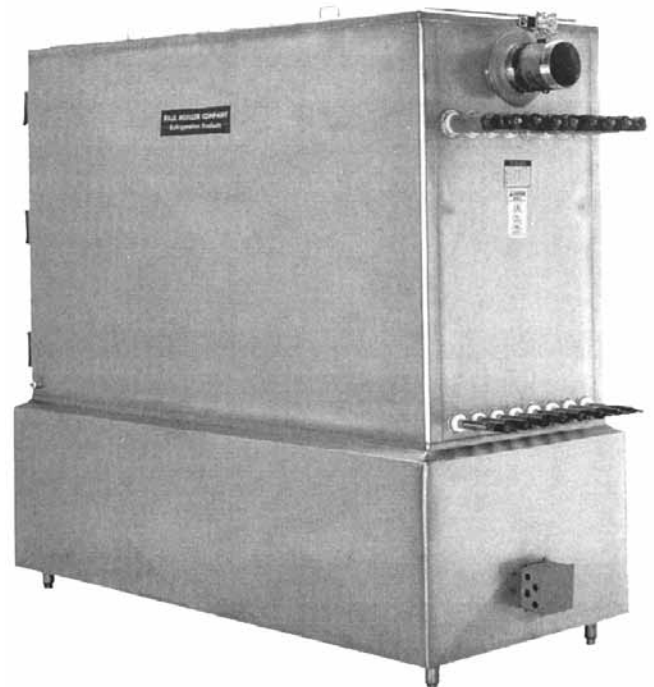


## Falling Film Evaporator Based Chilled Water Production

### General Description:

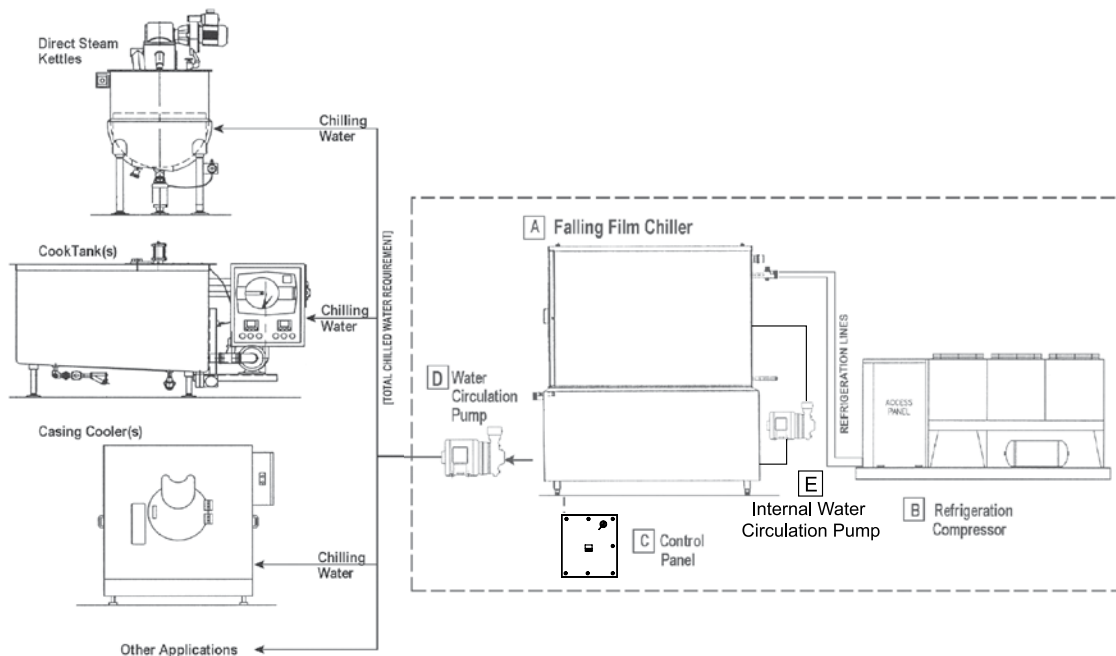
[Chilled Water Application & Sizing] A reliable and cost effective source of chilled water is key to the rapid chilling of kettle cooked and Cook Tank prepared foods and also a valuable resource in other food prep and production applications. The sizing of a Falling Film Chiller and supporting Refrigeration System is a function of the estimated daily chilled water requirements for all applications.

Potential growth, future equipment additions, added production shifts, physical layout and relationship of the Evaporator to production areas will all impact proper sizing of Falling Film Systems.



### Typical Production Equipment/Uses:

- (A) Falling film chiller
- (B) Refrigeration system
- (C) Ice water control panel
- (D) Water circulation pump
- (E) Internal water circulation pump



## Falling Film Chiller Overview:

Falling Film Chillers (FFC) use evaporator plate technology with compressor condensers to make chilled water. A FFC is a box with a group of vertical evaporator plates and a water reservoir. Unlike the coils in an Ice Builder, which stores ice around them, these plates make chilled water on an on-demand basis.

FFC systems are sized based on instantaneous chilled water requirements unlike Ice Builders, which are sized by total daily demand. However, FFC have groups of chiller plates within the unit which can be separated into "circuits". A circuit is one or more plates supported by circulation pumps and a compressor condenser. This has some advantages:

- The unit can be sized for growth up front. One establishes the maximum load expected in the future and chooses the FFC accordingly. The FFC is purchased with the initial circuit or group of plates in place, with adequate pumps and refrigeration.
- As the customer's chilled water demands grow and additional Tumble Chillers or Cook Tanks are added for additional product chilling capacity, additional plates and supporting compressor condenser capacity can be added. The internal and system recirculation pumps are replaced as needed for the increased water flow.
- If supplied by CapKold, the additional compressor condenser would be configured with the features outlined as necessary for proper operation with FFC. If supplied by others, modifications may be required for full compatibility with the FFC. Contact factory for details.
- For purposes of evaluation the energy requirements of Falling Film Systems versus Ice Builders, keep the following information in mind. Ice Builders and their associated compressor condensers are sized to make ice at night, during off peak rate hours, and are based on making ice 12 hours per day. In contrast, compressor condensers for FFC operate on demand as they sense the water temperature within the Chiller reservoir and the need to reduce its temperature. The compressor condenser operates on demand, much as your refrigerator does at home. It monitors water temperature and turns on and off as needed.

## System Component Information:

<b>A Falling Film Chiller</b>			
LOAD (BTU/HR)	MODEL NUMBER	TYPE AND NUMBER OF PLATES	SHIPPING WEIGHT
126,000	GN-04-060	3X5-4 PLATES	1,200 LBS.
138,600	GN-05-075	3X5-5 PLATES	1,300 LBS.
176,400	GN-05-090	3X5-5 PLATES	1,300 LBS.
201,600	GN-06-105	3X5-6 PLATES	1,400 LBS.
239,400	GL-04-120	4X8-4 PLATES	2,000 LBS.
302,400	GL-04-150	4X8-4 PLATES	2,200 LBS.
352,800	GL-05-180	4X8-5 PLATES	2,400 LBS.
403,200	GL-06-225	4X8-6 PLATES	2,600 LBS.
504,000	GL-07-255	4X8-7 PLATES	2,800 LBS.
600,480	GL-08-300	4X8-8 PLATES	3,900 LBS.
680,544	GL-09-340	4X8-9 PLATES	4,100 LBS.
756,000	GL-10-375	4X8-10 PLATES	4,300 LBS.
800,640	GL-11-400	4X8-11 PLATES	4,500 LBS.
900,720	GL-12-450	4X8-12 PLATES	4,700 LBS.
970,776	GL-13-485	4X8-13 PLATES	4,900 LBS.

<b>B Refrigeration</b>		<b>E Pumps</b>	<b>D Pumps</b>
CONDEN. SELECT	BTU/HR AT 27°F	INTERNAL CIRCULATION	ICE WATER CIRCULATION
COL-1500	120,096	60 GPM	2 HP
COL-2000	150,120	75 GPM	3 HP
COL-2500	180,144	90 GPM	3 HP
COL-3000	210,168	105 GPM	5 HP
COL-3000	240,192	120 GPM	5 HP
COL-3500	300,240	150 GPM	7.5 HP
COL-5000	360,288	180 GPM	10 HP
COL-6000	450,360	225 GPM	10 HP
COL-7000	510,408	255 GPM	10 HP
COL-8000	714,400	300 GPM	15 HP
COL-8000	714,400	340 GPM	15 HP
COL-10000	836,600	375 GPM	15 HP
COL-10000	836,600	400 GPM	20 HP
COL-12000	978,920	450 GPM	20 HP
COL-12000	978,920	485 GPM	___ HP

## Mini Spec/General Description:

Chilled Water Production System to provide cold water to the rapid chilling of packaged product in: \*Tumble Chillers; \*Cook Tanks; \*jacket cooling in one or more direct steam kettles; and \*any additional specified application. The Falling Film Chiller is sized for peak load BTU (heat) removal. The system provides on demand cold water.


**Falling Film Chiller Model:**

To be used to

provide cold water on demand.

- Tank fabricated from 304 stainless steel
- Stainless steel evaporator plates
- 2" insulation around holding tank
- Water level control
- Internal chilled water circulation pump
- Oil separator
- Standard expansion valve to control refrigerant


**Refrigeration System Model:**

Provides the chilling capacity for the Falling Film Chiller.

- Outdoor weather hood
- Weatherproof control panel
- Condenser with subcooling circuit
- Suction/discharge vibration absorbers
- Head-pressure control valve
- Non-fused disconnect
- Oil pressure control
- High/low pressure control
- Manual pump down switch
- Accumulator with heat exchanger
- Hot gas bypass
- Liquid injection
- Insulated and heated receiver

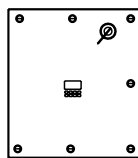
**Available Options:**

- Low ambient operation
- Water cooled condenser (consult factory)
- Alternative refrigerants

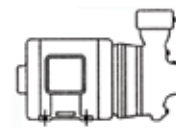
**Falling Film Chiller Dimensions & Utilities:**

DIMENSIONS & UTILITY REQUIREMENTS				
	LOAD (BTU/HR)	MODEL NUMBER	TYPE AND NUMBER OF PLATES	OPERATING WEIGHT
3x5 2-6 Plates	126,000	GN-04-060	3X5-4 PLATES	2,460 LBS.
	138,600	GN-05-075	3X5-5 PLATES	2,560 LBS.
	176,400	GN-05-090	3X5-5 PLATES	2,560 LBS.
	201,600	GN-06-105	3X5-6 PLATES	2,660 LBS.
4x8 2-8 Plates	239,400	GL-04-120	4X8-4 PLATES	5,030 LBS.
	302,400	GL-04-150	4X8-4 PLATES	5,230 LBS.
	352,800	GL-05-180	4X8-5 PLATES	5,430 LBS.
	403,200	GL-06-225	4X8-6 PLATES	5,630 LBS.
	504,000	GL-07-255	4X8-7 PLATES	5,830 LBS.
	600,480	GL-08-300	4X8-8 PLATES	9,830 LBS.
4x8 9-16 Plates	680,544	GL-09-340	4X8-9 PLATES	10,030 LBS.
	756,000	GL-10-375	4X8-10 PLATES	12,030 LBS.
	800,640	GL-11-400	4X8-11 PLATES	14,030 LBS.
	900,720	GL-12-450	4X8-12 PLATES	16,030 LBS.
	970,776	GL-13-485	4X8-13 PLATES	18,030 LBS.

	LENGTH A	WIDTH B	HEIGHT C	OUTLET CONN.	INLET CONN.
3x5 2-6 Plates	68.5"	39.5"	78"	2-3"	3"
	68.5"	39.5"	78"	2-3"	3"
	68.5"	39.5"	78"	2-3"	3"
	68.5"	39.5"	78"	2-3"	3"
4x8 2-8 Plates	104.5"	39.5"	90.75"	2-3"	4"
	104.5"	39.5"	90.75"	2-3"	4"
	104.5"	39.5"	90.75"	2-3"	4"
	104.5"	39.5"	90.75"	2-3"	4"
	104.5"	39.5"	90.75"	2-3"	4"
	104.5"	39.5"	90.75"	2-3"	4"
4x8 9-16 Plates	104.5"	39.5"	90.75"	2-3"	4"
	104.5"	72.375"	90.75"	2-3"	2-4"
	104.5"	72.375"	90.75"	2-3"	2-4"
	104.5"	72.375"	90.75"	2-3"	2-4"


**Chilled Water Control Panel:**

- Stainless steel housing usually installed in room with Falling Film Evaporator:
  - On-Evaporator mounting
  - Wall mounting
- Standard controls include: water circulation pump pilot light, automatic air circulation pump switch and indicator light, and automatic water makeup


**Internal & External Water Circulation Pumps:**

To pump chilled water from Falling Film Evaporator to remote CapCold Tumble Chillers, Cook Tanks and Kettle jackets and back to the Falling Film Evaporator. To pump water from reservoir to cooling plates.

- \_\_\_\_Horsepower

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