

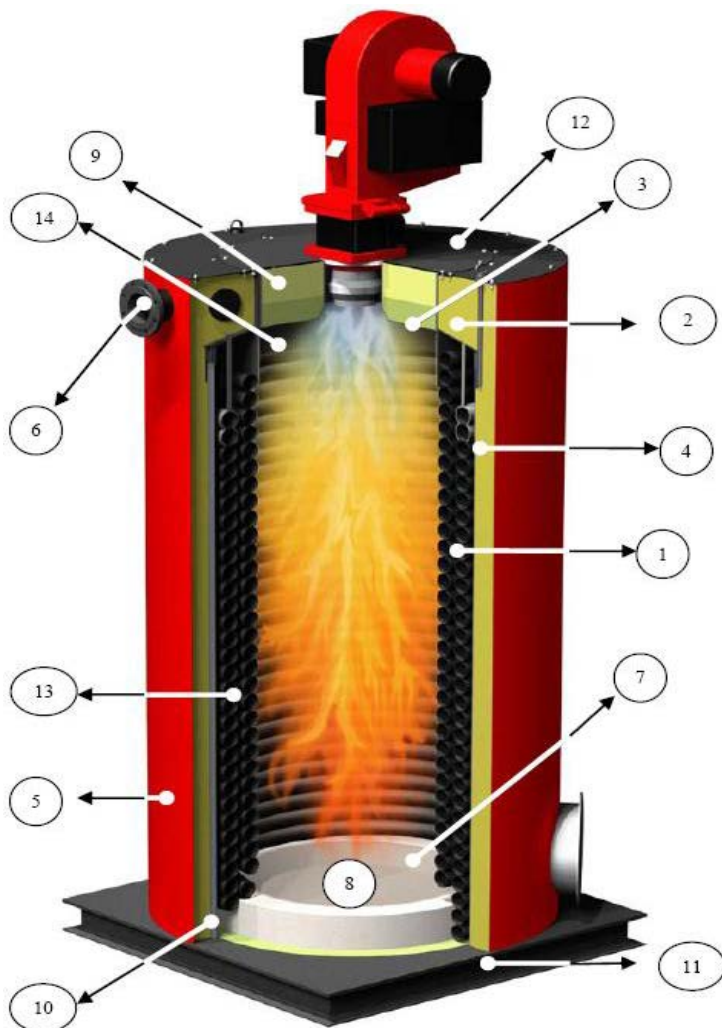
THERMAL FLUID HEATER

DESIGN CODES: AD-MERKBLÄTTER, DIN4754, EN-13445, ASME

GFT-200

TEMPERATURE JUMP	
	/20
	/30
	/40

SCHEME



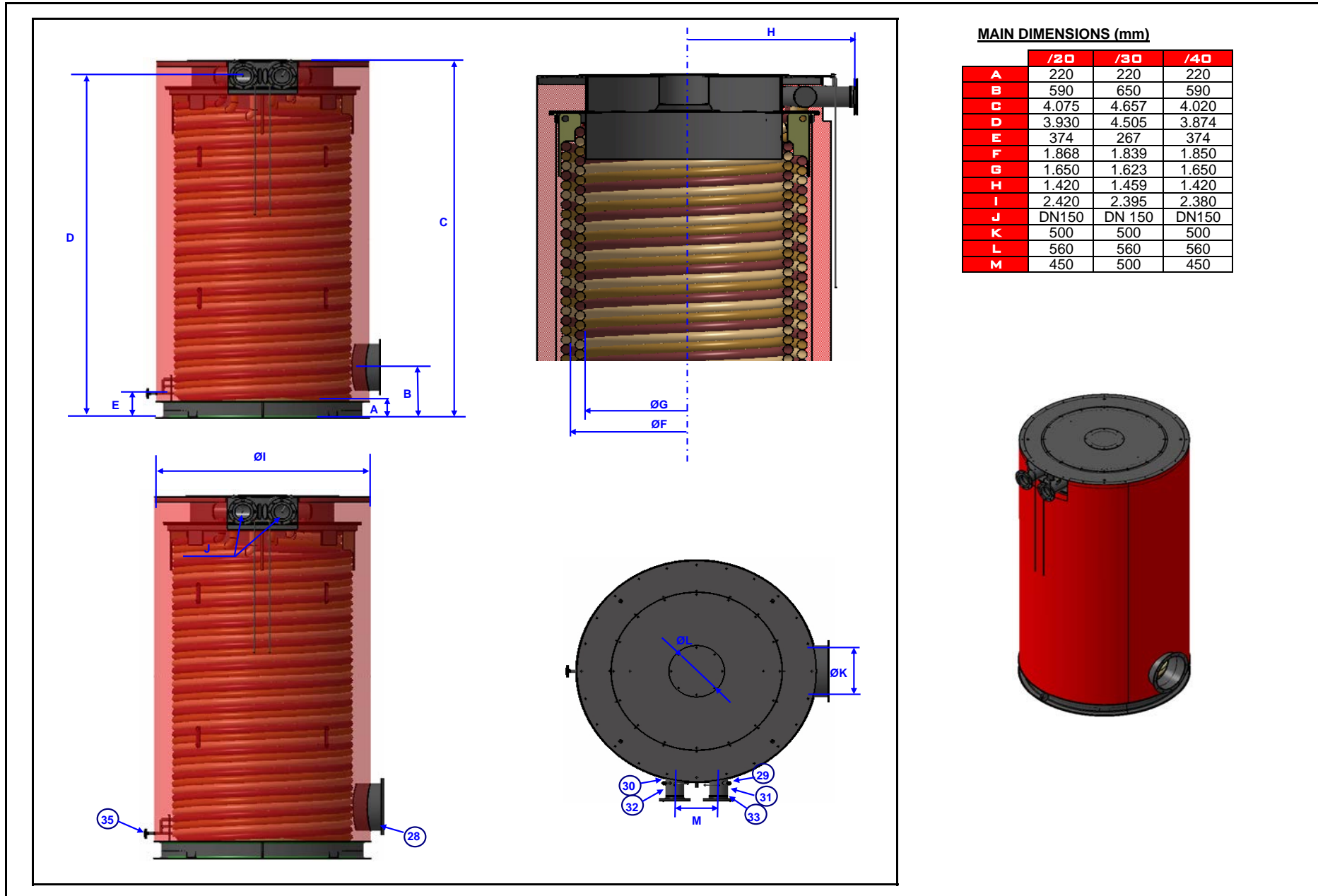
MAIN DATA:

	/ 20	/ 30	/ 40
Heating Power (kW):	2.910	2.910	2.910
(kcal/h):	2.500.000	2.500.000	2.500.000
(1) Security Flow (m ³ /h):	160	100	70
Nominal Flow (m ³ /h):	250	175	125
Volume (l):	1800	1850	1850
Heating Surface (m ²):	104	115	103
Fluid Contained:	Thermal Oil	Thermal Oil	Thermal Oil
Design Pressure (bar):	9	9	9
Working Pressure (bar):	8	7	8
(2) Pressure Drop Oil Side (bar):	1,7	2,4	2
(3) Pressure Drop Flue Gas (mbar):	2,7	2,8	2,9
Test Pressure (bar):	21	16	21
Design Temperature (°C):	350	350	350
Max.Operating Temp. (°C):	300	300	300
Empty Weight (kg):	11000	11100	11200
Operating Weigth (kg):	13400	13500	13600

(1).- Worst Case (Fuel-Oil and Max Temp. 300°C); ; Standard Thermal Oil
 (2).- Nominal Flow; Temperature 250°C; Standard Thermal Oil
 (3).- Gas + 20% of excess air; Standard Thermal Oil

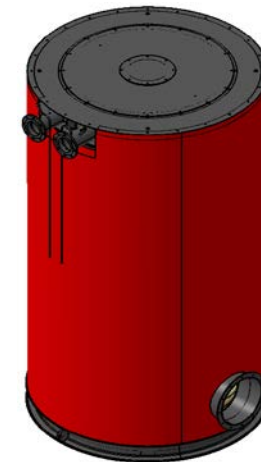
Category I according to Pressure Equipment
 Directive 97/23/CE (for use of Standard Thermal Oil)

- 1. Internal Coil
- 2. Coils Top
- 3. Combustion Chamber's Top
- 4. Internal Envelope
- 5. External Envelope
- 6. Connection Flanges
- 7. Combustion Chamber's Base
- 8. Base Insulation
- 9. Tritón-Kaowool Ceramic Fiber
- 10. Insulating
- 11. UPN Profiles
- 12. Heater's Lid
- 13. External Coil
- 14. Closing Combustion Chamber



MAIN DIMENSIONS (mm)

	/20	/30	/40
A	220	220	220
B	590	650	590
C	4.075	4.657	4.020
D	3.930	4.505	3.874
E	374	267	374
F	1.868	1.839	1.850
G	1.650	1.623	1.650
H	1.420	1.459	1.420
I	2.420	2.395	2.380
J	DN150	DN 150	DN150
K	500	500	500
L	560	560	560
M	450	500	450



COIL DESIGN :		/20	/30	/40
1	DESIGN BASIS : TUBE WALL THICKNESS (CODE OR SPECIFICATION)	AD-2000	AD-2000	AD-2000
3	DESIGN PRESSURE, (ELASTIC/RUPTURE) (bar)	9	9	9
4	DESIGN FLUID TEMPERATURE (°C)	350°C	350°C	350°C
5	CORROSION ALLOWANCE, TUBES / FITTINGS (mm)	1 mm	1 mm	1 mm
6	HYDROSTATIC TEST PRESSURE (bar)	16	16	16
7	POST WELD HEAT TREATMENT (YES OR NO)	NO	NO	NO
8	PERCENT OF WELDS FULLY RADIOGRAPHED	15%	15%	15%
9	MAXIMUM (CLEAN) TUBE METAL TEMPERATURE (°C)	360	360	360
10	DESIGN TUBE METAL TEMPERATURE (°C)	400	400	400

COIL ARRANGEMENT :		/20	/30	/40
11	TUBE MATERIAL (SPECIFICATION AND GRADE)	ASTM A106 Gr.B (*)	ASTM A106 Gr.B (*)	ASTM A106 Gr.B (*)
12	TUBE OUTSIDE DIAMETER (mm)	88,9	73,02	73,02
13	TUBE WALL THICKNESS (mm)	5,49	5,16	5,16
14	NUMBER OF FLOW PASSES	3	4	3
15	TOTAL TUBES LENGTH (m)	376	492	432
16	STARTING TUBES LENGTH (m)	12	12	12
17	TOTAL EXPOSED SURFACE (m2)	104	115	103

HEADERS:		/20	/30	/40
18	TYPE (BEV.=BEVELED, MANIF.=MANIFOLD, FLG.=FLANGED)	FLG	FLG	FLG
19	MANIFOLD TO TUBE CONNECTION (WELDED, EXTRUDED, ETC.)	WELDED	WELDED	WELDED
20	HEADERS PIPE MATERIAL (SPECIFICATION AND GRADE)	ASTM A106 Gr.B (*)	ASTM A106 Gr.B (*)	ASTM A106 Gr.B (*)
21	NOMINAL RATING OR SCHEDULE	40	40	40
22	TUBE OUTSIDE DIAMETER (mm)	168,27	168,27	168,27
23	TUBE WALL THICKNESS (mm)	7,11	7,11	7,11
24	END PLATE MATERIAL (SPECIFICATION AND GRADE)	ASTM A516 Gr.60 (*)	ASTM A516 Gr.60 (*)	ASTM A516 Gr.60 (*)
25	SIZE (mm) / SCHEDULE OR THICKNESS (mm)	168,27 / 40	168,27 / 40	168,27 / 40
26	FLANGE MATERIAL (ASTM SPECIFICATION AND GRADE)	ASTM A105 (*)	ASTM A105 (*)	ASTM A105 (*)
27	FLANGE SIZE AND RATING	DN150 / PN16	DN 150 / PN16	DN150 / PN16

INSTRUMENT CONNECTIONS:				
		NUMBER	SIZE	TYPE
28	FLUE GAS TEMPERATURE	1	(SA-105/ DN15)*	BSP 1/2"
29	PROCESS FLUID TEMPERATURE	1	(SA-105/ DN15)*	BSP 1/2"
30	TEMPERATURE INLET (SECURITY):	1	(SA-105/ DN15)*	BSP 1/2"
31	TEMPERATURE OUTLET (SECURITY):	1	(SA-105/ DN15)*	BSP 1/2"
32	PRESSURE INLET (SECURITY):	2	(SA-106 Gr.B/ DN15)*	BSP 1/2"
33	PRESSURE OUTLET (SECURITY):	1	(SA-106 Gr.B/ DN15)*	BSP 1/2"
34	N2 INLET:	1	-	-
35	DRAIN	1	(SA-106 Gr. B/ DN25)*	FLANGED (DN25 / PN16)

Notes:
(*) Or equivalent Material

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