

TURBOMAX®

INSTANTANEOUS INDIRECT WATER HEATER



...anywhere you need a lot of hot water.

- Apartment buildings and condominiums
- Hotels, motels, inns and houses
- Hospitals and senior's residences
- Sports centers, clubs and arenas
- Restaurants and laundries
- Industries where domestic hot water is essential

TURBOMAX®

INSTANTANEOUS INDIRECT WATER HEATER



PROVEN PATENTED TECHNOLOGY UNPARALLELED PERFORMANCES HEATING COST SAVINGS

- TURBOMAX® heats water instantaneously, only when needed and keeps energy consumption to a minimum.
- TURBOMAX® has a patented technology with heat transfer efficiency reaching 99%.
- TURBOMAX® heats water in greater amounts than any other hot water heater, while minimizing temperature swings.
- TURBOMAX® reduces and scrubs the accumulation of scale deposits that diminish the efficiency of traditional water heaters.
- TURBOMAX® adapts to all thermal energy sources (gas, oil, electricity, wood, solar and recuperated heat), the one that best suits your needs.
- TURBOMAX® heats water without altering its quality and is an excellent choice anywhere health considerations are a high priority.
- TURBOMAX® can be connected to your existing heating system. One boiler is usually enough.
- TURBOMAX® can reduce heating costs by up to 30%.
- TURBOMAX® resists corrosion and thermal stress. When properly installed, TURBOMAX® will outlive and outperform traditional water heaters.
- TURBOMAX® is reliable and covered by a 10-year warranty* - one of the best in the industry - even for commercial applications.

*Please consult the terms of the warranty.

When every drop of hot water counts...

Optimize your heating cost instantly!



1-888-854-1111
www.thermo2000.com

TURBOMAX®

TURBOMAX® 109

Domestic hot water produced per hour in U.S. gallons†							
Net BTUH	kW	First hour			Continuous		
		110°F	140°F	180°F	110°F	140°F	180°F
400 000	117	807	531	363	687	483	346
500 000	146	979	651	450	859	603	436
600 000	176	1151	772	536	1031	724	516
700 000	205	1323	893		1202	845	
800 000	234	1494	1013		1374	965	
900 000	264	1666			1546		

TURBOMAX® 45

Domestic hot water produced per hour in U.S. gallons†							
Net BTUH	kW	First hour			Continuous		
		110°F	140°F	180°F	110°F	140°F	180°F
200 000	59	392	261	180	344	241	173
250 000	73	477	321	223	429	302	216
300 000	88	563	381	266	515	362	260
350 000	103	649	442		601	422	
400 000	117	735	502		687	483	
450 000	132	821	562		773	543	
500 000	146	907			859		

TURBOMAX® 34

Domestic hot water produced per hour in U.S. gallons†							
Net BTUH	kW	First hour			Continuous		
		110°F	140°F	180°F	110°F	140°F	180°F
50 000	15	126	76	49	88	60	43
100 000	29	211	137	92	172	121	87
150 000	44	297	197	135	258	181	130
200 000	59	383	257	179	344	241	173
250 000	73	469	318	222	429	302	216
300 000	88	555	378		515	362	
350 000	103	641	438		601	422	
400 000	117	727			687		

TURBOMAX® 24

Domestic hot water produced per hour in U.S. gallons†							
Net BTUH	kW	First hour			Continuous		
		110°F	140°F	180°F	110°F	140°F	180°F
50 000	15	112	71	47	88	60	43
100 000	29	198	131	90	172	121	87
150 000	44	284	192	134	258	181	130
200 000	59	370	252	177	344	241	173
250 000	73	455	312	220	429	302	216
300 000	88	542	373		515	362	
350 000	103	628	433		601	422	
400 000	117	714			687		

† Based on ASHRAE (D.O.E.) test method performed by CRIQ. Domestic cold water at 40°F and boiler water at 180°F.

All TURBOMAX® Models

Standby loss <1/2°F per hour
Heat Transfer Efficiency = 99%
Output Temperature up to 200°F
Coil Test Pressure = 700 PSI
Tank Test Pressure = 300 PSI
Rated Pressure = 150 PSI

TURBOMAX® 65

Domestic hot water produced per hour in U.S. gallons†							
Net BTUH	kW	First hour			Continuous		
		110°F	140°F	180°F	110°F	140°F	180°F
200 000	59	416	270	183	344	241	173
250 000	73	501	331	227	429	302	216
300 000	88	587	391	270	515	362	260
350 000	103	673	451		601	422	
400 000	117	759	512		687	483	
450 000	132	845	572		773	543	
500 000	146	931			859		

TURBOMAX® 44

Domestic hot water produced per hour in U.S. gallons†							
Net BTUH	kW	First hour			Continuous		
		110°F	140°F	180°F	110°F	140°F	180°F
50 000	15	134	80	50	86	60	43
100 000	29	220	140	93	172	121	87
150 000	44	306	200	137	258	181	130
200 000	59	392	261	180	344	241	173
250 000	73	477	321	223	429	302	216
300 000	88	563	381		515	362	
350 000	103	649	442		601	422	
400 000	117	735			687		

TURBOMAX® 33

Domestic hot water produced per hour in U.S. gallons†							
Net BTUH	kW	First hour			Continuous		
		110°F	140°F	180°F	110°F	140°F	180°F
50 000	15	126	76	49	86	60	43
100 000	29	211	137	92	172	121	87
150 000	44	297	197	135	258	181	130
200 000	59	383	257	179	344	241	
250 000	73	469	318	222	429	302	
300 000	88	555	378		515	362	

TURBOMAX® 23

Domestic hot water produced per hour in U.S. gallons†							
Net BTUH	kW	First hour			Continuous		
		110°F	140°F	180°F	110°F	140°F	180°F
50 000	15	112	71	47	86	60	43
100 000	29	198	131	90	172	121	87
150 000	44	284	192	134	258	181	130
200 000	59	370	252		344	241	
250 000	73	456	312		429	302	
300 000	88	542			515		

Specifications

Model	Tank volume	Heat transfer area (sq.ft.)	Utility connection	Boiler connection	Hgt.	Diam.	Shipping weight
TURBOMAX 109	119 US gal.	58.9 ft ²	2" Sweat M	2" NPTM	74"	29"	555 lbs
TURBOMAX 65	72 US gal.	32.7 ft ²	1 1/2" Sweat M	1 1/2" NPTM	67"	24"	250 lbs
TURBOMAX 45	48 US gal.	32.7 ft ²	1 1/2" Sweat M	1 1/4" NPTM	55"	22"	235 lbs
TURBOMAX 44	48 US gal.	26.2 ft ²	1 1/2" Sweat M	1 1/4" NPTM	55"	22"	210 lbs
TURBOMAX 34	36 US gal.	26.2 ft ²	1 1/2" Sweat M	1 1/4" NPTM	65"	18"	195 lbs
TURBOMAX 33	36 US gal.	19.6 ft ²	1 1/4" Sweat M	1 1/4" NPTM	65"	18"	170 lbs
TURBOMAX 24	26 US gal.	26.2 ft ²	1 1/2" Sweat M	1 1/4" NPTM	49"	18"	175 lbs
TURBOMAX 23	26 US gal.	19.6 ft ²	1 1/4" Sweat M	1 1/4" NPTM	49"	18"	150 lbs

Standard Equipment



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Our patented injector: reduces heating costs

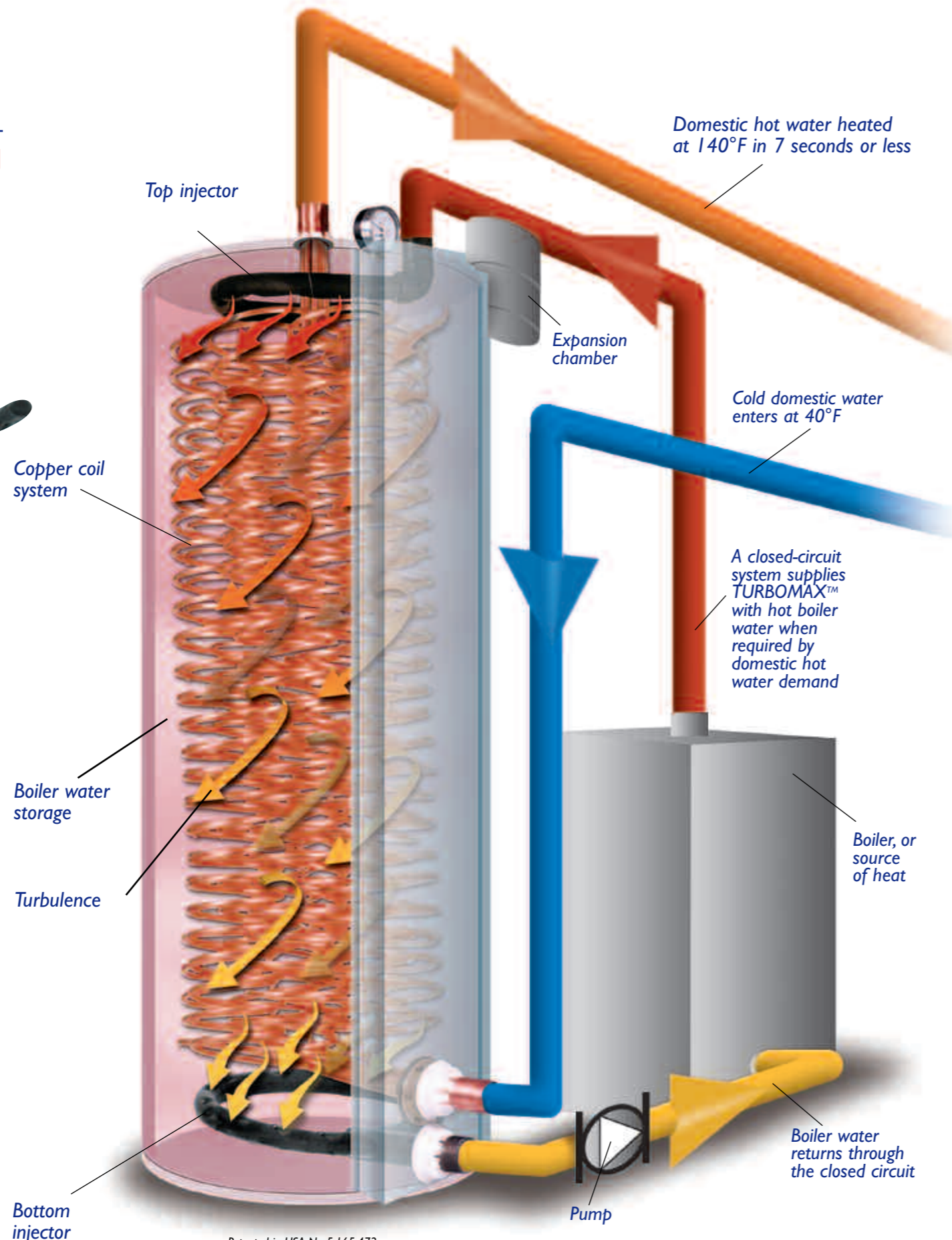
99% heat transfer efficiency

The secret of the **TURBOMAX®**'s exceptional performance is in its patented injector, which provides optimum heat transfer. In simpler words the **TURBOMAX®** water heaters can produce more hot water, more rapidly. Money-wise it reduces the cost of heating by reducing the running time of the boiler or the need for a bigger water heater to do the same work.

Both ends of the **TURBOMAX®** contain an injector with perforated walls. The top injector creates multiple jets of boiler water swirling (creating turbulence) all over the copper coil and spreading boiler water evenly throughout the tank.

The turbulence produces convection, i.e., activates the instantaneous passage of the boiler water heat through the copper coil walls and then to the domestic water inside the coils.

The bottom injector insures a homogenous flow of boiler water around the copper coil system from the top of the tank to the bottom. It eliminates stagnant areas or cold channels of boiler water that would normally accumulate. These two key elements make the thermal exchange between fresh domestic water and boiler water efficient and prevent domestic hot water temperature swings.



Patented in USA No 5,165,472
and in Canada No 2,038,520

How does it work?

The principle behind the **TURBOMAX®** is based on the use of boiler water to heat the fresh domestic water instantly when required.

BOILER WATER

In order to maintain the domestic water temperature, the system supplies hot boiler water to the **TURBOMAX®** tank. The boiler water enters the top of the tank through a patented injector, which creates turbulence for an even water temperature around the copper coils, ensuring maximum thermal exchange. As the boiler water descends in the tank it transfers thermal energy to the copper coils in the **TURBOMAX®**.

The boiler water arrives at the bottom of the tank to be collected by a second patented injector and is redirected to the boiler to be re-heated until the system has returned to its initial state.

DOMESTIC WATER

In contrast to the boiler water, fresh domestic water is forced up through the coil system from the bottom of the tank. As it rises, the domestic water in the coils draws energy from the ambient heat of the pre-heated tank water. This process allows domestic water to be heated from 40°F to 140°F in 7 seconds or less.

COUNTERFLOW MOTION

As you will note, firstly the flow of boiler water is from the top of the tank to the bottom and secondly the flow of fresh domestic water inside the copper coils is from the bottom of the heater to the top. The counterflow motion of both fluids increases the efficiency of heat transfer and prevents domestic hot water temperature swings.

HEAT STORAGE

The boiler water in **TURBOMAX®** tank constitutes a store of heat energy ready to heat fresh domestic water. The volume of boiler water stored in **TURBOMAX®** tank provides enough heat to keep your domestic water hot while the boiler heats up. In fact, it acts as a buffer which prevents domestic hot water or boiler water temperature swings.

COPPER COILS

Copper is the metal by which heat from the boiler water contained in the tank is transferred to domestic water in the coils. Copper is an excellent conductor of heat (17 times more so than stainless steel), which increases thermal efficiency. Also, copper is known to be the metal most resistant to corrosion by household water.

Copper offers great resistance to thermal stress (expansion and contraction of material due to temperature changes in the water). **TURBOMAX®** uses the expansion and the contraction of copper to prevent the accumulation of scale inside the tube. The copper tubes are made into coils to take advantage of the radial expansion-contraction motion of copper. This constant motion changes inner surface tension and prevents scale deposits from attaching to the inner side of the copper coils.

TURBULENCE

Turbulence reduces heating costs. **TURBOMAX®** water heaters operate at an unparalleled 99% heat transfer efficiency. **TURBOMAX®** uses turbulence to produce more hot water, more rapidly. First, **TURBOMAX®** patented injectors, provide turbulence inside the tank. Second, domestic water entering **TURBOMAX®** copper coils flows in a turbulent state. Thus, like the patented injectors increasing heat transfer efficiency. The turbulence also scrub accumulation of scale deposits inside the coils.

Questions And Answers

How can **TURBOMAX®** reduce heating costs?

1. By producing hot water instantly, using turbulence:

Turbulence reduces energy consumption. **TURBOMAX®** generates turbulence, using patented injectors, to produce hot water instantaneously and on demand. **TURBOMAX®** reduces the energy requirements of stocking a large volume of water over long periods of time.

2. By reducing heat loss:

TURBOMAX® is compact and reduces heat loss to less than 1/2°F per hour. It has no chimney through which traditional heaters lose heat.

3. By reducing boiler over-cycling, thus increasing efficiency:

The boiler water in the **TURBOMAX®** tank acts as a buffer. **TURBOMAX®** can reduce heating costs when it prevents boilers from over-cycling, i.e., using too much power to heat domestic water during periods of low demand. Again to prevent over-cycling, it can be used as a source of boiler water in radiant floor applications with constant low demand.

4. By scrubbing scale build-up it maintains its efficiency:

TURBOMAX® reduces scale deposits through the combined effect of two physical phenomena: water turbulence and the expansion-contraction of copper. This makes the system ever more economical over the long term, by keeping it efficient. On the other hand, traditional water heaters, as each day passes by, steadily lose efficiency as they scale up. Scale build-up acts as an insulator that slows the process of heat transfer. It increases the heating costs of water because the heater has to over-heat to do the job of a **TURBOMAX®**.

5. By preventing costly breakdowns due to corrosion:

Corrosion is the main hindrance to water heater's durability. **TURBOMAX®** resolves this problem in two ways. The coils within which fresh water circulates are made of copper, a material that lasts as long as the rest of the copper piping in your building, usually 40 years.

In addition, **TURBOMAX®** tanks will live as long as a high carbon steel or a cast iron boiler would. Why? Because the tank is filled with boiler water. After starting the system, in a matter of hours, the small quantity of oxygen in the boiler water solution is purged. Since the same hot boiler water stays in the system year after year, no new oxygen means no corrosion.

Water quality is preserved inside TURBOMAX®. Why?

The copper coils create a biostatic environment that preserves the quality of domestic water and discourages the proliferation of bacteria. Copper emits a very small quantity of ions that kill potentially fatal bacteria, such as E-coli or others that cause Legionnaire's disease. Furthermore, boiler water inside the **TURBOMAX®** tank is within a temperature range, which prevents bacterial growth.



TURBOMAX® units are available in several sizes to fit your needs

Visit our website at
www.thermo2000.com

