ACME

ACME® REFRIGERATION HEAT EXCHANGERS

KETEMA LP

Quality, Value and Performance.
An ACME® tradition since 1919.

For over 75 years, original equipment manufacturers and aftermarket professionals have looked to ACME® for heat transfer products that perform.

ACME® remains the industry standard in ultimate value and long term reliability.

KETEMA LP
2300 West Marshall Drive
Grand Prairie, Texas 75051

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Experience, Innovation and Reliability
State-of-the-Art Heat Exchanger Manufacturing Expertise

The leader in Heat Transfer

Manufactured from our state-of-the-art facility in Grand Prairie, Texas, the ACME® product line includes evaporators, condensers and packaged chillers. As the first manufacturer of packaged chillers in 1947, Ketema LP's experience remains unmatched. Standard and custom refrigeration evaporators and condensers are available for virtually any application. Many models are stocked for immediate delivery.

New Products & Technologies

Ketema LP has a team of professionals dedicated to product innovation. Project managers work with our centralized research team via a systematic development process. This assures that innovations are quickly converted to commercial products. Our refrigeration research team focuses on the needs specific to the market: Ease of operation, reliability, and flexibility. Our customers deserve nothing less.

Reliable Performance

All ACME® direct expansion evaporators, condensers and flooded evaporators are manufactured in accordance with the latest edition of ASME Code and either U or UM stamped, depending on the design or application. Each unit is individually tested and assigned a unique serial number that provides a complete history of the unit and traceability of materials. Many international pressure vessel codes can be provided on request. We validate equipment performance, and produce rating data sheets using custom software to remove the guesswork. It's a commitment we make to our customers by providing only the highest quality equipment that performs reliably year after year.

State-of-the-Art Heat Exchanger Manufacturing Expertise

Advanced manufacturing for higher quality and lower cost.

Ketema LP takes a leadership position in its manufacturing technologies. Demand-Flow Manufacturing increases throughput and reduces costs. This results in rapid manufacturing of customer orders, increased product quality and higher levels of craftsmanship.

We can manufacture virtually any custom designed refrigeration vessel up to 60" in diameter and up to 20 feet long. Standard DXT evaporators are stocked to over 250 tons of capacity. Depending on the diameter, evaporators can be manufactured with up to four circuits. Flooded evaporators with vapor chambers, customized condensers, special design ammonia vessels and heat recovery exchangers are all manufactured regularly.

ACME® vessels are routinely supplied on the air conditioning and refrigeration equipment built by the largest original equipment manufacturers in the nation. Applications from traditional HVAC to hard-coat anodizing to large ammonia plants to sea water condensers to ice rinks are all within our typical scope of expertise.

We Understand Refrigeration.

As a manufacturer of specialty package chillers for over 50 years, our experience is unmatched. Mounting flexibility, cleanliness of the refrigeration circuit, special brazing requirements, special port configurations, custom machining and the requirements for availability and on-time delivery of vessels and service parts are all included in our primary concern to provide ultimate customer satisfaction.

When you specify ACME® vessels, you can be assured of quality and performance. We understand the industry and respond with complete information. Whether your need is for a simple 100 ton off-the-shelf evaporator for field replacement, or the design of several vessels optimized together for an ammonia system, we have the engineering and manufacturing expertise in place to handle it. No other manufacturer of refrigeration heat exchangers understands your needs better than Ketema LP.

ACME® Type DXC Evaporator

ACME® type DXC evaporator features the latest technology tube surface for compact size and low cost. Ideal for OEM applications.

Compact and Reliable

ACME® DXC evaporators utilize the latest technology 3/8" OD tubing engineered specifically for refrigerant evaporation. Special enhancements produce exceptional performance in a very compact size. Refrigerant boils readily against the surface, reducing the overall vessel size and cost. The new generation of DXC refrigerant evaporators are designed for HVAC and industrial refrigeration duty and are available in many nominal sizes and configurations to meet almost any thermal and physical needs of OEM's and end users.

Standard & Custom Designs

ACME® evaporators are available in "Direct Expansion" or "Flooded" designs in standard or special materials and nozzle orientations. Evaporators can be made from all 316 stainless steel for directly cooling acids or other corrosive liquids. If your application calls for something special, just ask.

Controlled Velocities

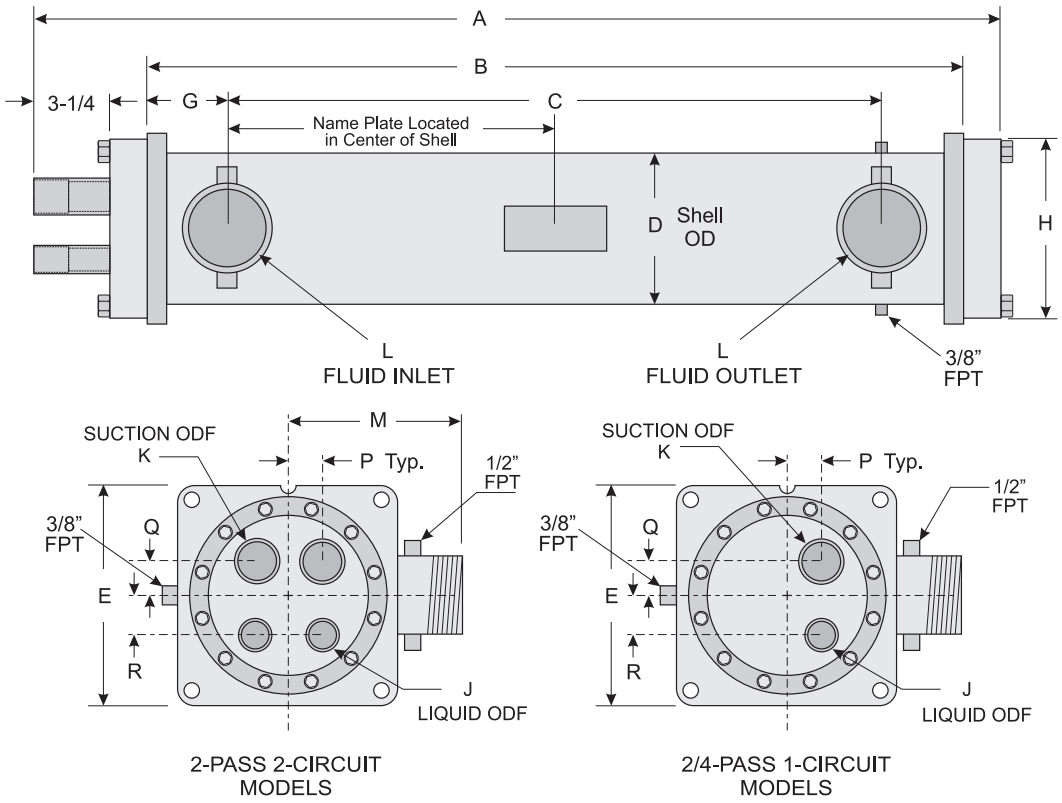
DXC evaporators are carefully engineered to provide excellent heat transfer rates, and to prevent oil holdup in the tubes and refrigerant heads. Shell circuits are engineered to provide high performance with a low pressure drop to conserve the required pumping power. Vessels can be engineered for very high chilled water flows for specific applications.

Multi-Circuit Flexibility

Due to the unique design of the front and rear heads, the ACME® DXC provides flexibility to handle a variety of requirements using standard components.

- ***Shells*** **-** Steel pipe to ASME specification. Shells are shot blasted and cleaned prior to assembly.
- ***Tubes*** **-** Copper high performance enhanced design, roller expanded into multiple-grooved tube sheets.
- ***Tube sheet*** **-** Flange quality steel to ASME specifications. Precision machined for excellent sealing.
- ***Baffles*** **-** Hot-rolled steel for enhanced strength and reliability. Engineered for correct fit to reduce tube wall damage from high velocity fluids.
- ***Heads*** **-** Fabricated to ASME specifications and designed to provide superior gas distribution and controlled velocity.
- ***Connections*** **-** Refrigerant connections are steel and bored to ODS of copper tubing. Shell connections are MPT. Thermowell, vent and drain connections are also provided.
- ***Codes*** **-** The refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code and stamped accordingly. Refrigerant side pressure is designed for 250 PSI at 100°F. Shell side design pressure is 150 PSI at 120°F. Both circuits are tested at 1.1 times the design pressure under water and dried prior to sealing.
- ***Finish*** **-** Exterior surfaces are cleaned and painted with a high quality primer.
- ***Insulation*** **-** Optional 3/4" Armaflex® insulation in single or double thickness is available.

ACME® Type DXC Evaporator



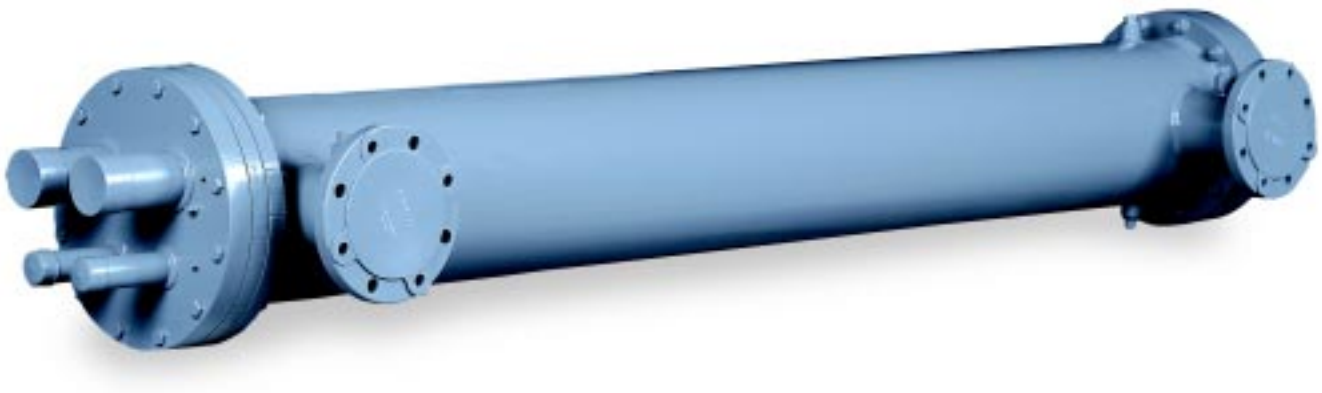
Capacities and Dimensions

DXC MODEL	NOM TON	A Length	B	C	D Dia.	E	G	H	J ODF	K ODF	L	M	P	R	Q	Wght Lbs.
302-Q-4P-1C	1/2	29-5/8	24	19-1/2	3-1/4	6-1/2	2-1/4	5-3/8	7/8	7/8	1-1/2	5	11/16	11/16	11/16	65
303-Q-4P-1C	2	41-5/8	36	31-1/2	3-1/4	6-1/2	2-1/4	5-3/8	7/8	7/8	1-1/2	5	11/16	11/16	11/16	67
304-Q-4P-1C	4	53-5/8	48	43-1/2	3-1/4	6-1/2	2-1/4	5-3/8	7/8	7/8	1-1/2	5	11/16	11/16	11/16	92
404-Q-4P-1C	5	54-1/8	48	42-1/4	4-1/4	7	2-7/8	6-3/8	1-1/8	1-1/8	2	6	13/16	1-1/16	1-1/16	118
603-R-4P-1C	5	41-3/4	36	29-1/8	6-1/4	9-3/4	3-7/16	9-1/4	1-1/8	1-5/8	3	7-3/4	1-1/4	1-1/2	1-1/2	149
405-R-4P-1C	7.5	66-1/8	60	54-1/4	4-1/4	7	2-7/8	6-3/8	1-1/8	1-1/8	2	6	13/16	1-1/16	1-1/16	138
604-R-4P-1C	10	53-3/4	48	41-1/8	6-1/4	9-3/4	3-7/16	9-1/4	1-1/8	1-5/8	3	7-3/4	1-1/4	1-1/2	1-1/2	169
605-R-2P-2C	10	65-3/4	60	53-1/8	6-1/4	9-3/4	3-7/16	9-1/4	1-1/8	1-5/8	3	7-3/4	1-1/4	1-1/2	1-1/2	189
606-RS-4P-1C	20	77-3/4	72	65-1/8	6-1/4	9-3/4	3-7/16	9-1/4	1-1/8	1-5/8	3	7-3/4	1-1/4	1-1/2	1-1/2	209
606-R-2P-2C	20	77-3/4	72	65-1/8	6-1/4	9-3/4	3-7/16	9-1/4	1-1/8	1-5/8	3	7-3/4	1-1/4	1-1/2	1-1/2	209
803-RS-4P-1C	20	42-7/8	36	27	8-5/8	11-1/2	4-1/2	11-1/4	1-3/8	2-5/8	4	10-1/16	1-11/16	1-3/4	1-3/4	283
804-RS-2P-2C	20	54-7/8	48	39	8-5/8	11-1/2	4-1/2	11-1/4	1-3/8	2-1/8	4	10-1/16	1-11/16	1-3/4	1-3/4	339
606-R-4P-1C	25	77-3/4	72	65-1/8	6-1/4	9-3/4	3-7/16	9-1/4	1-1/8	1-5/8	3	7-3/4	1-1/4	1-1/2	1-1/2	209
804-RS-4P-1C	40	54-7/8	48	39	8-5/8	11-1/2	4-1/2	11-1/4	1-3/8	2-5/8	4	10-1/16	1-11/16	1-3/4	1-3/4	339
805-RS-2P-2C	40	66-7/8	60	51	8-5/8	11-1/2	4-1/2	11-1/4	1-3/8	2-1/8	4	10-1/16	1-5/8	2	2	391
806-S-2P-1C	60	78-7/8	72	63	8-5/8	11-1/2	4-1/2	11-1/4	1-3/8	2-5/8	4	10-1/16	0	2	2	391
806-S-2P-2C	60	78-7/8	72	63	8-5/8	11-1/2	4-1/2	11-1/4	1-3/8	2-1/8	4	10-1/16	1-5/8	2	2	442

Nominal capacity based on 12,000 BTUH per ton, 44°F leaving water temperature, 10°F range with R-22 service at 35°F evaporating temperature.
Comprehensive rating tables are available for R-22, R-134a and R-404a. Windows™ selection software available.
Capacity includes 0.00025 hr•ft²•°F/Btu additive fouling, 0.0005 hr•ft²•°F/Btu total fouling factor.

ACME® Type DXT Evaporator

Heavy-Duty Construction - 5 to 250 tons



ACME® type DXT evaporator features the heavy-walled 3/4" OD enhanced tubing and ring and cover construction for ease of service.

Modern Tube Materials

ACME® DXT evaporators utilize the latest technology tubing engineered specifically for refrigerant evaporation. Special enhancements produce exceptional performance and efficiency. Refrigerant boils readily against the surface, reducing the overall vessel size and cost. The new generation of DXT vessels features heavy-duty ring and cover head fabrications and 3/4" OD tube materials to perform reliably in the most HVAC and industrial applications.

Modifications

Vessels are available in "Direct Expansion" or "Flooded" designs in standard or special materials and nozzle orientations. Evaporators can be made from all 316 stainless steel for directly cooling acids or other corrosive liquids. If your application calls for something special, just ask.

Controlled Velocities

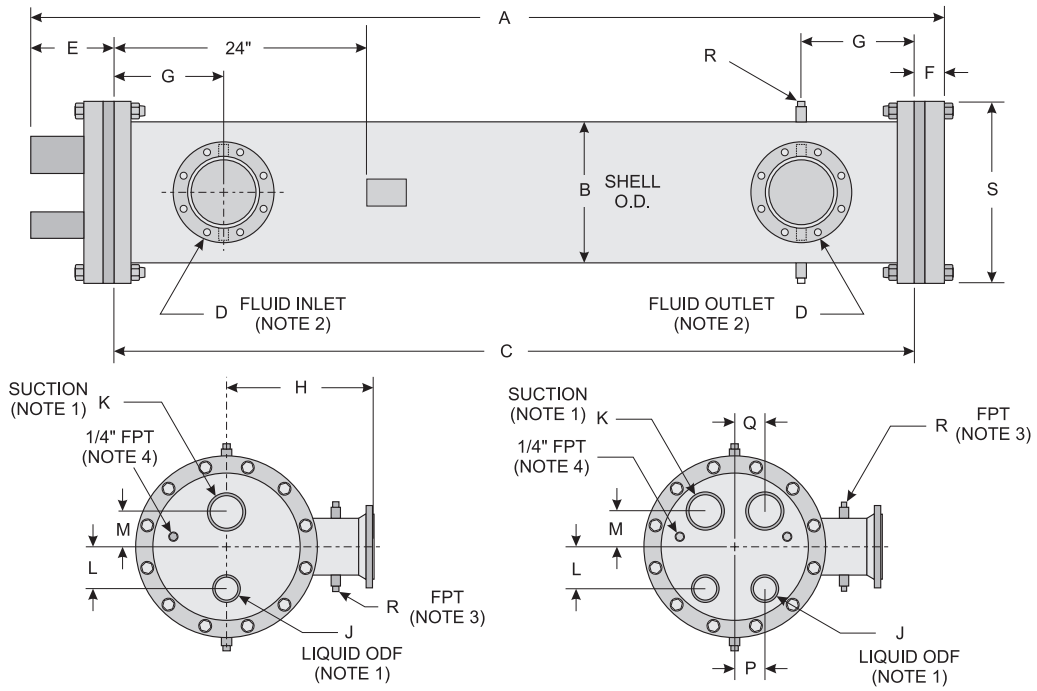
DX evaporators are carefully engineered to provide excellent heat transfer rates, and to prevent oil holdup in the tubes and refrigerant heads. Shell circuits are engineered to provide high performance with a low pressure drop to conserve the required pumping power. Vessels can be engineered for very high chilled water flows for specific applications such as ice-rinks.

Multi-Circuit Flexibility

Vessels are available with up to four separate circuits, depending on diameter. Multiple circuit vessels can be engineered for equal circuit capacity with refrigerant connections on one end of the vessel or unequal circuit capacity with connections on opposite ends to ease piping of multiple compressor systems.

- ***Shells*** **-** Steel pipe to ASME specification. Shells are shot blasted and cleaned prior to assembly.
- ***Tubes*** **-** Copper high performance enhanced design roller expanded into multiple-grooved tube sheets.
- ***Tube sheet*** **-** Flange quality steel to ASME specifications. Precision machined for excellent sealing.
- ***Baffles*** **-** Hot-rolled steel for enhanced strength and reliability. Engineered for correct fit to reduce tube wall damage from high velocity fluids.
- ***Heads*** **-** Fabricated to ASME specifications using steel ring and cover design with superior gas distribution.
- ***Connections*** **-** Fluid connections 3" IPS and smaller terminate as MPT type. Fluid connections 4" IPS and larger terminate in 150 Lb. ANSI raised face flanges. Refrigerant connections are steel and bored to ODS of copper tubing. Thermowell, vent and drains are provided.
- ***Codes*** **-** The refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code and stamped accordingly. Refrigerant side pressure is designed for 250 PSI at 100°F. Shell side design pressure is 150 PSI at 120°F. Both circuits are tested at 1.1 times the design pressure under water and dried prior to sealing.
- ***Finish*** **-** Exterior surfaces are cleaned and painted with a medium gray enamel paint.
- ***Insulation*** **-** Optional 3/4" Armaflex® insulation in single or double thickness is available.

ACME® Type DXT Evaporator



1. Suction and liquid connections are steel
2. Fluid connections are MPT thru 3" diameter. Larger sizes are 150 Lb. raised face flanges.
3. Bottom connection only on 3" MPT and smaller fluid connection models.
4. External equalizer connection.
5. On units ordered with 3/4" insulation, add thickness to appropriate dimensions.
6. Port sizes in table are correct for model shown. Refer to factory for other circuits and port sizes.

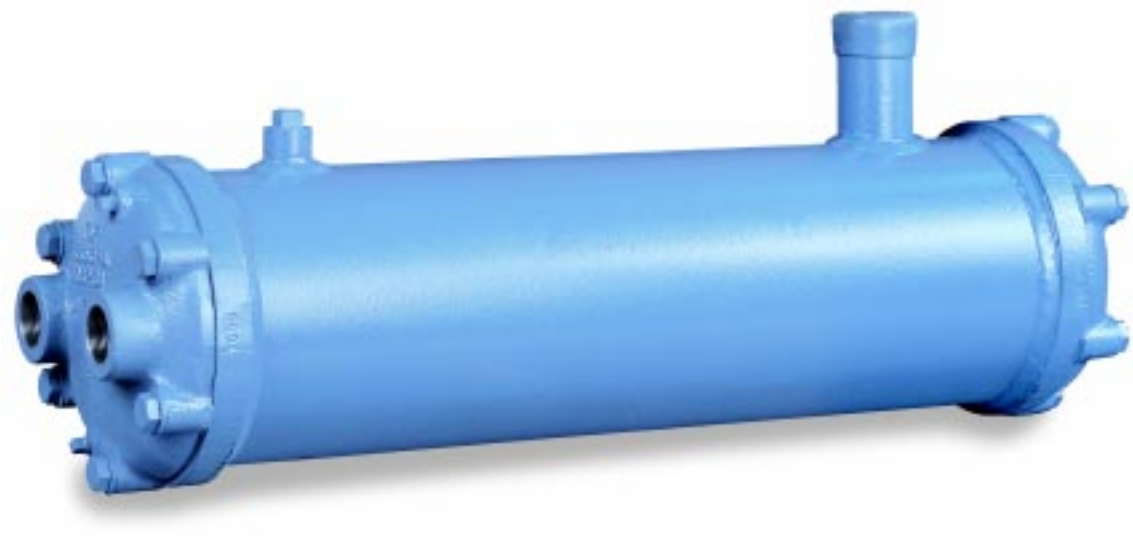
Capacities and Dimensions

MODEL DXT	NOM TON	A Length	B Dia.	C	D	E	F	G	H	J ODF	K ODF	L	M	P	Q	R	S
503-Q-4P-1C	5	44-5/8	5-1/2	35-5/8	2	7-9/16	1-7/16	3-3/16	8-5/8	5/8	1-1/8	1-3/4	1-3/4	-	-	3/4	8-1/2
504-Q-4P-1C	7.5	56-5/8	5-1/2	47-5/8	2	7-9/16	1-7/16	3-3/16	8-5/8	5/8	1-1/8	1-3/4	1-3/4	-	-	3/4	8-1/2
505-Q-4P-1C	10	68-5/8	5-1/2	59-5/8	2	7-9/16	1-7/16	3-3/16	8-5/8	5/8	1-1/8	1-3/4	1-3/4	-	-	3/4	8-1/2
605-Q-4P-1C	15	68	6-5/8	59-5/8	2-1/2	6-15/16	1-7/16	3-7/16	9-3/16	7/8	1-3/8	2-1/8	2-1/8	-	-	3/4	9-3/4
804-Q-4P-1C	20	56-7/8	8-5/8	47-5/8	3	7-11/16	1-9/16	3-7/8	10-3/16	1-1/8	1-5/8	3-5/32	3-5/32	-	-	3/4	11-3/4
804-Q-4P-2C	20	56-7/8	8-5/8	47-5/8	3	7-11/16	1-9/16	3-7/8	10-3/16	1-1/8	1-3/8	3	3	1-7/16	1-7/16	3/4	11-3/4
805-Q-4P-1C	25	68-7/8	8-5/8	59-5/8	3	7-11/16	1-9/16	3-7/8	10-3/16	1-1/8	1-5/8	3-5/32	3-5/32	-	-	3/4	11-3/4
805-Q-4P-2C	25	68-7/8	8-5/8	59-5/8	3	7-11/16	1-9/16	3-7/8	10-3/16	1-1/8	1-3/8	3	3	1-7/16	1-7/16	3/4	11-3/4
806-R-2P-1C	30	80-1/4	8-5/8	71-5/8	3	7-11/16	1-9/16	3-7/8	10-3/16	1-3/8	2-5/8	2-1/4	1-7/8	-	-	3/4	11-3/4
806-R-2P-2C	30	80-1/4	8-5/8	71-5/8	3	7-11/16	1-9/16	3-7/8	10-3/16	1-3/8	2-1/8	2	1-5/8	1-3/4	2-1/8	3/4	11-3/4
807-R-2P-1C	40	92-1/4	8-5/8	83-5/8	3	7-11/16	1-9/16	3-7/8	10-3/16	1-3/8	2-5/8	2-1/4	1-7/8	-	-	3/4	11-3/4
807-R-2P-2C	40	92-1/4	8-5/8	83-5/8	3	7-11/16	1-9/16	3-7/8	10-3/16	1-3/8	2-1/8	2	1-5/8	1-3/4	2-1/8	3/4	11-3/4
1007-S-2P-2C	50	93	10-3/4	83-5/8	4	7-7/16	1-15/16	4-1/2	11-5/8	1-3/8	2-5/8	2-3/4	1-3/4	2	2-11/16	3/4	14-3/8
1008-S-2P-2C	60	105	10-3/4	95-5/8	4	7-7/16	1-15/16	4-1/2	11-5/8	1-3/8	2-5/8	2-3/4	1-3/4	2	2-11/16	3/4	14-3/8
1009-S-2P-2C	75	117	10-3/4	107-5/8	5	7-7/16	1-15/16	5-1/16	11-5/8	1-3/8	2-5/8	2-3/4	1-3/4	2	2-11/16	3/4	14-3/8
1208-S-2P-2C	100	105-3/8	12-3/4	95-5/8	5	7-3/4	2-3/16	5-3/4	12-5/8	1-5/8	2-5/8	3-1/4	1-3/4	2-1/2	2-3/4	3/4	16-3/8
1410-S-2P-2C	125	130-1/2	14	119-5/8	6	8-1/4	2-11/16	5-3/4	13-1/4	1-5/8	3-1/8	3-3/4	3	2-5/8	3-1/8	3/4	17-1/2
1610-S-2P-2C	150	131-1/2	16	119-5/8	8	8-7/8	3-3/16	7-1/16	14-1/4	2-1/8	3-1/8	4	3	3	3-1/4	3/4	19-1/2
1810-RS-2P-2C	200	131-1/2	18	119-5/8	8	8-11/16	3-3/16	7-1/16	15-1/4	2-1/8	3-5/8	4-3/4	3-1/2	3-1/4	3-7/8	3/4	21-1/2
2010-RS-2P-2C	250	132-1/2	20	119-5/8	8	9-3/16	3-11/16	8-3/8	16-1/4	2-1/8	3-5/8	5	4-1/4	3-1/2	4-3/8	3/4	23-1/2

Nominal capacity based on 12,000 BTUH per ton, 44°F leaving water temperature, 10°F range with R-22 service at 35°F evaporating temperature.
Comprehensive rating tables are available for R-22, R-134a and R-404a. Windows™ selection software available.
Capacity includes 0.00025 hr•ft²•°F/Btu additive fouling, 0.0005 hr•ft²•°F/Btu total fouling factor.

ACME® Type CRX Condenser

***NEW Compact Design* - 5 to 20 Tons**



ACME® Type CRX condensers are manufactured in large quantities to reduce cost while maximizing cooling fluid velocities to provide compact size.

Standard Designs

ACME® condensers are available in standard designs for fresh or sea water duty. CRX models feature high-efficiency tube surfaces. They are available from 5 to 20 nominal tons of duty and are manufactured in large quantities using Demand-Flow Manufacturing to provide the lowest cost per ton available and consistent quality.

Modern Tube Materials

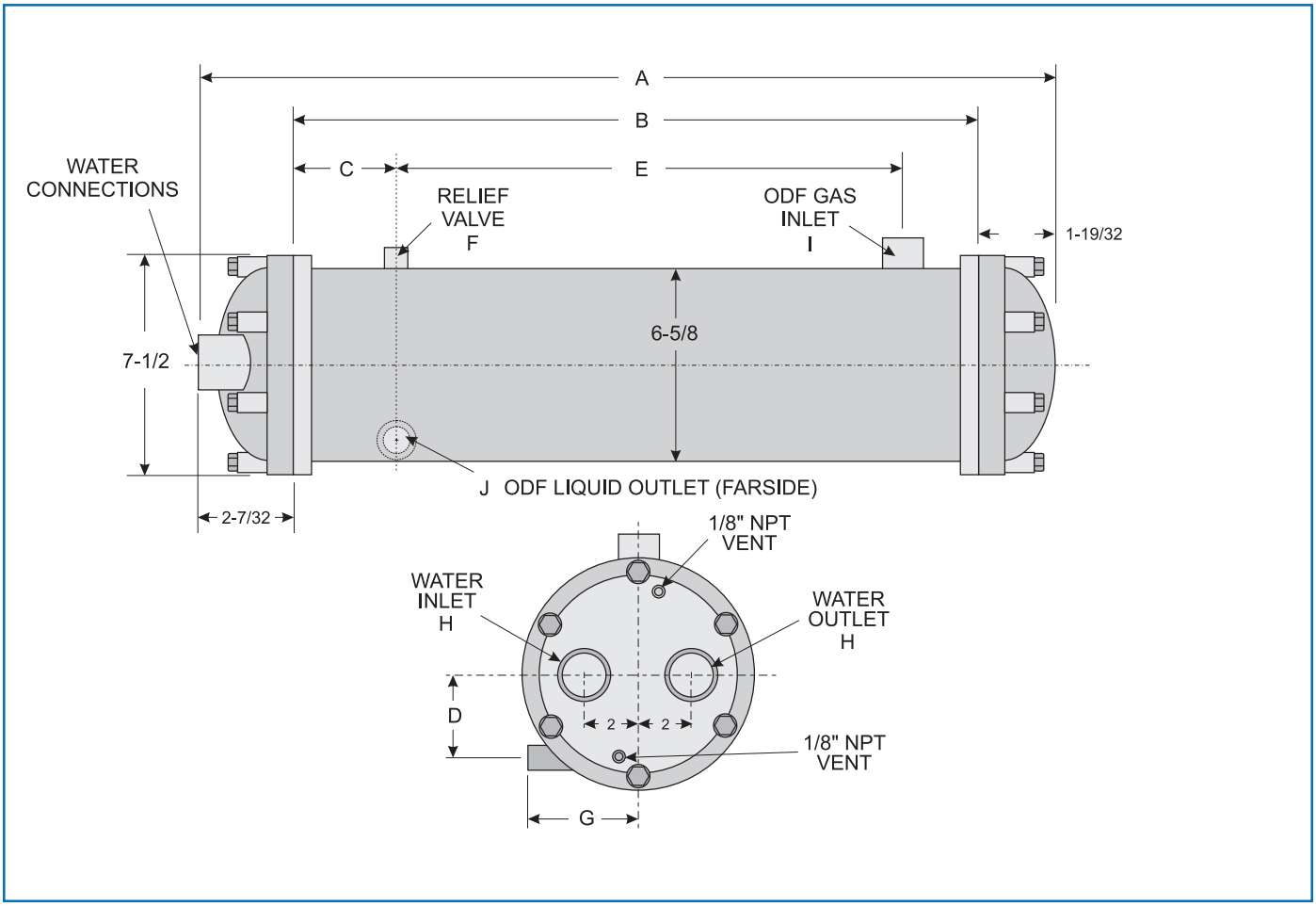
ACME® CRX condensers utilize the latest technology tubing available. Years of research and development, combined with thorough testing in our own labs has resulted in the highest efficiency condensers available. All condensers are manufactured with enhanced 3/4" diameter tubing to provide heavy wall construction and ease of service from commonly available tube cleaning devices. CRX vessels are available with mounting brackets and purge ports as required.

Modifications

Vessels are available with special materials of construction as required. Condensers can be made with stainless steel, cupro-nickle or other materials of construction for increased life with poor quality cooling water. Vessels can be equipped with cupro-nickel tubes and tube sheets or titanium tubes for sea water duty. If your application calls for something special, just ask.

- ***Shells*** - Steel pipe to ASME specification. Shells are shot blasted and cleaned prior to assembly.
- ***Tubes*** - Copper high performance enhanced design roller expanded into multiple-grooved tube sheets. Other materials available for corrosive duty.
- ***Tube sheet*** - Flange quality steel to ASME specifications. Precision machined for excellent sealing.
- ***Tube Support*** - Quality steel made to close tolerance to minimize vibration.
- ***Heads*** - Nodular iron multi-pass design for controlled cooling water velocity.
- ***Connections*** - All water side connections are female pipe thread. Refrigerant connections are steel and bored to ODS of copper tubing. Relief, vent and drain connections are provided.
- ***Codes*** - The refrigerant side is constructed to the latest edition of the ASME Section VIII Div 1 code and stamped accordingly. Refrigerant side pressure is designed for 350 PSI minimum at 250°F. Water side design pressure is 300 PSI minimum at 150°F. Shell side is tested at 1.1 times and tube side is tested is 1.3 times the design pressure.
- ***Finish*** - Exterior surfaces are cleaned and painted with a high quality enamel primer.

ACME® Type CRX Condenser



Capacities and Dimensions

MODEL CRX	NOM TON	A Length	B	C	D	E	F FPT	G	H FPT	I ODF	J ODF	Pump Down	Weight Lbs.
CRX-602A-6	**5**	27-9/16	23-3/4	3-1/2	2	16-3/8	1/2	4-13/16	1	1-5/8	1-1/8	16	100
CRX-602B-6	**7.5**	27-9/16	23-3/4	3-1/2	2	16-3/8	1/2	4-13/16	1	1-5/8	1-1/8	15	105
CRX-603B-4	**10**	39-9/16	35-3/4	3-1/2	2	28-3/8	1/2	4-13/16	1-1/4	1-5/8	1-1/8	23	130
CRX-604C-4	**15**	51-9/16	47-3/4	3-1/2	2	40-3/8	1/2	4-13/16	1-1/4	1-5/8	1-1/8	30	160
CRX-604D-4	**20**	51-9/16	47-3/4	3-1/2	2	40-3/8	1/2	4-13/16	1-1/4	1-5/8	1-1/8	26	170

Nominal capacity based on 14,400 BTUH per ton, 85°F condenser water, 10°F range with R-22 service at 105°F condensing temp.
Comprehensive rating tables are available for R-22, R-134a and R-404a. Windows™ selection software available.
Pump-down capacity is based on 80% of free shell volume with R-22 at 90°F per ARI.
Capacity includes 0.00025 hr•ft²•°F/Btu additive fouling, 0.0005 hr•ft²•°F/Btu total fouling factor.

ACME® Type AHX Condenser

***NEW High-Capacity Design* - 25 to 400 Tons**

ACME® Type AHX condensers feature the latest tube technology to provide compact size and cost effective use. Ideal for OEM applications.

Standard Designs

ACME® AHX condensers are available in standard designs for fresh water duty. These models feature high-efficiency tube surfaces and are available from 25 to over 400 nominal tons of duty. They are manufactured in large quantities to provide the lowest cost per ton available.

Modern Tube Materials

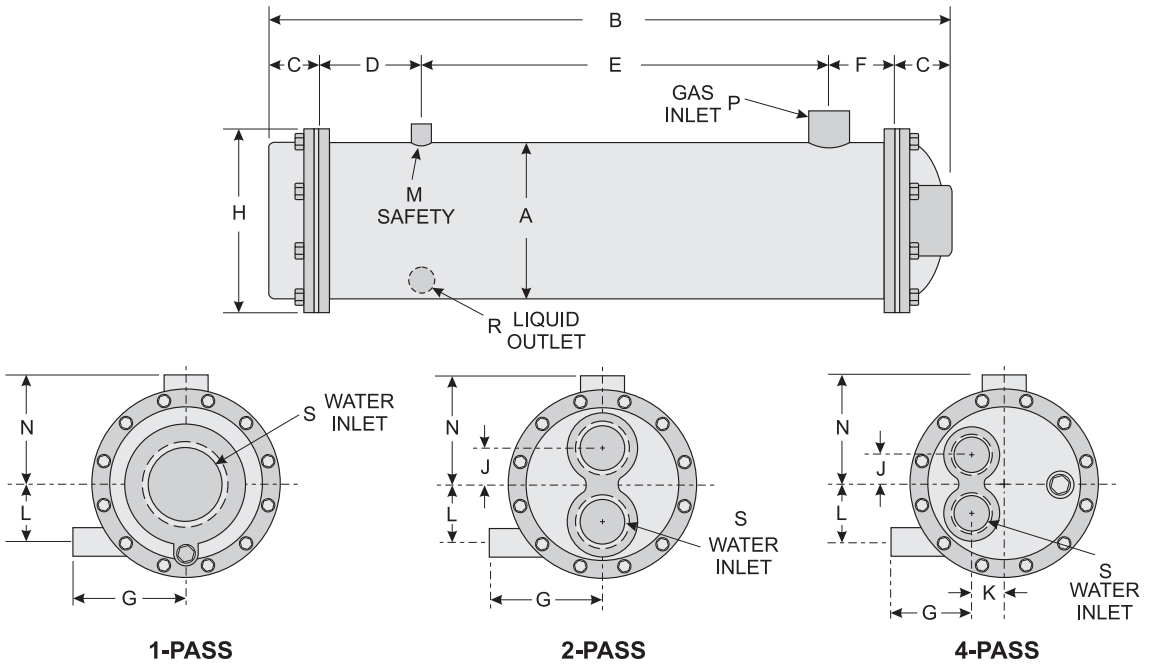
ACME® AHX condensers utilize the latest technology tubing available. Years of research and development, combined with thorough testing in our own labs has resulted in the highest efficiency condensers available. All condensers are manufactured with enhanced 3/4" diameter tubing to provide heavy wall construction and ease of service from commonly available tube cleaning devices.

Modifications

Vessels are available with special materials of construction as required. Condensers can be made from stainless steel for increased life with poor quality cooling water. Vessels can be equipped with cupro-nickel tubes and tube sheets or titanium tubes for sea water duty. If your application calls for something special, just ask.

- ***Shells* -** Steel pipe to ASME specification. Shells are shot blasted and cleaned prior to assembly.
- ***Tubes* -** Copper high performance enhanced design roller expanded into multiple-grooved tube sheets. Other materials available for corrosive duty.
- ***Tube sheet* -** Flange quality steel to ASME specifications. Precision machined for excellent sealing.
- ***Tube Supports* -** Quality steel manufactured to close tolerance to minimize vibration.
- ***Heads* -** Cast iron or fabricated steel built to ASME specifications.
- ***Connections* -** All water side connections are FPT except 12" 1-pass, 14" and 16" models which have flanges. Refrigerant connections are steel and bored to ODS of copper tubing. Relief, vent and drain connections are provided. Numerous nozzle orientations are available to facilitate ease of packaging.
- ***Codes* -** The refrigerant side is constructed to the latest edition of the ASME Section VIII Div 1 code and stamped accordingly. Refrigerant side pressure is designed for 350 PSI at 250°F. Water side design pressure is 150 PSI at 150°F. Shell side is tested at 1.1 times and tube side is tested is 1.3 times the design pressure.
- ***Finish* -** Exterior surfaces are cleaned and painted with a high quality enamel primer.

ACME® Type AHX Condenser



Capacities and Dimensions

MODEL AHX	NOM TON	A Dia	B Length	C	D	E	F	G	H	J	R ODF	P ODF	M FPT	S	L	N	Pump Down	Wgt Lbs.
AHX-605C-2	25	6-5/8	63-13/16	2-1/32	3-1/2	52-3/8	3-7/8	4-13/16	7-1/2	1-1/2	1-1/8	1-5/8	1/2	2	2-5/8	6-5/16	39	170
AHX-605D-2	30	6-5/8	63-13/16	2-1/32	3-1/2	52-3/8	3-7/8	4-13/16	7-1/2	1-1/2	1-3/8	2-1/8	1/2	2	2-5/8	6-5/16	36	195
AHX-805A-2	40	8-5/8	66	3-1/8	3-1/2	52-3/8	3-7/8	5-13/16	9-11/16	1-7/8	1-3/8	2-1/8	1/2	2-1/2	3-13/32	7-5/16	70	300
AHX-806A-2	50	8-5/8	78	3-1/8	3-1/2	64-3/8	3-7/8	5-13/16	9-11/16	1-7/8	1-3/8	2-1/8	1/2	2-1/2	3-13/32	7-5/16	84	340
AHX-1005A-2	65	10-3/4	69-1/8	4-11/16	3-3/4	52	4	6-7/8	13-3/4	2-1/4	1-5/8	2-5/8	1/2	3	4-1/4	8-3/8	111	460
AHX-1006A-2	75	10-3/4	81-1/8	4-11/16	3-3/4	64	4	6-7/8	13-3/4	2-1/4	1-5/8	2-5/8	1/2	3	4-1/4	8-3/8	134	475
AHX-1205A-2	90	12-3/4	69	4-5/8	4-3/16	50-15/16	4-5/8	7-7/8	15-3/4	2-5/8	1-5/8	2-5/8	3/4	4	5-1/4	9-3/8	156	590
AHX-1206A-2	110	12-3/4	81	4-5/8	4-3/8	62-7/16	4-15/16	7-7/8	15-3/4	2-5/8	2-1/8	3-1/8	3/4	4	5-1/16	9-3/8	191	665
AHX-1208A-1	140	12-3/4	108	6-1/8	4-3/8	86-7/16	4-15/16	7-7/8	15-3/4	-	2-1/8	3-1/8	3/4	6 ‡	5-1/16	9-3/8	257	855
AHX-1208B-1	150	12-3/4	108	6-1/8	4-3/8	86-7/16	4-15/16	7-7/8	15-3/4	-	2-1/8	3-1/8	3/4	6 ‡	5-1/16	9-3/8	246	890
AHX-1210B-1	200	12-3/4	132	6-1/8	4-3/8	110-3/16	5-3/16	7-7/8	15-3/4	-	2-1/8	3-5/8	3/4	6 ‡	5-1/16	9-3/8	309	1060
AHX-1405B-2	140	14	69	5-1/8	4-3/8	50-7/16	4-15/16	8-1/2	17-7/8	4-1/2	2-1/8	3-1/8	3/4	4 ‡	5-9/16	10	160	895
AHX-1406B-2	165	14	81	5-1/8	4-3/8	62-7/16	4-15/16	8-1/2	17-7/8	4-1/2	2-1/8	3-5/8	3/4	4 ‡	5-9/16	10	194	1410
AHX-1408B-1	210	14	115-3/8	9-11/16	4-5/8	85-11/16	5-7/16	8-1/2	17-7/8	-	2-5/8	4-1/8	3/4	6 §	5-7/16	10	261	1240
AHX-1410A-1	270	14	139-3/8	9-11/16	4-5/8	109-11/16	5-7/16	8-1/2	17-7/8	-	2-5/8	4-1/8	3/4	6 §	5-7/16	10	345	1420
AHX-1410B-1	290	14	139-3/8	9-11/16	4-5/8	109-11/16	5-7/16	8-1/2	17-7/8	-	2-5/8	4-1/8	3/4	6 §	5-7/16	10	328	1480
AHX-1605B-2	200	16	69	5-1/8	4-5/8	49-11/16	5-7/16	9-1/2	19-7/8	5	2-1/8	3-5/8	3/4	5 ‡	6-1/2	11	201	1220
AHX-1606A-2	210	16	81	5-1/8	4-7/8	61-3/16	5-11/16	9-1/2	19-7/8	5	2-5/8	4-1/8	3/4	5 ‡	6-7/16	11	264	1190
AHX-1606B-2	230	16	81	5-1/8	4-7/8	61-3/16	5-11/16	9-1/2	19-7/8	5	2-5/8	4-1/8	3/4	5 ‡	6-7/16	11	244	1360
AHX-1608B-1	300	16	120-1/2	12-3/8	4-7/8	84-5/8	6-1/4	9-1/2	19-7/8	-	3-1/8	5-1/8	3/4	8 §	5-7/8	11	328	1723
AHX-1610A-1	360	16	144-1/2	12-3/8	4-7/8	108-5/8	6-1/4	9-1/2	19-7/8	-	3-1/8	5-1/8	3/4	8 §	5-7/8	11	447	1825
AHX-1610B-1	400	16	144-1/2	12-3/8	4-7/8	108-5/8	6-1/4	9-1/2	19-7/8	-	3-1/8	5-1/8	3/4	8 §	5-7/8	11	412	2085

Nominal capacity based on 14,400 BTUH per ton, 85°F condenser water, 10°F range with R-22 service at 105°F condensing temp.
Comprehensive rating tables are available for R-22, R-134a and R-404a. Windows™ selection software available.
Pump-down capacity is based on 80% of free shell volume with R-22 at 90°F per ARI.
Capacity includes 0.00025 hr•ft^2•°F/Btu additive fouling, 0.0005 hr•ft^2•°F/Btu total fouling factor.

‡ = 125 Lb. FF Flange
§ = 150 Lb. RF Flange

ACME® MHX Marine Condenser

***NEW Compact Design* - 5 to 330 Tons**

ACME® Type MHX condensers are manufactured with the latest technology marine condenser tubing to provide compact size and cost effective use.

Standard Designs

ACME® MHX condensers are available in standard designs for sea water duty. Standard MHX sea water condensers are available from 5 to 330 nominal tons of duty and are manufactured in large quantities to provide the lowest cost per ton available. Non-standard marine condensers are available to meet virtually any chiller application.

Modern Tube Materials

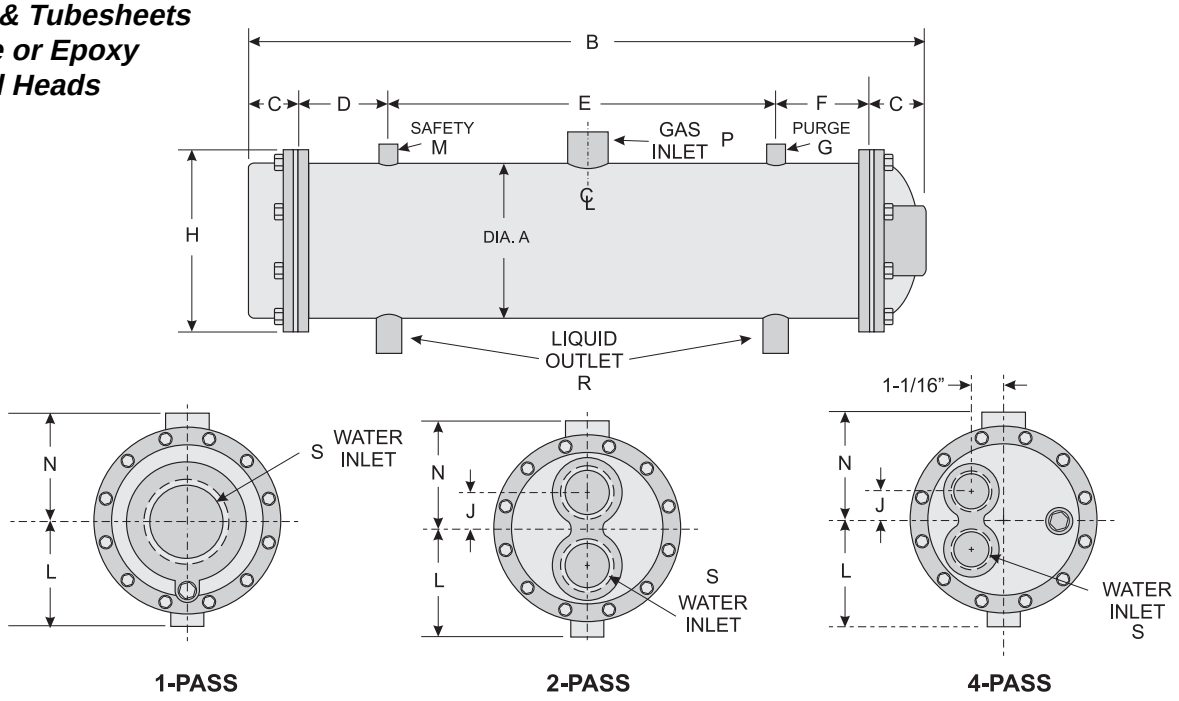
ACME® MHX condensers utilize the latest technology tubing. Years of research and development, combined with thorough testing in our own labs has resulted in the highest efficiency condensers available. All condensers are manufactured with 3/4" diameter 90/10 cupro-nickel tubing to provide heavy wall construction and ease of service from commonly available tube cleaning devices.

Modifications

ACME® refrigeration heat exchangers are available with special materials of construction as required. Fresh water condensers can be made from stainless steel for increased life with poor quality cooling water. Vessels can be equipped with cupro-nickel tubes and tube sheets or titanium tubes for sea water duty. If your application calls for something special, just ask.

- ***Shells*** - Steel pipe to ASME specification. Shells are shot blasted and cleaned prior to assembly.
- ***Tubes*** - 90/10 cupro-nickel high performance enhanced design roller expanded into grooved tube sheets.
- ***Tube sheet*** - 90/10 cupro-nickel to ASME specifications. Precision machined for excellent sealing.
- ***Tube Supports*** - Quality steel manufactured to close tolerance to minimize vibration.
- ***Heads*** - Cast bronze to withstand the corrosive effects of sea water duty. Single-pass 14" & 16" heads are fabricated from steel and epoxy coated.
- ***Connections*** - All water side connections are FPT except 12" 1-pass, 14" and 16" models which have flanges. Refrigerant connections are steel and bored to ODS of copper tubing. Relief, vent and drain connections are provided.
- ***Codes*** - The refrigerant side is constructed to the latest edition of the ASME Section VIII Div 1 code and stamped. Refrigerant side dual-rated for 450 psi at 150°F or 305 psi at 250°F. Water side design pressure is 150°F at 150 psi. Shell side is tested at 1.1 times and tube side is tested is 1.3 times the design pressure.
- ***Finish*** - Exterior surfaces are cleaned and painted with an enamel primer.

90/10 Cupro-Nickel Tubes & Tubesheets Bronze or Epoxy Coated Heads



Capacities and Dimensions

MODEL MHE	NOM TON	A Dia.	B Length	C	D	E	F	G FPT	H	J	L	M FPT	N	P ODF	R ODF	S NPT	Pump Down	Wgt Lbs.
MHX-602B-4	5	6-5/8	27-13/16	2-1/32	5-7/8	12	5-7/8	1/2	7-1/2	1-7/16	6-5/16	1/2	6-5/16	1-3/8	5/8	1-1/2	16	100
MHX-602D-4	7.5	6-5/8	27-13/16	2-1/32	5-7/8	12	5-7/8	1/2	7-1/2	1-7/16	6-5/16	1/2	6-5/16	1-3/8	5/8	1-1/2	13	107
MHX-603D-4	15	6-5/8	39-13/16	2-1/32	5-7/8	24	5-7/8	1/2	7-1/2	1-7/16	6-5/16	1/2	6-5/16	1-3/8	7/8	1-1/2	21	142
MHX-604D-4	20	6-5/8	51-13/16	2-1/32	5-7/8	36	5-7/8	1/2	7-1/2	1-7/16	6-5/16	1/2	6-5/16	1-3/8	7/8	1-1/2	28	175
MHX-605D-2	25	6-5/8	63-13/16	2-1/32	5-7/8	48	5-7/8	1/2	7-1/2	1-1/2	6-5/16	1/2	6-5/16	1-5/8	7/8	2	36	210
MHX-606D-2	30	6-5/8	75-13/16	2-1/32	5-7/8	60	5-7/8	1/2	7-1/2	1-1/2	6-5/16	1/2	6-5/16	1-5/8	1-1/8	2	43	244
MHX-805A-2	35	8-5/8	66	3-1/8	7-7/8	44	7-7/8	1/2	9-11/16	1-7/8	7-5/16	1/2	7-5/16	2-1/8	1-1/8	2-1/2	70	310
MHX-806A-2	45	8-5/8	78	3-1/8	7-7/8	56	7-7/8	1/2	9-11/16	1-7/8	7-5/16	1/2	7-5/16	2-1/8	1-3/8	2-1/2	84	357
MHX-808A-2	60	8-5/8	102	3-1/8	7-7/8	80	7-7/8	1/2	9-11/16	1-7/8	7-5/16	1/2	7-5/16	2-1/8	1-3/8	2-1/2	113	455
MHX-1005A-2	50	10-3/4	69	4-11/16	7-7/8	44	7-7/8	1/2	13-3/4	2-1/4	8-3/8	3/4	8-3/8	2-1/8	1-5/8	3	111	480
MHX-1006A-2	65	10-3/4	81	4-11/16	7-7/8	56	7-7/8	1/2	13-3/4	2-1/4	8-3/8	3/4	8-3/8	2-5/8	1-5/8	3	134	550
MHX-1008A-2	85	10-3/4	105-1/8	4-11/16	7-7/8	80	7-7/8	1/2	13-3/4	2-1/4	8-3/8	3/4	8-3/8	2-5/8	1-5/8	3	180	695
MHX-1205A-2	70	12-3/4	69	4-5/8	7-7/8	44	7-7/8	1/2	15-3/4	2-5/8	9-3/8	1	9-3/8	2-5/8	1-5/8	3	158	670
MHX-1206A-2	90	12-3/4	81	4-5/8	7-7/8	56	7-7/8	1/2	15-3/4	2-5/8	9-3/8	1	9-3/8	2-5/8	1-5/8	3	191	765
MHX-1208A-1	110	12-3/4	108	6-1/8	7-7/8	80	7-7/8	1/2	15-3/4	-	9-3/8	1	9-3/8	3-1/8	2-1/8	6 ‡	257	990
MHX-1208A-2	130	12-3/4	105	4-5/8	7-7/8	80	7-7/8	1/2	15-3/4	2-5/8	9-3/8	1	9-3/8	3-1/8	2-1/8	3	257	960
MHX-1210A-1	150	12-3/4	132	6-1/8	7-7/8	104	7-7/8	1/2	15-3/4	-	9-3/8	1	9-3/8	3-1/8	2-1/8	6 ‡	323	1155
MHX-1405B-2	130	14	69	5-1/8	7-7/8	44	7-7/8	1/2	17-7/8	4-1/2	10	1	10	3-1/8	1-5/8	4 ‡	160	955
MHX-1406B-2	140	14	81	5-1/8	7-7/8	56	7-7/8	1/2	17-7/8	4-1/2	10	1	10	3-1/8	2-1/8	4 ‡	194	1100
MHX-1408B-2	200	14	105	5-1/8	7-7/8	80	7-7/8	1/2	17-7/8	4-1/2	10	1	10	3-1/8	2-1/8	4 ‡	261	1400
MHX-1410B-1	220	14	139-3/8	9-11/16	7-7/8	104	7-7/8	1/2	17-7/8	-	10	1	10	3-5/8	2-1/8	6 §	328	1740
MHX-1608B-1	230	16	120-1/2	12-3/8	7-7/8	80	7-7/8	1/2	19-7/8	-	11	1	11	3-5/8	2-1/8	8 §	328	1750
MHX-1608B-2	275	16	105	5-1/8	7-7/8	80	7-7/8	1/2	19-7/8	5	11	1	11	5-1/8	3-1/8	5 ‡	328	1780
MHX-1610B-1	330	16	144-1/2	12-3/8	7-7/8	104	7-7/8	1/2	19-7/8	-	11	1	11	5-1/8	3-1/8	8 §	412	2095

Nominal capacity based on 14,400 BTUH per ton, 85°F condenser water, 10°F range with R-22 service at 105°F condensing temp. ‡ = 125 Lb. FF Flange
Comprehensive rating tables are available for R-22, R-134a and R-404a. Windows™ selection software available. § = 150 Lb. RF Flange
Pump-down capacity is based on 80% of free shell volume with R-22 at 90°F per ARI.
Capacity includes 0.00025 hr•ft²•°F/Btu additive fouling, 0.0005 hr•ft²•°F/Btu total fouling factor.

ACME® Packaged Chillers

As the manufacturer of the first packaged chillers back in 1947, our experience remains unmatched. ACME® chillers are available in watercooled, air cooled, and split system designs. With virtually unlimited flexibility, we can configure your chiller to meet your requirements by packaging systems including tanks and pumps on a single or remote skid for indoor or out-door installation. We can also customize the footprint of your chiller to accomodate your space requirements.

Basic Frame Options
Our chillers use frame designs that allow all components to be individually removed for increased serviceability. Water-cooled chillers use a welded frame design. Air-cooled chillers use a riveted, heavy-gauge galvanized sheet metal frame.

Fully Assembled and Tested
Every ACME® Chiller is completely, assembled, wired, charged with refrigerant, and run tested under load. You are assured of receiving equipment that meets or exceeds your expectations for long-term reliability.

Compressor Options
ACME® chillers are available with Scroll, Semi-Hermetic, Screw or Open-Drive Compressors.

Control Options
Both mechanical and PLC controls are available for most chillers. All units are furnished with 115 VAC control voltage transformer to eliminate additional field wiring.

Optional Features
With more than 50-years experience in building packaged chillers, the number of special options we can supply is extensive. Commonly requested options include cylinder unloading, automatic lead-lag selection, hot-gas-bypass, anticycling timers, audible and remote alarms, cooling tower interlocks, integral pumps and tanks, remote start interlocks, and remote communications ports just to mention a few.

Water-Cooled Chiller Packages
ESW single circuit and **EDW** dual circuit water-cooled chillers features PLC controls, ACME® shell-and tube evaporator and shell-and-tube condensers, and semi-hermetic compressors mounted in an easily-serviceable configuration on a welded tubular steel frame.

DDRC Ice Rink Chillers include open drive compressors, dual-circuit shell-and-tube evaporator, shell-and-tube condensers, welded structural steel frame, and mechanical controls. The compressors are mounted on a floating base to reduce vibration transmission to the surroundings.

DDST Chiller includes dual open-drive compressors, analog controls and integral 350 gallon dual-sump chilled water tank with mounted recirculating and process pumps.

Air-Cooled Chiller Packages
ACME® Type **AARC** outdoor chillers are designed for quiet operation and built to with-stand continual duty in the weather. All components, including controls are self-contained. Heavy-gauge mill galvanized steel panels are prepainted for superior appearance and corrosion resistance. AARC chillers are available from 5 to 140 tons.

Optional Features
Numerous options are available including flood-control for operation to -20°F ambient, hot-gas-bypass, additional steps of cylinder unloading, additional pilot lights and gauges, pump packages and anti-recycle timers. Models can be specified with reciprocating or screw compressors.

Standard Features
AARC standard features include replaceable core filter dryer and sight glass, charging valve, liquid line shut off valve, balanced port expansion valve and service valves.

The ACME® AARC control center includes the following standard features: manual reset oil pressure control, high pressure control, active pump down control, fan cycling control, freezestat, and manual lead/lag switching. PLC controls are standard on dual-circuit units. Mechanical controls are featured on single circuit units.

EVERY chiller we manufacture is tested under load. We have installed a state-of-the art Chiller Test Center to test the entire chiller system under full load and flow conditions. The system contains numerous test points, multiple pumps, separate tower and chilled water tanks. At the heart is a data logger to collect and analyze results. You can be assured that your ACME® chiller will arrive at your plant the way it should be, fully wired, load tested, and ready to run.

Flooded Evaporators and Industrial Vessels
Ketema LP flooded designs allow boiling of refrigerant inside the shell. Used widely in ammonia applications, flooded evaporators typically feature steel construction for low cost. Most flooded designs include a separate vapor disengagement chamber welded to the main heat exchanger shell. Flooded evaporators can be more energy efficient than direct expansion designs in multiple compressor systems. Vessels can be built to 60” in diameter for large duties. Flooded evaporators can be designed to acheive very close approach temperatures between the shell-side refrigerant and tube-side liquid.

ACME

Acme® DX Evaporators

Acme® Flooded Evaporators

Acme® Water-Cooled Package Chillers

Acme® Air-Cooled Package Chillers

Acme® Water-Cooled Condensers

Industrial Heat Exchangers

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