

Drainback Heat Exchange Modules

INTRODUCTION

Integrated Solar has developed a mechanical-control package for drainback systems. This drainback heat exchange module (DBHX) is a factory-assembled unit which provides a single walled heat exchanger, collector fluid reservoir, solar collector fluid circulator pump, hot water booster circulator pump and a differential temperature controller unit, combined into one attractive module. The use of this module allows any solar collector and any solar storage tank to be combined to form a drainback system.

PRINCIPLE OF OPERATION

A drainback system is just what the name implies. When inclement weather or nightfall shuts down the system, the water in the solar collector loop drains back into an indoor fluid reservoir by the force of gravity. The water is returned to the collector piping whenever the system is reactivated. Heat energy is not wasted in heating the solar collector (as in recirculating systems). Cycling on partly cloudy days does not dump energy (as in draindown systems) since the collector fluid is stored in an insulated reservoir. Drainback removes all water from the solar collector and piping whenever the solar energy collection process is not active. Freeze protection is automatic and fail-safe.



COMPONENTS

Accumulator Tank:

8 and 12 gallon capacity; 14 gauge steel; constructed to AMSE standards; fiberglass insulated; internal drainback orifice; filling and draining provisions.

Differential temperature controller:

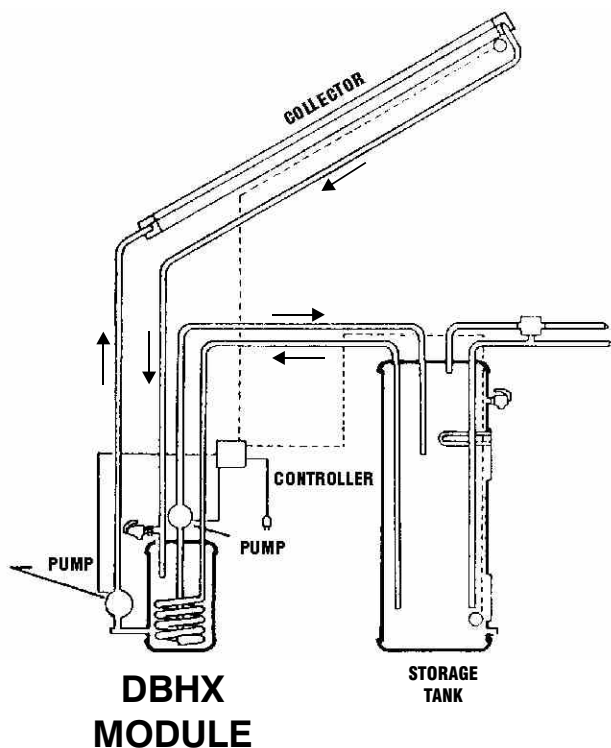
Solid-state; 115 VAC; plug-in line cord; UL listed; adjustable high temperature shut-off; includes two sensors; adjustable "on" differential and 4° off differential.

Circulator Pumps:

8 and 12 gallon DBHX Modules use identical pumps which are water lubricated, field repairable, low power consuming and UL listed. Bronze body pump in potable water loop.

Heat Exchange Coil:

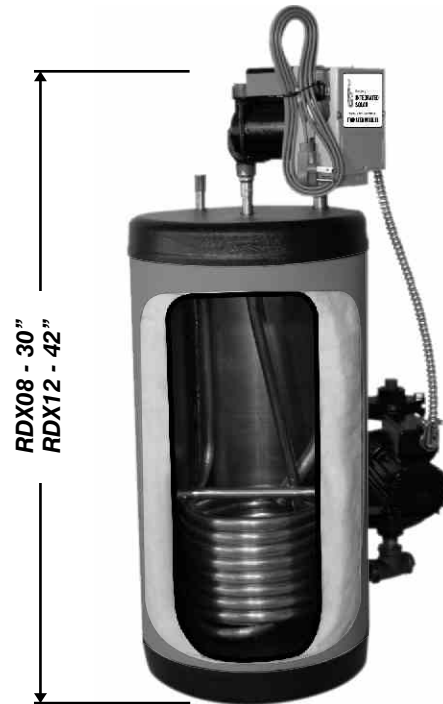
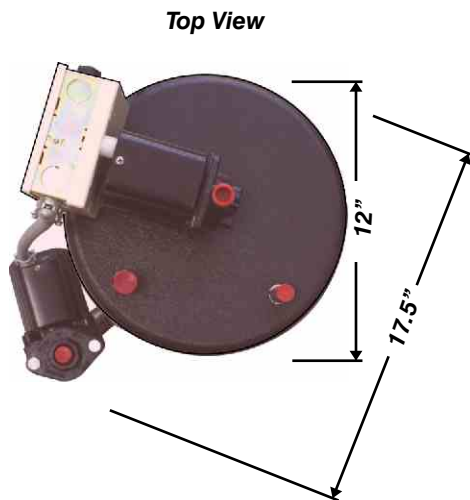
All copper and single walled.



Specifications

	DBHX08	DBHX12
Accumulator tank pressure	50 psi max	50 psi max
Accumulator tank construction ...	Steel, 14 gauge end caps, 14 gauge walls ...	Steel, 14 gauge end caps, 14 gauge walls
Operating temperature	200° F max.	200° F max.
Tank, total fluid capacity	7.5 gallons	11.3 gallons
Tank, usable fluid capacity	5.8 gallons	9.3 gallons
Insulation	1" fiberglass blanket, R4	1" fiberglass blanket, R4
Weight	55 lbs, dry	71 lbs, dry
Weight, shipping	63 lbs	80 lbs
Controller	Solid-state, 115 VAC	Solid-state, 115 VAC
Input	60 Hz, 10 amps	60 Hz, 10 amps
Output	115 VAC, 7.2 amps	115 VAC, 7.2 amps
Circulator pumps	115 VAC, 60 Hz	115 VAC, 60 Hz
	Single phase	Single phase
Absorber loop	1/20 hp, 1.2 amps	1/20 hp, 1.2 amps
	Cast iron	Cast iron
Storage Loop	1/40 hp, 0.68 amp	1/40 hp, 0.68 amp
	Bronze body	Bronze body
Jacket	ABS	ABS

Module Dimensions



Side Cut-out View



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