

Unical

DĪATHER'



THREE PASS THERMAL OIL HEATER

OUTPUT RANGE

from 116 to 5815 kW

THERMOCARRIER FLUID

thermal oil

WORKING TEMPERATURE

300°C

MODELS

120	230	350	465	580	700	930	1160
1500	1900	2300	2900	3500	4650	5800	-

DESCRIPTION

Three pass thermal oil heater.

Horizontal design, vertical on request.

DĪATHER' is a thermal oil heater, three pass.

It can be operated with liquid or gaseous fuels.

Design features:

- **Coil:** two concentric coils with bottom screen, inserted in the outer shell, hermetically sealed to the smokes, formed by drawn up pipes of seamless steel tubes type, wound in spiral, in quality steel of suitable thickness.
- **Bottom:** of the boiler body boiler, bolted, insulated and endowed with cleaning door and smoke chamber connection to the chimney.
- **Furnace:** with passing flame, accessible from the front door.

- **Front door:** is built in welded steel plate, of wide dimensions to facilitate the operations of maintenance, hinged, insulated with refractory material and endowed with flame sight glass and burner plate.
- **Insulation:** the shell is thermally insulated with a double layer of rock wool cladding, suitably supported and covered externally of aluminum.
- **The base:** is built with a steel frame.

STANDARD EQUIPMENT⁽¹⁾

- 2 flanged connections (flow and return) on right-hand side. Left-hand or vertical on request.
- Group of gaskets, bolts and counter flanges for flanged connections
- 1 differential pressure switch
- 2 manometers on flow and return manifolds
- Drain valve
- Standard documentation supplied⁽²⁾:
 - EC declaration of conformity of:
 - pressure equipment
 - differential pressure switch of the pressure equipment
 - electrical panel (if supplied)
 - feed pump/s (if supplied)
 - warranty
 - coil hydraulic test certificate
 - installation, use and maintenance manual for boiler and any accessories provided
 - drawing of the equipped oil heater
 - wiring diagram of the electrical panel (if supplied)

(1) The quantities, types or models may vary according to the configuration offered.
 (2) The above documentation will be provided in electronic format, except for the use and maintenance manual which will be supplied in paper format together with the equipment.

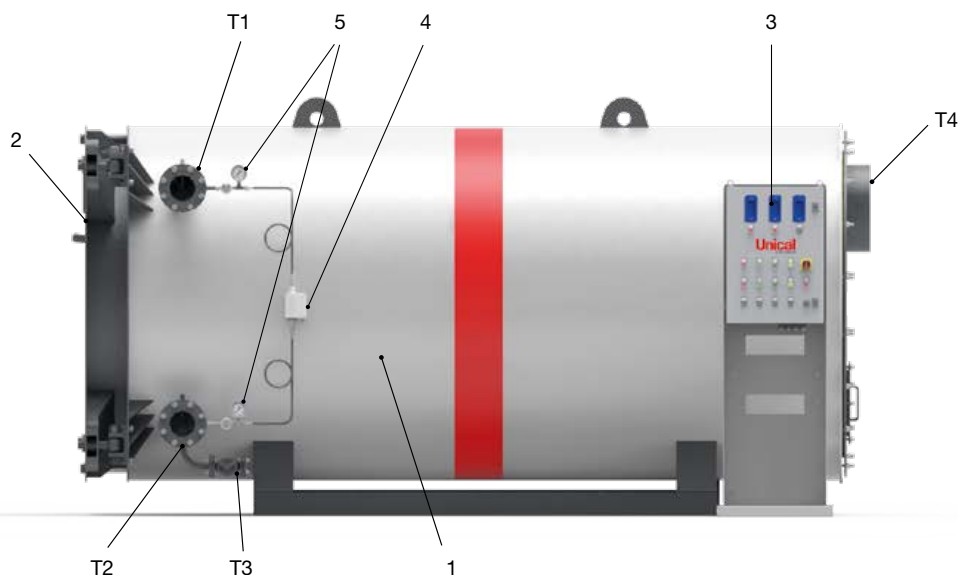
OPTIONAL EQUIPMENT

- Outer casing in stainless steel
- Single circulation oil pump unit
- Double circulation oil pump unit
- IML_OIL Board panel
- V_ATMO Atmospheric expansion tank
- V_PRESS Pressurized expansion tank
- V_OIL Thermal oil collection vessel
- Plant oil loading pump
- DG_OIL Dearator
- Combustion air preheater

MAIN COMPONENTS

1. Boiler body
2. Front door
3. Electric panel board
4. Differential pressure switch
5. Manometers on flow and return manifolds

- T1. Flow connection
 T2. Return connection
 T3. Drain
 T4. Chimney connection



TECHNICAL DATA

Modello	Nominal output kW	Nominal input kW	ΔP smoke side mbar	Oil pump flow rate m^3/h	Temperature difference K	Head pressure m.c.l.	Pump power kW	Oil side ΔP m.c.l.	Burner head max. dia. mm	Burner head min. length. mm	Empty weight kg
120	116.3	134.3	1.5	6.0	40	45	3	26	220	240	700
230	232.6	267.6	2.0	10.6	40	49	5.5	23	220	240	950
350	348.8	401.0	2.5	15.9	40	48	5.5	25	220	240	1250
465	465.1	534.1	3.0	22.0	40	45	5.5	19	240	240	1600
580	581.4	668.5	3.2	26.5	40	45	7.5	20	240	250	1700
700	697.7	802.1	3.1	31.8	40	45	7.5	23	240	250	1800
930	930.2	1069.3	3.5	42.0	40	40	7.5	17	270	250	2300
1160	1162.8	1336.8	3.8	50.0	40	46	11.0	25	300	260	2800
1500	1511.6	1737.6	4.0	69.0	40	42	11.0	20	360	260	3800
1900	1860.5	2138.4	4.2	81.0	40	50	15	27	360	260	4200
2300	2325.6	2672.5	4.5	101.0	40	49	15	24	360	270	6000
2900	2906.9	3342.0	4.5	126.0	40	60	30	37	430	270	8500
3500	3488.4	4009.2	5.0	159.0	40	56	30	32	430	270	9000
4650	4651.2	5346.0	6.0	202.0	40	58	37	35	430	280	13000
5800	5813.9	6682.7	7.0	252.0	40	58	45	41	430	280	15000

PRODUCT PLUS VALUES

■ COIL

two concentric coils with bottom screen, inserted in the outer shell, hermetically sealed to the smokes, formed by drawn up pipes of "seamless steel tubes" type, wound in spiral, in quality steel of suitable thickness

■ BOTTOM

of the boiler body boiler, bolted, insulated and endowed with cleaning door and smoke chamber connection to the chimney

■ FURNACE

with passing flame, accessible from the front door

■ FRONT DOOR

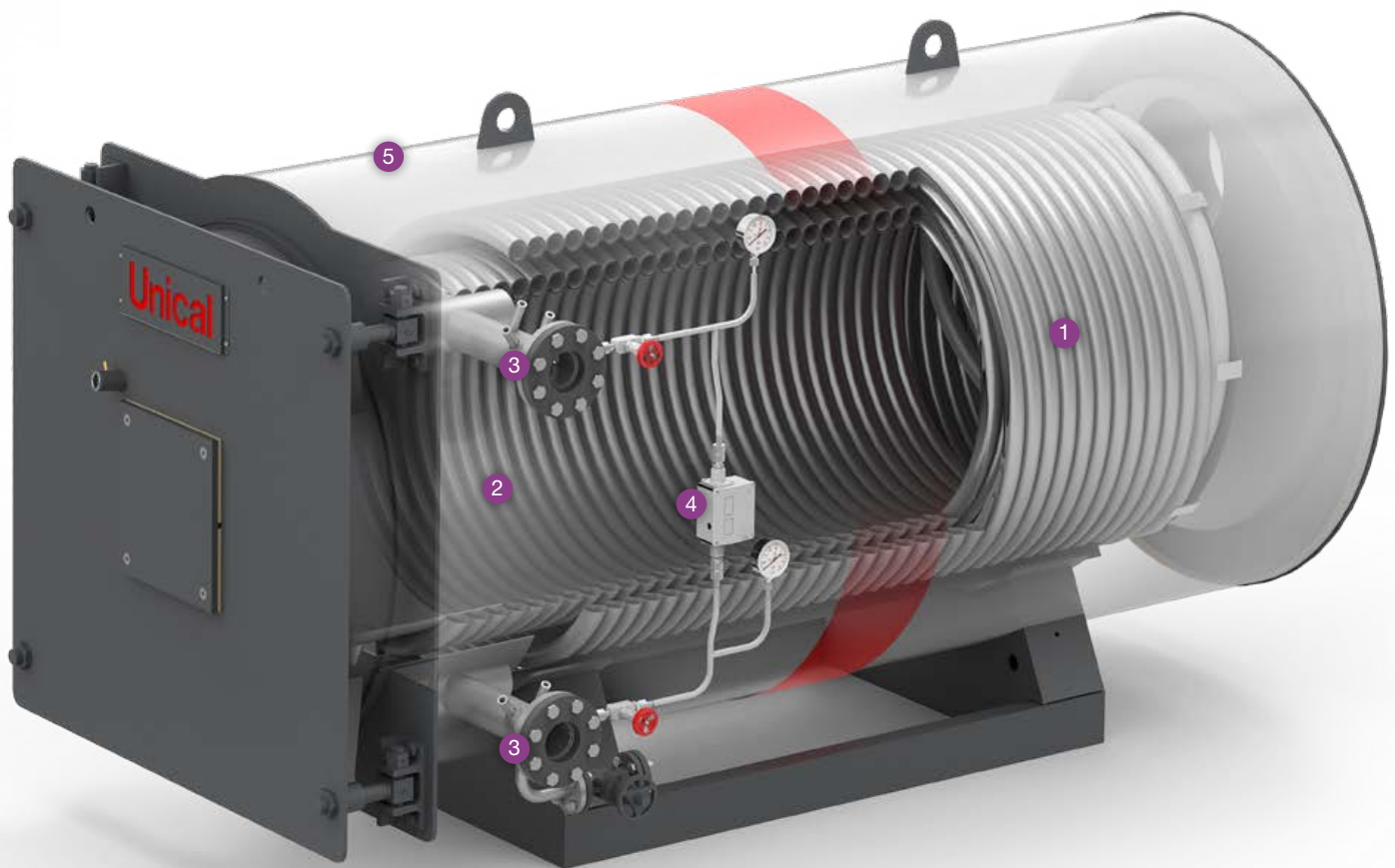
of wide dimensions to facilitate the operations of maintenance, hinged, insulated with refractory material and endowed with flame sight glass and burner plate

■ EXTERNAL INSULATION

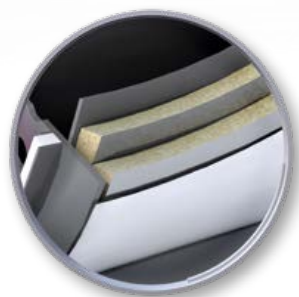
made of a double layer of high-density rock wool

■ EXTERNAL CASING

in aluminium



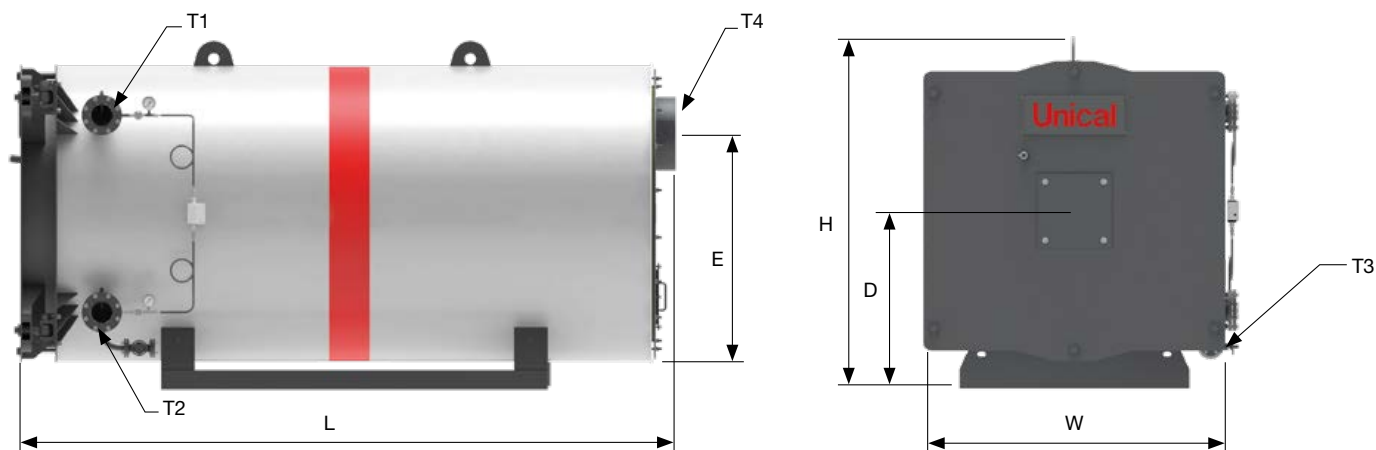
IML electric panel board



Very thick high quality insulation

- 1 Coil
- 2 Furnace
- 3 Flow/Return connections
- 4 Differential pressure switch
- 5 Insulation with mat and painted sheet metal

DIMENSIONS



Model	W	L	H	D	E	T1/T2	T3	T4
	mm	mm	mm	mm	mm	DN	DN	Øi mm
120	930	1570	1170	620	800	32	20	204
230	1060	1810	1300	680	900	40	20	254
350	1060	2120	1300	680	900	50	20	254
465	1240	2250	1490	780	1060	65	20	304
580	1240	2380	1490	780	1060	65	20	304
700	1260	2380	1500	780	1060	65	20	304
930	1370	3000	1610	840	1160	80	20	354
1160	1540	3270	1780	920	1320	100	25	354
1500	1670	3550	1920	1000	1440	100	25	404
1900	1670	3700	1920	1000	1440	125	25	404
2300	1840	4100	2100	1080	1580	125	25	454
2900	2200	4400	2450	1260	1900	150	25	504
3500	2200	4620	2450	1260	1900	150	25	504
4650	2390	5920	2650	1360	2060	200	25	604
5800	2690	6490	2990	1530	2360	200	25	704

STANDARD DELIVERED EQUIPMENTS

- Outer aluminium casing
- Insulating mattress for burner blast tube
- Group of gaskets, bolts and counter flanges for flanged connections
- Burner supporting plate, drilled according to the burner flange dimensions
- Differential pressure switch
- n. 2 manometers in glycerine bath, on flow and return manifolds
- Drain valve

OPTIONAL EQUIPMENTS

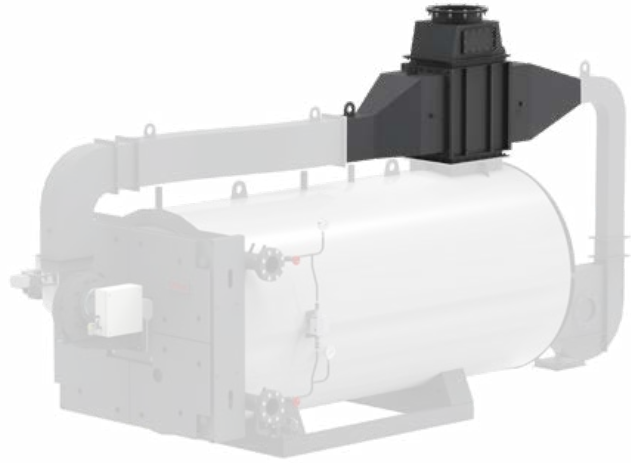
- Outer casing in stainless steel



■ IML_OIL Board panel



■ DG_OIL Dearator



- Combustion air preheater of cross-flow seal type, smooth flattened pipes in stainless steel AISI 304 to increase the heat exchange surface (flue gas passage inside the pipes, incoming air passage outside the pipes). Complete with air ducts, smoke/air/fan hoods and anti-vibration joints. Apt to increase the efficiency of the oil heater by 4 to 5%.



- Single circulation pump unit

Volute casing pumps for horizontal installation, back pull-out design, single-stage, ratings and dimensions to EN 733, radially split volute casing, volute casing with integrally cast pump feet, replaceable casing wear rings, closed radial impeller with multiply curved vanes, single mechanical seal to EN 12756, double mechanical seal to EN 12756, drive-end bearings: rolling element bearings, pump-end bearings: plain bearings.

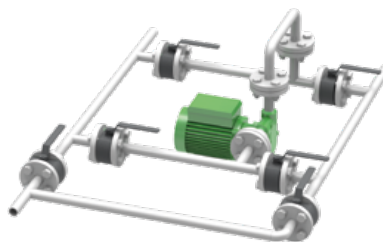
Upon request, a unit with two oil circulation pumps is available, complete with valves and connection pipes.



- V_ATMO Open expansion vessel
- V_PRESS Pressurised expansion vessel



- V_OIL: oil collection vessel, in two versions:
 - on site, with or without collection basin
 - underground, double-walled



■ System oil loading pump

