



**LANKARAN
MECHANICS**

SELSION



**THE QUALITY
IS NOT AN
ACCIDENT**

**IT IS A RESULT OF CONSTANT SMART
DILIGENCE**




SELSION

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SELSION

“**Lankaran Mechanics**” LLC is a company which operates in accordance with international standards (EN12953-2002), as well as national standards of Azerbaijan to conduct such works as production of metallic structures, modules, pressure tanks,  branded boilers, hot water boilers, steam boilers, oil boilers, boiling oil boilers, hot water boilers and combi-systems running on alternative energy.

“**Lankaran Mechanics**” LLC attaches high importance and takes responsibility for the quality of its products and services in accordance with established norms and standards.

“**Lankaran Mechanics**” LLC maintains close relations with many similar companies and applies all positive research and development knowledge in its work.

“**Lankaran Mechanics**” LLC treats the clients with care and respect and considers them as potential partners.



Solar Collector

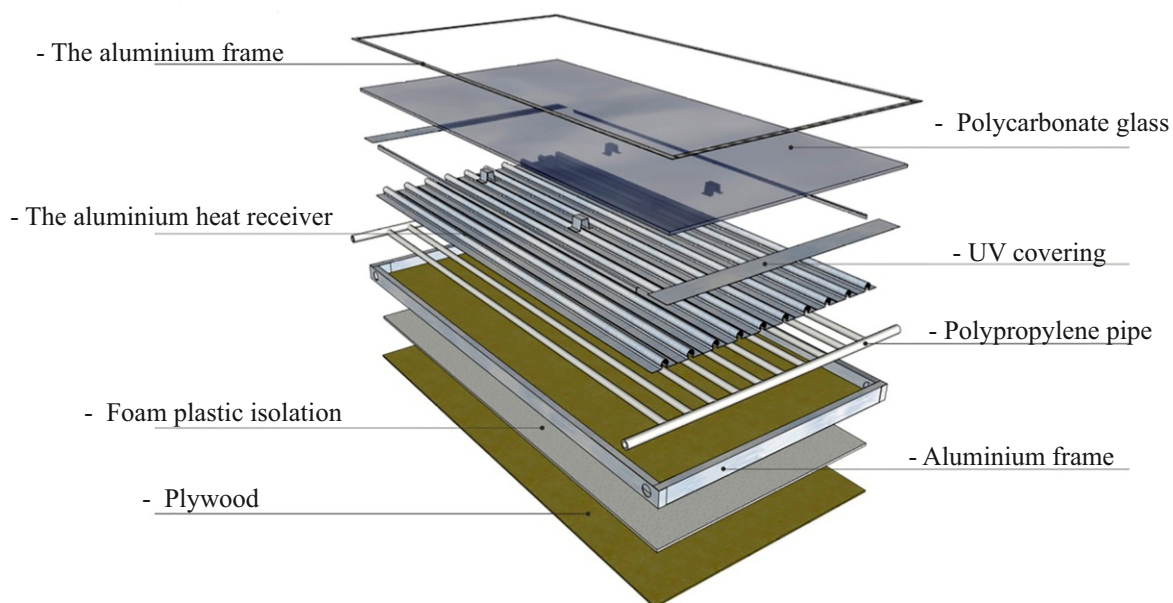
- 💧 **Affordable price.** For realization of our products on market of low-cost energy resources our industrious engineers has developed solar collector with affordable price. The investment in solar collector can be recovered in 3 years.
- 💧 **Cold resistance.** Collectors, which has structured with high quality polypropylene pipes are able for the use of water (correspond to the standards TS 0037, TSE EN ISO 15874, DIN 8077, DIN, 8078, DVGW W544) instead of antifreeze.
- 💧 **Protection from the limescale.** If the collector users will not remove the limescale, the product will malfunction. The usual solution of this problem is expensive and non-efficient. Use of polypropylene pipes can effectively eliminate the problem.
- 💧 **High chemical resistance.** High chemical resistance of our products allows its universal usage. The liquid within our products does not get affected by the chemicals inside and the liquids therefore do not get contaminated.
- 💧 **Corrosion resistance.** The aluminium we use does not get corroded and therefore our products are very durable.

The collectors have international design patent, which was registered by the

- 💧 **World Intellectual Property Organization (WIPO)**

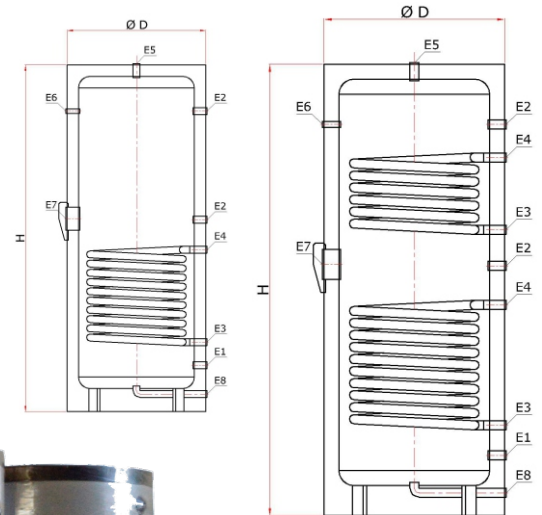


*The Norwegian Technology –
Azerbaijani products*



SELSION Single and double-pressure Boiler

- 💧 -It is used for storing hot water (thermosiphon).
- 💧 -As water heater, it can be connected to any hot water source. The hot water going through internal spiral/spirals heats the clean water inside the tank (without mixing with it). Thus, there is always hot water within the boiler.
- 💧 -It is used in hotels, the buildings with central heating system, factories, restaurants and other places with large consumption of hot water.
- 💧 -It is possible to choose the models from 100 liters till 3000 liters.
- 💧 -It has vertical position and does not requires much space.
- 💧 -The boilers produced by us allow to store hot water for a longer period of time due to polyurethane foam insulation.
- 💧 -All models have thermometer.
- 💧 -All models have the socket for tubular electric heating element.
- 💧 -Operating pressure is 8 bar.



D	Diameter
H	Height
E1	Cold water input
E2	Hot water input
E3	Heating spiral input
E4	Heating spiral output
E5	Anode socket
E6	Thermometer
E7	Socket for Tubular electric heating element
E8	Discharge outcome



Single spiral Boiler

Name of the product		Single spiral Boiler 100	Single spiral Boiler 150	Single spiral Boiler 200	Single spiral Boiler 250	Single spiral Boiler 300	Single spiral Boiler 500	Single spiral Boiler 750	Single spiral Boiler 1000	Single spiral Boiler 1500	Single spiral Boiler 2000	Single spiral Boiler 2500	Single spiral Boiler 3000
Code of the Product		LMB 100	LMB 150	LMB 200	LMB 250	LMB 300	LMB 500	LMB 750	LMB 1000	LMB 1500	LMB 2000	LMB 2500	LMB 3000
Volume	L	100	150	200	250	300	500	750	1000	1500	2000	2500	3000
Heating surface	m ²	0.60	0.95	1.21	1.35	1.50	2.23	2.80	3.06	4.18	5.80	6.30	7.54
Diameter	mm	600	600	600	600	600	720	920	930	1260	1260	1315	1480
Height	mm	650	940	1190	1440	1770	1820	1530	1870	2000	2390	2415	2480
Weight	kg	60	85	115	140	170	200	262	292	496	575	706	848
Productivity	L/hour	710	1380	1790	1980	2180	2500	2730	2880	3400	3790	4480	5390
Heater, input/output		1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Used water, input/output		3/4"	3/4"	3/4"	3/4"	3/4"	1 1/4"	1 1/4"	1 1/4"	2"	2"	2"	2"
Circulation		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Operating pressure (max)	Bar	8	8	8	8	8	8	8	8	8	8	8	8
Insulation		Polyuret hane	Polyuret hane	Polyuret hane	Polyuret hane	Polyuret hane	Polyuret hane	Polyuret hane	Polyuret hane	Polyuret hane	Polyuret hane	Polyuret hane	Polyuret hane

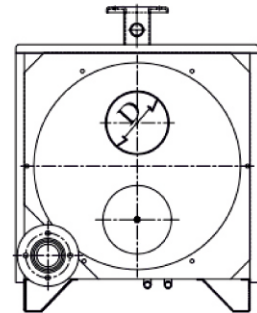
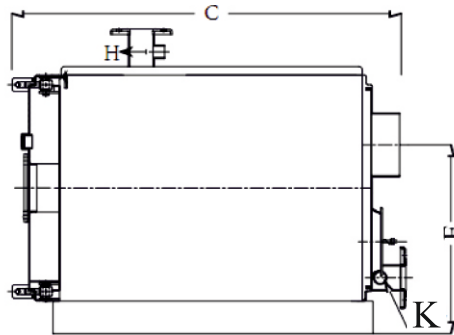
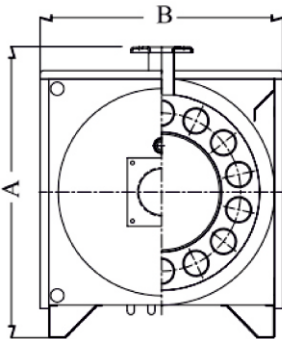
Double Spiral Boiler

Name of the product		Double Spiral Boiler 150	Double Spiral Boiler 200	Double Spiral Boiler 250	Double Spiral Boiler 300	Double Spiral Boiler 500	Double Spiral Boiler 750	Double Spiral Boiler 1000	Double Spiral Boiler 1500	Double Spiral Boiler 2500	Double Spiral Boiler 3000
Code of the Product		LMB 150	LMB 200	LMB 250	LMB 300	LMB 500	LMB 750	LMB 1000	LMB 1500	LMB 2500	LMB 3000
Volume	L	150	200	250	300	500	750	1000	1500	2500	3000
Heating surface	M ²	0.60	0.68	0.80	0.98	1.38	2.44	2.66	1.98	2.43	3.33
Surface heated using solar energy	M ²	0.68	0.85	1.09	1.20	1.90	2.70	3.01	3.70	5.85	7.01
Diameter	mm	600	600	600	600	720	920	930	1260	1260	1480
Height	mm	940	1190	1440	1770	1782	1530	1870	2000	2390	2480
Weight	kg	151	181	206	236	220	310	340	526	595	872
Productivity	L/hour	750	1000	1130	1410	1760	1830	1890	2170	2450	3610
Heater, input/output		1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Used water, input/output		3/4"	3/4"	3/4"	3/4"	1 1/4"	1 1/4"	1 1/4"	2"	2"	2"
Circulation		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Operating pressure (max)	Bar	8	8	8	8	8	8	8	8	8	8
Insulation		Polyuret hane	Polyuret hane	Polyuret hane	Polyuret hane	Polyuret hane	Polyuret hane	Polyuret hane	Polyuret hane	Polyuret hane	Polyuret hane

LMQ-2 2-passes hot water Boiler

- Heat capacity: 30,000-3,000,000 kcal/h.
- Large capacity of combustion chamber and high heat capacity surfaces ensure effective heating of water.
- Accelerated start for production of hot water.
- The lid of the boiler opens to two sides.
- Due to the presence of aluminium foil and high density insulation a minimum heat lost is ensured.
- The front lid of the heater of the boiler is done from refractory materials because of which the high level of heat insulation is achieved and gas leakage is minimal 1350 C.
- External coating made from two-layer painted materials.
- Boilers have pleasant esthetic outlook and long life period.

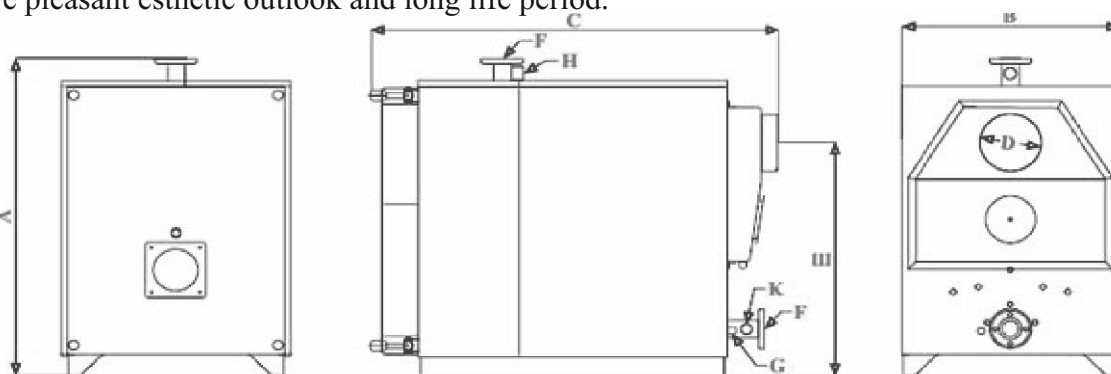
Type	Unit	LMQ-2 30	LMQ-2 40	LMQ-2 50	LMQ-2 60	LMQ-2 70	LMQ-2 80	LMQ-2 100	LMQ-2 120	LMQ-2 125	LMQ-2 140	LMQ-2 150	LMQ-2 160	LMQ-2 180
Nominal heat conduction	KVT	35	47	58	70	81	93	116	140	145	163	174	186	209
	Kkal	30 000	40 000	50 000	60 000	70 000	80 000	100 000	120 000	125 000	140 000	150 000	160 000	180 000
Efficiency on full capacity	%	92,7	92,3	92,5	92,6	92,3	92,6	92,5	92,7	92,6	92,6	92,7	92,6	92,5
Operating pressure	Bar	3												
Losses during work stoppage	%	0,17	0,15	0,13	0,13	0,12	0,11	0,11	0,10	0,1	0,1	0,11	0,11	0,09
Aerodynamic resistance of boiler	Mbar	0,180	0,250	0,260	0,610	0,610	0,650	0,710	1,110	1,020	1,160	1,170	1,280	1,350
Water resistance	Mbar	0,390	0,640	0,770	0,840	0,960	1,320	1,710	2,220	3,100	2,160	4,100	2,750	3,100
B – general width (on surface)	mm	660			720			860						
C – Length	mm	776	876	976	1025	1125	1125	1180	1427					1477
Height of water supply	mm	773			825			856	994			1020		
OD1 – diameter of funnel	mm	150			200									
E – general height of the gases going through the funnel	mm	528			557				631					
Net weight (without packing)	kq	134	160	165	194	214	235	246	355	358	361	420	420	430
OD2 –Diameter of hot water output	Inch	1 1/4"			1 1/2"			2"				76,1x2,9		76,1x2,9
D – Output to the expansion tank	Inch	-										1 1/4"		
OD3 – Water input diameter	Inch	1 1/4"			1 1/2"			2"			76,1x2,9		76,1x2,9	
F- Input to the expansion tank	Inch	3/4"			1"									
OD4 – Diameter of the pipe forfilling and discharge	Inch	1/2"				3/4"								
OD5 – Condensate output	Inch	1/2"				3/4"								
Water Volume	L	50	57	70	90	98	97	122	186	183	178	173	173	174



LMQ-2 200	LMQ-2 250	LMQ-2 300	LMQ-2 350	LMQ-2 400	LMQ-2 500	LMQ-2 600	LMQ-2 700	LMQ-2 800	LMQ-2 900	LMQ-2 1000	LMQ-2 1250	LMQ-2 1500	LMQ-2 1750	LMQ-2 2000	LMQ-2 2500	LMQ-2 3000
233	291	349	407	465	581	698	814	930	1047	1163	1453	1744	2035	2326	2907	3488
200 000	250 000	300 000	350 000	400 000	500 000	600 000	700 000	800 000	900 000	1 000 000	1 250 000	1 500 000	1 750 000	2 000 000	2 500 000	3 000 000
92,6	92,8	92,9	92,9	92,6	92,6	92,8	92,8	92,9	92,5	92,2	90,4	88,9	88,9	80,9	89,9	89,8
4																
0,33	0,29	0,29	0,26	0,25	0,18	0,18	0,18	0,18	0,18	0,18	0,16	0,16	0,16	0,16	0,16	0,16
1,54	1,79	1,48	1,65	1,6	1,6	1,83	2,32	2,55	2,81	3	3,66	3,85	4,76	4,96	5,00	4,44
11	15	13	14	13	14	17	17	19	23	24	29	30	36	48	49	50
910		1050			1250		1460				1560		1660		1900	2060
1430		1740		1970	2010		2405				2806	3108	3005	3272	3304	3677
1100		1300			1506		1709				1815		1922		2177	2331
250		300			400		450				500		500		600	600
749		825			960		1 048				1 028		1 280		1 410	1 414
510	540	835	867	957	1280	1852	1826	1880	1940	2030	2708	3030	3462	3750	4870	5920
76,1x2,9		88,9x3,2			114,3x3,6		139,7x4				168,3x4,5		168,3x4,6		219,1x4,5	219,1x5,9
1 1/4"	1 1/2"		2"				2 1/2"					3"		4"		
76,1x2,9		88,9x3,2			114,3x3,6		139,7x4				168,3x4,5		168,3x4,6		219,1x4,5	219,1x5,9
1 1/4"		1 1/4"			1 1/2"		2"				2 1/2"		2 1/2"		2 1/2"	3"
3/4"		3/4"			3/4"		1"				1"		3/4"		3/4"	3/4"
3/4"		3/4"			3/4"		3/4"				3/4"		3/4"		3/4"	3/4"
200	177	300	278	325	670	612	996	955	956	890	1 375	1 582	1 660	1 820	2 572	3 385

LMQ-3 3-passes hot water Boiler

- 80000- 1000000 kcal/h heat capacity (upon request the needed capacity can be produced).
- Large capacity of combustion chamber and high heat capacity surfaces ensure 3-passes hot water boiler high productivity and energy saving.
- Accelerated start for production of hot water.
- The lid of the boiler opens to two sides.
- Due to the presence of aluminium foil and high density insulation a minimum heat lost is ensured.
- The front lid of the heater of the boiler is done from refractory materials because of which the high level of heat insulation is achieved and gas leakage is minimal 1350 C.
- External coating made from two-layer painted materials.
- Boilers have pleasant esthetic outlook and long life period.



Type	Unit	LMQ-3 80	LMQ-3 100	LMQ-3 125	LMQ-3 150	LMQ-3 200	LMQ-3 250	LMQ-3 300	LMQ-3 350	LMQ-3 400	LMQ-3 500	LMQ-3 600	LMQ-3 700	LMQ-3 800	LMQ-3 900	LMQ-3 1000
Nominal heat conduction	KVT	93	116	145	174	233	291	349	407	465	581	698	814	930	1047	1163
	Kkal	80 000	100 000	125 000	150 000	200 000	250 000	300 000	350 000	400 000	500 000	600 000	700 000	800 000	900 000	1 000 000
Efficiency on full capacity	%	92	92,8	92,8	93	93,1	93,1	93	93	93	92,6	92,7	92,7	92,7	92,6	92,3
Operating pressure	Bar	3														
Losses during work stoppage	%	0,39	0,39	0,3	0,3	0,3	0,24	0,22	0,21	0,2	0,14	0,14	0,13	0,13	0,13	0,13
Aerodynamic resistance of boiler	Mbar	0,8	0,8	0,9	1,16	1,70	1,9	3,0	2,9	2,9	3,3	3,3	3,5	4	4,45	4,35
Water resistance	Mbar	2	3	3	4	6	10	12	12	14	13	14	15	18	19	20
B – general width (on surface)	mm	710		810		960			1060		1140		1360	1410		1560
C – Length	mm	1360	1520	1510		1630		1870	1910	2110	2320	2600	2510	2685		2450
Height of water supply	mm	1135		1245		1358	1410		1632	1650	1750		1954	2085		2160
OD1 – diameter of funnel	mm	200				250			350		400			450		
E – general height of the gases going through the funnel	mm	784		879		961	1049		1187		1198		1408	1469		1595
Net weight (without packing)	kq	345	416	497	530	667	710	868	1159	1258	1526	1678	1889	1930	2259	3006
OD2 – Diameter of hot water output	Inch	2"		NW65				NW80		NW100		NW125				
D – Output to the expansion tank	Inch	1 1/4"							2"			2 1/2 "				
OD3 – Water input diameter	Inch	2"		NW65				NW80		NW100		125				
F- Input to the expansion tank	Inch	1"				1 1/4"					1 1/2"			2"		
OD4 – Diameter of the pipe for filling and discharge	Inch	3/4"												1"	1"	1"
OD5 – Condensate output	Inch	1/2"														
Water Volume	L	168	196	272	272	350	410	486	700	790	905	1040	1500	1820	1820	2250

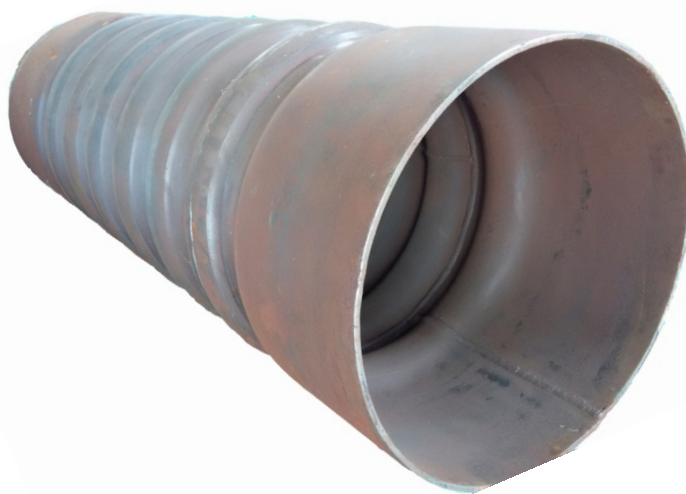
Corrugated pipe

What does mean this type of pipe and why it got popularity among consumers?

Corrugated pipe has a series of parallel ridges and grooves on its surface.

This form of pipe ensures flexibility, durability and strength. The product can be used in various sectors of industry, including production of hot water and steam boilers.

Production of combustion chambers of hot water and steam boilers from corrugated pipes can ensure energy efficiency. This type pipes can secure sustainability in resistance to high pressure and fast delivery of heat into the water. As a result, we receive high qualitative and highly competitive product.



General indicators

Boiler Series **LMBQ** by “Lankaran Mechanics, LLC” equipped with fire-tube with three passes, has dampened support and structure connected by welding. The steam boilers offered to clients are produced by BS EN 12953 standard. All the items necessary for operation of the boiler are provided as an integral part of the boiler, and the client can only provide fuel for the boiler, electricity and water. There is all the necessary equipment and automated systems. The table shows the standards that are observed in the manufacturing of steam boiler.

Number	Number of standard	Version	Clarification
1	BS 12953	2002	Design, structure and testing of steam boilers equipped with fire tube
2	BS 5500	1998	Connected pipes that remain under pressure
3	BS 5885	1988	Torches with an input power of 60 kW and higher
4	BS En287	1992	Confirmation testing of welders
5	BS En288	1992	Test procedure for arc welding
6	DIN 17155	1992	Specification for carbon steel sheet

Materials

For the production of steam boilers the material specified in the list below is used. Also, the table shows the BC EN standards and indicators of the nominal stress related and accounted for the production of such materials.

Number	Clarification	Name of material	Standard BS	Nominal value
1	Casing	A5 16-70	1501-490 A	150
2	Smokestacks	ST 35.8	3059-360	96.6
3	Contact camera	A5 16-70	1501-490 A	150
4	The pipes that do not contact with the flame	A5 16-70	1501-490 A	150
5	The pipes that contact the flame	A5 16-70	1501-490 A	150
6	The combustion chamber	A5 16-70	1501-490 A	147.4
7	Input pipe	A5 16-70	1501-490 A	150
8	Nozzle	A 106-B	070 M 26	102
9	Flanges	A 105	1501-400	119
10	Chimneys	A5 16-70	1501-490 A	150
11	Supports	A 105	1501-400	119
12	Fittings	A5 16-70	1501-490 A	150
13	Brake detail	A 36	1502-151-430	120
14	Input pipe	A5 16-70	1501-490 A	150

Nominal temperature

Nominal temperature (T) is used to calculate the stress design of different parts of the boiler.
Nominal heat is the average level of heat of the metal parts in the working conditions.

Control of boiler

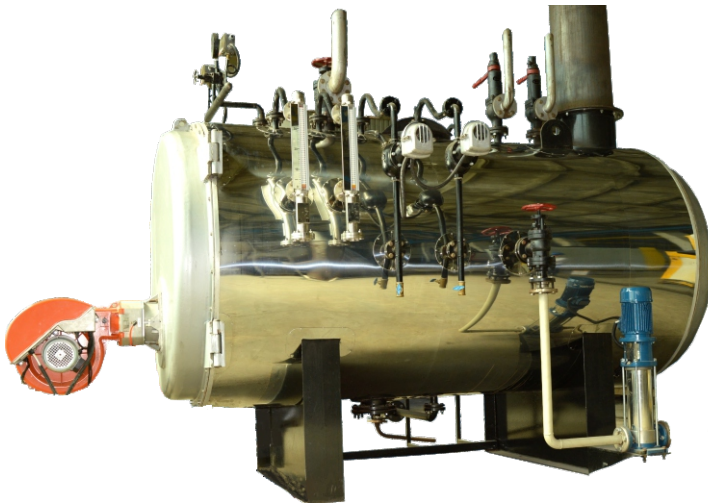
Under normal conditions, the boiler operates via an automatic control system. For long-term work is needed to carry out timely checks and compliance with the rules of storage.

Test

Tests of upper layer, boiler foot, the connections to the upper layer of pipes and welded joints are carried out by means of ultrasound and radiography. Then the hydraulic test is carried out where the pressure in the one and a half times higher of the design standards.

Efficiency of Steam Boiler 89% - 94%

Model	Heat Conductivity (kcal/h)	Volume			The area of heated surface (m ²)	Steam Output (inch)	Fuel consumption		Weight (x1000kg)	Operating pressure (bar)
		Length (mm)	Width (mm)	Height (mm)			Oil (liter / h)	Natural gas (m ³ /s)		
LMBQ 200	108000	2500	1500	1500	6	2J	24	20	0,6	10
LMBQ 300	160000	3000	1500	1500	9	2J	36	30	0,8	10
LMBQ 500	270000	2500	1900	1800	12	3J	60	50	1	10
LMBQ 600	325000	3000	1900	1800	15	3J	72	60	1,2	10
LMBQ 800	430000	3500	1900	1800	20	3J	96	80	1,6	10
LMBQ 1000	540000	3000	2000	2300	25	3,5J	120	100	2	10
LMBQ 1500	810000	3500	2000	2300	35	3,5J	180	150	2,5	10
LMBQ 2000	1080000	4000	2000	2300	45	3,5J	240	200	3	10
LMBQ 3000	1600000	5000	2500	2800	60	4J	360	300	5	10
LMBQ 5000	2700000	6000	2500	2800	100	4J	600	500	7	10
LMBQ 7000	3800000	6000	3000	3400	140	6J	840	700	10	10
LMBQ 10000	5400000	7000	3500	3800	200	8J	1200	1000	15	10



LMQYQ – Boiling Oil Boiler

Today we need high temperature in many manufacturing processes.

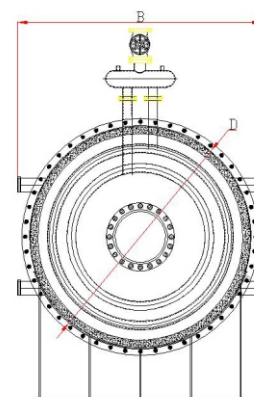
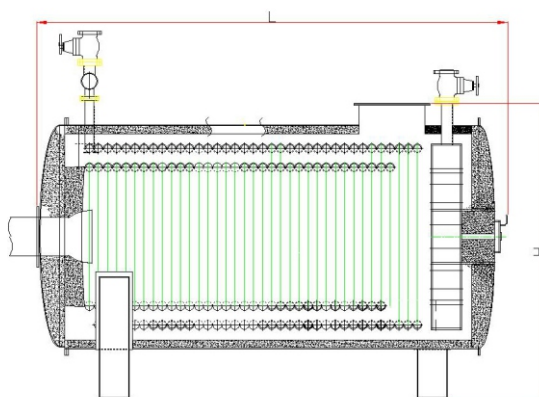
This temperature can be obtained using mainly steam boilers.

But at some production sites there are situations when the heated water temperature must be increased by 3 times. In these conditions the boiler maintenance costs for the production of water vapor increases, and the safety level is lowered.

Using oils, chemical and physical composition of which allows their use in the boiling oil boilers, enables to increase the temperature up to 350°C.

There is a choice of models with capacities ranging from 233,926 to 4,162,499 kcal /h.

“Lankaran Mechanics, LLC” uses certified materials for the production of specialized boilers. Production of boiling oil boilers is carried out continuously. The boiling oil boilers have no such negative characteristics as corrosion and scale deposits. This prevents the production process from slowdown and frequent maintenance. Control of heat becomes simplified.



Num ber	Type	Heat Conductivity (kcal/h)	The area of heated surface (m²)	Flange size, inch	The amount of units in a row	Body length (mm)	Body diameter (mm)	Power (kW)	Diameter of Chimney	Width (mm)	Height (mm)
	LMQYQ										
1	250,000	233926	12.364	2"	1	1800	1300	272	300	1400	1700
2	500,000	529411	27.982	2 1/2"	2	1800	1600	616	400	1700	2000
3	750,000	721 924	38.157	2 1/2"	2	2600	1600	839	400	1700	2000
3	1,000,000	1 071 805	56.649	2 1/2"	2	2800	1850	1246	500	2000	2300
3	1,500,000	1 339 756	70.812	3"	2	3500	1850	1558	500	2000	2300
3	2,000,000	1 732 080	91.548	3"	2	4500	2300	2014	600	2500	2800
3	2,500,000	2 199 931	116,28	4"	2	4500	2300	2558	600	2500	2800
3	3,000,000	2 582 719	136.51	4"	2	4500	2500	3003	600	2700	3000
4	4,000,000	4 162 400	220	6	2	6500	2900	4840	700	3100	3500

Manufacturing and installation of metal tanks

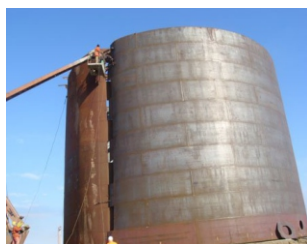
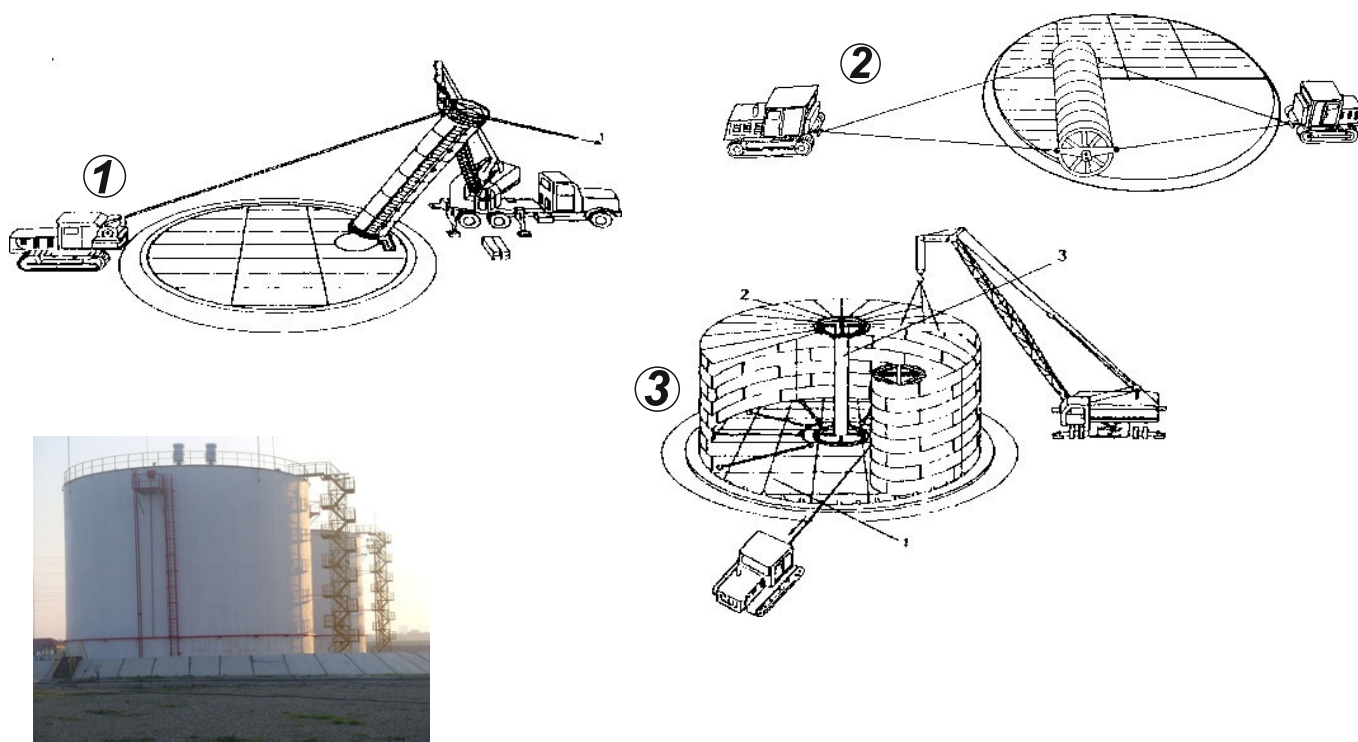
Installation of metal tanks on the degree of difficulty is divided into three types:

1. Extremely dangerous type – volume more than 10000 m³
2. Particularly dangerous type – volume from 5000 m³ to 10000 m³
3. Dangerous type – volume from 100 m³ to 5000 m³

Cost, manufacturing and installation is calculated individually for each of the metal tank.

Installation of metal tanks consists of several parts:

- Site preparation
- Installation of the tank
- Testing, etc.



Manufacturing of metal structures

“Lankaran Mechanics, LLC” has extensive experience in the manufacturing of metal structures and construction of industrial and civil objects. Our company is engaged in designing of buildings, warehouses, factories, and performs assembly and construction works. Strong workforce capacity and material and technical basis of the company allow to carry out complex projects of regional and national significance.

We offer our clients:

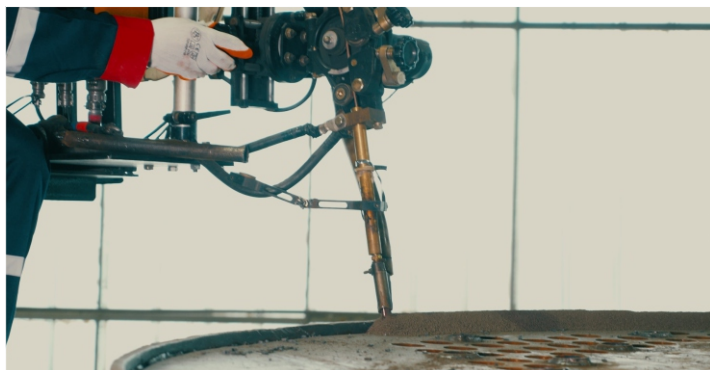
- Manufacturing of metal structures
- Laying of ferroconcrete bases of industrial facilities and construction of reinforced concrete structures

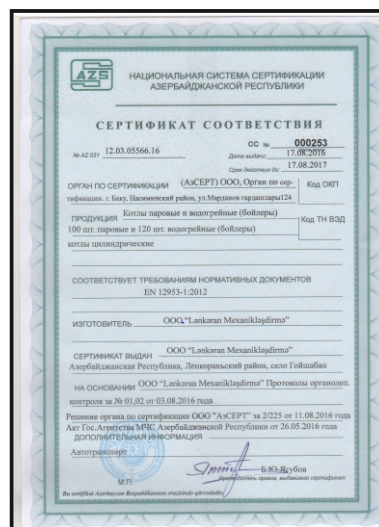
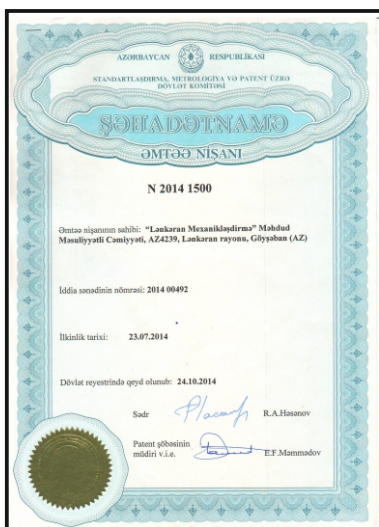
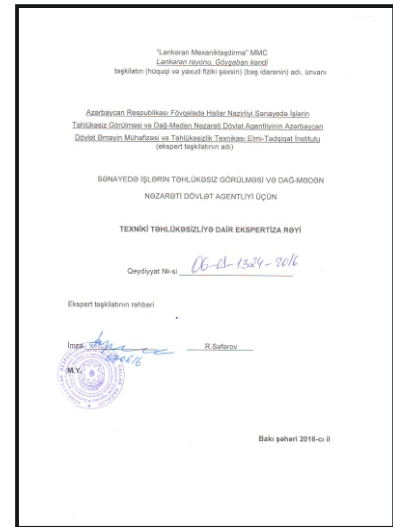
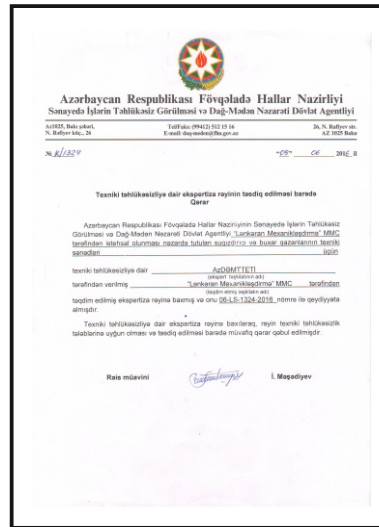
“Lankaran Mechanics, LLC” has built a number of industrial and civil use objects.













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