

The **NORCHEM AnCAT® Model AL-30S** automatic liquid polymer system is designed to process up to 36 GPH of neat liquid polymer and deliver up to 30 GPM (1800 GPH) of a nominal 0.2 to 2.0% aqueous polymer solution. The AL-30S system is modular in design consisting of a liquid polymer injection module and booster module assembly.

**AnCAT® MODEL AL-30S LIQUID POLYMER SYSTEM SPECIFICATIONS:**

<b>FRAME:</b>	<b>BASE:</b>	<b>36" W x 28" L x 55" H (42" w/OPTIONAL BOLT LUGS)</b>
	<b>CONSTRUCTION:</b>	<b>CARBON STEEL, DRYLAC SERIES 49 POWDER COATING</b>
<b>PANEL:</b>	<b>ENCLOSURE:</b>	<b>NEMA 12</b>
<b>INJECTION MODULE:</b>	<b>PUMP:</b>	<b>ROTARY-GEAR-TYPE, 316 STAINLESS STEEL</b>
	<b>DRIVE:</b>	<b>POSITIVE TORQUE TRANSMISSION, 4:1 GEAR REDUCED</b>
	<b>MOTOR:</b>	<b>½ HP, 1725 RPM, TENV, WASHDOWN DUTY</b>
	<b>CAPACITY:</b>	<b>NEAT POLYMER FLOWRATE: 6 TO 36 GPH (144 TO 864 GPD)</b>
<b>BOOSTER MODULE:</b>	<b>PUMP:</b>	<b>CENTRIFUGAL-TYPE, STAINLESS STEEL, CHEMICAL SERVICE</b>
	<b>DRIVE:</b>	<b>CLOSE-COUPLED, DIRECT</b>
	<b>MOTOR:</b>	<b>3 HP, 3450 RPM, TEFC, WASHDOWN DUTY</b>
	<b>DISCHARGE:</b>	<b>4 TO 30 GPM, 15 – 20 PSI BOOST TO INLET WATER PRESSURE</b>
<b>SOLUTION OUTPUT:</b>	<b>PRIMARY FLOW:</b>	<b>4.0 TO 30 GPM (240 TO 1800 GPH)</b>
	<b>SECONDARY FLOW:</b>	<b>NONE,</b>
	<b>TOTAL FLOW:</b>	<b>4.0 TO 30 GPM (240 TO 1800 GPH)</b>
<b>CONCENTRATION:</b>	<b>SOLUTION:</b>	<b>PRIMARY: 0.2 TO 2.0%, VOLUME ON VOLUME</b>
		<b>TOTAL: 0.2 TO 2.0%, VOLUME ON VOLUME</b>
<b>CONTROLS:</b>	<b>CONTROLLER:</b>	<b>MANUAL MECHANICAL, MICROMETER DIAL ADJUSTMENT</b>
	<b>WATER:</b>	<b>LOW WATER FLOW ALARM AND FAILSAFE, MANUAL RESET</b>
	<b>POLYMER:</b>	<b>LOW POLYMER FLOW ALARM AND FAILSAFE, MANUAL RESET</b>
	<b>LIQUID LEVEL:</b>	<b>CONDUCTIVITY-TYPE, 4 STAINLESS STEEL PROBE ASSEMBLY</b>
<b>UTILITIES:</b>	<b>ELECTRICAL:</b>	<b>460 VAC, 3 PHASE, 60 HERTZ, 15 AMP</b>
	<b>WATER:</b>	<b>30 GPM @ 50 PSI, CLEAN SOURCE</b>

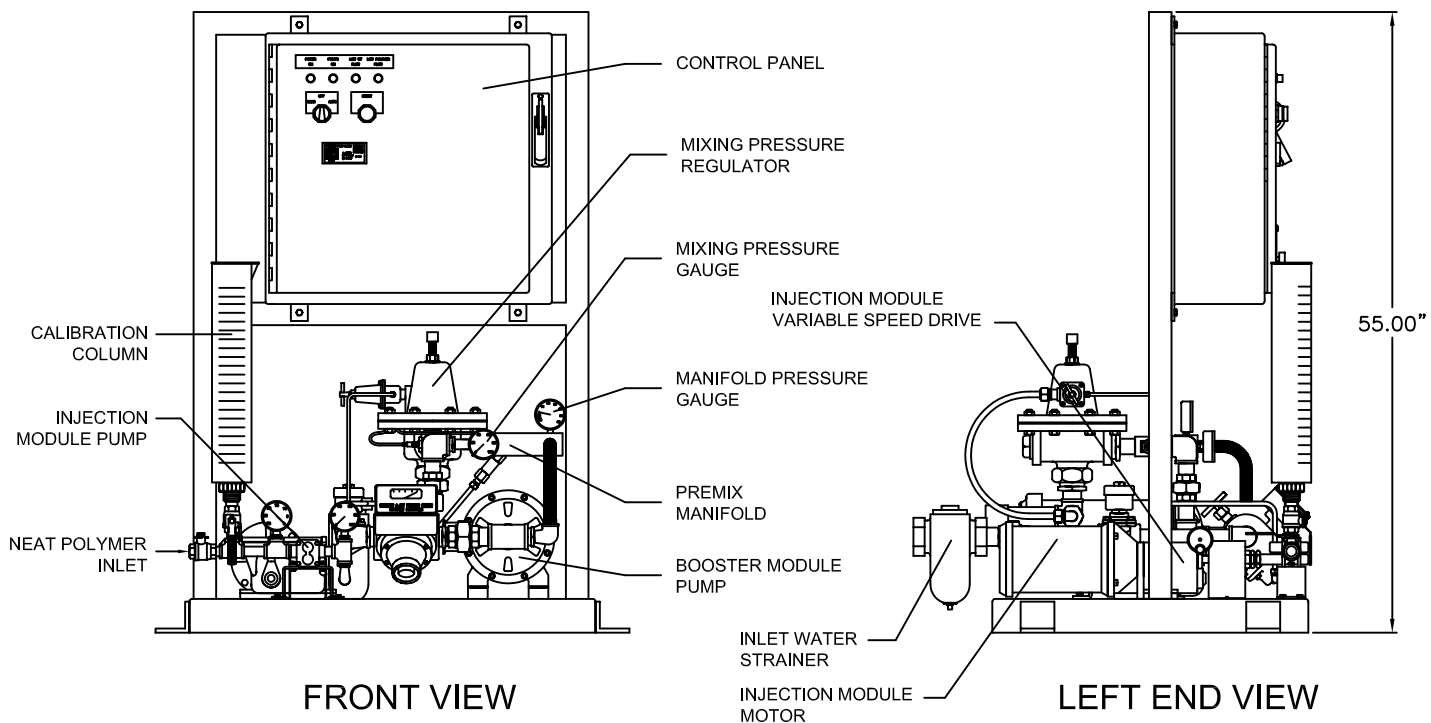
**ENGINEERING SPECIFICATIONS:**

The **AnCAT® Model AL-30S** shall be provided to rapidly dilute, activate and feed emulsion, dispersion, and solution polymers at 30 GPM of polymer solution at concentrations to 2%. The system shall contain a four-step, controlled-energy hydraulic circuit that instantaneously dilutes and blends the polymer to its most effective state for use in the process. The unit shall be designed with full pressure-controlled, inline-inversion capability and shall not be limited by a minimum retention time restriction. The polymer system shall be capable of providing a 15 to 20 PSI pressure boost and shall not rely on available inlet water pressure to discharge the polymer solution product. The system shall be modular in design and shall consist of a polymer injection module, booster module, premix manifold, inlet water solenoid valve, primary inlet water flow meter, primary inlet water flow controller, mixing pressure regulator (adjustable to 70 PSI), hydraulic stabilizer circuit, mixing pressure gauge, manifold pressure gauge, and inlet water throttling valve.

# PLAN & ELEVATION

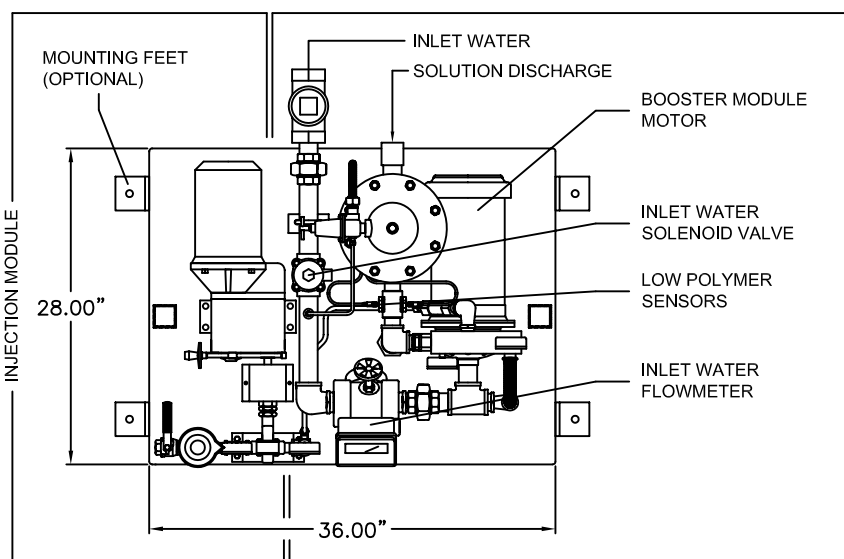
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# L-SERIES AL-30S



FRONT VIEW

LEFT END VIEW



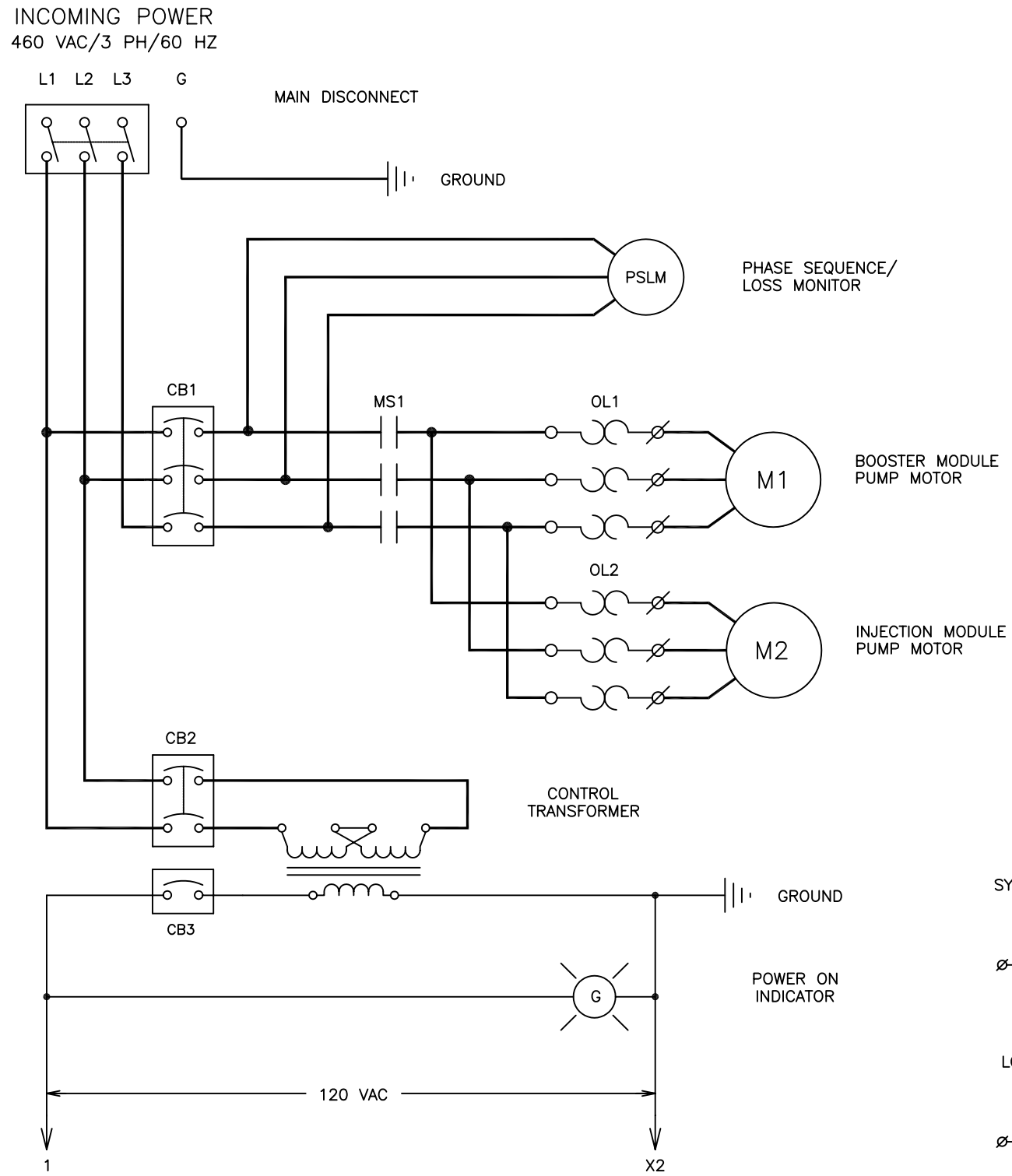
PLAN VIEW

# NORCHEM INC.

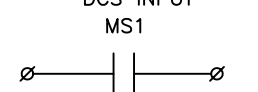
# ELECTRICAL SCHEMATIC

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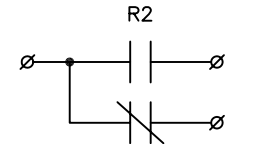
# L-SERIES AL-30S



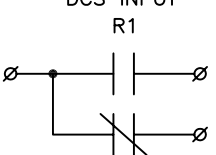
SYSTEM RUN CONFIRM DCS INPUT



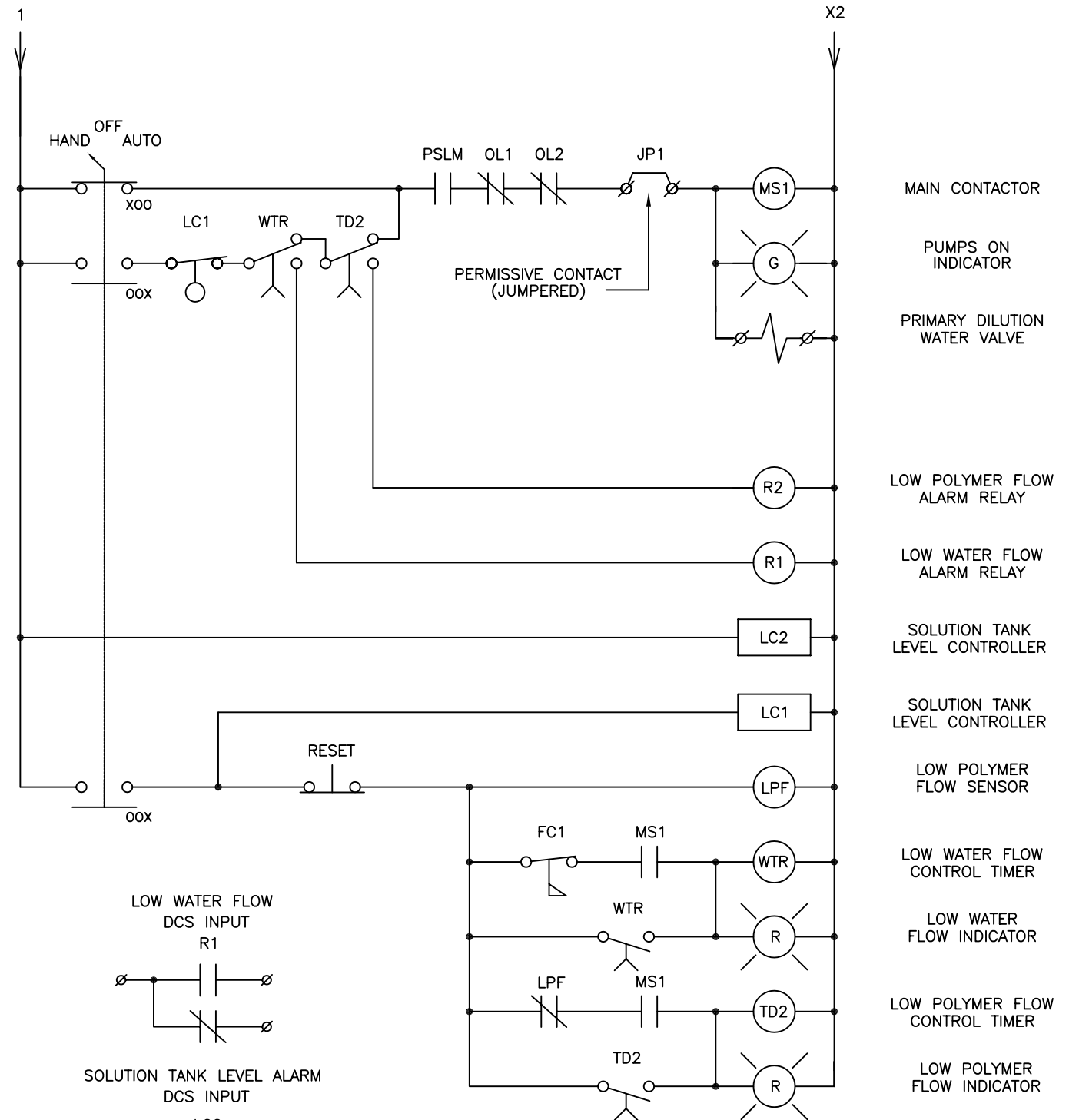
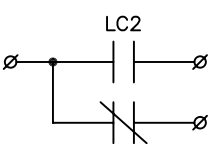
LOW POLYMER FLOW DCS INPUT



LOW WATER FLOW DCS INPUT



SOLUTION TANK LEVEL ALARM DCS INPUT



# AnCAT L-SERIES AL-20S & AL-30S

LEGEND

DEVICES

- HV-1 POLYMER SUPPLY SHUTOFF HAND VALVE
- HV-2 CALIBRATION ASSEMBLY ISOLATION HAND VALVE
- CAL-1 CALIBRATION CYLINDER
- PI-101 NEAT POLYMER POLYMER SUCTION GAUGE
- PI-102 NEAT POLYMER PUMP DISCHARGE GAUGE
- PI-103 MIXING PRESSURE GAUGE
- PI-104 MANIFOLD PRESSURE GAUGE
- M-101 BOOSTER PUMP MOTOR
- M-102 POLYMER INJECTION PUMP MOTOR
- SOV-101 DILUTION WATER INLET SOLENOID VALVE
- CV-101 MIXING PRESSURE CONTROL VALVE
- FEI-101 DILUTION WATER INDICATING FLOW METER w/VALVE

CONTROLS

- SS-101 SELECTOR SWITCH "HAND-OFF-AUTO"
- PB-101 PUSH BUTTON "RESET"
- LC-101 PRIMARY LEVEL CONTROLLER
- LC-102 SECONDARY LEVEL CONTROLLER
- LPF-101 LOW POLYMER FLOW CONTROLLER

INDICATORS

- PWR-101 "POWER ON" INDICATOR
- PMP-101 "PUMPS ON" INDICATOR
- LWA-101 "LOW WATER FLOW" INDICATOR
- LPA-101 "LOW POLYMER FLOW" INDICATOR

OUTPUTS

- R101 COMMON FAULT
- R102 COMMON ALARM
- R103 SYSTEM POWER FAULT
- R104 TANK LEVEL ALARM

