TRISTAR 2S

(The models with an output smaller than 400 kW can be sold only outside de UE - agg. 01/2019)

BREVETTO Unical PATENT

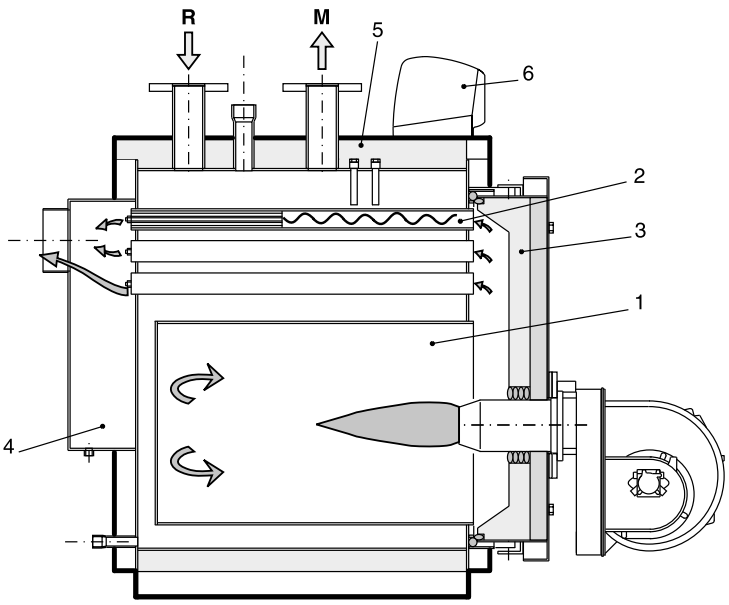
multi-fin pipes

PRESSURIZED CARBON STEEL BOILER WITH REVERSED FLAME FURNACE														
OUTPUT RANGE	from 80 to 6100 kW													
OPERATION TEMPERATURE	minimum return temperature 55°C													
SUPPLY	Natural Gas or LPG fed pressure jet burners													
MODELS	80	120	160	200	250	300	370	450	560	680	780	870	1000	1180
	1400	1650	2000	2350	2700	3100	3500	3900	4400	4800	5200	5700	6100	-

Certified in OUTPUT RANGE
Special patented smoke pipes with aluminium profiles – Floating furnace

MAIN COMPONENTS

1. Furnace
2. Special smoke pipes EASY STREAM PIPE with turbulators
3. Door with flame control warning light
4. Smoke chamber
5. Body insulation
6. Panel board

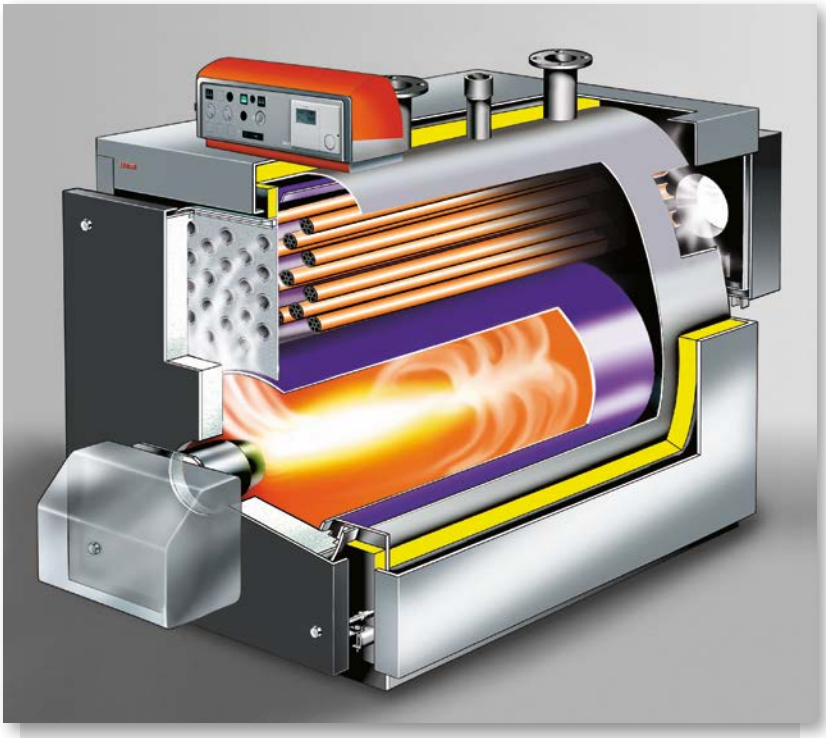


TECHNICAL DATA

MODEL	Heat output min/max	Heat input min/max	Boiler capacity	Water side pressure drops	Flue gas pressure drops	Max. boiler operating pressure	Weight
	kW	kW	l	m w.c.	mm w.c.	bar	kg
TRISTAR 2S 80	60÷80	63.3÷85.2	86	0.08÷0.15	3.8÷6.8	6	221
TRISTAR 2S 120	90÷120	94.6÷127.4	126	0.06÷0.11	6.1÷10.8	6	325
TRISTAR 2S 160	120÷160	125.8÷169.4	151	0.11÷0.20	8.9÷15.8	6	366
TRISTAR 2S 200	150÷200	157÷211.3	203	0.10÷0.17	11.1÷19.7	6	505
TRISTAR 2S 250	187.5÷250	195.8÷263.6	247	0.12÷0.22	13.3÷23.6	6	583
TRISTAR 2S 300	225÷300	234.6÷315.8	298	0.12÷0.22	15.9÷ 28.4	6	665
TRISTAR 2S 370	277.5÷370	288.8÷388.7	398	0.08÷0.14	18.1÷ 32.2	6	845
TRISTAR 2S 450	337.5÷450	351÷472.4	462	0.11÷0.20	20.2÷35.8	6	986
TRISTAR 2S 560	420÷560	436.8÷587.9	565	0.17÷0.30	23.7÷42.1	6	1119
TRISTAR 2S 680	510÷680	530.4÷713.9	671	0.12÷0.21	27.8÷49.4	6	1435
TRISTAR 2S 780	585÷780	608.4÷818.9	753	0.15÷0.27	30.7÷54.4	6	1557
TRISTAR 2S 870	652.5÷870	678.6÷913.4	836	0.19÷0.33	33÷58.6	6	1656
TRISTAR 2S 1000	750÷1000	780÷1049.8	1040	0.11÷0.19	35.9÷63.9	6	1970
TRISTAR 2S 1180	885÷1180	920.4÷1238.8	1242	0.15÷0.26	38.6÷68.6	6	2175
TRISTAR 2S 1400	1050÷1400	1092÷1469.8	1418	0.15÷0.26	42.1÷74.9	6	2975
TRISTAR 2S 1650	1237.5÷1650	1287÷1732.3	1617	0.20÷0.36	45.5÷80.9	6	3465
TRISTAR 2S 2000	1500÷2000	1560÷2099.7	2086	0.16÷0.38	40.5÷72	6	4390
TRISTAR 2S 2350	1762.5÷2350	1833÷2467.1	2324	0.21÷0.38	43.2÷76.9	6	4700
TRISTAR 2S 2700	2025÷2700	2106÷2834.6	2667	0.28÷0.50	45.6÷81	6	5370
TRISTAR 2S 3100	2325÷3100	2418.1÷3254.5	4142	0.37÷0.66	43.3÷76.9	6	6990
TRISTAR 2S 3500	2625÷3500	2730.1÷3674.5	4455	0.37÷0.65	50.4÷89.5	6	7790
TRISTAR 2S 3900	2925÷3900	3042.1÷4094.4	6012	0.28÷0.50	44.4÷78.6	6	8630
TRISTAR 2S 4400	3300÷4400	3432.1÷4619.3	6012	0.35÷0.63	56.6÷100.5	6	8630
TRISTAR 2S 4800	3600÷4800	3744.1÷5039.3	7058	0.42÷0.75	50.5÷92.2	6	9675
TRISTAR 2S 5200	3900÷5200	4056.1÷5459.2	7058	0.50÷0.88	59.3÷105.4	6	9675
TRISTAR 2S 5700	4275÷5700	4446.1÷5984.1	7909	0.59÷1.05	49.5÷90.5	6	13060
TRISTAR 2S 6100	4575÷6100	4758.1÷6404.1	7909	0.68÷1.21	56.7÷100.7	6	13060

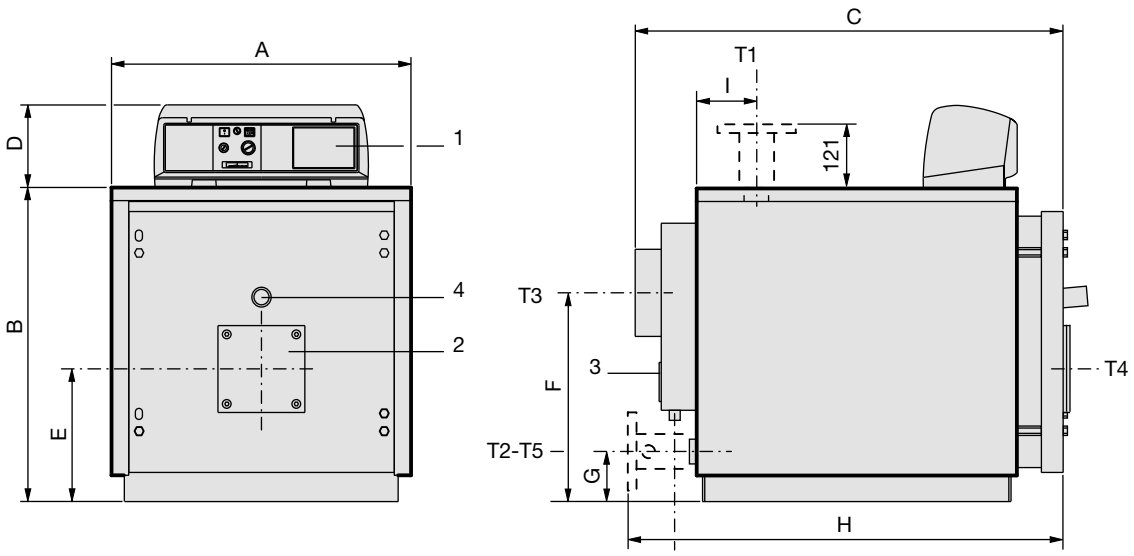
On special order the boilers from model 1000 to 6100 can be manufactured for a max. working pressure up to 10 bar.

PRODUCT PLUS VALUES



- **CERTIFICATION IN OUTPUT RANGE**
- **OUTER SHELL OF ELLIPTIC SHAPE**
  (up to the model 870 kW) that creates the following advantages:
  - small dimensions in width
  - positioning of most of the tube bundle above the furnace, with drastic reduction of the possible formation of condensate
- **FLOATING FURNACE** from model 680 and on, in order to reduce the mechanical stress due to the different dilatations of the furnace, smoke pipes and outer shell.
- **FURNACE BOTTOM** with heat recovering plates welded on the water side for efficiency increase and as stiffeners of the bottom it self.
- **MULTI-FIN, PATENTED, BIMETALLIC PIPES**
  with high efficiency
- **OPTIMIZATION OF THE HEAT EXCHANGE**
  thanks to:
  - special helical turbulators in the front part of the smoke pipes
  - guided water way inside the boiler
- **FRONT DOOR**
  with self-centring closing, adjustable in vertical / axial and transversal way, with bolts separated from the hinges to avoid mechanical stresses
- **INTERNAL DOOR INSULATION**
  in recyclable super light concrete
- **OUTER PROTECTING CASING**
  in steel sheet panels, with insulating mattress in mineral wool protected with anti-tearing fabric foil, rounded directly on the boiler body. Thickness of 50 - 60 - 80 - 100 mm according to the output.
- **SMOKE CHAMBER**
  with condensate drain connection
- **BOARD PANEL**
  thermostatic type (std) or electronic type (optional)
- **EASY HANDLING**
  thanks to the upper hooks and strong base longitudinal members
- **AVAILABLE IN LOOSEN PARTS VERSION**
  to be assembled in the boiler house (up to 870 kW).

DIMENSIONS TRISTAR 2S 80÷250



1 Panel board
2 Burner connection flange
3 Smoke chamber cleaning door
4 Flame control warning light

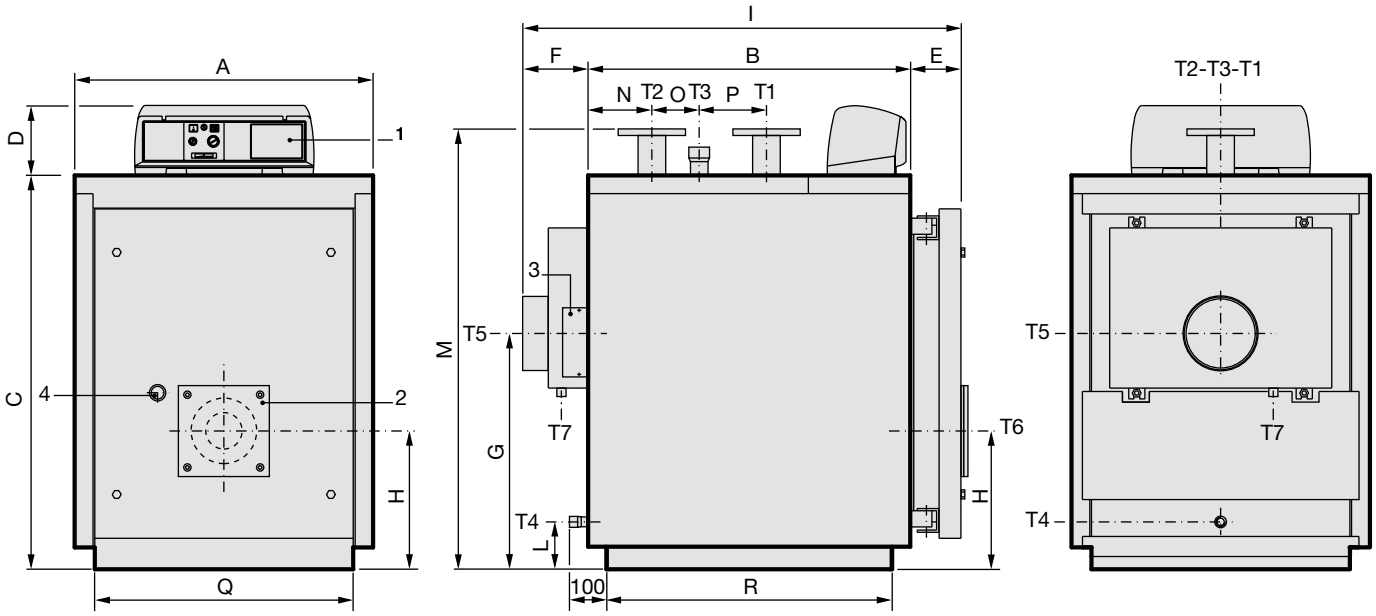
T1 Heating flow
T2 Heating return
T3 Chimney connection
T4 Burner connection

T5 Boiler drain
T6 Condensation drain

TRISTAR 2S	Nominal output	Nominal input	Boiler capacity	Water pressure drops(**)	Flue gas pressure drop	Maximum boiler working pressure	Weight	CONNECTIONS				
								T1 T2 UNI 228 UNI 2278 PN16	T3 Øe	T4 Øi	T5 UNI 228	T6 Øe
	kW	kW	l	m w.c.	mm w.c.	bar	kg		mm	mm		mm
80	60÷80	63.3÷85.2	86	0.08÷0.15	3.8÷6.8	6	221	G 1½	200	130	G ¾	40
120	90÷120	94.6÷127.4	126	0.06÷0.11	6.1÷10.8	6	325	G 2	200	180	G ¾	40
160	120÷160	125.8÷169.4	151	0.11÷0.20	8.9÷15.8	6	366	G 2	200	180	G ¾	40
200	150÷200	157÷211.3	203	0.10÷0.17	11.1÷19.7	6	505	DN 65	250	180	G ¾	40
250	187.5÷250	195.8÷263.6	247	0.12÷0.22	13.3÷23.6	6	583	DN 65	250	180	G ¾	40

TRISTAR 2S	A	B	C	D	E	F	G	H	I
	mm	mm	mm	mm	mm	mm	mm	mm	mm
80	690	722	995	190	305	480	115	--	147
120	760	812	1210	190	350	500	130	--	157
160	760	812	1390	190	350	500	130	--	157
200	860	937	1442	190	421	580	165	1487	258
250	860	937	1692	190	421	580	165	1737	258

DIMENSIONS TRISTAR 2S 300÷870



1 Panel board
2 Burner connection flange
3 Smoke chamber cleaning door
4 Flame control warning light

T1 Heating flow
T2 Heating return
T3 Expansion vessel connection
T4 Boiler drain

T5 Chimney connection
T6 Burner connection
T7 Condensation drain

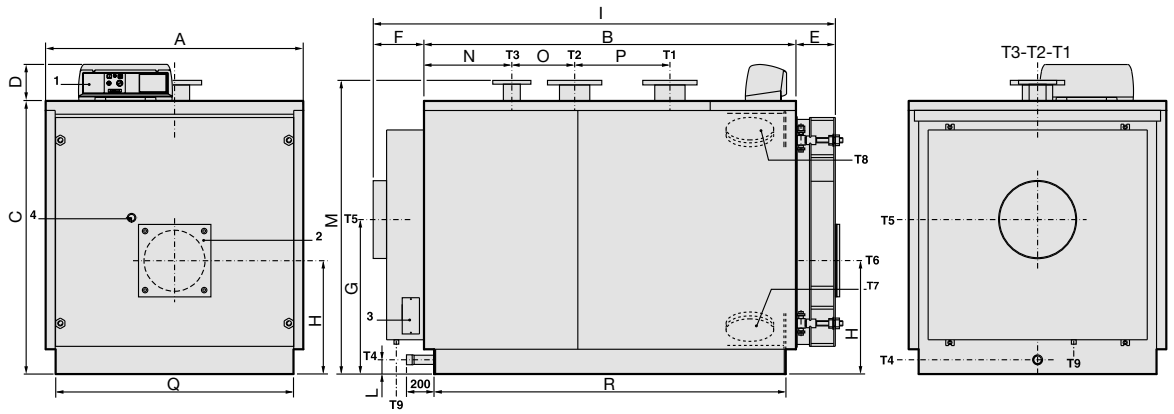
TRISTAR 2S	Nominal output	Nominal input	Boiler capacity	Water pressure drops(**)	Flue gas pressure drop	Maximum boiler working pressure	Weight	CONNECTIONS					
								T1 T2	T3	T4	T5 Øi	T6 Ø	T7 Øe
	kW	kW	l	m w.c.	mm w.c.	bar	kg	UNI 2278 PN16	UNI 2278 PN16 UNI 228	UNI 228	mm	mm	mm
300	225÷300	234.6÷315.8	298	0.12÷0.22	15.9÷28.4	6	665	DN 80	G 2	G ¾	250	220	40
370	277.5÷370	288.8÷388.7	398	0.08÷0.14	18.1÷32.2	6	845	DN 100	G 2	G ¾	250	220	40
450	337.5÷450	351÷472.4	462	0.11÷0.20	20.2÷35.8	6	986	DN 100	G 2	G ¾	250	220	40
560	420÷560	436.8÷587.9	565	0.17÷0.30	23.7÷42.1	6	1119	DN 100	G 2	G ¾	300	220	40
680	510÷680	530.4÷713.9	671	0.12÷0.21	27.8÷49.4	6	1435	DN 125	DN 65	G 1¼	350	270	40
780	585÷780	608.4÷818.9	753	0.15÷0.27	30.7÷54.5	6	1557	DN 125	DN 65	G 1¼	350	270	40
870	652.5÷870	678.6÷913.4	836	0.19÷0.33	33÷58.6	6	1656	DN 125	DN 65	G 1¼	350	270	40

TRISTAR 2S	A	B	C	D	E	F	G	H	I	L	M*	N	O	P	Q*	R*	S
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
300	860	1210	1182	190	140	191	708	400	1541	130	1310	215	340	250	750	1112	100
370	890	1275	1352	190	140	191	748	440	1606	125	1485	255	285	315	780	1177	100
450	890	1470	1352	190	140	191	748	440	1801	125	1485	255	480	315	780	1372	100
560	890	1780	1352	190	141	192	748	440	2113	125	1485	255	790	315	780	1684	100
680	1122	1605	1432	190	195	190	765	480	1989	125	1540	298	435	440	1020	1504	200
780	1122	1800	1432	190	195	190	765	480	2184	125	1540	298	630	440	1020	1699	200
870	1122	1995	1432	190	195	190	765	480	2379	125	1540	298	825	440	1020	1894	200

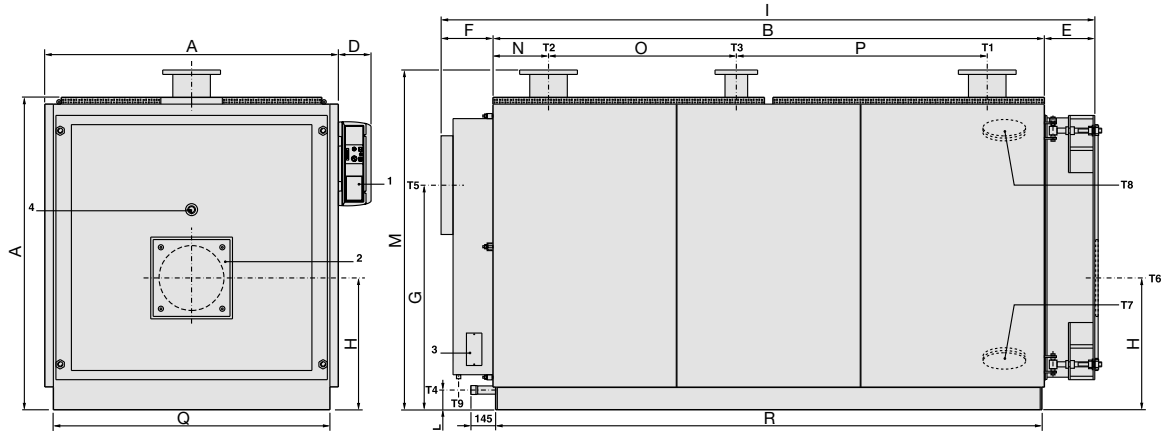
(*) Minimum dimensions for boiler room access.
(**) Pressure drops corresponding to a thermal variation of 15K.

DIMENSIONS TRISTAR 2S 1000÷3500

TRISTAR 2S 1000÷2350



TRISTAR 2S 2700÷3500



1 Panel board
2 Burner connection flange
3 Smoke chamber cleaning door
4 Flame sight glass

T1 Heating flow
T2 Heating return
T3 Expansion vessel connection
T4 Boiler drain

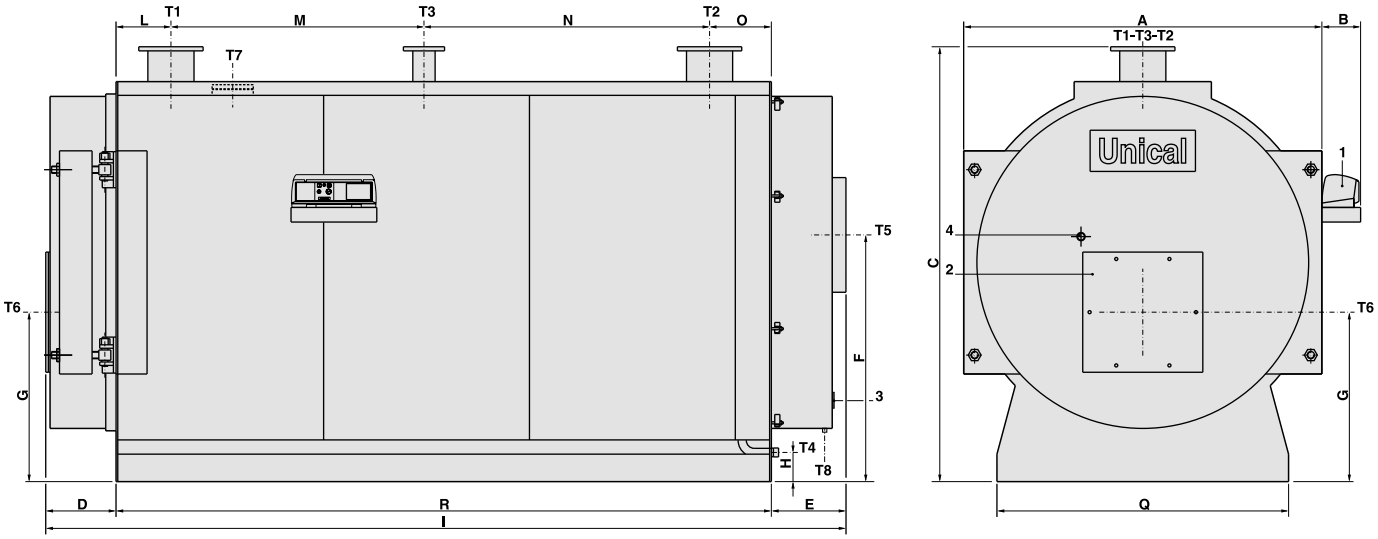
T5 Chimney connection
T6 Burner connection
T7 Condensation drain

TRISTAR 2S	Nominal output	Nominal input	Boiler capacity	Water pressure drops (**)	Flue gas pressure drop	Maximum boiler working pressure	Weight	CONNECTIONS					
								T1 T2	T3	T4	T5 Øi	T6 Ø	T9 Øe
	kW	kW	l	m w.c.	mm w.c.	bar	kg	UNI 2278 PN16	UNI 2278 PN16	UNI 228	mm	mm	mm
1000	750÷1000	780÷1049.8	1040	0.11÷0.19	35.9÷63.9	6	1970	DN 150	DN 80	G 1½	400	320	40
1180	885÷1180	920.4÷1238.8	1242	0.15÷0.26	38.6÷68.6	6	2175	DN 150	DN 80	G 1½	400	320	40
1400	1050÷1400	1092÷1469.8	1418	0.15÷0.26	42.1÷74.9	6	2975	DN 175	DN 100	G 1½	450	320	40
1650	1237.5÷1650	1287÷1732.3	1617	0.20÷0.36	45.5÷80.9	6	3465	DN 175	DN 100	G 1½	450	320	40
2000	1500÷2000	1560÷2099.7	2086	0.16÷0.28	40.5÷72	6	4390	DN 200	DN 125	G 1½	520	380	40
2350	1762.5÷2350	1833÷2467.1	2324	0.21÷0.38	43.2÷76.9	6	4700	DN 200	DN 125	G 1½	520	380	40
2700	2025÷2700	2106÷2834.6	2667	0.28÷0.50	45.6÷81	6	5370	DN 200	DN 125	G 1½	570	380	-
3100	2325÷3100	2418.1÷3254.5	4142	0.37÷0.66	43.3÷76.9	6	6990	DN 200	DN 125	G 1½	620	400	-
3500	2625÷3500	2730.1÷3674.5	4455	0.37÷0.65	50.4÷89.5	6	7790	DN 250	DN 125	G 1½	620	400	-

TRISTAR 2S	A	B	C	D	E	F	G	H	I	L	M*	N	O	P	Q*	R*
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1000	1352	1952	1432	190	207	187	810	595	2346	180	1540	461	330	500	1250	1846
1180	1352	2292	1432	190	207	187	810	595	2686	180	1540	461	670	500	1250	2186
1400	1462	2282	1542	190	227	272	880	640	2781	75	1650	561	510	550	1360	2176
1650	1462	2652	1542	190	227	272	880	640	3151	75	1650	561	880	550	1360	2546
2000	1622	2692	1702	190	259	274	950	690	3225	75	1810	661	670	700	1520	2590
2350	1622	3014	1702	190	258	273	950	690	3545	75	1810	662	990	700	1520	2910
2700	1720	3230	1830	190	295	310	1315	772	3835	115	1990	325	1100	1470	1620	3200
3100	1970	3194	2090	190	325	360	1535	915	3879	144	2271	377	1060	1420	1870	3164
3500	1970	3594	2090	190	325	360	1535	915	4279	144	2271	777	1060	1420	1870	3564

(*) Minimum dimensions for boiler room access. (**) Pressure drops corresponding to a thermal variation of 15K.

DIMENSIONS TRISTAR 2S 3900÷6100



1 Panel board
2 Burner connection flange
3 Smoke chamber cleaning door
4 Flame sight glass

T1 Heating flow
T2 Heating return
T3 Expansion vessel connection
T4 Boiler drain

T5 Chimney connection
T6 Burner connection
T7 Inspection door
T8 Condensation drain

TRISTAR 2S	Nominal output	Nominal input	Boiler capacity	Water pressure drops(**)	Flue gas pressure drop	Maximum boiler working pressure	Weight	CONNECTIONS						
								T1 T2	T3	T4	T5 Øi	T6 Ø	T7 Ø	T8 Øe
	kW	kW	l	m w.c.	mm w.c.	bar	kg	UNI2278 PN16	UNI2278 PN16	ISO 7/1	mm	mm	mm	mm
3900	2925÷3900	3042.1÷4094.4	6012	0.28÷0.50	44.4÷78.6	6	8630	DN 250	DN 125	Rp 1½	660	500	133	40
4400	3300÷4400	3432.1÷4619.3	6012	0.35÷0.63	56.6÷100.5	6	8630	DN 250	DN 125	Rp 1½	660	500	133	40
4800	3600÷4800	3744.1÷5039.3	7058	0.42÷0.75	50.5÷92.2	6	9675	DN 250	DN 125	Rp 1½	660	500	133	40
5200	3900÷5200	4056.1÷5459.2	7058	0.50÷0.88	59.3÷105.4	6	9675	DN 250	DN 125	Rp 1½	660	500	133	40
5700	4275÷5700	4446.1÷5984.1	7909	0.59÷1.05	49.5÷90.5	6	13060	DN 250	DN 125	Rp 1½	720	500	133	40
6100	4575÷6100	4758.1÷6404.1	7909	0.68÷1.21	56.7÷100.7	6	13060	DN 250	DN 125	Rp 1½	720	500	133	40

TRISTAR 2S	A	B	C*	D	E	F	G	H	I	L	M	N	O	Q*	R*
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
3900	2088	226	2533	417	485	1437	987	170	4738	323	1475	1665	363	1700	3826
4400	2088	226	2533	417	485	1437	987	170	4738	323	1475	1665	363	1700	3826
4800	2214	240	2653	437	515	1550	1007	167	4928	323	1475	1815	363	1700	3976
5200	2214	240	2653	437	515	1550	1007	167	4928	323	1475	1815	363	1700	3976
5700	2380	240	2860	509	595	1650	1100	224	5484	325	2920	670	465	1850	4380
6100	2380	240	2860	509	595	1650	1100	224	5484	325	2920	670	465	1850	4380

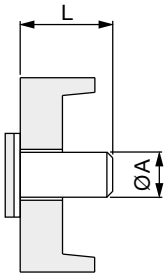
(*) Minimum dimensions for boiler room access. (**) Pressure drops corresponding to a thermal variation of 15K.

On special order the boilers from model TRISTAR 2S 1000 to TRISTAR 2S 6100 can be manufactured for a max. working pressure up to 10 bar.

BURNER BLAST TUBE DIMENSIONS

BOILER TYPE	øA mm	L mm
TRISTAR 80 2S	130	150
TRISTAR 120÷250 2S	180	170
TRISTAR 300÷560 2S	220	250
TRISTAR 680÷870 2S	270	270
TRISTAR 1000÷1180 2S	320	300
TRISTAR 1400÷1650 2S	320	320

BOILER TYPE	øA mm	L mm
TRISTAR 2000÷2350 2S	380	350
TRISTAR 2700 2S	380	400
TRISTAR 3100÷3500 2S	400	400
TRISTAR 3900÷5200 2S	500	250
TRISTAR 5700÷6100 2S	500	630



TECHNICAL DATA

ELECTRICAL, HYDRAULIC, INSTALLATION DIAGRAMS AND CONTROLLERS can be unloaded from the web site www.unical.eu at the page of the product

Gas-fired		TST 80 2S	TST 120 2S	TST 160 2S	TST 200 2S	TST 250 2S	TST 300 2S	TST 370 2S
Nominal heat output	kW	60÷80	90÷120	120÷160	150÷200	187.5÷250	225÷300	277.5÷370
Thermal output of furnace	kW	63.3÷85.2	94.6÷127.4	125.8÷169.4	157÷211.3	195.8÷263.6	234.6÷315.8	288.8÷388.7
Heat efficiency at nominal load (100%)	%	94.7÷93.8	95.1÷94.2	95.4÷94.5	95.5÷94.6	95.7÷94.8	95.9÷95	96.1÷95.2
Heat efficiency at 30% load	%	94.9÷94.0	95.3÷94.4	95.6÷94.7	95.7÷94.8	95.9÷95	96.1÷95.2	96.3÷95.4
Combustion efficiency at nominal load (100%)	%	95.4÷94.6	95.7÷94.9	95.9÷95.1	96.1÷95.2	96.2÷95.4	96.4÷95.5	96.3÷95.4
Heat loss at casing (min.-max.)	%	0.6÷0.7	0.6÷0.6	0.5÷0.6	0.5÷0.6	0.5÷0.6	0.5÷0.5	0.2÷0.2
Heat loss at chimney with burner on (min.-max.)	%	4.6÷5.4	4.3÷5.1	4.1÷4.9	3.9÷4.8	3.7÷4.6	3.6÷4.5	3.7÷4.6
Heat loss at chimney with burner off (min.-max.)	%	0.1÷0.1	0.1÷0.1	0.1÷0.1	0.1÷0.1	0.1÷0.1	0.1÷0.1	0.1÷0.1
Flue gas temperature tf-ta (min.-max.)	°C	94.9÷111.7	88.6÷105.7	84.4÷101.5	80.8÷97.9	77.2÷94.3	74.5÷91.9	76.6÷94.9
CO_2 content	%	9.8÷9.8	9.8÷9.8	9.8÷9.8	9.8÷9.8	9.8÷9.8	9.8÷9.8	9.8÷9.8
Flue gas mass flow rate (min.-max)	kg/h	95÷128	142÷191	189÷255	236÷318	294÷396	353÷475	434÷584

Gas-fired		TST 450 2S	TST 560 2S	TST 680 2S	TST 780 2S	TST 870 2S	TST 1000 2S	TST 1180 2S
Nominal heat output	kW	337.5÷450	420÷560	510÷680	585÷780	652.5÷870	750÷1000	885÷1180
Thermal output of furnace	kW	351÷472.4	436.8÷587.9	530.4÷713.9	608.4÷818.9	678.6÷913.4	780÷1049.8	920.4÷1238.8
Heat efficiency at nominal load (100%)	%	96.1÷95.2	96.1÷95.2	96.1÷95.2	96.1÷95.2	96.1÷95.2	96.1÷95.2	96.1÷95.2
Heat efficiency at 30% load	%	96.3÷95.4	96.3÷95.4	96.3÷95.4	96.3÷95.4	96.3÷95.4	96.3÷95.4	96.3÷95.4
Combustion efficiency at nominal load (100%)	%	96.3÷95.5	96.3÷95.5	96.3÷95.5	96.3÷95.5	96.3÷95.5	96.3÷95.5	96.3÷95.5
Heat loss at casing (min.-max.)	%	0.2÷0.2	0.2÷0.2	0.2÷0.2	0.2÷0.2	0.2÷0.2	0.2÷0.2	0.2÷0.2
Heat loss at chimney with burner on (min.-max.)	%	3.7÷4.5	3.7÷4.5	3.7÷4.5	3.7÷4.5	3.7÷4.5	3.7÷4.5	3.7÷4.5
Heat loss at chimney with burner off (min.-max.)	%	0.1÷0.1	0.1÷0.1	0.1÷0.1	0.1÷0.1	0.1÷0.1	0.1÷0.1	0.1÷0.1
Flue gas temperature tf-ta (min.-max.)	°C	75.4÷93.4	75.4÷93.4	75.4÷93.4	75.4÷93.4	75.4÷93.4	75.4÷93.4	75.4÷93.4
CO_2 content	%	9.8÷9.8	9.8÷9.8	9.8÷9.8	9.8÷9.8	9.8÷9.8	9.8÷9.8	9.8÷9.8
Flue gas mass flow rate (min.-max)	kg/h	528÷710	657÷884	797÷1073	914÷1231	1020.1÷1372.9	1172÷1578	1383÷1862

Gas-fired		TST 1400 2S	TST 1650 2S	TST 2000 2S	TST 2350 2S	TST 2700 2S	TST 3100 2S	TST 3500 2S
Nominal heat output	kW	1050÷1400	1237.5÷1650	1500÷2000	1762.5÷2350	2025÷2700	2325÷3100	2625÷3500
Thermal output of furnace	kW	1092÷1469.8	1287÷1732.3	1560÷2099.7	1833÷2467.1	2106÷2834.6	2418.1÷3254.5	2730.1÷3674.5
Heat efficiency at nominal load (100%)	%	96.1÷95.2	96.1÷95.2	96.1÷95.2	96.1÷95.2	96.1÷95.2	96.1÷95.2	96.1÷95.2
Heat efficiency at 30% load	%	96.3÷95.4	96.3÷95.4	96.3÷95.4	96.3÷95.4	96.3÷95.4	96.3÷95.4	96.3÷95.4
Combustion efficiency at nominal load (100%)	%	96.3÷95.5	96.3÷95.5	96.3÷95.5	96.3÷95.5	96.3÷95.5	96.3÷95.5	96.3÷95.5
Heat loss at casing (min.-max.)	%	0.2÷0.2	0.2÷0.2	0.2÷0.2	0.2÷0.2	0.2÷0.2	0.2÷0.2	0.2÷0.2
Heat loss at chimney with burner on (min.-max.)	%	3.7÷4.5	3.7÷4.5	3.7÷4.5	3.7÷4.5	3.7÷4.5	3.7÷4.5	3.7÷4.5
Heat loss at chimney with burner off (min.-max.)	%	0.1÷0.1	0.1÷0.1	0.1÷0.1	0.1÷0.1	0.1÷0.1	0.1÷0.1	0.1÷0.1
Flue gas temperature tf-ta (min.-max.)	°C	75.4÷93.4	75.4÷93.4	75.4÷93.4	75.4÷93.4	75.4÷93.4	75.4÷93.4	75.4÷93.4
CO_2 content	%	9.8÷9.8	9.8÷9.8	9.8÷9.8	9.8÷9.8	9.8÷9.8	9.8÷9.8	9.8÷9.8
Flue gas mass flow rate (min.-max)	kg/h	1641÷22095	1935÷2609	2345÷3156	2755÷3708	3166÷4261	3635÷4892	4104÷5523

Gas-fired		TST 3900 2S	TST 4400 2S	TST 4800 2S	TST 5200 2S	TST 5700 2S	TST 6100 2S
Nominal heat output	kW	2925÷3900	3300÷4400	3600÷4800	3900÷5200	4275÷5700	4575÷6100
Thermal output of furnace	kW	3042.1÷4094.4	3432.1÷4619.3	3744.1÷5039.3	4056.1÷5459.2	4446.1÷5984.1	4758.1÷6404.1
Heat efficiency at nominal load (100%)	%	96.1÷95.2	96.1÷95.2	96.1÷95.2	96.1÷95.2	96.1÷95.2	96.1÷95.2
Heat efficiency at 30% load	%	96.3÷95.4	96.3÷95.4	96.3÷95.4	96.3÷95.4	96.3÷95.4	96.3÷95.4
Combustion efficiency at nominal load (100%)	%	96.3÷95.5	96.3÷95.5	96.3÷95.5	96.3÷95.5	96.3÷95.5	96.3÷95.5
Heat loss at casing (min.-max.)	%	0.2÷0.2	0.2÷0.2	0.2÷0.2	0.2÷0.2	0.2÷0.2	0.2÷0.2
Heat loss at chimney with burner on (min.-max.)	%	3.7÷4.5	3.7÷4.5	3.7÷4.5	3.7÷4.5	3.7÷4.5	3.7÷4.5
Heat loss at chimney with burner off (min.-max.)	%	0.1÷0.1	0.1÷0.1	0.1÷0.1	0.1÷0.1	0.1÷0.1	0.1÷0.1
Flue gas temperature tf-ta (min.-max.)	°C	75.4÷93.4	75.4÷93.4	75.4÷93.4	75.4÷93.4	75.4÷93.4	75.4÷93.4
CO_2 content	%	9.8÷9.8	9.8÷9.8	9.8÷9.8	9.8÷9.8	9.8÷9.8	9.8÷9.8
Flue gas mass flow rate (min.-max)	kg/h	4573÷6154	5159÷6943	5628÷7575	6097÷8206	6683÷8995	7152÷9626