



# Refrigeration Products

## *Cool.*

At Paul Mueller Company, we have decades of cooling expertise designing, engineering, and manufacturing products for your refrigeration applications.

This experience has allowed us to refine our equipment to serve your precise needs.

We work to understand your process and bring you the right chilling solution for your custom applications, including produce chilling, bakery water chilling, ingredient water chilling, sweet water chilling, hydrocooling, ice water chilling, and more.

Paul Mueller Company has cool products for all your refrigeration needs. Contact us today.

## TABLE OF CONTENTS

3 x 3 Falling Film Chillers.....	3
3 x 5 Falling Film Chillers.....	4
4 x 8 Falling Film Chillers.....	5
Tankless Falling Film Chillers.....	6
Packaged Chillers .....	7
Batch Chillers .....	8
Air-Cooled Condensing Units.....	9
Fre-Heater® Heat Recovery Systems .....	11
Brazed-Plate Heat Exchangers.....	13
Accu-Therm® Semi-Welded Heat Exchangers..	14



# 3 x 3 Falling Film Chillers

*Paul Mueller Company's 3 x 3 falling film chillers are ideal for bakery water chilling and produce chilling applications.*

Paul Mueller Company's 3 x 3 falling film chillers reduce chilling time, are easy to clean and inspect, and require virtually no downtime for maintenance. The fully-enclosed design of this chiller puts an end to product contamination. Our chillers can increase production and bring a faster return on your investment by preserving the quality and freshness of your product.

The Mueller Temp-Plate® inflated heat transfer surface inside this chiller eliminates potential chiller freeze-up and accepts incoming fluid temperatures in excess of 80°F, getting rid of the need for a secondary heat exchanger. Pair your 3 x 3 falling film chiller with a Mueller E-Star® HiPerForm® condensing unit for maximum efficiency.

The 3 x 3 falling film chiller is available in a four-plate cabinet, with a tank properly sized to satisfy the requirements for optimum performance.



## Specifications and Sizing

Number of Plates	Flow Rate (GPM)	Btuh	Volume Flow Rate (GPH)	E-Star® Condensing Unit	Dimensions L x W x H (in)	Max. Shipping Weight (lb)	Tank Capacity (gal)
2	7.2	43,000	144	5 HP	44.5 x 22.25 x 77.125	925	73
3	10.8	65,000	216	7.5 HP	44.5 x 22.25 x 77.125	925	73
4	14.4	87,000	288	9 HP	44.5 x 22.25 x 77.125	925	73

# 3 x 5 Falling Film Chillers

*Paul Mueller Company's 3 x 5 falling film chillers reduce chilling time and increase production, bringing a faster return on your investment.*

Mueller 3 x 5 falling film chillers are easy to clean and inspect with virtually no downtime for maintenance. And the fully enclosed design puts an end to product contamination.

The design of Mueller Temp-Plate inflated heat transfer surface inside this chiller eliminates potential chiller freeze-up and accepts incoming fluid temperatures in excess of 105°F without the need for a secondary heat exchanger.

Distribution pans are available with extra-low, low, and high flow rates, based on chilled water usage. Extra-low flow rates range from 4 to 10 gpm, low flow rates range from 8 to 15 gpm, and high flow rates range from 16 to 30 gpm (per evaporator).

The 3 x 5 falling film chiller is available in an eight-plate cabinet, with a tank properly sized to satisfy the requirements for optimum efficiency.



## Specifications and Sizing

Cabinet Size	Minimum No. of Plates	Maximum No. of Plates	Dimensions L x W x H (in)	Max. Shipping Weight (lb)	Tank Capacity (gal)	Distribution Pan Connection Size
N	2	8	68.5 x 39.125 x 77.75	1,520	173	2" or 3"
O	2	8	68.5 x 39.125 x 99.25	1,720	365	2" or 3"

### NOTES:

- The refrigerant inlet connection size per plate is 1.125" tube. The outlet size is 1.25" tube.
- Maximum weight is based on the maximum number of plates that a chiller will hold.
- Low flow/extra-low flow distribution pan connection is 2".
- High flow distribution pan connection is 3".

# 4 x 8 Falling Film Chillers

*Paul Mueller Company's 4 x 8 falling film chillers eliminate product contamination with a fully enclosed design.*

Mueller 4 x 8 enclosed-type falling film chillers ensure your product is free from airborne particles. The chiller is easily accessible through gasketed doors and is specifically designed for large-capacity chilling applications.

The distribution pans are available in extra-low, low, and high flow rates, based on chilled water usage. Extra-low flow rates range from 6 to 16 gpm, low flow rates range from 13 to 24 gpm, and high flow rates range from 25 to 48 gpm (per evaporator).



## Specifications and Sizing

Cabinet Size	Minimum No. of Plates	Maximum No. of Plates	Dimensions L x W x H (in)	Maximum Shipping Weight (lb)	Tank Capacity (gal)	Distribution Pan Connection Size
J	2	8	104.5 x 39.125 x 90.75	2,735	293	4" or 6"
K	2	16	104.5 x 72.375 x 90.75	5,220	525	(2) 4" or 6"
L	2	24	104.5 x 105.875 x 90.75	7,705	750	(3) 4" or 6"
M	2	32	104.5 x 139 x 90.75	10,190	1,113	(4) 4" or 6"

**NOTES:**

- The refrigerant inlet connection size per plate is 1.125" tube. The outlet size is 2" pipe.
- Maximum weight is based on the maximum number of plates that a chiller will hold.
- Low flow and extra-low flow distribution pans have a 4" connection and high flow distribution pans have a 6" connection.

# Tankless Falling Film Chillers

*Paul Mueller Company's tankless falling film chillers offer versatility to match your specific storage needs.*

Mueller tankless falling film chillers are designed for applications where it is necessary to place the chiller over the top of an existing tank.

Mueller tankless falling film chillers reduce chilling time, increase production, and bring a faster return on your investment. This product is easy to clean and inspect with virtually no downtime for maintenance, and its fully enclosed design puts an end to product contamination.

The design of Mueller Temp-Plate inflated heat transfer surface inside our tankless falling film chiller eliminates potential chiller freeze up and accepts incoming fluid temperatures in excess of 80°F, without the need for a secondary heat exchanger.

Tankless falling film chillers are available with either open- or enclosed-type cabinets that can be fitted with either 3 x 5 or 4 x 8 evaporators, and can contain from four to 24 plates.

Distribution pans are available in extra-low, low, and high flow rates.



## Specifications and Sizing

Cabinet Size	No. of Plates	Dimensions L x W x H (in)	Weight with Plates (lb)	Refrigeration Connection Size		Water Pan Connection Size
				Inlet*	Outlet*	
3 x 5	4	70 x 25 x 47	643	1.125" Tube	1.5" Tube	2" or 3" MPT
3 x 5	8	70 x 41 x 47	990	1.125" Tube	1.5" Tube	2" or 3" MPT
4 x 8	4	108 x 29 x 62	1,020	1.125" Tube	2" Pipe	4" or 6" MPT
4 x 8	8	108 x 43 x 62	1,550	1.125" Tube	2" Pipe	4" or 6" MPT
4 x 8	16	108 x 67 x 62	2,980	1.125" Tube	2" Pipe	(2) 4" or 6" MPT
4 x 8	24	108 x 104 x 62	4,220	1.125" Tube	2" Pipe	(3) 4" or 6" MPT

**NOTE:**

\*Inlet and outlet connection sizes are per plate connection sizes.

# Packaged Chillers

*Paul Mueller Company's packaged chillers can be used for commercial, industrial, medical, and food process cooling.*

## STANDARD FEATURES

- Stainless steel brazed-plate evaporator with .5" insulation, secured in a steel bracket.
- Hermetic compressor with crankcase heater.
- Copper tube/aluminum fin condenser(s).
- Direct-drive condenser fan motor.
- Hot gas bypass capacity control.
- Return fluid sensing thermostat.
- High-pressure refrigerant control.
- Compressor motor contactor.
- Suction accumulator.
- Water flow switch.
- 24 V control transformer.
- Rust-resistant, high-CFM aluminum condenser fan blade.
- Manual compressor lead lag switch (dual circuit units).
- Low-pressure refrigerant control with time delay.
- LED 24 V thermometers on water inlet/outlet.
- Liquid line drier, sight glass, solenoid, and TEV.
- ON/OFF switch for control circuit operation.
- Compressor and control circuit fusing.
- Compressor and hot gas valve time delays.
- Hard start kit (single-phase units only).
- Painted galvanized steel sheet metal cabinet.
- Water and refrigeration lines have .5" insulation.
- Full refrigerant charge from factory.



## AVAILABLE OPTIONS

- Low water flow indicator with dry contacts.
- High temperature indicator with dry contacts.
- Compressor run indicator.
- Power on indicator.
- Fault indicator with dry contacts.
- Casters (factory mounted).
- Water temperature freeze thermostat.
- Variable fan speed control (+20°F).
- Flooded condenser with receiver/head pressure control (-20°F).
- Factory-installed heat tape freeze protection, thermostatically controlled.
- Special piping for de-ionized and reverse osmosis.
- "Gold" -finned condenser coil (coastal protection).
- Refrigerant suction/discharge gauge set.
- Fused stainless steel system process pump.
- Fused stainless steel system recirculation pump.
- Stainless steel storage tank with .5" insulation.
- Water-cooled coaxial steel/copper tube condenser.
- Fan cycle control (+40°F): 90S, 120S, and 240D only.
- Semi-hermetic compressor.
- Shell-and-tube chiller barrel.
- Fused disconnect.
- Water flow meter.
- Phase monitor.

# Batch Chillers

*Paul Mueller Company's batch chillers provide automatic water temperature control for the modern baking industry.*

## STANDARD FEATURES

- Outlet temperatures down to 36°F.
- Provides up to 70 gallons of chilled water per hour.
- Available 50- and 120-gallon storage capacities.
- Process/recirculation pump standard.
- Adjustable digital temperature control with °F or °C display.
- Inlet temperatures up to 80°F.
- Remote condensing units.
- ETL-listed.



## Technical Specifications

Model No.	Flow Rate (GPH*)	Pounds Per Hour	Storage Capacity (gal)	Draw-Off Flow Rate (GPM)	Cond. Unit Type	Cond. Unit HP	Electrical Data	Estimated Shipping Weight (lb)	Estimated Dimensions L x W x H (in)
PMC 40/50-RC	40	334	50	14	Outdoor	2	208-230/60/1	Skid-310	32 x 24 x 72
								CU-140	24 x 19 x 17
PMC 40/50-RS	40	334	50	14	None	—	208-230/60/1	310	32 x 24 x 72
PMC 70/120-RC	70	584	120	18	Outdoor	3.5	208-230/60/1	Skid-710	42 x 34 x 84
								CU-360	40 x 31 x 32
PMC 70/120-RS	70	584	120	18	None	—	208-230/60/1	710	42 x 34 x 84

## Performance Specifications

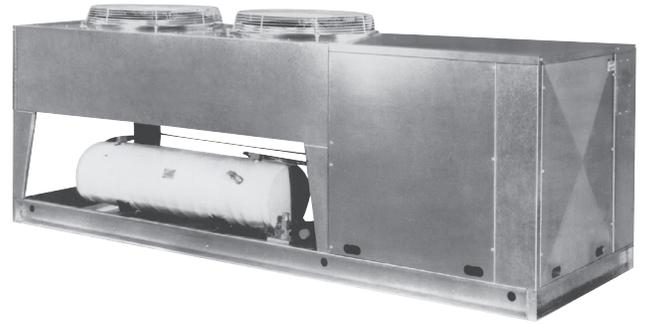
Inlet Temperature	Model 45/50 (GPH*/Storage)	Model 70/120 (GPH*/Storage)
60°F	36°F	36°F
70°F	38°F	38°F

### NOTE:

\*GPH capacities are based on a minimum water refill rate of at least 8 GPM, and on drawing evenly sized and spaced batches each hour.

# Air-Cooled Condensing Units

*Paul Mueller Company's air-cooled condensing units can be used for standard refrigeration applications, or add the modified options for a unit designed to work with Mueller chillers.*

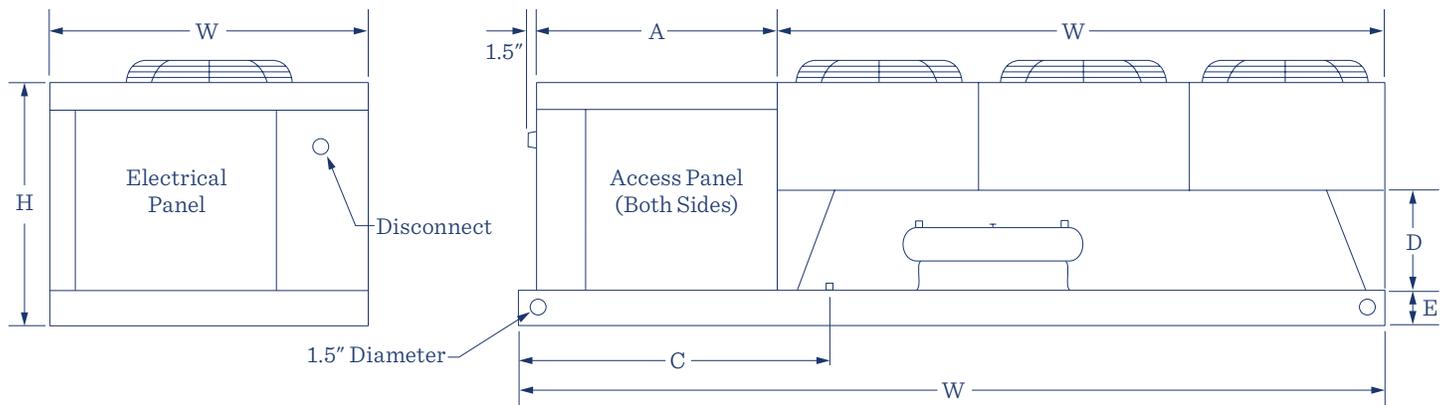


## STANDARD FEATURES

- Liquid receiver.
- Oil pressure control.
- Suction accumulator.
- High/low pressure control.
- Manual pump-down switch.
- Compressor contactor.
- Non-fused disconnect.
- Fan cycling thermostat.
- Outdoor weather hood.
- Weatherproof control panel.
- Condenser with subcooling circuit.
- Suction filter (replaceable core filter 15 hp and larger).
- Semi-hermetic compressor with crankcase heater.
- Compressor and condenser fuses (as required).
- Condenser fan contactors (as required).
- Suction/discharge vibration absorbers.
- Liquid line filter drier and sight glass.
- Head pressure control valve.
- Liquid and suction service valves.

## MODIFIED UNIT FEATURES

- Standard features listed above.
- Accumulator with heat exchanger in lieu of standard suction accumulator.
- Hot gas bypass valve (piped into accumulator) with hot gas solenoid valve.
- Liquid injection valve (piped into accumulator) with liquid injection solenoid valve.
- Separate low-pressure control to activate hot gas bypass and liquid injection solenoid valves.



# Air-Cooled Condensing Unit Specifications

AIR-COOLED CONDENSING UNIT DIMENSIONAL DATA										
Model No.	Condenser No. of Fans	Dimensions (in)								Est. Shipping Weight (lb)
		L	W	H	A	B	C	D	E	
COL-0500H	1	81	40.25	40.5	38	43	46	18	5	750
COL-0800H	2	121	40.25	40.5	38	83	46	18	5	860
COL-0900H	2	121	40.25	40.5	38	83	46	18	5	900
COL-1000H	2	121	40.25	40.5	38	83	46	18	5	900
COL-1500H	2	121	40.25	40.5	38	83	46	18	5	1,440
COL-2000H	2	176	48.00	53.5	55	109	63	21	6	1,560
COL-2500H	2	176	48.00	53.5	55	109	63	21	6	1,780
COL-3000H	2	176	48.00	53.5	55	109	63	21	6	1,870
COL-3500H	3	229	48.00	53.5	55	162	63	21	6	1,950
COL-4000H	3	229	48.00	53.5	55	162	63	21	6	1,960
COL-5000H	4	176	96.00	53.5	55	109	63	21	6	2,400
COL-6000H	4	176	96.00	53.5	55	109	63	21	6	2,680
COL-7000H	6	229	96.00	53.5	55	162	63	21	6	3,200
COL-8000H	6	229	96.00	53.5	55	162	63	21	6	3,500

AIR-COOLED CONDENSING UNIT CAPACITIES									
Model No.	HP	45	40	35	30	25	20	15	10
COL-0500H	5	64,400	58,800	53,400	48,000	43,200	38,700	34,400	30,400
COL-0800H	7.5	108,000	99,000	90,500	81,700	74,000	66,600	59,500	52,700
COL-1000H	10	148,500	136,600	125,400	113,800	103,800	94,300	85,300	76,900
COL-1500H	15	201,700	185,900	170,800	154,900	141,400	128,600	116,500	105,100
COL-2000H	20	223,000	204,000	186,000	167,300	151,500	136,700	122,900	110,100
COL-2500H	25	281,700	260,200	238,800	215,600	195,400	175,900	157,300	140,100
COL-3000H	30	328,800	302,600	277,300	250,700	227,600	205,700	184,900	165,400
COL-3500H	35	395,400	363,700	333,700	302,600	276,000	251,000	227,600	205,600
COL-4000H	40	482,900	446,100	410,700	372,900	340,700	310,000	280,900	253,300
COL-5000H	50	563,400	520,400	477,600	431,200	390,800	351,800	314,600	280,200
COL-6000H	60	657,600	605,200	554,600	501,400	455,200	411,400	369,800	330,800
COL-7000H	70	790,800	727,400	667,400	605,200	552,000	502,000	455,200	411,200
COL-8000H	80	965,800	892,200	821,400	745,800	681,400	620,000	561,800	506,600

**NOTE:**

Based on a 95°F ambient, R-404a.

# Fre-Heater®

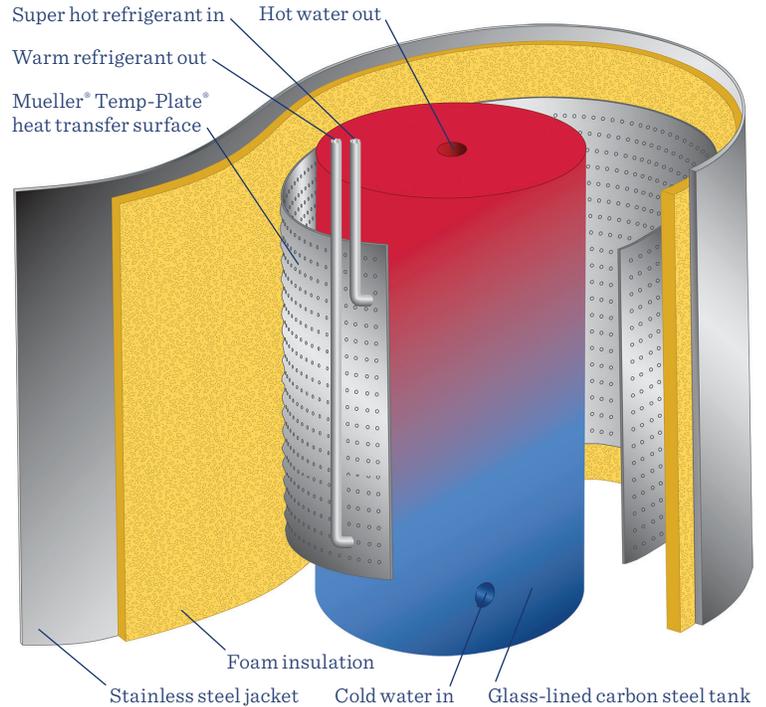
*Paul Mueller Company's Fre-Heaters can recover up to 60% of wasted energy normally discarded from refrigeration and air-conditioning systems.*

By transferring recovered heat energy to water, vast amounts of free hot water can be stored for use when and where the need arises. Fre-Heaters heat and store in one unit, and operate on any potable water supply because it is virtually immune to corrosion.

Mueller Temp-Plate® is the heart of the Fre-Heater system. This highly efficient heat transfer surface is constructed of 100% stainless steel. Thoroughly tested and listed by CSA United States, it meets all codes required for double-wall heat exchanger construction.

Mueller Fre-Heater's industrial-grade, glass-lined water storage tank resists rust and features two replaceable magnesium anodes for extra protection against natural water corrosion, increasing the tank life. Each unit has a stainless steel outer jacket.

Walk-in coolers, freezers, commercial air-conditioning systems, ice machines, and other refrigeration systems all waste enough heat energy to produce hot water on a large scale. A Mueller Fre-Heater® pays for itself while reducing your energy costs proportionately to your hot water usage.



## MODEL "D" FEATURES

- Channels recovered energy from up to six refrigeration sources into a single Fre-Heater unit.
- Designed for 150 psi maximum water working pressure and 426 psi maximum refrigerant working pressure.
- Available in 50-, 80-, and 119-gallon capacities.
- Model "DE" Fre-Heaters offer all of the features of the Model "D" Fre-Heater, with the addition of a 4,500-watt, 240-volt electric element. 119-gallon capacity.



## MODEL "DHS" FEATURES

- Channels recovered energy into one Fre-Heater unit.
- Designed for 150 psi maximum water working pressure and 500 psi maximum refrigerant working pressure.
- 119-gallon capacity.
- Model "DHSE" Fre-Heaters offer all of the features of standard "DHS" Fre-Heaters with the addition of a 4,500- or 6,000-watt, 240- or 460-volt electric element.

# Fre-Heater Specifications

Model No.	Part No.	Water Connection Size (in)	No. of Refrigerant Circuits	Refrigerant Connection Size (in)	Per Circuit Refrigeration Application Capacity <sup>1</sup>	Height (in)	Diameter (in)	Approx. Shipping Weight (lb)
D-50	8823750	.75 FPT	1	.625 ODM	.5 through 4	53.875	21.75	225
D2-50	8823751	.75 FPT	2	.625 ODM	.5 through 4	53.875	21.75	225
D-80	8823780	.75 FPT	2	.75 ODM	1 through 5	58.625	25.25	320
D-120	8823821	1.5 FPT	2	.75 ODM	1 through 7.5	61.75	29.5	475
D2-120	8823820	1.5 FPT	2	1.125 ODM	3 through 15	61.75	29.5	475
D2-120A <sup>2</sup>	8823817	1.5 FPT	2	1.125 ODM	3 through 15	61.75	29.5	475
DH-120	8823823	1.5 FPT	2	1.625 ODM	7 through 35	61.75	29.5	475
DE-120	8823822	1.5 FPT	2	1.125 ODM	3 through 15	61.75	29.5	475
DHS-120	8825141	1.25 FPT	1	1.625 ODM	14 through 70	62	29.5	440
DHSE-120A4	8825142	1.25 FPT	1	1.625 ODM	14 through 70	62	29.5	440
DHSE-120B4	8825143	1.25 FPT	1	1.625 ODM	14 through 70	62	29.5	440
DHSE-120A6	8825213	1.25 FPT	1	1.625 ODM	14 through 70	62	29.5	440
DHSE-120B6	8825214	1.25 FPT	1	1.625 ODM	14 through 70	62	29.5	440
DA-120 <sup>3</sup>	8823826	1.5 FPT	2	1 MPT	5 through 25	62	29.5	440

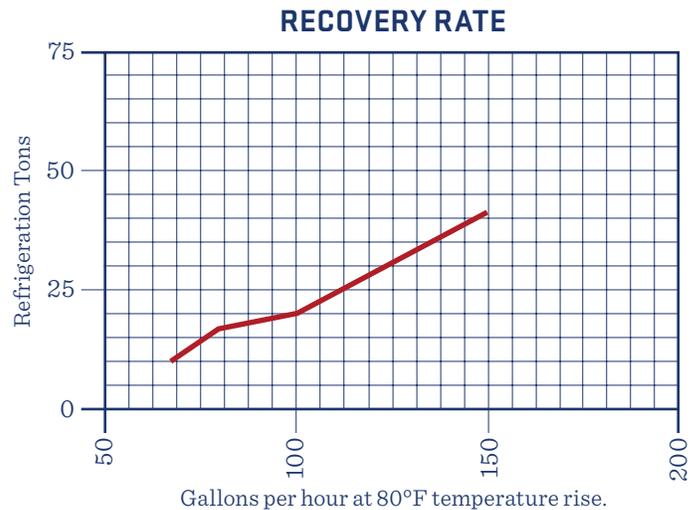
**NOTES:**

<sup>1</sup> Refrigeration tonnage capacities are 30°F evaporator ton loads, not total heat of rejection tons. Pressure drop through a Fre-Heater refrigeration circuit will be approximately 15 psi at the maximum tonnage application. Pressure drop at the mid-range of tonnage application will be about 5 to 7 psi. The best overall refrigeration/heat recovery system efficiency is usually obtained at or below the mid-range tonnage application.

<sup>2</sup> Aquastat included.

<sup>3</sup> Ammonia only.

FRE-HEATER ELECTRICALLY ASSISTED UNITS		
Model No.	Element Size	Electrical Data
DE-120	4,500 watt	208-230/60/1
DHSE-120A4	4,500 watt	208-230/60/1
DHSE-120B4	4,500 watt	460/60/1
DHSE-120A6	6,000 watt	208-230/60/1
DHSE-120B6	6,000 watt	460/60/1



# Brazed-Plate Heat Exchangers

*Top quality, high efficiency, and exceptional value.*

When you design around Paul Mueller Company's brazed-plate heat exchangers, you know what to expect in your finished product.

Mueller offers one of the broadest ranges of brazed-plate heat exchangers, and the program is frequently expanded. Many of these units are in stock and can be shipped the next day in most cases.

Many applications require the use of small, efficient heat exchangers. The preferred choice is the brazed-plate heat exchanger. A brazed plate heat exchanger that is able to transfer 180,000 Btuh weighs only 44 pounds and is less than two feet high.

More than 90% of its mass constitutes highly efficient heat exchange surface, which is why it is smaller in size. Compare almost any kind of heat exchanger with a brazed-plate heat exchanger and you will find the brazed-plate heat exchanger's efficiency is superior and the benefits are substantial.

Brazed-plate heat exchangers contain up to 200 herringbone-pattern embossed stainless steel plates. Every other plate is turned 180°, causing the ridges of adjacent plates to intersect one another, thus forming a lattice of contact points. When these points are subsequently brazed together, the resulting unit is a compact, pressure-resistant heat exchanger in which almost all material is involved in the heat transfer process.

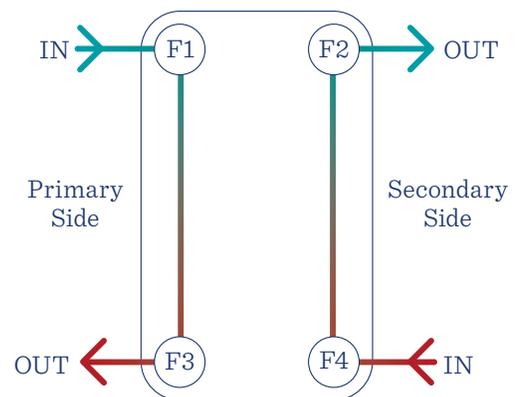
The brazed plates form two separate channel systems. The two media assume a true counter-current flow, completely isolated from each other. This channel configuration is designed to produce high turbulence, promoting maximum heat transfer.

Applications include condensers, evaporators, subcoolers, oil coolers, industrial processes, water heating, snow melting, heat pumps, air conditioning, and chilling.



## STANDARD FEATURES

- A wide variety of solder and threaded connections are available.
- Plates are constructed of AISI 316 stainless steel.
- Connections are made of AISI 316 stainless steel
- Brazing is 99.9% copper/nickel alloy.
- Copper-free units are available.
- CE, UL, cUL, CSA.
- 450 psig maximum pressure.
- 383°F maximum temperature.



# Accu-Therm<sup>®</sup> Semi-Welded Heat Exchangers

*Paul Mueller Company's Accu-Therm semi-welded heat exchanger is ideal for solution chilling and refrigerant condensing in refrigeration applications.*

The plate pack is built utilizing welded cassettes (two plates welded together). The refrigerant side is contained within the welded portion of the cassette to include welding of the solution port. Gaskets are used to seal the secondary side, which makes the plate pack easy to disassemble and clean.

The welded cassettes are designed for optimum gasket sealing. Higher pressure improves the sealing of the gaskets.

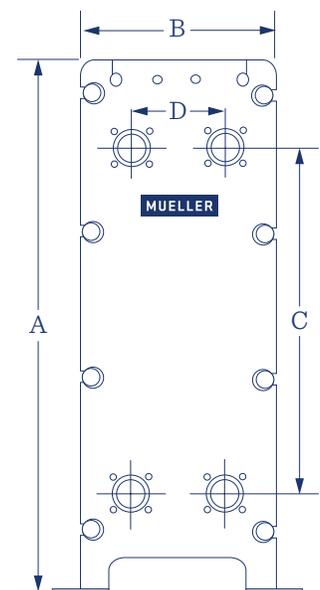
## STANDARD FEATURES

- Carbon steel, blue painted frame. (An optional stainless steel frame is available.)
- Plate material is 0.6 mm AISI (304 or 316) or titanium.
- 150 to 300 psig design pressure. ASME Code standard available.
- Gaskets are available in Nitril<sup>®</sup>, EPDM, Viton<sup>®</sup>, Neoprene, or Chloroprene.
- Rubber lined, carbon steel, or metal lined (stainless steel or titanium) nozzles.
- Available connections are studded port, slip-on or weld neck flange, sanitary ferrule, or stub end.



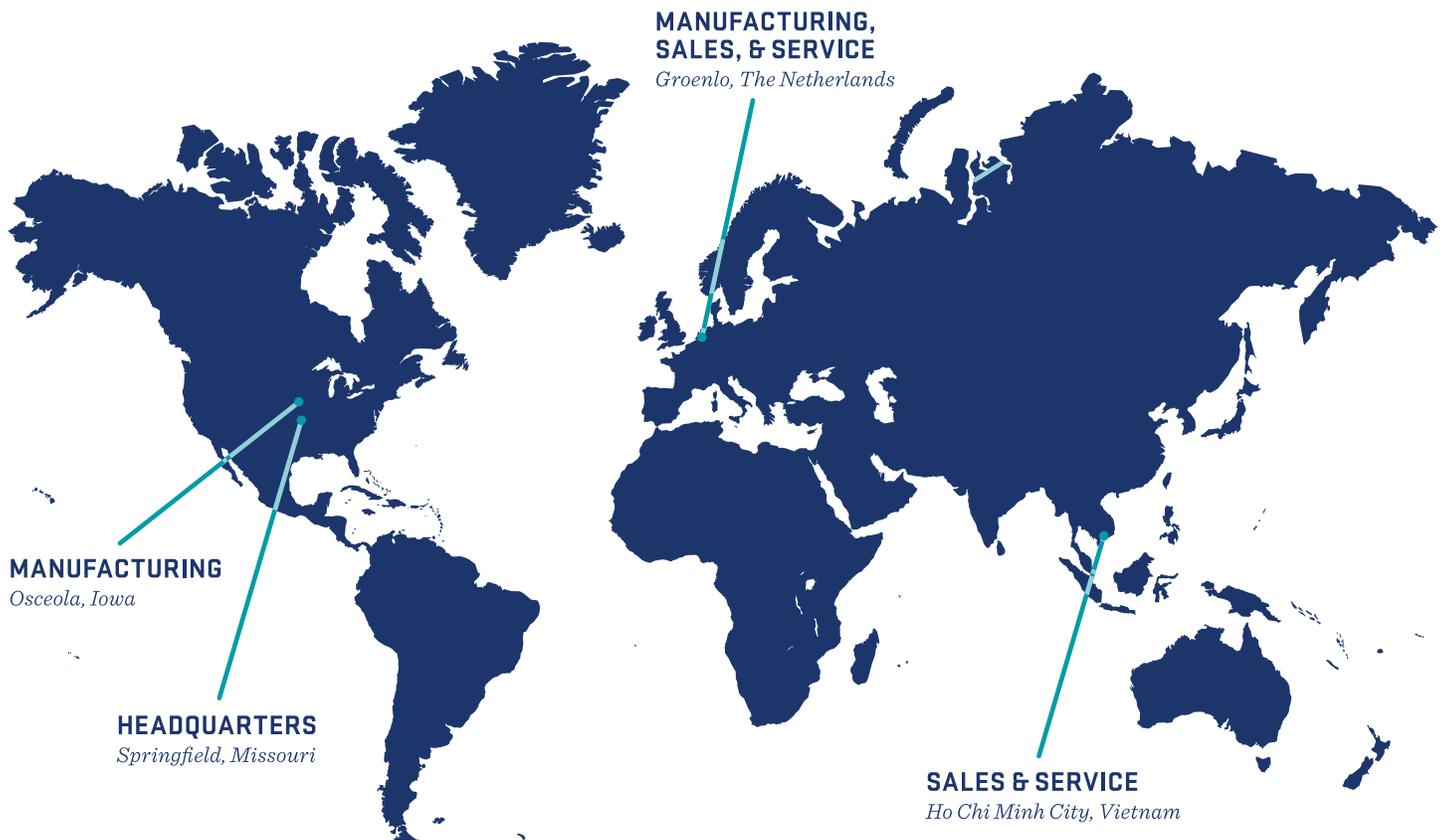
## Specifications and Sizing

Model No.	Dimensions (in)				Port Size (in)	Flow Rate (Maximum gpm)
	A	B	C	D		
AT-25W	49.8	21.7	30.5	10.1	4	800
AT-65W	68.9	28.7	45.4	12	8	3,200



# PAUL MUELLER COMPANY

At Paul Mueller Company, we are united by a belief that the only quality that matters is quality that works for life. With every piece of processing equipment we build, our goal is to have lasting impact. This collective vision has led us from a small sheet metal shop to a global supplier of heating, cooling, processing, and storage solutions. Our equipment allows farmers, brewers, and engineers to keep their products fresh and their inventory strong. Whether our equipment preserves milk in rural areas or helps manufacture medicine with broad health benefits, we are making an impact across the globe.



[refrigeration@paulmueller.com](mailto:refrigeration@paulmueller.com)

**1-800-MUELLER | [WWW.PAULMUELLER.COM](http://WWW.PAULMUELLER.COM)**

©2024 Paul Mueller Company | 24-2402011127p-RefrigSGF | CR-1235-8