

# FRE-HEATER® HEAT RECOVERY SYSTEMS



**SAVE ENERGY AND  
GET FREE HOT WATER**

Recover up to 60 percent  
of wasted energy.

Learn more at [PaulMueller.com](http://PaulMueller.com).

**MUELLER**



# MUELLER® FRE-HEATER® HEAT RECOVERY SYSTEM

## STANDARD FEATURES

- Each unit has a stainless steel outer jacket, and this rust-resistant exterior requires no maintenance.
- Mueller Temp-Plate® heat transfer surface cools the superheated refrigerant from the condensing units and harvests the system's wasted heat energy.
- An industrial-grade, fully-insulated, glass-lined storage tank assures minimal heat loss and long-term reliability.
- A factory-installed anode(s) provides superior galvanic corrosion protection for the water storage tank.
- Fre-Heaters comply with CSA regulations for the United States and Canada, and have Canadian Registration Numbers (CRNs).
- The temperature of hot water depends on the size of condensing units and cooling time.
- Channel recovered energy into a single Fre-Heater, or multiple Fre-Heaters.
- A five-year limited warranty protects your purchase.





# SAVE ENERGY AND GET FREE HOT WATER



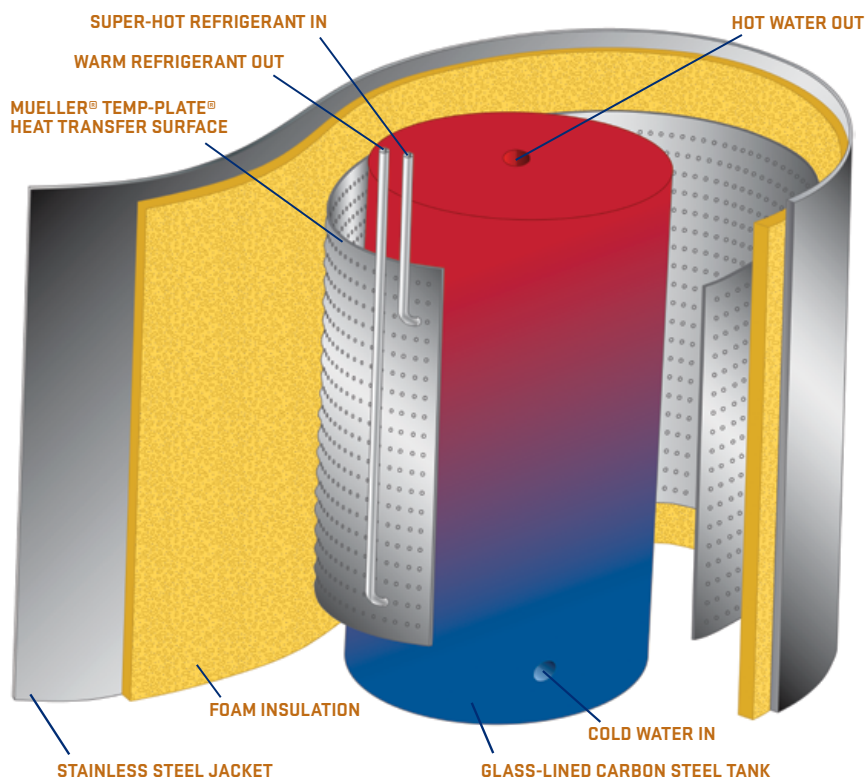
## MUELLER® FRE-HEATER® HEAT RECOVERY SYSTEM

Paul Mueller Company Fre-Heaters can recover up to 60 percent of wasted energy normally discarded from refrigeration and air-conditioning systems. By transferring the recovered heat energy to water, vast amounts of free hot water can be stored for use when and where the need arises.

Mueller Temp-Plate® is the heart of the Fre-Heater system. This highly efficient heat transfer surface is constructed of 100 percent stainless steel. Thoroughly tested and listed by CSA United States and Canada, the Fre-Heater 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. A Mueller Fre-Heater heats and stores in one unit, plus it operates on any potable water supply because it is virtually immune to corrosion.

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.





## MUELLER® FRE-HEATER® HEAT RECOVERY SYSTEM

Paul Mueller Company Model D Fre-Heaters® channel recovered energy into single or multiple Fre-Heater units, producing ample hot water to satisfy your needs. Mueller's dual jacketing means you do not have to worry about refrigerant leakage and our industrial-grade, fully-insulated glass-lined storage tank assures potable water and minimal heat loss.

- Model D Fre-Heaters are available in 50-, 80-, and 119-gallon capacities.
- Model D-120 has 2 anodes, and Models D-50 and D-80 each have 1 anode.
- Units are designed for 150 psi maximum water working pressure and 426 psi maximum refrigerant working pressure.
- A Model DE Fre-Heater offers all of the features of standard Model D Fre-Heaters with the addition of a 4,500-watt, 240-volt electric element. Units are available in 80- and 119-gallon sizes.



## MODEL DHS FRE-HEATER

Paul Mueller Company Model DHS Fre-Heaters® channel recovered energy into single or multiple Fre-Heater units, producing plentiful hot water to meet your needs. With our dual jacket, there are no concerns about refrigerant leakage, and our industrial-grade, fully-insulated glass-lined storage tank assures potable water and minimal heat loss.

- The Model DHS Fre-Heater has a 119-gallon capacity.
- Units are designed for 150 psi maximum water working pressure and 500 psi maximum refrigerant working pressure.
- Model DHSE Fre-Heaters offer all of the features of standard Model DHS Fre-Heaters with the addition of a 4,500- or 6,000-watt, 240- or 460-volt electric element.





## TECHNICAL SPECIFICATIONS

MODEL NO.	MUELLER PART NO.	NO. OF REFRIG. CIRCUITS	REFRIGERATION CONNECTION SIZE	PER CIRCUIT REFRIG. CAPACITY <sup>5</sup>	WATER CONNECTION SIZE
D-50	8828038	1	5/8" ODM	.5 thru 4	.75" FPT
D2-50	8828037	2	5/8" ODM	.5 thru 4	.75" FPT
D-80	8828036	2	3/4" ODM	1 thru 5	.75" FPT
D-120	8828032	2	3/4" ODM	1 thru 7.5	1.5" FPT
D2-120	8828030	2	1 1/8" ODM	3 thru 15	1.5" FPT
D2-120A <sup>3</sup>	8828031	2	1 1/8" ODM	3 thru 15	1.5" FPT
DE-120 <sup>1</sup>	8828034	2	1 1/8" ODM	3 thru 15	1.5" FPT
DH-120 <sup>3</sup>	8828029	2	1 5/8" ODM	7 thru 35	1.5" FPT
DHS-120	8825141	1	1 5/8" ODM	14 thru 70	1.25" FPT
DHSE-120A4 <sup>1</sup>	8825142	1	1 5/8" ODM	14 thru 70	1.25" FPT
DHSE-120A6 <sup>2</sup>	8825213	1	1 5/8" ODM	14 thru 70	1.25" FPT
DHSE-120B6 <sup>2</sup>	8825214	1	1 5/8" ODM	14 thru 70	1.25" FPT
DA-120 <sup>4</sup>	8828033	2	1" MPT	5 thru 25	1.5" FPT

Conditions for the capacities are: 30°F evaporator, 110°F condensing temperature, and 50°F discharge gas superheat.

Pressure drop through the Fre-Heater refrigeration circuit will be approximately 15 psi at the maximum tonnage application.

Pressure drop at the mid-range tonnage will be approximately 5 to 7 psi.

The highest percentage of heat recovered per ton is usually obtained at or below the mid range of the refrigeration tonnage capacity.

MODEL NO.	HEIGHT	DIAMETER	WATER TANK CAPACITY [GAL]	APPROX. SHIPPING WEIGHT [LB]	APPROX LOADED WEIGHT [LB]
D-50	54"	21.75"	50	225	600
D2-50	54"	21.75"	50	225	600
D-80	59"	25.25"	80	320	960
D-120	62"	29.5"	119	475	1,350
D2-120	62"	29.5"	119	475	1,350
D2-120A <sup>3</sup>	62"	29.5"	119	475	1,350
DE-120 <sup>1</sup>	62"	29.5"	119	475	1,350
DH-120 <sup>3</sup>	62"	29.5"	119	475	1,350
DHS-120	62"	29.5"	119	440	1,300
DHSE-120A4 <sup>1</sup>	62"	29.5"	119	440	1,300
DHSE-120A6 <sup>2</sup>	62"	29.5"	119	440	1,300
DHSE-120B6 <sup>2</sup>	62"	29.5"	119	440	1,300
DA-120 <sup>4</sup>	62"	29.5"	119	475	1,350

1 Units have one 4,500-watt electric element ("A" = 208–230/60/1 and "B" = 460/60/1).

2 Units have one 6,000 watt electric element ("A" = 208–230/60/1 and "B" = 460/60/1).

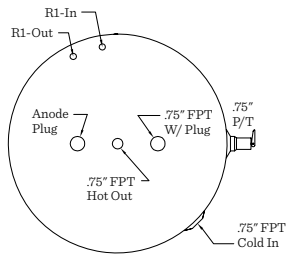
3 Aquastat included.

4 Ammonia only.

5 Refrigeration tonnage capacities are evaporator tons and not heat of rejection tons.

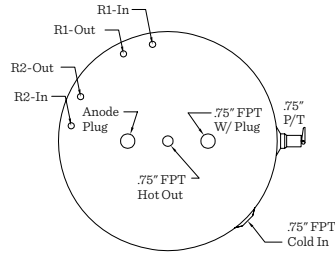


## FRE-HEATER TOP HEAD LAYOUT



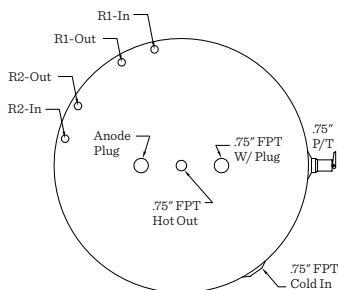
**50-GALLON  
MODEL D FRE-HEATER**

.75" FPT Water Connections  
.625" ODM Refrigeration Connections



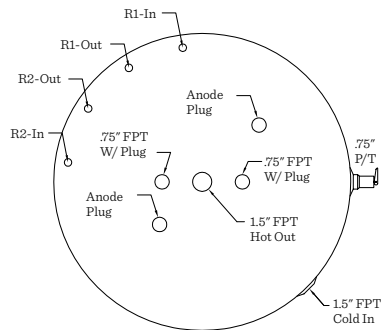
**50-GALLON  
MODEL D2 FRE-HEATER**

.75" FPT Water Connections  
.625" ODM Refrigeration Connections



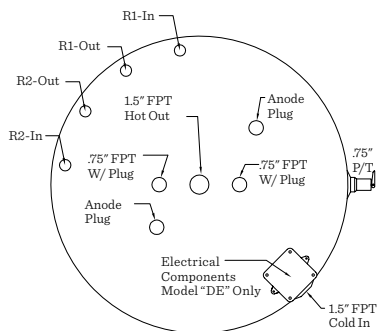
**80-GALLON  
MODEL D FRE-HEATER**

.75" FPT Water Connections  
.75" ODM Refrigeration Connections



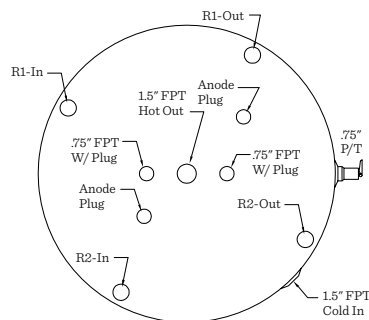
**120-GALLON  
MODEL D FRE-HEATER**

1.5" FPT Water Connections  
.75" ODM Refrigeration Connections



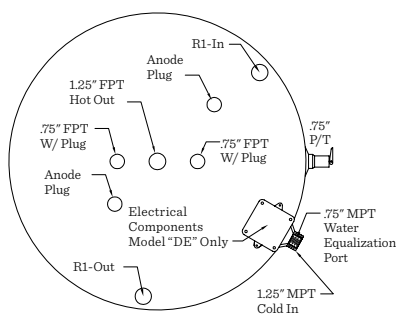
**120-GALLON  
MODEL D2 AND DE FRE-HEATER**

1.5" FPT Water Connections  
1.125" ODM Refrigeration Connections

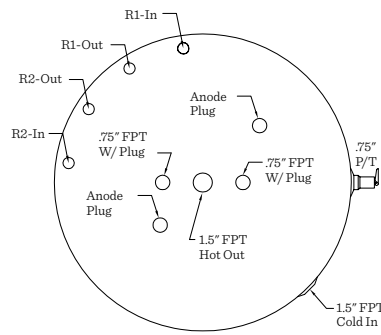


**120-GALLON  
MODEL DH FRE-HEATER**

1.5" FPT Water Connections  
1.625" ODM Refrigeration Connections



**120-GALLON  
MODEL DHS AND DHSE FRE-HEATER**



**120-GALLON  
MODEL DA FRE-HEATER**



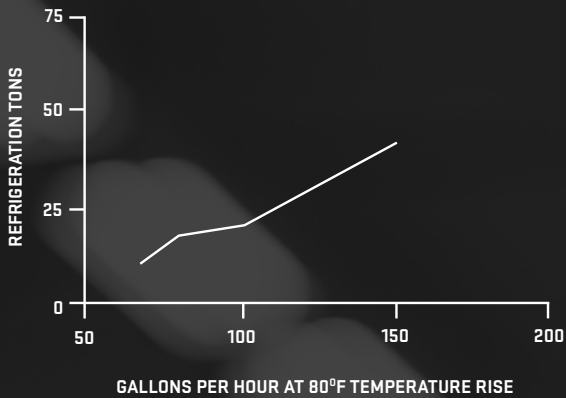
JORDAN BLUNT,  
REGIONAL SALES MANAGER,  
REFRIGERATION PRODUCTS

*“ While it’s one of our oldest products, it’s also one of our most durable and popular for its budget-saving capabilities. ”*





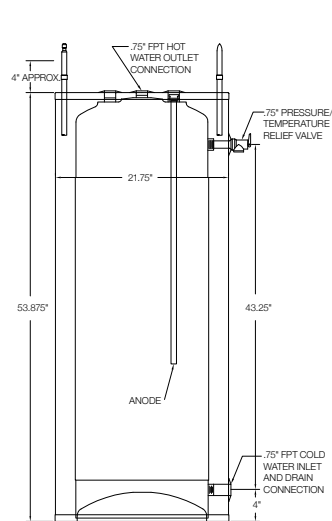
RECOVERY RATE





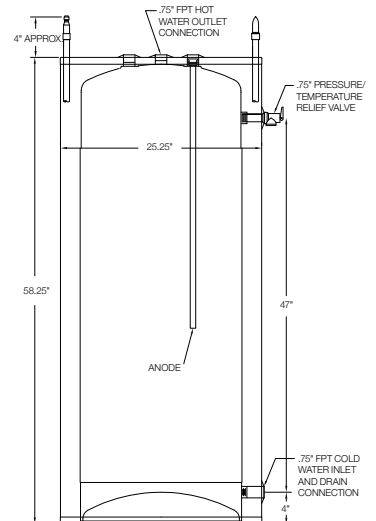
## DIMENSIONS

Often used in grocery stores, supermarkets, and convenience stores, Fre-Heaters are de-superheaters that remove most or all of the sensible heat from the compressor's hot discharged gas and use the existing condenser to remove the remaining heat to condense the refrigerant. These efficient systems save energy costs within a small footprint, making them easy to incorporate into your current operation. Consult a Refrigeration Products expert to help you determine the correct model and unit size for your unique heat recovery application.



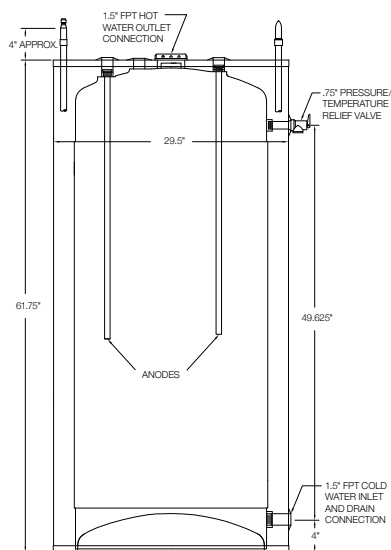
### 50-GALLON MODEL D FRE-HEATER

.75" FPT Water Connections  
.625" ODM Refrigeration Connections



### 80-GALLON MODEL D FRE-HEATER

.75" FPT Water Connections  
.75" ODM Refrigeration Connections



### 120-GALLON MODEL D FRE-HEATER

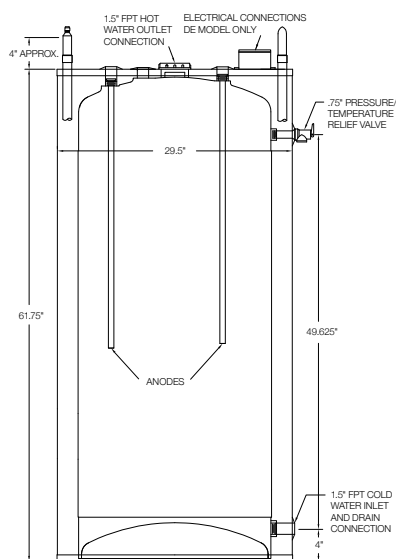
1.5" FPT Water Connections  
.75" ODM Refrigeration Connections



Nina Petersen

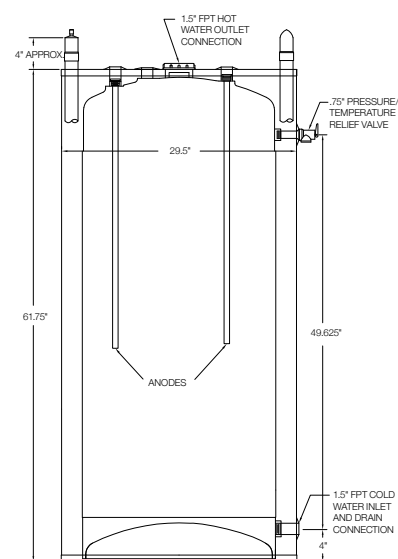


## DIMENSIONS



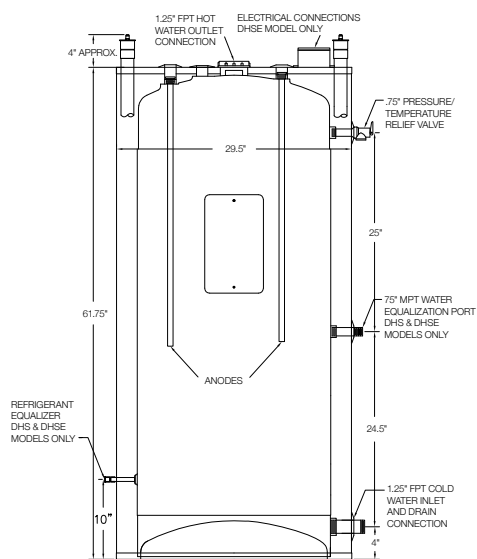
### 120-GALLON MODEL D2 & DE FRE-HEATER

1.5" FPT Water Connections  
1.125" ODM Refrigeration Connections



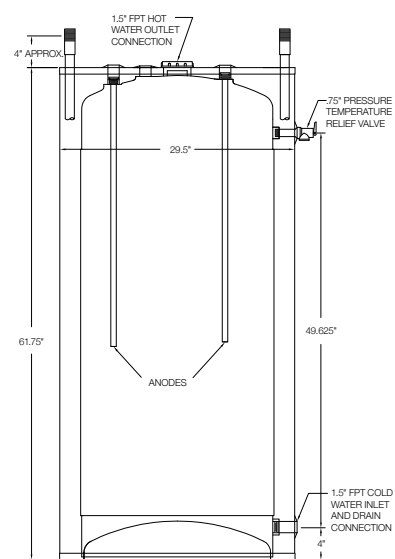
### 120-GALLON MODEL DH FRE-HEATER

1.5" FPT Water Connections  
1.625" ODM Refrigeration Connections



### 120-GALLON MODEL DHS & DHSE FRE-HEATER

1.25" FPT Water Connections  
1.625" ODM Refrigeration Connections



### 120-GALLON MODEL DA FRE-HEATER

1.5" FPT Water Connections  
1" MPT Refrigeration Connections

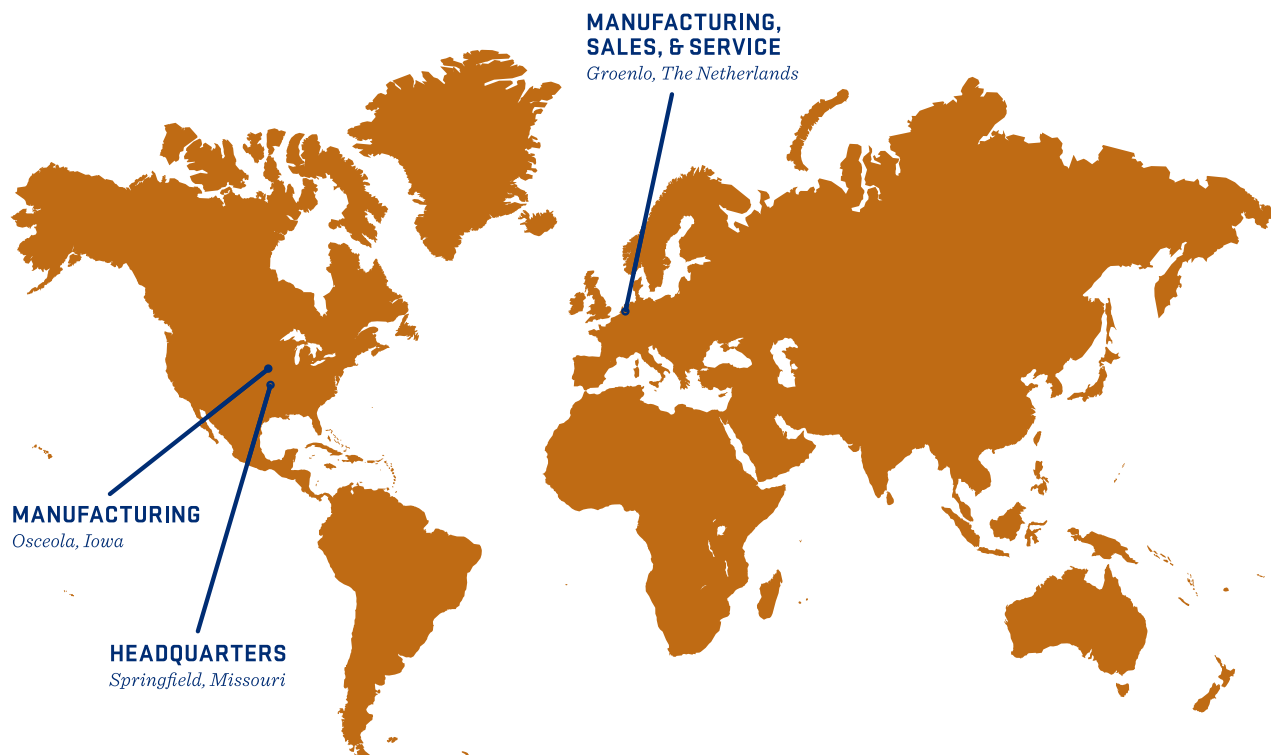


Paul Mueller, Our Founder



## 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.



## We Chill

Need help sizing the right Fre-Heater® to meet your needs? Consult our Refrigeration Products experts.

refrigeration@paulmueller.com  
**1-800-MUELLER | PAULMUELLER.COM**

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