



CALDAIE
MELGARI
PIONEERS
IN HEATING



ООО «ТИ-СИСТЕМ»
www.tisys.ru



ABOUT US



Caldaie Melgari is somehow like a trustworthy cardiologist, because it takes care of the heart of your factory. We know how important boilers are for you to produce, heat and make your plant working.

OUR MISSION

Making things right is not enough, we help you make the right things. Our customers know that over 80 years of experience are synonymous with reliability.

Good news: may you need just a check-up or even a new “heart”, we’re there for you. Making you feel relaxed has been our job for more than 80 years.

We periodically visit our clients and are always ready to solve your problems: we’re a team and care about you from the very beginning onwards. We can provide professional advice and help you make the right choice since we know what’s best for you. And when it’s time for action, we’re quick and efficient. We won’t ever let go of your hand, even once the work’s over, because we come back to see if everything’s fine.

WHAT WE DO

- Manufacturing of steam boilers, hot water boilers and diathermic oil boilers.
- Rental of any kind of steam and heat generator
- Support & Assistance
- Servicing & Maintenance

Every day we do our best to offer the best products, the highest quality and outstanding service. To do so, we invest in R&D to find avant-garde solutions which help you reduce consumption, waste and pollution and we also seek new ways to provide support and emergency intervention whenever and wherever you need it, thanks to modern technology.



OUR ENGINEERING



Energy efficient and clean provision of heat in conjunction with high levels of operational safety and system reliability are essential requirements for production facilities and industrial plants.

ENERGY EFFICIENCY

Our boilers will allow your company to reduce energy consumption, staff, operational and maintenance.

Thanks to many years of experience and proved excellent performance, we're today considered as seasoned plant design professionals.

On the strength of our avant-garde engineering department, we can carry out ready-to-go thermal power plants complete with generators, tanks, headers, chimneys, piping, regulations and electric system.

Furthermore, we realize subordinate plants which produce overheated water and steam through the use of versatile heat exchangers. We can also supply waterworks and wastewater treatments for any thermal power plant.

Obviously, each phase is supervised by our own specialists, from the design to set-up and testing. Thus we can assist you from the very beginning, personally making sure everything's working correctly.



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CALDAIE MELGARI

5

IG DEPARTMENT

People are the most important resource in Caldaie Melgari.

Our secret is the great experience of our mechanical and electrical engineers, our skilled carpenters and technicians, and also our highly-prepared sales and financial managers.

Getting advice from someone who has the experience you need can help you make decisions. That's why our customers ask us for any information referring to their boilers and thermal power plants: they know that over 80 years of experience are synonymous with reliability.

We're here, ready to listen to your requests and assist you in determining the most appropriate solution for all your needs. Our engineers and technicians are willing to solve any kind of problems relating to heat management.

We carry out the whole procedure, from design to testing. All you need is to call or e-mail us and we'll be glad to answer your questions!



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OUR SERVICES

We know very well those problems which occur during emergency situations. Our company works worldwide and is ready to promptly respond to your requests, intervening with machineries, skilled engineers and proper equipment.

Our final goal is the satisfaction of our clients, the reduction of the impact on the environment and the health and safety of our workers. That's why CALDAIE MELGARI has performed an Integrated Management System which includes the Quality System Certification ISO 9001:2008 and the Environmental Management System ISO 14001:2004.

R

RENTAL

Due to seasonal needs, planned production standstills or whatever emergencies occur, you may often need to hire a steam boiler. That's why we have a wide selection of generators to rent: steam boilers, hot and superheated water boilers, diathermic oil boilers.

E

ENERGY EFFICIENCY

We offer not only heat exchangers (which reduce energy consumption by using the exhaust gases from the boiler to preheat the cold feed water), but also both heated air burner and water treatment solutions. The less you pollute, the more you save!

S

SERVICING & REPAIRING

For more than 80 years we've taken care of our clients' boilers, servicing them periodically and intervening promptly in a pinch. Thorough checks and steady cleaning of your generators not only ensure longer service life and increased safety, but also reduce your consumptions and costs



OUR MARKET



ООО "ТИ-СИСТЕМС"

ITALY	WESTERN EUROPE	EASTER EUROPE
NORTH AFRICA	UAE	MIDDLE-EAST

OUR CUSTOMERS

- 3 V Sigma S.p.A.
- A.E.M. Gestioni S.r.l.
- Acciaierie Bertoli Safau S.p.A.
- Andrews Sykes Ltd.
- Astem Gestioni S.r.l.
- Butan Gas S.p.A.
- Caffaro S.p.A.
- Caseificio Zani S.p.A.
- Cofely Italia S.p.A.
- Coop.Produuttori Suini Pro. Sus. S.C.A.
- Dalla Bona S.p.A.
- Direzione Regionale Per I Beni Culturali E Paesaggistici Della Lombardia
- Egea S.p.A.
- Emiliana Conserve Societa' Agricola S.p.A.
- Enel Produzione S.p.A.
- Eni S.p.A.
- Erg S.p.A.
- Eridania Sadam S.p.A.
- Fenice S.p.A.
- Filte S.p.A.
- Fimet S.p.A.
- Fincantieri S.p.A.
- Ford Factory (Spain)
- Golden Lady Company S.p.A.
- Ies S.p.A.
- Invernizzi S.p.A.
- Iplom S.p.A.
- Iride Servizi S.p.A.
- Lacto Siero Italia Spa
- Lesaffre Italia S.p.A.
- Leuenberger & C. Spa
- Loro Piana S.p.A.
- Marche Multiservizi S.p.A.
- Modern Hamat
- Mutti S.p.A.
- Newlat S.p.A.
- Parmalat S.p.A.
- Polynt S.p.A.
- Proserv
- Raffineria Di Roma S.p.A.
- Reno De Medici S.p.A.
- Riso Scotti S.p.A.
- SIMP S.p.A.
- Sindyal S.p.A.
- Solvay Chimica Italia S.p.A.
- Steriltom S.p.A.
- Stilmas S.p.A.
- Tea S.p.A.
- TEA S.E.I. S.r.l.
- Trenitalia S.p.A.
- Zoogamma S.p.A.

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OUR **BOILERS**

Our incredible range of products and services offers specific solutions for any kind of customer. As pioneers in heating, we have been supplying energy efficiency, top technology and high-performance for more than 80 years.

STEAM BOILERS

MVI - Three smoke passes with inversion flame back steam boiler - pag. 10

Steam output from 140 Kg/h up to 5.000 Kg/h, medium pressure.

MV3 - Three real smoke passes steam boiler - pag. 14

Steam output from 1.000 Kg/h up to 15.000 Kg/h, medium pressure.

MVB - Three smoke passes with inversion flame back low pressure steam boiler - pag. 18

Steam output from 140 Kg/h up to 3.000 Kg/h at 0,98 bar.

SRH/SRV - Horizontal/Vertical Coil steam boiler, for rapid steam production - pag. 22

Steam output from 100 Kg/h up to 4.000 Kg/h from 12 up to 30 bar.

MAXI - Electrical and automatic steam boiler - pag. 34

Steam output from 20 Kg/h up to 250 Kg/h at 9 bar.

DIATHERMIC OIL & HOT WATER BOILERS

SOH - Thermal oil heater for temperature up to 320°C realized in horizontal version - pag. 38

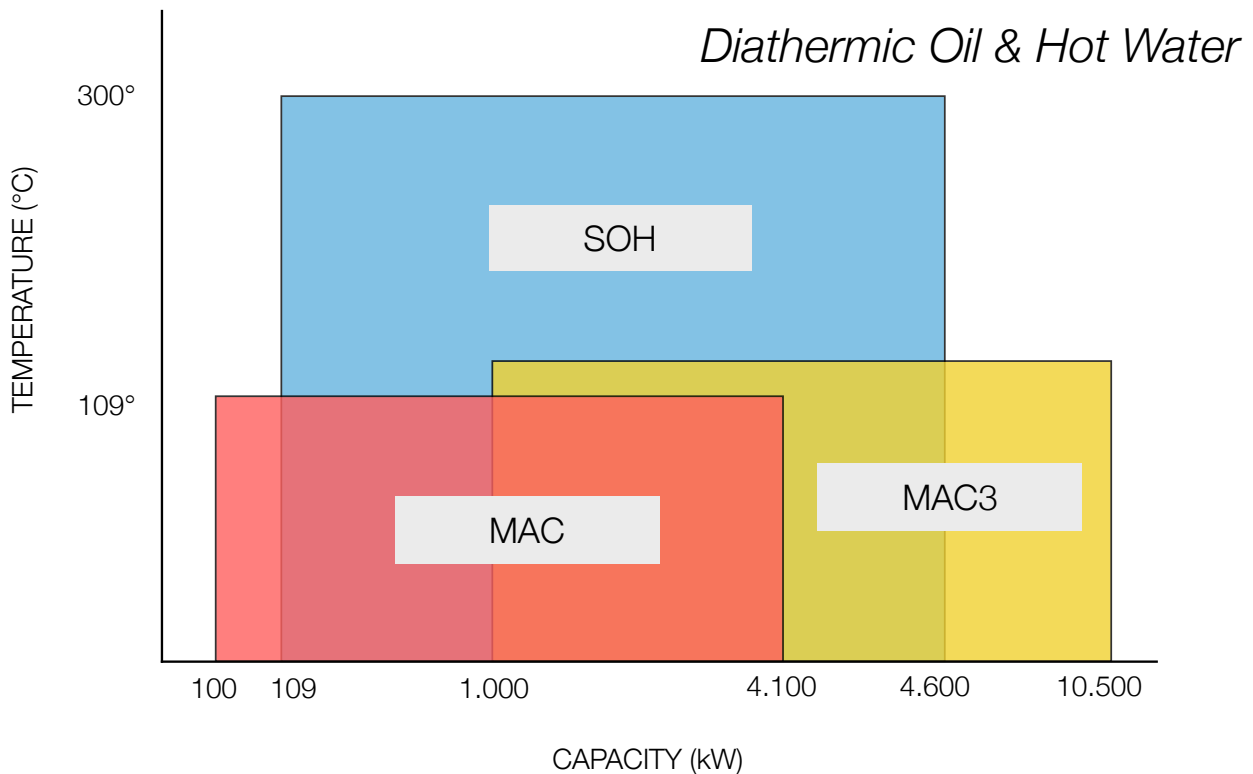
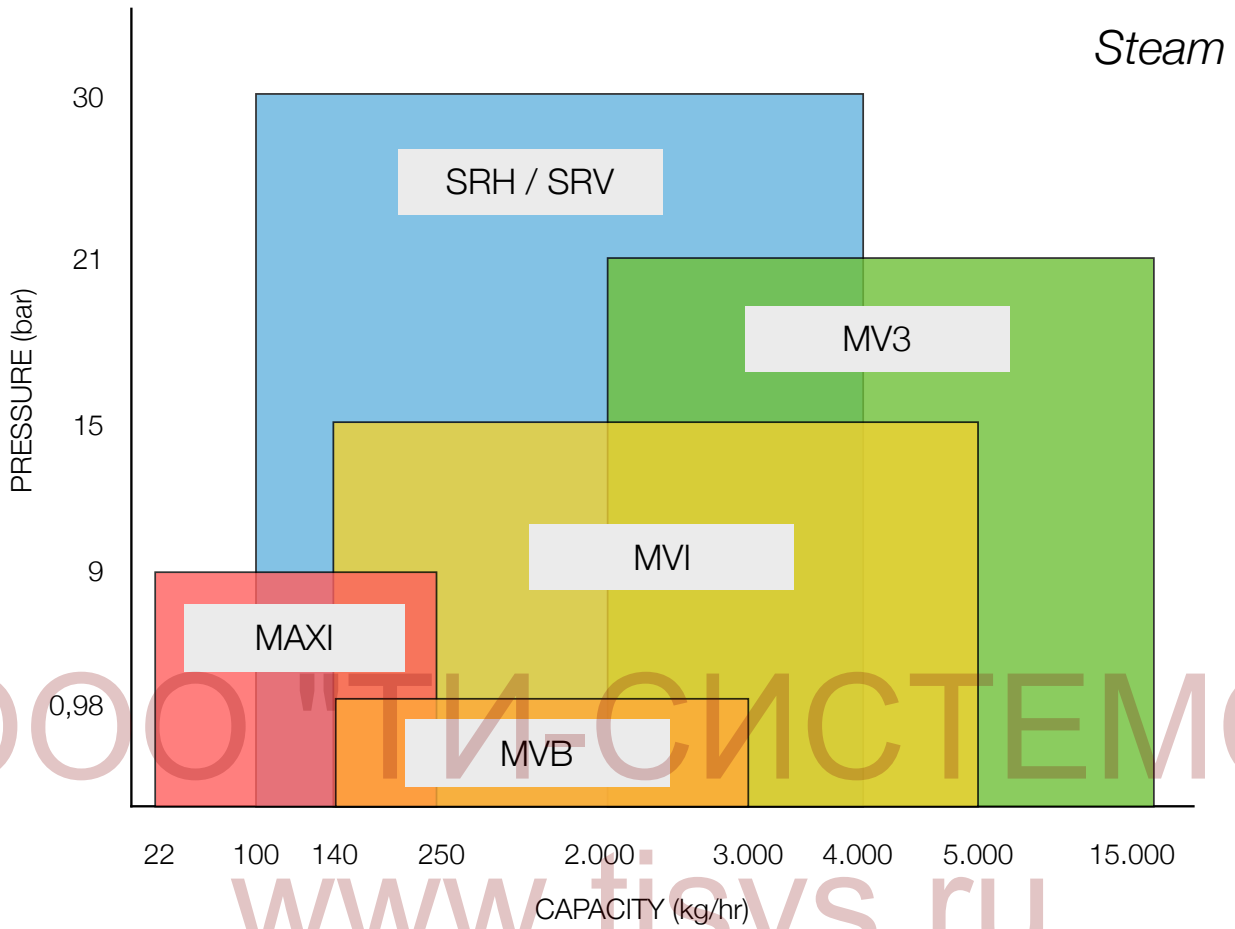
Capacity from 116 kW up to 4600 kW at 10 bar.

MAC - Three smoke passes with inversion flame back hot water boiler, up to 109°C - pag. 46

Steam output from 100 kW up to 4.100 Kg/h at 6 bar.

MAC3 - Three smoke passes hot water boiler, up to 109°C - pag. 49

Steam output from 1.000 kW up to 10.500 kW at 6 bar.





MVI

Three smoke passes with inversion flame back steam boiler.
Steam output from 140 Kg/h up to 5.000 Kg/h, medium pressure.



The second smoke pass takes place through high thickness smoke tubes. This steam boiler has been designed according to the most advanced techniques by highly qualified engineers in our factory. It has been especially designed for the combustion of both liquid and gaseous fuels and is supplied with all accessories for an automated operation.

The exchange area is particularly big in order to maintain low specific thermal loads and high efficiency even during high rate continuously. Tubes are provided with stainless steel turbinators ensuring also a constant and high efficiency.

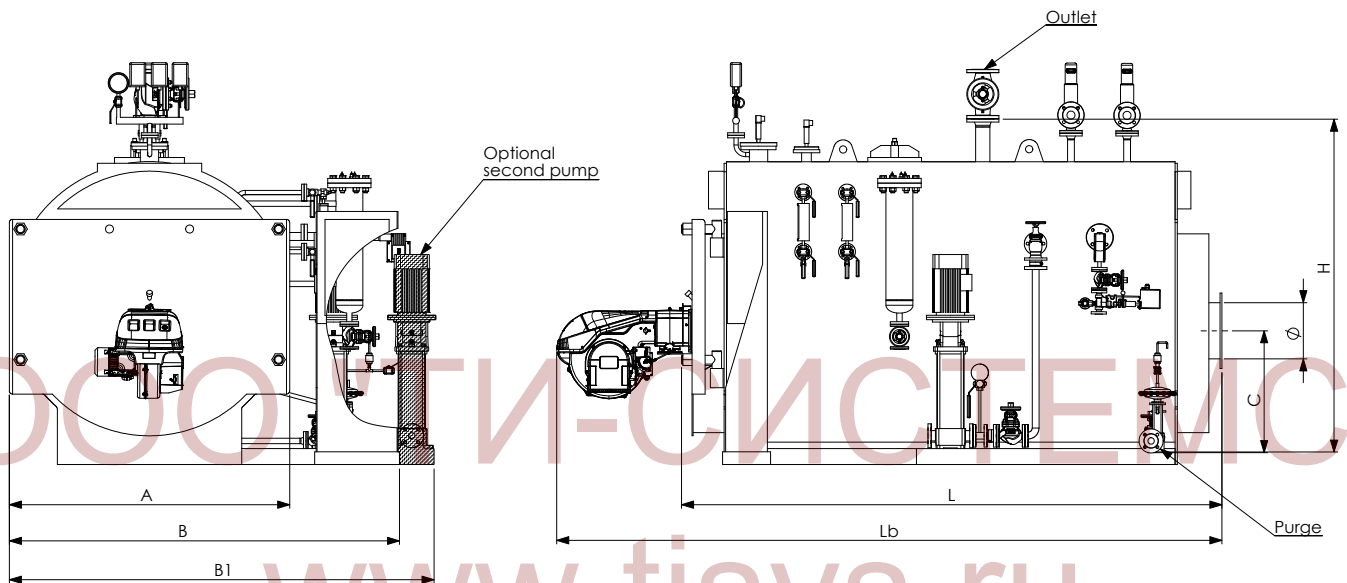
The particular position of the tubes around the fire room ensures a fair distribution of the smokes maintaining the thermal load. Smoke speed on the tubes is so high that no soot residues can deposit, involving thus a constant efficiency.

The boiler is assembled on a very resistant basement in order to allow its immediate installation. On this basement are also mounted the electrical board and feeding pump.

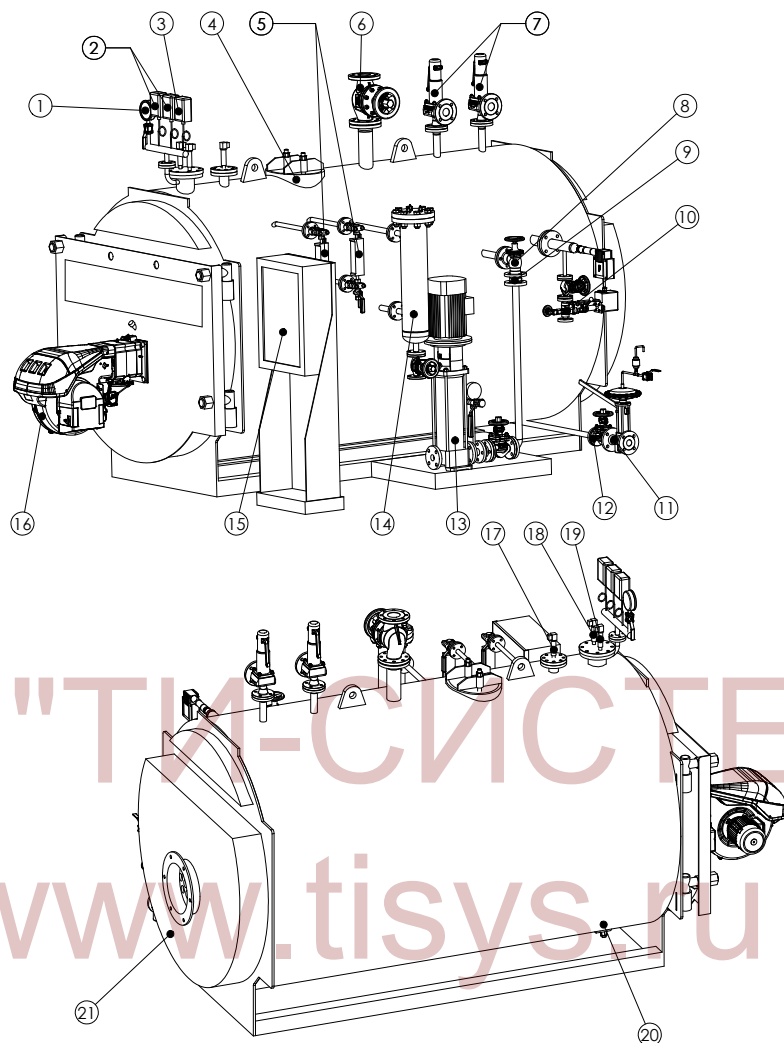
For the pressure body construction only certified materials are used and the controls are made by a PED inspector (European notified body). The whole construction is according to the PED 97/23/CEE.



MVI - TECHNICAL DATA



Type	Dimensions							Connections			Steam production Kg/h	Smokes pressure loss mbar	Total water capacity Liters	Water capacity at level Liters	Empty weight Kg
	A mm	B mm	H mm	B1 mm	L mm	Lb mm	C mm	Ø mm	Outlet DN	Purge DN					
140	954	1.450	1.334	1.570	1.782	2.080	637	200	25	25	140	1,5	475	320	1.150
200	954	1.450	1.334	1.570	1.782	2.080	637	200	25	25	200	2,5	475	320	1.150
300	1.046	1.540	1.426	1.660	2.032	2.330	618	250	32	25	300	3	670	440	1.450
400	1.046	1.540	1.426	1.660	2.032	2.330	618	250	32	25	400	3,5	670	440	1.450
500	1.190	1.690	1.570	1.810	2.336	2.690	690	250	40	25	500	4,2	1.020	685	2.200
700	1.190	1.690	1.570	1.810	2.336	2.940	690	250	40	25	700	4,5	1.020	685	2.200
800	1.310	1.810	1.690	1.930	2.339	2.990	740	250	50	25	800	5	1.280	870	2.550
1.000	1.310	1.810	1.690	1.930	2.539	3.290	740	250	50	25	1.000	6	1.410	960	2.800
1.250	1.500	2.000	1.880	2.120	2.541	3.390	790	300	65	25	1.250	6,5	1.900	1.280	3.300
1.500	1.500	2.000	1.880	2.120	2.791	3.640	790	300	65	25	1.500	6,8	2.120	1.440	3.650
1.750	1.500	2.000	1.880	2.120	3.041	3.940	790	300	80	25	1.750	7	2.330	1.580	3.900
2.000	1.620	212	2.000	2.240	3.042	3.940	845	350	80	40	2.000	7	2.650	1.860	4.650
2.500	1.750	2.270	2.150	2.390	3.348	4.300	1.245	350	80	40	2.500	8	3.540	2.550	5.500
3.000	1.860	2.380	2.270	2.500	3.350	4.300	1.300	400	80	40	3.000	8,2	3.960	2.680	6.400
3.500	1.860	2.380	2.270	2.500	3.350	4.550	1.300	400	100	40	3.500	9	4.340	2.830	6.850
4.000	2.100	2.620	2.496	2.740	3.841	5.040	1.440	450	100	40	4.000	10	6.050	4.150	8.600
5.000	2.190	2.740	2.575	2.860	4.900	5.100	1.490	500	100	40	5.000	10,2	6.750	5.050	12.500



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1	Steam manometer
2	Regulation pressure switch
3	Safety pressure switch
4	Inspection hole
5	Water level indicators with cocks
6	Steam outlet
7	Safety valve
8	Interception valve
9	Check valve
10	TDS desalting device (for 72h without human supervision)
11	Automatic blow down (for 72h without human supervision)
12	Interception valve
13	Feed water pump
14	External vessel for water regulation
15	Electrical cabinet
16	Burner
17	Safety probe for LOW water level (autocontrolled for 72h without human supervision)
18	Safety probe for HIGH water level (autocontrolled for 72h without human supervision)
19	Safety probe for LOW water level (autocontrolled for 72h without human supervision)
20	Manhole
21	Rear smoke box

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ

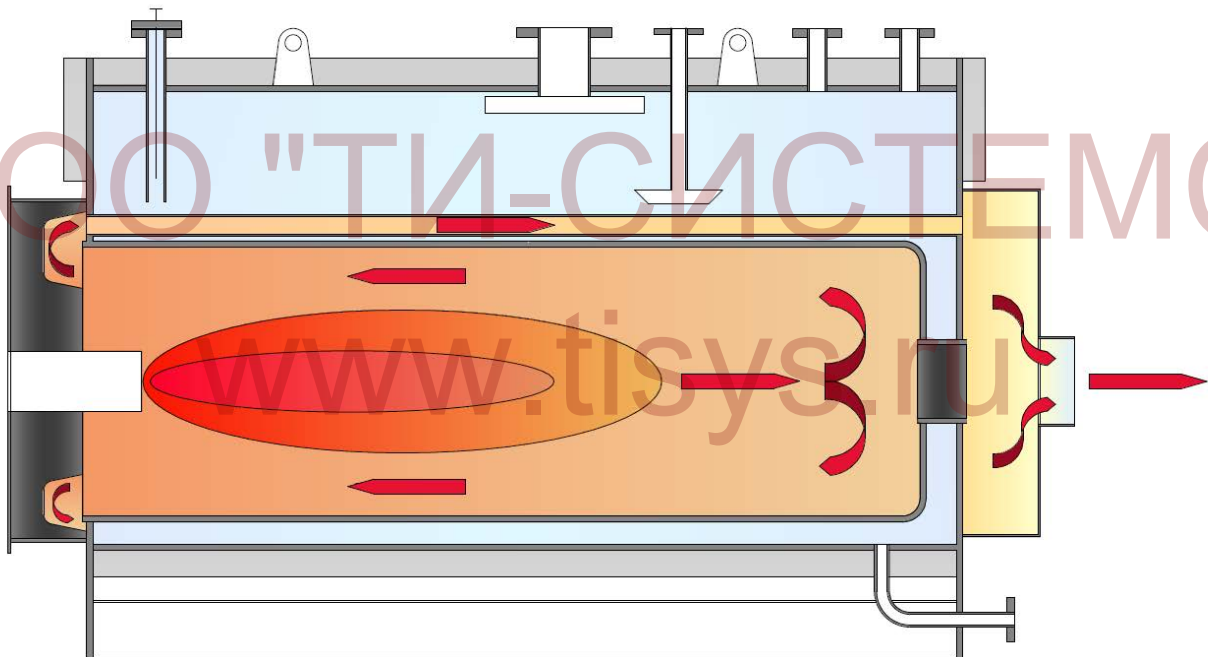
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MVI

SMOKE PASSES DETAILS



Three smoke passes with inversion flame back steam boiler.
The second smoke pass takes place through high thickness smoke.



MV3

Three real smoke passes steam boiler.
Steam output from 1.000 Kg/h up to 15.000 Kg/h, medium pressure.



A pressurized boiler at effectively 3 smokes passes and a completely wet back.

It has been designed for the combustion of both liquid and gaseous fuels and is supplied with the all accessories according to the currently norms for an automated operation.

The MV3 fascinates for its semplicity and the maintenance does not request any dismounting.

The steam boiler has been designed according to the most advanced techniques by highly qualified engineers in our factory. The tube plates are manually drilled at cold in order to maintain all physical characteristics of the material.

The construction is performed according to the European directive P.E.D. 97/23/CE .

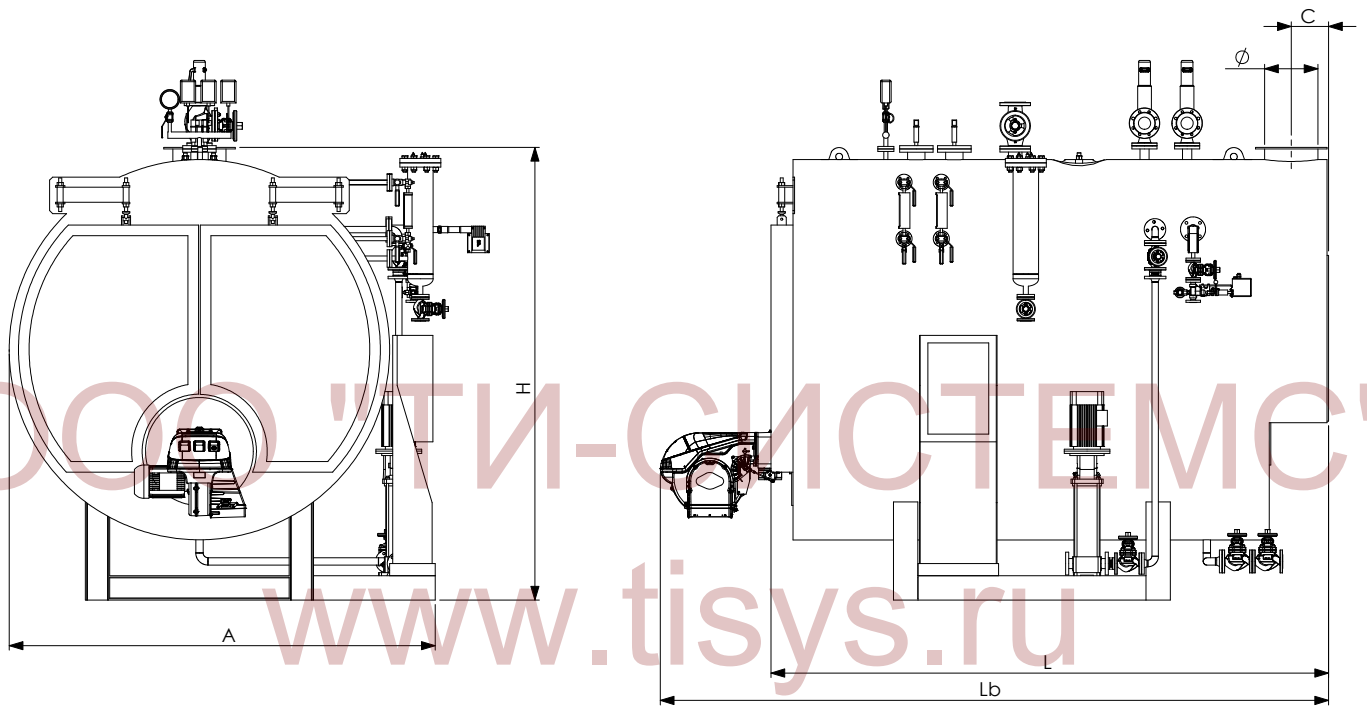
All joints are accurately electric welded and are executed with manual / automatic process.

The safety and quality is guaranteed through several non destructive controls, made with the presence of a certified inspector:

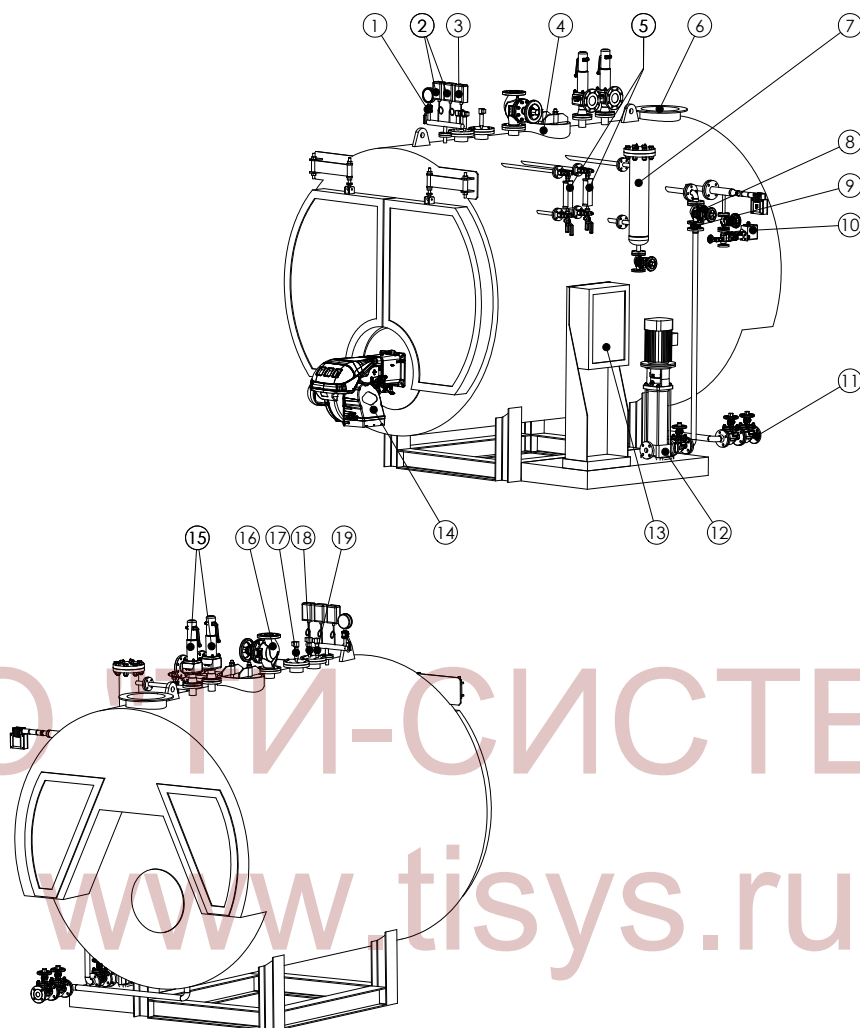
- ultrasonic test on the chamber combustion inspection hole
- X-rays on the crosses and but weldings
- penetrant liquid on the corner weldings



MV3 - TECHNICAL DATA



Type	Dimensions					Connections			Steam production Kg/h	Smokes pressure loss mbar	Total water capacity Liters	Water capacity at level Liters	Empty weight Kg
	A mm	H mm	L mm	Lb mm	C mm	Ø mm	Outlet DN	Purge DN					
1.000	2.050	2.520	2.900	3.575	220	300	50	40	1.000	5,5	3.100	2.500	6.300
2.000	2.300	2.770	3.555	4.230	270	400	65	40	200	7	5.720	4.680	7.800
3.000	2.385	2.855	4.365	5.120	295	450	80	40	300	8	8.500	6.600	10.600
4.000	2.610	3.080	4.425	5.260	320	500	100	40	400	9	10.300	8.350	13.200
5.000	2.640	3.110	5.005	5.850	345	550	100	40	500	11	11.300	9.100	14.600
6.000	2.640	3.110	5.805	6.650	345	550	125	40	700	11,5	12.000	9.500	16.500
8.000	3.035	3.505	5.405	6.450	370	600	125	40	800	12,5	14.950	11.960	26.000
10.000	3.035	3.505	6.105	7.150	445	750	150	40	1.000	13	19.520	15.270	27.500
12.000	3.110	3.580	6.365	7.580	445	750	150	40	1.250	13	20.200	16.500	30.000
15.000	3.560	4.030	7.385	8.620	470	800	150	40	1.500	13	28.340	23.180	41.500

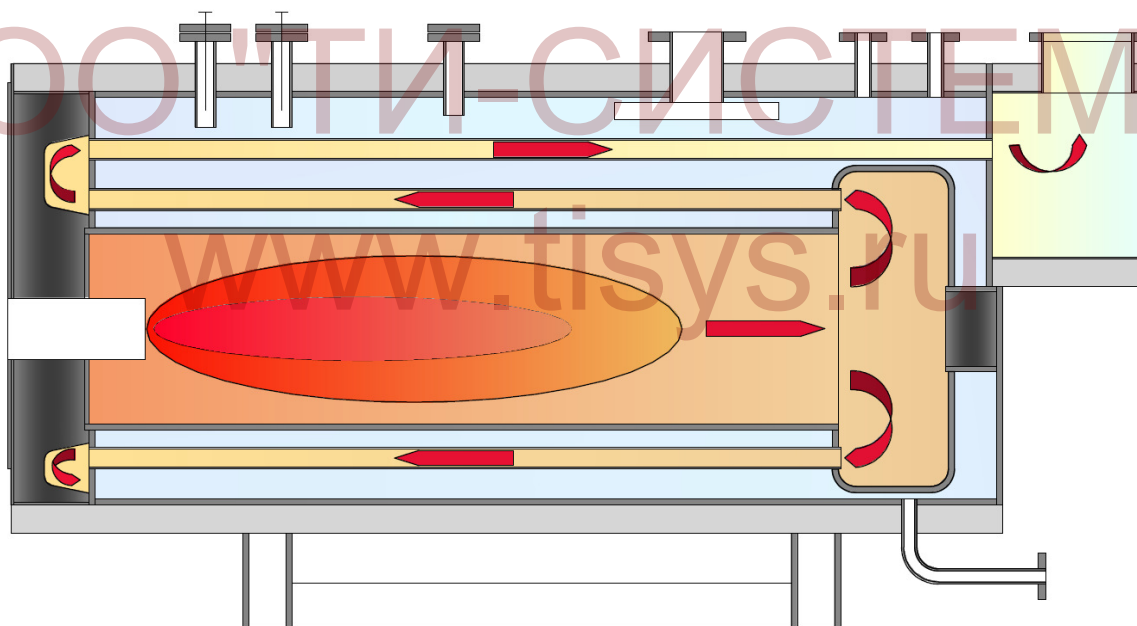


1	Manometer
2	Regulation pressure switch
3	Safety pressure switch
4	Inspection hole
5	Water level indicators with cocks
6	Smoke outlet
7	External vessel for water regulation
8	Interception valve
9	Check valve
10	TDS desalting device (for 72h without human supervision)
11	Purge
12	Feed water pump
13	Electrical cabinet
14	Burner
15	Safety valve
16	Steam outlet
17	Safety probe for LOW water level (autocontrolled for 72h without human supervision)
18	Safety probe for HIGH water level (autocontrolled for 72h without human supervision)
19	Safety probe for LOW water level (autocontrolled for 72h without human supervision)



MV3

SMOKE PASSES DETAILS



Three real smoke passes steam boiler with completely wet back.



MVB

Three smoke passes with inversion flame back low pressure steam boiler.
Steam output from 140 Kg/h up to 3.000 Kg/h at 0,98 bar.



The second smoke pass takes place through high thickness smoke tubes without any moving turbulator. This steam boiler has been designed according to the most advanced techniques by highly qualified engineers in our factory. It has been especially designed for the combustion of both liquid and gaseous fuels and is supplied with all accessories for an automated operation.

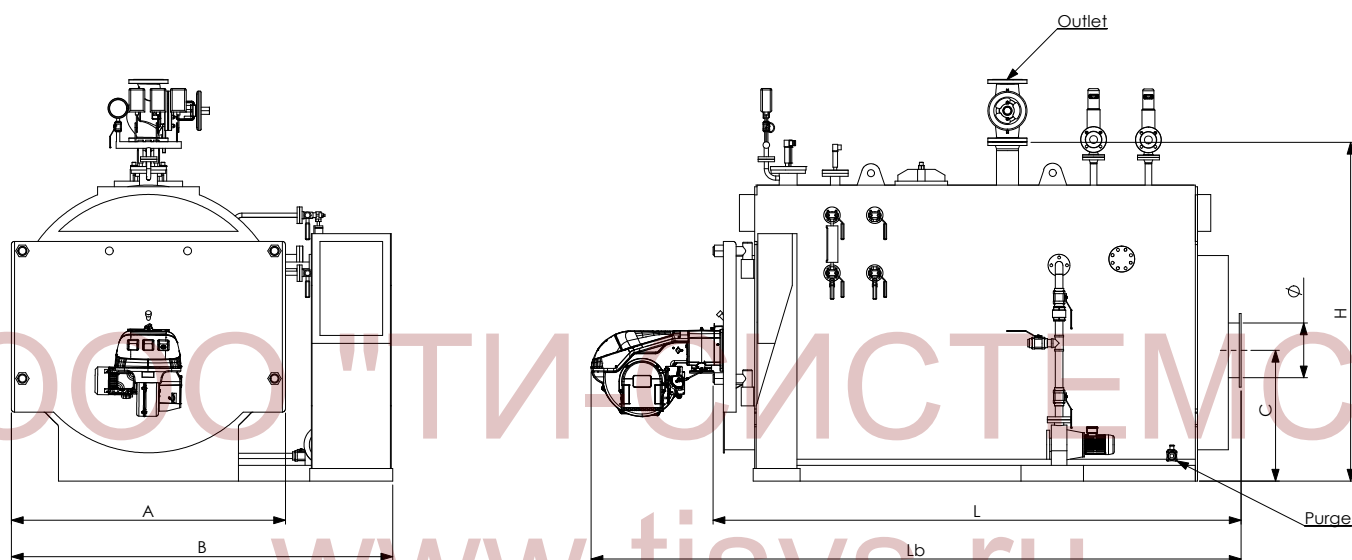
The exchange area is particularly big in order to maintain low specific thermal loads and high efficiency even during high rate continuously.

The particular position of the tubes around the fire room ensures a fair distribution of the smokes maintaining the thermal load. Smoke speed on the tubes is so high that no soot residues can deposit, involving thus a constant efficiency.

The boiler is assembled on a very resistant basement in order to allow its immediate installation. On this basement are also mounted the electrical board and feeding pump.



MVB - TECHNICAL DATA



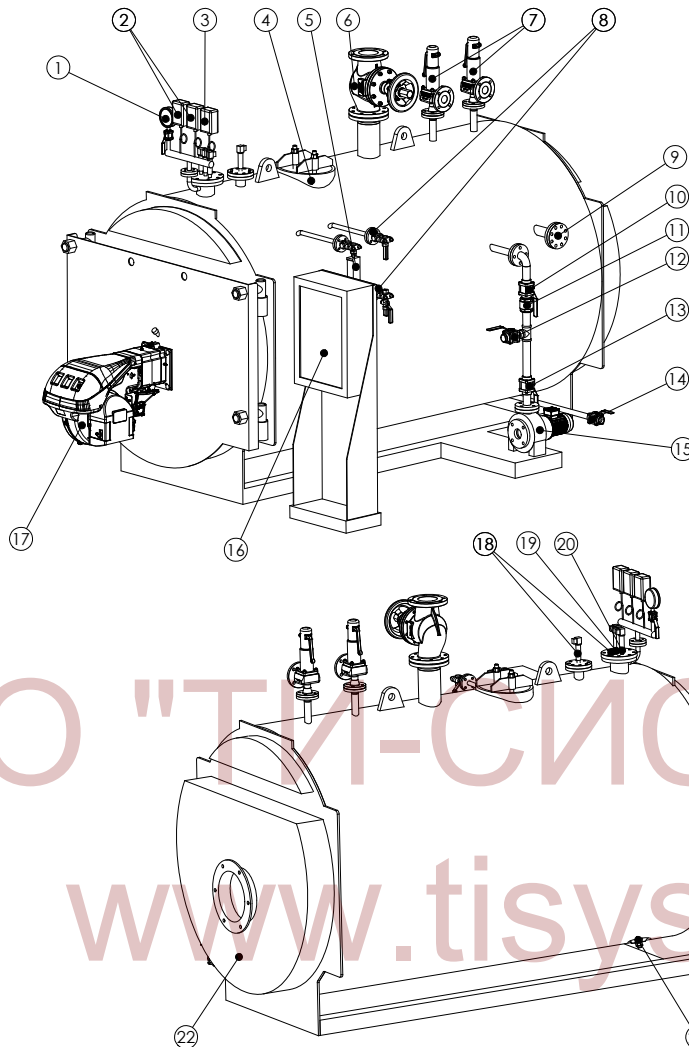
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Type	Dimensions						Connections			Steam production Kg/h	Smokes pressure loss mbar	Total water capacity Liters	Water capacity at level Liters	Empty weight Kg
	A	B	H	L	Lb	C	Ø	Outlet DN	Purge DN					
140	954	1.450	1.234	1.775	2.075	637	200	50	1"	140	1,5	480	350	850
200	954	1.450	1.234	1.775	2.075	637	200	50	1"	200	2,5	480	350	850
300	1.046	1.540	1.326	2.025	2.325	618	250	65	1"	300	3	690	470	1.220
400	1.046	1.540	1.326	2.025	2.325	618	250	65	1"	400	3,5	690	470	1.220
500	1.190	1.690	1.470	2.027	2.380	690	250	80	1"	500	4,2	880	620	1.470
700	1.190	1.690	1.470	2.327	2.930	690	250	80	1"	700	4,5	1.080	760	1.650
800	1.310	1.810	1.590	2.325	2.980	740	250	100	1"	800	5	1.310	920	1.820
1.000	1.310	1.810	1.590	2.525	3.280	740	250	100	1"	1.000	6	1.460	1.025	1.970
1.250	1.500	2.000	1.780	2.526	3.380	790	300	125	1"	1.250	6,5	1.950	1.350	2.230
1.500	1.500	2.000	1.780	2.776	3.625	790	300	125	1"	1.500	6,8	2.200	1.520	2.530
1.750	1.500	2.000	1.780	3.026	3.930	790	300	125	1"	1.750	7	2.450	1.680	3.150
2.000	1.620	2.120	1.900	3.026	3.930	845	350	125	1" 1/2	2.000	7	2.720	1.930	3.470
2.500	1.750	2.250	2.050	3.338	4.290	1.245	350	150	1" 1/2	2.500	8	3.690	2.700	4.650
3.000	1.860	2.360	2.170	3.335	4.290	1.300	400	150	1" 1/2	3.000	8,2	4.120	2.850	5.150

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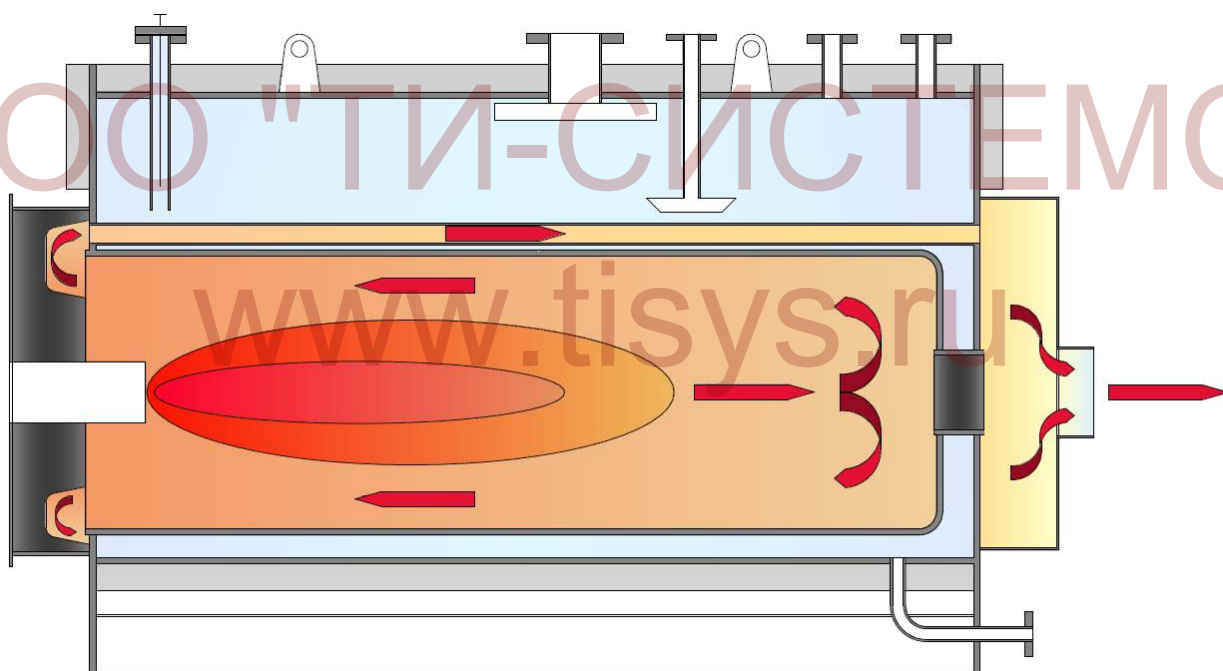


1	Steam manometer
2	Regulation pressure switch
3	Safety pressure switch
4	Inspection hole
5	Water indicators with cocks
6	Steam outlet
7	Safety valves
8	Level check cocks
9	TDS desalting device connection
10	Interception valve
11	Check valve
12	Auxiliary water inlet connection
13	Interception valve
14	Purge valve
15	Feed water pump
16	Electrical cabinet
17	Burner
18	Safety probe for LOW water level
19	Probe for HIGH water level
20	Probe for LOW water level
21	Manhole
22	Rear smoke box



MVB

SMOKE PASSES DETAILS



Three smoke passes with inversion flame back steam boiler.
The second smoke pass takes place through high thickness smoke.



SRH

Horizontal Coil steam boiler, for rapid steam production.
Steam output from 100 Kg/h up to 4.000 Kg/h from 12 up to 30 bar.



The steam generator MELGARI, model SRH is a forced circulation steam boiler according to which the water is forced by one or many pumps and circulates into the pipe (coil) that represents the heating surface.

It has been especially designed for the combustion of both liquid and gaseous fuels and is supplied with the accessories according to the currently norms for an automatic functioning.

The advantage of the MELGARI SRH forced steam generator is to reach the required operation conditions in only a few minutes and to be totally safe against the water side explosion.

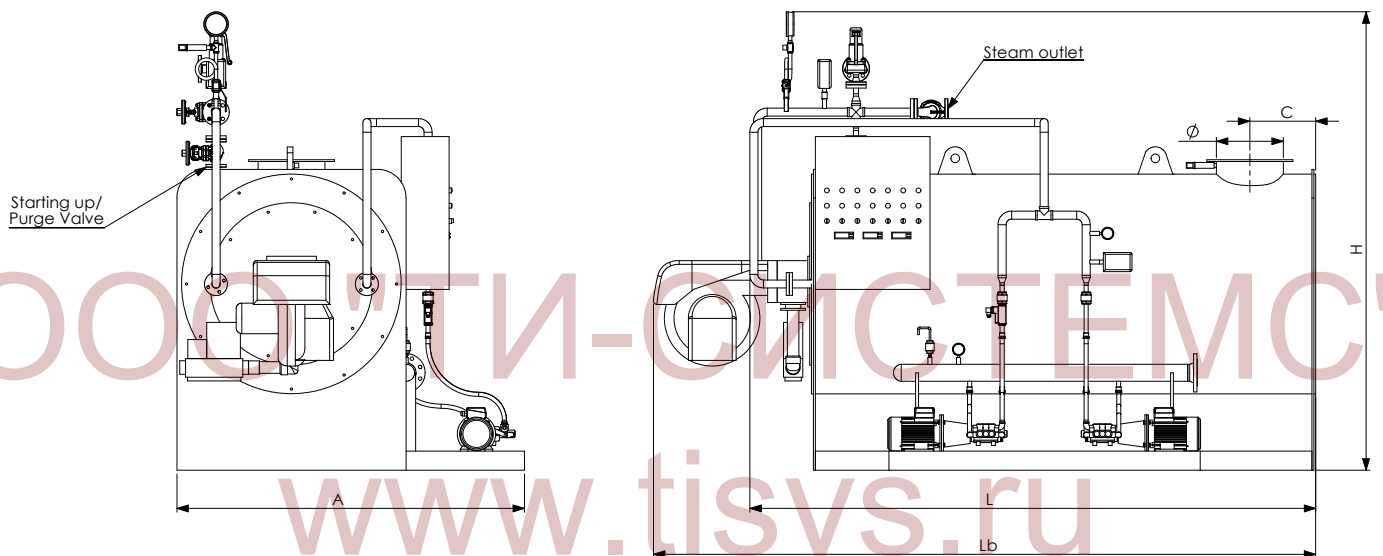
The steam generator MELGARI, model SRH is a monobloc version, horizontal or vertical, pressurized with three smoke passes, the tube bundle (coil) is rolled in a continuous spiral. The first smoke pass takes place into the combustion chamber and the two others are between the tube bundle.

The construction is performed according to the European directive PED 97/23 EC and calculation code EN 12952 and the all joints are accurately electric welded and executed with manual /automatic process.

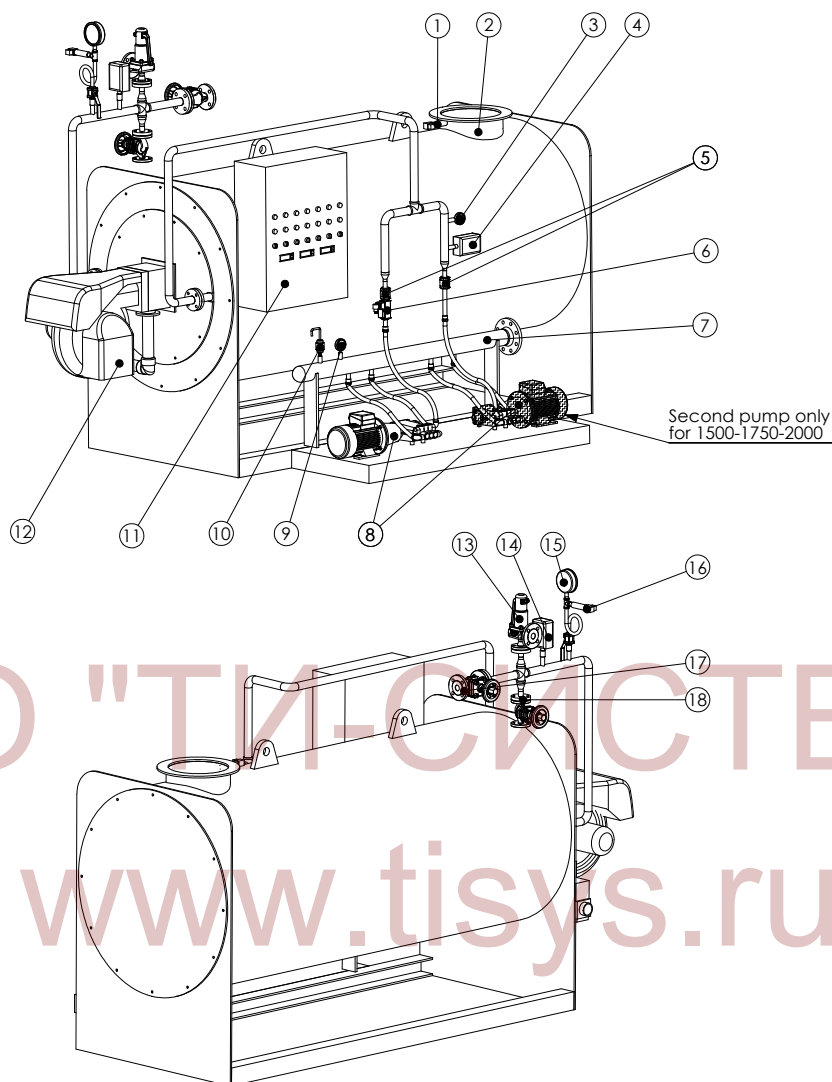


SRH - TECHNICAL DATA

FROM 100 KG/H TO 2.000 KG/H



Type	Dimensions					Connections			Steam production kg/h	Nominal capacity		Stamped pressure bar	Back pressure mbar	Total capacity Liters	Empty weight Kg
	A	L	H	Lb	C	Ø	Steam outlet DN	Start up / Purge DN		kCal/h	kW				
	mm	mm	mm	mm	mm	mm									
100	1.050	1.050	1.500	1.330	210	120	15	15	100	60.000	70	12	1	20	600
150	1.150	1.100	1.500	1.380	210	120	15	15	150	90.000	105	12	1,5	31	650
300	1.400	1.500	1.800	1.800	230	160	15	15	300	180.000	209	12	2	40	700
500	1.600	1.550	2.000	1.858	230	160	25	15	500	300.000	349	12	3,5	59	750
800	1.700	2.100	2.000	2.740	250	200	25	15	750	480.000	523	12	3,5	130	900
1.000	1.750	2.500	2.100	3.340	275	250	32	15	1.000	600.000	698	12	4,5	211	1.100
1.250	1.770	2.700	2.150	3.540	275	250	32	20	1.250	750.000	872	12	6	233	1.150
1.500	1.820	3.000	2.200	3.840	325	350	40	20	1.500	900.000	1.047	12	7	261	1.650
2.000	1.820	3.530	2.200	4.370	325	350	65	20	2.000	1.200.000	1.395	12	8	321	2.050

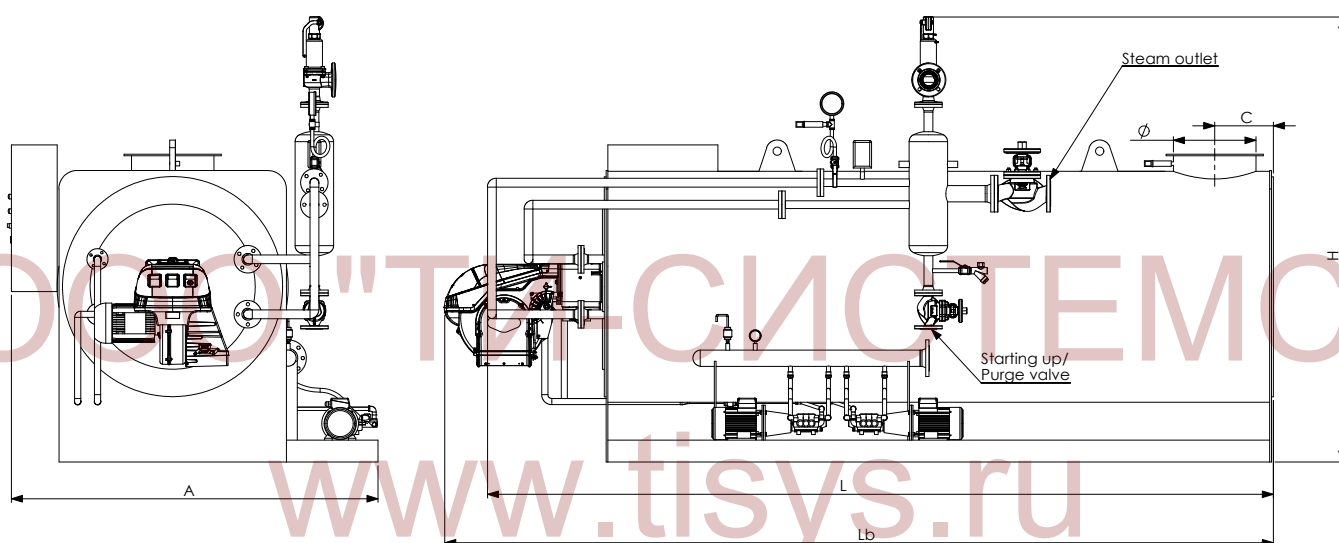


1	Smoke thermocouple
2	Smoke outlet
3	Water manometer
4	Water pressure switch
5	Check valve
6	Flow switch
7	Water manifold
8	Volumetric pump
9	Water manometer
10	Event
11	Electrical cabinet
12	Burner
13	Safety valve
14	Safety pressure switch
15	Steam manometer
16	Steam pressure trasducer
17	Steam outlet
18	Starting up / Purge valve

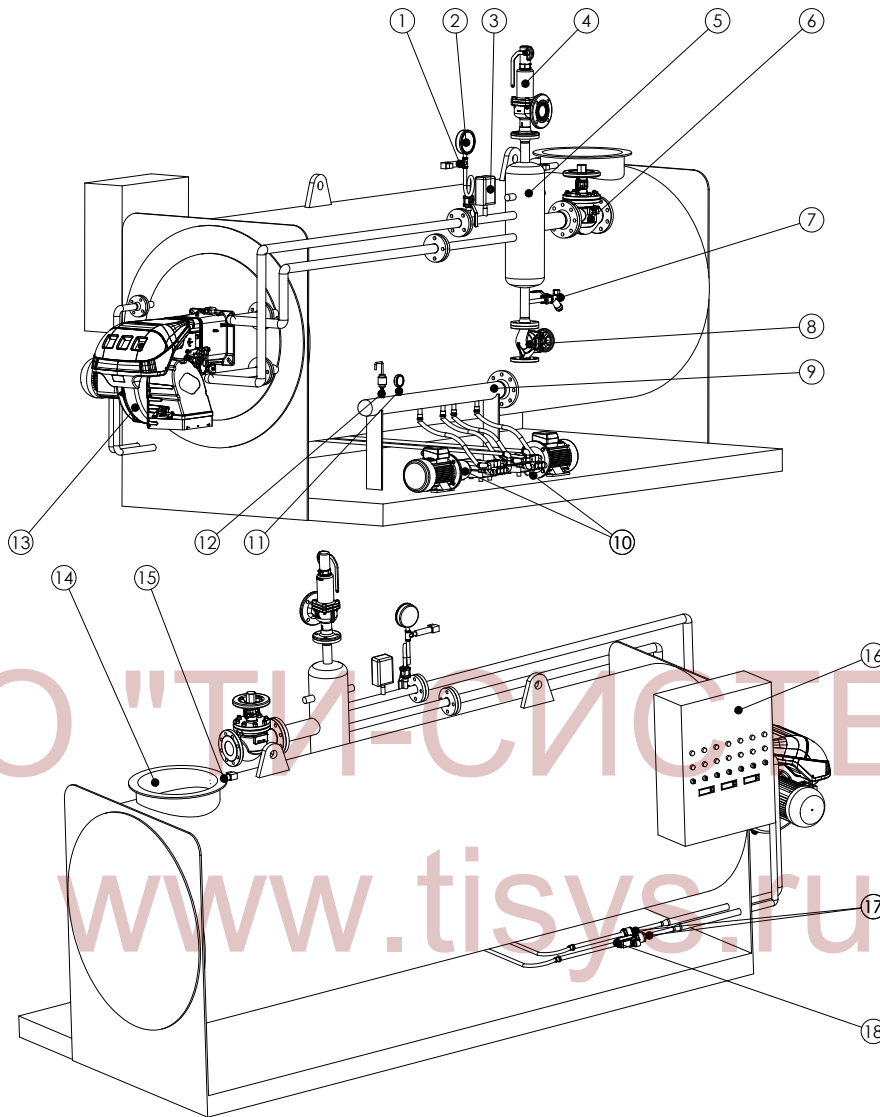


SRH - TECHNICAL DATA

FROM 2.500 KG/H TO 4.000 KG/H



Type	Dimensions					Connections			Steam production kg/h	Nominal capacity		Stamped pressure bar	Back pressure mbar
	A	L	H	Lb	C	\varnothing	Steam outlet DN	Starting up/Purge DN		kCal	kW		
2.500	2.250	3.430	2.300	4.286	425	450	65	25	2.500	1.500.000	1.744	12	8,5
3.000	2.250	3.740	2.300	4.612	425	450	80	40	3.000	1.800.000	2.093	12	9
4.000	2.450	4.040	2.500	5.218	475	550	80	40	3.750	2.400.000	2.616	12	9,5

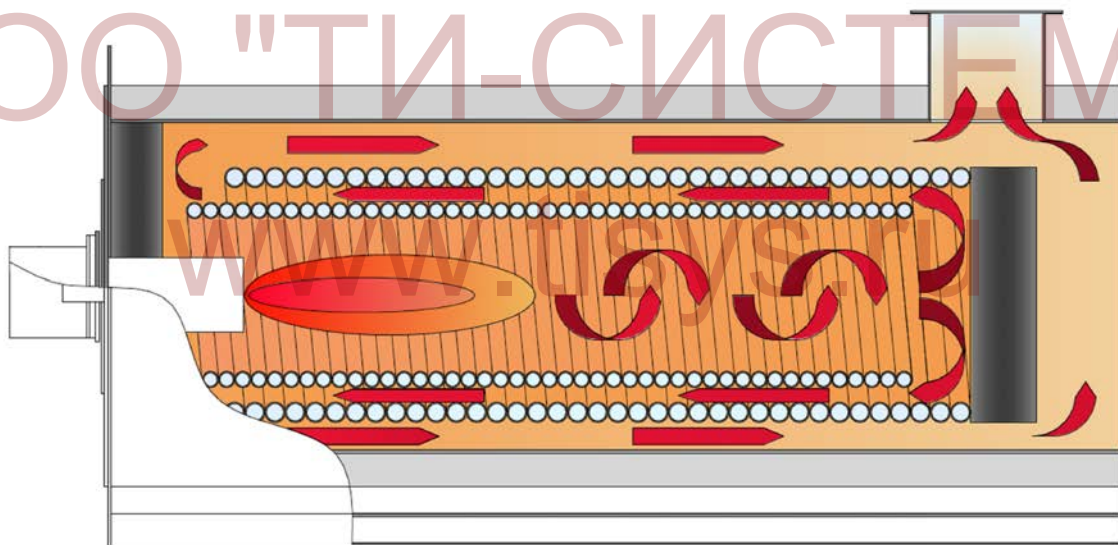


1	Steam pressure trasducer
2	Steam manometer
3	Safety pressure switch
4	Safety valve
5	Steam manifold / Separator
6	Steam outlet
7	Steam trap with interception cock
8	Starting up / Purge valve
9	Water manifold
10	Volumetrica pumps
11	Water manometer
12	Event
13	Burner
14	Smoke outlet
15	Smoke thermocouple
16	Electrical cabinet
17	Check valve
18	Flow switch



SRH

SMOKE PASSES DETAILS



Horizontal Coil steam boiler, for rapid steam production.



SRV

Vertical Coil steam boiler, for rapid steam production.
Steam output from 100 Kg/h up to 4.000 Kg/h from 12 up to 30 bar.



The steam generator MELGARI , model SRV is a forced circulation steam boiler according to which the water is forced by one or many pumps and circulates into the pipe (coil) that represents the heating surface.

It has been especially designed for the combustion of both liquid and gaseous fuels and is supplied with the accessories according to the currently norms for an automatic functioning.

The advantage of the MELGARI SRV forced steam generator is to reach the required operation conditions in only a few minutes and to be totally safe against the water side explosion.

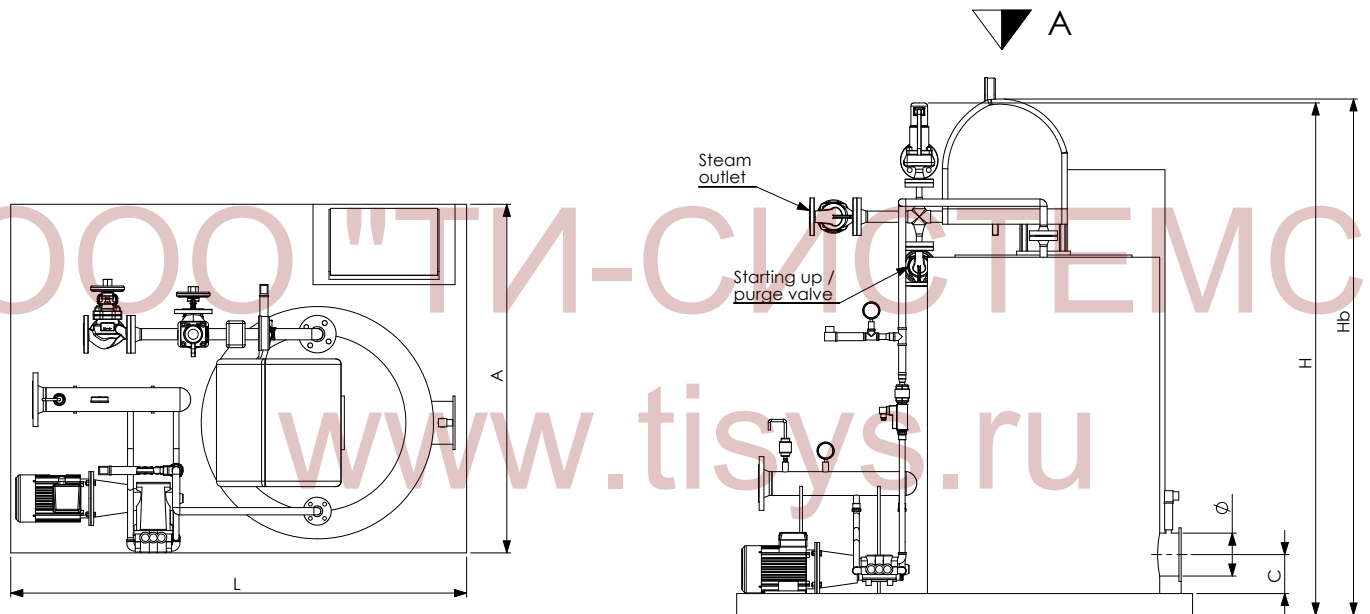
The steam generator MELGARI , model SRV is a monobloc version, horizontal or vertical, pressurized with three smoke passes, the tube bundle (coil) is rolled in a continuous spiral. The first smoke pass takes place into the combustion chamber and the two others are between the tube bundle.

The construction is performed according to the European directive PED 97/23 EC and calculation code EN 12952 and the all joints are accurately electric welded and executed with manual /automatic process.

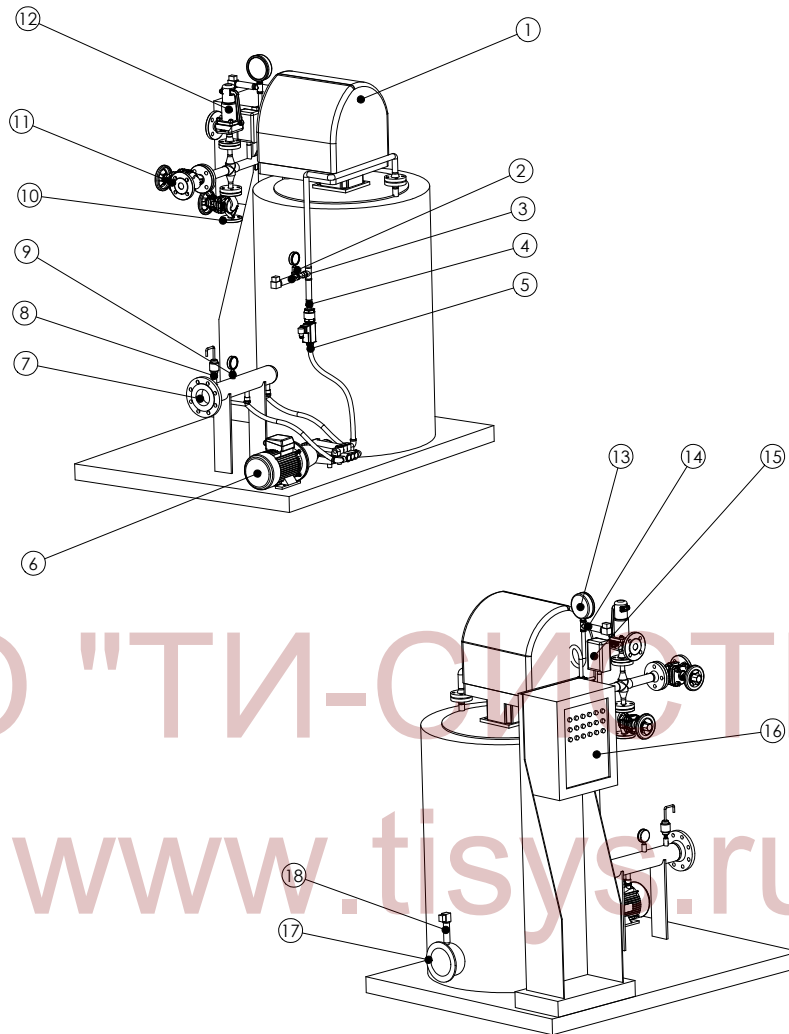


SRV - TECHNICAL DATA

FROM 100 KG/H TO 2.000 KG/H



Type	Dimensions					Connections			Steam production kg/h	Nominal capacity		Stamped pressure bar	Back pressure mbar	Total capacity Liters	Empty weight Kg
	A	L	H	Hb	C	Ø	Steam outlet DN	Start up/ Purge DN		kCal/h	kW				
100	850	1.250	1.540	1.540	210	120	15	15	100	60.000	70	12	1	20	700
150	850	1.250	1.590	1.590	210	120	15	15	150	90.000	105	12	1,5	31	750
300	1.100	1.500	1.990	1.990	230	160	15	15	300	180.000	209	12	2	4	800
500	1.300	1.700	2.040	2.040	230	160	25	15	500	300.000	349	12	3,5	59	850
800	1.300	1.700	2.590	2.740	250	200	32	15	750	480.000	523	12	3,5	130	1.000
1000	1.400	1.800	2.990	33.440	275	250	32	15	1.000	600.000	698	12	4,5	211	1.200
1250	1.450	1.850	3.190	3.540	275	250	32	20	1.250	750.000	872	12	6	233	1.250
1500	1.700	1.900	3.490	3.840	325	350	40	20	1.500	900.000	1.047	12	7	261	1.750
2000	1.700	1.900	4.020	4.370	325	350	50	20	2.000	1.200.000	1.395	12	8	321	2.150

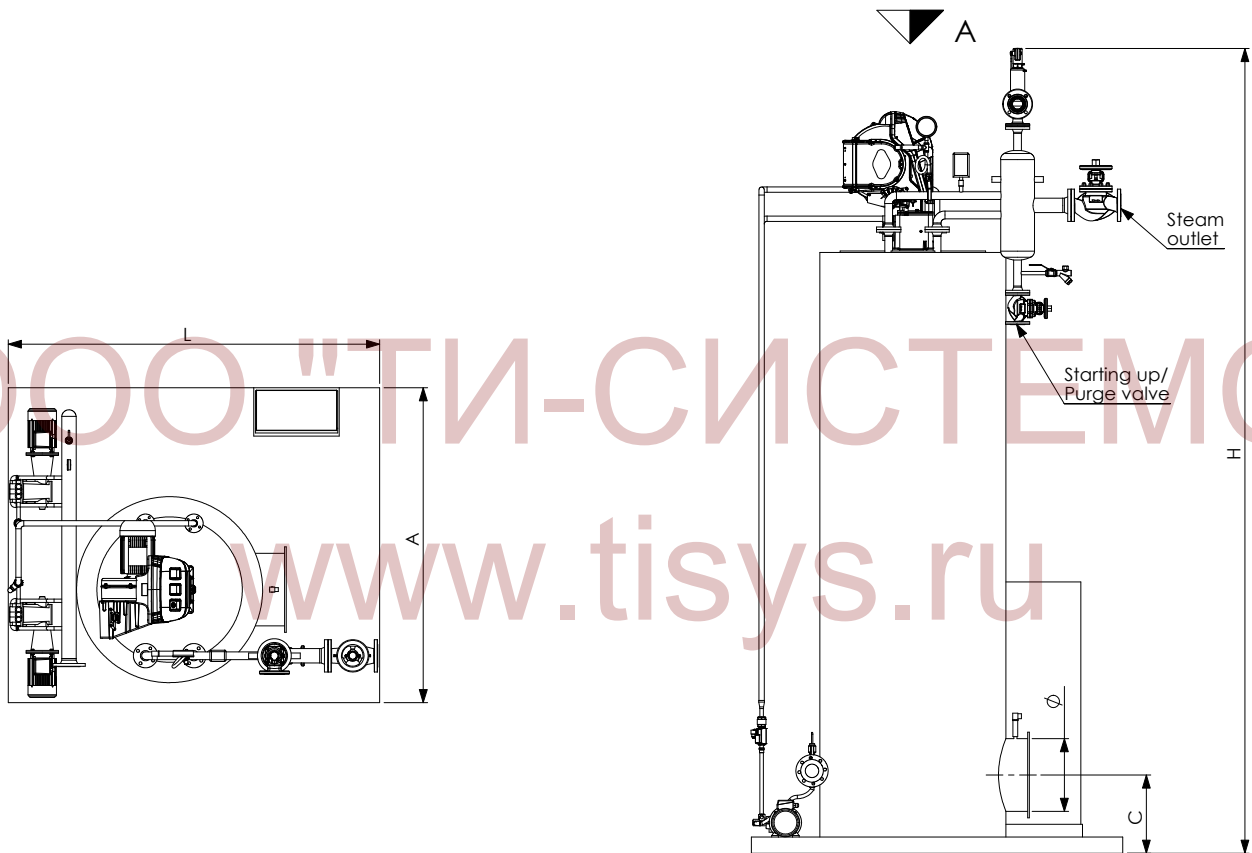


1	Burner
2	Water manometer
3	Water pressure switch
4	Check valve
5	Flow switch
6	Volumetric pump
7	Water manifold
8	Event
9	Water manometer
10	Starting up / Purge valve
11	Steam outlet
12	Safety valve
13	Steam manometer
14	Steam pressure trasducer
15	Steam pressure switch
16	Electrical cabinet
17	Smoke outlet
18	Smoke thermocouple

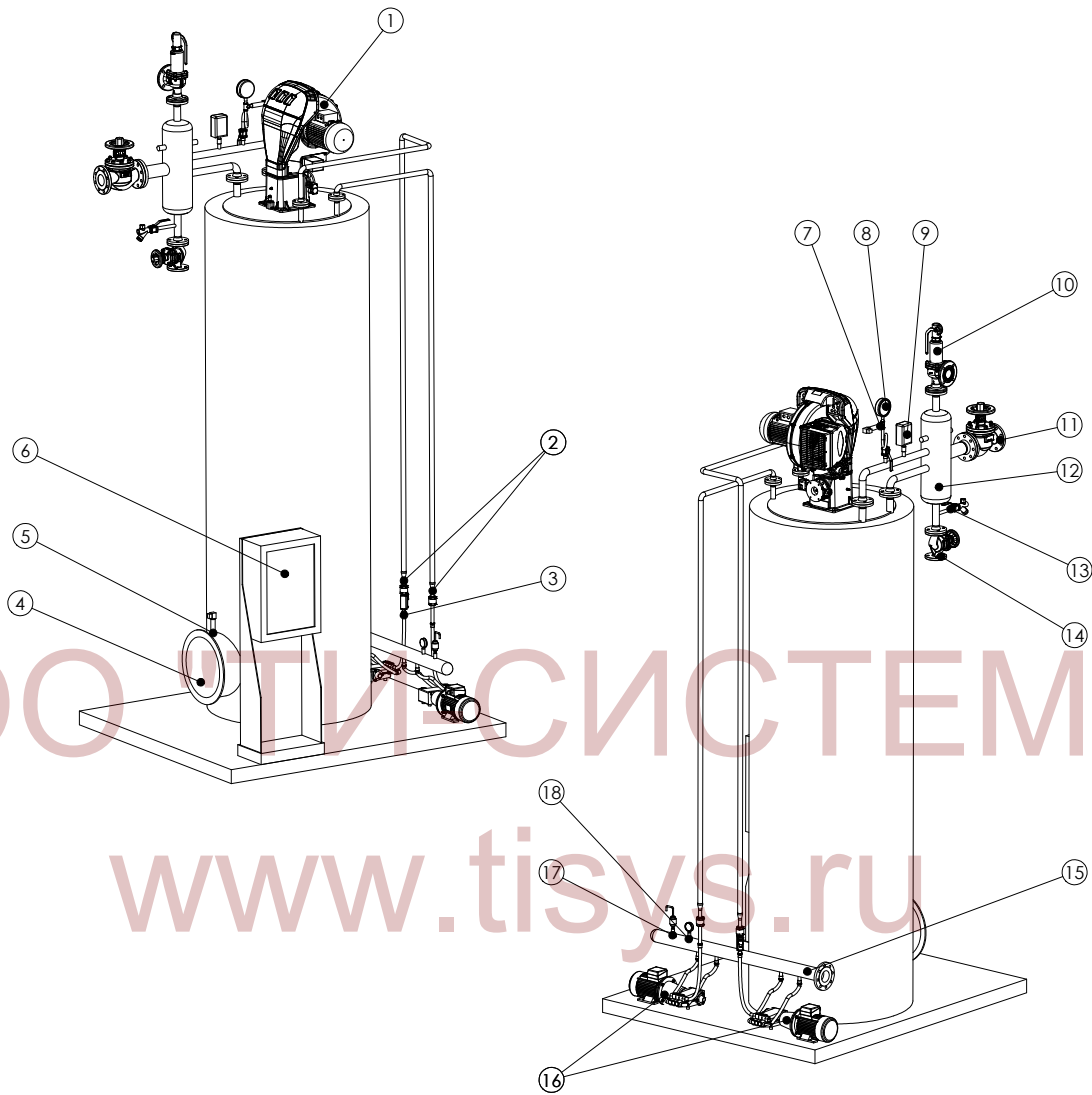


SRV - TECHNICAL DATA

FROM 2.500 KG/H TO 4.000 KG/H



Type	Dimensions				Connections			Steam production	Nominal capacity		Stamped pressure	Back pressure	Total capacity	Empty weight
	A	L	H	C	Ø	Steam outlet	Starting up/Purge	kg/h	kCal	kW	bar	mbar	Liters	Kg
	mm	mm	mm	mm	mm	DN	DN							
2500	1.950	2.300	4.525	375	450	65	25	2.500	1.500.000	1.744	12	8,5	316	2.850
3000	1.950	2.300	4.835	375	450	80	40	3.000	1.800.000	2.093	12	9	353	3.000
4000	2.150	2.500	5.135	425	550	80	40	3.750	2.400.000	2.616	12	9,5	370	3.700

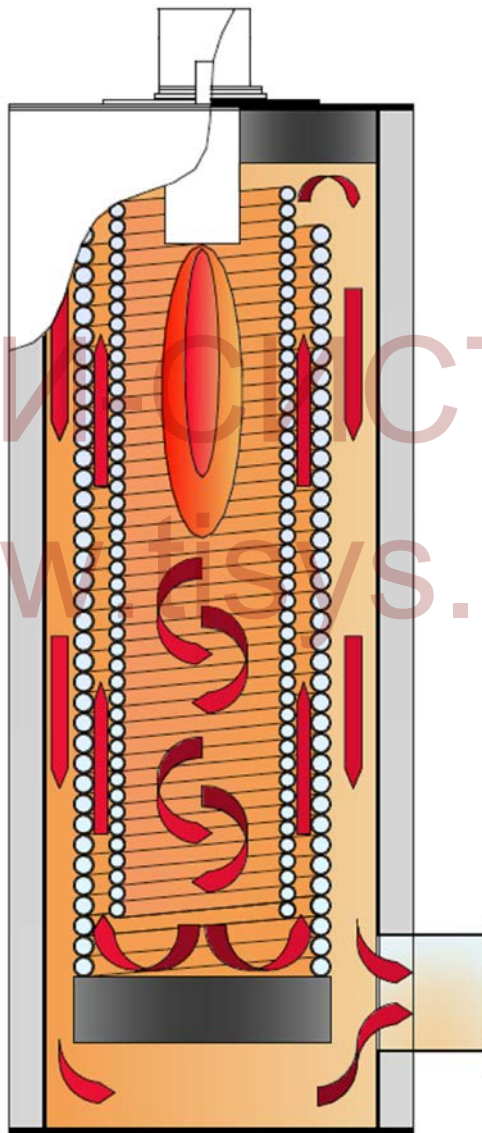


1	Burner
2	Check valve
3	Flow switch
4	Smoke outlet
5	Smoke thermocouple
6	Electrical cabinet
7	Steam pressure trasducer
8	Steam manometer
9	Safety pressure switch
10	Safety valve
11	Steam outlet
12	Steam manifold / separator
13	Steam trap with interception cock
14	Starting up / Purge valve
15	Water manifold
16	Volumetrica pumps
17	Event
18	Water manometer



SRV

SMOKE PASSES DETAILS



Vertical Coil steam boiler, for rapid steam production.



MAXI

Electrical and automatic steam boiler.
Steam output from 20 Kg/h up to 250 Kg/h at 9 bar.

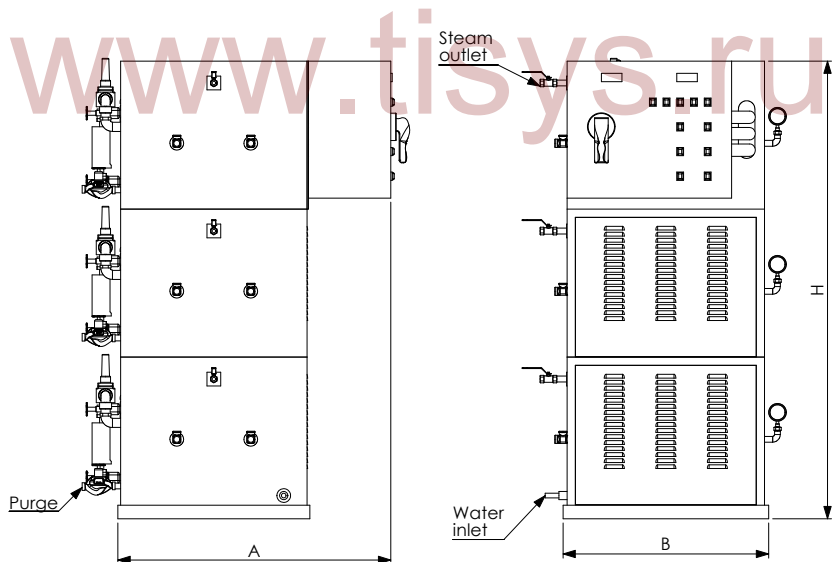
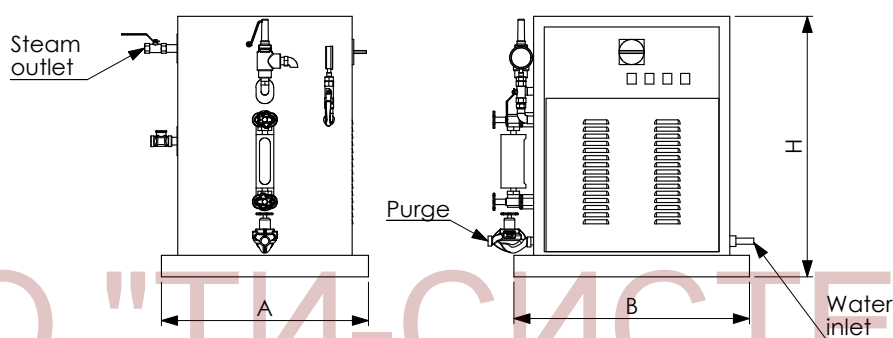


The resistances into the boilers represent the heating surface.

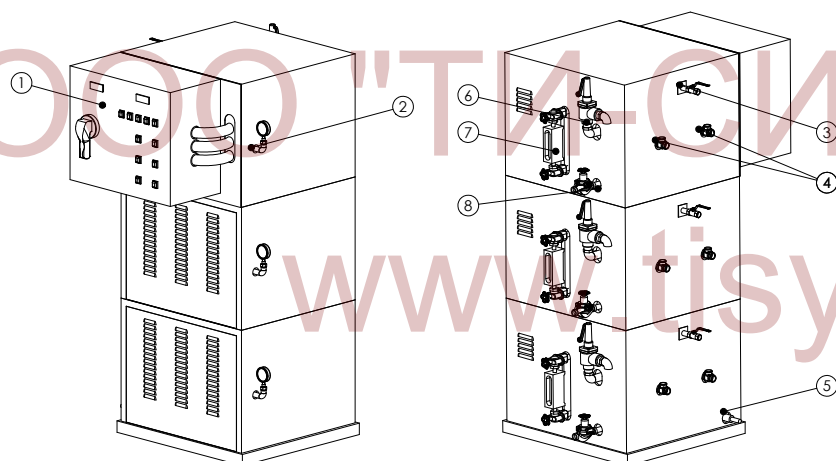
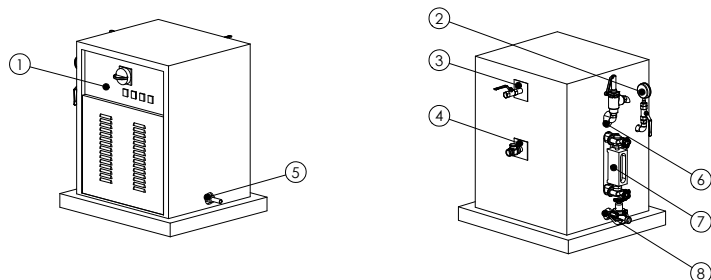
In option, the MAXI boiler produces “clean steam” having the pressure body and all components in contact with the water stainless steel AISI 304



MAXI - TECHNICAL DATA

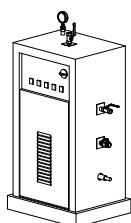


Type	Dimension			Connections			Capacity kW	Steam capacity kg/h	Working pressure bar	Voltage		Pump motor power kW	Water capacity Liters	Transport dimension mm (AxBxH')	Transport weight kg
	A mm	B mm	H mm	Purge DN	Inlet DN	Outlet DN				V	Hz				
16	445	445	890	1/2"	3/8"	1/2"	15	22	4,5 ÷ 9	220÷380	50÷60	0,55	16	480X680X1170	72
24	490	550	765	1/2"	3/8"	1/2"	22	30	4,5 ÷ 9	230÷400	50÷60	0,55	25	730X880X1050	85
60	780	710	590	1/2"	3/8"	1/2"	60	83	4,5 ÷ 9	220÷380	50÷60	0,55	55	900X900X820	114
120	990	750	1.130	1/2"	3/8"	1/2"	120	166	4,5 ÷ 9	220÷380	50÷60	0,55 (x 2)	110	1320X1070X1380	237
180	990	750	1.670	1/2"	3/8"	1/2"	180	249	4,5 ÷ 9	230÷400	50÷60	0,75 (x3)	165	1320X1070X1920	325

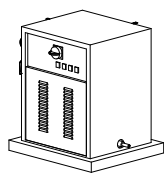


1	Display / Electrical cabinet
2	Manometer
3	Steam connection
4	Return condensate
5	Water inlet
6	Safety valve
7	Water indicators with cocks
8	Purge

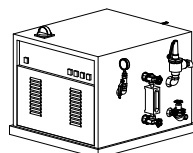
MAXI - PRODUCT LINE



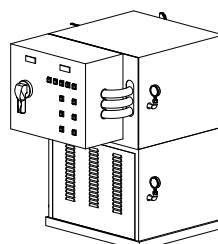
MAXI 16



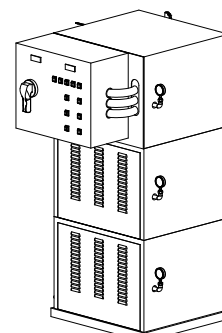
MAXI 24



MAXI 60



MAXI 120



MAXI 180



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CALDAIE MELGARI

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ООО "ТИ-СИСТЕМС"

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SOH - HORIZONTAL

Thermal oil heater for temperature up to 320°C realized in horizontal version
Capacity from 116 kW up to 4600 kW at 10 bar.

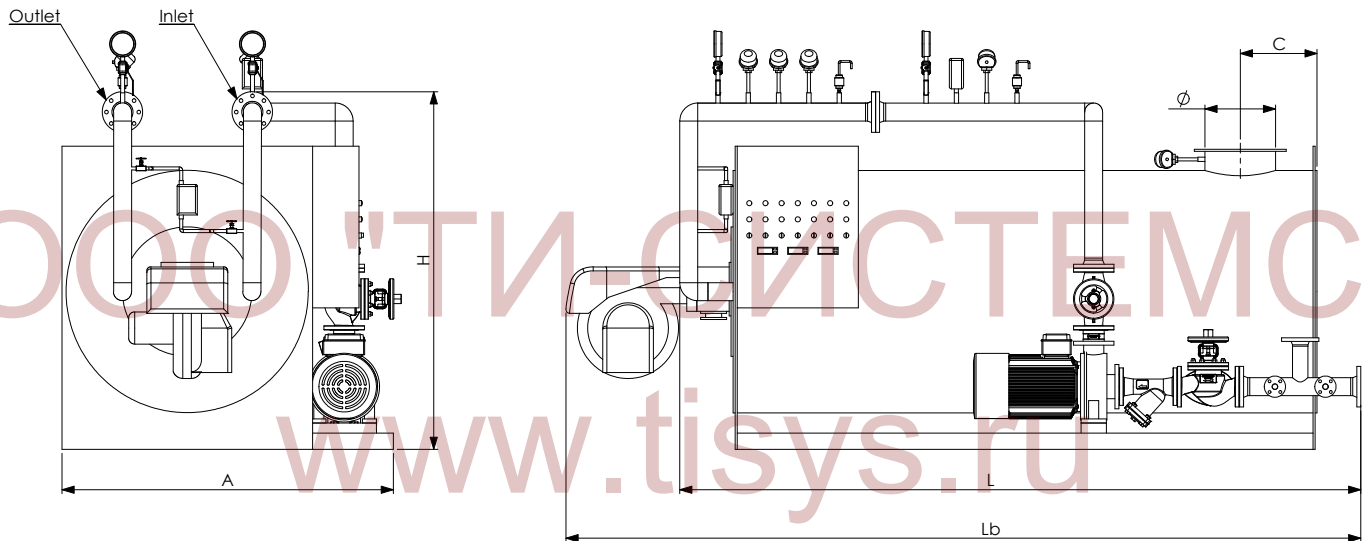


Horizontal thermal heater in monobloc version, pressurized with a three smoke passes construction. The tube bundle is rolled in a continuous spiral and the first smoke pass takes place into the combustion chamber and the two other ones are between the tube bundles.

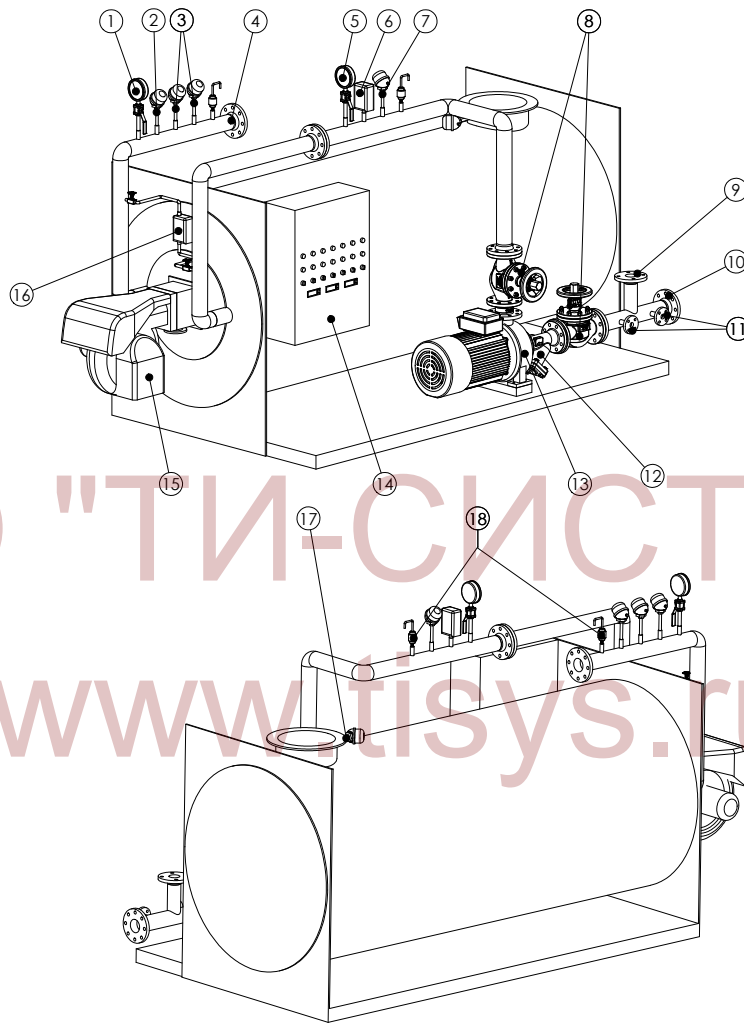


SOH HORIZONTAL

TECHNICAL DATA



Type	Dimensions					Connections (PN16)			Nominal capacity		Back pressure	Oil content
	A mm	L mm	H mm	Lb mm	C mm	Ø mm	Inlet DN	Outlet DN	kCal/h	kW	mbar	Liters
100	1.100	1.350	1.500	1.630	270	180	32	32	100.000	116	2	39
200	1.280	1.600	1.650	1.900	280	200	40	40	200.000	233	3	85
300	1.280	1.700	1.650	2.208	310	250	50	50	300.000	349	3,5	113
400	1.280	1.850	1.650	2.430	310	250	65	65	400.000	465	4	118
500	1.280	2.000	1.650	2.640	310	250	65	65	500.000	582	4,5	124
600	1.590	2.500	1.900	3.340	310	250	65	65	600.000	698	6	205
800	1.590	2.850	1.900	3.690	360	350	80	80	800.000	930	8	245
1000	1.590	3.150	1.900	3.990	360	350	100	100	1.000.000	1.163	8	400
1200	1.600	3.500	2.000	4.340	360	350	100	100	1.200.000	1.396	8,5	460
1600	1.850	3.800	2.100	4.672	410	450	125	125	1.600.000	1.745	9	620
2000	2.150	3.900	2.300	5.078	410	450	125	125	2.000.000	2.326	9	740
2500	2.500	3.800	2.700	4.978	430	500	150	150	2.500.000	2.908	10	1.080
3000	2.500	4.300	2.700	5.472	430	500	150	150	3.000.000	3.489	10	1.310
4000	2.800	5.550	2.950	7.050	530	700	200	200	4.000.000	4.652	11	1.900

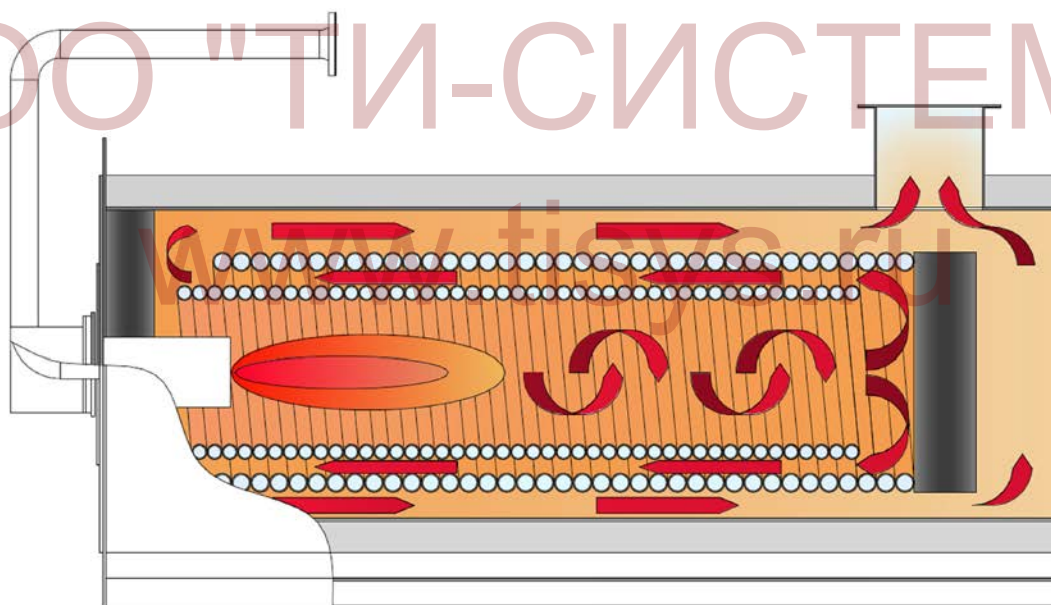


1	Manometer
2	Safety thermostat
3	Regulation thermostat
4	Oil outlet
5	Manometer
6	Safety pressure switch
7	Pump running thermostat
8	Interception valve
9	Expansion connection
10	Oil inlet
11	Oil feeding / Purge connection
12	Filter
13	Circulation pump
14	Electrical cabinet
15	Burner
16	Differential pressure switch
17	Smoke thermostat
18	Event



SOH HORIZONTAL

SMOKE PASSES DETAILS



Effective three smoke passes.
The first smoke pass takes place into the combustion chamber and
the two other ones are between the tube bundles.



SOH - VERTICAL

Thermal oil heater for temperature up to 320°C realized in vertical version
Capacity from 116 kW up to 4600 kW at 10 bar.



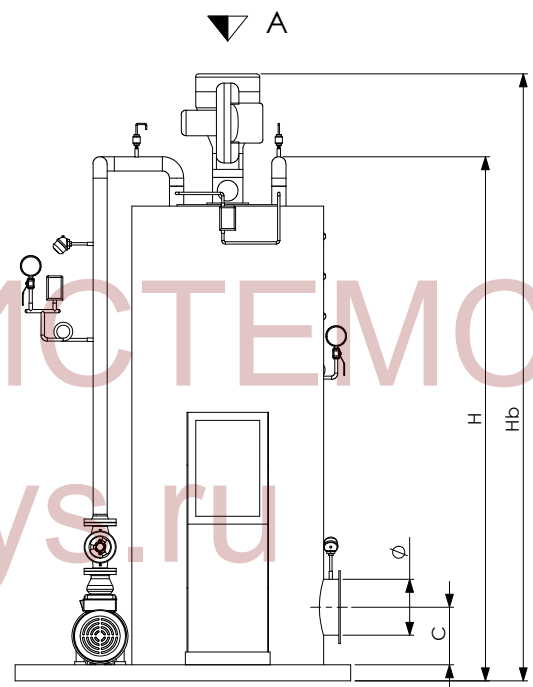
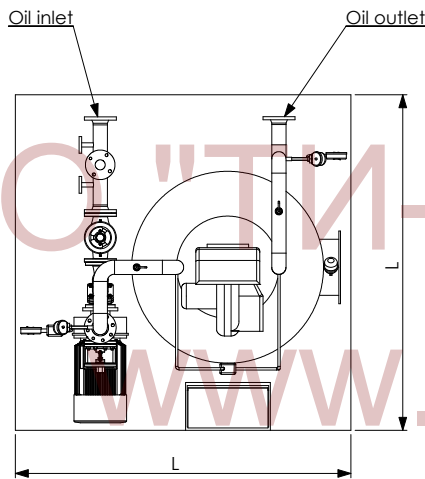
Vertical thermal heater in monobloc version, pressurized with a three smoke passes construction. The tube bundle is rolled in a continuous spiral and the first smoke pass takes place into the combustion chamber and the two other ones are between the tube bundles.



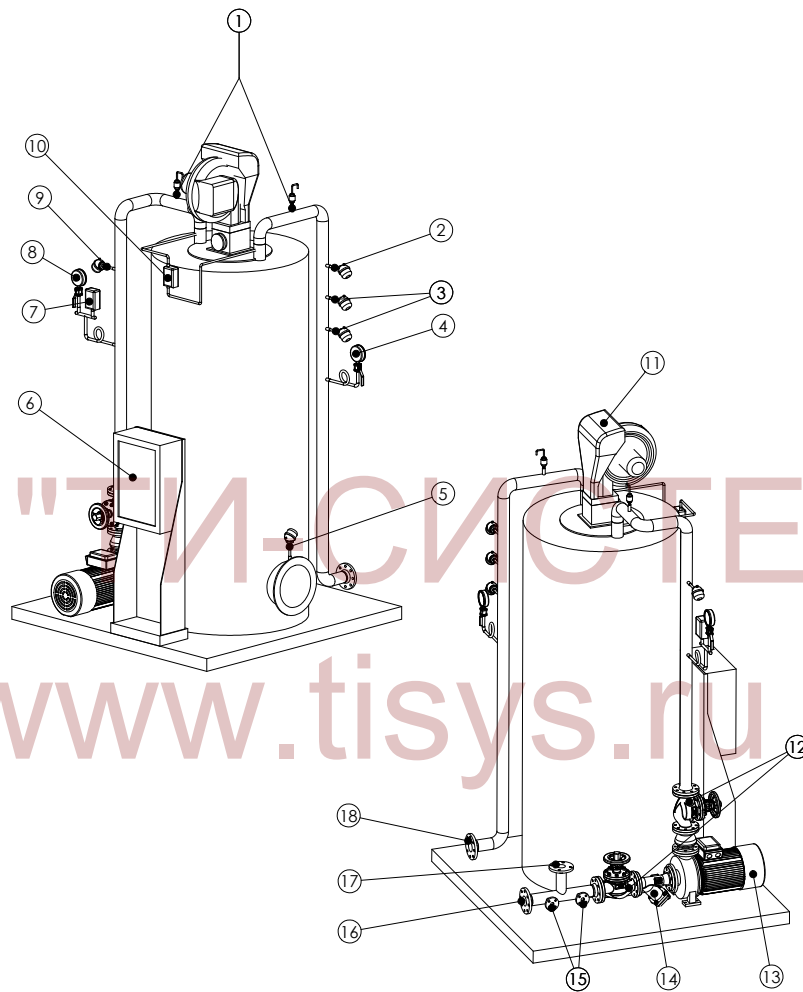
SOH HORIZONTAL

TECHNICAL DATA

View A



Type	Dimensions				Connections			Nominal capacity		Back pressure	Oil content	Empty weight
	L	H	Hb	C	Ø	Inlet	Outlet	kCal/h	kW			
	mm	mm	mm	mm	mm	DN	DN			mbar	Liters	Kg
100	1.500	1.650	1.730	270	180	32	32	100.000	116	2	39	650
200	1.650	1.900	2.000	280	200	40	40	200.000	233	3	85	950
300	1.650	2.000	1.308	310	250	50	50	300.000	349	3,5	113	1.000
400	1.650	2.150	2.530	310	250	65	65	400.000	465	4	118	1.100
500	1.650	2.300	2.740	310	250	65	65	500.000	582	4,5	124	1.200
600	1.900	2.900	3.440	310	250	65	65	600.000	698	6	205	1.750
800	1.900	3.250	3.790	360	350	80	80	800.000	930	8	245	2.200
1.000	1.900	3.550	4.090	360	350	100	100	1.000.000	1.163	8	400	2.450
1.200	2.000	3.900	4.440	360	350	100	100	1.200.000	1.396	8,5	460	2.900
1.600	2.100	4.200	4.772	410	450	125	125	1.600.000	1.745	9	620	4.000
2.000	2.300	4.300	5.178	410	450	125	125	2.000.000	2.326	9	740	4.900
2.500	2.700	4.400	5.078	430	500	150	150	2.500.000	2.908	10	1.080	5.500
3.000	2.700	4.900	5.572	430	500	150	150	3.000.000	3.489	10	1.310	6.100
4.000	2.950	6.150	7.150	530	700	200	200	4.000.000	4.652	11	1.900	7.500

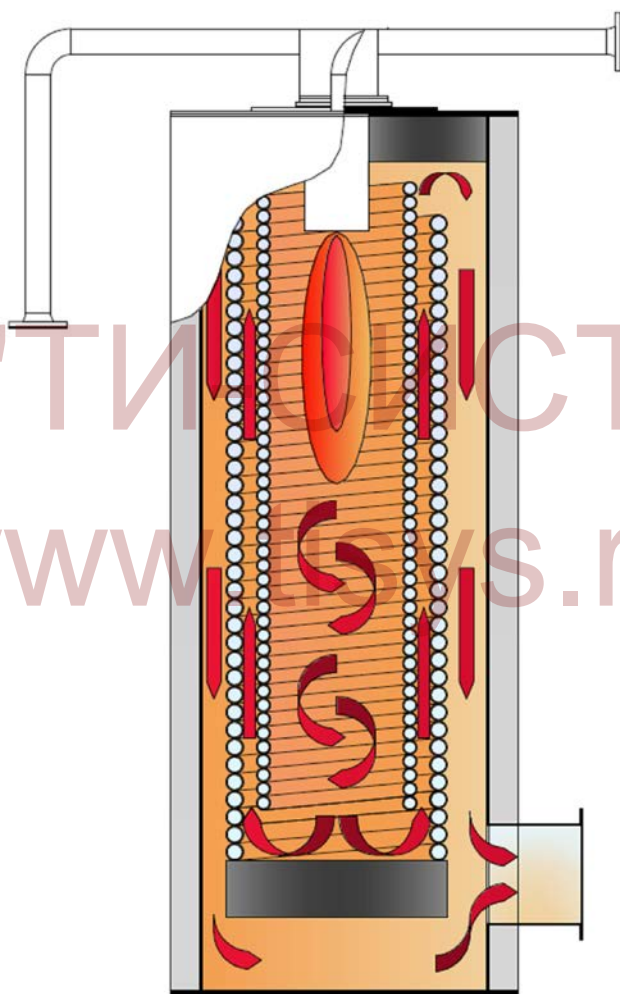


1	Event
2	Safety thermostat
3	Regulation thermostat
4	Manometer
5	Smokes thermostat
6	Electrical cabinet
7	Safety pressure switch
8	Manometer
9	Pump running thermostat
10	Differential pressure switch
11	Burner
12	Interception valve
13	Circulation pump
14	Filter
15	Oil feeding / Purge connection
16	Oil inlet
17	Expansion connection
18	Oil outlet



SOH VERTICAL

SMOKE PASSES DETAILS



Effective three smoke passes.

The first smoke pass takes place into the combustion chamber and the two other ones are between the tube bundles.



MAC

Three smoke passes with inversion flame back hot water boiler, up to 109°C.
Steam output from 100 kW up to 4.100 Kg/h at 6 bar.



Hot water boiler up to 109°C , three smoke passes with reverse flame construction and a back wet. The first and second smoke pass takes place into the furnace and the third one though the high thickness smoke tubes.

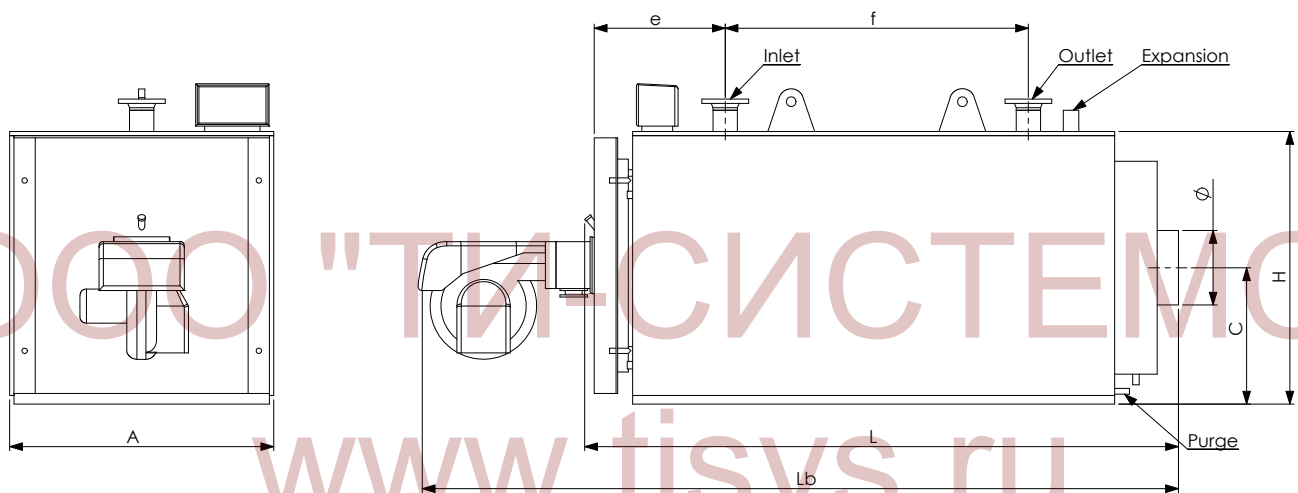
This hot water boiler has been built according to the most advanced techniques by highly qualified personal into our factory.

The exchange area is particularly vast in order to maintain low specific thermal load and high efficiency.

The standard stamped pressure is 6 bar but upon request on higher pressure can be offered. The boiler is already insulated with high density rock wool with a coating based of galvanized steel sheet



MAC - TECHNICAL DATA

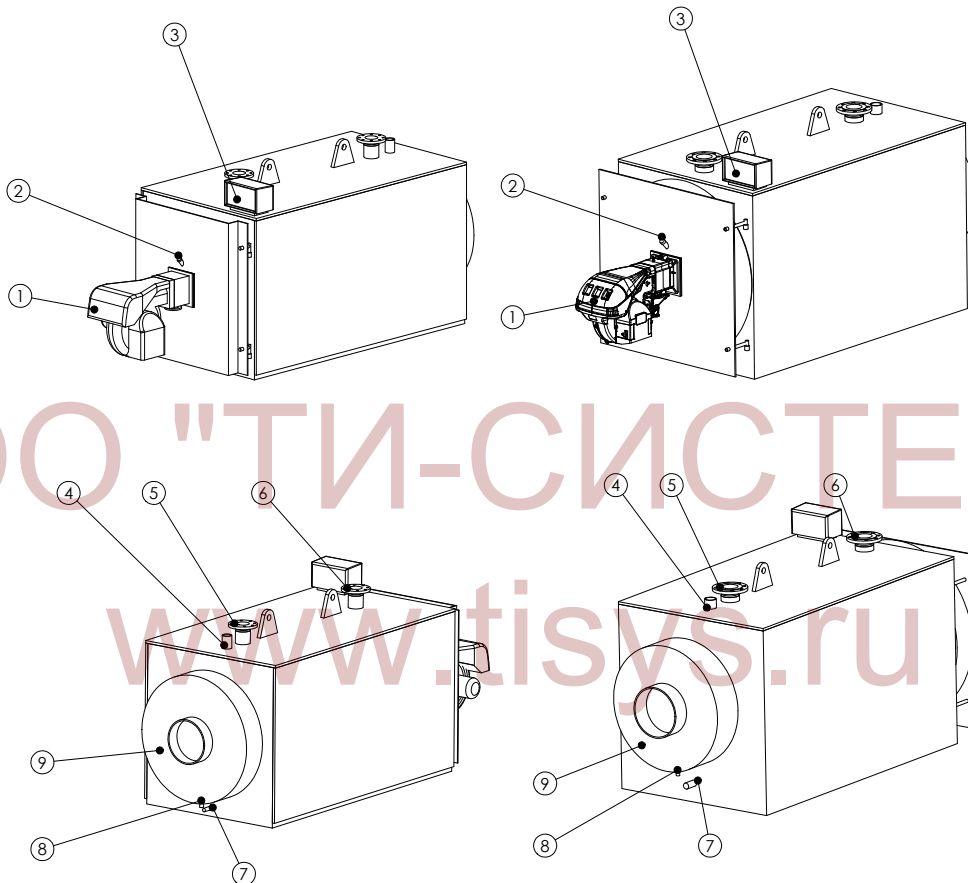


Type	Dimension							Connections					Furnace pressure mbar	Water side loss pressure (Δt 15°C) mbar	Boiler water content Liters	Max boiler pressure bar
	A	L	H	C	Lb	e	f	Ø	Purge	Inlet	Outlet	Expansion				
	mm	mm	mm	mm	mm	mm	mm	mm	DN	DN	DN	DN				
93	790	1.000	880	460	1.300	430	260	200	3/4"	2"	2"	1 1/4"	0,5	4,5	119	5
105	790	1.000	880	460	1.300	430	260	200	3/4"	2"	2"	1 1/4"	0,7	5,6	119	5
150	790	1.360	880	460	1.660	430	510	200	3/4"	2"	2"	1 1/4"	1,2	11,8	155	5
190	940	1.405	990	510	1.705	465	450	220	3/4"	65	65	1 1/2"	1,2	6,9	228	6
230	940	1.405	990	510	1.705	465	450	220	3/4"	65	65	1 1/2"	1,5	10	228	6
290	940	1.655	990	510	1.955	465	700	220	3/4"	65	65	1 1/2"	2,3	16,3	285	6
345	940	1.655	990	510	2.005	465	700	220	3/4"	65	65	1 1/2"	3,3	23	276	6
405	940	1.905	990	510	2.255	465	650	220	3/4"	65	65	1 1/2"	4,4	31	329	6
465	1.040	1.990	1.150	595	2.590	625	792	250	3/4"	80	80	2"	3,3	18	402	6
520	1.040	1.990	1.150	595	2.640	625	792	250	3/4"	80	80	2"	4,3	22	402	6
580	1.040	2.290	1.150	595	2.940	625	1.092	250	3/4"	80	80	2"	4,8	28	476	6
695	1.240	2.345	1.280	640	3.100	625	974	350	3/4"	100	100	65	4,5	18	697	6
810	1.240	2.545	1.280	640	3.400	625	1.174	350	3/4"	100	100	65	5,6	25	795	6
930	1.240	2.545	1.280	640	3.400	625	1.174	350	3/4"	100	100	65	5,4	33	733	6
1.045	1.240	2.795	1.280	640	3.600	625	1.424	350	3/4"	100	100	65	6	40	817	6
1.220	1.380	2.950	1.500	810	3.850	430	1.700	400	1 1/2"	125	125	80	6,5	36	1.277	6
1.450	1.380	3.200	1.500	810	4.100	430	1.950	400	1 1/2"	125	125	80	6,8	54	1.372	6
1.860	1.610	3.245	1.800	965	4.200	430	1.440	450	1 1/2"	150	150	100	7	45	2.010	6
2.100	1.610	3.385	1.800	965	4.350	430	1.580	450	1 1/2"	150	150	100	7,2	68	2.204	6
2.330	1.610	3.535	1.800	965	4.750	430	1.730	450	1 1/2"	150	150	100	7,2	70	2.163	6
2.910	1.800	3.955	2.000	1.070	5.170	510	1.700	500	1 1/2"	200	200	125	7,5	64	3.155	6
3.490	1.800	4.255	2.000	1.070	5.470	510	2.000	500	1 1/2"	200	200	125	7,8	90	3.292	6
4.070	2.000	4.790	2.100	1.700	6.300	522	2.200	600	1 1/2"	200	200	125	9	120	4.839	6

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ

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Телефоны для связи: +7 (495) 7774788, 7489626, 5007154, 55, 65 Эл. почта: info@tisis.ru

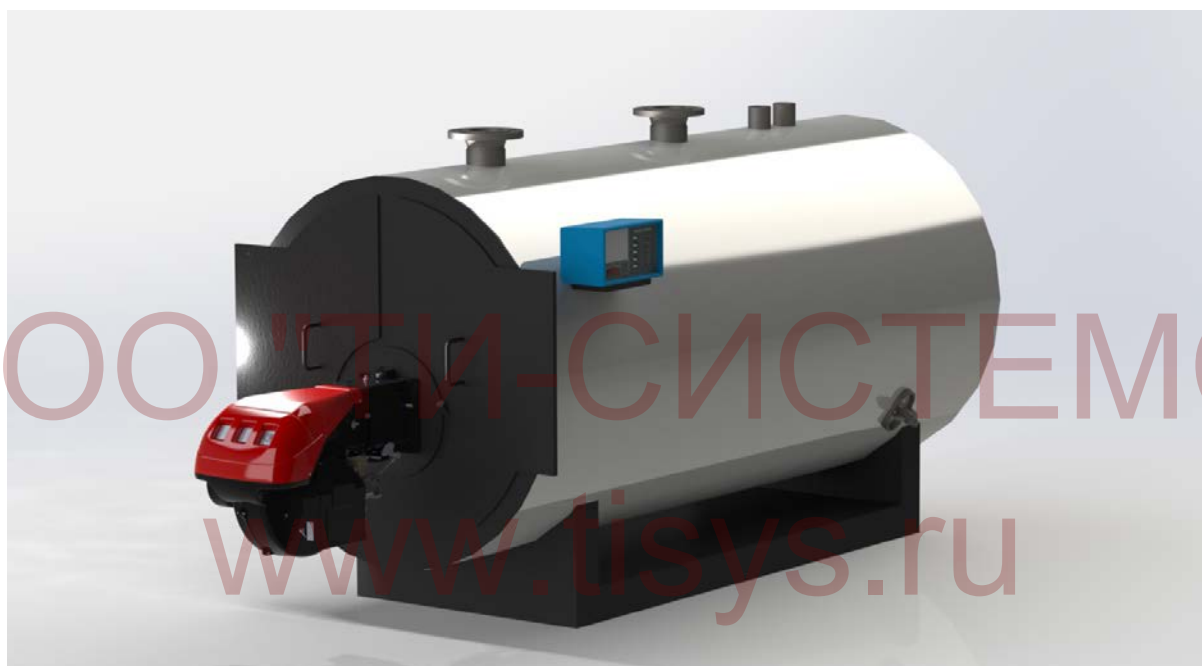


1	Burner
2	Flame guard
3	Electrical panel
4	Expansion connection
5	Outlet connection
6	Inlet connection
7	Purge connection
8	Smokes condensate purge
9	Rear smoke box



MAC3

Three smoke passes hot water boiler, up to 109°C.
Steam output from 1.000 kW up to 10.500 kW at 6 bar.



Hot water boiler up to 109°C , with effective three smoke passes construction and totally wet construction.

The first smoke pass takes place into the furnace and the second and third ones through the high thickness smoke tubes.

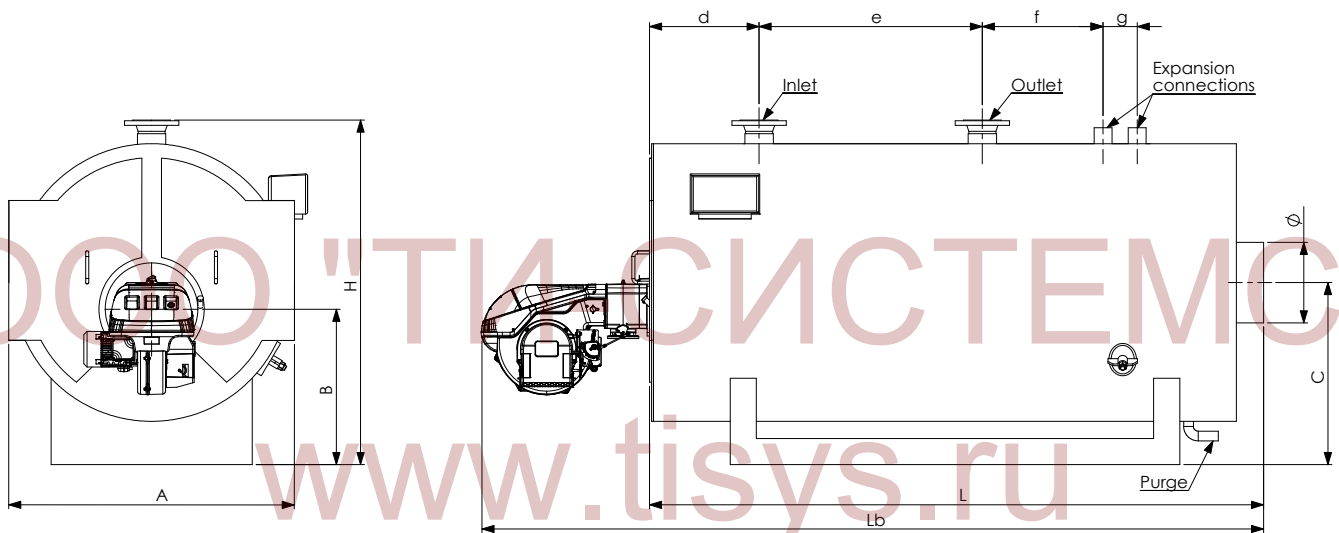
This hot water boiler has been built according to the most advanced techniques by highly qualified personal into our factory.

The exchange area is particularly vast in order to maintain low specific thermal load and high efficiency with Low NOx emissions.

The standard stamped pressure is 6 bar but upon request on higher pressure can be offered. The boiler is already insulated with high density rock wool with a coating based of galvanized steel sheet.



MAC3 - TECHNICAL DATA

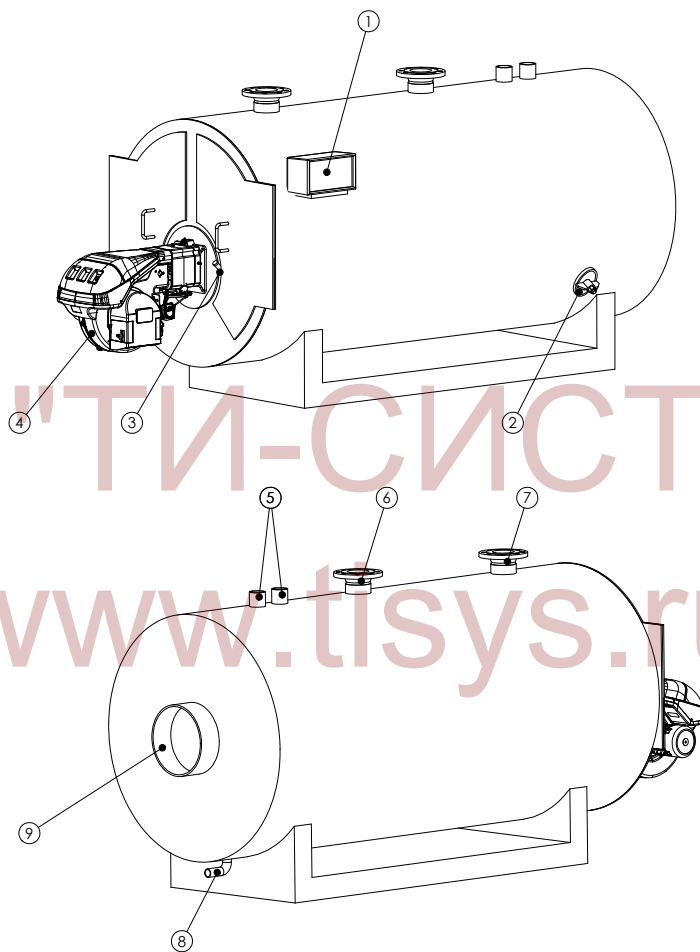


Type	Dimensions											Connections				Nominal capacity KW	Furnace capacity KW	Combustion chamber pressure mbar	Water side loss pressure (Δt 15°C) mbar	Boiler water content Liters	Empty weight		
	A	H	L	B	C	Lb	d	e	f	g	Ø	Inlet	Outlet	Expansion	Purge						5bar	6bar	8bar
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	DN	DN	DN						DN	DN	Kg
1.000	1.580	1.930	3.240	790	1.250	4.150	640	1.300	650	200	400	125	125	1 1/2	40	1.165	1.260	4,5	75	2.247	3.320	3.480	3.720
1.200	1.580	1.930	3.490	790	1.250	4.350	640	1.550	650	200	400	125	125	1 1/2	40	1.410	1.522	6,6	105	2.476	3.550	3.820	3.990
1.500	1.800	2.200	3.650	915	1.450	4.600	720	1.400	700	220	450	150	150	2"	40	1.760	1.902	5,3	72	3.388	4.700	4.850	5.220
1.750	1.800	2.200	3.900	915	1.450	4.850	720	1.650	700	220	450	150	150	2"	40	2.040	2.210	5,6	90	3.649	4.950	5.000	5.500
2.150	1.930	2.330	4.510	960	1.530	5.700	830	1.970	750	220	500	200	200	2"	40	2.510	2.710	5,6	55	5.020	5.700	5.950	6.450
2.580	2.050	2.450	4.510	995	1.650	5.700	830	1.970	750	220	500	200	200	2"	40	3.020	3.260	5,5	72	5.610	7.110	7.530	8.120
3.000	2.050	2.460	4.960	995	1.650	6.150	830	2.420	750	250	500	200	200	65	40	3.520	3.810	7,7	95	6.332	7.650	8.150	8.750
3.500	2.260	2.660	5.100	1.070	1.780	6.300	860	2.450	750	250	600	200	200	65	40	4.090	4.420	5,4	130	7.793	9.250	9.700	10.400
4.000	2.260	2.660	5.500	1.070	1.780	7.000	860	2.800	800	300	600	200	200	80	40	4.680	5.050	7	170	8.561	10.050	10.050	11.350
4.300	2.260	2.660	5.500	1.070	1.780	/	860	2.800	800	300	600	200	200	80	40	5.030	5.450	8,2	180	8.561	10.200	10.200	11.500
5.000	2.500	2.950	6.070	1.225	1.955	/	922	3.000	900	300	700	250	250	80	40	5.830	6.310	5,6	120	11.984	13.300	13.800	14.950
6.000	2.500	2.950	6.570	1.225	1.955	/	922	3.450	900	350	700	250	250	100	40	7.020	7.590	8,4	150	13.227	14.200	14.660	15.950
7.500	2.750	3.200	7.020	1.305	2.110	/	1.022	3.600	1.000	350	800	250	250	100	40	8.760	9.460	8,1	220	16.952	17.800	18.250	18.950
9.000	2.910	3.360	7.320	1.355	2.210	/	1.022	3.900	1.000	350	900	300	300	100	40	10.560	11.400	8,7	180	19.733	22.000	22.600	23.500

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1	Electrical panel
2	Handhole
3	Flame guard
4	Burner
5	Expansion connection
6	Outlet connection
7	Inlet connection
8	Purge connection
9	Smoke outlet

