

# 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.

DIATHER' 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.
- **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.
- **Furnace:** with passing flame, accessible from the front door.
- **The base:** is built with a steel frame.
- **Insulation:** the shell is thermally insulated with a double layer of rock wool cladding, suitably supported and covered externally of aluminum.

### Standard equipment: <sup>(1)</sup>

- 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.
- Lifting lugs.
- Control board panel IP55 400V - 3+N - 50Hz
- Document folder enclosing:
  - Manufacturer's Declaration of Conformity.
  - Installation, operation and service manuals.
  - Certificates of safety components.
  - Control board's electric schemes and related Declaration of Conformity.

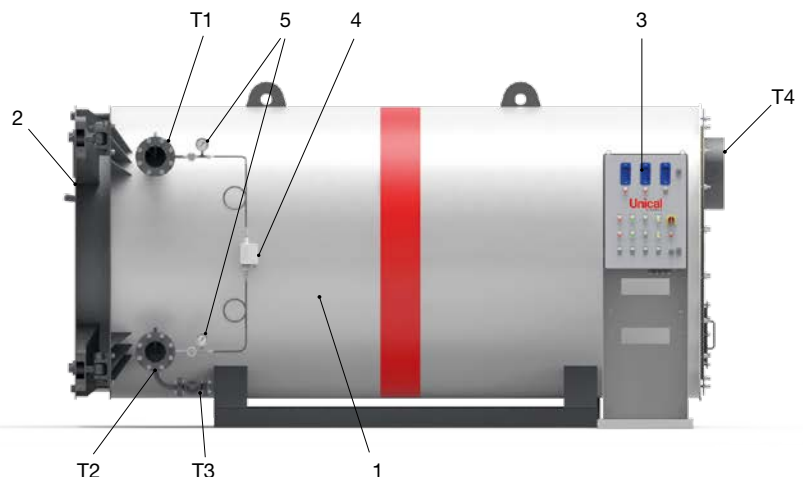
Optional equipment:

- 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

(1) The quantity and the model may vary according to the configuration.

## MAIN COMPONENTS

- 1. Boiler body
- 2. Front door
- 3. Board panel
- 4. Differential pressure switch
- 5. Manometers on flow and return manifolds
- T1. Flow connection
- T2. Return connection
- T3. Drain
- T4. Chimney connection



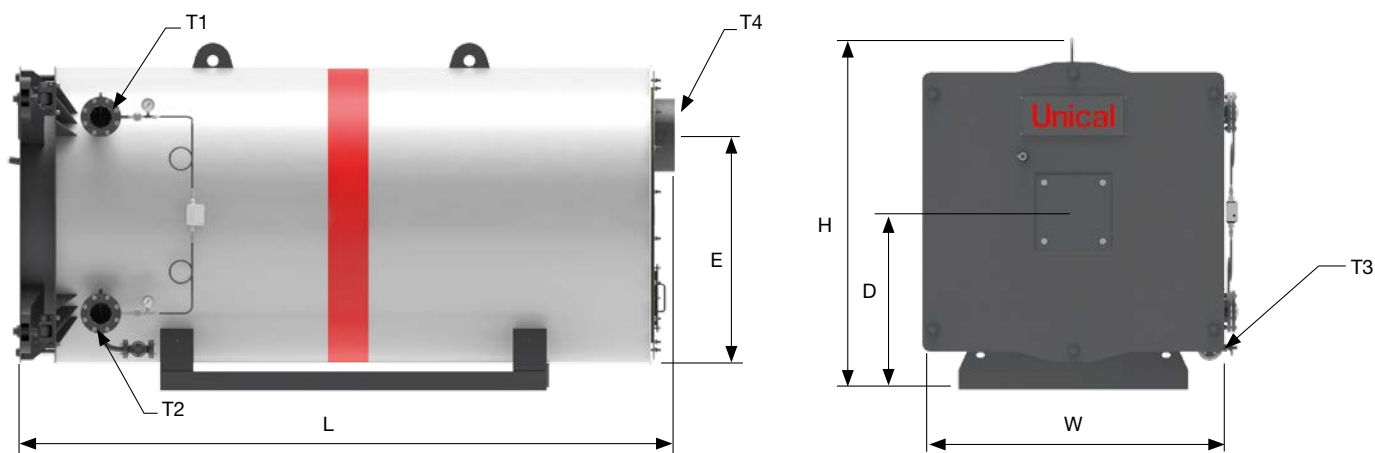
## PRODUCT PLUS VALUES

- **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

## TECHNICAL DATA

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

## DIMENSIONS



Model	W	L	H	D	E	T1/T2	T3	T4
	mm	mm	mm	mm	mm	DN	DN	Øi mm
<b>120</b>	930	1570	1170	620	800	32	20	194
<b>230</b>	1060	1810	1300	680	900	40	20	244
<b>350</b>	1060	2120	1300	680	900	50	20	244
<b>465</b>	1240	2250	1490	780	1060	65	20	294
<b>580</b>	1240	2380	1490	780	1060	65	20	294
<b>700</b>	1260	2380	1500	780	1060	65	20	294
<b>930</b>	1370	3000	1610	840	1160	80	20	344
<b>1160</b>	1540	3270	1780	920	1320	100	25	344
<b>1500</b>	1670	3550	1920	1000	1440	100	25	394
<b>1900</b>	1670	3700	1920	1000	1440	125	25	394
<b>2300</b>	1840	4100	2100	1080	1580	125	25	444
<b>2900</b>	2200	4400	2450	1260	1900	150	25	494
<b>3500</b>	2200	4620	2450	1260	1900	150	25	494
<b>4650</b>	2390	5920	2650	1360	2060	200	25	594
<b>5800</b>	2690	6490	2990	1530	2360	200	25	694

## STANDARD DELIVERED EQUIPMENTS

- Three smoke pass diathermic oil boiler
- Outer aluminium casing
- Insulating mattress for burner blast tube
- Group of gaskets, bolts and counter flanges for flanged connections
- 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



■ V\_ATMO Open expansion vessel



■ V\_OIL Oil collection vessel

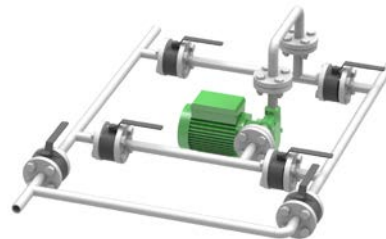
■ V\_PRESS Pressurised expansion vessel



- 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.

- Dual oil circulation pump available, with valves and connection pipes to the heater



■ System oil loading pump



- Combustion air preheater with smooth pipes, designed to increase the heater efficiency by 4/5%