FRE-HEATER®

MUELLER®

THE MILK COOLING SYSTEMS SPECIALISTS™

MUELLER® FRE-HEATER®

Whether your dairy farm operation is large or small, you need plenty of hot water for equipment cleanup, cow prepping, and feeding calves. What better way is there to meet your everyday needs than with FREE hot water

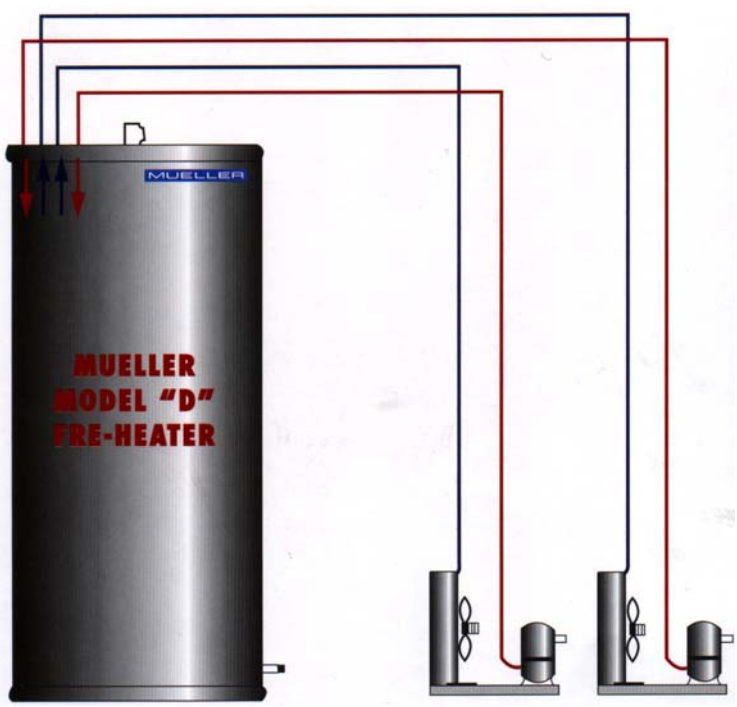
A Mueller Fre-Heater unit can produce free hot water from the wasted heat generated by the milk cooling refrigeration system. The Model “D” and “DE” Fre-Heaters are heat recovery units that harvest up to 60 percent of this normally wasted heat energy and use it to create hot water

MODEL “D” AND “DE” FEATURES

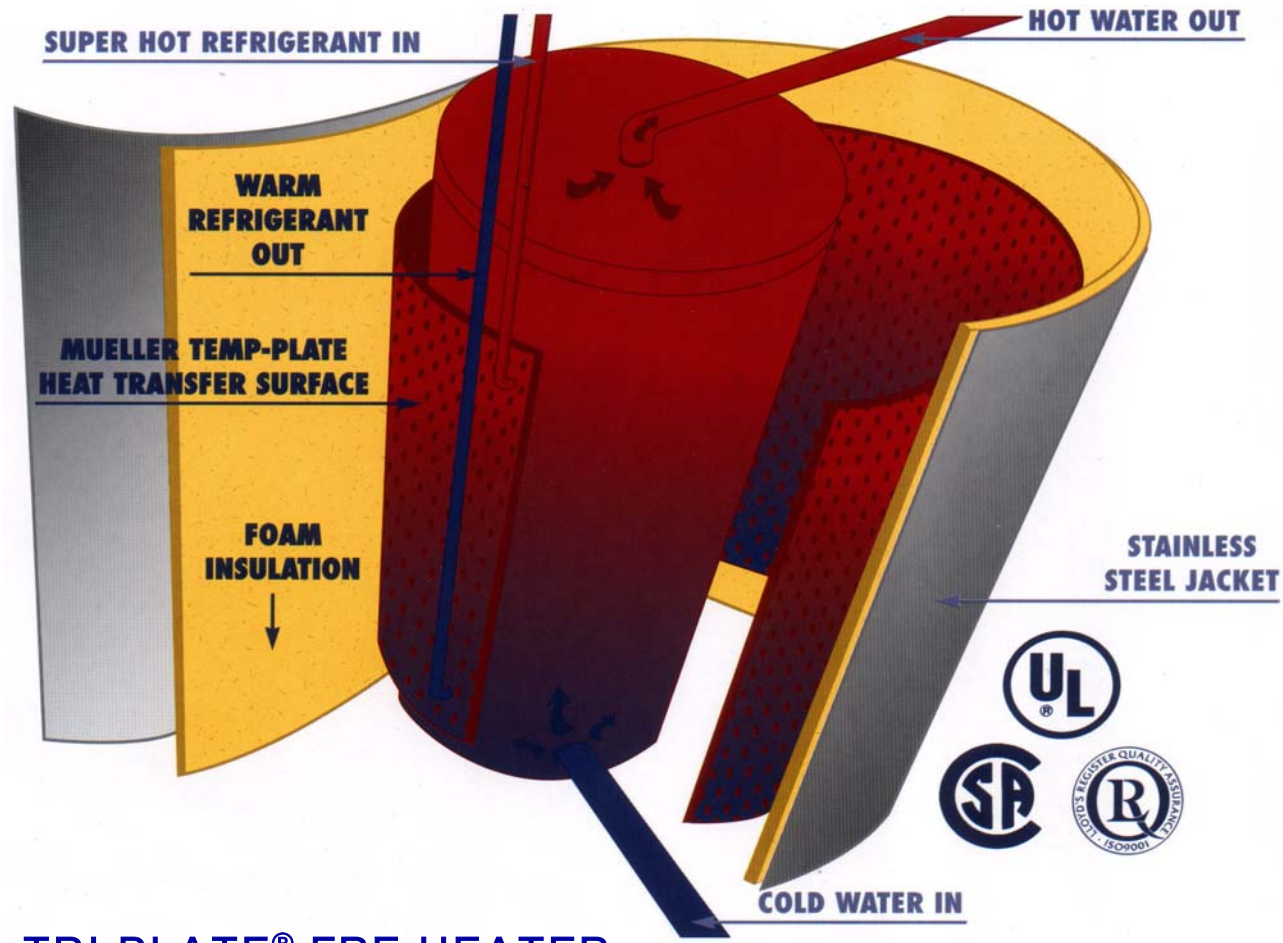
- Available in three sizes - 50, 80 and 120 gallons, one of which will satisfy your hot water needs.
- Patented stainless steel Temp-Plate® heat transfer surface - the heart of the Fre-Heater system. This highly efficient heat transfer surface is constructed from 100 percent stainless steel and is listed by Underwriters Laboratories Inc.
- Fully insulated storage tank - up to two inches of foam insulation to keep water hot until you need it.
- Industrial-grade storage tank - glass is fused to the metal interior for strength and durability. Two replaceable magnesium anode rods protect against natural water corrosion and increase the life of the tank.
- Stainless steel outer jackets - resists rust and helps keep the unit looking new for many years.
- Safety controls - components listed by Underwriters Laboratories Inc.
- Product support - sold, installed and serviced by trained Mueller dealers in your area.

ADDITIONAL MODEL “DE” FEATURES:

- Available in two sizes - 80 and 120 gallons.
- 4.5 kW heating element - fast recovery to maintain desired temperature. The “DE-120” may be ordered with a 6 kW element for field installation. Automatic operation and controls for maintaining 120-170 °F water



TYPICAL DUAL CONDENSING UNIT INSTALLATION



TRI-PLATE® FRE-HEATER

The Tri-Plate Fre-Heater is ideal for large-volume hot water use. It is one of the most efficient heat recovery units on the market. By fully recovering 100 percent of the heat produced by your milk cooling system, the Tri-Plate can produce one gallon of hot water for every gallon of milk cooled.

TRI-PLATE FEATURES:

- Available in three sizes - 3, 4 and 5-hp units.
- Baked, glass-lined water storage tank has 120-gallon capacity.
- Water-cooled condenser eliminates noisy, dust-blowing fans.
- Outlet water temperature is adjustable to a maximum of 140 °F.

THE FIVE-YEAR LIMITED WARRANTY ON ALL MODEL "D" AND TRI-PLATE UNITS SHOWS THE CONFIDENCE WE HAVE IN OUR PRODUCT. CONTACT PAUL MUELLER COMPANY FOR FURTHER DETAILS

NORMALLY NOT SUITED FOR USE ON CAPILLARY-TUBE REFRIGERATION SYSTEMS

MODEL "D" TECHNICAL SPECIFICATIONS
Heat Recovery Unit – Heat Exchanger and Storage Tank Combined in Single Unit (Stainless Steel Exterior)

Model No.*	Mueller Part No.	Water Conn. Size (in)	No. of Refrig. Circuits	Refrig. Conn. Size (ins)	Per Circuit Refrig. Appl. Capacity**	Dimensions (in)	Approx. Shipping Weights (lbs)
D-50	93779	¾ MPT	1	⅝ ODM	½ thru 4 ton R-22 ½ thru 3 ton R-12	Ht. 53⅞ Dia. 19½	225
D2-50	93780	¾ MPT	2	⅝ ODM	½ thru 4 ton R-22 ½ thru 3 ton R-12	Ht. 53⅞ Dia. 19½	225
D-80	882871	¾ MPT	2	¾ ODM	1 thru 5 ton R-22 1 thru 4 ton R-12	Ht. 58¼ Dia. 24	320
D-120	8800220	1¼ MPT	2	¾ ODM	1 thru 7½ ton R-22 1 thru 5 ton R-12	Ht. 61⅝ Dia. 28⅜	475
D2-120	93773	1¼ MPT	2	1⅛ ODM	3 thru 15 ton R-22 2 thru 8 ton R-12	Ht. 61⅝ Dia. 28⅜	475
D4-120	93778	1¼ MPT	4	⅝ ODM	½ thru 5 ton R-22 ½ thru 4 ton R-12	Ht. 61⅝ Dia. 28⅜	475

*Model number designates water storage tank capacity.

**Refrigeration tonnage capacities are 30 °F evaporator load tons, 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 approximately 5 to 7 psi.

The best overall refrigeration/ heat recovery system efficiency is usually obtained at or below the mid-range tonnage application.

MODEL "DE" TECHNICAL SPECIFICATIONS
4,500-Watt, 240-Vac Electric Heating Element – UL Classified

Model No.*	Mueller Part No.	Water Conn. Size (in)	No. of Refrig. Circuits	Refrig. Conn. Size (ins)	Per Circuit Refrig. Appl. Capacity**	Dimensions (in)	Approx. Shipping Weights (lbs)
DE-80	8800611	¾ MPT	2	¾ ODM	1 thru 5 ton R-22 1 thru 4 ton R-12	Ht. 58¼ Dia. 24	325
DE-120	8803537	1¼ MPT	2	1⅛ ODM	3 thru 15 ton R-22 2 thru 8 ton R-12	Ht. 61⅝ Dia. 28⅜	475

PAY BACK INFORMATION

ESTIMATED AMOUNT OF HOT WATER POSSIBLE

1. Pounds of milk/day ____x____ degrees of cooling
   = _____ total available Btus.
2. _____ available Btus x 60% efficiency
   = _____ Btus for heat recovery
3. _____ Btus available ÷ 830* Btus/gallon
   = _____ gallons of water per day raised 100 degrees

*830 Btus/gallon required to raise one gallon of water 100 degrees
**3,414 Btus/kWh is amount of Btus necessary to save one kWh

ESTIMATED ELECTRICAL SAVINGS

1. _____ Btus available ÷ 3,414** Btus/kWh
   =_____ kWh savings.
2. _____ kWh savings x _____ kWh cost
   =_____ savings per day
3. _____ savings per day x 365 days/year
   =_____ yearly savings

INVESTMENT RECOVERY

1. _____ Mueller Model "D" cost ÷ _____ yearly savings
   =_____ years to recover investment.
2. _____ yearly savings ÷ _____ Mueller Model "D" cost
   =_____ percent return on investment

MUELLER

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