



BAKER CO.

329 PRIMROSE ROAD, BURLINGAME, CALIFORNIA 94010

December 11, 1997

Dr. Joyce Saltsman
FDA HFS - 165
200 C Street S.W.
Washington, D.C. 20204

Dear Dr. Saltsman:

As mentioned at the Salinas Town Meeting, we represent the Paul Mueller Co. in Northern California.

We have enjoyed a substantial amount of business in the food processing industry where the requirement is 34 degree water. The range of models and sizes of the Mueller FALLING FILM CHILLER has permitted us to supply water chillers in a large varieties of capacities to meet a customer's needs. The primary usage has been to supply 34 degree water to cool and wash shredded lettuce prior to packaging.

Traditionally, ice has been used to supply water for this purpose. However, ice is labor intensive and in some respects unsanitary, and so the convenience of piping 34 degree water to the process has resulted in a preference for the Falling Film method.

We have had some applications for Hydro-Cooling but the lettuce cooling has been the primary application.

Having reviewed the "GUIDE", I did not find much relating to sanitation of production equipment in food processing plants. Was this an oversight or will it be incorporated in the next draft ?

I have an additional comment regarding food (vegetable and fruit) processing plants. Having been in many such plants, I find that they "wash down" at the end of the shift with cold well water or city water. Seems to me that they should be using hot water with a temperature of at least 140 degrees.

Many thanks to you and Tom Gardine for conducting a well organized meeting. It was educational for me and if any are held in the future, I will try to attend.

ENCL

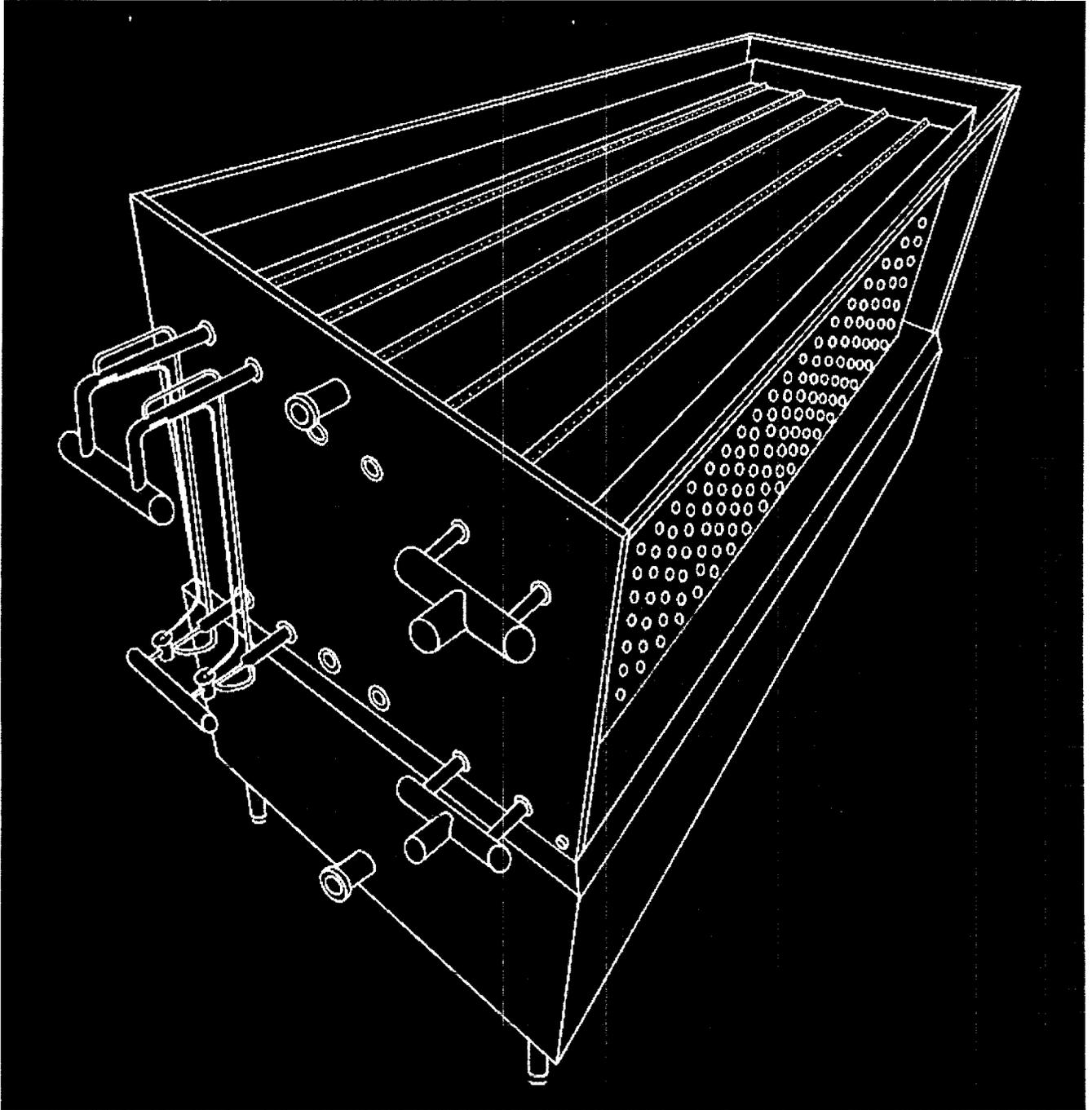
Very truly yours,

H. William Baker

PS: I have included a copy of the letter and literature for Tom Gardine.

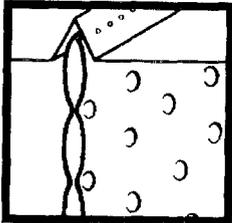
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FALLING FILM CHILLER



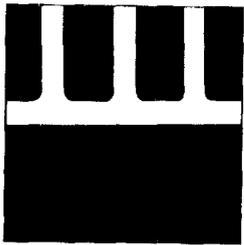
MUELLER®

REFRIGERATION PRODUCTS



Water-Distribution Pan

- ▲ The distribution pan has holes over each vertical evaporator plate to allow a thin, uniform solution flow over both sides of each plate. Hole size and spacing are determined by the flow-rate requirements for each chilling application.
- ▲ Pans are available in low, medium, and high flow.



Optional Manifolding

- ▲ Optional manifolding is available for all types of refrigerants.
- ▲ When direct-expansion refrigeration systems are used, manifolding includes the mounting of required expansion valves.



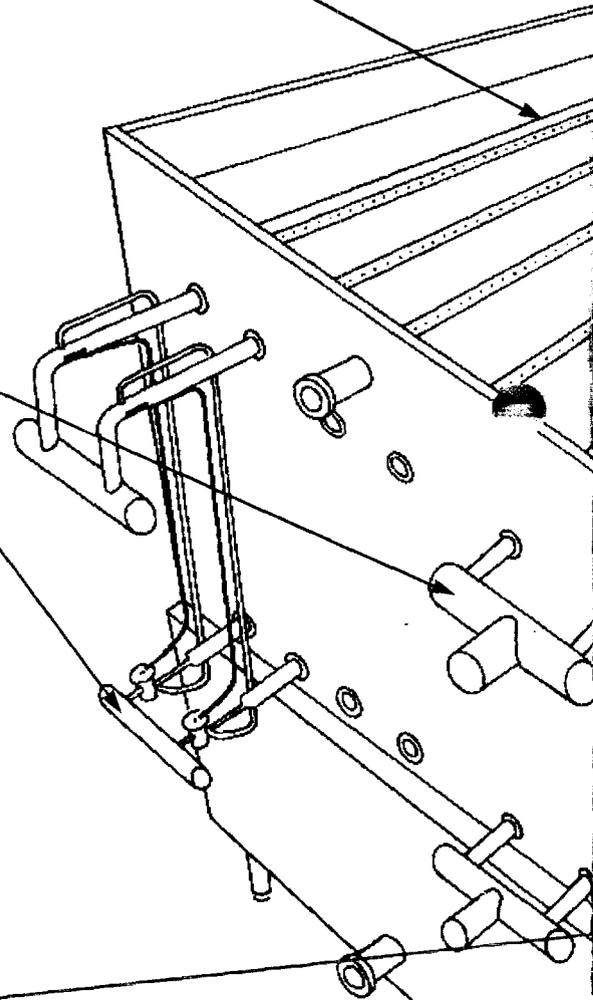
Construction Features

- ▲ Standard units are constructed of Type 304 stainless steel with a 2B finish.
- ▲ Optional materials are available upon request including 316L and AL6XN, as well as others.
- ▲ Optional finishes include No. 4 food-grade finish, electropolished for ultrahigh purity or corrosive applications, as well as others.



Fill Connection

- ▲ Chillers are equipped with a threaded fill connection which allows for the use of a float assembly, electronic level controls, or other options.

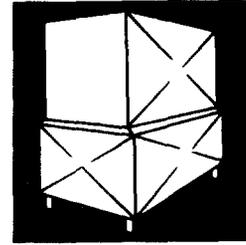


SOLUTION!

THAT FREEZE POINT WITHOUT CHILLER DAMAGE.

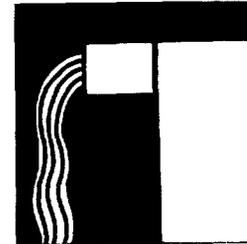
Cabinet

- ▲ Cabinets are available in open, totally enclosed, and fully insulated designs to meet specific chilling requirements.
- ▲ Standard units are built to accommodate 6, 12, 18, 24, 30, and 36 plates.



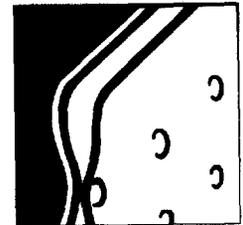
Overflow Connections

- ▲ All chillers are equipped with a male, threaded overflow connection which allows for simple piping of excess fluid.



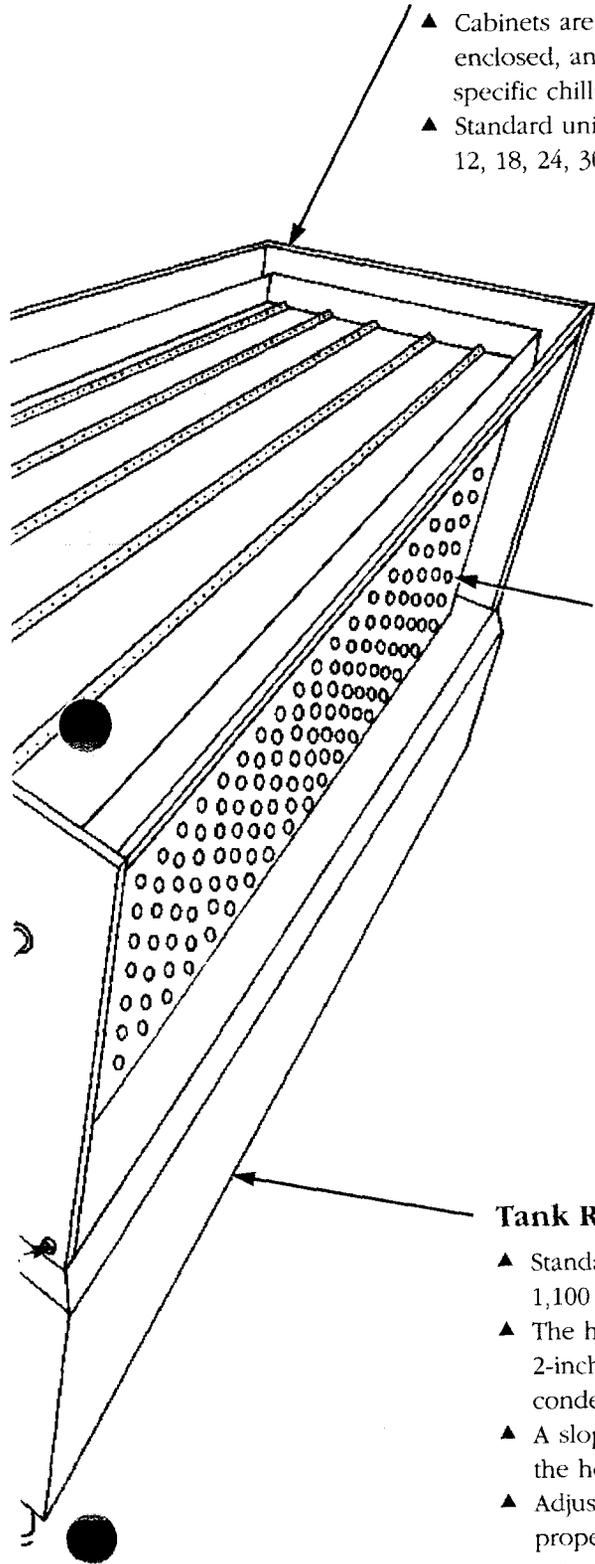
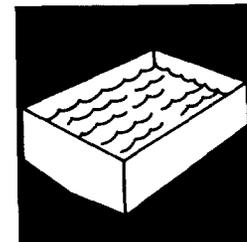
Evaporator

- ▲ The evaporator allows water to be chilled as low as 34°F and other solutions to within one or two degrees of their freeze points with no freeze-up problems or chiller damage.
- ▲ Multi-sized evaporators are available to meet specific load requirements.
- ▲ Evaporator plates are circuited to maintain proper oil return and ensure maximum refrigeration efficiency.
- ▲ The system is suitable for use with R-22 and ammonia refrigerants as well as most new non-CFC refrigerant products in flooded, recirculated, or direct-expansion systems.
- ▲ Rated at 250 psi at 200°F. Built to ASHRAE 15 standards. Optional ASME code stamped evaporators available.



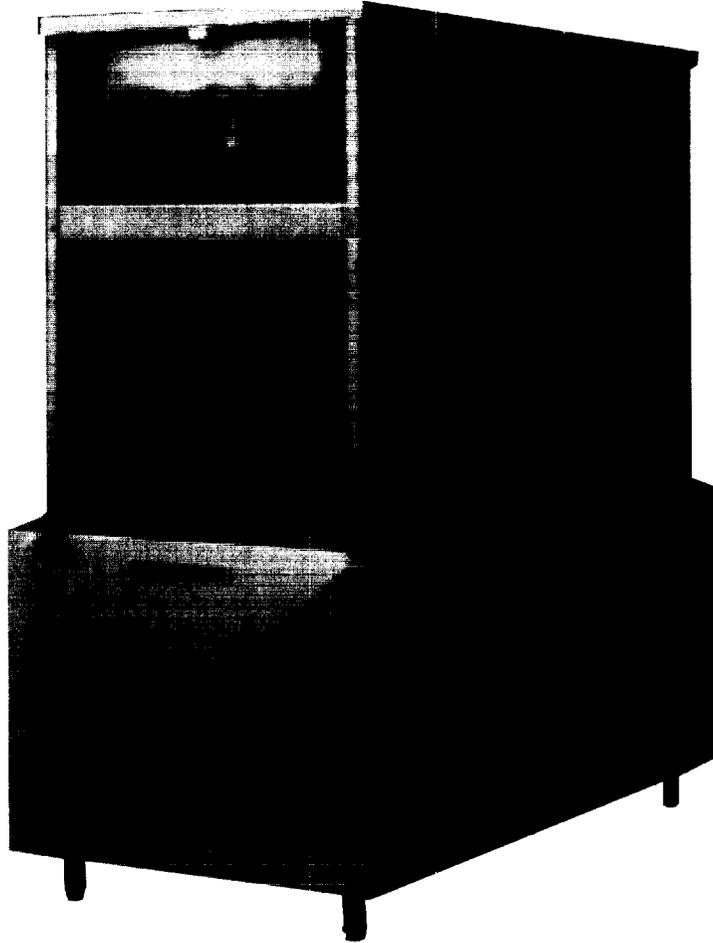
Tank Reservoir

- ▲ Standard tank sizes are available from 150 to 1,100 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 be 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.



3 x 5 CHILLERS

EASY TO CLEAN AND INSPECT WITH VIRTUALLY NO DOWNTIME FOR MAINTENANCE.



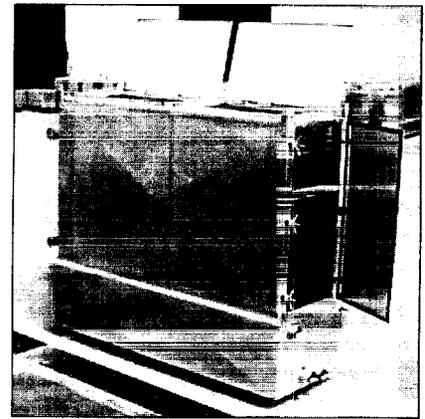
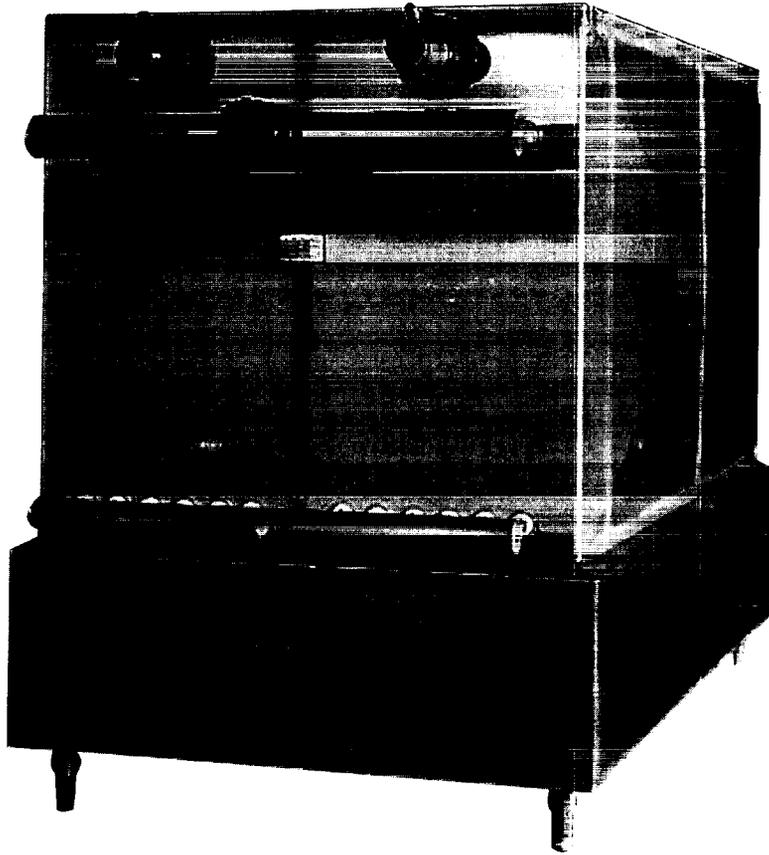
The Mueller 3x5 falling film chiller is designed with a removable back and top covers for easy cleanability of the entire plate unit. Built for lower-capacity chilling applications, the unit is equipped with a standard 160- or 290-gallon, self-contained storage tank.

Pans are available with low, medium, and high flow rates, based on chilled-water usage. Low flow rates range from 4 to 10 gpm, medium flow rates from 8 to 15 gpm, and high flow rates from 16 to 30 gpm per evaporator.

Cabinet Size	L x W x H (in)	Weight with Plates (lbs)	Refrigeration Connection Size		Water Pan Connection Size	Water Tank Connection Size	Tank Capacity
			Inlet	Outlet			
6	69 x 37 x 76	1,120	1 ¹ / ₈ " Tube	1 ¹ / ₂ " Tube	3" MPT	4" MPT	160
12	69 x 61 x 76	1,850	1 ¹ / ₈ " Tube	1 ¹ / ₂ " Tube	(2) 3" MPT	6" RFSO Flange	290

4 x 8 CHILLERS

FULLY ENCLOSED DESIGN ELIMINATES PRODUCT CONTAMINATION.



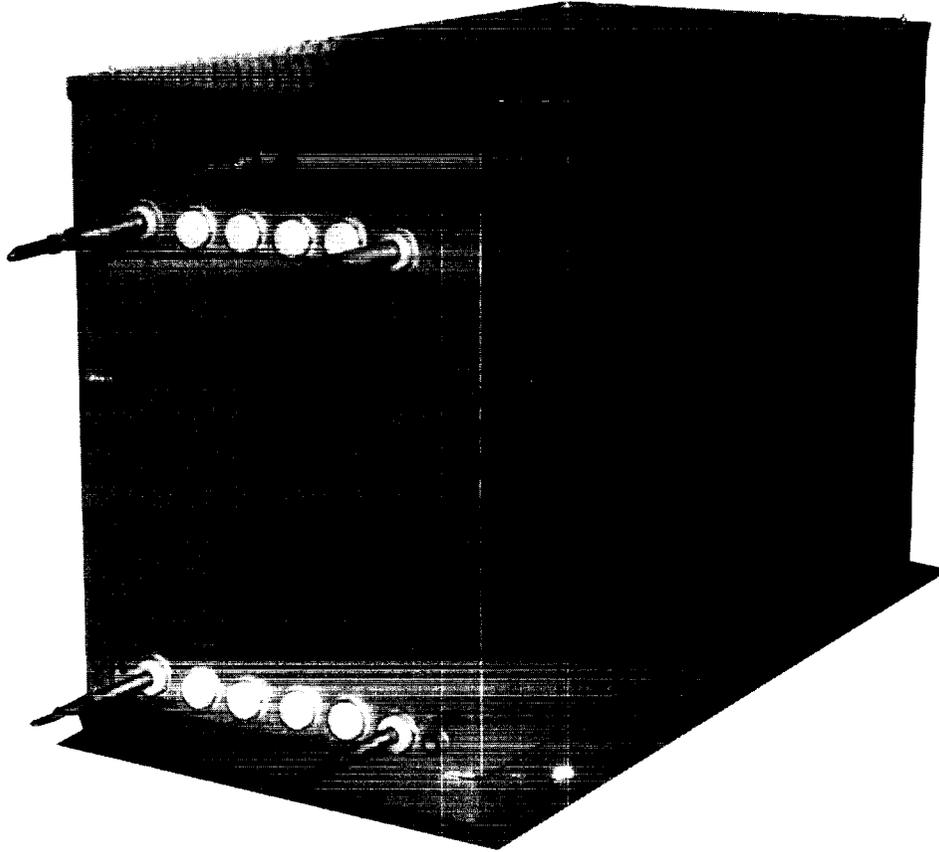
Top and back doors.

The enclosed-type falling film chiller is fully enclosed to ensure your product is free from particles. The unit is easily accessible through gasketed doors and is designed for large-capacity chilling applications. Distribution pans are available in low, medium, and high flow rates. Low-flow pans can accommodate from 6 to 16 gpm, medium-flow pans from 13 to 24 gpm, and high-flow pans from 25 to 48 gpm (per evaporator).

Cabinet Size	L x W x H (in)	Weight with Plates (lbs)	Refrigerant Connection Size Inlet	Water Pan Connection Outlet	Water Tank Connection Size	Tank Capacity Size	
6	105 x 37 x 87	1,880	1 ¹ / ₈ " Tube	2" Pipe	4" MPT	6" RFSO Flange	190
12	105 x 67 x 87	3,550	1 ¹ / ₈ " Tube	2" Pipe	(2) 4" MPT	8" RFSO Flange	340
18	105 x 98 x 87	5,140	1 ¹ / ₈ " Tube	2" Pipe	(3) 4" MPT	RFSO Flange	570
24	105 x 128 x 87	6,770	1 ¹ / ₈ " Tube	2" Pipe	(4) 4" MPT	RFSO Flange	750
30	105 x 159 x 87	8,400	1 ¹ / ₈ " Tube	2" Pipe	(5) 4" MPT	RFSO Flange	950
36	105 x 189 x 87	10,030	1 ¹ / ₈ " Tube	2" Pipe	(6) 4" MPT	RFSO Flange	1,100

TANKLESS CHILLERS

VERSATILITY TO MATCH YOUR SPECIFIC STORAGE NEEDS.

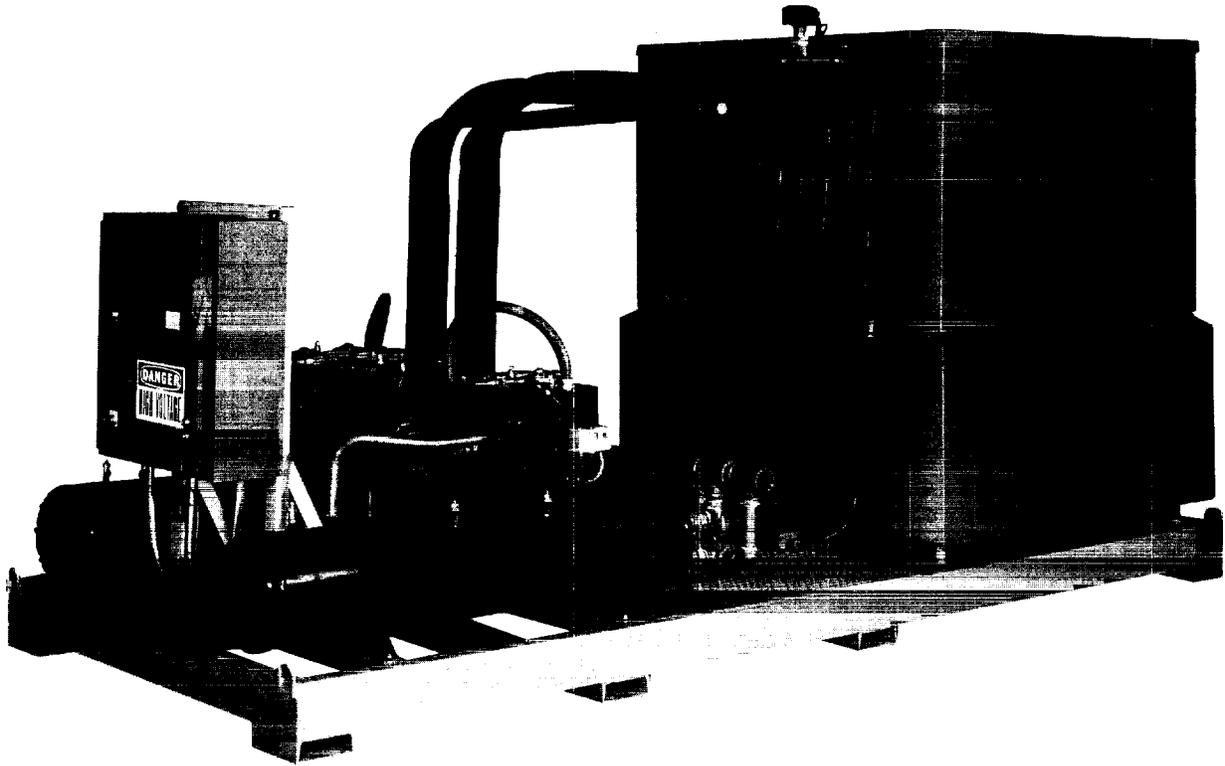


Mueller's tankless chiller is designed for applications where it is necessary to place the chiller over the top of an existing tank. The tankless units are available in both open- and enclosed-type cabinets. Distribution pans are available in low, medium, and high flow. Units are available in both 3 x 5 and 4 x 8 evaporators from 6- to 18-plate cabinets.

Cabinet Size (feet)	L x W x H (in)	Weight with Plates (lbs)	Refrigerant Connection Size		Water Pan Connection Size
			Inlet	Outlet	
6 - 3 x 5	70 x 38 x 46	790	1 ¹ / ₈ " Tube	1 ¹ / ₂ " Tube	3" MPT
12 - 3 x 5	70 x 62 x 46	1,400	1 ¹ / ₈ " Tube	1 ¹ / ₂ " Tube	(2) 3" MPT
6 - 4 x 8	108 x 41 x 62	1,550	1 ¹ / ₈ " Tube	2" Pipe	4" MPT
12 - 4 x 8	108 x 67 x 62	2,980	1 ¹ / ₈ " Tube	2" Pipe	(2) 4" MPT
18 - 4 x 8	108 x 104 x 62	4,220	1 ¹ / ₈ " Tube	2" Pipe	(3) 4" MPT

SKID-MOUNTED CHILLERS

COMPLETE CHILLER SYSTEM ALL IN ONE PACKAGE.



Mueller's skid-mounted falling-film chiller is designed to offer a total chiller package where a complete system is preferred. You may select 3 x 5 or 4 x 8 chillers for the package. Next, you can select R-22 or ammonia for the refrigerant. High sides are available with water-cooled and remote, air-cooled condensers. Skids are designed for indoor installations only.

OPTIONS, ACCESSORIES, AND OTHER EQUIPMENT

Refrigerant controls for ammonia and other refrigerants including direct-expansion, flooded, and recirculated systems.

Refrigerant circuit manifolds.

Surge drums, receivers, and other vessels.

Temperature control assemblies — electrical, mechanical, and electronic controls available.

Circulating pumps.

Condensing units (semihermetic and scroll compressors). Available in air-cooled, remote air-cooled, or water-cooled models.

Fully insulated chillers.

MUELLER®

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