

PLIEM Flow Control

► Product Presentation

- Real-time traffic data can be displayed and configuring parameters such as IP addresses and water flow through the web page.
- Equipped with a 24V solenoid valve drive function and can actively close the solenoid valve when the flow is abnormal.
- Support PROFINET/Ethernet/IP/DeviceNet etc.
- The flow and control parameters of the solenoid valve can be set through the buttons.
- The system operation status is displayed in real time through LED indicator lights.
- Equipped with 4 channels input and 3 channels of 24V output interfaces.
- Powered by a 24V external power supply and meets the industrial-grade power supply standards.
- Supports both digital display and digital tube display modes, allowing users to flexibly choose according to their needs.



(Digital Display)

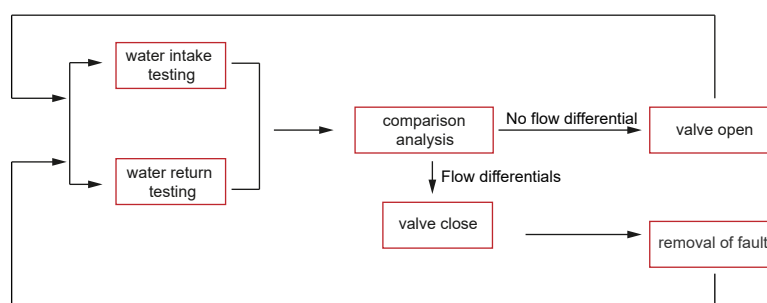


(Nixie Light)

► Operating Principle

Through vortex/turbine detection, the relevant coefficients are converted into flow values and displayed in real time on the unit LED screen or robot teaching board.

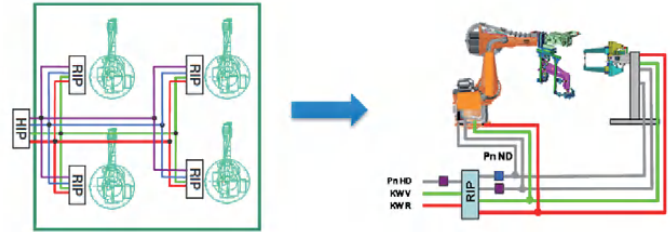
At the same time, the inlet and return water flow is detected. When the difference between the inlet and return water flow is greater than the set value, it is judged as the electrode cap falling off and the water flow is automatically shut off. The system detects the water flow size in real time, and an alarm signal will be sent out when the water flow is less than the set value.



► Principle Of Application

HIP and RIP provide compressed air and cooling water for the equipment

- Compressed air is used for mechanism clamping, rotation, etc.
- Cooling water is used to cool welding gun electrodes
- HIP- (Hall installation plate) provides air source and cooling water for automotive welding stations and distributes them to equipment via RIP
- RIP- (Robot installation plate) provides air source and cooling water for a single welding fixture (clamps and welding guns)
- Minimum water cut-off 0.5s .

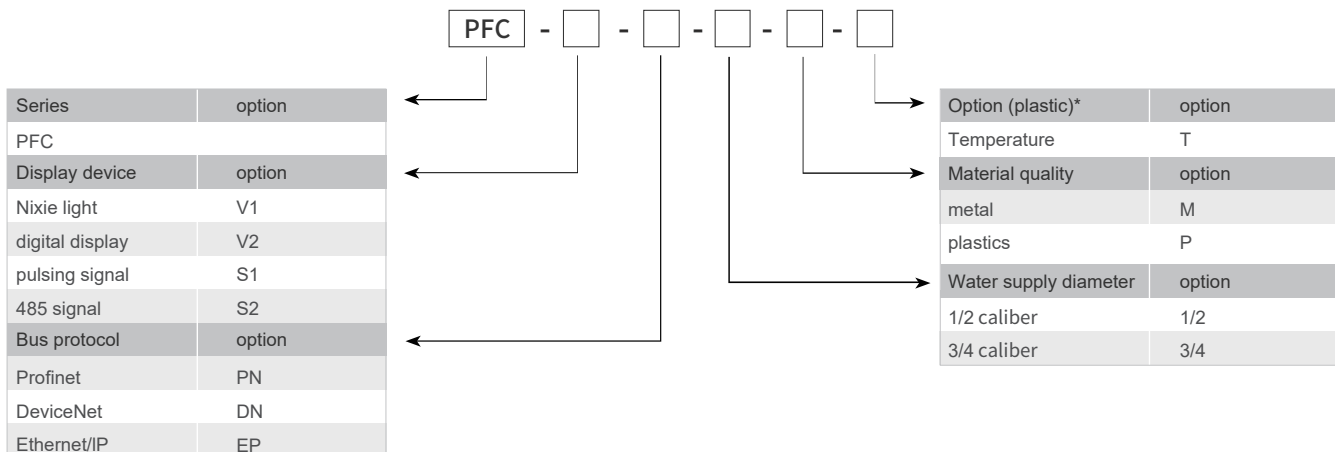


► Technical Parameter

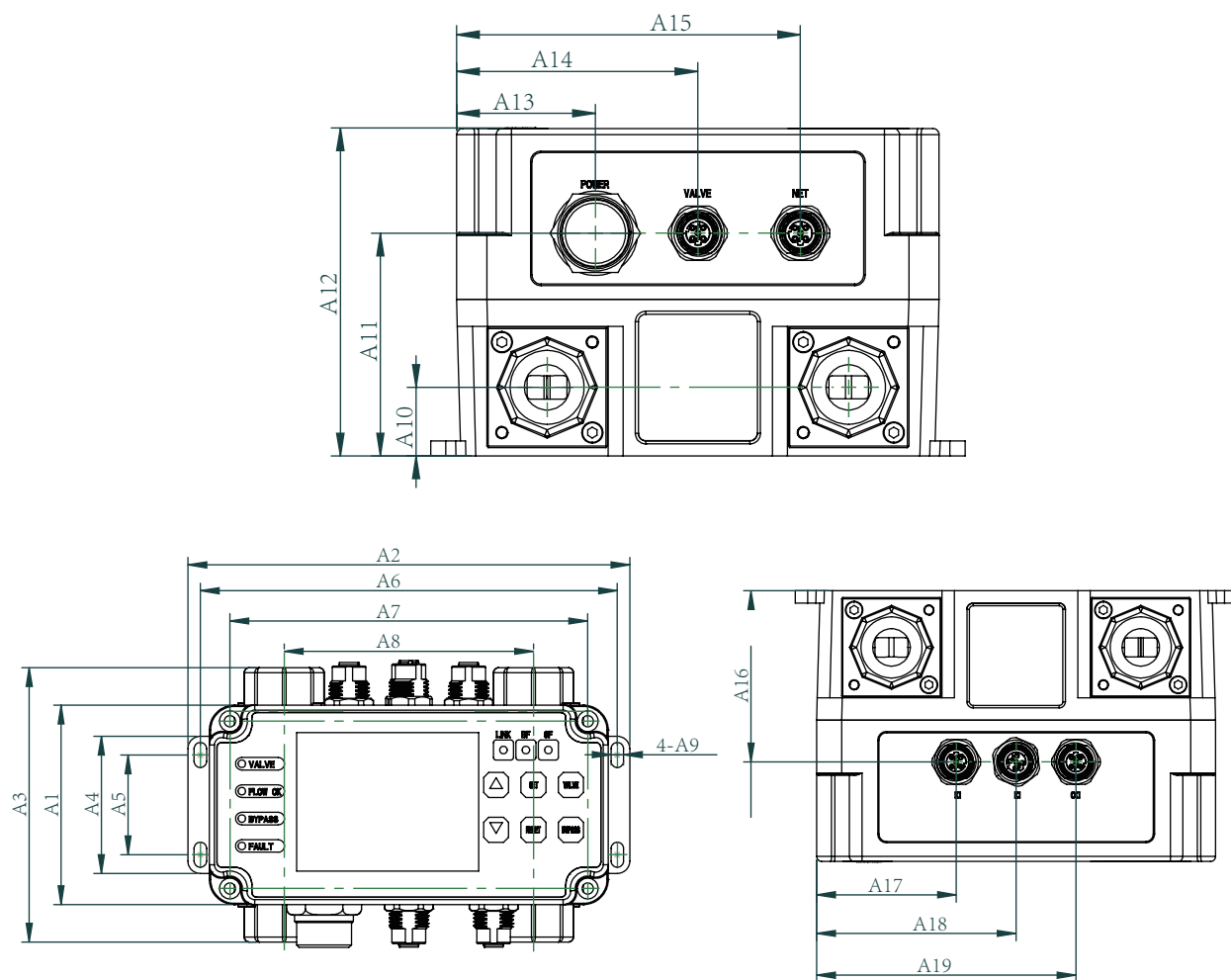
water flow	3.5-40.0 LPM
work ports	G1/2
	G3/4
Inlet pressure	83-620Kpa
return pressure	70-350Kpa
pressure differentials	14-415Kpa
coolant temperat	4.0-110°C
Redeploy load time	<5sec
protection class	IP65

Leak response time	<0.5sec
Leak detection	0.2-10 sec (depending on response time setting)
Low traffic respons	0.2 sec (detects a low flow event)
definition	±3% of flow range
repetitiveness	±1 of flow range
ambient temperature	4-50°C
Maximum relative humidid	60%
operational	environment for indoor use only
input voltage	±24VDC±10%

► PFC Configuration



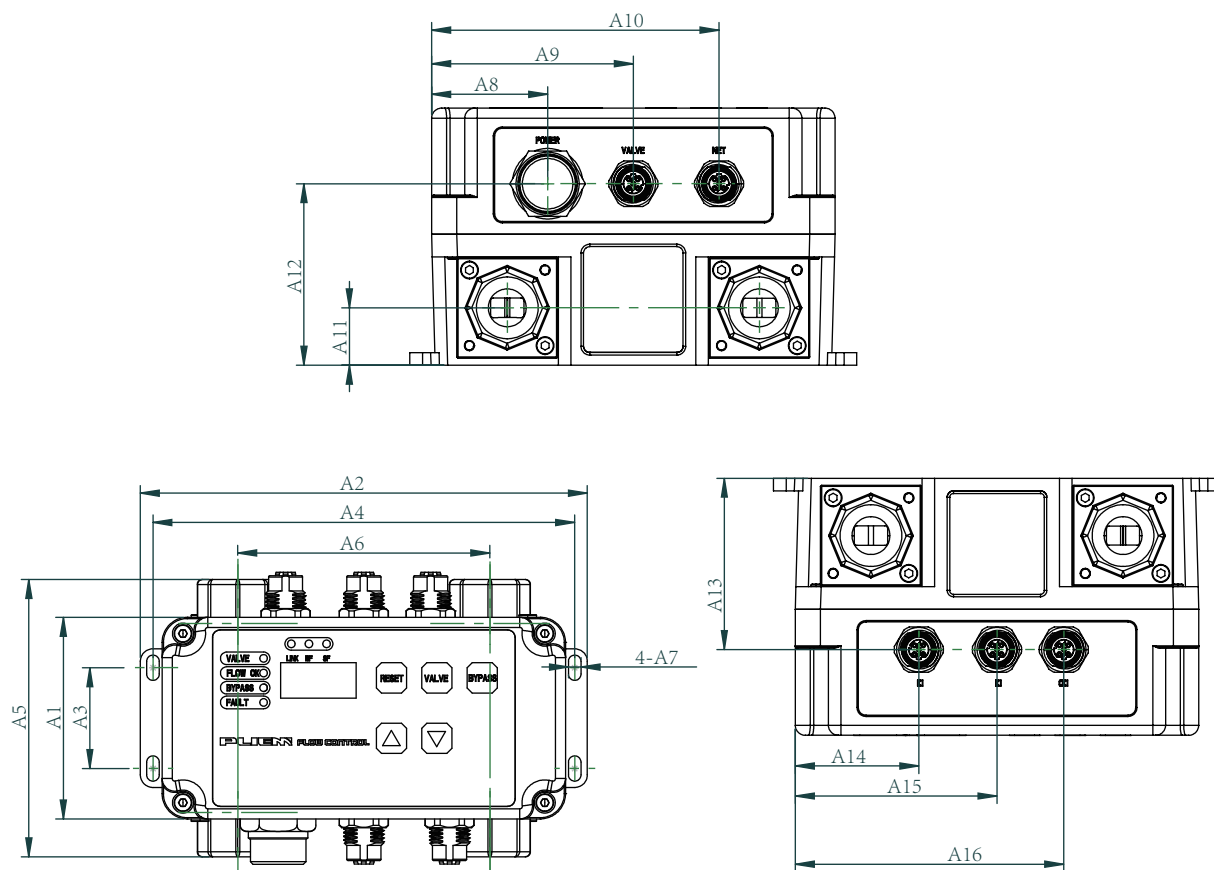
► Size Diagram-Digital Display



unit	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
inch	3.149	6.979	4.33	2.165	1.57	6.585	5.65	3.937	0.196	0.895
[mm]	80	177.28	110	55	40	167.28	143.53	100	5	22.75

unit	A11	A12	A3	A14	A15	A16	A17	A18	A19
inch	2.9	4.28	1.8	3.149	4.488	2.7	2.2	3.149	4.09
[mm]	73.87	108.8	46	80	114	68.7	56	80	104

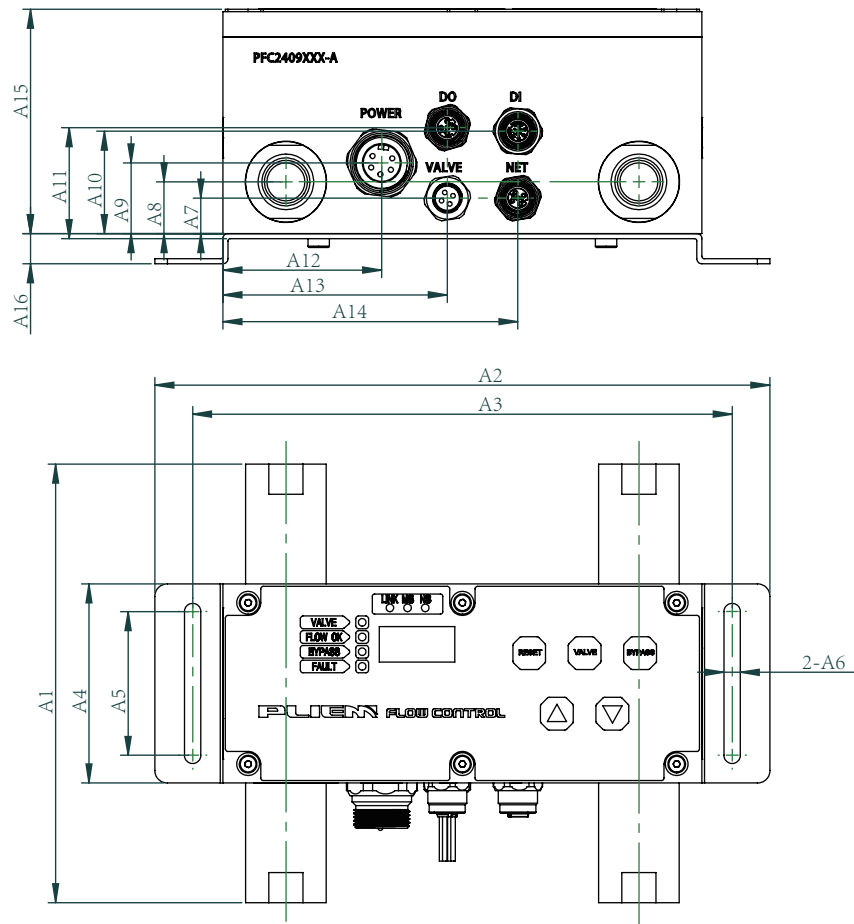
► Size Diagram-Nixie Light



unit	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
inch	3.14	6.97	1.57	6.58	4.33	3.93	0.196	1.81	3.14	4.48
[mm]	80	177.28	40	167.28	110	100	5	46	80	114

unit	A11	A12	A3	A14	A15	A16
inch	0.895	2.83	2.677	1.92	3.14	4.17
[mm]	22.75	72	68	48.97	80	106

► Size Diagram-Nixie Light (Metal)

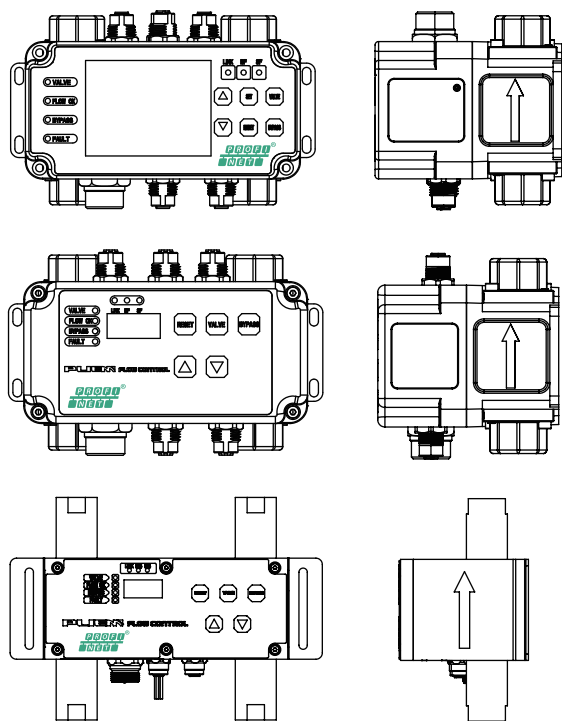


unit	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
inch	6.85	9.6	8.4	3.11	2.24	0.255	0.55	0.807	1.1	1.596
[mm]	174	244	214	79	57	6.5	14	20.5	28	40.55

unit	A11	A12	A3	A14	A15	A16
inch	1.65	2.48	3.5	4.6	3.5	0.47
[mm]	42	63	89	117	89	12

► Main features-Electrical module

Communication module : PROFINET IRT



2 DI interfaces, 1 DO interfaces

Provide the 24V power supply required by the module, the module also provides the solenoid valve, inlet and return water sensor, and DO power supply.

Power connector: 7/8-M 5-PIN

Cable distribution	No.	Signal
	1	-
	2	0V DC
	3	PE
	4	24V DC
	5	-

Communication connector: 7/8-F 5-PIN D-coded

Cable distribution	No.	Signal
	1	TX+
	2	TX-
	3	RX+
	4	RX-
	5	-

Input Module

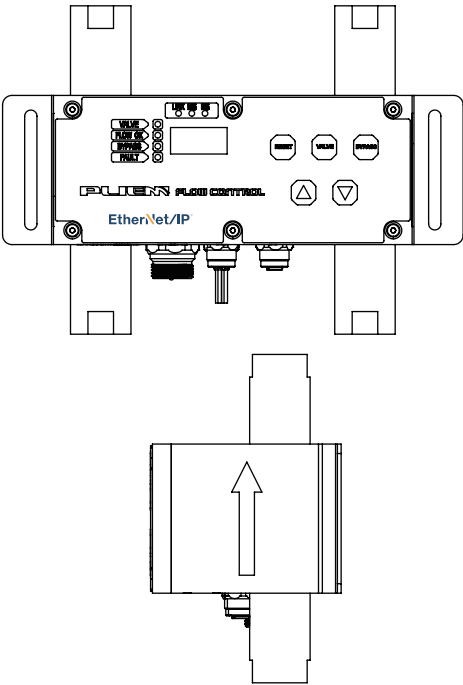
Cable distribution	No.	Signal
	1	24V supply
	2	Digital input 1
	3	0V supply
	4	Digital input 2
	5	0V supply

Output Module

Cable distribution	No.	Signal
	1	Digital output 1
	2	24V supply
	3	0V supply
	4	24V supply
	5	-

Communication module : EtherNet/IP

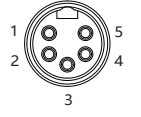
EtherNet/IP™



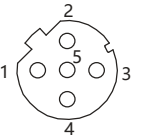
2 DI interfaces, 1 DO interfaces

Provide the 24V power supply required by the module, the module also provides the solenoid valve, inlet and return water sensor, and DO power supply.

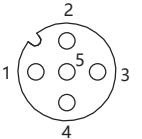
Power connector:7/8-M 5-PIN

Cable distribution	No.	Function
	1	-
	2	0V DC
	3	PE
	4	24V DC
	5	-

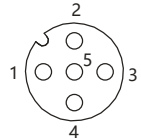
Communication connector:7/8-F 5-PIN D-coded

Cable distribution	No.	Signal
	1	TX+
	2	TX-
	3	RX+
	4	RX-
	5	-

Input Module

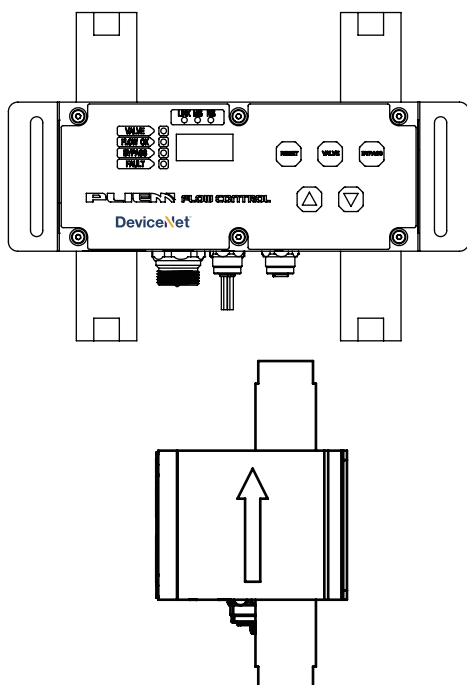
Cable distribution	No.	Signal
	1	24V supply
	2	Digital input 1
	3	0V supply
	4	Digital input 2
	5	0V supply

Output Module

Cable distribution	No.	Signal
	1	Digital output 1
	2	24V supply
	3	0V supply
	4	24V supply
	5	-

Communication module : DeviceNet

DeviceNet



Power connector:7/8-M 4-PIN

Cable distribution	No.	Function
	1	-
	2	0V DC
	3	-
	4	24V DC

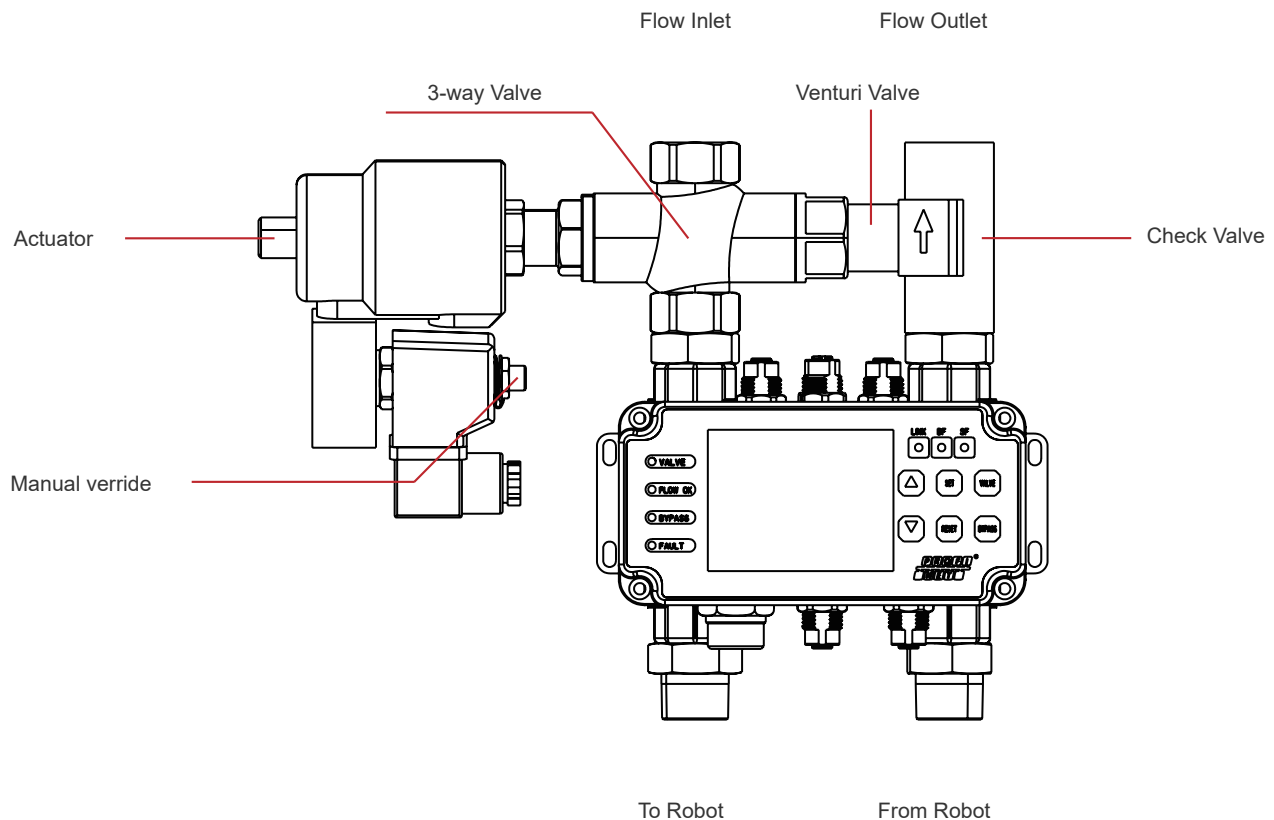
Communication connector:7/8-F 5-PIN D-coded

Cable distribution	No.	Signal
	1	Drain Shielding
	2	V+
	3	CAN-H
	4	CAN-L
	5	V-

► Order Information-PFC

Order Information-PFC	Description	Type	Code
	Profinet Nixie light metal pulsing signal PFC	PFC-V1S1-PN-1/2-M	680010
		PFC-V1S1-PN-3/4-M	680015
	Profinet Nixie light plastic 485 Signal PFC	PFC-V1S2-PN-1/2-P	680011
		PFC-V1S2-PN-3/4-P	680013
	Profinet digital display Plastic pulsing signal PFC	PFC-V2S1-PN-1/2-P	680016
		PFC-V2S1-PN-3/4-P	680017
	Profinet digital display plastic 485 Signal PFC	PFC-V2S2-PN-1/2-P	680022
		PFC-V2S2-PN-3/4-P	680023
	EtherNet/IP Nixie light metal pulsing signal PFC	PFC-V1S1-EIP-1/2-M	680018
		PFC-V1S1-EIP-3/4-M	680019
	DeviceNet Nixie light metal pulsing signal PFC	PFC-V1S1-DN-1/2-M	680020
		PFC-V1S1-DN-3/4-M	680021

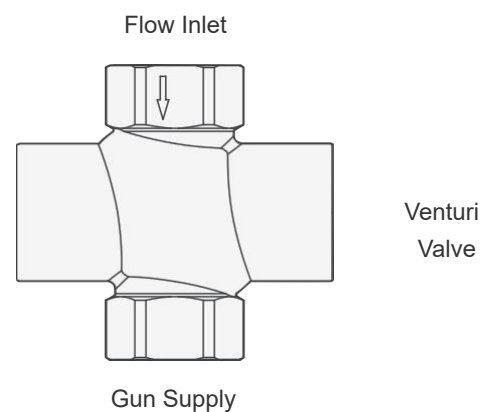
► Attachment-Coolant Flow Controller



The eVac coolant retraction module is composed of a 3-way valve, a venturi valve and a check valve.

- During normal operation, the WeldSaver controls the eVac module to close flow direction from A to C and open flow direction from A to B.
- At the event of a cap loss or cap change, the WeldSaver controls the eVac module to close flow direction from A to B and open flow direction from A to C. Thanks to the principle of differential pressure, coolant on welding caps will be withdrawn through the venturi valve and back into your water return system.

The actuator of the 3-way valve features a manual override function that allows coolant to flow through one direction from A to B or A to C regardless of whether power is on or off. Enable this function by rotating a small bypass knob located adjacent to the valve cable connection.



For full capability of the device, please DO NOT change or modify the eVac module position from its original installation.

► Electric Attachments

Connector	Description	Paramete	Type	Protect level	Type	Order number
	Power connector	7/8-5 pin female	connector	IP65	7/8-F05T	720203
	Power connector	7/8-4 pin female	connector	IP65	7/8-F04T	720207
	Power cable	7/8-5pin female	cable	IP65	VT CB-7/8-F05T-0050	720202
	Power cable	7/8-4pin female	cable	IP65	VT CB-7/8-F04T-0050	720206

Industrial Ethernet cable

		
Type	Type	Type
VTCB-D-D4P-12M-12M-0050	VTCB-D-D4P-12M-OP-0050	VTCB-D-D4P-12M-RJ-0050
Order number 720210	Order number 720212	Order number 720214

IO Connection Cable and Connector

				
Type	Type	Type	Type	Type
VTCB-A-A4P-12M-12F-0050	VTCB-A-A4P-12DF-OP-0050	VTCB-A-A4P-12DM-OP-0050	M12-M05T	M12-F05T
Order number 720219	Order number 720221	Order number 720223	Order number 720224	Order number 720225

Warning

This product is only suitable for industrial compressed air systems. Do not use these products if the pressure and temperature exceed the values listed in the "Technical parameters".

In non-industrial applications, in life support systems or other applications not specified in the technical specifications, if a fluid other than specified is to be used, consult Pliem in advance.

In fluid power systems, components may fail through misuse, aging, or malfunction in various ways. System designers must account for all failure modes of components within the system and provide adequate protection against personal injury or equipment damage when such failures occur. If sufficient failure protection cannot be provided, designers must include clear warnings in the systems user manual for end-users. Both system designers and end-users should carefully review the special warnings included in the product documentation.