

Therma-Stor® Heat Recovery Systems

Capture lost heat from your cooling system

- Therma-Stor II-80 and 120
- Therma-Stor III-120 with electric element

A Therma-Stor heat recovery system is a double-walled heat exchanger with water storage tank that captures lost heat from your cooling system to heat your water for free. The heated water is then stored in the system until it is needed.

How It Works

In a milk cooling system without a Therma-Stor heat recovery system, the refrigerant removes the heat from the milk being cooled and that valuable heat escapes into the air. With a Therma-Stor heat recovery system, the refrigerant carrying the heat passes through the double-walled heat exchanger surrounding the water storage tank and heats up the water. The Therma-Stor heat recovery system also provides additional condensing surface which improves refrigeration efficiency because compressor efficiency goes up as condensing temperatures go down. The end result is faster cooling and prolonged compressor life.

Free Hot Water = Savings

The Therma-Stor heat recovery system will reduce compressor run time, and will cut down on water heating costs by as much as 65%.*

Choices

The Therma-Stor II-80 is designed for single compressor operation. The Therma-Stor II-120 is designed for one- or two-compressor operation. The Therma-Stor III-120 includes a thermostatically controlled 6,000-watt electric heating element to boost water temperature into the 170° to 180° range.

Reliable

The industrial glass-lined water storage tank resists corrosion and has two replaceable anodes for extra corrosion protection. Every new Therma-Stor heat recovery system has a five-year limited warranty.

Adaptable

This cost-efficient method of producing hot water fits any milk cooling system, large or small. The Therma-Stor is available in 80 or 120-gallon capacities.

Technological Leadership

The Therma-Stor heat recovery system is recognized as the innovative leader in heat recovery technology. Therma-Stor has received the Award for Energy Innovation from the U.S. Department of Energy as well as the Governor's Award as an Outstanding Product from the Wisconsin Society of Professional Engineers.

Therma-Stor Heat Recovery System General Specifications

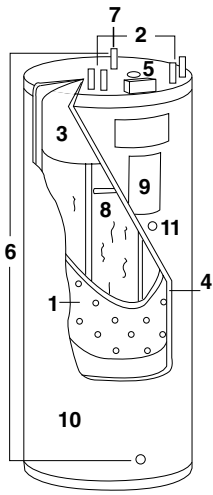
- 3/4 inch (1.9 cm) OD refrigeration inlet and 5/8 inch (1.6 cm) outlet on standard models
- Dual anodes and safety relief valve
- Includes 5-year warranty.

(For complete details see warranty certificate)

- 1-3/4 inch (4.5 cm) foam-in-place urethane insulation
- CSA approved
- 6,000 watt electric element and thermostat control on Therma-Stor III-120
- Large capacity 120 gallon HRS models with 1-1/8 inch (2.9 cm) refrigeration connections capable of handling up to 25 tons (12.5 tons per circuit) of refrigeration capacity are available



* The amount of hot water produced is dependent upon the amount of milk cooled, run time of the compressor, and water usage.

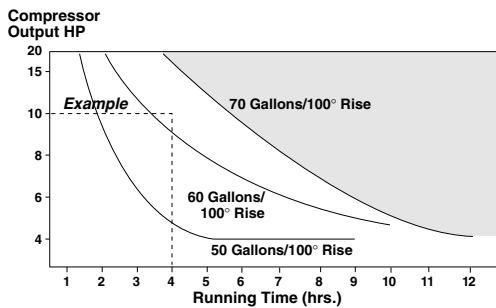


Therma-Stor® Heat Recovery System Construction Specifications

1. Vertical dual-circuit heat exchange plate welded and expanded for internal refrigerant passage on II-120 and III-120 models. (Single circuit on II-80 model)
2. 3/4 inch (1.9 cm) OD refrigeration inlets and 5/8 inch (1.6 cm) OD outlets
3. Industrial glass-lined hot water storage tank
4. 1-3/4 inch (4.5 cm) foam-in-place polyurethane insulation
5. Tank is dual anode protected against corrosion for extended tank life
6. Water inlet and high-temperature outlet are 1-1/4 inch (3.2 cm) male NPT
7. 150 PSI and 210°F pressure/temperature relief valve
8. 6,000-watt low-density electric heating element on Therma-Stor III-120
9. Adjustable thermostat (110-170°F) controlled heating element (optional 110-180°F available)
10. Attractive water resistant outer wrapper
11. Medium temperature water out 3/4 inch (1.9 cm) NPT

Model Specifications

	Model No.	Nom. Water Capacity	Diameter	Height	Condensing Load Cap
Single Circuit	II-80	80 gal, 300 L	24", 60.9 cm	64", 162.5 cm	5 tons***
2 Circuit	II-120/III-120	119 gal, 450L	28", 71.1 cm	67", 170.1 cm	7.5 tons/circuit, 15 tons total***
High Capacity	II-120/III-120 – 1-1/8" refrigeration connections; Refrigeration Capacity: 12 ton R-22/circuit*** (25 ton total capacity)				



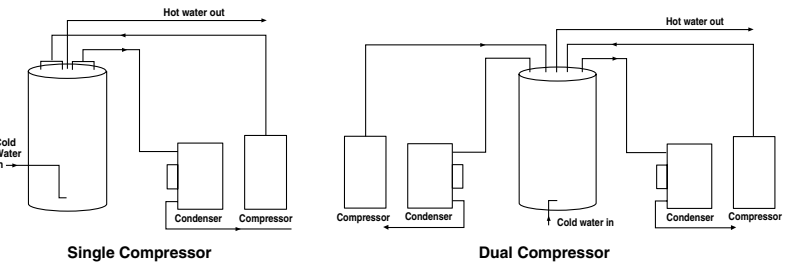
Example above shows quantity of 100° rise water you can expect from different combinations of compressor hp and running time (hours). Any combination of capacity and running time that falls into the shaded area requires a refrigerant hot gas bypass valve or an additional storage tank to avoid overheating water. Bypass valve instructions are included in T/S III-120 installation instructions.

* Temperature depends on system tonnage and running time.

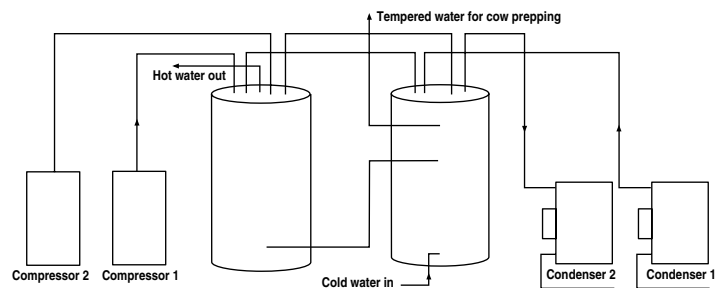
** Overall height including safety temperature-pressure relief valve.

*** Not recommended for capillary tube systems using fractional hp compressors. Based on R-22 systems. (R-12 capacity = 0.6 x R-22 capacity)

Basic Therma-Stor II-120 and III-120 installations



Therma-Stor III-120 piped for dual temperature water



Basic Therma-Stor II-80 installation

