FLUIDICS

It's All about Building a Better Product for Our Clients!

1 to 11 Nominal Tons

Phone: (888) 539-1731

Email: info@jmchillers.com

Air & Water Cooled

Weiss Series

Portable Chillers

J&M Fluidics, Inc.
is committed to serving our clients' application needs with innovative, high-quality process chillers, tank and pump skids, custom fluid cooling solutions and economizer products.

Chiller Model: PZAPT4S

Chiller Model: PZWPT3S

Chiller Model: PZAPT11S

Chiller Model: PZWPT9S

Intertek

With Advanced Controls for Today's Critical Process Chiller Applications!

Visit us at: ***www.jmchillers.com***

J&M Fluidics, Inc. • 851 Tech Drive • Telford, PA 18969

FLUIDICS

J&M Fluidics, Inc.
851 Tech Drive
Telford, PA 18969

Due to J&M Fluidics policy of continuous product improvement, J&M reserves the right to make changes without notice. Concept drawings in this booklet are representations of the equipment shown. Contact the factory for specific unit drawings.

TABLE OF CONTENTS

*Our reputation is built on our commitment to excellence, advanced controls, user-friendly touch screen interface and our ability to **custom build units** exactly matched to your process application. **Your Satisfaction is what Drives Us!***


Aquariums


Laser Cooling


Ice Skating Rinks

TYPICAL J&M CHILLER APPLICATIONS

Commercial, Industrial & Residential Cooling Applications

- Air Conditioning
- Oil
- Injection Molding
- Plating Process
- Welding Machine
- Computer Room Air Conditioning
- Laser
- Dry Cleaning Machine
- Jacket Cooling
- Water-Cooled Condenser
- Printing Processing
- Swimming Pools
- Aquariums
- Fish Hatcheries
- Ice skating Rinks
- Commercial Ship Cooling Applications
- Low Temperature Process
- Plastics & Rubber Industries
- Military
- Anodizing Process Cooling
- Semiconductor Cooling
- Chemical
- Energy
- Plasma Cooling
- Data Center Cooling
- Cold Storage
- Extrusion Cooling
- Custom Cooling Inovation

Food & Beverage Industry Applications

- Bakery Processing
- Brewery
- Winery
- Drinking Water Fountain
- Batch Cooling
- Ice Machine Pre-Cool
- Fruit and Vegetable Washing and Processing
- Candy Manufacturing
- Dairy Cooling
- Soft Drink/Beverage Cooling

Medical & Pharmaceutical Applications

- M.R.I. Imager Cooling
- Operating Room Air Conditioning
- P.E.T. Scan
- C.A.T. Scan
- Lab Cooling
- Hypothermia Pads and Blankets
- Pharmaceutical Process Cooling

Have Questions...
Give Us a Call,
We are Here to Help!


Dairy Cooling / Beverage Cooling


Winery & Brewery Process Cooling


Lab Cooling


M.R.I. Imager Cooling

COMPANY MISSION AND CAPABILITIES

J&M Fluidics Mission...

Our Mission is to Build the Best Equipment for Our Customers' Needs and Requirements. The J&M Fluidics Label on Our Chillers Stands for **Our Commitment to Excellence**. Our Business is Built on Outstanding After-the-Sale Technical Support and Friendly Customer Service. J&M Fluidics offers quality process fluid chillers built in the U.S. by Americans that are designed, manufactured, and delivered by quality people.

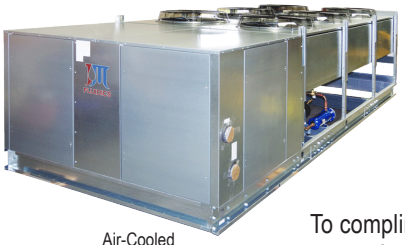
J&M Fluidics, Inc. *is committed to serving our clients' application needs with innovative, high-quality process chillers, tank and pump skids, custom fluid cooling solutions and economizer products. Our products are built to support a large variety of applications with a diverse product line.*

What We Build:

- Air-Cooled Scroll Process Chillers
- Air-Cooled Digital Scroll Process Chillers
- Air-Cooled Semi-Hermetic Process Chillers
- Portable Air & Water-Cooled Process Chillers
- Water-Cooled Scroll Process Chillers
- Water-Cooled Semi-Hermetic Process Chillers
- Custom / OEM / Private Label Process Chillers
- Tank & Pump Packages
- City Water Change-Over Panels

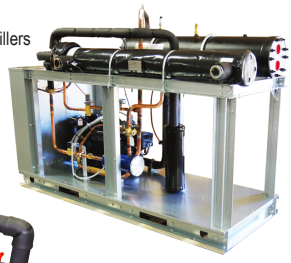
Air-Cooled Scroll Packaged Chillers

Custom Chillers



Air-Cooled Semi-Hermetic Chillers

Water-Cooled Semi-Hermetic Chillers



J&M Fluidics 1100 Gallon (Polyethylene) Dual Process Pump Package with **VFD Controllers**

To compliment our complete line of standard products that J&M Fluidics Inc. offers, we also have the ability and resources to **custom design** and build equipment to a customers specific needs. **Please contact the factory or your J&M Fluidics representative for a special application.**

PZA22DF5 Air-Cooled Chiller

J&M Fluidics offers **"E-Coated"** Condenser Coils for Exceptional Protection Against Corrosive Environments.

J&M Fluidics offers **Remote Access...** Complete Touchscreen Control of the Chiller from anywhere in Your Facility.

We also offer **Custom Color and Private Label Chillers**

City Water Change-Over Panels for Extra Cooling Protection for Your Process.

FLUIDICS

NOMENCLATURE

Typical J&M Product Code Layout → **P Z A PT 11 S H 5**

P = Packaged

Compressor Type:
Z = Scroll
S = Semi-Hermetic

Condensing Method:
A = Air Cooled
W = Water Cooled

PT = Poly Tank

11 = 11 Nominal Tons

Refrigerant:
4 = R134A
5 = R407C
6 = R404A

Electrical Requirements:
E = 208/230-1-60
F = 208/230-3-60
G = 460-1-60
H = 460-3-60
I = 575-3-60
J = 220-1-60
K = 200/208-3-50
L = 380-3-50
N = 200-3-60
P = 230-3-60

S = Single Compressor
D = Dual Compressor

HOW TO PROPERLY SELECT AN AIR-COOLED PACKAGED CHILLER...

Caution

Low ambient, or lower leaving water temperatures, can require the recirculation of glycol solutions or other fluid blends. **These solutions can effect unit capacities.** Please consult the factory on these or other special applications for proper chiller and component sizing.

To properly select an Air-Cooled Packaged Chiller, the following information must be known:

1. The required cooling capacity, BTUH.
2. Delta T of entering and leaving fluid temperatures.
3. Fluid factor (ex. water = 500).
4. GPM o f process fluid to be circulated.
5. Design ambient air temperature.

If you know any three of the above items 1 through 4 above, you can calculate the fourth by using the formulas below.

For 100% water:
- Cooling capacity (in BTUH) = GPM x Delta T x 500
- GPM = Capacity (in BTUH) / Delta T x 500
- Delta T = Capacity (in BTUH) / GPM x 500

Sample selection:
Select an air-cooled, packaged chiller to cool 27 GPM of 100% water from 60°F to 50°F. Design ambient air temperature 80°F. **Find:** Air-cooled chiller model.

Solution:
1. Chilled fluid Delta T = 60°F - 50°F = 10°F
2. Capacity (in BTUH) = 27 GPM x 10°F Delta T x 500 = 135,000 BTUH
3. From the PZAPT chiller capacity tables, it can be determined that the PZAPT9S has the capacity to meet the requirements.

Need Help... Just Give Us a Call... We are Here to Help!

CAPACITY TABLES

1S - 11S
Air-Cooled Chillers


Model: PZAPT4S


Model: PZAPT9S

Model	Compressor	LWT °F	80°F			90°F			95°F			100°F			105°F		
			TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER
1S	ZR16K5E	**42.0**	1.18	1.0	7.5	1.10	1.2	6.8	1.06	1.2	6.3	1.02	1.3	6.0	0.98	1.4	5.6
		44.0	1.23	1.0	7.7	1.15	1.2	6.9	**1.11**	**1.2**	**6.5**	1.07	1.3	6.2	1.03	1.4	5.8
		45.0	1.26	1.0	7.8	1.18	1.2	7.0	1.13	1.2	6.6	1.09	1.3	6.3	1.05	1.4	5.9
		50.0	1.41	1.0	8.4	1.32	1.2	7.5	1.27	1.2	7.1	1.23	1.3	6.7	1.18	1.4	6.3
2S	ZS19KAE	**42.0**	2.2	1.8	9.7	2.1	2.1	8.6	2.0	2.2	8.1	2.0	2.3	7.6	1.9	2.4	7.1
		44.0	2.3	1.8	10.0	2.2	2.1	8.9	**2.1**	**2.2**	**8.4**	2.1	2.3	7.9	2.0	2.4	7.4
		45.0	2.4	1.8	10.2	2.2	2.1	9.1	2.2	2.2	8.5	2.1	2.3	8.0	2.0	2.4	7.5
		50.0	2.6	1.8	11.3	2.5	2.0	9.8	2.4	2.2	9.2	2.3	2.3	8.6	2.3	2.4	8.1
2.5S	ZS26KAE	**42.0**	3.3	2.4	12.0	3.1	2.7	10.4	3.0	2.9	9.6	3.0	3.0	8.9	2.9	3.2	8.3
		44.0	3.4	2.4	12.6	3.3	2.7	10..8	**3.2**	**2.9**	**10.0**	3.1	3.1	9.3	3.0	3.2	8.6
		45.0	3.5	2.4	12.8	3.3	2.7	11.0	3.2	2.9	10.2	3.1	3.1	9.5	3.1	3.2	8.8
		50.0	3.9	2.3	14.4	3.7	2.7	12.3	3.6	2.8	11.3	3.5	3.0	10.5	3.4	3.2	9.7
3S	ZS29KAE	**42.0**	3.7	2.7	12.4	3.5	3.0	10.7	3.4	3.2	9.9	3.3	3.4	9.2	3.2	3.6	8.5
		44.0	3.9	2.7	13.0	3.7	3.0	11.2	**3.6**	**3.2**	**10.3**	3.5	3.4	9.6	3.4	3.6	8.9
		45.0	3.9	2.7	13.3	3.7	3.0	11.4	3.6	3.2	10.6	3.5	3.4	9.8	3.4	3.6	9.1
		50.0	4.3	2.6	14.8	4.1	2.9	12.7	4.0	3.1	11.7	3.9	3.4	10.8	3.8	3.6	10.0
4S	ZB38KCE	**42.0**	4.7	3.7	12.1	4.5	4.1	10.6	4.3	4.4	9.8	4.2	4.6	9.4	4.1	4.9	8.3
		44.0	4.9	3.7	12.7	4.7	4.1	10.9	**4.5**	**4.4**	**10.2**	4.4	4.7	9.4	4.3	4.9	8.7
		45.0	5.0	3.7	12.9	4.8	4.2	11.2	4.6	4.4	10.4	4.5	4.7	9.6	4.4	4.9	8.8
		50.0	5.5	3.8	14.1	5.3	4.2	12.4	5.1	4.4	11.4	5.0	4.7	10.6	4.9	5.0	9.8
5S	ZB45KCE	**42.0**	5.8	4.3	13.3	5.5	4.8	11.3	5.3	5.2	10.3	5.1	5.5	9.1	4.9	5.9	8.8
		44.0	6.0	4.3	13.8	5.7	4.8	11.8	**5.5**	**5.2**	**10.8**	5.3	5.5	9.8	5.1	5.9	9.0
		45.0	6.2	4.3	14.1	5.8	4.9	12.0	5.6	5.2	11.0	5.4	5.5	10.0	5.3	5.9	9.2
		50.0	6.8	4.3	15.5	6.4	4.9	13.2	6.3	5.2	12.1	6.1	5.5	11.1	5.9	5.9	10.2
7S	ZB58KCE	**42.0**	7.3	5.8	11.3	7.0	6.5	9.8	6.8	6.9	9.1	6.6	7.3	8.4	6.3	7.8	7.7
		44.0	7.7	5.8	11.8	7.3	6.5	10.2	**7.1**	**6.9**	**9.5**	6.9	7.3	8.8	6.6	7.8	8.0
		45.0	7.8	5.8	12.1	7.5	6.5	10.5	7.2	6.9	9.7	7.0	7.3	9.0	6.8	7.8	8.2
		50.0	8.7	5.7	13.0	8.3	6.5	11.3	8.1	6.9	10.5	7.8	7.3	9.7	7.6	7.8	9.0
8S	ZB66KCE	**42.0**	8.2	6.4	11.6	7.8	7.2	10.1	7.6	7.6	9.4	7.4	8.1	8.7	7.2	8.6	8.0
		44.0	8.6	6..5	12.1	8.2	7.2	10.5	**7.9**	**7.6**	**9.8**	7.7	8.1	9.0	7.5	8.6	8.4
		45.0	8.8	6.5	12.4	8.3	7.2	10.7	8.1	7.7	10.0	7.9	8.1	9.2	7.7	8.6	8.5
		50.0	9.7	6.5	13.6	9.3	7.3	11.9	9.0	7.7	11.0	8.8	8.2	10.2	8.5	8.7	9.5
9S	ZB76KCE	**42.0**	9.8	7.6	12.1	9.3	8.5	10.5	9.0	9.0	9.7	8.8	9.6	8.9	8.5	10.1	8.2
		44.0	10.2	7.6	12.6	9.9	8.5	10.9	**9.4**	**9.1**	**10.1**	9.1	9.6	9.3	8.9	10.2	8.6
		45.0	10.4	7.6	12.9	9.1	9.3	11.1	9.6	9.8	10.3	9.3	9.6	9.5	9.0	10.2	8.8
		50.0	11.5	7.7	14.1	11.0	8.6	12.3	10.7	9.1	11.4	10.4	9.6	10.5	10.1	10.3	9.7
11S	ZB95KCE	**42.0**	12.1	9.5	12.4	11.4	10.6	11.4	11.0	11.4	9.7	10.7	12.1	8.9	10.3	12.9	8.1
		44.0	12.7	9.6	13.0	12.0	10.7	11.1	**11.6**	**11.5**	**10.2**	11.2	12.1	9.3	10.8	13.0	8.5
		45.0	12.9	9.6	13.2	12.2	10.8	11.3	11.8	11.5	10.4	11.5	12.2	9.5	11.0	13.0	8.7
		50.0	14.4	9.7	14.5	13.6	10.9	12.5	13.3	11.6	11.5	12.8	12.3	10.6	12.4	13.0	9.7

1. Capacities on this chart are based on refrigerant R407C. Lower leaving water or low ambient can require the use of a glycol solution or other fluid blends. These solutions affect unit capacities. Please consult the factory on these or other special fluids.
2. KW input is for compressor(s) only.
3. EER = Energy Efficiency Ratio (BTU/watt-hour). Power inputs include compressor (s), condenser fan motor (s) and control power.

1S - 11S
Water-Cooled Chillers

Model	Compressor	LWT °F	105°F Condensing TONS	KW	EER
1S	ZR16K5E	**42.0**	1.14	1.1	11.1
		44.0	1.20	1.1	11.7
		45.0	1.22	1.1	11.9
		50.0	1.40	1.1	13.5
2S	ZS19KAE	**42.0**	2.16	1.9	12.4
		44.0	2.25	1.9	12.9
		45.0	2.30	1.9	13.2
		50.0	2.53	1.9	14.8
2.5S	ZS26KAE	**42.0**	3.22	2.6	14.1
		44.0	3.35	2.6	14.7
		45.0	3.42	2.6	15.0
		50.0	3.80	2.6	16.8
3S	ZS29KAE	**42.0**	3.61	2.8	14.2
		44.0	3.76	2.8	14.9
		45.0	3.83	2.8	15.2
		50.0	4.23	2.8	17.0
4S	ZB38KCE	**42.0**	4.60	3.9	13.4
		44.0	4.80	3.9	13.8
		45.0	4.90	3.9	14.2
		50.0	5.40	4.0	15.4
5S	ZB45KCE	**42.0**	5.63	4.5	14.1
		44.0	5.87	4.6	14.7
		45.0	6.00	4.6	15.0
		50.0	6.63	4.6	16.5
7S	ZB58KCE	**42.0**	7.20	6.1	13.2
		44.0	7.50	6.1	13.7
		45.0	7.64	6.1	14.0
		50.0	8.46	6.1	15.5
8S	ZB66KCE	**42.0**	8.02	6.8	13.2
		44.0	8.38	6.8	13.8
		45.0	8.54	6.8	14.1
		50.0	9.50	6.9	15.5
9S	ZB76KCE	**42.0**	9.50	8.0	13.3
		44.0	9.92	8.1	13.9
		45.0	10.13	8.1	14.2
		50.0	11.25	8.1	15.7
11S	ZB95KCE	**42.0**	11.75	10.1	13.2
		44.0	12.30	10.2	13.7
		45.0	12.58	10.2	14.0
		50.0	14.00	10.3	15.4

(Both views)
Model: PZWPT2.5S

Model: PZWPT11SH5

1. Capacities on this chart are based on refrigerant R407C. Low ambient or lower leaving water temperatures can require the use of a glycol solution or other fluid blends. These solutions affect unit capacities. Please consult the factory on these or other special fluids.

2. KW input is for compressor only.

3. EER = Energy Efficiency Ratio (BTU/watt-hour). Power inputs include compressor and control power.

Portable Air & Water-Cooled Chillers

Standard Features *(All Models)*:

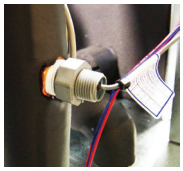
- 1 to 11 Nominal Tons
- **ETL listed** to UL1995 & CAN/CSA C22.2 No. 236-11, 4th edition, 10/14/2011
- **Single point power connection**
- **Idec microprocessor controller with easy to use touch screen display**
- **STAINLESS STEEL**, brazed plate evaporator
- **Casters** (factory mounted)
- **Scroll** compressor with crankcase heater
- **Suction accumulator**
- Noncorrosive polyethylene storage tank with 1/2" insulation
- Fused, **STAINLESS STEEL** Process pump with discharge ball valve
- Low flow by-pass valve
- **Water flow switch**
- **Hot gas by-pass capacity control**
- **24V control transformer**
- Fan cycle control (+40°F) (Air-Cooled)
- Direct drive condenser fan motor (Air-Cooled)
- Rust resistant, high CFM, aluminum condenser fan blade
- Condenser (Air cooled): copper tube/ aluminum fin
- Condenser (Water cooled): Coaxial Steel tube / Copper tube
- Compressor motor, Condenser fan and process pump contactors
- Condenser motor, Process pump and control circuit fusing
- Painted (Powder Coated), galvanized sheet metal cabinet
- 1/2" insulation on all water and Low pressure refrigerant lines
- Liquid line drier, sight glass, solenoid, TXV
- Complete refrigerant charge from factory

Idec Touchscreen

Brazed Plate Evaporator

Hot Gas By-Pass Capacity Control

Suction Accumulator



Water Flow Switch

Available Options *(All Models)*:

- Copeland Digital Scroll Compressor
- **Remote Idec touchscreen control panel**
- **Industrial VPN Router**
- **5 Port Ethernet Switch**
- **BacNet Gateway**
- **Process Pump VFD Controller**
- 4 year extended compressor warranty
- E-Coat condenser coating (Air Cooled Models)
- 115 volt (rain tight) service outlet
- Fused Disconnect
- Non Fused Disconnect
- Phase monitor, line voltage monitor offering protection against phase loss/reversal, unbalance and hi/lo voltage
- Compressor fusing
- Compressor sound cover
- **Factory installed evaporator heat tape freeze protection**
- Process pump suction isolation valve
- Water pressure gauge set
- **Stainless steel**, SCH80 PVC or Polypropylene piping for de-ionized and reverse osmosis water systems
- Storage Tank Sight Glass
- Tank low fluid level indicator
- Tank auto city water make up solenoid & auto level switch
- Condenser water regulating valve (Water Cooled Models)
- Coastal powder coat paint protection
- **Custom powder coat paint color scheme (Company Colors & more)**

Remote Idec Control Panel

5 Port Ethernet Switch

BacNet Gateway

VFD Controller

Industrial VPN Router

Disconnect Switch

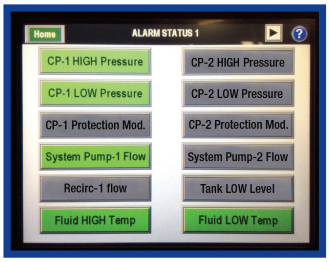
J&M - Touch Screen User Interface

*Some network configuration required.

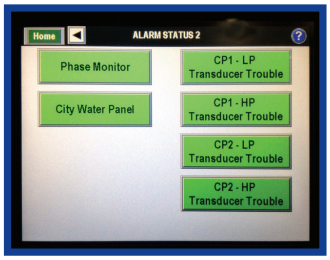
Touch Screen Key Chiller Control Features:

- *USB update slot for IN-PLACE HMI and PLC software updates available from jmchillers.com*
- *Free Software Upgrades*
- *CE, UL Listed*
- *Monitor / Control your chiller from anywhere**
- *4gb SD card in slot for data storage - Standard*
- *Ultra bright display screen with auto screen saver*
- *Real-time Pressure and Temperature readings*
- *Automatic COMPRESSOR Lag/Lead with FIVE operational modes*
- *Automatic SYSTEM PUMP Lag/Lead with FIVE operational modes*
- *Factory configured for ALL J&M's chiller options*

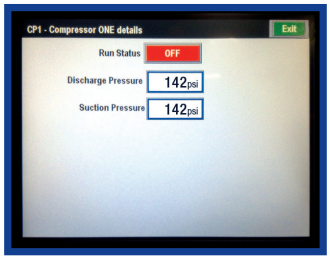
Other Touchscreen User Interface Examples...



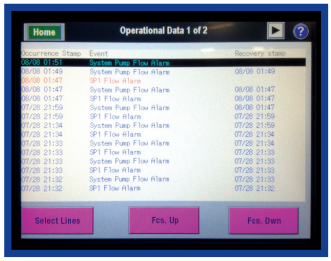
Alarm Status Screen 1



Alarm Status Screen 2



Compressor Operation Status and Pressures



Operational Data and Fault Log

J&M - Pentra Microsmart, Programable Logic Controller (PLC)

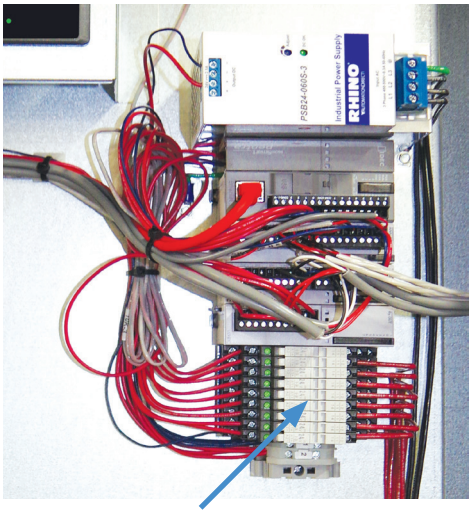
Best-In-Class PLC available for ALL J&M production chiller models.

*Factory installed and programmed into your next J&M Process Chiller. The **Pentra PLC** will seamlessly interface with our HMI touch screen.*

Pentra Key features include:

- ***CE, UL Listed***
- ***Highly accurate and fast performance***
- ***Embedded Ethernet Port***
- ***Modbus (Slave) TCP, RTU and ASCII for integration with most Building Automation Systems (BAS)***
- ***Optional BacNet and LONWORKS communication protocols via third party gateway hardware***
- ***Expandable I/O, ideal for custom chiller control projects***
- ***I/O status indicators on for easy diagnostics***

PLC Controller

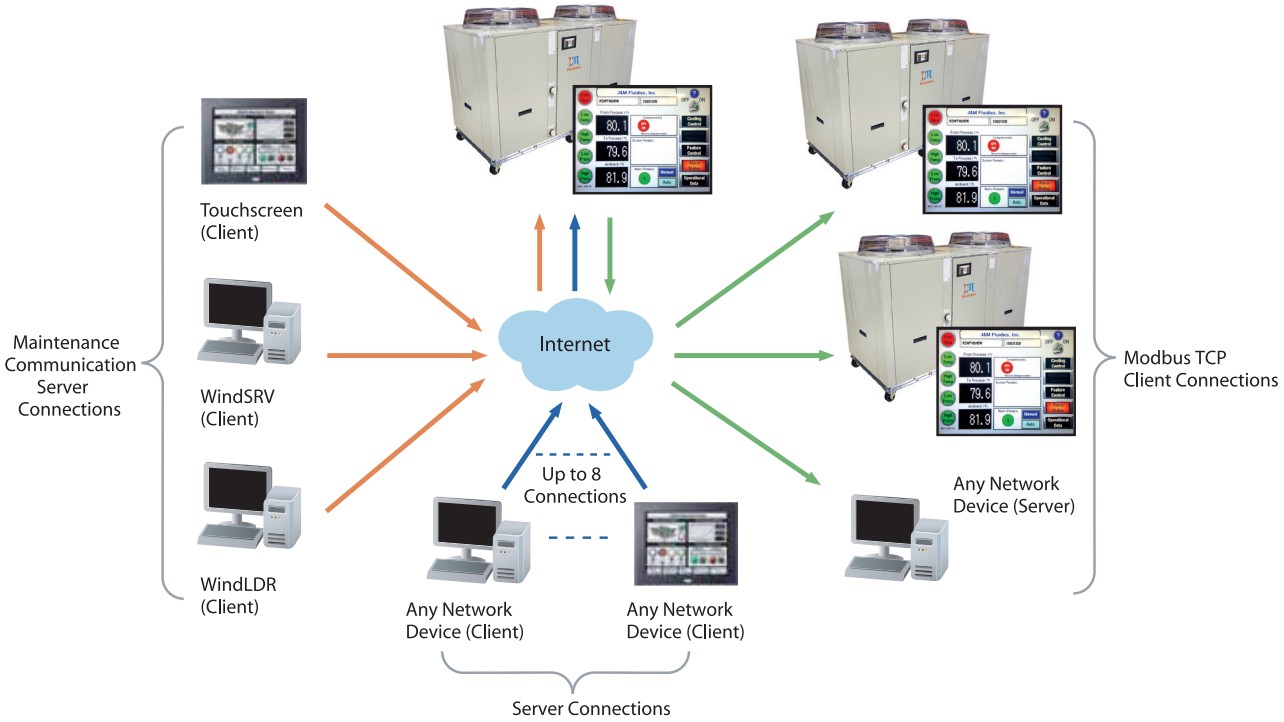


"Plugin" Control Relays for quick easy replacement. No circuit board to replace. Less downtime and cost.

Offering Extended Connectivity Options...

Up to 14 Simultaneous Connections!

Using Maintenance Communication Server connections, up to 3 Client devices, such as OI touchscreen, WindLDR software and SCADA OPC server such as WindSRV (KepServerEx), can simultaneously communicate with your MicroSmart Pentra PLC. Using Server Connections, an additional 8 connections can be established and each connection can be defined as Maintenance, User Communication or Modbus TCP server protocol. On top of that, another 3 connections can be configured as Modbus TCP client protocol, with a maximum of 255 requests. Each request can be for different slave devices with different IP addresses on the network.



IMPORTANT CONSIDERATION: J&M offers an optional Level 3 managed switch allowing MODBUS connectivity to the Pentra MicroSmart PLC controller. In most cases, end users firewall settings will need to be updated to allow remote WAN connectivity. J&M Fluidics can provide fee based network support for special Level 3 switch configuration.

Air-Cooled Weiss Series Chillers


Both Views
Model: PZAPT1S

Model: PZAPT9S

Chiller Model	Nominal BTUH	Length Inches	Width Inches	Height Inches	Compressor		RLA	LRA	Fan Motor		Process Pump	MCA	M.O.P.	Process Pump HP	Reservoir Gal.	Chiller Fluid Conn	Weight Pounds
					Qty.	HP	Ea.	Ea.	Qty.	FLA ea.							
PZAPT1SE5	13,600	36	34	49	1	1.3	8.3	40.3	1	3.8	6.6	25	25	1	12	1"FPT	400
PZAPT1.5SE5	20,400	36	34	49	1	2.0	15	68	1	3.8	6.6	30	35	1	12	1"FPT	420
PZAPT2SE5	26,400	36	34	49	1	2.5	14.1	75	1	3.8	6.6	30	40	1	12	1"FPT	410
PZAPT2SF5							9.9	73		3.8	6.6	25	30				
PZAPT2SH5							5.1	38		1.5	1.7	15	15				
PZAPT2SI5							3.8	28		1.72	0.72	15	15				
PZAPT2.5SE5	38,400	36	34	49	1	3.5	19.9	104	1	3.8	6.6	40	50	1	12	1"FPT	415
PZAPT2.5SF5							12.8	93		3.8	6.6	30	35				
PZAPT2.5SH5							5.8	48		1.5	1.7	15	15				
PZAPT2.5SI5							4.7	38		1.72	0.72	15	15				
PZAPT3SE5	43,200	46	34	49	1	4	21.8	137	1	3.8	6.6	40	50	1	12	1"FPT	425
PZAPT3SF5							15.4	114		3.8	6.6	30	45				
PZAPT3SH5							7.1	58		1.5	1.7	15	15				
PZAPT3SI5							5.2	43		1.72	0.72	15	15				
PZAPT4SE5	55,200	46	34	53	1	5	27.1	175	1	3.8	7.9	50	70	1.5	21	1"FPT	475
PZAPT4SF5							18.6	128		3.8	7.9	35	50				
PZAPT4SH5							8.0	63		1.5	2.5	15	20				
PZAPT4SI5							6.3	50		1.72	1.5	15	15				
PZAPT5SF5	67,200	46	34	55	1	6	18.6	156	1	3.8	7.9	35	50	1.5	21	1"FPT	500
PZAPT5SH5							10.3	75		1.5	2.5	20	25				
PZAPT5SI5							7.1	54		1.72	1.5	15	15				
PZAPT7SF5	86,400	75	34	55	1	8	28.8	195	2	3.8	7.9	60	80	1.5	31	1"FPT	800
PZAPT7SH5							14.7	95		1.5	2.5	25	35				
PZAPT7SI5							10.8	80		1.72	1.5	20	25				
PZAPT8SF5	97,200	75	34	55	1	9	30.1	225	2	3.8	10.8	60	80	2	31	1.25"FPT	825
PZAPT8SH5							15.5	114		1.5	2.8	30	40				
PZAPT8SI5							12.1	80		1.72	1.5	25	30				
PZAPT9SF5	115,200	75	34	55	1	10	37.2	239	2	3.8	10.8	70	100	2	31	1.25"FPT	850
PZAPT9SH5							17.2	125		1.5	2.8	30	40				
PZAPT9SI5							12.4	80		1.72	1.5	25	30				
PZAPT11SF5	141,600	75	34	55	1	12	49.4	300	2	3.8	10.8	80	125	2	31	1.25"FPT	875
PZAPT11SH5							23.1	150		1.5	2.8	35	50				
PZAPT11SI5							19.2	109		1.72	1.5	30	45				

1) The calculations for the MCA and MOP are based on requirements of NFPA 70, the National Electrical Code (NEC) and CSA C22.1, the Canadian Electrical Code (CEC). The MCA is the minimum wire size needed to guarantee that the wiring will not overheat under any operating conditions. The MOP is the maximum allowable circuit breaker size that will properly disconnect power to the equipment under any anticipated fault condition.

2) Weights are based on models with standard features only. Weights will increase with each added option. Consult factory.

Water-Cooled Weiss Series Chillers

Model: PZWPT7S

Model: PZWPT11S

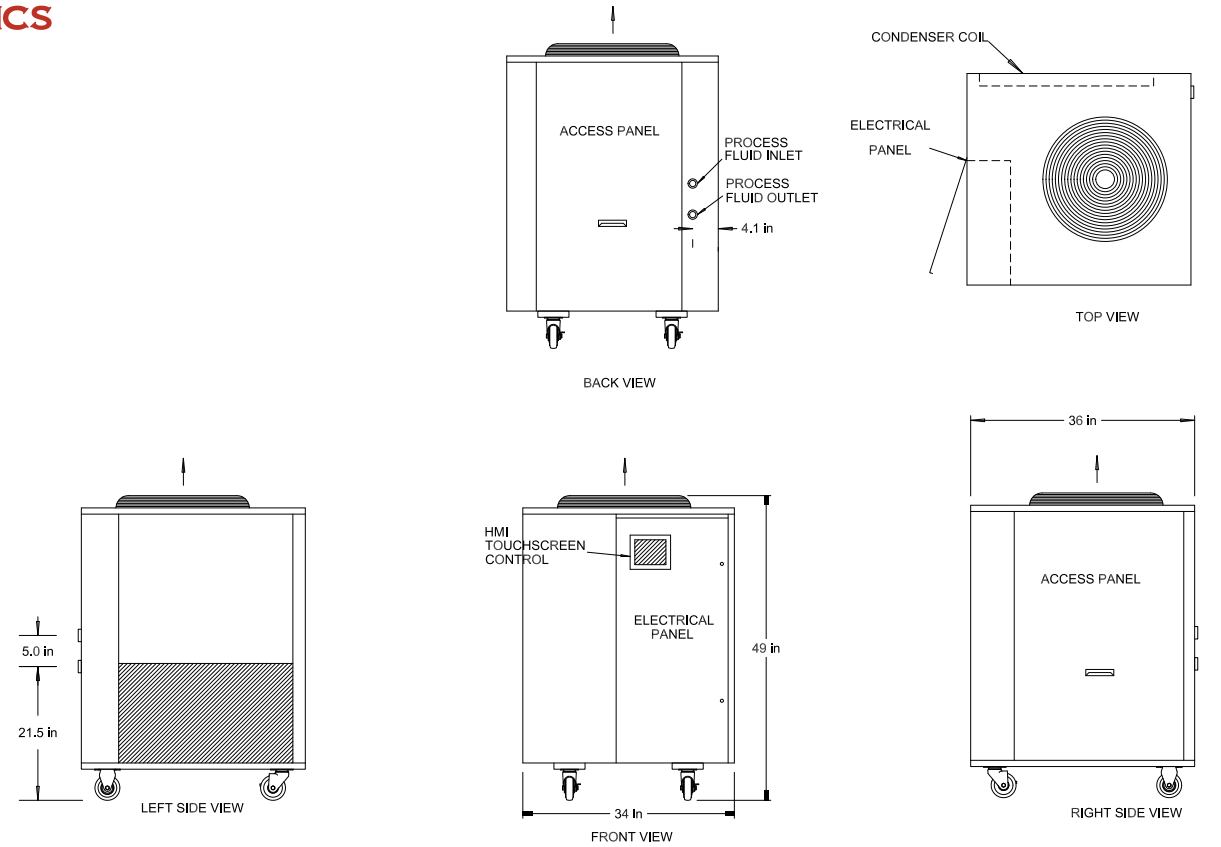
Chiller Model	Nominal BTUH	Length Inches	Width Inches	Height Inches	Compressor		RLA	LRA	Process Pump FLA	MCA	M.O.P.	Process Pump HP	Reservoir Gal.	Chiller Fluid Conn	Condenser Water Conn	Weight Pounds
					Qty.	HP	Ea.	Ea.								
PZWPT1SE5	14,640	36	34	41	1	1.3	8.3	40.3	6.6	20	25	1	12	1"FPT	3/4"FPT	350
PZWPT2SE5	27,600	36	34	41	1	2.5	14.1	75	6.6	25	35	1	12	1"FPT	3/4"FPT	360
PZWPT2SF5							9.9	73	6.6	20	20					
PZWPT2SH5							5.1	38	1.7	15	15					
PZWPT2SI5							3.8	28	0.72	15	15					
PZWPT2.5SE5	41,000	36	34	41	1	3.5	19.9	104	6.6	25	35	1	12	1"FPT	3/4"FPT	365
PZWPT2.5SF5							12.8	93	6.6	20	25					
PZWPT2.5SH5							5.8	48	1.7	15	15					
PZWPT2.5SI5							4.7	38	0.72	15	15					
PZWPT3SE5	46,000	36	34	41	1	4	21.8	137	6.6	35	50	1	12	1"FPT	1"FPT	375
PZWPT3SF5							15.4	114	6.6	25	35					
PZWPT3SH5							7.1	58	1.7	15	15					
PZWPT3SI5							5.2	43	0.72	15	15					
PZWPT4SE5	58,800	46	34	41	1	5	27.1	175	7.9	45	60	1.5	21	1"FPT	1"FPT	425
PZWPT4SF5							18.6	128	7.9	35	45					
PZWPT4SH5							8.0	63	2.5	15	15					
PZWPT4SI5							6.3	50	1.5	15	15					
PZWPT5SF5	72,000	46	34	41	1	6	18.6	156	7.9	35	45	1.5	21	1"FPT	1"FPT	450
PZWPT5SH5							10.3	75	2.5	20	25					
PZWPT5SI5							7.1	54	1.5	15	15					
PZWPT7SF5	91,700	46	34	41	1	8	28.8	195	7.9	45	70	1.5	31	1"FPT	1"FPT	750
PZWPT7SH5							14.7	95	2.5	25	35					
PZWPT7SI5							10.8	80	1.5	15	25					
PZWPT8SF5	102,500	65	34	42	1	9	30.1	225	10.8	50	70	2	31	1.25"FPT	1.25"FPT	775
PZWPT8SH5							15.5	114	2.8	25	35					
PZWPT8SI5							12.1	80	1.5	20	25					
PZWPT9SF5	121,500	65	34	42	1	10	37.2	239	10.8	60	90	2	31	1.25"FPT	1.25"FPT	800
PZWPT9SH5							17.2	125	2.8	25	40					
PZWPT9SI5							12.4	80	1.5	20	25					
PZWPT11SF5	151,000	65	34	42	1	12	49.4	300	10.8	80	110	2	31	1.25"FPT	1.25"FPT	825
PZWPT11SH5							23.1	150	2.8	35	50					
PZWPT11SI5							19.2	109	1.5	30	40					

1) The calculations for the MCA and MOP are based on requirements of NFPA 70, the National Electrical Code (NEC) and CSA C22.1, the Canadian Electrical Code (CEC). The MCA is the minimum wire size needed to guarantee that the wiring will not overheat under any operating conditions. The MOP is the maximum allowable circuit breaker size that will properly disconnect power to the equipment under any anticipated fault condition.

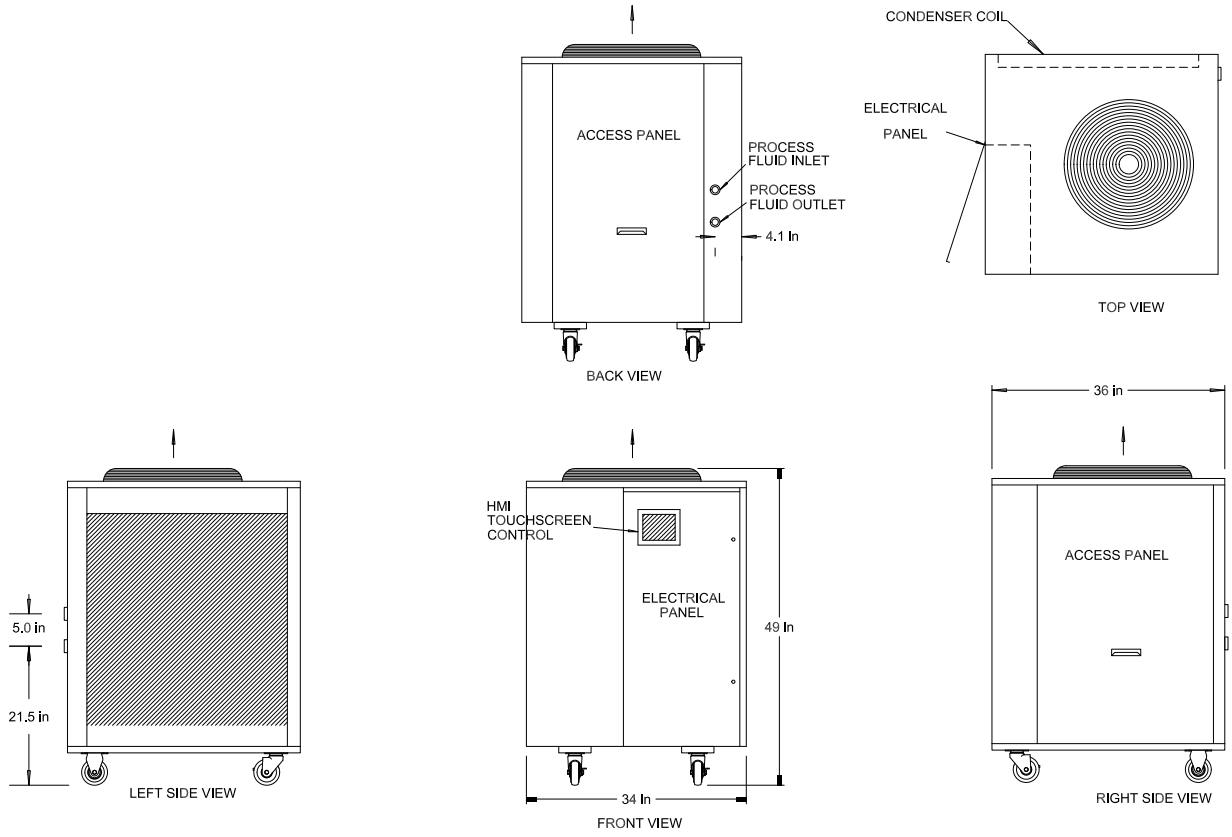
2) Weights are based on models with standard features only. Weights will increase with each added option. Consult factory.

PZAPT AIR-COOLED CONCEPT DRAWINGS

PZAPT1S

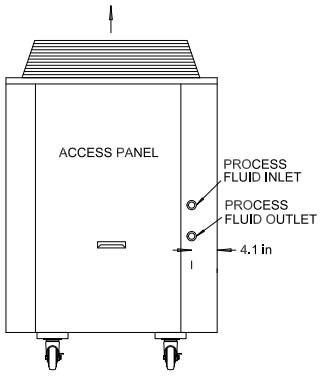


PZAPT2S, 2.5S & 3S

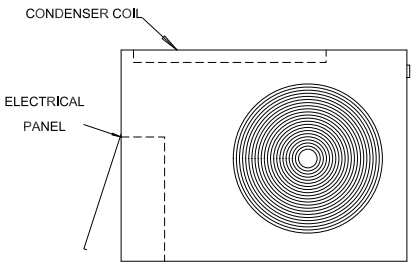


PZAPT AIR-COOLED CONCEPT DRAWINGS

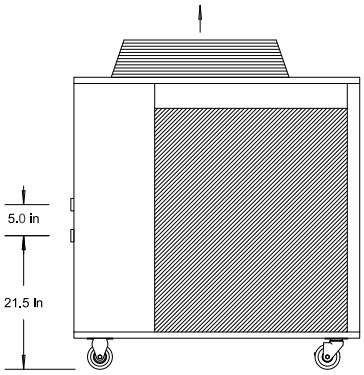
PZAPT4S, 4.5S & 5S



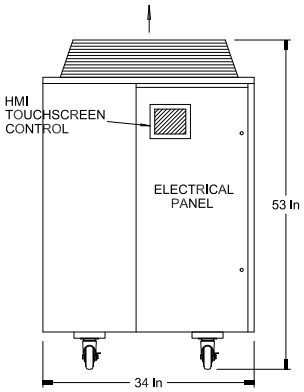
BACK VIEW



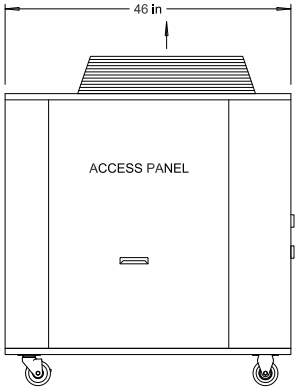
TOP VIEW



LEFT SIDE VIEW

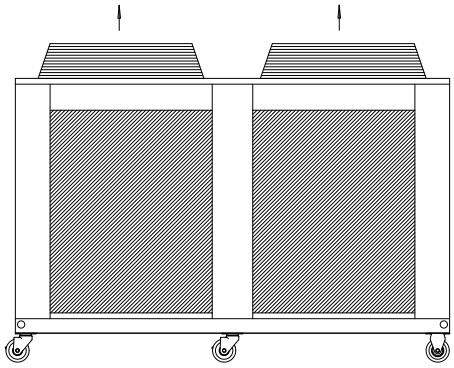


FRONT VIEW

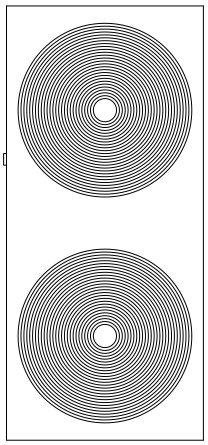


RIGHT SIDE VIEW

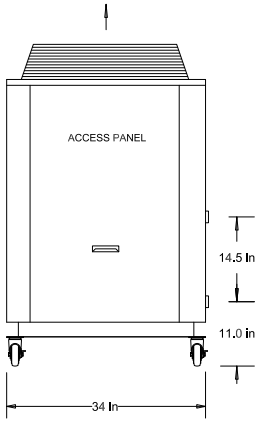
PZAPT7S, 8S, 9S & 11S



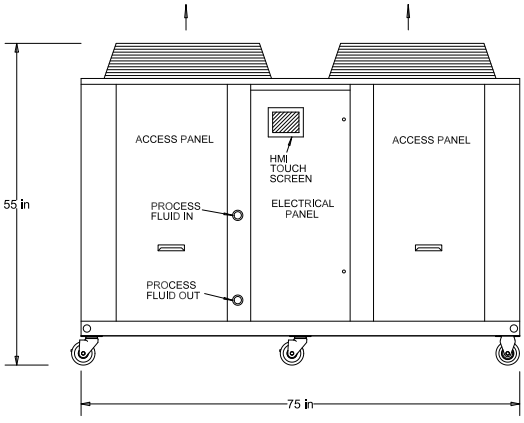
BACK VIEW



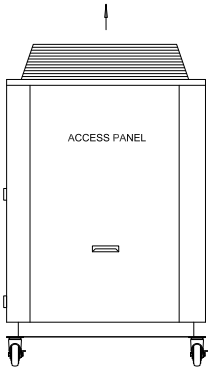
TOP VIEW



LEFT SIDE VIEW

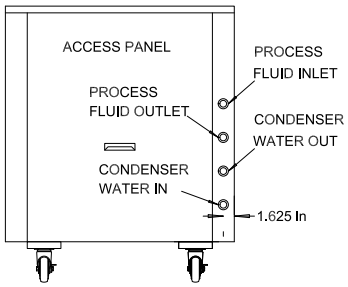


FRONT VIEW

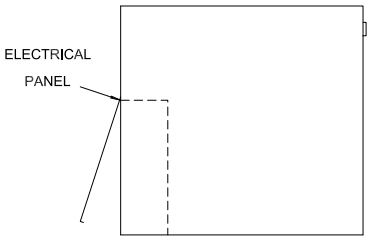


RIGHT SIDE VIEW

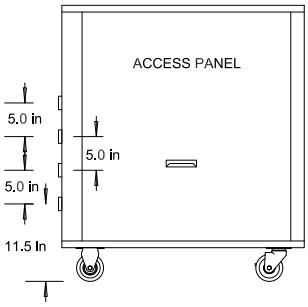
PZWPT1S, 2S, 2.5S



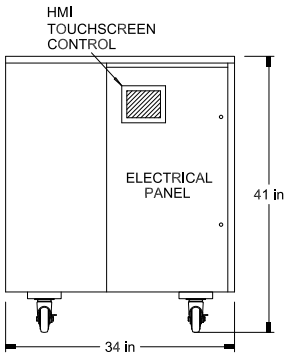
BACK VIEW



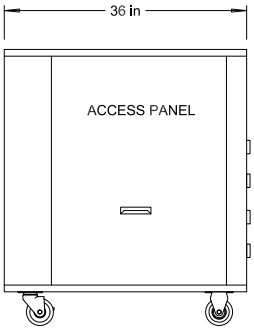
TOP VIEW



LEFT SIDE VIEW

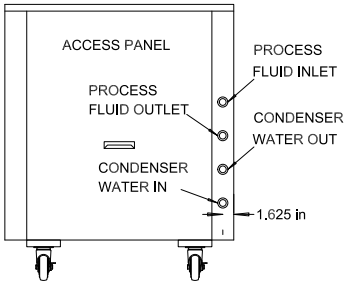


FRONT VIEW

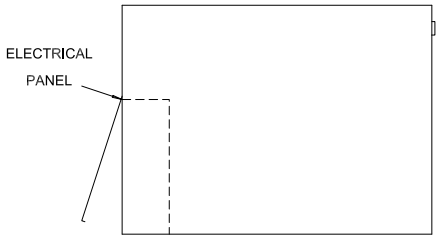


RIGHT SIDE VIEW

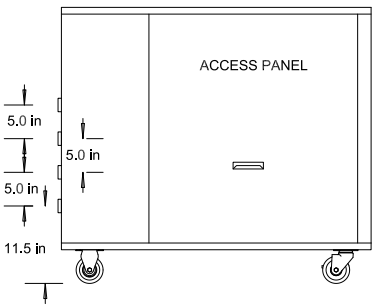
PZWPT4S, 4.5S, 5S, 7S



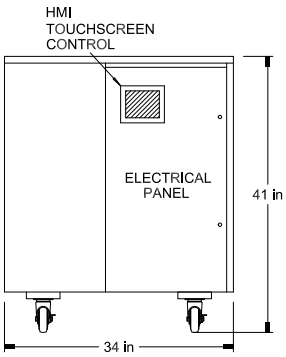
BACK VIEW



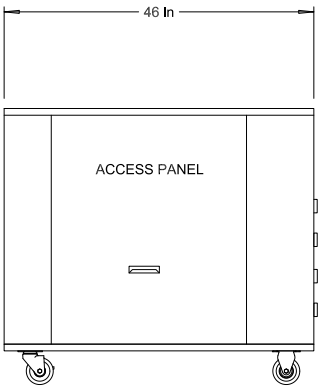
TOP VIEW



LEFT SIDE VIEW



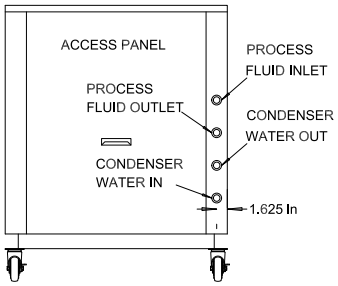
FRONT VIEW



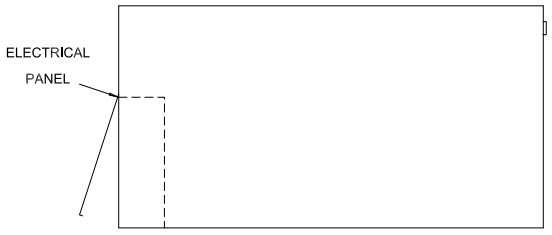
RIGHT SIDE VIEW

PZWPT WATER-COOLED CONCEPT DRAWINGS

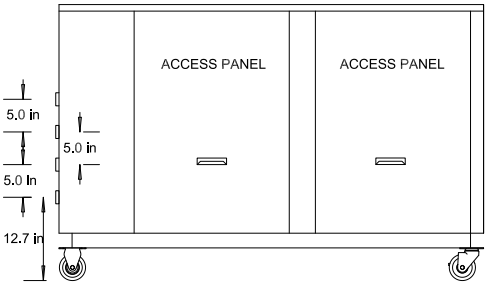
PZWPT8S, 9S, & 11S



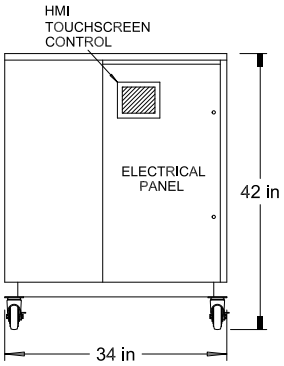
BACK VIEW



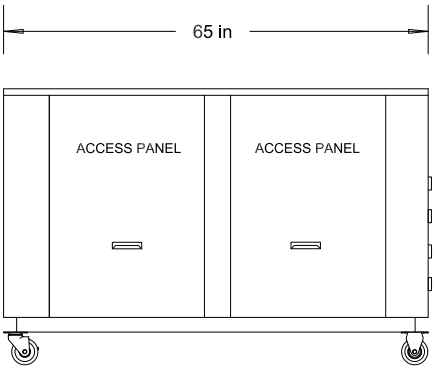
TOP VIEW



LEFT SIDE VIEW

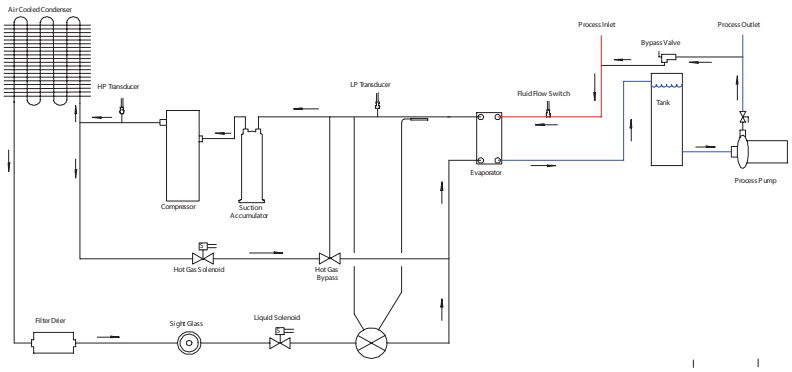


FRONT VIEW

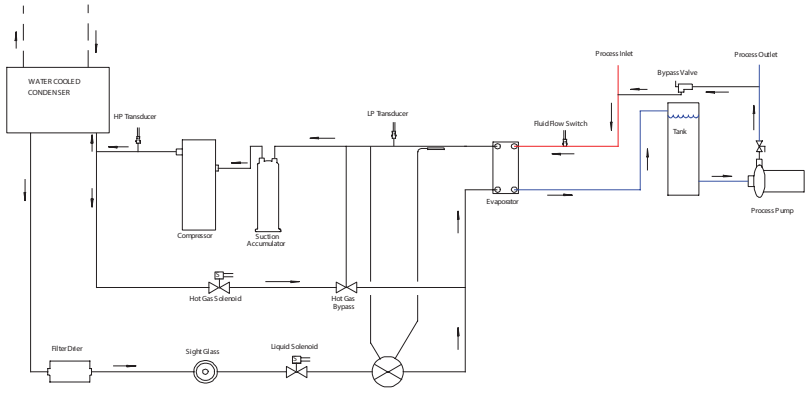


RIGHT SIDE VIEW

Air Cooled Piping Schematic



Water Cooled Piping Schematic



PROPYLENE GLYCOL CAPACITY CORRECTION FACTOR TABLE							
PERCENT PROPYLENE GLYCOL BY WEIGHT	15%	20%	25%	30%	35%	40%	50%
FREEZING POINT IN °F	24	18	15	9	5	-5	-30
CAPACITY FACTOR MULTIPLIER*	0.992	0.986	0.972	0.960	0.950	0.928	0.878
PRESSURE DROP MULTIPLIER	1.04	1.08	1.13	1.21	1.26	1.47	2.79

ETHYLENE GLYCOL CAPACITY CORRECTION FACTOR TABLE							
PERCENT ETHYLENE GLYCOL BY WEIGHT	10%	15%	20%	25%	30%	35%	40%
FREEZING POINT IN °F	25	21	17	11	5	0	-10
CAPACITY FACTOR MULTIPLIER*	0.98	0.96	0.95	0.93	0.92	0.91	0.89
PRESSURE DROP MULTIPLIER	1.08	1.11	1.16	1.21	1.27	1.32	1.38

* At standard ARI 590 conditions: 54°F entering fluid temperature, 44°F leaving fluid temperature, 95°F ambient temperature, 0.0005 fouling.

FLUIDICS

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Website: **www.jmchillers.com**

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