

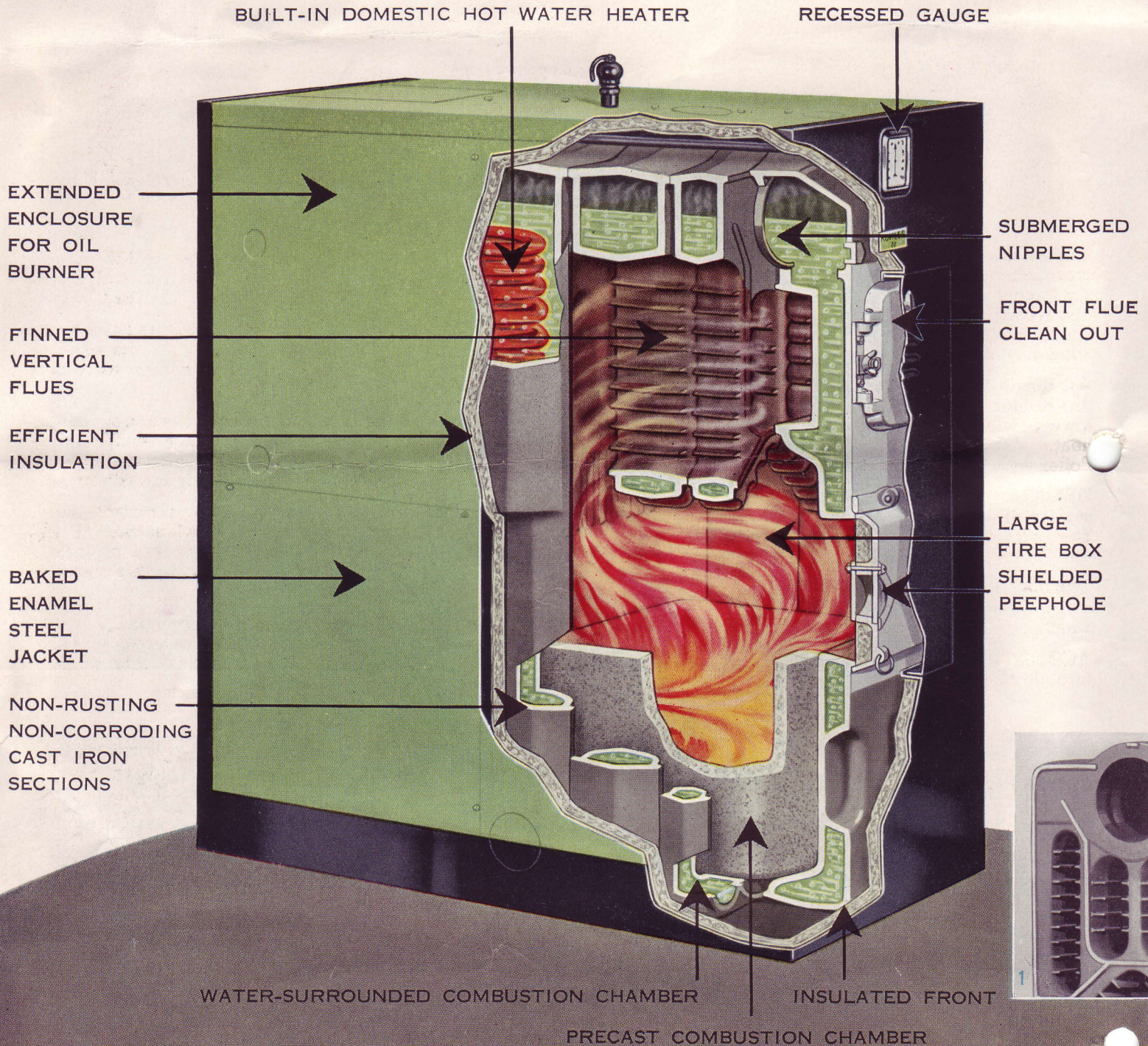


KOHLER
"22"
OIL BOILER

*Now Oil Heating
Becomes Economical*

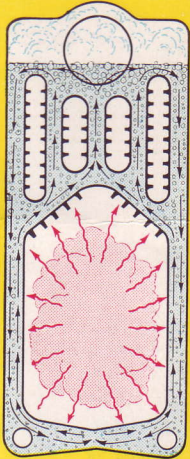
KOHLER OF KOHLER

Because this **KOHLER** Embodies "22"



KOHLER CO. *Founded 1873* KOHLER, WISCONSIN

the Important **WET BASE** Principle

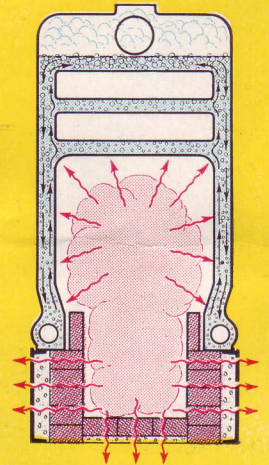


← THE "22" WAY

In Kohler's great "22" Oil Boiler, water circulates completely and actively around the entire firebox and through the boiler, absorbing all the radiant heat of the burner flame. There is no avenue of escape through the sides, base or floor. A real heat saver and money saver.

THE OLD WAY →

No water circulation at base. Heat is lost down through the floor and out through the four sides of base. The "22" competes in price with this type of makeshift conversion boiler.



Modern scientific research is combined with care and thoroughness in manufacturing Kohler Radiant Heating Equipment. Designed in accordance with the latest discoveries of Kohler thermal research laboratories, Kohler equipment establishes new high standards of efficiency, economy, and durability.

Ask the heating contractor in your community about the fine Kohler line of boilers and Compact radiators which are specially built to occupy less space and supply more heat. Ask him particularly about Kohler's "22" Oil Boiler with its many stand-out features:

FIREBOX. Large firebox has an abundance of heating surface directly exposed to the burner flame. Multiple heat-extracting finned surfaces are cast into the top of the firebox.

INSULATION. The top, front, back and sides of boiler are covered with a thick blanket of heat-and-sound-insulating rock wool.

ACCESS DOORS. Flues are accessible for cleaning through twin doors at the front. The fire door has a

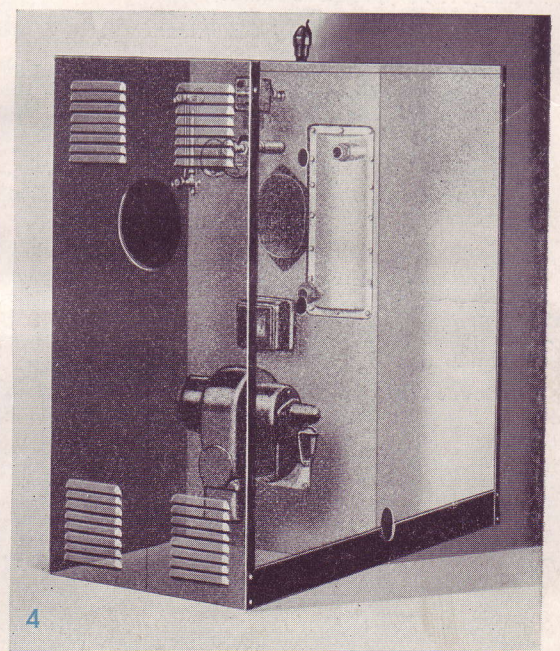
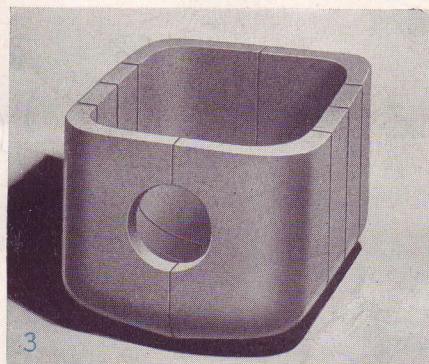
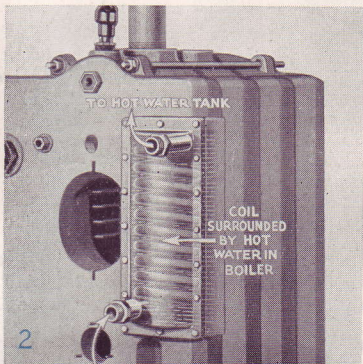
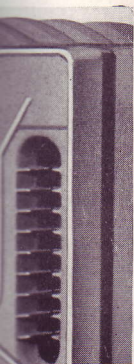
shielded Pyrex peephole for observation of the burner flame and is hinged at top so that it opens and closes automatically to relieve undue pressure in the firebox.

OIL BURNER MOUNTING. Provision has been made for a flange mounting of the oil burner on the back of the boiler. Any gun-type oil burner can be used successfully with a Kohler "22".

TAPPINGS. Tappings for necessary control equipment, such as low-water cut-off switch; temperature, pressure and burner controls are provided on the back section. Controls are easily accessible for adjustment.

CAST IRON. Sections are constructed of durable, time-tested-and-approved cast iron which withstands the disintegrating action of rust, electrolysis and corrosion. Their consequent durability means long life and low cost.

JACKET. Boiler is sheathed in a heavy-gauge jacket finished with a hard, durable, baked enamel, which is easy to clean. Instrument flanges and door handles are chromium plated.

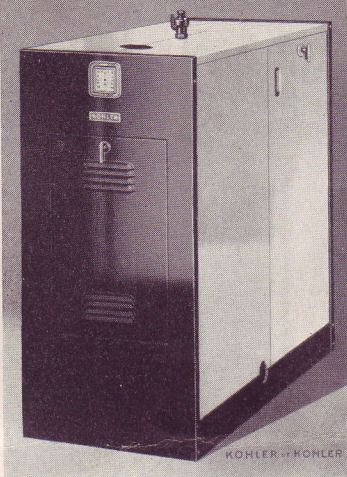


1. **FINNED FLUES.** Multiple finned surfaces have been cast into the flues to obtain maximum heat absorption. Slender vertical water passages between flues promote rapid internal circulation and assure quick response.

2. **BUILT-IN WATER HEATER.** Year-round hot water is provided by a domestic hot water heater built into the back section. Large upper nipples provide active and unrestricted circulation between the sections.

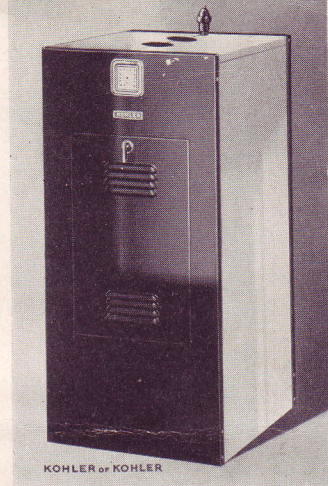
3. **PRECAST COMBUSTION CHAMBER.** A precast refractory combustion chamber designed especially for the various sizes of "22" Oil Boilers is available on order.

4. **EXTENDED JACKET.** A rear extended jacket, which conceals the oil burner, instruments, controls and water heater, is available. A door panel on the side of the boiler provides easy access to the burner. Jacket without rear extended enclosure is shown on back of folder.



"22" Oil Boiler with Extended Jacket

"22" KOHLER OIL BOILERS FOR GUN-TYPE BURNERS (With Economizer Baffle)



"22" Oil Boiler with Flush Jacket Regularly Furnished

I=B=R RATINGS AND DATA

Based on 19,700 B.t.u. per lb. of oil



No. of Boiler		Gross I=B=R Output	Net I=B=R Rating			Heating Surface	Max. Firing Rate	Chimney	
			Square Feet		B.t.u.			Sq. Ft.	Gals. Oil per Hr.
Steam	Water	B.t.u.	Steam	Water					
S-22-5	W-22-5	116,000	310	496	74,400	23.6	1.25	8x8"	25 ft.
S-22-6	W-22-6	147,000	400	640	96,000	29.5	1.50	8x8"	30 ft.
S-22-7	W-22-7	178,000	490	784	117,600	36.9	1.75	8x8"	30 ft.
S-22-8	W-22-8	209,000	580	928	139,200	42.8	2.00	8x8"	30 ft.
S-22-9	W-22-9	240,000	670	1072	160,800	50.2	2.25	8x12"	35 ft.
S-22-10	W-22-10	271,000	760	1216	182,200	56.1	2.50	8x12"	35 ft.

AUXILIARY TAPPINGS: Back section is tapped for aquastat, pressurestat, 2½" low water control, and for Minneapolis-Honeywell Protectorelay. The burner port is equipped for flange mounting of burner if desired.

BUILT-IN WATER HEATERS: A 40-gallon built-in water heater is regularly furnished as standard equipment. Other sizes available are: 100 gallon storage type; 180-gallon or 210-gallon tankless type. Tankless heaters are applicable to hot water systems only when the boiler is constantly maintained

at 180°. In areas where hard water prevails a tankless heater is not recommended.

TRIMMINGS include flue brush and shielded Pyrex peephole; on steam boilers, a water gauge, recessed combination pressure-vacuum gauge and safety valve; on water boilers, a recessed combination altitude gauge and thermometer. On 22-5 standard equipment includes cast plates to form a 9x12 combustion chamber; six standard split bricks are required.

The I=B=R emblem signifies that the boiler has been tested and rated according to the Testing and Rating Codes adopted by the Institute of Boiler and Radiator Manufacturers.

Use of the I=B=R emblem and I=B=R ratings is controlled by the Institute. Before a manufacturer may adopt and use the I=B=R emblem and I=B=R ratings for any series of boilers, test data must be submitted to the Technical Committee of the Institute for review and approval. This committee consists of a representative, impartial body of engineers. The purpose of this review is to determine that the tests have been accurately performed and that the ratings requested by the manufacturer conform to the limits of the I=B=R Codes.

Ratings are expressed as follows:

Gross Output is the maximum B.t.u. available at the boiler outlet.

Net Rating is the gross output less allowances for piping and pick-up. The Net Rating should be interpreted as the installed radiator load where average or normal installation conditions exist. Net Rating is expressed in B.t.u. per hour as well as square feet of steam and water radiation.

Net Steam Ratings are based on 240 B.t.u. emission per square foot per hour.

Net Water Ratings are based on 150 B.t.u. emission per square foot per hour, which is the standard for gravity circulation with average radiator temperature of 170 degrees.

Domestic Water Heating Load must be included in the net load if heated by the boiler.

For each gallon of storage heater capacity: ADD 1 square foot of

steam radiation, or 1.6 square feet of gravity hot water radiation, or 240 B.t.u.

For domestic tankless heaters, ADD 50 square feet of steam radiation or 80 square feet of gravity hot water radiation or 12,000 B.t.u. for each bathroom.

For large tankless heaters where the draw of hot water may be heavy and continuous, as in restaurants, hotels, etc., the load must be carefully estimated and boiler capacity proportioned accordingly.

Piping Load: Heat loss from covered piping of normal proportions should not be added to the net load. Heat loss from bare piping should be added to the net load. It is recommended that steam piping should always be insulated.

Oil Burner: The oil-burner must have adequate capacity to deliver the recommended quantity of oil. If the minimum capacity of the oil burning equipment exceeds the requirement of the heating load, the boiler should be selected to suit the oil input rather than the connected load.

Low-Water Protection: All automatic-fired steam boilers should be protected against the danger of low water. All Kohler boilers may be equipped with built-in low-water control. The Kohler No. 544BX Low-Water Control is recommended for this purpose and can be ordered with the boiler.

Steam Piping: Boiler risers should be the full size of the boiler outlet to the point where they join the main or header on steam systems.

No header is necessary on "22" steam boilers as one 4-inch riser is adequate. On these boilers the 2½-inch outlet is furnished for use with forced hot water systems.