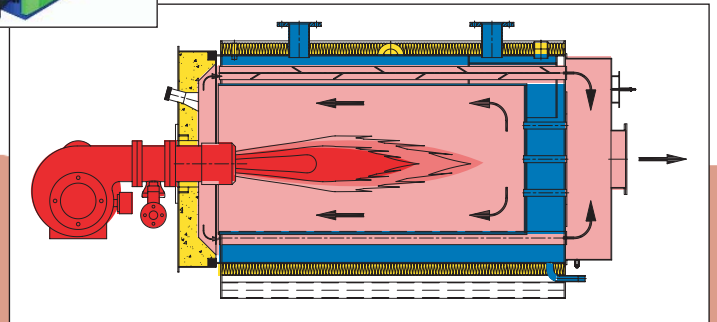


- **Combination of high technology and superior workmanship**
- **Long life, compact design, high capacity to size ratio**
- **Suitable for use with Natural Gas, LPG, Light Oil and Heavy Oil**
- **High/low or modulating control**
- **83% GCV minimum efficiency**
- **Add-on gas or oil condensing economisers for further fuel savings**

NA R

Reverse Flame Hot Water Boilers

for LTHW and MTHW application



A TLANTIC
B OILERS

C

D B

E

F

G

H DR HPS HWR

I

J

K

L

M

N A R

O

P

Q

R

S HW

T

U

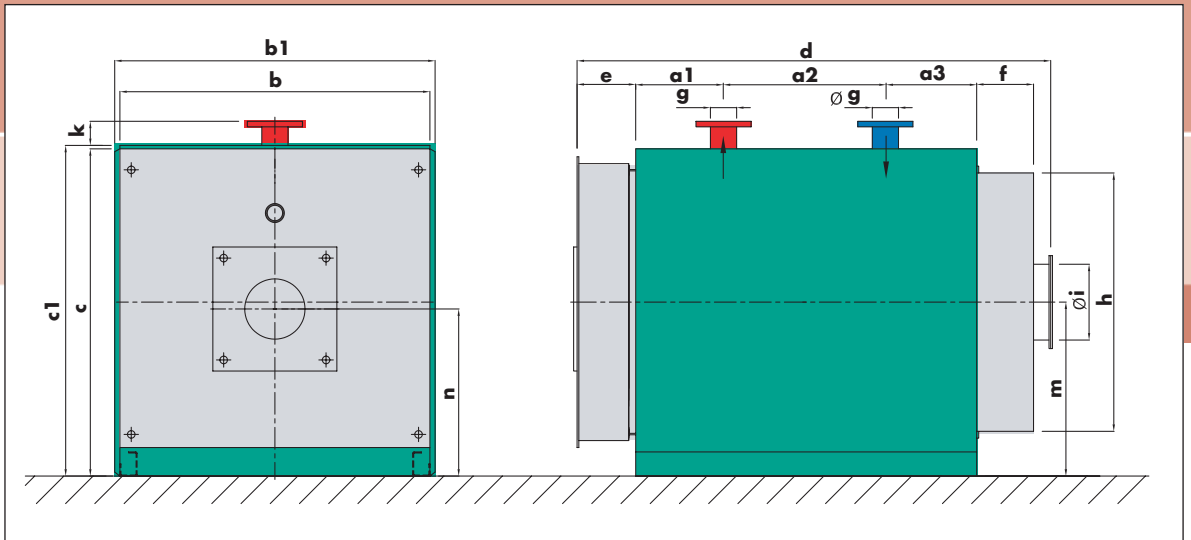
V

W

X

Y

Z



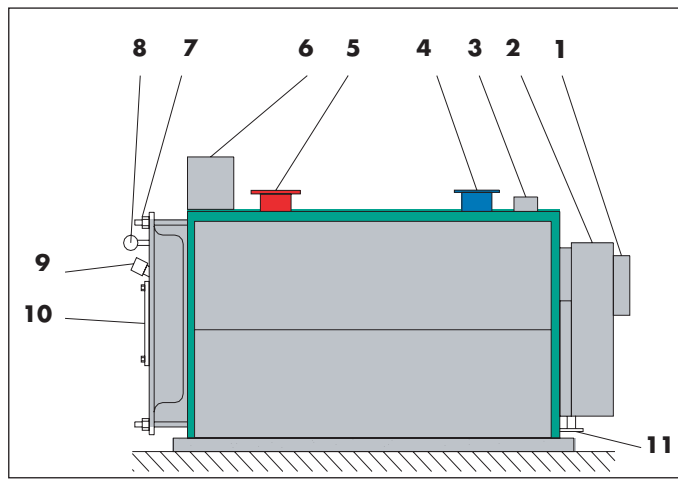
BASIC PRINCIPLES OF REVERSED FLAME TECHNOLOGY

- Burner flame is reversed in the same chamber due to counter pressurised combustion
- Returning hot gases are forced to meet with the burner flame once again to ensure full combustion and cleaner flue gases
- The intensive heat generated by the reversing flame is effectively transferred to water mainly by means of radiation heat transfer.
- A full transfer of heat is achieved during the consecutive passages of boiler with combination of radiation and convection heat transfer
- Gas turbulators increase the velocity of combustion gases and flame tubes to keep the convection heat transfer in tube surfaces at the maximum level.

STANDARDS

Fuel type: Gas & Oil
 Norms applied: EN 303-1, EN303-2, EN303-3
 Steel plate material: P 235 GH
 Tubes material: P 235 GH
 Flanges material: S235JRG2

Directives: 92/42 EEC, 90/396 EEC GAS
 Electrical appliances: 89/336/EEC EMC, 73/23 EEC LVD
 Norm: EN 10028 PART-1,2 Certification: EN 10204 - 3.1.B
 Norm: EN 10217 PART-2 Certification: EN 10204 - 3.1.B
 Norm: EN 1092 PART-1 Certification: EN 10204 - 3.1.B



OUTPUTS
70kW to 2907kW

OPERATING TEMP UP TO 110°C
OPERATING PRESSURE 3-8 BARS

- 1 Flue gases outlet
- 2 Smoke chest
- 3 Safety relief (T2)
- 4 Heating return
- 5 Heating flow
- 6 Control panel
- 7 Door fastenings
- 8 Door handle
- 9 Flame observation
- 10 Burner flange
- 11 Drain outlet (T11)

PERFORMANCE

Type NA R	60	80	100	130	160	200	250	320	400	500	640	800	1000	1250	1600	2000	2500
Output kW	70	93	116	151	186	232	290	372	465	581	744	930	1162	1453	1860	2325	2907
BfhU's/hr '000s	240	320	400	520	640	800	1000	1280	1600	2000	2560	3200	4000	5000	6400	8000	10000
Gas Input Nm ³ /h	86	116	146	189	233	290	366	474	595	744	957	1196	1480	1830	2305	2882	3579
Oil Input kg/h	7	9	11	15	18	22	28	36	46	57	74	92	114	141	177	222	275
Minimum																	
Flow Rate l/sec	0.55	0.74	0.93	1.2	1.5	1.9	2.3	3.0	3.7	4.6	5.9	7.4	9.3	11.6	14.8	18.5	23.1
Water Pressure Drop																	
@ 20°C flow return diff kPA	1	1	1	1	1	1	1	1	2.5	2.5	2.5	3.8	3.8	3.8	5.7	5.7	7.1
Flue Gas Pressure																	
Drop mbar	0.2	0.6	1	1.1	1.2	1.6	1.8	2	2.5	3.2	4.4	5.4	6.2	6.7	7	9	12
Dry Weight kg	335	340	415	440	530	560	655	855	1075	1210	1710	2085	2510	2930	3840	4605	5535
Water Content lt	122	120	175	179	234	233	282	305	381	447	841	942	1361	1572	2403	2828	3221

DIMENSIONS mm

Type NA R	60	80	100	130	160	200	250	320	400	500	640	800	1000	1250	1600	2000	2500
Burner Head Min.																	
Projection	185	185	185	225	225	225	240	240	242	240	245	245	281	281	301	301	306
a1	210	210	275	255	275	275	300	300	360	360	360	380	400	400	450	450	525
a2	350	350	485	515	470	470	695	840	921	1135	1240	1617	1600	1830	1990	2000	2235
a3	195	195	230	230	260	260	260	260	312	312	400	417	410	435	510	510	550
b1	900	900	900	920	1050	1050	1060	1090	1150	1150	1370	1370	1520	1605	1730	1865	2020
b	780	780	780	800	930	930	940	970	1030	1030	1250	1250	1400	1485	1610	1745	1900
c1	860	860	860	880	970	970	970	1030	1130	1130	1280	1380	1490	1545	1780	1815	1980
c	840	840	840	860	950	950	950	1010	1110	1110	1260	1360	1470	1525	1760	1795	1960
d	1070	1070	1305	1370	1385	1385	1665	1810	2036	2247	2497	2910	2945	3206	3525	3545	3915
e	130	130	130	170	170	170	185	185	185	185	190	210	246	246	266	266	271
f	155	155	155	170	180	180	195	195	218	215	267	260	270	250	290	300	320
h	610	610	640	660	750	750	770	810	870	870	1070	1090	1240	1295	1460	1550	1680
k	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67
m	465	465	458	460	505	505	490	530	600	600	650	740	770	797	950	938	1035
n	445	445	438	440	485	485	470	510	580	580	631	720	750	777	930	918	1015

CONNECTIONS mm

Type NA R	60	80	100	130	160	200	250	320	400	500	640	800	1000	1250	1600	2000	2500
Øg flow/return	50	50	50	50	65	65	65	65	80	80	100	100	125	125	150	150	200
Øi flue outlet	150	150	150	150	150	150	150	150	200	200	250	300	300	300	350	400	450
T2 safety relief	32	32	32	32	32	32	32	32	50	50	50	80	80	80	100	100	125
T11 drain	20	20	20	20	20	20	20	20	20	20	20	20	20	40	40	40	40

SPECIFICATION

- The boiler body is made of steel to NBN D06001 and DIN4702 Part 1, with a water-cooled combustion chamber. The boiler is of reverse flame design having peripheral exchanger tubes with matching turbulators. The boiler body is hydraulically tested to 50% over design working pressure after manufacture.
- The heavy ceramic fibre ring and duty combustion chamber opens to left or right, and is insulated by ceramic fibre refractories set in a rockwool blanket. It is sealed by a ceramic fibre seal and secured by four bolts.
- The flue outlet box is made of 3mm steel and secured by six bolts. It can be supplied in a vertical outlet layout.
- The boiler is provided with a steel jacket, having a baked enamel finish and, beneath the jacket, with an 80mm layer of glass wool blanket.
- Where specified, the boiler has a pre-wired control panel incorporating an isolator switch with indicator lamp, a high/low or on/off water flow thermostat with indicator lamps, a high limit safety thermostat, an hours run counter and an outlet flue gas thermometer.