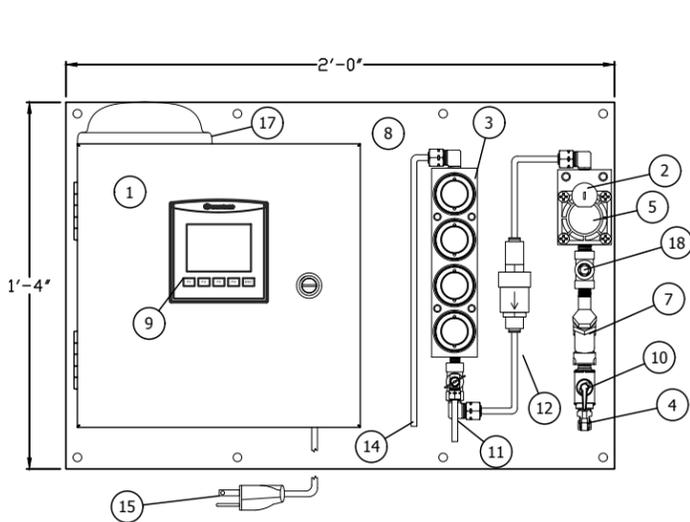
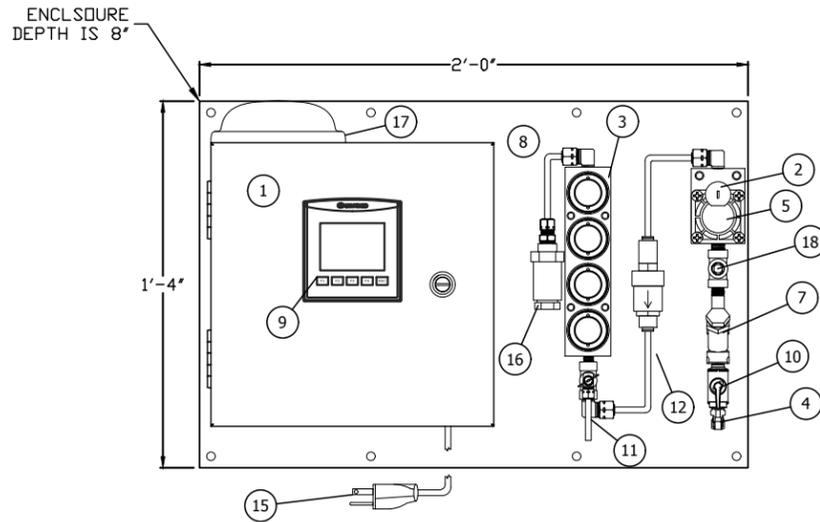


#9300i-MB : INTELLIGENT PERMANENT WATER QUALITY STATION



1 WALL MOUNT - DIRECT DIS. (FRONT)
Scale: 1-1/2"=1'-0"



2 WALL MOUNT - PLUMBED DISCHARGE (FRONT)
Scale: 1-1/2"=1'-0"

I-SERIES PRODUCT ORDERING GUIDE											
MODEL#	9300i	- MB	- 120	- 0	- *	- *	- *	- *	- *	- *	
SUBSECTION	1	2	3	4	5	6	7	8	9	10	
MODEL SHOWN IN VIEW 1: 9300i-MB-120-0-A-X-A-AD											
SUBSECTION DESCRIPTION	MODEL #	SUBSECTION	OPTIONS	DESCRIPTIONS							
MODEL	1	9300i		PERMANENT I-SERIES MONITORING STATION							
CLIMATE	2	MB		INDOORS ABOVE 41°F (5°C)							
POWER	3	120		120 VAC							
DEPTH OF BURY	4	0		N/A							
COMMUNICATION	5	X		NONE							
		A		CELLULAR (RV50 GATEWAY)							
		B		ALARM INDICATION LIGHT							
		C		ETHERNET CARD ADDED							
BACKFLOW PREVENTION	6	X		N/A							
		A		1/4" DUAL CHECK VALVE							
PRESSURE SENSOR	7	X		NONE							
		A		ANALOG 0-200.0 PSI SENSOR							
CHOOSE UP TO 4 SENSORS FOR SUBSECTIONS 8-11. LEAVE UNUSED SUBSECTIONS BLANK.											
SENSORS	8 - SENSOR #1	A		FREE CHLORINE	H			DISSOLVED OXYGEN			
	9 - SENSOR #2	B		COMBINED CHLORINE	I			FLUORIDE			
	10 - SENSOR #3	C		TOTAL CHLORINE	J			DISSOLVED OZONE			
	11 - SENSOR #4	D		pH	K			CHLORINE DIOXIDE			
	12 : 15 - ADDITIONAL SENSORS #5 : #8	E			TURBIDITY	L			PERACETIC ACID		
		F			DRP	M			HYDROGEN PEROXIDE		
		G			CONDUCTIVITY	X			CUSTOM (CALL)		
		PLEASE SEE CUT SHEET FOR UPGRADES AND AVAILABLE OPTIONS									

GENERAL SENSOR SPECIFICATIONS	
VOLTAGE:	BUS POWERED (5 VDC)
COMMUNICATIONS:	SERIAL 485
CONNECTIONS:	MB-5 IP67/68
CHLORINE SENSOR SPECIFICATIONS	
MEASURING RANGE:	0.00 to 5.00 PPM
WETTED MATERIALS:	PVC, TEFLON, VITON, EPDM, RYTON
RESOLUTION:	0.01 PPM
POWER:	40 mW
WATER TEMPERATURE SPECIFICATIONS	
MEASURING RANGE:	23 TO 131°F
TEMPERATURE INPUT:	PT100 RTD W/ AUTOMATIC COMPENSATION
ELECTRICAL SPECIFICATIONS	
VOLTAGE:	90-264 VAC
MAX POWER CONSUMPTION:	60 WATTS @ 24 VDC
CONTROL POWER SUPPLY SPECIFICATIONS	
SUPPLY VOLTAGE:	90-264 VAC
INPUT FREQUENCY:	47-63 Hz
HOLD-UP TIME:	VI = 115 VAC - 12 ms VI = 230 VAC - 60 ms
EFFICIENCY:	86%
OUTPUT VOLTAGE:	24 VDC
RATED CONTINUOUS LOADING:	2.5 A @ 24 VDC
MAX POWER:	60 WATTS
PLC SPECIFICATIONS	
OPERATING VOLTAGE:	20.4 - 28.8 VDC
POWER CONSUMPTION:	215 mA @ 24 VDC
INPUTS:	(10) 24 VDC
ANALOG INPUTS:	(2) : 10-BIT RESOLUTION, 4-20 mA
OUTPUTS:	(6) : INDIVIDUALLY ISOLATED RELAY
NON-VOLATILE MEMORY:	120K DYNAMIC DATA
REMOVABLE MEMORY:	STANDARD MICRO SD CARDS (UP TO 32 GB)
COMMUNICATIONS:	RS-232 DR RS 485 PORT AND OPTIONAL ETHERNET/IP
OTHER SPECIFICATIONS	
MAX PRESSURE:	230 PSI
SAMPLE FLOW RATE:	1 FLOWCELL/UP TO ~10 GALLONS PER HOUR
FLUSH FLOW RATE:	N/A
WEIGHT:	~28 LBS
MINIMUM TEMPERATURE DESIGN:	5°C OR 41°F
CERTIFICATIONS:	NSF/ANSI 372

OTHER SPECIFICATIONS AVAILABLE UPON REQUEST

Intelligent Water Quality Station (IWQS) shall be installed in the following locations: _____

A 1/4" brass compression inlet shall connect to a 1/4" ball valve controlling the flow of water through the sampling assembly. A Y-strainer shall be located immediately after the ball valve for maintenance purposes. From the Y-strainer, a sampling valve shall be included to control the flow of water through the IWQS with the extension and retraction of a DC latching solenoid. The solenoid shall have no loose parts when removed from the valve. The sampling valve shall control the flow of water for the sample stream to a pressure regulating valve (PRV). A sampling point with valve shall be provided to allow a dedicated sampling point. The sampling line shall continue to a node based flowcell that can house up to 4 plug-and-play sensors. As an upgrade, a second flowcell, increasing the number of available sensor ports to 8, shall be added to the right of the primary flowcell behind the control panel and filling out the appropriate sensors in the Product Ordering Guide for subsections 12-15. The node based Modbus sensor(s) shall be serially (RS485) connected to a hub and then to the PLC. The specified chlorine sensor shall be amperometric using a membrane sensor which measures chlorine directly without the use of reagents. The standard drain shall directly discharge from the node based flowcell, the water will plumb away from the unit through 1/4" copper tubing and be at the customers discretion as to how they want the water to drain. A direct plumbed discharge version is available and the discharged water shall flow from the node based flowcell through a 3/8" dual check valve to a 3/8" FIP outlet. The sample used for water quality monitoring shall not be altered by adding any chemicals or reagents to the sample stream.

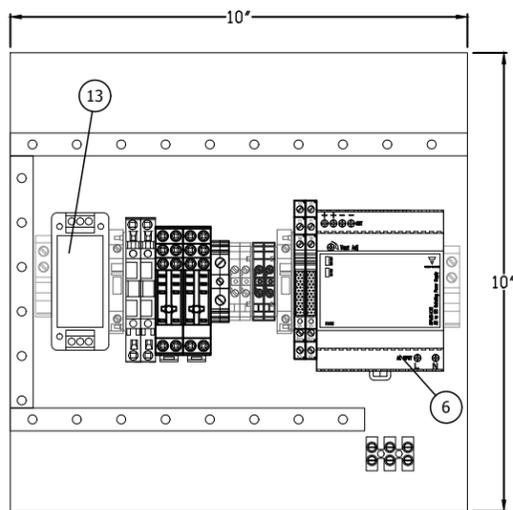
The IFD to be installed on the water lines mentioned above shall use a Unitronics PLC to control the intelligent blow-off of water to maintain chlorine residual levels while collecting data into local data tables (viewable at the site) and/or a removable micro SD card in a .CSV file (removable and viewable in Excel). The IFD shall have the capability to monitor either the free, combined, and/or total chlorine levels in a water distribution system. The unit shall also allow the user to manually flush water from the line with the simple push of a button, allow a maximum of 8 intelligent sampling times per day, have a max flush length per sampling time, and allow the end user to program the minimum and desired chlorine levels.

Unit shall be upgradeable to use a Sierra Wireless RV50 wireless gateway commissioned with an active 2FF SIM on an M2M profile through the customer's cellular carrier (Sprint, Verizon, AT&T, etc.) The RV50 shall forward the information from the PLC to the cellular network where it may be controlled and/or accessed by the customer on a device (smart phone, tablet, laptop, existing SCADA system, etc.) that can connect to the internet. Firewalls and security to be coordinated between Kupferle and the end user.

The control electronics shall be enclosed in a NEMA 1 control enclosure. The unit shall be mounted to the wall in a location that is enclosed and heated so that the water lines may not freeze. Mounting hardware will not be included. To power the device, a 120 VAC source will need to be provided by the customer. Final power input to be further coordinated between customer and manufacturer with the sensors, PLC, and the necessary controls for the solenoid, being powered from this connection.

Unit shall have the capability to control an automatic Kupferle flusher that is within 100 feet of the installed 9300i-MB and flush based on the residuals from the 9300i-MB. Customer shall run the necessary conduit between the automatic flusher and 9300i-MB in accordance with all national and electrical codes. Connection wires not included.

Unit model # shall be 9300i-MB-120-0-*-*-* with *'s specified in accordance with the product ordering guide as manufactured by Kupferle Foundry Company, St. Louis MO, or approved equal.



A CONTROL ENCLOSURE - OPEN (FRONT)
Scale: 3"=1'-0"

NOTES	
A	NOT ALL WIRES AND PIPING SHOWN FOR CLARITY PURPOSES.
E	DIRECT PLUMBED DISCHARGE OPTION AVAILABLE INCLUDING A DUAL CHECK ON THE DISCHARGE LINE.

ITEM	DESCRIPTION
1	ELECTRICAL CONTROL ENCLOSURE
2	DC LATCHING SOLENOID
3	NODE BASED FLOWCELL
4	1/4" COMPRESSION INLET
5	SAMPLING VALVE
6	DC POWER SUPPLY
7	Y-STRAINER
8	WALL MOUNT PANEL (RECYCLED PLASTIC)
9	PROGRAMMABLE LOGIC CONTROLLER (PLC)
10	SAMPLING BALL VALVE
11	DEDICATED SAMPLE POINT
12	PRESSURE REGULATING VALVE (PRV)
13	DC VOLTAGE REGULATOR
14	1/4" COPPER DRAIN (DIRECT DISCHARGE)
15	120 VAC MALE WALL OUTLET PLUG
16	DUAL CHECK VALVE (PLUMBED DISCHARGE)
17	ANTENNA (UPGRADE)
18	ANALOG PRESSURE SENSOR (UPGRADE)

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ST. LOUIS, MO 63102
1-800-231-3990
FAX 314-231-2820
www.hydrants.com

KUPFERLE
Since 1857

#9300i-MB SPEC SHEET

	INITIALS	DATE
DRAWN	JRG	10/31/18
APPROVED	XXX	XXX
MODIFIED		

SHEET SIZE	SCALE
B (11x17)	VARIABLES

DD/MM/YY	ISSUED FOR ...
DATE	STATUS / REVISION