

MULTI*TEMP*[®]

Modular Boilers

Gas, Oil, and Dual Fuel Cast Iron Hot Water Boilers



HydroTherm[®]

HYDROTHERM MODULAR BOILERS FOR ANY FUEL CHOICE

MR SERIES Atmospheric Gas Water Boilers



MR SERIES

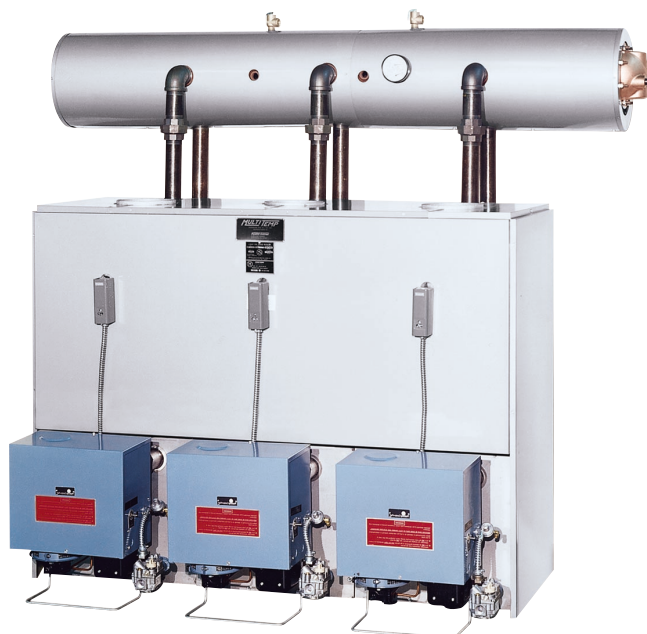
BOILER MODEL	NO. OF MODS.	A.G.A. RATINGS (MBH)				I=B=R NET RATINGS (MBH)(1)		EDR WATER (SQ. FT.)(2)		HORSEPOWER (3)	
		NAT GAS		PROP.		NAT. GAS	PROP.	NAT. GAS	PROP.	NAT. GAS	PROP.
		INPUT	OUTPUT	INPUT	OUTPUT						
MR-360C	2	360	298	360	302	258	263	1.720	1.753	8.9	9.02
MR-420C	2	420	342	400	332	297	289	1.980	1.927	10.22	9.92
MR-500C	2	500	412	470	390	358	339	2.387	2.260	12.31	11.65
MR-600B	2	600	480	600	480	417	417	2.780	2.780	14.34	14.34
MR-750C	3	750	618	705	585	537	509	3.580	3.393	18.46	17.48
MR-900B	3	900	720	900	720	626	626	4.173	4.173	21.51	21.51
MR-1000C	4	1000	824	940	780	717	678	4.780	4.520	24.62	23.30
MR-1200B	4	1200	960	1200	960	835	835	5.567	5.567	28.68	28.68
MR-1500B	5	1500	1200	1500	1200	1043	1043	6.953	6.953	35.85	35.85
MR-1800B	6	1800	1440	1800	1440	1252	1252	8.347	8.347	43.02	43.02
MR-2100B	7	2100	1680	2100	1680	1461	1461	9.740	9.740	50.19	50.19
MR-2400B	8	2400	1920	2400	1920	1675	1675	11.166	11.166	57.36	57.36
*											

* For larger sizes, consult Hydrotherm sales representatives or Hydrotherm factory. For operation at altitudes above 2,000 ft. above sea level, boiler input and rating must be reduced 4% for each 1,000 ft. above sea level. (1) Based on allowance of 1.15 for piping and pick-up losses. (2) Based on 150 Btu/h per sq. ft. EDR @ 170F average water temperature. (3) One boiler HP = 33.475 BTU.

MG SERIES Power Gas Water Boilers

MG SERIES

BOILER MODEL	NO. OF MODELS	RATINGS (MBH)		I=B=R NET RATINGS (MBH)(2)	HORSEPOWER (3)
		BTUH INPUT	GROSS OUTPUT (1).		
MG-770	2	794	610	530	18.22
MG-1155	3	1191	915	796	27.33
MG-1540	4	1588	1220	1061	36.45
MG-1925	5	1985	1525	1326	45.56
MG-2310	6	2382	1830	1591	54.67
MG-2695	7	2779	2135	1857	63.78
MG-3080	8	3176	2440	2122	72.89
MG-3465	9	3573	2745	2387	82.00
MG-3850	10	3970	3050	2652	91.20
MG-4235	11	4367	3355	2917	100.22
MG-4620	12	4764	3660	3183	109.34
MG-5005	13	5161	3965	3448	118.45
MG-5390	14	5558	4270	3714	127.56
MG-5775	15	5955	4575	3978	136.67
MG-6160	16	6352	4880	4243	145.78
MG-6545	17	6749	5185	4509	154.89
MG-6930	18	7146	5490	4774	164.00
*					



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NYC
MEA

MO SERIES #2 Oil Fired Water Boilers

MO SERIES						
BOILER MODEL	NO. OF MODS.	TOTAL GPH	RATINGS (MBH)		I-B-R NET RATINGS (MBH)(1)	HORSE POWER (2)
			BTUH INPUT	GROSS OUTPUT		
MO-420	2	3.00	420	338	294	10.10
MO-560	2	4.00	560	454	395	13.56
MO-660A	2	4.70	660	532	463	15.89
MO-770A	2	5.50	770	612	532	18.28
MO-840	3	6.00	840	676	588	20.19
MO-990A	3	7.05	990	798	694	23.84
MO-1155A	3	8.25	1155	918	798	27.43
MO-1320A	4	9.40	1320	1064	925	31.78
MO-1540A	4	11.00	1540	1224	1064	36.56
MO-1925A	5	13.75	1925	1530	1330	45.71
MO-2310A	6	16.50	2310	1836	1596	54.85
MO-2695A	7	19.25	2695	2142	1862	63.99
MO-3080A	8	22.00	3080	2448	2129	73.13
MO-3465A	9	24.75	3465	2754	2395	82.27
MO-3850A	10	27.50	3850	3060	2661	91.41
MO-4235A	11	30.25	4235	3366	2927	100.25
MO-4620A	12	33.00	4620	3672	3193	109.69
MO-5005A	13	35.75	5005	3978	3459	118.83
MO-5390A	14	38.50	5390	4284	3725	127.98
MO-5775A	15	41.25	5775	4590	3991	137.12
MO-6160A	16	44.00	6160	4896	4257	146.26
MO-6545A	17	46.75	6545	5202	4523	155.40
MO-6930A	18	49.50	6930	5508	4790	164.54
*						



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MOP SERIES Dual Fuel Oil/Gas Water Boilers



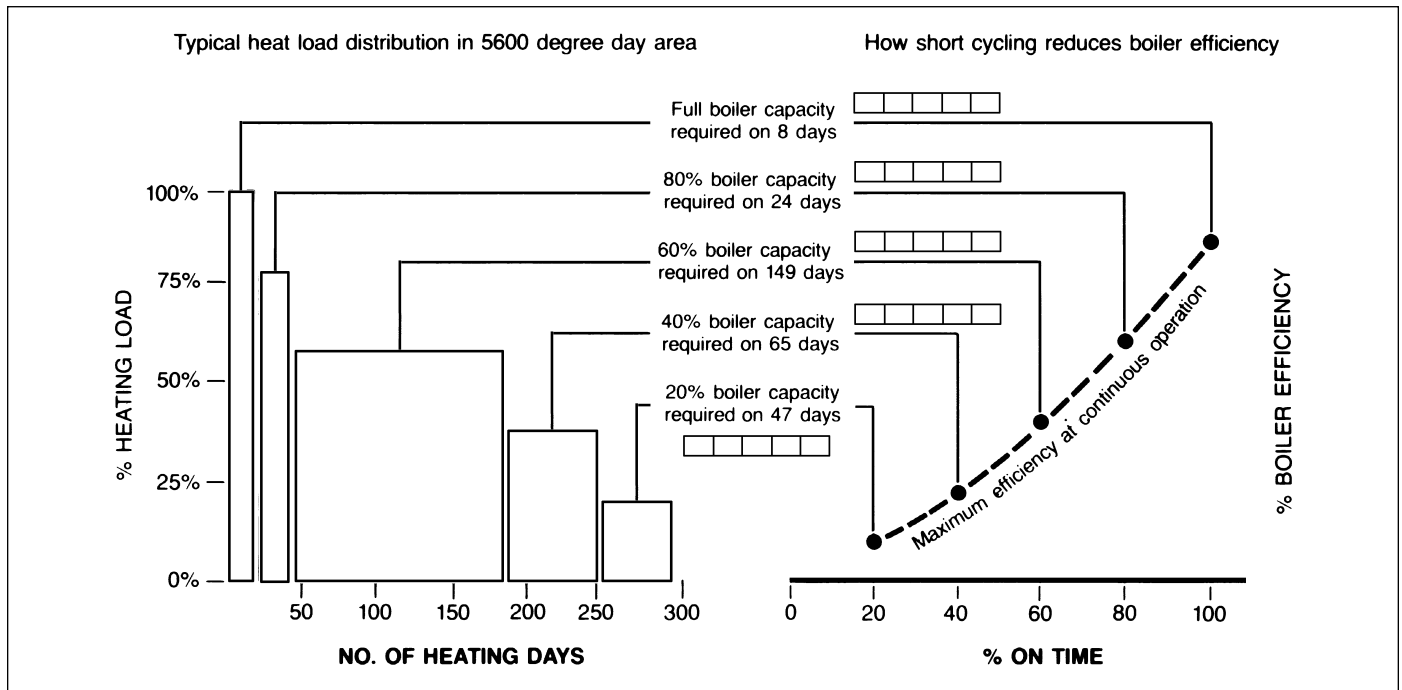
MOP SERIES						
BOILER MODEL	NO. OF MODELS	RATINGS (MBH)		GROSS OUTPUT	I-B-R NET RATINGS (MBH)(1)	HORSE POWER (2)
		TOTAL GPH	BTUH INPUT			
MOP-770	2	5.50	794	612	532	18.28
MOP-1155	3	8.25	1191	918	798	27.42
MOP-1540	4	11.00	1588	1224	1064	36.56
MOP-1925	5	13.75	1985	1530	1330	45.71
MOP-2310	6	16.50	2382	1836	1596	54.85
MOP-2695	7	19.25	2779	2142	1862	63.99
MOP-3080	8	22.00	3176	2448	2129	73.13
MOP-3465	9	24.75	3573	2754	2395	82.27
MOP-3850	10	27.50	3970	3060	2661	91.41
MOP-4235	11	30.25	4367	3366	2927	100.55
MOP-4620	12	33.00	4764	3672	3193	109.69
MOP-5005	13	35.75	5161	3978	3459	118.88
MOP-5390	14	38.50	5558	4284	3724	127.98
MOP-5775	15	41.25	5955	4590	3991	137.12
MOP-6160	16	44.00	6352	4896	4257	146.26
MOP-6545	17	46.75	6749	5202	4523	155.40
MOP-6930	18	49.50	7146	5508	4790	164.54
*						

* For larger sizes, consult Hydrotherm sales representatives or Hydrotherm factory. For operation at altitudes above 2,000 ft. above sea level, boiler input must be reduced 4% for each 1,000 ft. above sea level. (1) Based on allowance of 1.15 for piping and pick-up losses. (2) One boiler HP = 33.475 BTU.

ADVANTAGES OF **HydroTherm** MODULAR BOILER SYSTEMS

Energy Savings

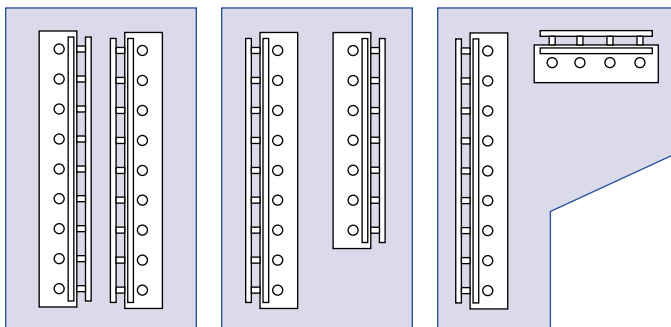
Hydrotherm developed the Multi-Temp® modular heating plant concept for maximum efficiency and flexibility in commercial, industrial, and institutional settings. A series of individual heating modules are step-fired. As demand changes, the number of modules firing changes in proportion to need. The result is savings of thousands of dollars in annual energy costs.



Installation Flexibility

To save installation costs, Multi-Temp® modules are factory assembled, individually cartoned, and fit through standard 30" doors. No expensive rigging or heavy equipment costs are incurred.

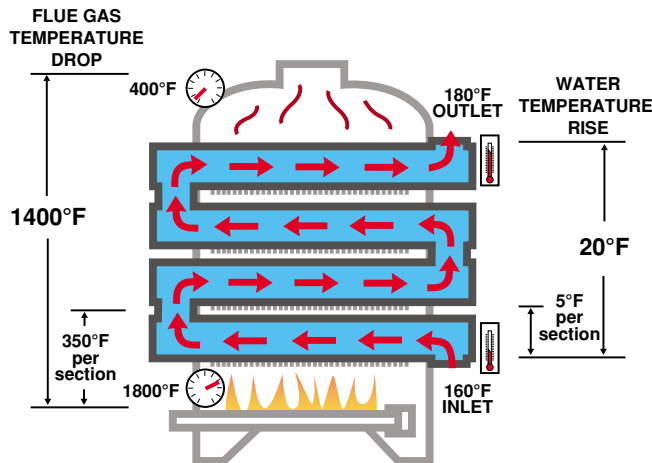
Multi-Temp® heating plants can be compactly tailored to boiler room shapes and areas in nearly any configuration. This saves on space and even allows for installation around existing large single input boilers, saving removal costs.



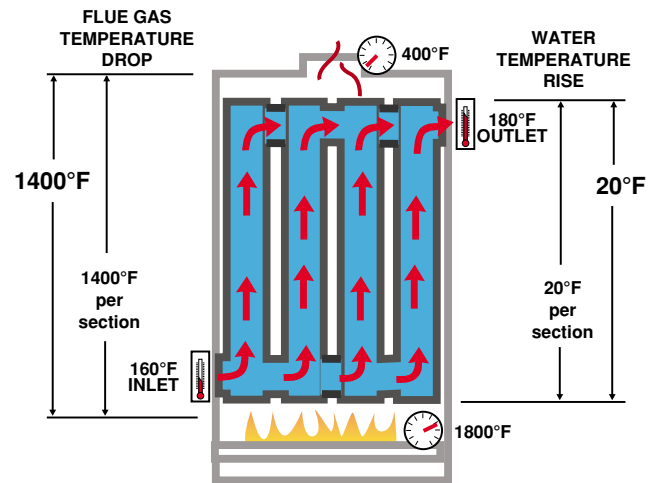
Horizontal Flow Design

All Hydrotherm Modular Boilers use a unique horizontal casting design. The cast iron sections are joined at only one end, and the water flows horizontally through each section and up to the next. The horizontal flow design, as opposed to the more typical vertical casting design of other manufacturers, offers many advantages. Compare the operating conditions of horizontal versus vertical flow castings.

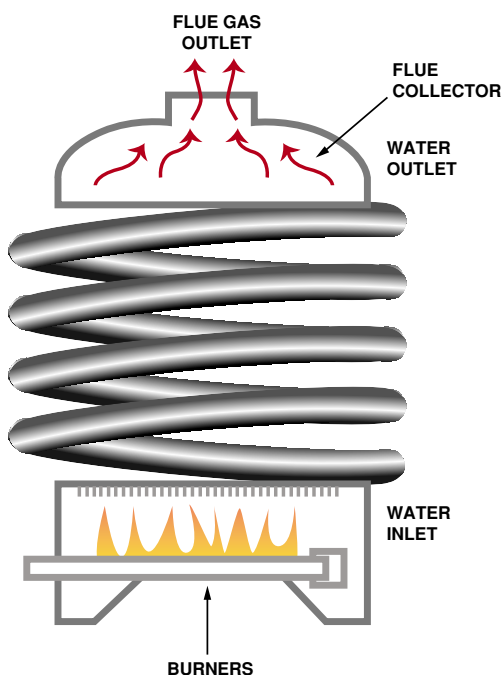
Horizontal Flow



Vertical Flow



The reduced temperature rise on both the water side and the flue gas side of the castings greatly reduces the stress on the horizontal castings. In the above example, the temperature rise on the water and the flue gas sides of each section is one fourth that of the comparable vertical casting design.



Spring-Like Geometry

As the sections are joined at only one end, this offers a spring-like geometry that allows unrestricted movement of the castings during expansion and contraction as the boiler cycles through its operation.

The benefits of the horizontal flow and spring-like geometry of the Hydrotherm cast iron sections are many. These features are even more important today as many systems operate at low return water temperatures.

Durable

Longer lasting because the cast iron sections are subjected to reduced temperature differentials.

Forgiving

The smaller temperature differentials across each casting allow for a wider operating range.

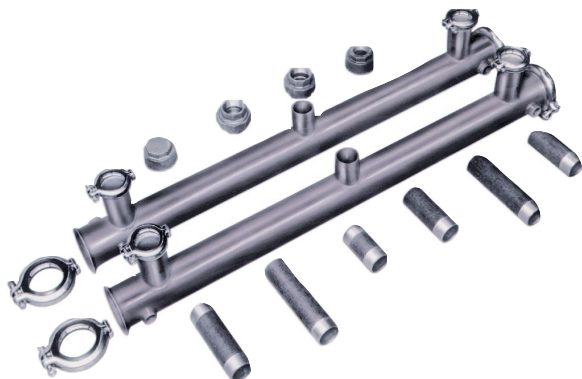
Reduced Cost

No additional components (such as mixing valves, isolation heat exchangers or injection pumping) are required to protect the boiler from low return water temperatures.

COMPLETE SYSTEM COMPONENTS FROM HYDROTHERM

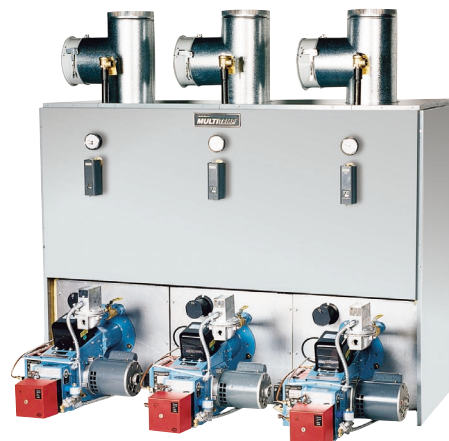
Prefabricated Boiler Water Supply & Return Manifold Headers

Prefabricated supply and return water headers can be factory supplied to reduce on-site labor costs with quicker, simpler field manifolding. Equivalent to 3 1/2" pipe, headers are fully equipped with self-aligning pipe couplings, unions and nipples, and can be joined end to end.



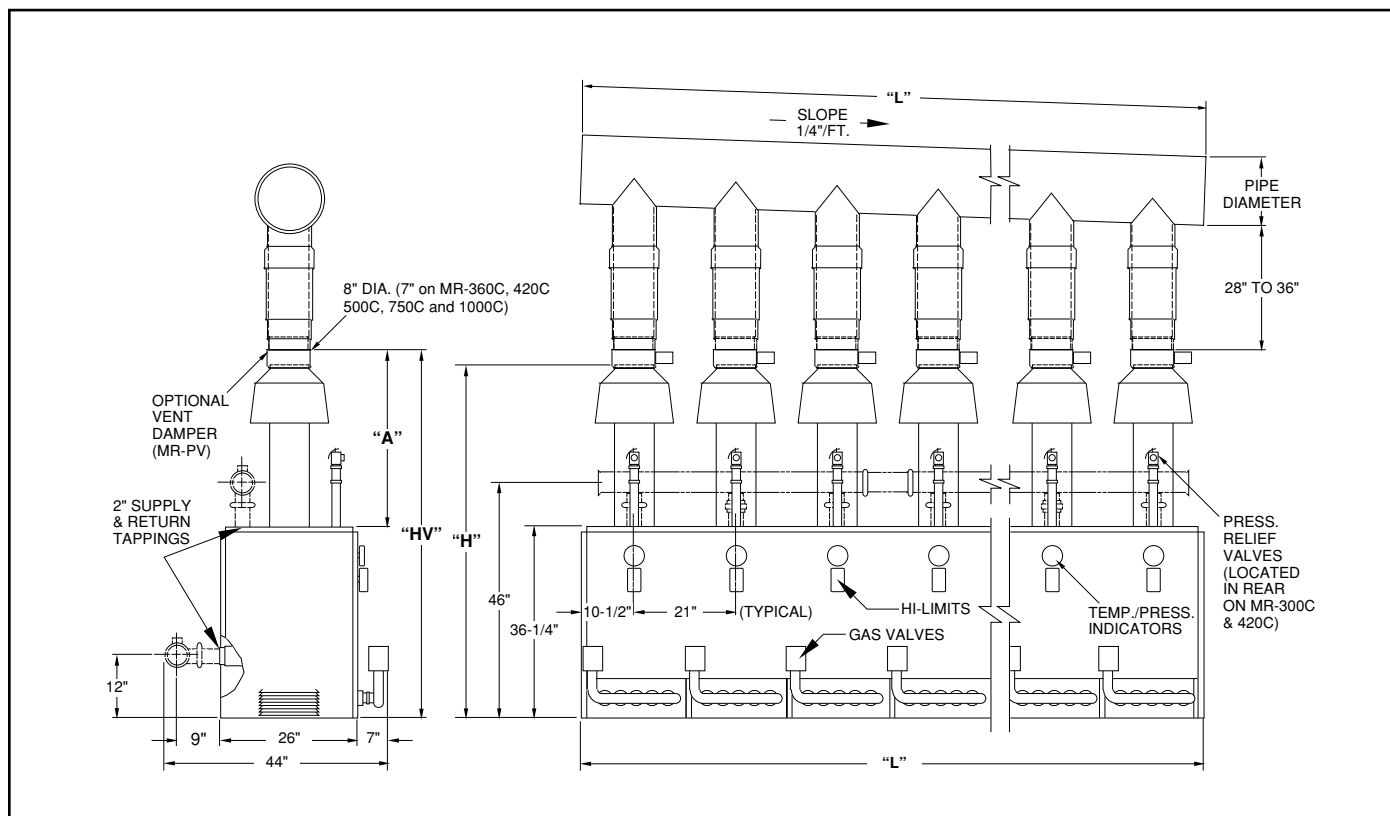
Model S1000 Electronic Modular Boiler Room Control

Controls to satisfy all levels of requirements. From simple aquas-tats to our 16-step programmable S1000 control with Direct Digital Control (DDC) capabilities, Hydrotherm can satisfy the needs of any specifications.



Prefabricated Boiler Vent Kits (MR Series only)

Our latest addition to the line that allows for complete system installation is our prefabricated vent kits. Designed to fit the MR series of boilers, the entire header snaps together without any expensive and time consuming cutting and assembly.



Domestic Water Heating With MC and MCI Water Heaters

Economical

Hydrotherm's instantaneous heating of incoming supply water for service hot water can eliminate the need for expensive bulk storage tanks or direct fired water heaters. And no circulator is required. Incoming supply water flow generates a rapid circulation around the heat exchanger. Eliminating these accessories can result in substantial savings.

Fuel Savings

Hydrotherm can meet volume water heating requirements more efficiently with the Multi-Temp® modular concept, as it eliminates the energy-wasting "all-on/all-off" firing characteristics of a similar capacity, single-input boiler or water heater. The Multi-Temp® system is simply a series of individual heating units (from two to four modules per heat exchanger) which are step-fired using only as many modules as required to satisfy the load demand.

Less Maintenance

Service water never comes in contact with surfaces directly heated by high temperature flue gases. Reduces scale formation problems, providing longer operating life.

Sized To Fit Most Loads

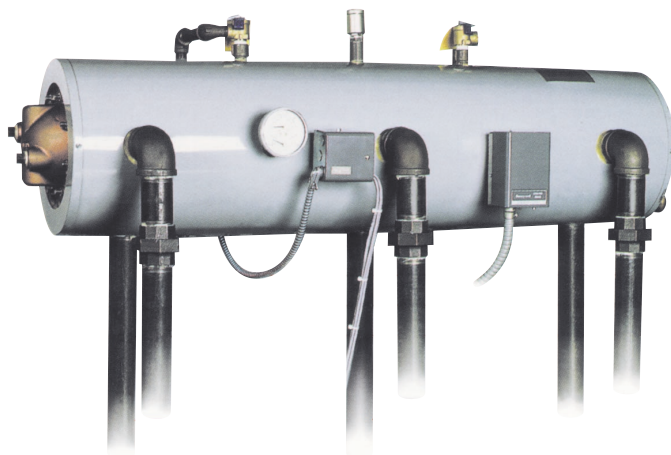
Hydrotherm's indirect water heaters are designed to handle continuous, sustained load applications entirely with instantaneous recovery. Hydrotherm heaters can maintain instantaneous delivery of service hot water at rated temperature and flow without a complete drawdown on nominal heat exchanger service water.

Hot Water Always Available

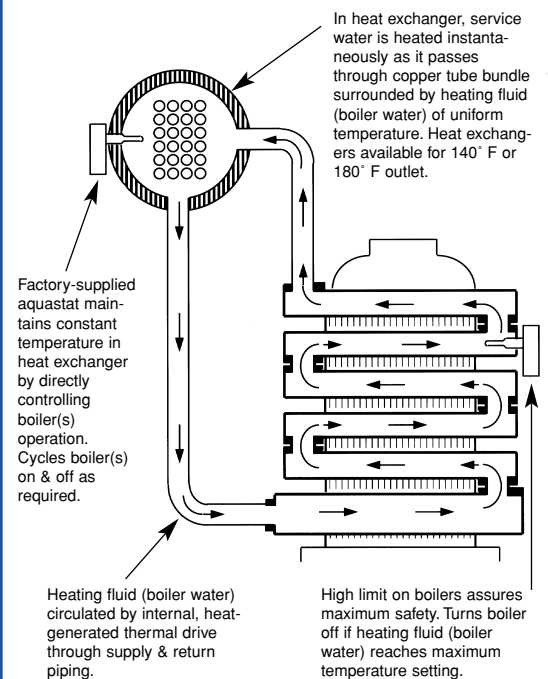
Each module in the Multi-Temp® system is equipped with its own set of burner controls and operates independently. Should one module be shut down for service, continued hot water supply will be assured.

Easy Installation

Simply align the individual factory-assembled modules in desired position and connect heat exchanger to supply/return boiler nipples with factory-supplied piping. For alignment ease, flexible couplings are provided.



HOW HYDROTHERM HEATS WATER



TRIM PAKS MC/MCI WATER HEATERS (GAS)

TRIM MODEL (1)	BOILER MODEL	RATINGS RECOVERY RATE (2) INPUT (MBH)	100F RISE (GPH)	140F RISE (GPH)
MC/MCI-2	MR-500C	500	495	353
MC/MCI-2	MR-600B	600	576	412
MC/MCI-3	MR-750C	750	742	530
MC/MCI-3	MR-900B	900	864	617
MC/MCI-4	MR-1000C	1000	989	707
MC/MCI-4	MR-1200B	1200	1152	823

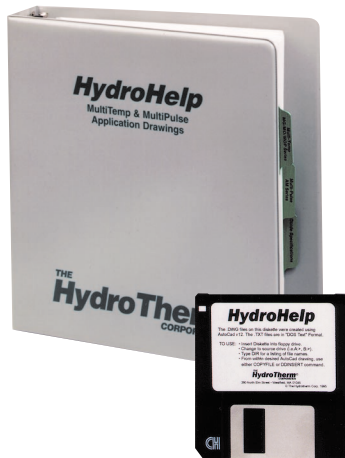
TRIM PAKS MC/MCI WATER HEATERS (OIL & DUAL FUEL)

TRIM MODEL (1)	BOILER MODEL	RATINGS RECOVERY RATE (2) INPUT (MBH)	100F RISE (GPH)	140F RISE (GPH)
MC/MCI-2	MO-420	420	405	288
MC/MCI-2	MO-770A	727	734	522
MC/MCI-2	MO-1155A	1155	1101	783

TECHNICAL SUPPORT YOU CAN COUNT ON

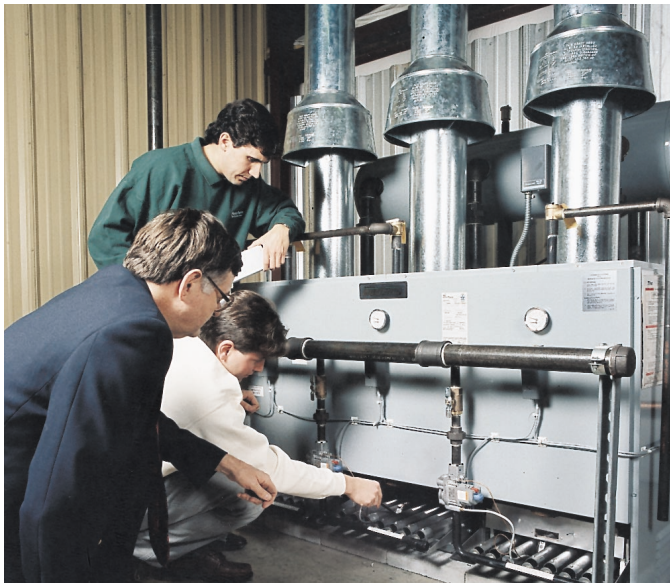
HydroHelp

Hydrotherm has knowledgeable Technical Services people staffed with CAD stations to assist in the design and application of modular boilers and controls to fit your needs. Piping and wiring diagrams will be specifically designed for your job. Hydrotherm drawings are also available in electronic disc form as HydroHelp, and can be obtained from your local representative.



HydroTherm Representatives

Hydrotherm has worked from the ground up to build a sales force that knows our products, understands the HVAC market, and meets your needs. Our people are ready to prove their commitment to the success of your business.



Training

A unique advantage of working with Hydrotherm is our 10,000 square foot training center. It integrates classroom training with hands-on learning opportunities for heating professionals.

Opened in 1994, the facility features many installed, operating heating systems that give participants the opportunity to learn by doing and improve their knowledge of products, installation, and service. Courses are designed to address real world problems with practical solutions. Courses include basic hydronics and an extensive seminar on commercial modular systems.