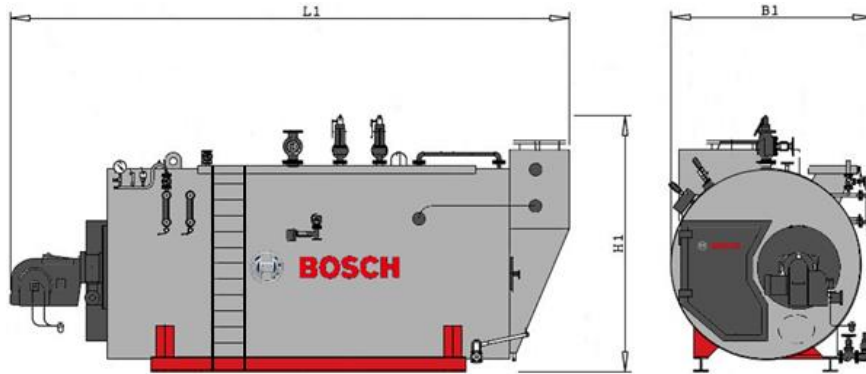


# Industrial Steam Boiler

## Universal Steam Boiler UL-S up to 28000 kg/h

The steam boiler type UL-S is a three-pass shell boiler and fulfils all the requirements in the medium to high output ranges.

With its compact dimensions and low weight of construction, based on the 1952 patent for three-pass boilers, the UL-S is perfect for use in processing industry, commercial sector or public facilities. This steam boiler is available in a wide range of boiler types with steam output between 1.25 t/h and 28 t/h incl. several possible modifications to meet the end user's requirements e.g. four-pass boiler or superheated steam. You can also choose between a lot of burner types and accessories such as different ECOs or air pre-heating to increase the efficiency of the boiler system.



Nominal Output	kg/h	1250	2000	2600	3200	4000	5000	6000	7000	8000	10000	12000	13000	14000	15000	16000	17000	18000	20000	22000	25000	28000*
Stream capacity F & A 100°C	kg/h	1295	2073	2694	3109	4145	5181	6218	7254	8290	10363	12435	13472	14508	15558	16580	17617	18653	20744	22798	25930	29041
<b>Dimensions</b>																						
Length – L1	mm	4850	4653	4972	5927	6615	6615	7255	7255	7845	8369	9007	9008	8674	8980	9854	9920	9944	9513	9610	9659	9868
Width – B1	mm	1929	2102	2187	2182	2439	2634	2674	2774	2874	3074	3224	3474	3474	3474	3474	3669	3674	3817	3874	4142	4199
Height – H1	mm	2262	2512	2557	2642	2947	3177	3222	3312	3562	3732	3867	4222	4222	4222	4222	4467	4467	4747	4747	5212	5212
Min. Transport Width	mm	1652	1852	1910	1905	2165	2360	2400	2500	2600	2800	2950	3200	3200	3200	3200	3400	3400	3600	3600	4000	4000
Min. Transport Height	mm	2150	2232	2210	2210	2575	2765	2975	2958	3178	3065	3200	3465	3465	3465	3465	3710	3685	3835	3835	4302	4302
Flue Gas Connection	DN	250	315	315	315	400	500	500	500	630	630	710	710	710	800	800	800	800	900	900	1000	1000
Stop Valve Diameter	DN	50	65	80	80	100	100	125	125	125	150	150	200	200	200	200	200	200	200	200	250	250
Safety Valve Size	DN	25	32	32	32	40	50	50	50	65	65	65	80	80	80	80	80	80	100	100	100	100
Safety Valve Outlet Diameter	DN	40	50	50	50	65	80	80	80	100	100	100	125	125	125	125	125	125	150	150	150	150
Blowdown Valve Diameter	DN	25	25	25	25	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Feed Pump Inlet Diameter	DN	25	25	25	25	40	40	40	40	40	50	50	65	65	65	65	65	65	65	65	80	80
<b>Boiler without Economizer</b>																						
Efficiency Gas Firing	%	89,0	89,0	88,3	89,6	89,1	89,1	89,9	89,9	88,3	89,6	88,5	88,7	88,4	88,1	89,7	89,6	89,6	90,3	90,1	90,3	90,2**
Fuel Consumption Gas	m³/h	88	141	185	210	282	353	419	489	570	702	852	921	995	1070	1121	1192	1262	1392	1535	1740	1847**
Efficiency Oil Firing	%	89,3	89,2	88,6	89,9	89,4	89,3	90,1	90,1	88,6	89,8	88,8	89,0	88,7	88,5	90,0	89,9	89,9	90,5	90,3	90,5	90,4**
Fuel Consumption Oil	kg/h	77	123	160	183	245	306	364	425	494	609	739	799	863	928	973	1035	1096	1209	1333	1511	1604**
<b>Boiler inclusive Economizer</b>																						
Efficiency Gas Firing	%	94,3	94,9	94,9	95,0	94,9	94,9	95,0	94,9	94,8	94,8	95,1	95,1	95,0	94,9	95,1	95,0	94,9	95,1	94,8	95,1	94,9
Fuel Consumption Gas	m³/h	83	132	172	199	265	331	397	464	530	663	793	859	927	994	1058	1125	1192	1322	1459	1653	1854
Efficiency Oil Firing	%	94,4	95,0	95,0	95,0	95,0	95,1	95,1	94,9	94,9	95,2	95,2	95,0	94,9	95,1	95,0	95,0	95,0	95,2	94,9	95,2	95,0
Fuel Consumption Oil	kg/h	72	115	150	173	230	288	345	403	461	577	690	747	806	864	920	979	1037	1150	1269	1438	1613

All dimensions and weights are approximate based upon a salty boiler operation, boiler working pressure of 10 bar G and an exhaust temperature of 140 °C (incl. ECO).

- Fuel Consumption Oil, based on LFO, NCV 11,89 kWh/Nm³
- Fuel Consumption Gas, based on Natural Gas H, NCV 10,35 kWh/Nm³
- Fuel Consumption based on mean operating pressure 8.5 bar G and max. working pressure 10 bar G.
- Efficiency Calculation following the EN 12953-11.
- All dimensions and weights as well as fuel consumption are approximate based upon boiler operation with softened feed water (without R/O treatment) and feed water temperature of 103°C, boiler working pressure of 10 bar G, and an exhaust temperature of 140 °C (incl. ECO).
- Higher efficiencies can be realized by use of bigger economizer with larger heating surface on demand.
- \* 28 t/h achieved only with economizer \*\* Calculated with nominal output of 26,5 t/h without economizer

Please contact your Bosch Sales Engineer to find the best suitable equipment for your boiler system in a professional consultation.

Efficiency Component	Additional Savings		
Economizer	up to 7%	Fuel	
Condensing Economizer	up to 7%	Fuel	
Air Pre-Heating	up to 2%	Fuel	
Feed Water Cooler	up to 1,5%	Fuel	
Blow-down, Expansion & Cooling	up to 1%	Fuel	
Oxygen- / CO-Burner Control	up to 1%	Fuel	
Speed Control Burner Fan	up to 75%	Electricity	
Vapour Cooler	up to 0,5%	Fuel	
High pressure Condensate	up to 12%	Fuel	
Osmosis	up to 3%	Fuel	
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