



RTS 3S

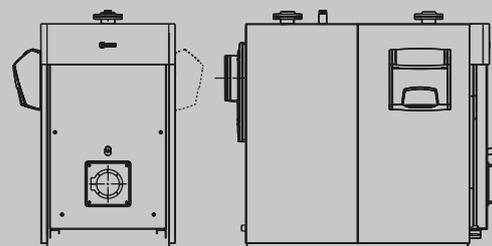
Three-pass steel flue cycle forced draughtboilers

Light oil heating appliances are ErP-compliant (EU regulation No.813/2013).

Gas heating appliances up to 400 kW are intended, until 1 January 2018, only for replacement in accordance with the provisions of article 1, paragraph 2, point G of the EU regulation No. 813/2013.

Single-block steel boilers with three effective passes that can be combined with draughtboilers

The particular geometry of the heat exchange allows to reduce the residence time of the fumes in the high temperature areas thus reducing the formation of polluting emissions (NOx)



FORCED DRAUGHTBOILERS

Three-pass steel flue cycle forced draughtboilers

RTS 3S

PRODUCT DESCRIPTION

The reduced width (narrow series) facilitates positioning in the plant room.

The flue pipes are complete with extractable stainless steel turbulators which allow to optimize the efficiency of the heat exchange without increasing pressure drops.

The door has an ambidextrous opening and is equipped with a peephole with pressure outlet.

The panels are made of fire-painted sheet metal.

The body and the flue compartment are totally accessible to facilitate maintenance operations.

The control panel must be ordered separately.

- High accurate and seasonal average efficiency (compliance with Annex I of Italian Legislative Decree No.311 of 29 December 2006)
- Possible sliding temperature operation (minimum permissible return temperature 50°C)
- Multiple system solutions thanks to the combination with the RIELLOtech control panels.

TECHNICAL DATA

MODELS	RTS 90 3S (*)	RTS 115 3S (*)	RTS 166 3S (*)	RTS 217 3S (*)	RTS 255 3S (*)	RTS 349 3S (*)
Material	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL
Efficiency class	≥ 90 + 2 log Pn					
Supply fuel	NATURAL GAS/ LPG/OIL					
Test ambient temperature	°C	20	20	20	20	20
Max. furn. output	kW	90	115	166	217	349
Min. furn. output***	kW	70	80	115	166	255
Min. furn. output	kW	45	58	83	110	175
Max. nominal output 80-60°C	kW	85.1	108.3	157.4	207.5	334.7
Min. nominal output 80-60°C***	kW	66.6	76.0	109.6	158.7	243.0
Min. nominal output 80-60°C	kW	42.8	55.1	79.1	105.2	166.8
Efficiency at max. output 80-60°C	%	94.5	94.2	94.8	95.6	95.9
Efficiency at min. output 80-60°C	%	95.2	95.0	95.3	95.6	95.3
30 % working efficiency	%	99.7	99.8	99.9	99.9	99.8
Losses at chimney with burner off	%	1	1	1	1	1
Losses at chimney with burner on at max. output	%	4.1	4.4	3.8	3.0	2.9
Losses at chimney with burner on at min. output	%	3.9	3.6	3.3	3.0	3.5
Heat losses at the appliance casing with average temperature of 70°C and burner on	%	1.4	1.4	1.4	1.4	1.2
Heat losses at the appliance casing with average temperature of 70°C and burner off	%	0.9	0.9	0.9	0.9	0.8
Flue gas temperature at max. output and min. output 80-60°C	°C	126	123	123	126	126
Air excess at max. output	%	12	12	12	12	12
Air excess at min. output	%	12	12	12	12	12
Max-min flue gas mass airflow rate*	kg/s	0.04-0.02	0.05-0.026	0.072-0.038	0.094-0.05	0.116-0.058
Flue gas residual head	Pa	about 50 check burner	about 100 check burner			
Flue gas side pressure drops	mbar	1.0	1.4	1.8	2.7	3.6
Furnace volume	dm ³	75	121	176	176	296
Exchange surface	m ²	3.77	5.32	7.34	8.16	12.88
Volumetric thermal load Pn max.	kW/m ³	1203	947	941	1229	1180
Specific thermal load Pn max.	kW/m ²	22.6	20.4	21.4	25.4	26.0
NOx	mg/kWh	check with burner				
Pressure drops on water side with ΔT 20°C	mbar	7	5	5	10	20
Pressure drops on water side with ΔT 10°C	mbar	22	25	27	45	75
Water content	l	176	255	319	309	495
Maximum operating pressure	bar	6	6	6	6	6
Power supply voltage	V/Hz	230-50	230-50	230-50	230-50	230-50
Boiler absorbed electric power at max. output	W	check with burner				
Boiler absorbed electric power at min. output	W	check with burner				
Flue gas drain diameter	mm	180	200	250	250	250
Empty weight	kg	355	450	515	535	840
Category according to UNI 10642		check with burner				
Noise level	dB(A)	check with burner				

(*) Gas heating appliances up to 400 kW intended, until 1 January 2018, only for replacement in accordance with the provisions of article 1, paragraph 2, point G of the EU regulation No. 813/2013.

Light oil heating appliances compliant with ErP (EU regulation No.813/2013) starting from April 2016.

TECHNICAL DATA

MODELS		RTS 448 3S	RTS 511 3S	RTS 639 3S	RTS 850 3S	RTS 1160 3S	RTS 1450 3S
Material		STEEL	STEEL	STEEL	STEEL	STEEL	STEEL
Efficiency class		≥ 90 + 2 log Pn					
Supply fuel		NATURAL GAS/ LPG/OIL					
Test ambient temperature	°C	20	20	20	20	20	20
Max. furn. output	kW	448	511	639	850	1160	1450
Min. furn. output***	kW	349	448	511	639	850	1160
Min. furn. output	kW	224	256	320	425	580	725
Max. nominal output 80-60°C	kW	427.8	488.0	610.2	811.8	1107.8	1384.8
Min. nominal output 80-60°C**	kW	332.2	426.5	486.5	608.3	809.2	1104.3
Min. nominal output 80-60°C	kW	213.2	243.7	304.6	404.6	552.2	680.2
Efficiency at max. output 80-60°C	%	95.5	95.5	95.5	95.5	95.5	95.5
Efficiency at min. output 80-60°C	%	95.2	95.2	95.2	95.2	95.2	95.2
30 % working efficiency	%	98.5	98.5	98.5	98.5	98.5	98.5
Losses at chimney with burner off	%	1	1	1	1	1	0.1
Losses at chimney with burner on at max. output	%	3.3	3.3	3.3	3.3	3.5	3.5
Losses at chimney with burner on at min. output	%	3.6	3.6	3.6	3.6	3.8	3.8
Heat losses at the appliance casing with average temperature of 70°C and burner on	%	1.2	1.2	1.2	1.2	1.0	1.0
Heat losses at the appliance casing with average temperature of 70°C and burner off	%	0.8	0.8	0.8	0.8	0.8	0.8
Flue gas temperature at max. output and min. output 80-60°C	°C	124	125	122	128	122	127
Air excess at max. output	%	1.2	1.2	1.2	1.2	1.2	1.2
Air excess at min. output	%	1.2	1.2	1.2	1.2	1.2	1.2
Max-min flue gas mass airflow rate*	kg/s	0.2034-0.1017	0.2320-0.1162	0.2901-0.1453	0.3859-0.1929	0.5266-0.2633	0.6582-0.3291
Flue gas residual head	Pa	about 100 check burner					
Flue gas side pressure drops	mbar	2.9	5.4	5.2	6.7	3.9	4.6
Furnace volume	dm ³	453	453	613	812	1065	1297
Exchange surface	m ²	18.58	18.58	23.45	30.60	40.40	51.82
Volumetric thermal load Pn max.	kW/m ³	988	1127	1043	1046	1089	1118
Specific thermal load Pn max.	kW/m ²	23.0	26.3	26.0	26.5	27.4	26.7
NOx	mg/kWh	check with burner					
Pressure drops on water side with ΔT 20°C	mbar	20	20	18	14	20	22
Pressure drops on water side with ΔT 10°C	mbar	70	90	52	42	75	75
Water content	l	655	655	899	1163	1537	2211
Maximum operating pressure	bar	6	6	6	6	6	6
Power supply voltage	V/Hz	230-50	230-50	230-50	230-50	230-50	230-50
Boiler absorbed electric power at max. output	W	check with burner					
Boiler absorbed electric power at min. output	W	check with burner					
Flue gas drain diameter	mm	350	350	350	350	400	450
Empty weight	kg	1160	1160	1500	2075	2575	3390
Category according to UNI 10642		check with burner					
Noise level	dB(A)	check with burner					

LIGHT OIL ERP TECHNICAL DATA

PARAMETER	SYMBOL	UNIT	90 3S	115 3S	166 3S	217 3S	255 3S	349 3S
Nominal heat input (Q max) HHV	Pnominal	kW	95.4	122	176	230.1	270.4	370.1
Nominal heat input (Q min) HHV	Pnominal	kW	74.2	95.4	122	176	230.1	270.4
Maximum nominal delivered output (80°/60°C)	P4	kW	85.1	108.3	157.4	207.5	244.0	334.7
Heat output 30% with return 30°C	P1	kW	25.5	32.5	47.2	62.2	73.2	100.4
Seasonal energy efficiency hs		%	89.0	89.0	89.0	90.0	90.0	90.0
Efficiency at nominal heat input at a high temperature regime (80-60°C) HHV	η4	%	89.1	88.8	89.4	90.2	90.3	90.4
Efficiency at nominal heat input at low temperature regime with return 37°C HHV	η1	%	94.0	94.1	94.2	94.2	94.1	94.1
Electrical power absorbed at full load	Elmax	W	430	450	460	660	660	760
Electrical power absorbed at partial load	Elmin	W	151	158	161	231	231	266
Electrical power absorbed in stand-by mode	Psb	W	20	20	20	20	20	20

(*) Dependent on return temperature (30-60°C)

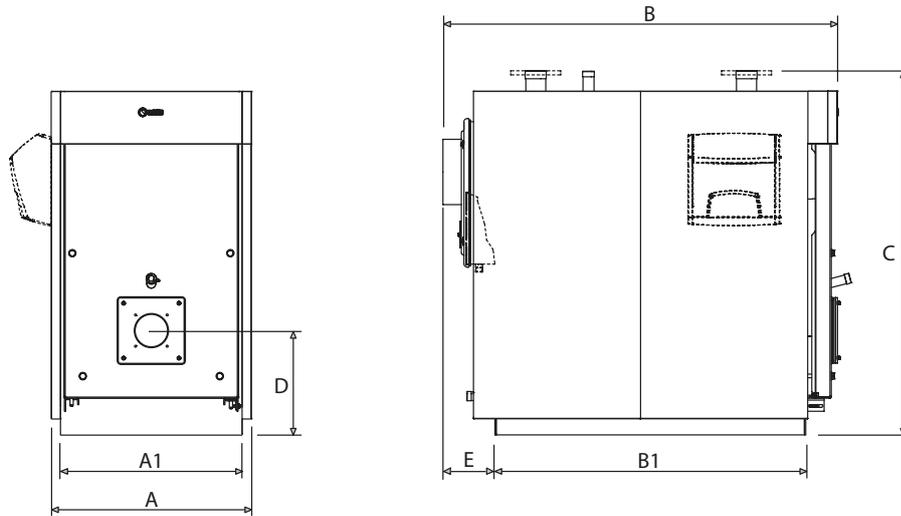
(**) With Pn max and Tm = 80°C, Tr = 60°C and CO₂ = 9.7%

The flue must ensure the minimum depression required by the current Technical Standards, considering "zero" pressure to the connection with the flue gas channel. Values obtained in combination with Riello burner models: BS - RS - RS.../M - RS.../M BLU.

FORCED DRAUGHTBOILERS

Three-pass steel flue cycle forced draughtboilers

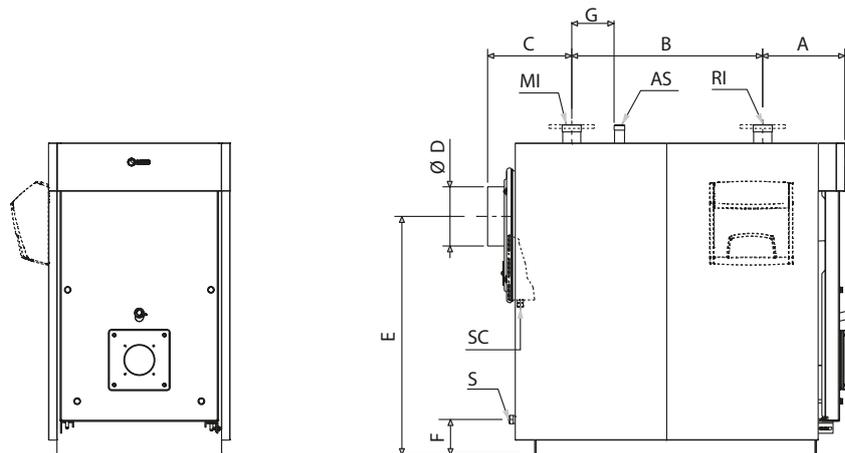
OVERALL DIMENSIONS



BOILER RTS 3S	90	115	166	217	255	349	448	511	639	850	1160	1450
A - Boiler width	mm	660	710	760	760	820	820	890	1000	1047	1147	1237
A1 - Body width	mm	580	640	690	690	750	750	790	900	980	1070	1160
B - Boiler length	mm	1155	1330	1500	1500	1660	1960	2085	2085	2375	2657	2954
B1 - Base length	mm	860	1010	1180	1180	1296	1596	1692	1692	1965	2236	2533
C - Boiler height	mm	1205	1285	1390	1390	1524	1490	1685	1685	1830	1920	2080
D - Burner axis	mm	380	380	400	400	468	468	510	510	560	570	625
E - Chimney-Base	mm	180	190	200	200	225	225	250	250	270	270	270
Weight (including panelling)	kg	335	420	515	535	715	840	1160	1160	1500	2040	2627

WATER CONNECTIONS

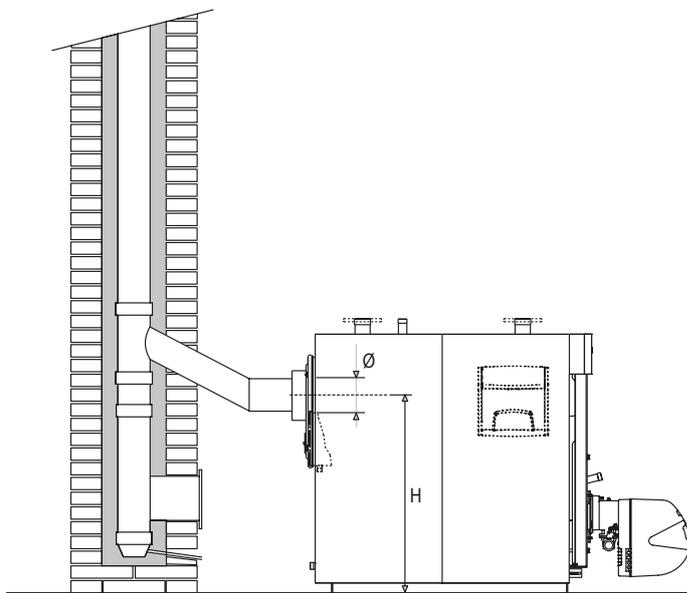
RIELLO RTS 3 S boilers are designed and built to be installed on heating systems and also for the production of domestic hot water if connected to suitable systems. The characteristics of the hydraulic connections are as follows:



BOILER RTS 3S	90	115	166	217	255	349	448	511	639	850	1160	1450
A	mm	320	335	348	348	360	390	395	395	450	512	563
B	mm	530	650	800	800	890	1085	1200	1200	1400	1570	2030
C	mm	305	345	352	352	410	485	490	525	575	505	580
∅ D	mm	180	200	250	250	250	250	300	300	350	350	450
E	mm	870	946	1005	1005	1130	1130	1290	1290	1405	1445	1695
F	mm	175	150	148	148	187	187	185	205	190	218	190
G	mm	130	200	200	200	200	300	250	250	300	350	700
SD - System delivery line	G" / DN	2"	2"	2" 1/2	2" 1/2	2" 1/2	DN80	DN80	DN80	DN100	DN125	DN150
SR - System return line	G" / DN	2"	2"	2" 1/2	2" 1/2	2" 1/2	DN80	DN80	DN80	DN100	DN125	DN150
Sc - Safety connections	G" / DN	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/2	1" 1/2	2" 1/2	2" 1/2	DN80
Cd - Condensate drain	G" / DN	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"
S - Boiler exhaust	G" / DN	3/4"	1"	1"	1"	1"	1"	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4

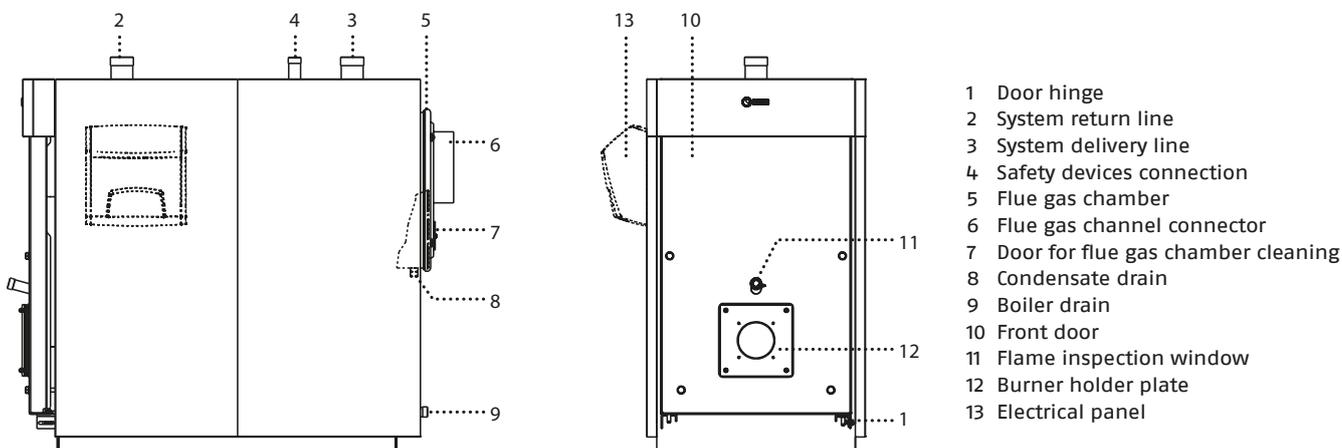
COMBUSTION PRODUCT DRAIN

The flue gas channel and the flue connector must be made in compliance with the Standards and Regulations in force, with rigid ducts, resistant to temperature, condensation, mechanical stress and the joints between the elements must be hermetic.



BOILER RTS 35		90	115	166	217	255	349	448	511	639	850	1160	1450	
Ø - Diameter	mm	180	200	250	250	250	250	350	350	350	350	400	450	
	H	mm	870	946	1005	1005	1130	1130	1290	1290	1405	1445	1580	1695

STRUCTURE



FORCED DRAUGHTBOILERS

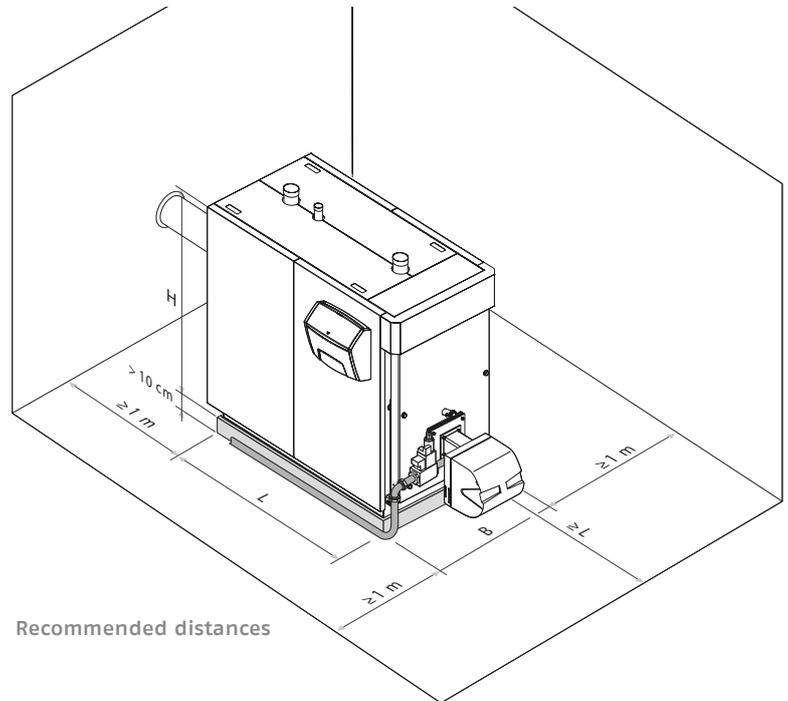
Three-pass steel flue cycle forced draughtboilers

BOILER INSTALLATION ROOM

RIELLO RTS 3S steel boilers must be installed in rooms for exclusive use that comply with the current Technical Standards and Legislation and have adequately sized ventilation openings. The boiler must be positioned, if possible, raised from the floor to minimize dust suction by the burner fan. The gas supply line must be made in such a way as to allow both panelling disassembly and door opening with burner fitted.

- In the event that the burner is supplied with combustible gas with a specific weight greater than that of air, the electrical parts must be placed at a height from the ground of more than 500 mm.

N.B. The appliance cannot be installed outdoor because it is not designed for outdoor operation and does not have automatic antifreeze systems.



Recommended distances

BOILER RTS		90	115	166	217	255	349	448	511	639	850	1160	1450
A - Boiler Width	mm	660	710	760	760	850	850	890	890	970	1047	1070	1160
B - Boiler Length	mm	1155	1330	1500	1500	1660	1960	2110	2110	2375	2657	2533	2754
H - Boiler Height	mm	1175	1285	1390	1390	1524	1490	1685	1685	1820	1900	2080	2222

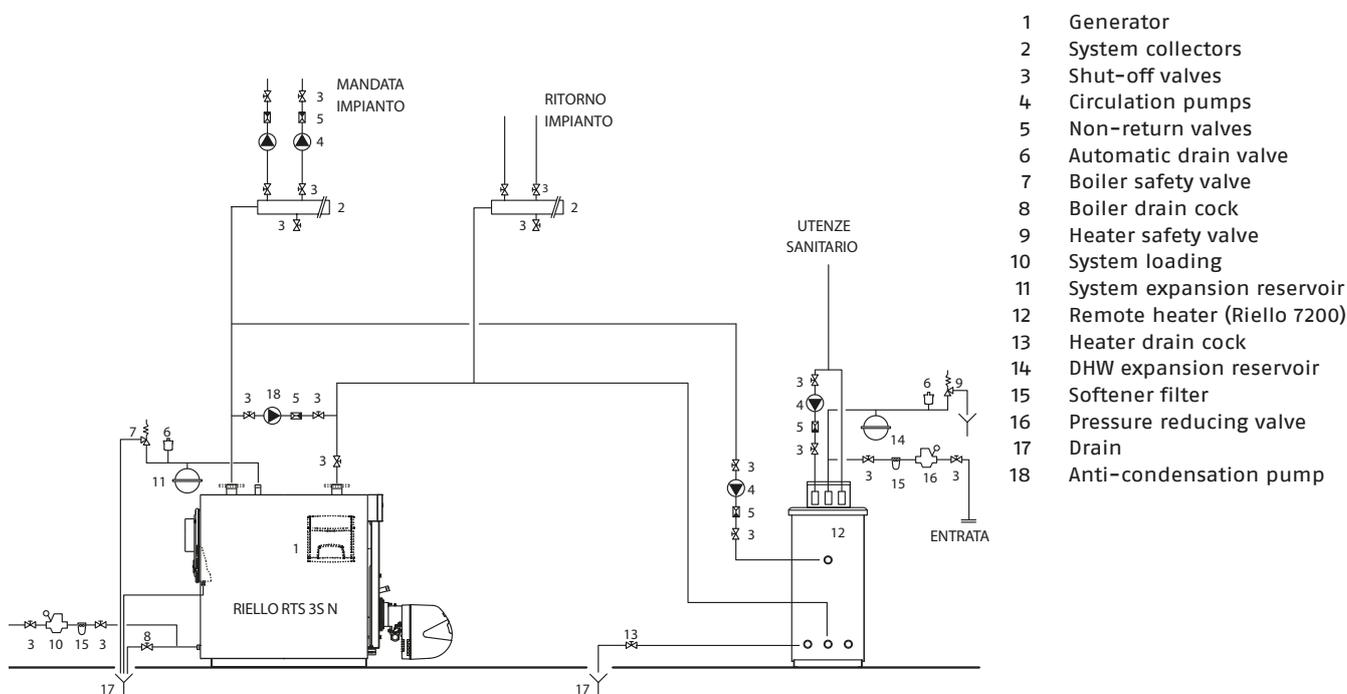
INSTALLATION ON OLD SYSTEMS OR SYSTEMS REQUIRING REFURBISHMENT

When the boiler is installed on old systems or systems to be upgraded, check that:

- The flue must be suitable for the temperature of the combustion products, calculated and constructed according to the Standard, and must be as much straight as possible, sealed, isolated and with no occlusions or chokes
- The electrical system is manufactured in compliance with the specific Standards and by qualified personnel
- The fuel supply line and the tank, if any, are made according to the specific Standards
- The expansion reservoirs ensure total absorption of the expansion of the fluid contained in the system
- The flow rate, head and flow direction of the circulation pumps is appropriate
- The system is washed, cleaned from sludge, from encrustations, de-aerated and seals have been checked
- A treatment system is provided when the feed/top-up water is special (the reference values can be considered to be those shown in the table) according to Italian Presidential Decree 59/09 and subsequent amendments.

REFERENCE VALUES	
PH	6-8
Electrical conductivity	less than 200 mV/cm (25°C)
Chlorine ions	less than 50 ppm
Sulphuric acid ions	less than 50 ppm
Total iron	less than 0.3 ppm
Alkalinity M	less than 50 ppm
Total hardness	less than 35° f
Sulphur ions	none
Ammonia ions	none
Silicon ions	less than 30 ppm

MAIN LAYOUT – Heating and domestic water production system



The choice and installation of the components of the system are the responsibility of the installer, who must operate according to best practice standards and current legislation.

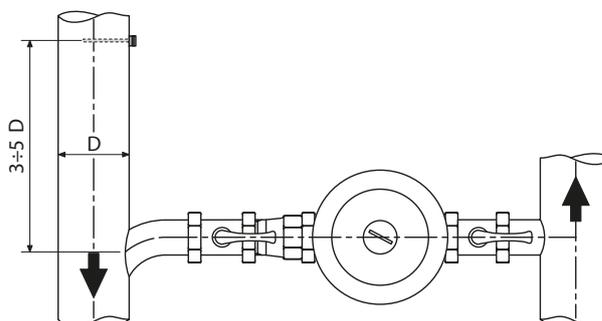
Systems loaded with antifreeze require the use of water backflow preventers.

ANTI-CONDENSATION PUMP

To prevent damage to the boiler during transport and before the system is fully operational, an anti-condensation pump is required.

The pump must ensure, during the periods of system operation, a flow rate between 20 and 30% of the total one, must also ensure a return water temperature of not less than 50°C and must delay its shut-down for at least 3 minutes, at the beginning of prolonged periods of boiler shut-down (total night off, weekends, etc.).

To detect the actual system return temperature with the purpose of controlling the anti-condensation pump or to manage the set-up functions in temperature control systems, it is necessary to provide a probe holder pocket to be positioned at 3 ± 5 return pipe diameters before (upstream) of the hydraulic engagement point. Any thermoregulator devices, outside the boiler control panel, must be compatible both for electrical connections and for functional logic.



FORCED DRAUGHTBOILERS

Three-pass steel flue cycle forced draughtboilers

RECOMMENDED BURNERS FOR MATCHING

RECOMMENDED COMBINATIONS for "Blue Flame" Low NOx

	Counter-pressure in combustion chamber (mbar)	GAS								LIGHT OIL				
		Modulating mechanical cam				Modulating electronic cam				Two- stage	Modulating mechanical cam			
		RS 55/M BLU t.c.	RS 68/M BLU	RS 120/M BLU	RS 160/M BLU	RS 55/E BLU t.c.	RS 68/E BLU t.c.	RS 120/E BLU t.c.	RS 160/E BLU t.c.		RL 42 BLU	RL 55/M BLU	RL 85/M BLU	
RTS 448 3S	2.9	○	○			○	○				○	○		
RTS 511 3S	5.4	○	○			○	○					○		
RTS 639 3S	5.2		○				○						○	○
RTS 850 3S	6.7			○				○						○
RTS 1160 3S	3.9			○	○			○						
RTS 1450 3S	4.6				○				○					

RECOMMENDED COMBINATIONS for "YELLOW flame"

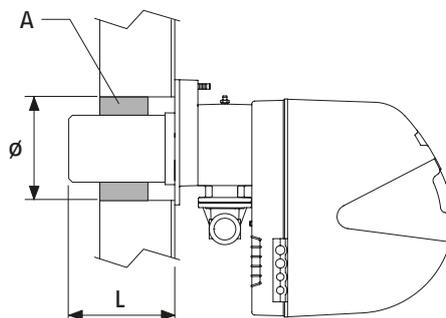
	Counter-pressure in combustion chamber (mbar)	GAS									
		Two-stage				Modulating mechanical cam					
		RS 50	RS 70 t.c.	RS 100	RS 130 ○	RS 150	RS 50/M MZ	RS 70/M t.c.	RS 100/M	RS 130/M	RS 150/M
RTS 448 3S	2.9	○					○				
RTS 511 3S	5.4	○					○				
RTS 639 3S	5.2		○					○			
RTS 850 3S	6.7			○					○		
RTS 1160 3S	3.9				○				○	○	
RTS 1450 3S	4.6				○ (**)	○				○ (**)	○

** to be combined only for max power 1300kW

Note: Gas burners must be completed with gas train.
Light oil burners must be completed with light oil nozzles.

Counter-pressure in combustion chamber (mbar)	LIGHT OIL																		
	One-stage				Two-stage								Modulating						
	RG 3	RG 4S	RG 5S	RL 34/MZ	RG 3D	RG 4D	RG 5D	RL 34/MZ	RL 44/MZ	RL 50	RL 70	RL 100	RL 130	RL 28/M	RL 38/M	RL 50/M	RL 70/M	RL 100/M	RL 130/M
RTS 90 3S	1.0	○			○														
RTS 115 3S	1.4	○			○														
RTS 166 3S	1.8		○			○								○					
RTS 217 3S	2.7			○			○							○					
RTS 255 3S	2.9			○	○			○						○					
RTS 349 3S	3.6								○						○				
RTS 448 3S	2.9									○						○			
RTS 511 3S	5.4									○						○			
RTS 639 3S	5.2										○						○		
RTS 850 3S	6.7											○						○	
RTS 1160 3S	3.9												○					○	○
RTS 1450 3S	4.6												○						○

Note: Gas burners must be completed with gas train.
Light oil burners must be completed with light oil nozzles.

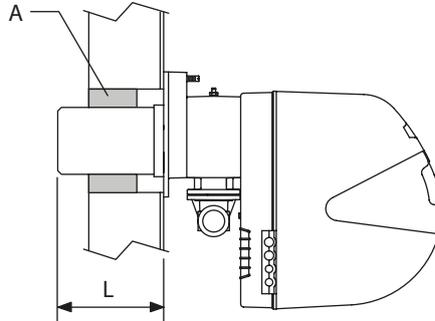


BOILER RTS		90	115	166	217	255	349	448	511	639	850	1160	1450
L min	mm	128	128	128	128	155	155	195	195	200	200	205	205
Door hole diameter	Ø mm	140	140	162	162	180	180	205	205	205	230	230	270
Door thickness	mm	93	93	93	93	103	103	118	118	119	119	119	119

FORCED DRAUGHTBOILERS

Three-pass steel flue cycle forced draughtboilers

In the case of two-stage burners, the flow rate of the 1st stage must not be less than 50% of the total.



BOILER RTS 3S		90	115	166	217	255	349	448	511	639	850	1160	1450
L min	mm	128	128	128	128	155	155	200	200	250	250	250	280
Door hole diameter	∅ mm	140	140	165	165	180	180	205	205	205	230	230	270
Door thickness	mm	120	120	120	120	140	140	145	145	145	147	147	150

THERMOREGULATIONS - RIELLOtech

RIELLOtech is the RIELLO range of regulations created for the management of any type of system. Ideal for complex systems as well as for the management of simpler installations. The range includes:

RIELLOtech Climate Top: it is the climatic regulation of complex systems in multi-family installations. It manages modulating burners, cascades of boilers, complex solar systems and the integration of several types of heat producers. The side system manages 2 mixed areas, one direct and the production of domestic hot water.

RIELLOtech Climate Comfort: it is the climatic regulation of even complex systems in single- or multi-family installations. It manages one-stage and two-stage burners (with a special kit), cascades of boilers, solar systems, and the integration of several types of heat generators. The system side manages a mixed area (expandable to 2 with a special kit), one direct and the production of domestic hot water.

RIELLOtech Clima Mix: this is the system regulation that can manage 1 mixed area, expandable to 2 with a special kit.

RIELLOtech Prime ACS: is the thermostatic line able to manage one-stage and two-stage burners (using a special kit), the production of domestic hot water and a direct area.

RIELLOtech Prime: is the thermostatic line able to manage mono and two-stage burners (using a special kit), and a direct area.

The RIELLOtech Clima Top and Comfort versions include a boiler probe and an external probe.

All RIELLOtech Clima regulations can be integrated via BUS. The Clima series is also available as a control panel version. IPX4D electrical protection level.



CONTROL PANEL

	Monostadio 	Bistadio 	Modulante 	Cascata 	Caldaiola legna 	Solare 	Sanitario 	Impianto diretto 	Impianto mix 1 	Impianto mix 2 
CLIMA TOP	di SERIE	●	●	●				●		
	gestione da parte del quadro ma con l'ausilio degli accessori sotto indicati				○	○	○		○	○
	ACCESSORI									
	Sonda a immersione				1	1	1			
	Sonda collettore solare						1			
Sonda a bracciale								1	1	
CLIMA COMFORT	di SERIE	●						●		
	gestione da parte del quadro ma con l'ausilio degli accessori sotto indicati		○		○		○		○	○
	ACCESSORI									
	Sonda a immersione				1		1	1		
	Sonda collettore solare						1			
	Sonda a bracciale								1	1
Kit gestione bruciatore bistadio		1								
Kit 1 zona mix									1	
CLIMA MIX	di SERIE								●	
	gestione da parte del quadro ma con l'ausilio degli accessori sotto indicati									○
	ACCESSORI									
Sonda a bracciale								1	1	
Kit 1 zona mix									1	
PRIME	di SERIE	●						●		
	gestione da parte del quadro ma con l'ausilio degli accessori sotto indicati		○							
	ACCESSORI									
Kit bistadio		1								
PRIME ACS	di SERIE	●					●	●		
	gestione da parte del quadro ma con l'ausilio degli accessori sotto indicati		○							
	ACCESSORI									
	Kit bistadio		1							
Kit spegnimento totale	1	1								

Thermoregulations ERP class

DESCRIPTION ACCESSORIES	PROBE EXTERNAL	BURNER	CLASS	RELAY KIT 3-POINT MO- DULE	ONE AMBIENT PROBE	TWO AMBIENT PROBES	THREE AMBIENT PROBES	ADDITIONAL MIX AREA MANAGE- MENT + RELEVANT AM- BIENT PROBE
RIELLOtech CLIMA TOP	Yes	Module On/off	II III	II III	VI VII	VI VII	VIII VII	VIII VII
RIELLOtech CLIMA COMFORT	Yes	Module On/off	III III	NA NA	VII VII	VII VII	NA NA	VII VII
REMOTE CONTROL RC2			V					
AMBIENT PROBE			V					

FORCED DRAUGHTBOILERS

Three-pass steel flue cycle forced draughtboilers

PRODUCT RECEPTION

RIELLO RTS 3S steel boilers are delivered in:

- 1) THE BOILER BODY to which the document envelope (A) is applied, contains:
 - Instruction booklet
 - Technical plate (to be applied to the panelling at the time of installation)
 - Warranty certificate and hydraulic test certificate
 - Barcode labels
 - Ceramic mat.

The instruction booklet is an integral part of the boiler, and should therefore be carefully recovered, read and stored in a safe location.

- 2) PANELLING complete with assembly accessories.
- 3) THE FRONT PANEL to be applied on the front door.

IMPORTANT

The operation of the boilers is subject to the use of a control panel of the RIELLOTECH series and of any dedicated accessories.

DESCRIPTION OF THE BOILER

RIELLO RTS 3S

RIELLO RTS 3S steel boilers are high efficiency heat generators with three passes, for heating systems and, when combined with a heater, for production of domestic hot water.

They are single-block boilers with pressurized combustion. The flame produced by the burner develops in the furnace (1st passage); at the end of it, an opening connects to a duct where the flue gas enters to go back to the front part (2nd passage). The sharp separation of combustion gas inversion from the furnace is important for NO_x reduction.

The residence time of flue gas in the high temperature zone is, in fact, a cause of the formation of these polluting emissions.

At the front, through the recess formed in the insulation of the door, the flue gas enters the pipe bundle (3rd passage).

Here the flue gas is forced by turbulators to perform a vortex path that increases the heat exchange by convection.

In this way maximum heat absorption is achieved without damaging thermal stresses. Exiting the pipe bundle, the flue gas is collected in the rear chamber and conveyed to the chimney.

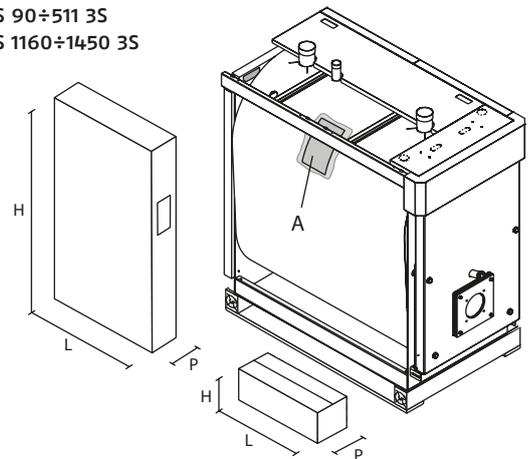
Thanks to the particular geometric structure (pipe bundle overlapping the combustion chamber), the width is reduced compared to the normal pressurized boilers, facilitating the introduction of the boiler in plant rooms with narrow access passages or with small overall dimensions. The burner is installed on a hinged door: in this way the adjustment and maintenance operations of the boiler and the burner are made easier without having to disassemble the burner.

The thermal insulation of the boiler body is obtained through the application of a mineral wool mat with high insulating power to limit thermal dissipation at extremely low levels.

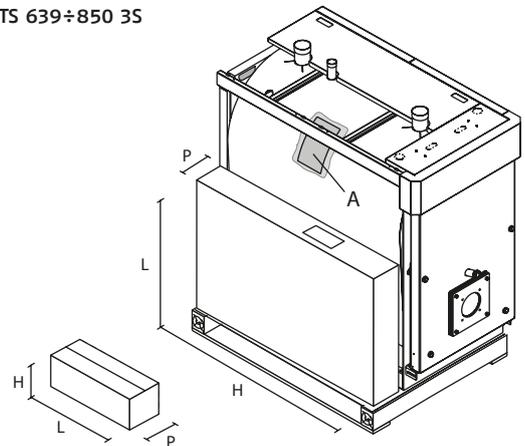
The external finish is made with pre-painted steel panels insulated with a mineral wool mat.

- Maximum temperature 110 °C
- Maximum operating temperature 95 °C
- Return permissible temperature 50°.
- instrument holder panel to be chosen according to the type of system to serve;
- Modulation between 70-100% of the output;
- Maximum operating pressure 6 bar;
- Compliant with Directive 2009/142/EC (gas)- CE marking
- Compliant with Directive 2004/108/EC (ex 89/336/EEC) (electromagnetic compatibility)
- Compliant with Directive 2006/95/EC(ex 73/23/EEC) (low tension)
- Complies with light oil burners of regulation EU ERP No. 813/2013
- Heating appliances with gas burners of less than 400 kW are intended, until 1 January 2018, only for replacement in accordance with the provisions of article 1, paragraph 2, point G of the EU regulation No. 813/2013.

RTS 90÷511 3S
RTS 1160÷1450 3S



RTS 639÷850 3S





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The company is constantly working to perfect its entire production range, so the design and size characteristics, technical data, equipment and accessories may vary.

RIELLO