

Quality, Price, Service



ASTECH Refrigeration

The Best Solution For Chilling

Chiller Components

CABINET

Cabinets are available in designs to meet your specific chilling requirements. Standard units are built to accommodate the following (8) 3 x 5 plates or (8, 16, 24, and 32) 4 x 8 plates.

CONSTRUCTION FEATURES

Standard units are constructed of Type 304 stainless steel with a 2B finish. All welds are blasted with glass beads. Optional materials are available upon request, including 316L and AL6XN, as well as others. Optional finishes include No.4 food-grade finish and electro-polish for ultra-high purity or corrosive applications, as well as others

EVAPORATOR

The evaporator allows water to be chilled as low as 34-0F and other solutions to within one or two degrees of their freeze points with no freeze-up problems or chiller damage.

Multi-size evaporators are available to meet specific load requirements (3 x 5 and 4 x 8).

Evaporator plates are circuited to maintain proper oil return and ensure maximum refrigeration efficiency.

The system is suitable for use with R-22, R-404A, R-134A, and ammonia refrigerants as well as most new non-CFC refrigerant products in flooded, recirculated, or direct-expansion systems. Built to ASHRAE 15 standards, the system is rated at 300 psi at 4000F. Optional ASME code-stamped evaporators are available.

FILL CONNECTION

Chillers are equipped with a threaded fill connection which allows for the use of electronic level controls. The fill connection is located on the water pan inlet

Optional Refrigeration Manifolding

Optional manifolding is available for all types of refrigerants. When direct expansion valves. Copper or stainless steel would be the ideal material to choose.

Overflow Connections

All chillers are equipped with a female, threaded overflow connection, which allows for simple piping of excess fluid

Tank Reservoir

Standard tank sizes are available from 190 to 1,400 gallons. The holding tank is insulated with a minimum of 2-inch insulation for elimination of heat loss and condensation buildup.

A sloped bottom allows for complete drainage of the holding tank. Adjustable legs enable the chiller to sit level on uneven surfaces for proper operation of the distribution pan and allow an even laminar flow pattern over the evaporator plates for maximum cooling efficiency.

Water Distribution Pan

The distribution pan has holes over each vertical evaporator plate to allow a thin, uniform solution to flow over both sides of each plate. The hole size and spacing are determined by the flow rate requirements for each chilling application.

Pans are available in extra low, low, and high flow. Minimum flow is 1.2 gpm per linear foot of plate with a maximum flow rate of 6.2 gpm per linear foot of plate.

Features and Benefits

STANDARD OPTION CONCEPT

The falling film chiller product was designed around the standard option concept to enable us to improve quotation lead time, delivery time, and lower cost.

This concept has allowed us to pre-design the entire product line once, which eliminates the unnecessary cost of re-engineering a custom product for each order.

By taking the time to evaluate the needs of all of our different customers, we were able to design all of the needed options. This also makes it unnecessary for our customers to pay for something on their chiller they do not need. These two advantages provide you with the lowest cost and the shortest lead time in the industry.

Cabinet Sizes

We currently build two chiller sizes, 3 x 5 and 4 x 8. The 3 x 5 chiller is available in an 8-plate cabinet. The 4 x 8 chiller is available in an 8-, 16-, 24-, and 32-plate cabinet. Each of these chillers has a tank that was properly sized to satisfy the requirements of the chiller. We also offer a tankless chiller cabinet in the following sizes: 8-plate 3 x 5, 8-plate 4 x 8, 16-plate 4 x 8, and 24-plate 4 x 8

Tank Connection Options

Each chiller is laid out with multiple locations for tank connections. This option allows you to pick the location and any standard size connection for your chiller. You can select the connection size and location from our list of standard connections located on the submittal drawing for each cabinet.

OPTIONS, ACCESSORIES, & OTHER EQUIPMENT

Refrigerant Controls

Refrigerant controls for ammonia and other refrigerant including direct expansion, flooded, and recirculated systems are available.

Refrigerant Circuit Manifolds

Refrigerant circuit manifolds for DX systems include valves and external equalizers already mounted. Flooded and recirculated manifold are available in copper and stainless steel materials.

Additional Equipment

Surge drums, receivers, hand valves, and other refrigerant accessories are available upon request.

CABINET TOP OPTIONS

Adding additional plates (up to cabinet capacity) is nearly effortless due to the advanced cabinet design of all of our chillers. So, be sure to select a cabinet that allows for future expansion when you are ready to buy your next chiller. When expansion time comes, you will only have the cost of additional plates and distribution pans, not a second chiller which requires an expensive installation

Evaporator Features and Options

We offer 3 x 5 and 4 x 8 plate sizes. Each plate size is available for DX, recirculated, and flooded refrigerant controls for R-717, R-22, R-404A, and all other conventional refrigerants. Due to the plate design, no special refrigerant controls are necessary, nor are you forced to select flooded controls when DX would be less expensive and a better fit for your application. All plates are built to ASHRAE 15 standards rated at 300 psi at 4000F. Optional ASME plates at the same rating are available.

Evaporator Internal Plate Capacity

Mueller's patented Temp-plate is the most efficient falling film chiller evaporator available today. Each evaporator is designed to use the smallest refrigerant charge possible and is circuited to ensure that the entire evaporator operates at the correct temperature. The internal volume is 15 cubic feet for the 3 x 5 plate and 42 cubic feet for the 4 x 8 plate. These capacities are 8 to 10 times less than others.

Refrigerant Controls

We provide DX and flooded refrigerant controls for all refrigerants. For details on the individual components, review the Falling Chiller Operations And Installation Manual.

Temperature Control Assemblies

Temperature control packages are available to control temperature, circulating pumps, and make-up water levels

Pumps

Circulating pumps are available in various flow ranges and materials to suit your needs.

Condensing Units

Condensing units (semi-hermetic and scroll compressors) are available in air-cooled, remote air-cooled, or water-cooled models

Mueller 3 x 5 falling film chiller

The Mueller 3 x 5 falling film chiller reduces chilling time, increases production, and brings a faster return on your investment.



The Mueller 3 x 5 falling film chiller reduces chilling time, increases production, and brings a faster return on your investment. The Mueller 3 x 5 falling film chiller is designed with a fully welded cabinet which includes a hinged and gasketed door for access.

Built for lower-capacity applications, the unit is equipped with a 190-or 400-gallon self-contained storage tank.

Distribution pans are available with extra-low, low, and high flow rates range from 4 to 10 gpm, low flow rates range from 8 to 15 gpm, and high flow rates from 16 to 30 gpm (per evaporator)

3 x 5 CHILLER SIZING CHART

Cabinet Size	No. of plates		Dimensions	Maximum shipping	Tank Capacity	Distribution Pan
	Minimum	Maximum	L x W x H(in)	Weight (lbs)	(gal)	Connection Size
N286			8 ¹ / ₂ x 36 ¹ / ₂ x 77 ³ / ₄	1,820	190	2" or 3"
OØ86			8 ¹ / ₂ x 36 ¹ / ₂ x 77 ³ / ₄	2,020	400	2" or 3"

Notes:

Refrigerant inlet connection size per plate is 1 1/8" tube and the outlet size is 1 1/2" tube

Maximum weight is based on the maximum number of plates that a chiller will hold being in the chiller.

Low flow/extra-low flow distribution pan connection is 2"

High flow distribution pan connection is 3"

Mueller 4 x 8 falling film chiller

The Mueller 4 x 8 falling film chiller reduces chilling time, increases production, and brings a faster return on your investment.



The Mueller 4 x 8 falling film chiller reduces chilling time, increases production, and brings a faster return on your investment. The Mueller 4 x 8 falling film chiller is designed with a fully welded cabinet which includes a hinged and gasketed door for access.

Built for lower-capacity applications, the unit is equipped with a 190-or 400-gallon self-contained storage tank.

Distribution pans are available with extra-low, low, and high flow rates range from 4 to 10 gpm, low flow rates range from 8 to 15 gpm, and high flow rates from 16 to 30 gpm (per evaporator)

4 X 8 CHILLER SIZING CHART

No. of Plates		Dimensions		Maximum Shipping	Tank Capacity	Distribution Pan
Cabinet Size	Minimum	Maximum	L x W x H (in)	Weight (lbs)	(gal)	Connection Size
J	2	8	104 ^{1/2} x 39 ^{1/8} x 90 ^{3/4}	2,735	361	4" or 6"
K	2	16	104 ^{1/2} x 72 ^{3/8} x 90 ^{3/4}	5,220	706	(2) 4" or 6"
L	2	24	104 ^{1/2} x 105 ^{7/8} x 90 ^{3/4}	7,705	1,052	(3) 4" or 6"
M	2	32	104 ^{1/2} x 139 x 90 ^{3/4}	10,190	1,397	(4) 4" or 6"

Notes:

Refrigerant inlet connection size per plate is 1 1/8" tube and the outlet size is 1 1/2" tube

Maximum weight is based on the maximum number of plates that a chiller will hold being in the chiller.

Low flow/extra-low flow distribution pan connection is 2"

High flow distribution pan connection is 3"

Tankless Chiller



TANKLESS CHILLER SIZING CHART

8 - 3 x 5	70 x 43 x 48	990	11/ 8" Tube	11/2" Tube	2" or 3" MPT
8 - 4 x 8	108 x 43 x 62	1,550	11/ 8" Tube	2" Pipe	4" or 6" MPT
16 - 4 x 8	108 x 67 x 62	2,980	11/ 8" Tube	2" Pipe	(2) 4" or 6" MPT
24 - 4 x 8	108 x 104 x 62	4,220	11/ 8" Tube	2" Pipe	(3) 4" or 6" MPT

Cabinet L x W x H Weight with Refrigeration Connection Size Water Pan Size (in) Plates (lbs) Inlet* Outlet* Connection Size



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