECTIONS FOR MANUAL ACTUATION LOOP
FIGURE 1A



WIRING CONNECTIONS FOR FIRE ALARM CONTACT
FIGURE 2



WIRING CONNECTIONS FOR CORE INTERLOCK
FIGURE 3



WIRING CONNECTIONS FOR TROUBLE CONTACT
FIGURE 4

ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

WALL MOUNTED CORE TOTAL FLOOD PROTECTION PLUMBING DETAIL

PLUMBER:

1. CONNECT HOT WATER LINE; PVC, COPPER OR STAINLESS STEEL PIPE ONLY
2. CONNECT HOOD DRAIN(S) STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY
3. CONNECT ALL END-TO-END AND BACK-TO-BACK HOOD WATER LINE CONNECTIONS (PLUMBING IS FIELD SUPPLIED FOR THIS) FIELD PLUMBING MUST NOT EXCEED HEIGHT OF FIELD INSTALLED VACUUM BREAKER REMOVE PLUG FROM MAIN HOOD SPRAY BAR AND CONNECT TO NEXT HOOD STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY
4. PLUMB GAS VALVE, STRAINER MUST BE INSTALLED UPSTREAM OF VALVE
5. INSTALL FLOOR DRAIN
6. INSTALL BACKFLOW PREVENTER IF CODE REQUIRES

PLUMBING CONTRACTOR REQUIREMENT					
ITEM	CONNECTION	TEMPERATURE	PRESSURE	FLOW RATE	COMMENTS
HOT WATER LINE	XXX INCH NPT	140 to 170°F	XXX TO 70 PSI	XXX GPM (0.7 GPM PER FOOT OF HOOD)	INSULATE HOT WATER PIPE, MINIMUM PRESSURE DEPENDENT ON LENGTH AND CONFIGURATION OF HOOD SYSTEM
HOOD DRAIN(S)	1-1/2 INCH NPT	N/A	GRAVITY DRAIN	XXX GPM PER DRAIN	2 DRAINS ON 24 INCH TALL HOODS WITH 20 INCH TALL FILTERS AND HOODS 10 FEET AND LONGER
END-TO-END CORE CONNECTION	3/4 INCH NPT	N/A	N/A	N/A	CONNECT WITH NPT PIPE, SEAL ALL THREADS, HOOD CONNECTION PROVIDED, FIELD PIPING MUST REMAIN BELOW HEIGHT OF VACUUM BREAKER
BACK-TO-BACK CORE CONNECTION	3/4 INCH NPT	N/A	N/A	N/A	CONNECT WITH NPT PIPE, SEAL ALL THREADS, HOOD CONNECTION PROVIDED
GAS VALVE	VARIES	N/A	SEE CHART	N/A	UP TO 2 INCHES NPT WITH 24V CONTROLS, 2-1/2 AND 3 INCH USE 120V CONTROL
FLOOR DRAIN(S)	1-1/2 INCH	N/A	GRAVITY DRAIN	N/A	USED TO HELP CLEAN UP FIRE SYSTEM DISCHARGE
SURFACTANT LINE	1/4 INCH OD TUBING	N/A	70 PSI	N/A	SURFACTANT LINE MUST NOT BE IN CONTACT WITH THE HOOD SURFACE
BACKFLOW PREVENTER DRAIN LINE (OPTIONAL)	INLET + DRAIN	N/A	VARIES	N/A	INSTALLED WHEN PANEL HAS A BACKFLOW PREVENTER VALVE, SEE BACKFLOW PREVENTER VALVE MANUAL FOR DETAILS

HOT WATER LINE

- PVC, COPPER, OR STAINLESS STEEL PIPE ONLY
- 140-170°F OPERATING TEMPERATURE
- XXX TO 70 PSI OPERATING PRESSURE
- 125 PSI MAX STATIC PRESSURE
- XXX GPM (0.7 GPM PER FOOT OF HOOD)
- XXX INCH NPT FITTING, INSULATED

END-TO-END OR BACK-TO-BACK CONNECTION

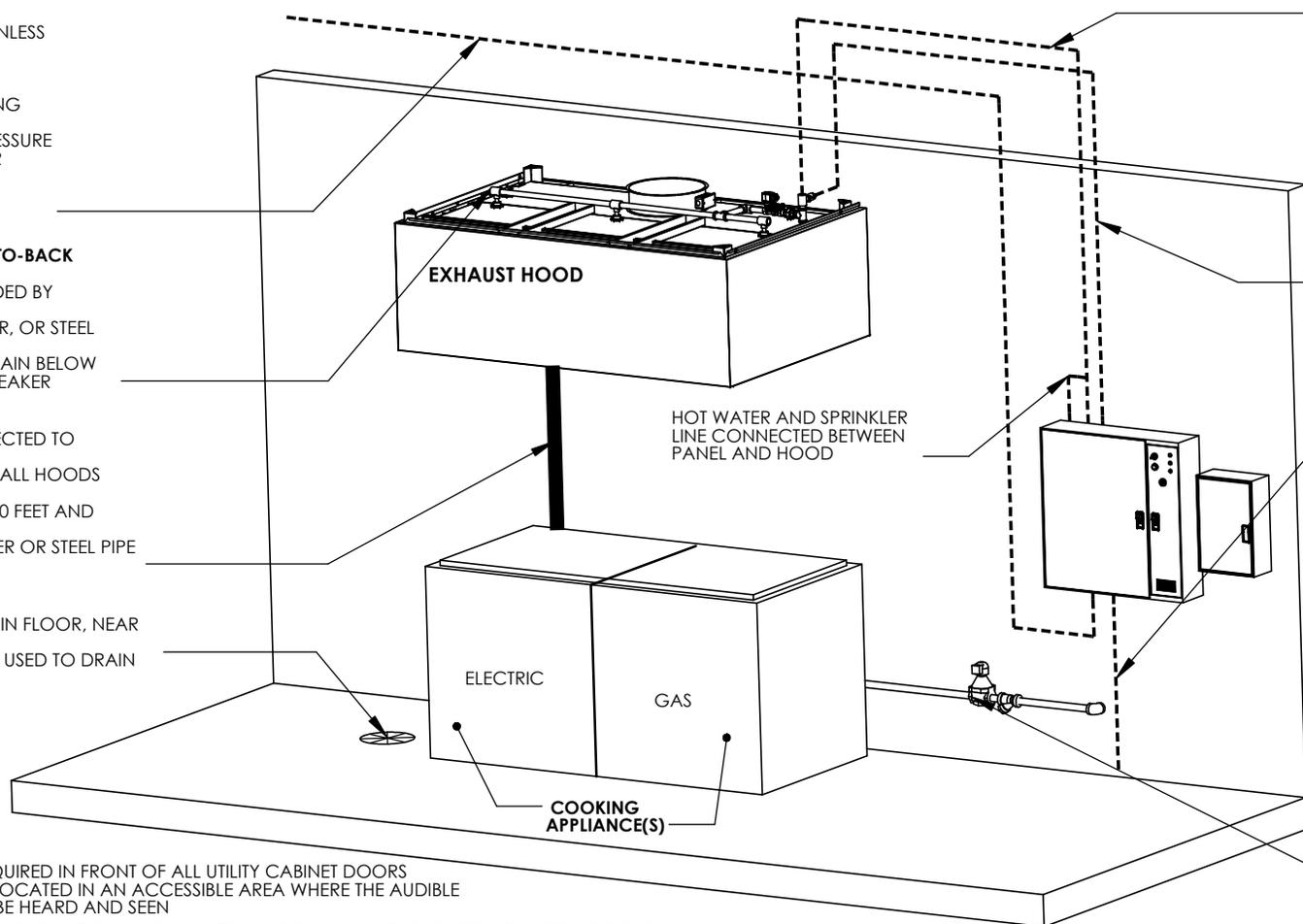
- INSTALLED AND PROVIDED BY PLUMBER
- STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY
- FIELD PIPING MUST REMAIN BELOW HEIGHT OF VACUUM BREAKER

HOOD DRAIN(S)

- 1-1/2 INCH NPT CONNECTED TO BUILDING GREASE TRAP
- 2 DRAINS ON 24 INCH TALL HOODS WITH 20 INCH FILTERS
- 2 DRAINS ON HOODS 10 FEET AND LONGER
- STAINLESS STEEL, COPPER OR STEEL PIPE ONLY

FLOOR DRAIN

- 1-1/2 DRAIN INSTALLED IN FLOOR, NEAR APPLIANCES
- FLOOR DRAINS MAY BE USED TO DRAIN HOOD



HOOD WATER LINE

- 30 TO 70 PSI OPERATING PRESSURE, SIZED TO MATCH PRESSURE DROP BETWEEN WALL MOUNT PACKAGE AND HOOD
- DEDICATED LINE WITH NO MANUAL UNSUPERVISED SHUT-OFF VALVE
- SURFACTANT INJECTION INSTALLED AFTER FIELD INSTALLED VACUUM BREAKER
- VACUUM BREAKER INSTALLED AT HIGHEST POINT BETWEEN PANEL AND HOOD
- STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY

SURFACTANT LINE

- 1/4" OD TUBING CONNECTING SURFACTANT PUMP WITH INJECTION POINT ON HOOD
- LINE MUST NOT COME IN CONTACT WITH THE HOOD SURFACE

BACKFLOW PREVENTER DRAIN

- IF BFP IS INSTALLED, ADDITIONAL DRAIN MUST BE INSTALLED BY PLUMBER
- SEE BFP MANUAL FOR DETAILS

SIZE	MAX INLET PRESSURE	VOLTAGE	BTU/HR
3/4"	5	24VDC	593,200
1"	5	24VDC	1,132,300
1-1/4"	5	24VDC	1,925,000
1-1/2"	5	24VDC	2,406,000
2"	5	24VDC	2,940,500
2-1/2"	5	120VAC	5,607,800
3"	5	120VAC	5,661,700

GAS VALVE

- THREADED NPT CONNECTION
- SEE TABLE ABOVE FOR MAX PRESSURE
- STRAINER INSTALLED UPSTREAM OF VALVE

36 INCHES CLEARANCE REQUIRED IN FRONT OF ALL UTILITY CABINET DOORS THE PANEL SHALL ALSO BE LOCATED IN AN ACCESSIBLE AREA WHERE THE AUDIBLE AND VISUAL ALARMS CAN BE HEARD AND SEEN

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

WALL MOUNTED CORE TOTAL FLOOD PROTECTION SPRINKLER DETAIL

BUILDING SPRINKLER CONTRACTOR:

1. CONNECT CORE WATER LINE TO BUILDING WET SPRINKLER SYSTEM. STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY

SPRINKLER CONTRACTOR REQUIREMENT

ITEM	CONNECTION	OPERATING PRESSURE	K-FACTOR	FLOW RATE	COMMENTS
CORE WATER SUPPLY LINE	3/4, 1, OR 1-1/2 INCH NPT	XXX PSI TO 70 PSI	XXX	XXX GPM TOTAL (1.5 GPM PER FOOT OF HOOD)	WATER LINE MUST BE SUPERVISED AND HAVE NO UNSUPERVISED MANUAL SHUT-OFF VALVES MINIMUM PRESSURE AND FLOWRATE DEPENDENT ON LENGTH AND CONFIGURATION OF HOOD SYSTEM

MINIMUM OPERATING PRESSURE REQUIREMENTS			
LENGHT OF HOOD (FT)	MINIMUM INLET WATER PRESSURE FOR HOT WATER (PSI)	MINIMUM INLET WATER PRESSURE FOR CORE PROTECTION (PSI)	DISCHARGE COEFFICIENTS (K-FACTOR)
4	30	30	1.3
8	30	30	2.6
12	30	30	4.0
16	30	30	5.3
20	31	33	6.4
24	32	36	7.4
28	34	39	8.3
32	37	44	9.0
36	39	49	9.7
40	42	56	10.2
44	46	63	10.6
48	50	70	11.1

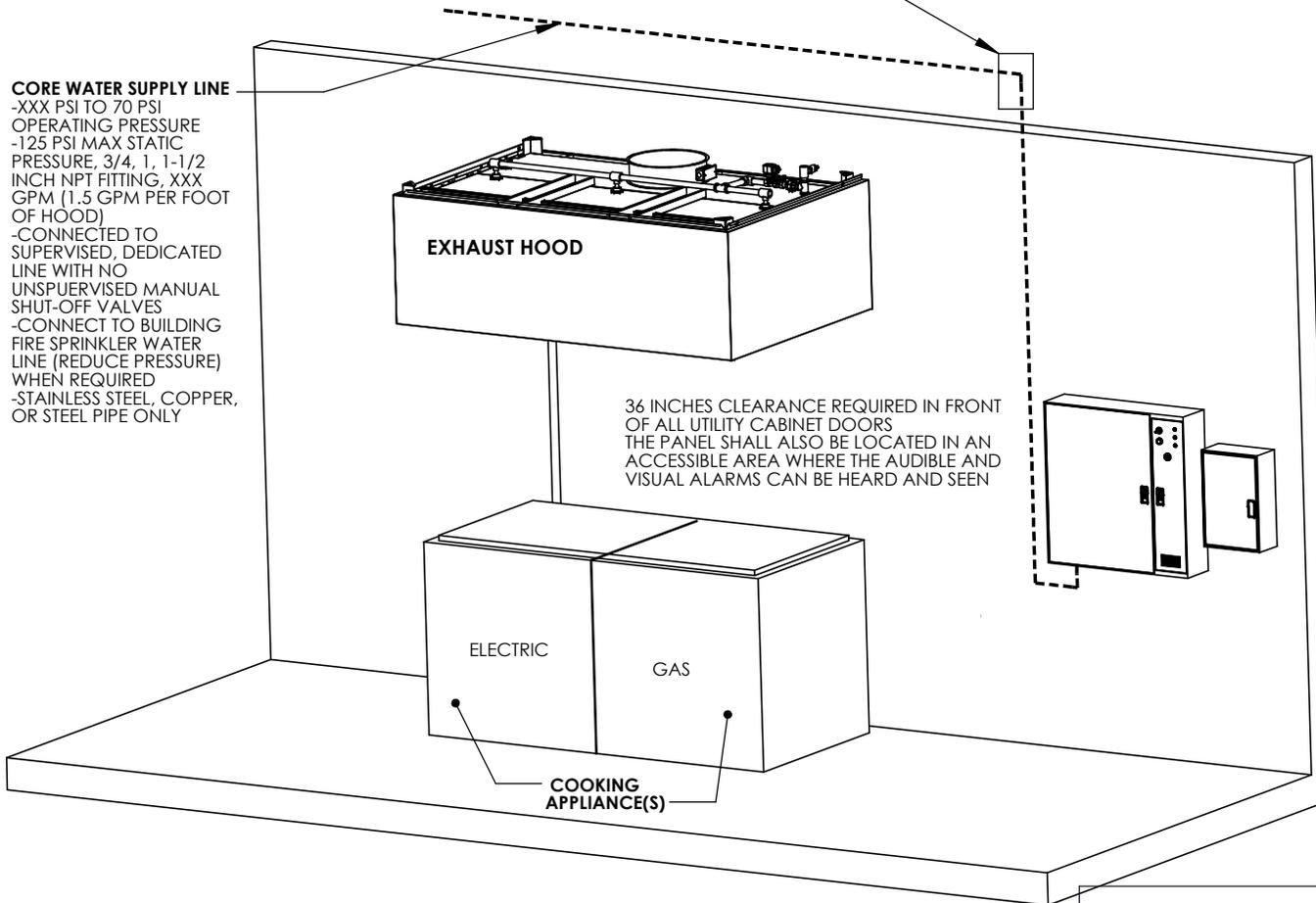
TOTAL FLOWRATE = K FACTOR x PRESSURE^{0.44}

PRESSURE REGULATOR VALVE (PRV)

- PRV NOT INCLUDED AND MUST BE PROVIDED, INSTALLED, AND ADJUSTED BY THE SPRINKLER CONTRACTOR TO MEET 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
- MUST BE CONFIRMED WITH THE FIRE MARSHAL OR LOCAL AUTHORITY HAVING JURISDICTION (AHJ)

CORE WATER SUPPLY LINE

- XXX PSI TO 70 PSI OPERATING PRESSURE
- 125 PSI MAX STATIC PRESSURE, 3/4, 1, 1-1/2 INCH NPT FITTING, XXX GPM (1.5 GPM PER FOOT OF HOOD)
- CONNECTED TO SUPERVISED, DEDICATED LINE WITH NO UNSPUERVISED MANUAL SHUT-OFF VALVES
- CONNECT TO BUILDING FIRE SPRINKLER WATER LINE (REDUCE PRESSURE) WHEN REQUIRED
- STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY



NOZZLE HEIGHTS ABOVE HAZARD		
NOZZLE PART NUMBER	NOZZLE ABOVE HAZARD	
	MIN	MAX
3070-3/8H-SS10	30"	55"

NOZZLES FOR CORE PROTECTION

DESCRIPTION	PART NUMBER	MACOLA	FLOW RATE
RISER NOZZLE	1/4TT+TP1530+CP1325	A0002784	2.6 GPM @ 30 PSI
SPRAY BAR NOZZLE	1/4TT+TG-4.3W	A0025166	0.7 GPM @ 30 PSI

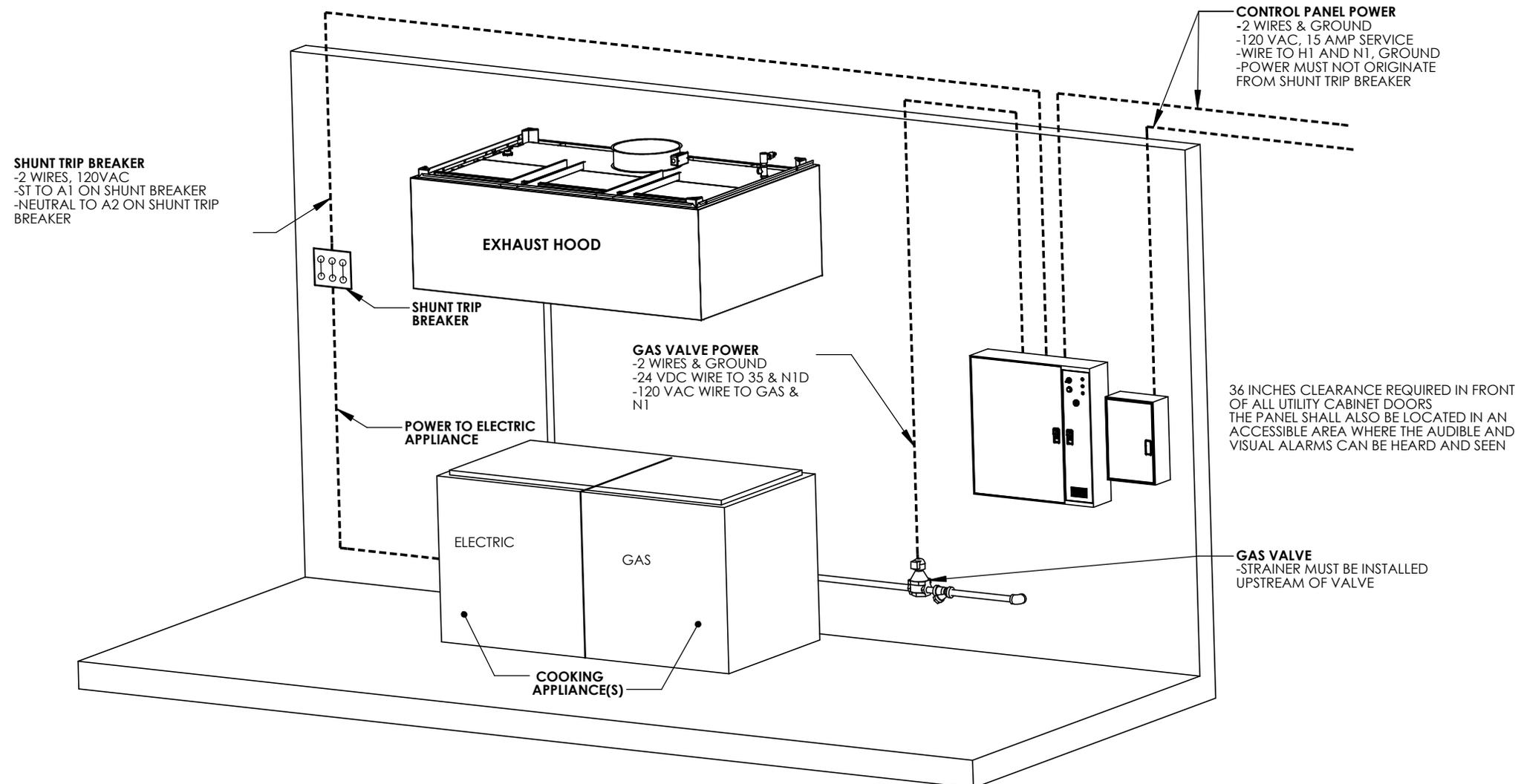
NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

WALL MOUNTED CORE DUCT & PLENUM PROTECTION ELECTRICAL DETAIL

- ELECTRICIAN:**
1. WIRE MAIN CONTROL PANELS PER INCLUDED SCHEMATICS
 2. WIRE ALL FANS PER INCLUDED SCHEMATIC
 3. WIRE SHUNT TRIP BREAKER
 4. WIRE UDS APPLIANCE KILL SWITCH, IF EQUIPPED (OPTIONAL)
 5. WIRE GAS VALVE

ELECTRICAL CONTRACTOR REQUIREMENT

ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
SHUNT TRIP BREAKER	ST & N1	BREAKER COIL (A1 & A2)	120 VAC	< 4 AMPS	ST TO A1 ON SHUNT BREAKER COIL, AND NEUTRAL TO A2 ON SHUNT TRIP BREAKER COIL
CONTROL PANEL POWER	H1 & N1 + GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
FIRE INTERLOCK	C1, AR1, TR1	C1, AR1, TR1	MAX 120 VAC	UP TO 6 AMPS	FIRE SYSTEM SIGNAL, WIRE TO LIKE TERMINALS IN ELECTRICAL CONTROL PACKAGE
UDS APPLIANCE KILL SWITCH (OPTIONAL)	KTS & N1	KTS & N1	120 VAC	< 4 AMPS	KILL SWITCH TERMINALS MUST BE IN SERIES WITH OTHER KILL SWITCHES
REMOTE ANSUL AUTOMAN (OPTIONAL)	AU1, AU2	SOLENOID	120 VAC	< 6 AMPS	120V TO AU1, AU2 TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL
GAS VALVE	35 & N1D (IF 24 VDC) GAS & N1 (IF 120 VAC)	RED/RED/GREEN	24 VDC OR 120 VAC	< 1.0 AMPS	IF 24 VDC - 2 WIRES & GROUND, N1D TO RED, 35 TO RED, AND GREEN TO GROUND IF 120 VAC - 2 WIRES & GROUND GAS TO RED, N1 TO RED, AND GREEN TO GROUND



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

WALL MOUNTED CORE DUCT & PLENUM PROTECTION LOW-VOLTAGE DETAIL

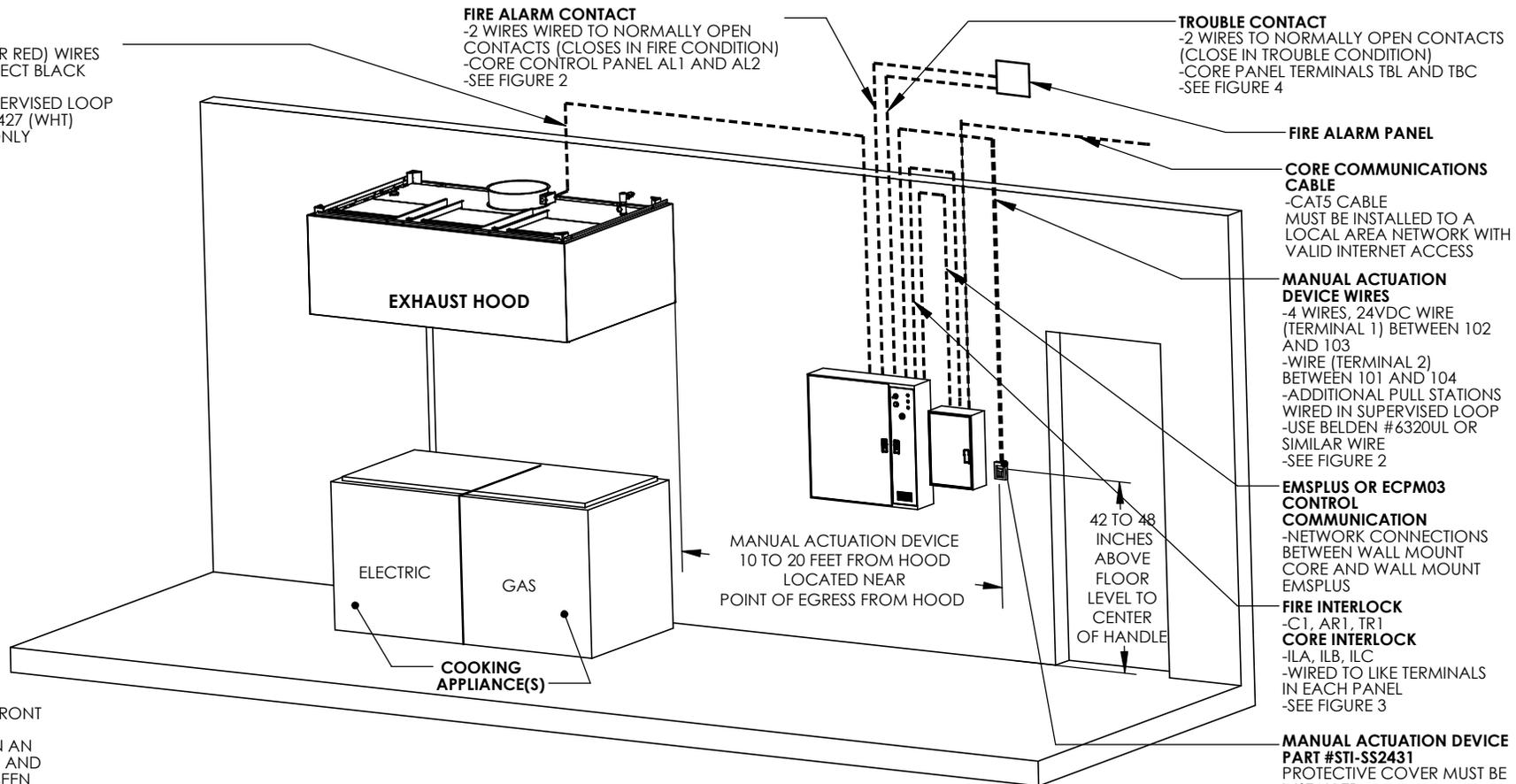
ALARM CONTRACTOR:

1. WIRE MANUAL ACTUATION DEVICE(S), REMOTE FIRESTAT(S), CORE INTERLOCK(S), FIRE SENSOR(S) AND FIRE ALARM CONTACTS
2. COMPLETE FINAL HOOKUP OF SYSTEM
3. PERFORM FINAL FIRE SYSTEM TEST
4. FILL SURFACTANT TANK

ALARM CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION ON DEVICE	VOLTAGE	AMPERAGE	COMMENTS
MANUAL ACTUATION DEVICE(S)	101 AND 104 102 AND 103	1 & 2	24 VDC	< 1.0 AMPS	WIRE MANUAL ACTUATION DEVICE TERMINAL 1 BETWEEN CORE PANEL TERMINALS 102 AND 103 WIRE MANUAL ACTUATION DEVICE TERMINAL 2 BETWEEN CORE PANEL TERMINALS 101 AND 104 JUMPER 101 TO 104 AND 102 TO 103 IF NO MANUAL ACTUATION DEVICE IS INSTALLED
MANUAL ACTUATION DEVICE COVER	N/A	N/A	N/A	N/A	MANUAL ACTUATION DEVICE COVER MUST BE INSTALLED IF SURFACE MOUNTED, USE COVER EXTENSION STI-6531B
REMOTE FIRESTAT SENSOR(S)	21 AND 24 22 AND 23	BLACK AND WHITE	24 VDC	< 1.0 AMPS	WIRE FIRE SENSOR WHITE WIRES BETWEEN HOOD CORE PANEL TERMINALS 21 AND 24 WIRE FIRE SENSOR BLACK WIRE BETWEEN HOOD CORE PANEL TERMINALS 22 AND 23 HIGH TEMP (842°F) WIRE ONLY PART #CW04427 (WHT) #CW04427B (BLK) OR SIMILAR
FIRE ALARM CONTACT	AL1, AL2	VARIES	50V MAX (AC/DC)	UP TO 1 AMP	FIRE ALARM RELAY CONTACTS FOR BUILDING FIRE ALARM LOCATED IN THE CORE ELECTRICAL CONTROL PANEL
CORE INTERLOCK(S)	ILA, ILB, ILC	ILA, ILB, ILC	RS-485 COMMUNICATIONS SIGNAL		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. USE BELDEN# 88760 OR SIMILAR WIRE
TROUBLE CONTACT	TBC, TBL, TOK	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO TBL & TBC NORMALLY OPEN CONTACT, CLOSES IN TROUBLE CONDITION
CORE COMMUNICATIONS CABLE	RJ-45 Jack	INTERNET CONNECTION	SIGNAL	<1.0 AMPS	CONNECT CAT5 CABLE TO LOCAL AREA NETWORK WITH VALID INTERNET CONNECTION
FIRE INTERLOCK	C1, AR1, TR1	C1, AR1, TR1	MAX 120 VAC	UP TO 6 AMPS	FIRE SYSTEM SIGNAL, WIRE TO LIKE TERMINALS IN ELECTRICAL CONTROL PACKAGE AND AR1 (NOT REQUIRED FOR ECPM03) C1
EMSPLUS CONTROL PACKAGE OR ECPM03 CONTROL PACKAGE	MBA, MBB, MBC (EMSPLUS) J5 ON CORE BOARD (ECPM03)	MBA, MBB, MBC (EMSPLUS) J3 ON ECPM03 (ECPM03)	RS-485 COMMUNICATIONS SIGNAL		NETWORK CONNECTIONS BETWEEN WALL MOUNT CORE AND WALL MOUNT EMSPLUS OR CONNECTION BETWEEN CORE BOARD AND ECPM03 BOARD

SUPERVISED LOOP

- 4 WIRES, 24VDC CONNECT WHITE (OR RED) WIRES BETWEEN 21 AND 24 IN PANEL, CONNECT BLACK WIRES BETWEEN 22 AND 23 IN PANEL
- ADDITIONAL FIRESTATS, WIRED IN SUPERVISED LOOP
- USE HIGH TEMP (842°F) PART #CW04427 (WHT) #CW04427B (BLK) OR SIMILAR WIRE ONLY
- SEE FIGURE 1



FIRE ALARM CONTACT
 -2 WIRES WIRED TO NORMALLY OPEN CONTACTS (CLOSES IN FIRE CONDITION)
 -CORE CONTROL PANEL AL1 AND AL2
 -SEE FIGURE 2

TROUBLE CONTACT
 -2 WIRES TO NORMALLY OPEN CONTACTS (CLOSE IN TROUBLE CONDITION)
 -CORE PANEL TERMINALS TBL AND TBC
 -SEE FIGURE 4

FIRE ALARM PANEL
CORE COMMUNICATIONS CABLE
 -CAT5 CABLE MUST BE INSTALLED TO A LOCAL AREA NETWORK WITH VALID INTERNET ACCESS

MANUAL ACTUATION DEVICE WIRES
 -4 WIRES, 24VDC WIRE (TERMINAL 1) BETWEEN 102 AND 103
 -WIRE (TERMINAL 2) BETWEEN 101 AND 104
 -ADDITIONAL PULL STATIONS WIRED IN SUPERVISED LOOP
 -USE BELDEN #6320UL OR SIMILAR WIRE
 -SEE FIGURE 2

EMSPLUS OR ECPM03 CONTROL COMMUNICATION
 -NETWORK CONNECTIONS BETWEEN WALL MOUNT CORE AND WALL MOUNT EMSPLUS

FIRE INTERLOCK
 -C1, AR1, TR1
CORE INTERLOCK
 -ILA, ILB, ILC
 -WIRED TO LIKE TERMINALS IN EACH PANEL
 -SEE FIGURE 3

MANUAL ACTUATION DEVICE PART #STI-SS2431
 PROTECTIVE COVER MUST BE INSTALLED

MANUAL ACTUATION DEVICE
 10 TO 20 FEET FROM HOOD
 LOCATED NEAR
 POINT OF EGRESS FROM HOOD

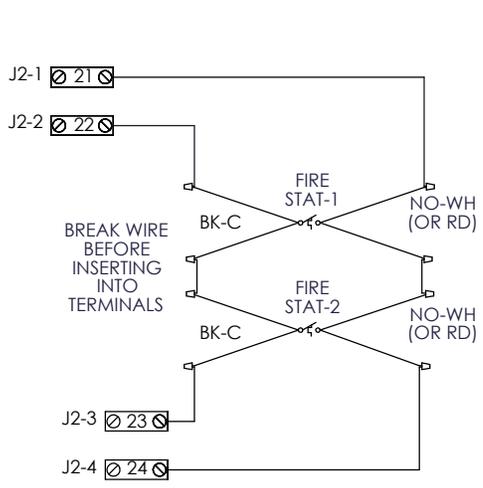
42 TO 48
 INCHES
 ABOVE
 FLOOR
 LEVEL TO
 CENTER
 OF HANDLE

36 INCHES CLEARANCE REQUIRED IN FRONT OF ALL UTILITY CABINET DOORS
 THE PANEL SHALL ALSO BE LOCATED IN AN ACCESSIBLE AREA WHERE THE AUDIBLE AND VISUAL ALARMS CAN BE HEARD AND SEEN

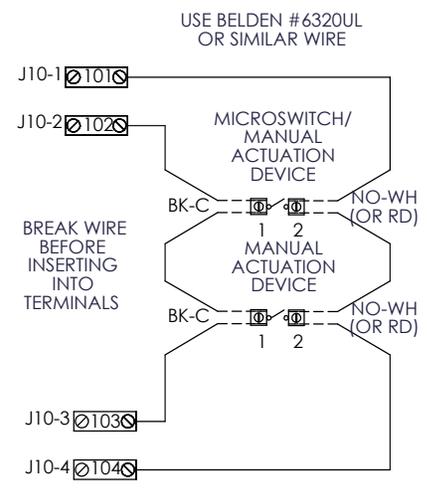
NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

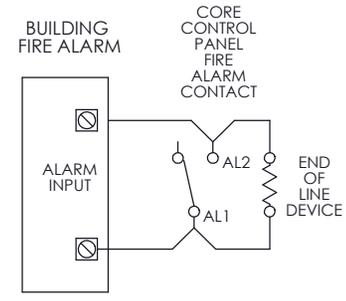
WALL MOUNTED CORE DUCT & PLENUM PROTECTION LOW-VOLTAGE FIGURES



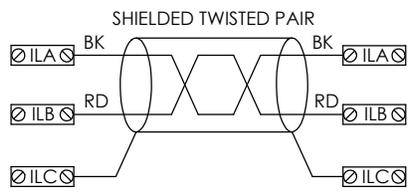
WIRING CONNECTIONS FOR FIRESTAT LOOP
FIGURE 1



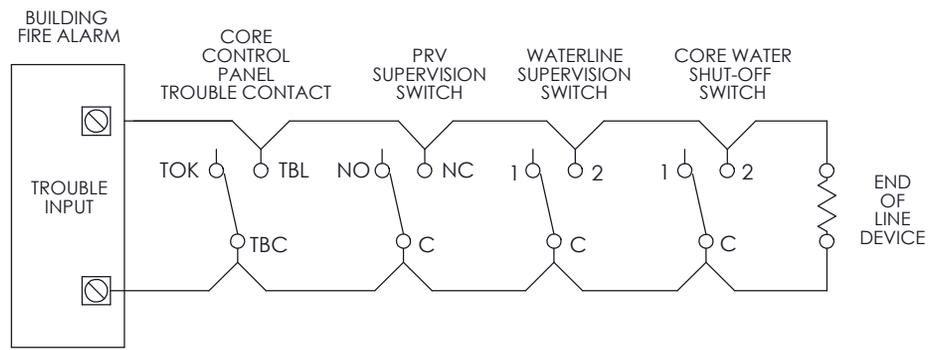
WIRING CONNECTIONS FOR MANUAL ACTUATION LOOP
FIGURE 1A



WIRING CONNECTIONS FOR FIRE ALARM CONTACT
FIGURE 2



WIRING CONNECTIONS FOR CORE INTERLOCK
FIGURE 3



WIRING CONNECTIONS FOR TROUBLE CONTACT
FIGURE 4

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

WALL MOUNTED CORE DUCT & PLENUM PROTECTION PLUMBING DETAIL

PLUMBER:

1. CONNECT HOT WATER LINE; PVC, COPPER OR STAINLESS STEEL PIPE ONLY
2. CONNECT HOOD DRAIN(S) STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY
3. CONNECT ALL END-TO-END AND BACK-TO-BACK HOOD WATER LINE CONNECTIONS (PLUMBING IS FIELD SUPPLIED FOR THIS) FIELD PLUMBING MUST NOT EXCEED HEIGHT OF FIELD INSTALLED VACUUM BREAKER
REMOVE PLUG FROM MAIN HOOD SPRAY BAR AND CONNECT TO NEXT HOOD STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY
4. PLUMB GAS VALVE, STRAINER MUST BE INSTALLED UPSTREAM OF VALVE
5. INSTALL FLOOR DRAIN
6. INSTALL BACKFLOW PREVENTER IF CODE REQUIRES

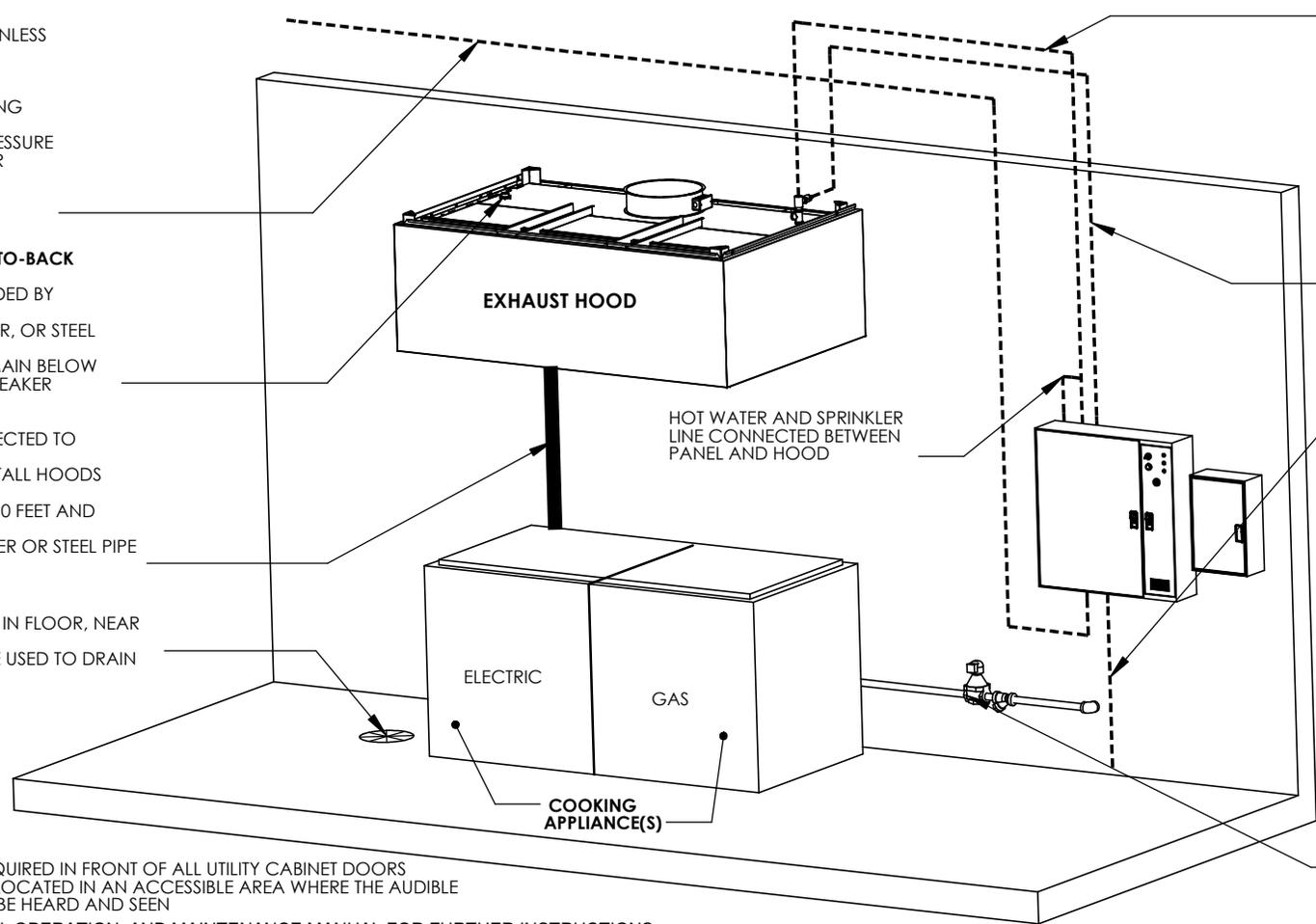
ITEM	CONNECTION	TEMPERATURE	PRESSURE	PLUMBING CONTRACTOR REQUIREMENT		COMMENTS
				FLOW RATE		
HOT WATER LINE	XXX INCH NPT	140 to 170°F	XXX TO 70 PSI	XXX GPM (0.7 GPM PER FOOT OF HOOD)		INSULATE HOT WATER PIPE, MINIMUM PRESSURE DEPENDENT ON LENGTH AND CONFIGURATION OF HOOD SYSTEM
HOOD DRAIN(S)	1-1/2 INCH NPT	N/A	GRAVITY DRAIN	XXX GPM PER DRAIN		2 DRAINS ON 24 INCH TALL HOODS WITH 20 INCH TALL FILTERS AND HOODS 10 FEET AND LONGER
END-TO-END CORE CONNECTION	3/4 INCH NPT	N/A	N/A	N/A		CONNECT WITH NPT PIPE, SEAL ALL THREADS, HOOD CONNECTION PROVIDED, FIELD PIPING MUST REMAIN BELOW HEIGHT OF VACUUM BREAKER
BACK-TO-BACK CORE CONNECTION	3/4 INCH NPT	N/A	N/A	N/A		CONNECT WITH NPT PIPE, SEAL ALL THREADS, HOOD CONNECTION PROVIDED
GAS VALVE	VARIES	N/A	SEE CHART	N/A		UP TO 2 INCHES NPT WITH 24V CONTROLS, 2-1/2 AND 3 INCH USE 120V CONTROL
FLOOR DRAIN(S)	1-1/2 INCH	N/A	GRAVITY DRAIN	N/A		USED TO HELP CLEAN UP FIRE SYSTEM DISCHARGE
SURFACTANT LINE	1/4 INCH OD TUBING	N/A	70 PSI	N/A		SURFACTANT LINE MUST NOT BE IN CONTACT WITH THE HOOD SURFACE
BACKFLOW PREVENTER DRAIN LINE (OPTIONAL)	INLET + DRAIN	N/A	VARIES	N/A		INSTALLED WHEN PANEL HAS A BACKFLOW PREVENTER VALVE, SEE BACKFLOW PREVENTER VALVE MANUAL FOR DETAILS

HOT WATER LINE
 -PVC, COPPER, OR STAINLESS STEEL PIPE ONLY
 -140-170°F OPERATING TEMPERATURE
 -XXX TO 70 PSI OPERATING PRESSURE
 -125 PSI MAX STATIC PRESSURE
 -XXX GPM (0.7 GPM PER FOOT OF HOOD)
 -XXX INCH NPT FITTING, INSULATED

END-TO-END OR BACK-TO-BACK CONNECTION
 -INSTALLED AND PROVIDED BY PLUMBER
 -STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY
 -FIELD PIPING MUST REMAIN BELOW HEIGHT OF VACUUM BREAKER

HOOD DRAIN(S)
 -1-1/2 INCH NPT CONNECTED TO BUILDING GREASE TRAP
 -2 DRAINS ON 24 INCH TALL HOODS WITH 20 INCH FILTERS
 -2 DRAINS ON HOODS 10 FEET AND LONGER
 -STAINLESS STEEL, COPPER OR STEEL PIPE ONLY

FLOOR DRAIN
 -1-1/2 DRAIN INSTALLED IN FLOOR, NEAR APPLIANCES
 -FLOOR DRAINS MAY BE USED TO DRAIN HOOD



HOOD WATER LINE
 -30 TO 70 PSI OPERATING PRESSURE, SIZED TO MATCH PRESSURE DROP BETWEEN WALL MOUNT PACKAGE AND HOOD
 -DEDICATED LINE WITH NO MANUAL UNSUPERVISED SHUT-OFF VALVE
 -SURFACTANT INJECTION INSTALLED AFTER FIELD INSTALLED VACUUM BREAKER
 -VACUUM BREAKER INSTALLED AT HIGHEST POINT BETWEEN PANEL AND HOOD
 -STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY

SURFACTANT LINE
 -1/4" OD TUBING CONNECTING SURFACTANT PUMP WITH INJECTION POINT ON HOOD
 -LINE MUST NOT COME IN CONTACT WITH THE HOOD SURFACE

BACKFLOW PREVENTER DRAIN
 -IF BFP IS INSTALLED, ADDITIONAL DRAIN MUST BE INSTALLED BY PLUMBER
 -SEE BFP MANUAL FOR DETAILS

SIZE	MAX INLET PRESSURE	VOLTAGE	BTU/HR
3/4"	5	24VDC	593,200
1"	5	24VDC	1,132,300
1-1/4"	5	24VDC	1,925,000
1-1/2"	5	24VDC	2,406,000
2"	5	24VDC	2,940,500
2-1/2"	5	120VAC	5,607,800
3"	5	120VAC	5,661,700

GAS VALVE
 -THREADED NPT CONNECTION
 -SEE TABLE ABOVE FOR MAX PRESSURE
 -STRAINER INSTALLED UPSTREAM OF VALVE

36 INCHES CLEARANCE REQUIRED IN FRONT OF ALL UTILITY CABINET DOORS
 THE PANEL SHALL ALSO BE LOCATED IN AN ACCESSIBLE AREA WHERE THE AUDIBLE AND VISUAL ALARMS CAN BE HEARD AND SEEN

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

WALL MOUNTED CORE DUCT & PLENUM PROTECTION SPRINKLER DETAIL

BUILDING SPRINKLER CONTRACTOR:

1. CONNECT CORE WATER LINE TO BUILDING WET SPRINKLER SYSTEM. STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY

SPRINKLER CONTRACTOR REQUIREMENT

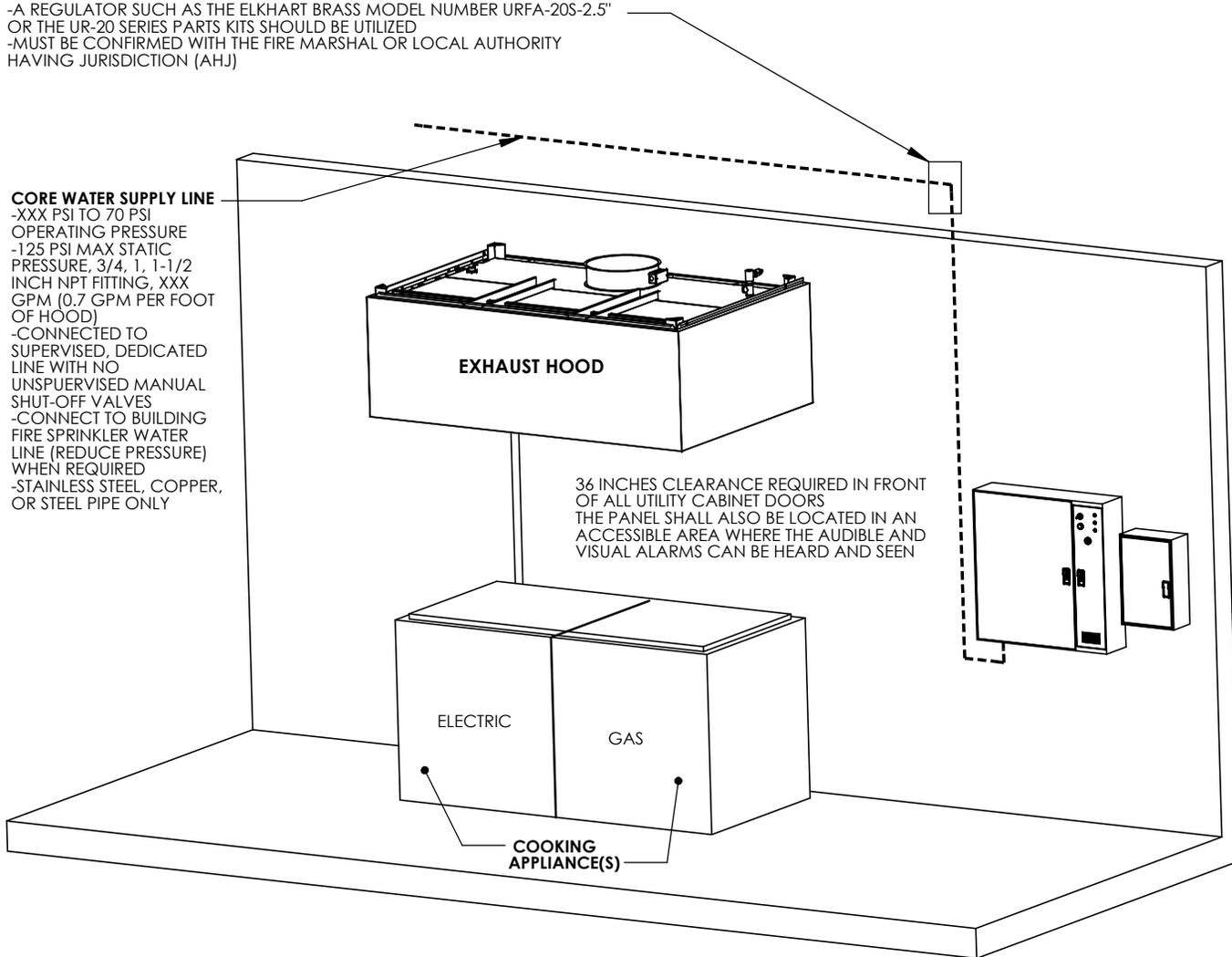
ITEM	CONNECTION	OPERATING PRESSURE	K-FACTOR	FLOW RATE	COMMENTS
CORE WATER SUPPLY LINE	3/4, 1, OR 1-1/2 INCH NPT	XXX PSI TO 70 PSI	XXX	XXX GPM TOTAL (0.7 GPM PER FOOT OF HOOD)	WATER LINE MUST BE SUPERVISED AND HAVE NO UNSUPERVISED MANUAL SHUT-OFF VALVES MINIMUM PRESSURE AND FLOWRATE DEPENDENT ON LENGTH AND CONFIGURATION OF HOOD SYSTEM

PRESSURE REGULATOR VALVE (PRV)

- PRV NOT INCLUDED AND MUST BE PROVIDED, INSTALLED, AND ADJUSTED BY THE SPRINKLER CONTRACTOR TO MEET 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
- MUST BE CONFIRMED WITH THE FIRE MARSHAL OR LOCAL AUTHORITY HAVING JURISDICTION (AHJ)

CORE WATER SUPPLY LINE

- XXX PSI TO 70 PSI OPERATING PRESSURE
- 125 PSI MAX STATIC PRESSURE, 3/4, 1, 1-1/2 INCH NPT FITTING, XXX GPM (0.7 GPM PER FOOT OF HOOD)
- CONNECTED TO SUPERVISED, DEDICATED LINE WITH NO UNSUPERVISED MANUAL SHUT-OFF VALVES
- CONNECT TO BUILDING FIRE SPRINKLER WATER LINE (REDUCE PRESSURE) WHEN REQUIRED
- STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY



36 INCHES CLEARANCE REQUIRED IN FRONT OF ALL UTILITY CABINET DOORS
THE PANEL SHALL ALSO BE LOCATED IN AN ACCESSIBLE AREA WHERE THE AUDIBLE AND VISUAL ALARMS CAN BE HEARD AND SEEN

LENGTH OF HOOD (FT)	MINIMUM INLET WATER PRESSURE FOR CORE DUCT AND PLENUM PROTECTION (PSI)
4	30
8	30
12	30
16	30
20	31
24	32
28	34
32	37
36	39
40	42
44	46
48	50

TOTAL FLOWRATE = K FACTOR x PRESSURE^{0.44}

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

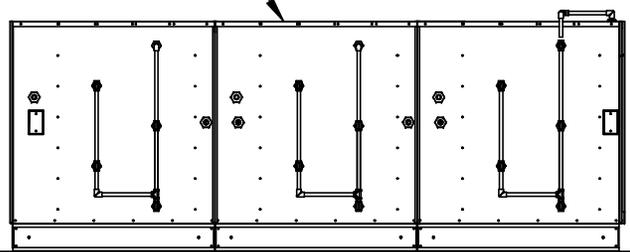
NOZZLES FOR CORE PROTECTION			
DESCRIPTION	PART NUMBER	MACOLA	FLOW RATE
RISER NOZZLE	1/4TT+TP1530+CP1325	A0002784	2.6 GPM @ 30 PSI
SPRAY BAR NOZZLE	1/4TT+TG-4.3W	A0025166	0.7 GPM @ 30 PSI

PCU CORE FIRE PROTECTION ELECTRICAL DETAIL

ELECTRICIAN:
1) WIRE MAIN CONTROL PANEL PER INCLUDED SCHEMATIC

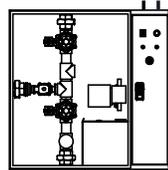
ELECTRICAL CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION ON DEVICE	VOLTAGE	AMPERAGE	COMMENTS
PCU CORE CONTROL PANEL POWER	H1, N1, GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
REMOTE ANSUL AUTOMAN (OPTIONAL)	AU1, AU2	ANSUL AUTOMAN MICROSWITCH	120 VAC	< 6 AMPS	120V TO AU1, AU2 TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL

POLLUTION CONTROL UNIT (PCU)



NOTES:
-IF PCU HAS INTERGRATED EXHAUST, REFER TO EXHAUST FAN WIRING SCHEMATIC FOR MOTOR WIRING DETAILS
-IF PCU HAS FILTER PRESSURE MONITORING HARDWARE, REFER TO THE AS BUILT SCHEMATIC FOR WIRING DETAILS

36 INCHES CLEARANCE REQUIRED IN FRONT OF ALL UTILITY CABINET DOORS
THE PANEL SHALL ALSO BE LOCATED IN AN ACCESSIBLE AREA WHERE THE AUDIBLE AND VISUAL ALARMS CAN BE HEARD AND SEEN



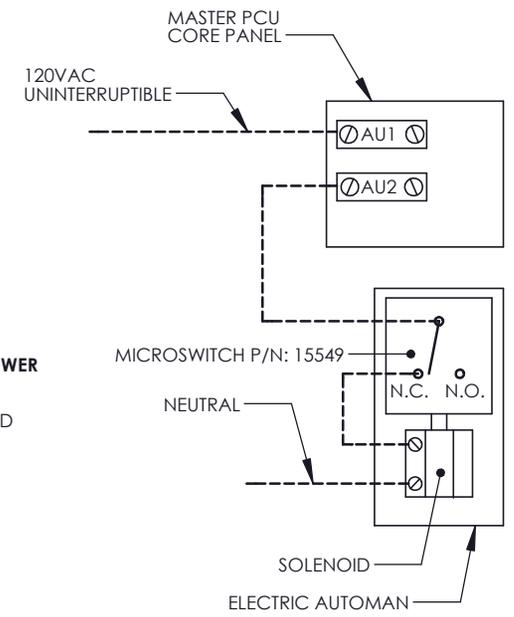
PCU CORE PANEL

PCU CORE CONTROL PANEL POWER
-120V AC
-15 AMP SERVICE
-WIRE TO TERMINALS H1, N1 AND GROUND
-POWER MUST NOT ORIGINATE FROM SHUNT TRIP BREAKER

PCU CORE TO MECHANICAL AUTOMAN SOLENOID
-120V AC
-15 AMP SERVICE
-POWER SUPPLY MUST BE UNINTERRUPTIBLE
-SEE REVERSE INTERLOCK DETAIL ON THIS SHEET

ELECTRICAL AUTOMAN REVERSE INTERLOCK DETAIL

HOOD OR WALL MOUNTED ELECTRIC REGULATED RELEASE
WALL MOUNT P/N: 429856 (R-102), 423386 (PIRANHA)
UTILITY CABINET MOUNT P/N: 41805 (R-102), 423386 (PIRANHA)



PCU CORE FIRE PROTECTION LOW-VOLTAGE WIRING DETAIL

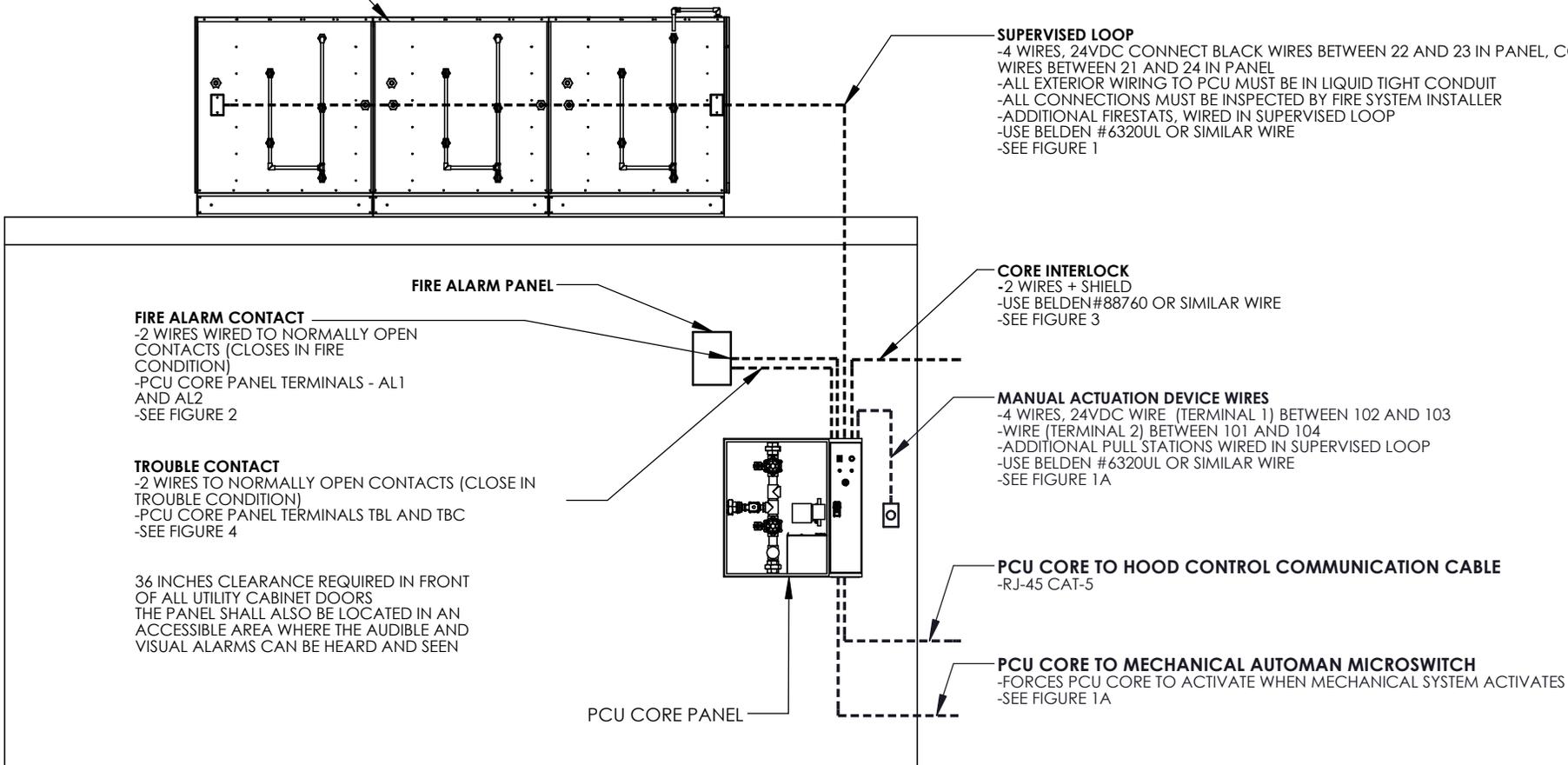
ALARM CONTRACTOR:

- 1) WIRE REMOTE FIRESTAT SENSOR(S), HOOD/PCU CORE INTERLOCK AND FIRE ALARM CONTACTS
- 2) COMPLETE FINAL HOOKUP OF SYSTEM
- 3) INSPECT ALL WIRING TO POLLUTION CONTROL UNIT
- 4) PERFORM FINAL FIRE SYSTEM TEST
- 5) FILL SURFACTANT TANK

ALARM CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PCU CORE PANEL	CONNECTION ON DEVICE	VOLTAGE	AMPERAGE	COMMENTS
FIRESTAT SENSOR(S)**	21 AND 24 22 AND 23	BLACK & WHITE	24 VDC	< 1.0 AMPS	WIRE FIRE SENSOR BLACK WIRES BETWEEN TERMINALS 22 AND 23. WIRE FIRE SENSOR WHITE (OR RED) WIRE BETWEEN TERMINALS 21 AND 24. USE BELDEN# 6320UL OR SIMILAR WIRE
MANUAL ACTUATION DEVICE(S)	101 AND 104 102 AND 103	1 & 2	24 VDC	< 1.0 AMPS	WIRE MANUAL ACTUATION DEVICE TERMINAL 1 BETWEEN CORE PANEL TERMINALS 102 AND 103 WIRE MANUAL ACTUATION DEVICE TERMINAL 2 BETWEEN CORE PANEL TERMINALS 101 AND 104 JUMPER 101 TO 104 AND 102 TO 103 IF NO MANUAL ACTUATION DEVICE IS INSTALLED
CORE INTERLOCK	ILA, ILB, ILC	ILA, ILB, ILC	RS-485 COMMUNICATIONS SIGNAL		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. USE BELDEN# 88760 OR SIMILAR WIRE
FIRE ALARM CONTACT	AL1, AL2	VARIES	50V MAX (AC/DC)	<1.0 AMPS	WIRE TO AL1 & AL2 NORMALLY OPEN CONTACT, CLOSSES IN FIRE CONDITION
TROUBLE CONTACT	TBC, TBL, TOK	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO TBL & TBC NORMALLY OPEN CONTACT, CLOSSES IN TROUBLE CONDITION
CORE TO HOOD COMMUNICATIONS CABLE	RJ-45 JACK	RJ-45 J3 (ECPM03 PANEL)	SIGNAL	<1.0 AMPS	RJ-45 CAT5 CABLE TO HOOD CONTROL PREWIRE. WIRE J5 OF CORE BOARD (PCU) TO J3 OF ECPM03 (HOOD PANEL). NOT REQUIRED FOR SLAVE PCU CORE PANELS.

POLLUTION CONTROL UNIT (PCU)

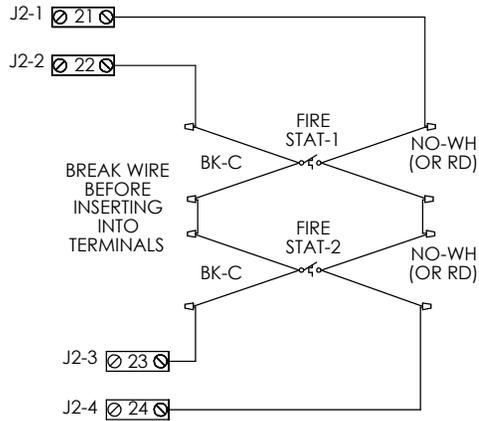
**ALL EXTERIOR WIRING CONNECTIONS TO PCU MUST BE ROUTED IN LIQUID TIGHT CONDUIT.



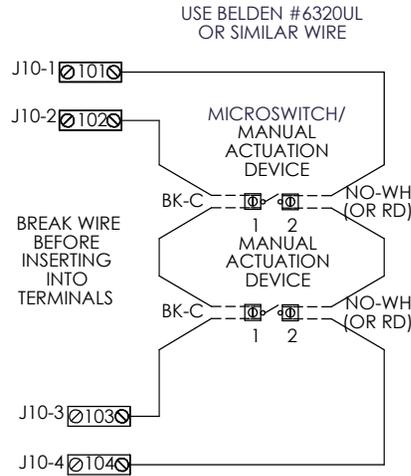
NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

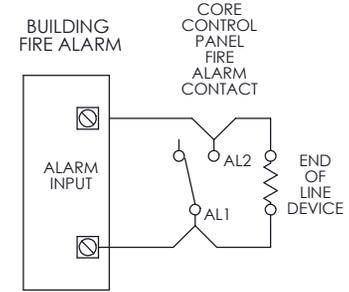
PCU CORE FIRE PROTECTION LOW-VOLTAGE FIGURES



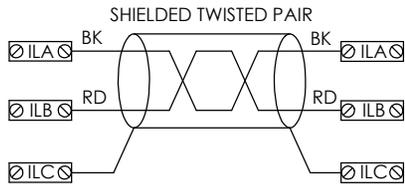
WIRING CONNECTIONS FOR FIRESTAT LOOP
FIGURE 1



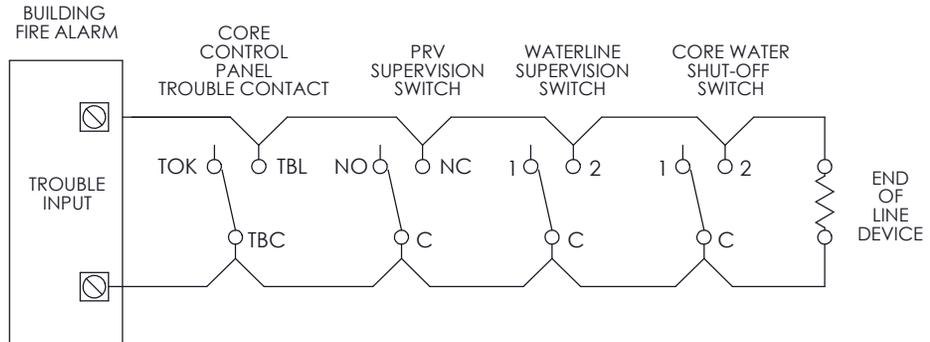
WIRING CONNECTIONS FOR MANUAL ACTUATION LOOP
FIGURE 1A



WIRING CONNECTIONS FOR FIRE ALARM CONTACT
FIGURE 2



WIRING CONNECTIONS FOR CORE INTERLOCK
FIGURE 3



WIRING CONNECTIONS FOR TROUBLE CONTACT
FIGURE 4

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

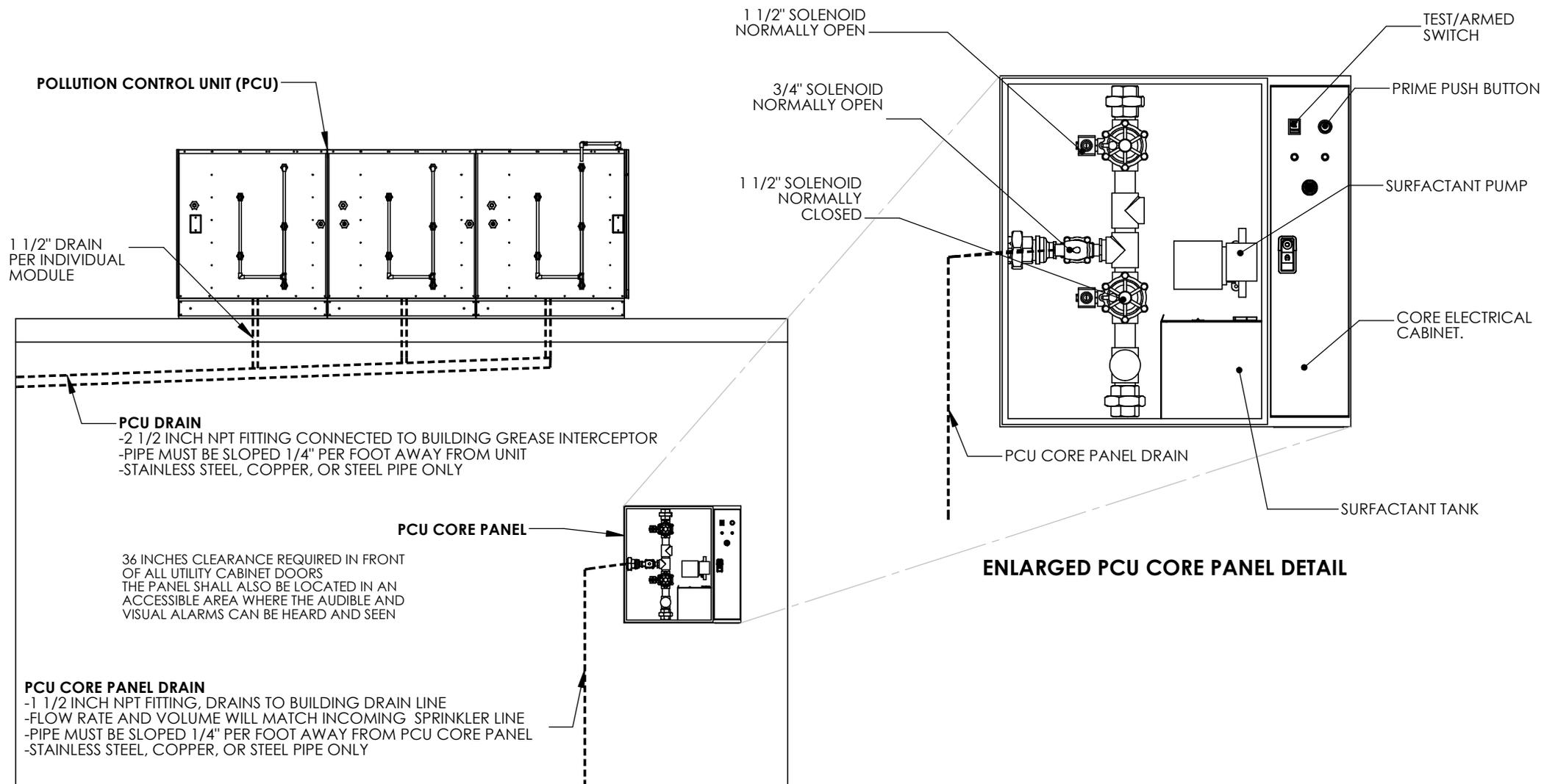
PCU CORE FIRE PROTECTION PLUMBING DETAIL

PLUMBER:

- 1) CONNECT PCU CORE PANEL DRAIN
- 2) CONNECT PCU DRAIN

PLUMBING CONTRACTOR REQUIREMENT

ITEM	CONNECTION	MATERIAL	PRESSURE	FLOW RATE	COMMENTS
PCU CORE PANEL DRAIN	1 1/2 NPT	STAINLESS STEEL, COPPER, STEEL PIPE ONLY	SPRINKLER SYSTEM PRESSURE	CAPACITY OF THE SPRINKLER SYSTEM	CONNECT TO BUILDING DRAIN CAPABLE OF HANDLING WATER VOLUME. LINE MUST BE SLOPED AWAY FROM PANEL 1/4" PER FOOT.
PCU DRAIN	2 1/2 NPT	STAINLESS STEEL, COPPER, STEEL PIPE ONLY	N/A	CAPACITY OF THE SPRINKLER SYSTEM	CONNECT TO BUILDING GREASE INTERCEPTOR. LINE MUST BE SLOPED AWAY FROM POLLUTION CONTROL UNIT 1/4" PER FOOT.



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

PCU CORE FIRE PROTECTION SPRINKLER DETAIL

BUILDING SPRINKLER CONTRACTOR:

- 1) CONNECT CORE WATER LINE TO BUILDING WET SPRINKLER SYSTEM. STAINLESS STEEL, COPPER, STEEL PIPE ONLY
- 2) CONNECT PCU CORE PANEL TO PCU SPRAY BARS. STAINLESS STEEL, COPPER, STEEL PIPE ONLY

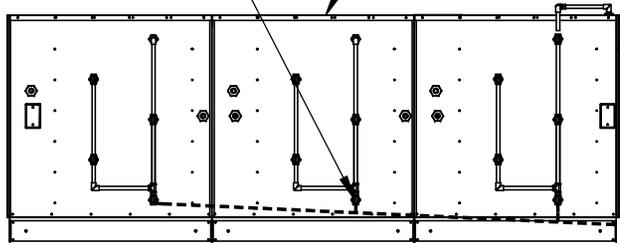
SPRINKLER CONTRACTOR REQUIREMENT

ITEM	CONNECTION	OPERATING PRESSURE	K-FACTOR	FLOW RATE BASED OFF MINIMUM PSI ALLOWED	COMMENTS
PCU CORE PANEL WATER SUPPLY LINE	1 1/2" NPT	30 to 70 PSI	XXX	XXX GPM	WATER LINE MUST BE SUPERVISED AND HAVE NO MANUAL UNSUPERVISED SHUT-OFF VALVES, STRAINER REQUIRED UPSTREAM OF PANEL
CORE WATER SUPPLY LINE TO PCU	1 1/2" NPT	20 PSI MINIMUM AT PCU INLET	XXX	XXX GPM	WATER LINE MUST BE SLOPED BACK 1/4" PER FOOT TO PCU CORE PANEL TO PREVENT STANDING WATER FROM FREEZING. LINE MUST BE ADAPTED TO 3/8" AT INLET OF EACH MODULE.

PCU CORE CONNECTIONS

- LINE FROM PCU CORE PANEL MUST BE BRANCHED AND ADAPTED TO EACH MODULE INDIVIDUALLY
- STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY (TYPICAL)

**POLLUTION CONTROL UNIT (PCU)
(3 MODULES SHOWN) MODULE
COUNT VARIES PER ORDER**



FIRE SYSTEM DISCHARGE COEFFICIENT (K-FACTOR)

PCU SIZE	# OF MODULES				
	1	2	3	4	5
PCU 1	2.0	3.6	5.2	6.8	8.4
PCU 2	2.8	4.8	6.8	8.8	10.8
PCU 3	2.8	4.8	6.8	8.8	10.8
PCU 4	4.0	6.4	8.8	11.2	13.6
PCU 5	4.4	7.2	10.0	12.8	15.7
PCU 6	4.4	7.2	10.0	12.8	15.7

FIRE SYSTEM WATER CONSUMPTION BASED ON PCU SIZE IN GPM (F)

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

CORE WATER SUPPLY LINE TO PCU

- 1 1/2 INCH NPT FITTING, 20 PSI MINIMUM AT PCU INLET, 1.5 GPM PER NOZZLE
- CONNECTED TO DEDICATED LINE WITH NO MANUAL SHUT-OFF VALVES
- LINE MUST BE AS DIRECT AS POSSIBLE WITH A MINIMUM OF TURNS
- LINE MUST BE SLOPED 1/4" PER FOOT BACK TOWARDS THE PCU CORE PANEL TO PREVENT STANDING WATER FROM FREEZING
- STAINLESS STEEL, COPPER, OR STEEL PIPING ONLY

36 INCHES CLEARANCE REQUIRED IN FRONT OF ALL UTILITY CABINET DOORS THE PANEL SHALL ALSO BE LOCATED IN AN ACCESSIBLE AREA WHERE THE AUDIBLE AND VISUAL ALARMS CAN BE HEARD AND SEEN

PCU CORE PANEL WATER SUPPLY LINE

- 30 TO 70 PSI OPERATING PRESSURE AT PANEL GAUGE, MINIMUM PRESSURE DEPENDENT ON SIZE OF PCU SYSTEM AND PIPING BETWEEN PCU CORE PANEL AND PCU
- STRAINER IS REQUIRED UPSTREAM OF PANEL AND SOLENOID VALVES
- 125 PSI MAX STATIC PRESSURE, 1 1/2 INCH NPT FITTING, 1.5 GPM PER NOZZLE
- CONNECT TO SUPERVISED, DEDICATED LINE WITH NO UNSUPERVISED MANUAL SHUT-OFF VALVES
- CONNECT TO BUILDING FIRE SPRINKLER WATER LINE (REDUCE PRESSURE WHEN REQUIRED)
- STAINLESS STEEL, COPPER, OR STEEL PIPE ONLY

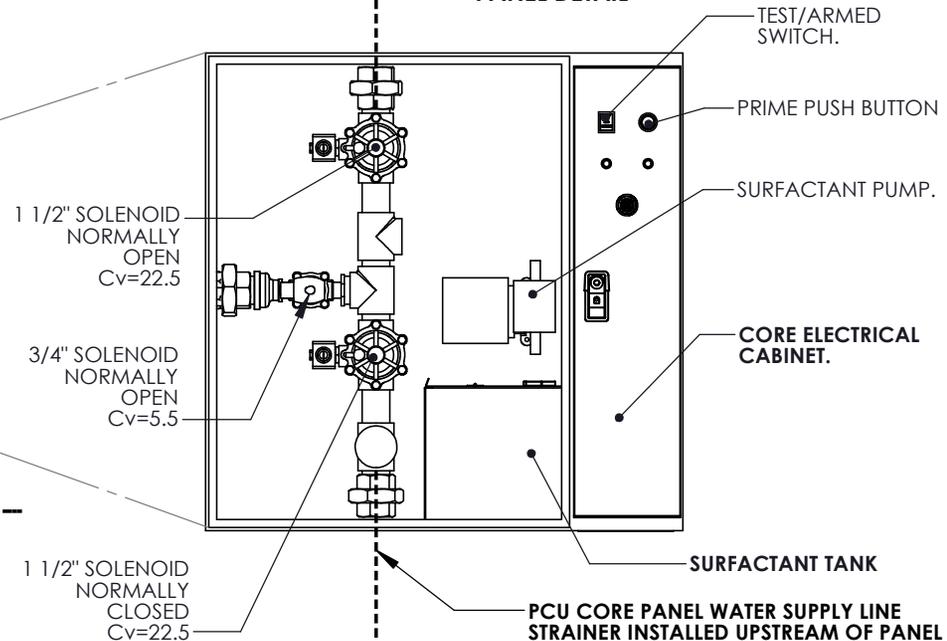
PRESSURE REGULATOR VALVE (PRV)

- PRV NOT INCLUDED AND MUST BE PROVIDED, INSTALLED, AND ADJUSTED BY THE SPRINKLER CONTRACTOR TO MEET 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
- MUST BE CONFIRMED WITH FIRE MARSHAL OR LOCAL AUTHORITY HAVING JURISDICTION (AHJ)

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

CORE WATER SUPPLY LINE TO PCU

ENLARGED PCU CORE PANEL DETAIL



$$\text{INDIVIDUAL VALVE PRESSURE DROP} = \frac{F^2}{Cv^2}$$

$$\text{TOTAL FLOWRATE} = \text{K FACTOR} \times \text{PRESSURE}^{0.44}$$

24V CORE BASIC OPERATING INSTRUCTIONS

CORE PROTECTION FIRE SYSTEM

CORE PROTECTION FIRE SYSTEMS CAN BE INSTALLED FOR HOOD FIRE PROTECTION, AS WELL AS POLLUTION CONTROL UNIT FIRE PROTECTION. IN THE EVENT OF A FIRE, OR ON MANUAL ACTUATION CORE PROTECTION IS ACTIVATED.

IF THE INSTALLED FIRESTAT IN THE AIRSTREAM SENSES A TEMPERATURE HOTTER THEN ITS INTERNAL SET POINT OR IF THE MANUAL ACTUATION DEVICE IS PUSHED THE FIRE SYSTEM IS ACTIVATED. IN KITCHEN HOODS 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 A SECOND WATER SOLENOID IS ENERGIZED AND ALLOWS THE FLOW OF WATER TO THE APPLIANCES. SURFACTANT IS CONTINUALLY INJECTED INTO THE WATER STREAM TO HELP SUPPRESS THE FIRE. IN A POLLUTION CONTROL UNIT, THIS ELECTRONIC SIGNAL ENERGIZES A SOLENOID ALLOWING THE FLOW OF WATER INTO THE INDIVIDUALLY PIPED MODULES.

ONCE THE FIRE SYSTEM IS ACTIVATED, A "FIRE SYSTEM ACTIVATED" LIGHT IS ILLUMINATED ON THE CORE CONTROL PANEL AND AN AUDIBLE ALARM SOUNDS. FOR KITCHEN HOOD PROTECTION 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 ONE DAY 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 FIRESTAT MUST BE COOLED TO BELOW ITS INTERNAL SET POINT AND THE MANUAL ACTUATION DEVICE MUST BE RESET BY TWISTING THE BUTTON IN A CLOCKWISE DIRECTION. 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 MANUAL ACTUATION DEVICE MUST BE RESET FOR THIS BUTTON TO WORK.

THE FIRE SYSTEM MUST BE FILLED WITH SURFACTANT AND NOZZLE CAPS MUST BE REINSTALLED.

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

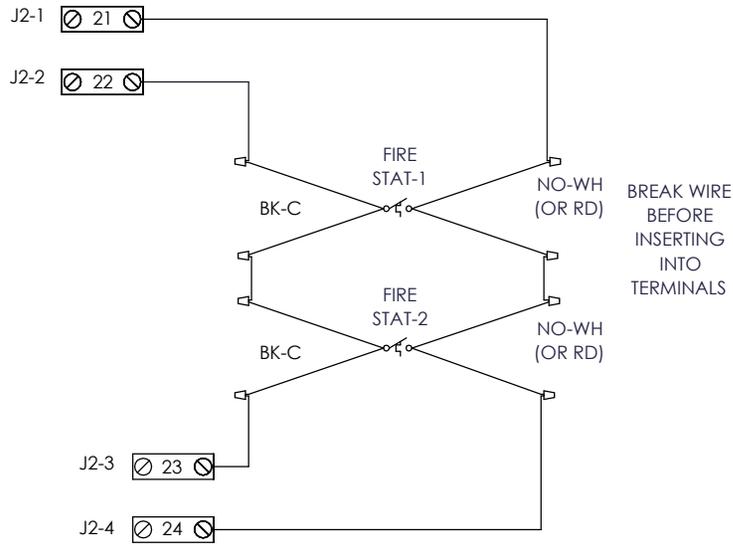
A FIRESTAT MUST BE INSTALLED AT 50 FT INTERVALS WHEN THE DUCT LENGTH EXCEEDS 50 FT.

IMPORTANT:

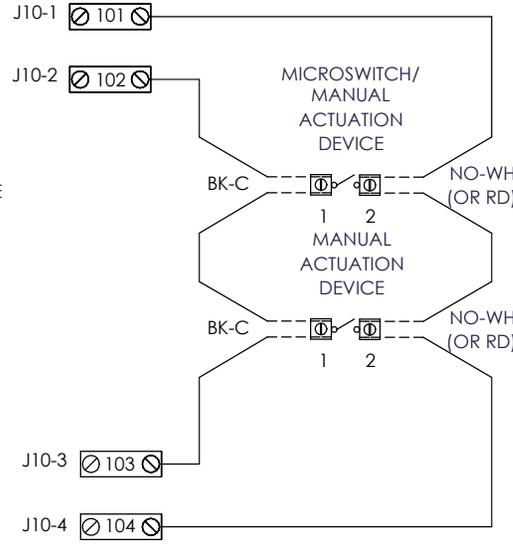
ANY DEVIATION FROM ANY OF THE MANUFACTURER'S RECOMMENDATIONS IN THIS DOCUMENT OR THE OPERATION AND INSTALLATION MANUAL MUST BE APPROVED BY THE OWNER OF THIS EQUIPMENT AND VOIDS THE WARRANTY AND PERFORMANCE GUARANTEE OF THIS PRODUCT.

24V SUPERVISED LOOP INSTRUCTIONS

ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES



WIRING CONNECTIONS FOR FIRESTAT LOOP
FIGURE 1



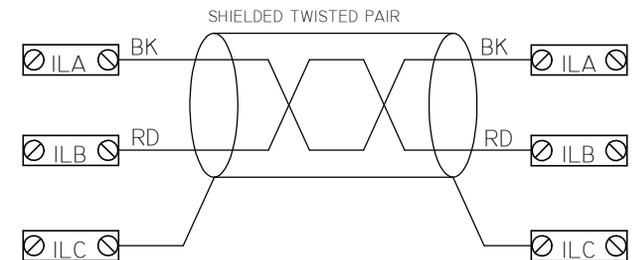
WIRING CONNECTIONS FOR MANUAL ACTUATION LOOP
FIGURE 2

SUPERVISED LOOP(S) INSTALLATION

- LOOPS MUST BE CONTINUOUS BETWEEN THE DEVICES, QUANTITY OF EACH COMPONENTS MAY VARY
- POLLUTION CONTROL UNIT MAY NOT HAVE A MANUAL ACTUATION DEVICE INSTALLED; IN THIS CASE, INSTALL A JUMPER BETWEEN TERMINALS 101 AND 104, AS WELL AS TERMINALS 102 AND 103
- MULTIPLE PULL STATIONS, MICROSWITCHES, AND FIRE SENSORS CAN BE USED ON EACH PANEL. WHEN INSTALLED, THEY ARE WIRED IN A DAISY-CHAIN STYLE AS SHOWN

CONNECTION BETWEEN MULTIPLE CORE SYSTEMS

- THERE IS AN RS-485 CONNECTION IN EACH CORE PANEL; TO CONNECT MULTIPLE CORE PANELS, SIMPLY CONNECT MATCHING TERMINALS FROM ONE PANEL TO THE NEXT IN SERIES
- USE BELDEN #88760 OR SIMILAR WIRE, SHIELDED, SINGLE TWISTED PAIR



RS-485 INTERLOCK NETWORK

PRESSURE REDUCING VALVE WITH SUPERVISION SWITCH, BALL VALVE SUPERVISION SWITCH AND PRESSURE MONITORING SWITCH (OPTIONAL)



ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

PRV 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
- SWITCH COMES WITH TWO SINGLE POLE, DOUBLE THROW SWITCHES
- 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

- VALVE IS AVAILABLE IN 1-1/2" NPT CONNECTIONS
- PRESSURE REDUCING VALVE (IF REQUIRED) MUST BE INSTALLED BEFORE THE CORE PROTECTION PANEL TO REDUCE SPRINKLER LINE INCOMING PRESSURE AND VOLUME
- PRESSURE REDUCTION IS BASED UPON THE INCOMING PRESSURE AND VOLUME
- SEE TABLE FOR OUTLET PRESSURE



WATER PRESSURE SUPERVISION SWITCH

- SWITCH IS AVAILABLE WITH A 1/2" NPT CONNECTION
- PRESSURE MONITORING VALVE COMES WITH TWO SINGLE POLE, DOUBLE THROW SWITCHES, EACH WITH AN ADJUSTABLE SETPOINT
- SETPOINT CAN BE BETWEEN 10 AND 60 PSI
- PART NUMBER PL-PS402

COMPLETE PARTS KIT	UR-20 VALVE	OUTLET PRESSURE PERCENTAGE	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
URFA-20-S	URFA-20	VARIABLE	INCLUDED	N/A

OUTLET PRESSURE (PSI)	UR-20 VALVE	INCOMING PRESSURE (PSI)												
		50	60	70	80	90	100	110	120	130	140	150	160	170
	UR-20-W	14.35	17.22	20.09	22.96	25.83	28.7	31.57	34.44	37.31	40.18	43.05	45.92	48.79
	UR-20-X	16.9	20.28	23.66	27.04	30.42	33.8	37.18	40.56	43.94	47.32	50.7	54.08	57.46
	UR-20-Z	28.25	33.9	39.55	45.2	50.85	56.5	62.15	67.8	73.45	79.1	84.75	90.4	96.05
	URFA-20-S	VARIABLE												

THE CORE PANEL CONTAINS TWO ISOLATED INPUTS FOR AUXILIARY SUPERVISION OF PRESSURE REDUCING VALVES AND PRESSURE SWITCHES. EACH SUPERVISION DEVICE ABOVE HAS TWO SINGLE POLE, DOUBLE THROW SWITCHES. THESE SWITCHES MAY BE WIRED IN PARALLEL TO THE CORE PANEL TERMINALS H1D AND 39. WHEN A FAULT IS DETECTED, THE CORE BOARD WILL SHUT DOWN THE GAS VALVE AND SHUNT TRIP, TRIGGER A LOCAL TROUBLE SIGNAL, AND ALERT ALL ATTACHED CORE PACKAGES. ALTERNATIVELY, THE SWITCHES FROM EACH DEVICE COULD BE CONNECTED TO THE TROUBLE INPUT OF THE BUILDING FIRE ALARM PANEL TO INDICATE A TROUBLE CONDITION. BOTH METHODS ARE SHOWN BELOW.

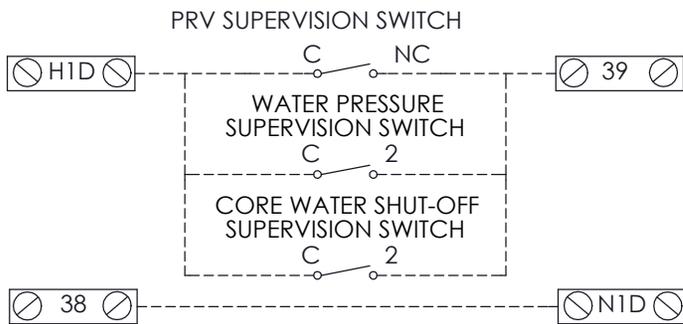
BALL VALVE SUPERVISION SWITCH

- SWITCH IS AVAILABLE FOR 3/4" TO 2" PIPE
- MONITORS CORE WATER SHUTOFF
- SEE TABLE FOR PART NUMBERS

PART NUMBER	PIPE SIZE
PL-RBVS-3/4	3/4"
PL-RBVS-1	1"
PL-RVBS-1-1/2	1-1/2"
PL-RBVS-2	2"



CORE CONTROL CONNECTIONS



WIRING CONNECTIONS FOR TROUBLE CONTACT

