

TECHNICAL DATA
DOCUMENT

Pump Station Views & Parts

Exterior · Interior · Major Components
· Part Numbers



KEY SPECIFICATIONS

PUMP STATION MODELS
APS2501 – APS2504

CAPACITY
0.25 – 2.5 gpm

OPERATING PRESSURE
1000-psi

ELECTRICAL
1Ph or 3Ph · 115V – 480V

CONTROL
Omron PLC · 24 VAC humidistat &
fan control

HP PUMPS
EP1812S17 · EP1508S34

ENCLOSURE (LARGE)
36.75" L × 19.5" W × 16.5" H

PUMP STAND
36.25" L × 24.25" W × 30.25" H

SERVICE CLEARANCE
18 – 24" · climate-controlled area

Pump Station Overview

The FanMist Automated Pump Station is the heart of the system. It holds the high-pressure pump and motor, the water facilities (inlet solenoid, unloader, electric drain valve, high-pressure safety switch and gauges) and the electrical panel with the Omron PLC, all in one enclosure on a white pump stand. This document shows the Pump Station inside and out, followed by every major FanMist component with its IHC part number.

Automated Pump Station

Part # APS2501 – APS2504	
Capacity range	0.25 gpm – 2.5 gpm
Operating pressure	1000-psi atomization
Electrical	1Ph (three-prong cord) or 3Ph (hard-wired). Dedicated 20 A breaker.
Integrated control	Omron PLC · indicator lights · hour meter
Safety	HPS (550 psi / 25 s) · EDV depressurization · thermal relief valve
Field connections	24 VAC to and from the humidistat · 24 VAC to the fan contactor box
Included	Fan override toggle switch · white pump stand
Enclosure (Large)	36.75" L × 19.5" W × 16.5" H
Pump stand	36.25" L × 24.25" W × 30.25" H
Placement	Climate-controlled area with 18–24" service clearance



Figure 1 — FanMist 36" fan with mist ring, fed at 1000-psi from the Pump Station.

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Major Parts — Pump Station Components	Pump, valves, switch, filtration, oil	6
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Exterior — Water Facilities End

All water connections are made at the water facilities end of the enclosure. Supply water enters at low pressure, the 1000-psi line leaves through the high-pressure outlet, and the EDV drain line leaves through the drain outlet.



Figure 2 — Front view, water facilities end.

- 1 High-pressure outlet** with 1/2" Slip-Lok connector. Outlet fitting Part #94131 or #94132. Starts the 1/2" high-pressure line.
- 2 Water inlet:** low-pressure gauge with 1/2" Slip-Lok connector. Supply at 25–100 psi, flow $\geq 1.5 \times$ pump capacity.
- 3 Drain line outlet** with 3/8" Slip-Lok connector. Connected inside to the orange EDV hose. Releases about 1/4 gal per OFF cycle.
- 4 Pump high-pressure gauge:** reads discharge pressure, about 1000-psi when running.



Figure 3 — Side view, water facilities end, showing the brass fitting assemblies stepping out from the enclosure wall.

Drain line routing: loop the 3/8" drain line up 3" above the highest point in the high-pressure lines before running it to the floor drain or bladder tank. This keeps the high-pressure lines full for robust atomization at start-up.



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Exterior — Electrical End

Operator controls, status indicators and all incoming wiring are on the electrical end of the enclosure.

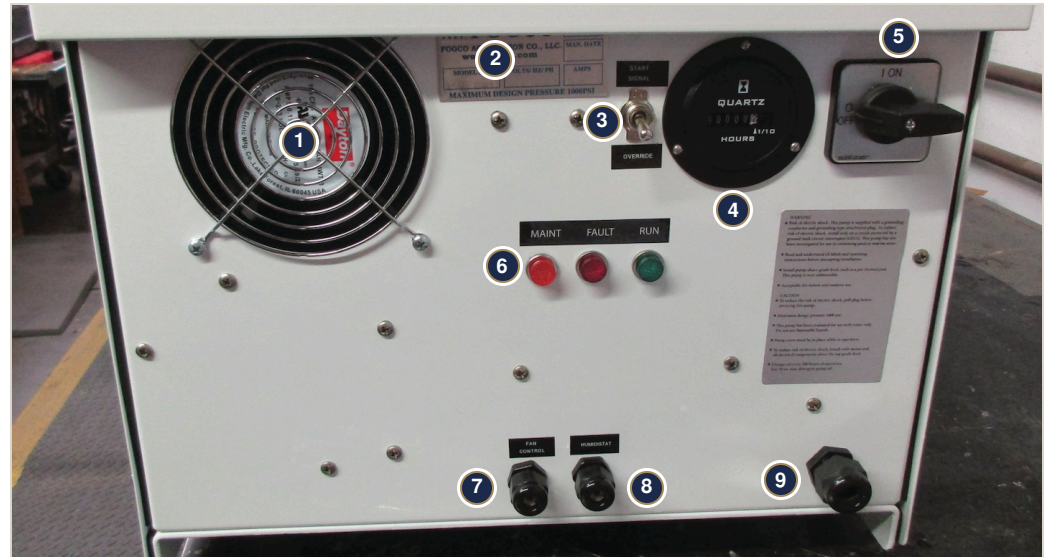


Figure 4 — Electrical end of the Pump Station enclosure.

- 1 Fan exhaust outlet:** enclosure cooling fan
- 2 Name plate:** serial number, manufacturing date & electrical data
- 3 Manual fan override toggle switch:** runs the fans only, for testing
- 4 Analog hour meter:** pump run time for the 500-hour maintenance
- 5 Pump on/off power supply switch**
- 6 Indicator lights:** amber MAINT · red FAULT · green RUN
- 7 24 VAC fan contactor sleeve:** 2-wire 18 AWG to the fan relay box
- 8 24 VAC humidistat sleeve:** 3-wire 18 AWG to the HRO20
- 9 Pump electrical connection sleeve:** 480V 3Ph shown



Figure 5 — Indicator lights: MAINT (amber, 500 hours), FAULT (red, pressure not proven), RUN (green, pump on).



Figure 6 — Exterior strain reliefs, marked FAN CONTROL and HUMIDISTAT.

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Interior — Overview & Electrical Panel

Inside, the enclosure is split into two zones. The **electrical** panel sits at one end, and the **water facilities** (motor, pump and valves) take up the rest. To reach the interior of a large enclosure, remove three ¼-20 pan head screws from the lower side of the electrical panel (Phillips). Medium enclosures use two ¼-20 hex head cap screws (7/16" wrench).

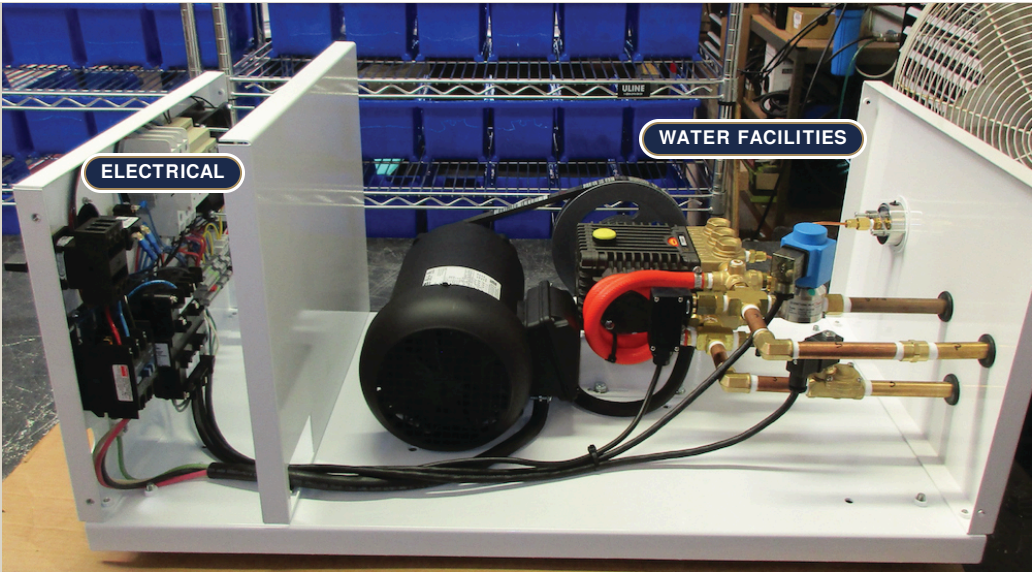


Figure 7 — Pump enclosure interior, cover removed.



Figure 8 — Omron 10 I/O PLC on the electrical panel DIN rail.

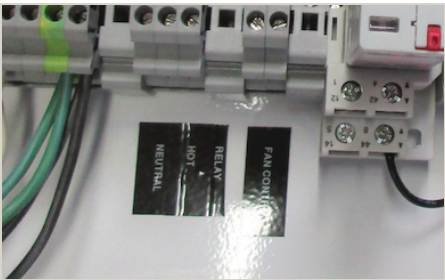


Figure 9 — Field terminal blocks: NEUTRAL - HOT - RELAY (humidistat) and FAN CONTROL.

Electrical Panel Components

Component	Part # / Rating
Omron PLC (10 I/O)	See IHC-TDD-PLC-0926-RevA
Main circuit breaker	10 A
Circuit fuses	1.5 A (115V) · 0.6 A / 0.6 A (480V). Spares in the pump box.
Control transformer	2:1, fused secondary
24 V transformer	Supplies 24 VAC to the humidistat and fan control
Step-down transformer (480V only)	#93301 · 150 W · 480 × 230
Cube relay	Start signal from the humidistat to PLC Input 0
Motor start contactor	Coil on PLC Output 1
Terminal blocks	NEUTRAL · HOT · RELAY · FAN CONTROL

Full wiring: IHC-TDD-WIR-1026-RevA (FanMist System Wiring & Schematics).



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Interior — Water Facilities

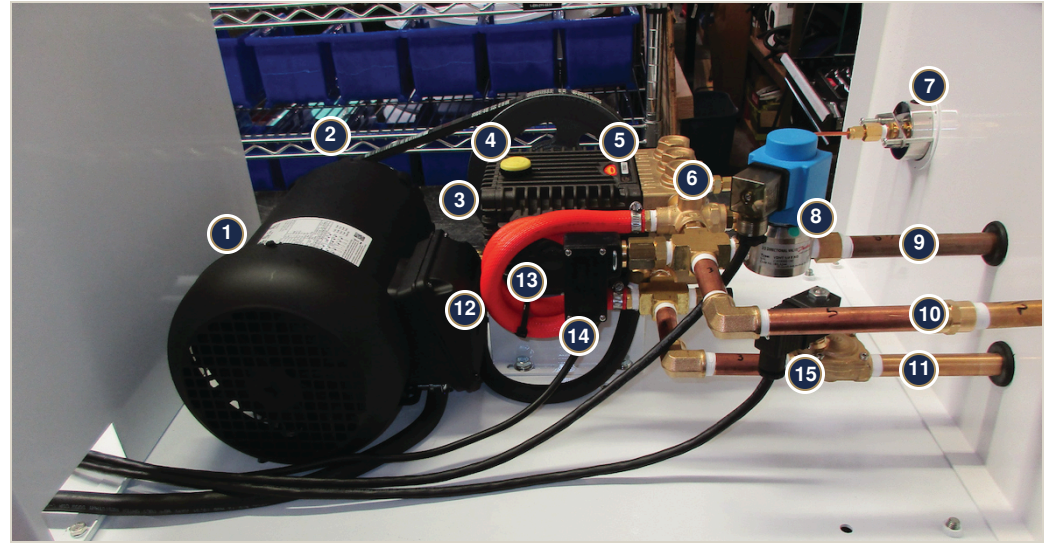


Figure 10 — Water facilities end of the pump enclosure, with each component numbered.

#	Component	IHC Part #	Function
1	Pulley-driven electric motor	—	Drives the pump through the belt and pulley
2	Drive belt & pump pulley	—	Inspect at every 500-hour service
3	Bypass hose to thermal relief valve	—	Thermal relief opens above 145 °F and dumps about 8 oz
4	Pump oil fill (yellow breather cap)	Oil #93222	15 oz, 30-weight non-detergent oil
5	High-pressure pump	EP1812S17 · EP1508S34	Builds 1000-psi
6	Unloader valve (pressure regulator)	93521	Sets 1000-psi and bypasses excess flow to the inlet
7	Pump output pressure gauge	—	Reads discharge pressure
8	Electric drain valve (EDV) with DIN plug	95001	Depressurizes the line at pump OFF
9	Drain line to exterior drain connection	—	Runs to the 3/8" Slip-Lok drain outlet
10	High-pressure outlet	94131 · 94132	1/2" Slip-Lok to the high-pressure lines
11	Low-pressure inlet	—	1/2" Slip-Lok supply connection
12	Orange high-pressure hose from the unloader valve	—	Carries regulated discharge
13	Pump oil gauge portal window	—	Oil should show half full
14	High-pressure (safety) switch (HPS)	93656	Proves 550 psi within 25 s
15	Low-pressure inlet solenoid valve with coil	93368 (115V) · 93596 (230V)	Opens only when the pump runs



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Major Parts — Pump Station Components



EP1812S17 · EP1508S34

EP Series high-pressure pump

1750 / 3400 RPM · replaces the TX
Series from Jan 2026



93521

Unloader valve / pressure regulator

Brass · external bypass · 3/8"
MNPT · 1000-psi max



95001

Electric drain valve (EDV)

Normally open · DIN plug · drains
about ¼ gal



93368 · 93596

Inlet solenoid valve

3/8" brass, NC · 115V / 230V coil



93656

High-pressure safety switch

PSS31 Black · 580 psi · 3/8" BSP



Omron PLC

10 I/O PLC controller

Sequencing, timers & fault logic



92609

10" pre-filter housing

1/2" ports · 12" × 5" × 5"



92608

5-micron pre-filter cartridge

9 ¾" · replace every 500 hours



95062

Filter wrench

For the 92609 housing · one per
Pump Station



93222

Pump oil, 16 oz

GP 30-weight non-detergent
hydraulic oil



Analog hour meter

Pump run time for the 500-hour
service



Fan override toggle switch

Runs the fans only, for testing

Part #	Additional Pump Station Parts
95003 · 95004 · 95005	EDV coil voltage variants
95002.DIN	EDV DIN plug connector
93301	Step-down transformer, 150 W, 480 × 230 (480V stations)
Zfeetevo	EP Series rail mount foot set (hex head screw, washer & foot; two rails per pump)



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Major Parts — Controls & Fans



HRO20

Neptronic humidistat

24 VAC · 10–90% RH · 3-wire 18
AWG



RIB2401B

Fan relay, single-phase

20 A SPDT · 24 VAC coil · 1–2 fans



RIB243P

Fan relay, three-phase

20 A 3PST-N/O · 24 VAC coil · 1–8
fans



VBS36A

36" high-velocity fan, 1Ph

½ HP · 115/230V · 10,050 CFM



VBS36CF

36" high-velocity fan, 3Ph

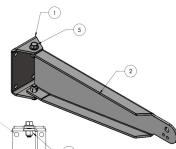
½ HP · 230/460V · 10,000 CFM



Included

Standard 30" fan bracket

Ships with each fan · 5" × 5"
mounting plate



VRSBR901-HDG

Wall / column rotating bracket

Hot-dip galvanized · 19" pivot arm



By others

Fan disconnect & drip loop

Dedicated on/off switch at each fan

36" Fan Specifications

Fan Part #	Dia.	HP	Ph	Volts	Amps	RPM	CFM	Relay
VBS36A	36"	½	1	115/230	6.1/3.09	844	10,050	RIB2401B
VBS36CF	36"	½	3	230/460	2.6/3.1	846	10,000	RIB243P

Fans ship fully assembled with hinged front guards and the bracket, rated 68 dB at 10–15', 63 lbs. They are hard-wired on site, with no power cord included. Relays are sourced from alpscontrols.com.

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Major Parts — Tubing & Fittings



90063 · 93072
3/8" HP nylon tube
500' roll · 100' roll



90550 · 90551
1/2" HP nylon tube
500' roll · 100' roll



92714 · 92680
Vinyl-coated steel clamps
3/8" · 1/2" wall clamps



92702 · 95702
Slip-Lok coupling (union)
3/8" · 1/2" stainless



92703 · 95703
Slip-Lok 90° elbow
3/8" · 1/2" stainless



92704 · 95704
Slip-Lok three-way tee
3/8" · 1/2" stainless



94131 · 94132
Pump Station HP outlet
1/2" Slip-Lok outlet connection

NO PHOTO

92854
Transition fitting
1/2" Slip-Lok × 3/8" MNPT

NO PHOTO

92709
Transition fitting
3/8" Slip-Lok × 3/8" FNPT

Tube Specifications

	3/8" Tube	1/2" Tube
Material	Black nylon (Polyamide 12): semi-flexible, plasticized, heat-stabilized	
OD	.375" ± .004"	.500" ± .004"
ID	.275" ± .004"	.375" ± .004"
Wall	.050" ± .004"	.062" ± .004"
500' roll	10 lbs · 15" × 15" × 15"	30 lbs · 24" × 24" × 12"
100' coil	5 lbs · 6" × 6" × 6"	—

Run Layout

1/2" tube starts the high-pressure line at the pump outlet. It runs to a 1/2" three-way tee, or directly to the transition fittings (92854 → 92709) that reduce to 3/8" tube to all the fans, preserving maximum line pressure to the last fan. Cut tube with a nylon tubing cutter and lightly ease the cut edge. Push the tube into the Slip-Lok until it stops, then pull back to lock it. Complete all threaded connections with plumber's tape.

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Major Parts — Mist Rings, Ball Valves & Nozzles



93712 · 93711
Mist ring (bare), 24" · 27"
12 / 14 nozzle ports · 10/24 UNC



MR24-12 · MR27-14
Mist ring (complete)
24" / 27" with ball valve assembly



92632
3/8" SS ball valve
3/8" FNPT ports



92707
Slip-Lok × MNPT adapter
3/8" Slip-Lok × 3/8" MNPT · two
per ring



93163
Slip-Lok × MNPT adapter
3/8" Slip-Lok × 1/8" MNPT to the
ring



Swivel adaptor
Nozzle swivel adaptor
10/24 thread · 30° swivel · finger-
tight

Mist rings are 3/8" 304 stainless steel with precision arc-welded 10/24 female nozzle ports. Center each ring on the fan's front guard and secure it with 4–5 zip ties (4" long). The 15" (#93706, 6 ports) and 18" (#93718, 8 ports) bare rings are also available.

Nozzles · 303 SS · Ruby Orifice · 300 psi Cracking

Part #	Band	Orifice	gpm	lbs/hr
1.85N	● Orange	0.065 mm / 0.0025"	0.0037	1.85
2.64N	● Black	0.085 mm / 0.0033"	0.0053	2.64
3.97N	○ White	0.1 mm / 0.0039"	0.008	3.97
5.29N	● Red	0.15 mm / 0.006"	0.011	5.29
7.94N	● Blue	0.2 mm / 0.008"	0.016	7.94
10.58N	○ Clear	0.3 mm / 0.012"	0.021	10.58

Output is actual tested capacity with the filter installed, at 1000-psi. Order in multiples of 10 (10 nozzles per pack). Install finger-tight only.



Figure 11 — Nozzle pack of 10 (7.94N shown).

Part #	Nozzle Accessories
51000	5-micron nozzle filter
92520	10/24 to 12/24 conversion adapter
94506	6" SS nozzle extension for line flushing

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EP1812S17	EP Series pump, 18 mm, 1750 RPM
EP1508S34	EP Series pump, 15 mm, 3400 RPM
Zfeetevo	EP Series rail mount foot set
93521	Unloader valve / pressure regulator
95001	Electric drain valve (EDV)
95003 · 95004 · 95005	EDV coil voltage variants
95002.DIN	EDV DIN plug connector
93368	Inlet solenoid valve, 115V coil
93596	Inlet solenoid valve, 230V coil
93656	High-pressure safety switch, PSS31 Black
93301	Step-down transformer, 150 W, 480 × 230
94131 · 94132	Pump Station high-pressure outlet
Filtration & Service	
92609	10" pre-filter housing
92608	5-micron pre-filter cartridge
95062	Filter wrench
93222	Pump oil, 16 oz
94506	6" SS nozzle extension (flushing)
Controls	
HRO20	Neptronic humidistat
RIB2401B	Fan relay, single-phase
RIB243P	Fan relay, three-phase

Fans	
VBS36A	36" fan, ½ HP, 1Ph 115/230V
VBS36CF	36" fan, ½ HP, 3Ph 230/460V
VRSBR901-HDG	Wall / column rotating bracket
Tubing & Fittings	
93072 · 90063	3/8" HP nylon tube, 100' · 500'
90551 · 90550	1/2" HP nylon tube, 100' · 500'
92714 · 92680	Vinyl-coated clamps, 3/8" · 1/2"
92702 · 92703 · 92704	3/8" Slip-Lok coupling · elbow · tee
95702 · 95703 · 95704	1/2" Slip-Lok coupling · elbow · tee
92854	1/2" Slip-Lok × 3/8" MNPT transition
92709	3/8" Slip-Lok × 3/8" FNPT transition
Mist Rings & Ball Valves	
93706 · 93718	Bare mist ring, 15" (6 ports) · 18" (8 ports)
93712 · 93711	Bare mist ring, 24" (12 ports) · 27" (14 ports)
MR24-12 · MR27-14	Complete mist ring with ball valve assembly
92707	3/8" Slip-Lok × 3/8" MNPT adapter
92632	3/8" SS ball valve
93163	3/8" Slip-Lok × 1/8" MNPT adapter
Nozzles	
1.85N · 2.64N · 3.97N	Orange · Black · White band nozzles
5.29N · 7.94N · 10.58N	Red · Blue · Clear band nozzles
51000	5-micron nozzle filter
92520	10/24 to 12/24 conversion adapter

Related Technical Data Documents: Omron PLC (IHC–TDD–PLC–0926–RevA) · EP Series Pumps (IHC–TDD–EPS–0926–RevA) · Electric Drain Valve · High-Pressure Nozzles (IHC–TDD–NOZ–0929–RevA) · Inlet Solenoid Valve (IHC–TDD–ISV–1026–RevA) · High-Pressure Safety Switch (IHC–TDD–HPS–1026–RevA) · Unloader Valve (IHC–TDD–UNL–1026–RevA) · Wiring & Schematics (IHC–TDD–WIR–1026–RevA).

Ordering & technical support: 765-702-4083 · IndustrialHumidityControl.com