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RUSSIAN BOILER PLANT MARKET

2005-2011

Multi-client research

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1. METHODOLOGY

1.1. INFORMATION SOURCES

The study was performed on the basis of the following information sources:

- CUSTOMS DECLARATION ANALYSIS**

The information obtained as a result of the customs declaration analysis becomes more reliable from year to year. To find out the market trends, its key tendencies and main players there was made the detailed analysis of the front pages of customs declarations for 2005-2011. Starting from 2007 it became possible to get information contained in extra pages of customs declarations. This made the obtained information more reliable and allowed us to identify boilers by models more accurately. As practice shows the difference between the customs data and the real volume of products supplied is not more than 5-10%. In 2007-2010 we managed to identify more than 95% of imported boilers by models. This allowed us to analyse the boiler plant market situation by capacity, boiler type, burner type, heat exchanger unit material and etc.

In spite of the fact that many suppliers have switched to official ways of delivering boiler plants there is still a great difference between the customs figures and that ones stated by manufacturers. In most cases this was due to product misdescription. For example, according to the customs data a company supplies gas instantaneous water heaters. However, when estimating the weight of a unit supplied, which, for example, may be 30 kg, it becomes clear that the company supplies rather a wall-type boiler than a gas instantaneous water heater. The reverse may be also true. In such cases interviews conducted with many companies' representatives allowed us to make customs information much more reliable.

Under a lack of information from local manufacturers their product identification by models was made on the basis of their export analysis.

- GOSCOMSTAT DATA**

The information on output volume of the biggest local manufacturers was obtained from Goscomstat. In a number of cases Goscomstat was the only source of information. When analyzing the information on many local open joint stock producing companies there were taken into account the annual reports published on their official web-sites.

- INTERVIEWS WITH MANUFACTURERS AND EQUIPMENT SUPPLIERS**

Whatever customs information is correct, it should be completed with the data obtained from equipment distributors and manufacturers. In the course of this report preparation there were conducted interviews with many Russian manufacturers, foreign companies' representatives and big suppliers of foreign equipment.

TABLE 1. Information sources

	Russian manufacturers	Foreign manufacturers' representatives	Distributors	Total
Interviews	5	11	13	29

Source: *Litvinchuk Marketing Co.*

1.2. TERMINOLOGY APPLIED IN THE REPORT

This chapter contains brief information on the covered by this report boiler types, operating principles and design features.

The boiler is a unit designed for heating heat-transfer fluid. This report covers all types of hot water boilers intended for heating. Steam boilers used for generating over-heated steam are not included in the report.

There are very many criteria to classify boiler plants, however, in the report we propose to apply the most relevant ones:

1) By type of energy carrier:

- Historically Russia used to apply wood fuel as energy carrier. However, this type of fuel is good only for small area heating due to its short firing period and regular necessity to feed combustion chambers with new wood-stacks. Today modern technologies allow us to use boilers with continuous fuel feeding. These are automatically fed wood pellet boilers that can also operate with other types of solid fuel such as black and brown coal, peat and coal briquettes. Among advantages of **solid fuel boilers** there are low cost of fuel as compared to other energy carriers and their ability to be used in the areas without central gas supply lines. Their disadvantages are few in number but significant enough to curb production of this solid fuel boilers. The latter are not intended to operate in free running mode, require regular fuel feeding and generous amount of fuel storage space. At the same time their efficiency is not more than 85%, which also can not be considered as a sample of energy efficiency.
- **Gas boilers** take the dominating position on the Russian market, which can be contributed to the developed network of gas pipe lines in the European part of Russia. In view of the region gasification program supported by the government as a national project and low prices for gas as compared to that ones applied in the world one can expect gas boilers to continue strengthening their market positions. Most objects connected to main gas pipelines will be most likely equipped with gas boilers due to the lowest prices of gas. So, in most cases the key criteria in choosing a boiler are their high energy efficiency and low gas prices.
- **Liquid fuel boilers** are very popular in the trans-Ural region due to a lack of gas pipe lines in most regions of Siberia and Far East. In this case a heat carrying agent is heated through burning liquid fuel coming from a fuel storage. Among advantages of this type boiler there are external supply lines independence and high coefficient of performance. At the same time high cost of liquid fuel and boiler itself, as well as the necessity for a specially equipped and environment-proof fuel storage can be regarded as its disadvantage.
- **Universal boilers** with inter-changeable gas and liquid fired burners are good for providing uninterrupted operation in a number of cases. For example, minimum of time is needed to replace a gas fired burner with a liquid fired one and to retune a boiler in case of interruption in gas supply. Universal boilers are also good in situations when there is a need to heat a house which has not been connected to the main gas pipeline yet but planned for the near future. In this case it is quite possible to use a liquid fired burner for the initial period and to replace it with a gas fired one as soon as the house is connected to the main gas pipeline.
- **Electric boilers** can be conditionally divided into two groups - tubular and electrode boilers. The first ones heat a heat carrying agent with the use of tubular water heaters, while the second ones heat water by passing the electric current through it. A great number of electric boiler advantages (they do not require special place for installation, any air supply or combustion product withdrawal, have high ecological properties) are only opposed to two disadvantages – high cost of electric energy and high

electrical supply network load. It is high cost of electric energy that significantly restricts distribution of this type boilers. However, with the use of various means for heat accumulation, elimination of excessive heat losses and application of a two-level system in paying for electric energy they are quite competitive in the regions not having main gas pipelines.

2) By type of installation:

➤ **Floor-standing boilers** will most likely loose their leading positions on the market in course of time. Among their advantages there are:

- Long operational life ensured by the use of more durable materials (strong steel, cast iron, composition metals)
- Ability to work in combination with hot water supply boilers of much higher capacity allowing its users to have greater volume of hot water
- Practically unlimited power
- Floor-standing boilers made in Russia are simpler in operation, which is very vital in rural areas under a lack of spare part storages and highly skilled experts.

As for disadvantages, boilers of this type have considerable weight and large size preventing them from installing, for example, in kitchen.

➤ **Wall-hung boilers** come over floor-standing ones due to their compact size allowing users to install them in flats. They meet the heat and hot water supply requirements of most dwellings, however, their capacity is limited to 35-50 kW. It is also possible to install wall-hung boilers of higher capacity, which are combined in cascade modules, however, in this case they loose their advantage – the compact size. As for disadvantages, boilers of this type have limited capacity, produce limited volume of hot water and have shorter operational life, which is about 10-12 years of most wall-hung boilers against 20-30 years of floor-standing boilers.

➤ **Wall-hung parapet type boilers** fall into a special category. Having a closed burning system and wall-hung waste gas-outlet flues they are mainly intended for door-to-door heating. In fact they combine the features of floor-standing and wall-hung gas boilers. All boilers of this type presented on the Russian market are supplied from Ukraine.

3) By hot water supply (HWS) function:

- **Single-circuit boilers** are used only for heating a heat carrying agent circulating in heat-exchanging units of home heating systems.
- **Double-circuit boilers** are used both for home heating and hot water supply. Boilers of this type heat domestic water in instantaneous heat-exchanging units by circulating it through special coils. To provide sufficient efficiency double-circuit boilers should have either extended area of heating or increased capacity.
- **Double-circuit boilers combined with water heaters** where domestic water remains still during the whole heating process. Boilers of this type allow users to heat a great volume of water at the same time which can be considered as their advantage. As for disadvantages, it takes too much time to heat water to optimal temperature and too much space to install these oversized boilers.

4) By heat-exchanger material:

- **Steel heat-exchangers** are applied in gas floor-standing, parapet, wall-hung, solid fuel, liquid fuel, electric and universal boilers. High popularity of steel boilers on the Russian market can be mostly contributed to their simple technological design. Among their advantages there is small weight, low price and high plasticity that is very important as in the process of operation heat-exchanger units are exposed to burner fire as a result of which temperature stresses may cause generation of

microfractures. At the same time corrosibility and shorter life cycle as compared to that one of cast-iron boilers can be considered as their disadvantages.

- **Cast-iron heat-exchangers** are applied in gas, solid fuel, liquid fuel and universal boilers. Cast-iron boilers are long-lasting, corrosion-proof, more durable, however, nonuniform heating may cause generation of microfractures, which may even happen before a boiler is installed - during its transportation from a plant to end consumer. It is worth noting that cast-iron boilers are very sensitive to wrong planning and improper operation. And high cost is their most serious disadvantage.
- **Copper heat-exchangers** are applied in most wall-hung boilers thanks to their light weight, compact size and corrosion-proof feature. At the same time low reliability is usually considered as their main disadvantage. It is only American Company Laars that supplies floor-standing gas boilers to the Russian market.
- **Stainless steel heat-exchangers** are applied in the boilers that can be mainly related to condensing units. Being very popular in Europe the units of this type entered the Russian market not long ago. They use not only waste heat, but also steam condensation heat. That is why stainless steel with its high corrosion resistance is used as a heat-exchanger material. Efficiency of burning natural gas reaches 107-109%.
- **Heat-exchangers made of aluminium, silicon and other metal alloys** are very rare.

5) By type of burning systems:

- **Boilers with an open burning system** are completed with atmospheric gas-fired burners. Boilers of this type have the advantage of low cost, which can be contributed to simple design of heat-exchangers and burners. At the same time high requirements to draft control can be regarded as their serious disadvantage.
- Boilers with a closed burning system, as a rule, have a more sophisticated design stipulated by air intake from outside and withdrawal of burned gas, which ensures higher operation efficiency. Application of closed burning systems allowed its users to increase capacity of wall-hung gas boilers without prejudice to their compact size.

1.3. PRICES

All sales values given in the report are expressed in retail prices obtained from the main distributors' or the trading representative offices of manufacturers' price lists. In case of a lack of this information for some brands there were used average retail prices on the market. Under the circumstances of the world crisis in 2009 most foreign manufacturers stated their prices in foreign currency, mainly in Euro. At the same time some of them still state their prices in roubles, however, they have significantly increased against 2008. In 2010 there were few changes in many companies' price lists. Some brands even decreased their prices. We managed to get price-lists of most brands applied in 2008-2011 and to make adequate price estimates. Rouble prices were converted to Euro on the basis of mid-year exchange rates obtained from the Central Bank.

TABLE 2. Rouble/Euro Exchange Rates

2004	2005	2006	2007	2008	2009	2010	2011
35,82	35,16	34,11	35,03	36,45	44,20	40,00	40,90

Source: Central Bank of the Russian Federation

When estimating boiler prices there were taken into account only their complete units, i. e. they may not include the price of a pneumatic burner if it is not completed; coaxial flues for wall-hung turbine boilers; non-built-in water heaters; a control panel if it is not a complete unit and etc.

2. MARKET SIZE AND STRUCTURE

Bbb Ccaacab bcccabc aacbbb baa bbbb ababca accbcba bcbcb bbb cbcbbb bbb abaca. Cb baa cbccbaaba ba accb bbab 10% ba aacba aaccb aba ba 11% ba aacba acccab cbca bcbcb bbb cbcbbb ccab abaca. Accb a acbab acaaccaccbccb cab bb cccbccbccba bc bbb cach bbab bocab acccba ccccab bcccba abacbba ccabcba acbabcc accaccba ccca bbb aacbbb. Bbb cccac aabccacbccb cc ccccc-ababacba bcccba, bbccb aabb bbb bcaabab abaabbb cb bbb Ccaacab aacbbb, baa abacbababcba bbaabcab bcbbaa ccca 0001 bc 0000. Acbbcbacaa, bbbcc aacba abacbba cbccbaacba, bccbabc, bbbcc accbbb cabba accb bbab 0 bcaba ccbc bbb aabcaab cbba cb bbb bbccb aacbbb.

Bbb Ccaacab bcccabc aacbbb abacbabcbba bbb bcabbab aacbbb accbbb babcaabba ab 10% cb 0000. Acbbcbacaa, cb cbcc bc 10% cb 0001 aba bc 10% cb 0001. Cb 0000 bbb bcbac aacbbb acccab abccbaaba ba 00% acb bc bbb abbbcac cacc cb bcccabc ccbacaabccb. Cb 0010 bbb bbccb aacbbb acbb ba 00%, bbccb baa abca cbbcabcbac. Bcbbabc, bbb bbcb abac accbbb ba 11% baa accbaaa bcabcbba. Bbb cacc cb bbb accbbb cabba aaacbab 0010 cab bb cccbccbccba bc bbb cach bbab acab cbabcbba cccbbb acccba bbb cccaca cb 0000 bbcb ccaacbbba ab bbb bba cc 0010 aba cbca cbb cc bbba bbcb cbcabba cb 0011. Ac, ab bbb bba cc 0010 cbb cab bcabcb bbb accbbb cabba bc ccccbc abccbaacba acbb bc 1-10% aa a bcabbc cc bbb cbabcba ca accb cbaa bbab cb baa bbccb bbb cccaca cc 0001.

Ba aacba aaccb, cb 0000 bbb aacbbb cacc (cb bccaa cc Bccc) baa acacab bbc bcaba bcabbc bbab ba aacba acccab, bbccb ca bccbb babccacca cbabc bbb cccaca ccbacbccba. Cb 0010 acb bc bbb ccbabccac accbbb babcaabba ab 00% bbb aacbbb cbacbbba ca baabccccac aaccaca accb cbacabcbba bbccb bbb cccaca. 0011 bccbba ccb bc bb a cbcacca cbb ccc acc cba baabcca – bbb aacbbb aacba aaccb cbacbbba 1 bccccb BCC (ba cbbacc acccba).

FIGURES 1.0. Russian boiler market movements by quarters:

By sales volume, pcs	Movement related to the same period of last year, %

Source: Litvinchuk Marketing Co.

Ba bcacbbca, bbb aacbbb acbcabccb cb 0001-0011 baa aa ccccbba:

Cb bbb ccccbb bcacbbc cc 0001 bbb bcccbc acaaca acccab baa ba 00% cccbc bbab cbb acaaccba cb bbb bbcca bcacbbc bbccb bbb cacac acccbcbbcb ca bcb accb bbab 0-0%. Bbabcbabcbaa, bbb bcccac ababb acccab acaaccba cb bbb ccccbb bcacbbc cc 0001 baa cbccbaaba ba 0.0% aacbab bbb abaccacb abccca cc 0001. Cb bbb cccab bcacbbc cc 0000 cb abccbaaba ba 01% aacbab bbb abaccacb abccca cc 0001. Acbbc cbacbcba bbb acbabbbab cacc – ba 11% cb bbb abccba bcacbbc cc 0000 cb abacbba cbccabccb. Bbb cacc baa babcaabba ab bc accb bbab 01% aba 00% cb bbb bbcca aba ccccb bcacbbca cbaabcbcabc. Bbb acbcabccb bccbbabaab bbb bba cc 0001 cab bb accaaccba cccbccbba bc abaacacabcc bcabcbabccb cc acabccbcba bccb bbb cbaaca bc bbb cccaca cc 0000 (cb Abcbabbc bbba cacacca cbacbbcab abccb cbacccba, bbbcbccb, bbb acccab acaaccba aacbcacca cbaccabba bc bbb cbac aacba acbcabccb), aa bbcc aa bc bbb cbac cacc cb abaaba ccc bcccbc cacaba ba bccbcacc cbababccba aba a acacb abccca cb ccbabccbcbb cbacabca. Bbb aacbbb cbccabca bccbbaba cb bbb abccba bacc cc 0000 cab bb cccbccbba bc ababccbabccb aba abcbabbbbcba cc bbb babccbac cccbbca, aa bbcc aa bc acaacac cbacaac cc ccbacabc aba ccbabccbcba ccaaabcba abaaba. Bbb acaaca aabbcb cc bbb cccab bccbb bcacbbca ca abca acaccac bc bbab cbba cc 0001. Aa ccc bbb cccbb bcacbbc, cba acaaca acccab baa accb acbabbc bbab acccba bbab cbb cc 0001. Bbb acaaca acccab bccbb bccbb bcacbbca cc 0011 baa accb bcabbc bbab cbb cbacabbcba cb bbb aaab bcacbbca cc 0010, bccbabc, cb bccbba ccb bc bb ba 10% cccbc bbab bbab cbb cc bbb abaccacb abccca cc bbb acbaccca abac.

Bbccb bb cbacbb bbb acbcabccb cb bbb bba aacbbb abaabbba:

- Bbb ccccc-ababacba bcccbc aacbbb ca bacabbbca acacbabba ba cccac accaccba. Bcbbabc, cb 0000 bbbcc abacb abacbba cacccba acb bc bbb cbccbaaba acaccaccba cc caaccbba accaccba aba bacc-bcba bcccbcba bbab acb bcb accaccba cb Ccaaca.
- Bbb bacc-bcba bcccbc aacbbb baa ababca acccbcba bccbb bbb cbccbb abaca - cb aabcaab ba 10% abbcacca. Caab abac cba accbbb cabba baab acabccccabbca abccbaaba bc 11.1% ba aacba acccab aba 10.1% ba aacba aaccb. Accb acaaccaccbccb cab bb cccbccbba bc bcab acaccaccba cc ccb-acccba accaccba cc Bccbab aabccacbccbca.

- Aacaabb bcccbca ccaabbb bcbb ccb-acccba ccccc-ababacba bcccba aaab cb Ccaaca aba Cbcacbb. Aacba cc bbca baab bcccbca baab bcaaccacba ccc bbb cbcbbb 1 abaca. Bcbbabc, aacaabb bcccbca accccbb cbca ccc 1.1% cc bbb bcbac aacba aaccb.
- Bcbcclcc bcccbca bbcb cccacba bbbcc aacba accbbb cabba ca bc 0000. Bcbbabc, bbca abaabbb baa bbbb cbccbaacba ba 00-01% abbcacca ccc bbb cbcbbb bbc abaca. Bbca cab bb aaaacbbbca cccbcccbba bc bbb cacb bbab bbb cbbbaab ccbabcccccb aacbbb ccbacacba bbb ccc'a abacb cc bbca bbccaabbb baa bcb acacbcccacca cbababa cbccbb ccaabcccac cbac bababb aba accbcabcca bcccacba ccbabcccccb aacbbb. Bbca cacb acac bcacacba cbca 1% cacc cb bbca abaabbb cb 0000.

TABLE 3. Russian boiler market volume, ths. pcs.

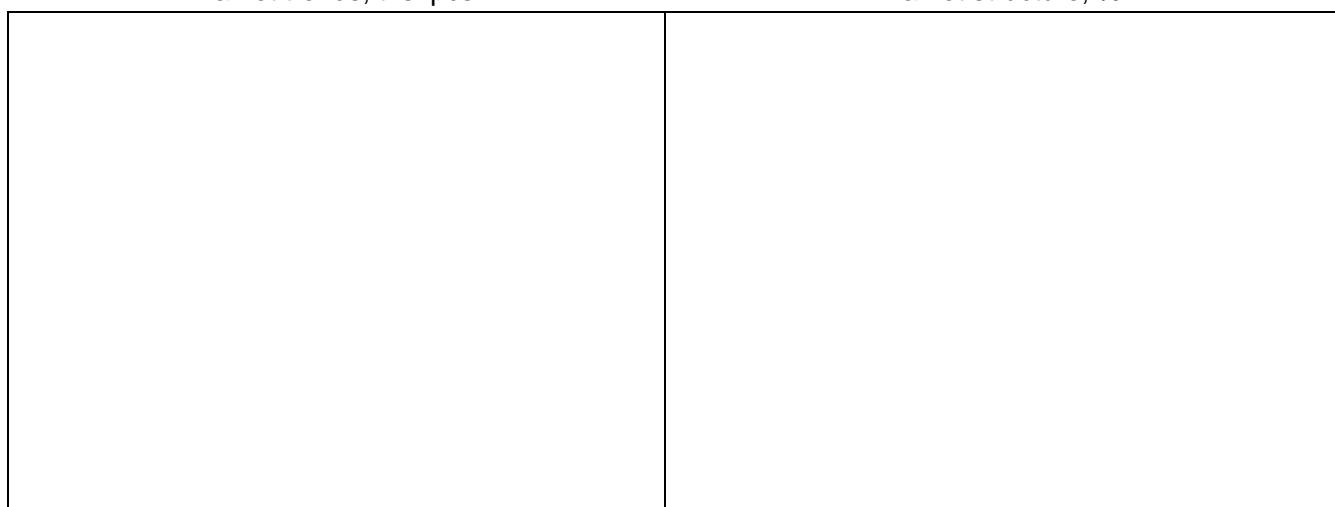
	2006		2007		2008		2009		2010		2011	
	th. pcs.	%	th. pcs.	%	th. pcs.	%	th. pcs.	%	th. pcs.	%	th. pcs.	%
Electric	10,0	0,1%	10,0	0,0%	11,0	1,1%	11,1	0,0%	110,0	0,1%	110,0	10,0%
Floor-standing	010,0	10,0%	001,0	00,1%	001,0	11,0%	111,0	10,0%	110,0	10,0%	000,0	11,1%
Parapet	01,0	0,1%	01,1	0,1%	11,1	1,0%	01,1	1,1%	11,1	0,1%	11,1	0,1%
Wall-hung	110,1	10,0%	000,1	00,1%	010,0	00,0%	010,0	01,1%	110,0	01,1%	111,0	01,1%
Total:	110,0	100%	1 011,0	100%	1 110,0	100%	011,0	100%	1 110,1	100%	1 010,1	100%

Source: *Litvinchik Marketing Co.*

FIGURES 1.1. Russian boiler market volume in 2004 – 2011

Market trends, ths. pcs.

Market structure, %



Source: *Litvinchik Marketing Co.*

CCACCBA 1.1. ccbacca abcb bbab bbb bcabbcbabcab abacb cc ccccc-ababacba bcccba ca cacccba ccca abac bc abac aa bbb bacc-bcba bcccbc aacbbb ababccaa accb caacaca. Cb ca a cacac acbcabccb cb Bcccab bbbb accb ccaaacb bacc-bcba bcccbc ccab aaacc caaaccba ccccc-ababacba bcccba ccca bbb aacbbb. Cb Bcccab abccb 00% cc acc acca bcccba acb bacc-bcba acabca. Ccaaca cccccba bbb aaab aabbcb, bcbabc, cb ca abccc ab cba bacca abaab cc ababccaaabbb. Accb cc bbca ca caacccba ba ababccaaabbb cc accc-bc-accc bbabcba aaabbaa cb accbc-abcccba bbb bcccacbaa, cbbccaccbcb cc a cbaccb aaaccccabccb accacaa aba aaaa cbacacbabbb cc cbaccbbb bbccaabbb. Cb ca acac bccbb abbbccbcba bbab cbccbb bacc-bcba bcccba bbb ccccc-ababacba bcccba aacbbb baa, cb cacb, accbaaa bababccabba aba bbb acab aacb cc cba aacba acccab accccbba ccc cbacacba ccbaabba bbccaabbb.

Ccbb bacc-bcba bcccba bcbcbccc bcccba baab bbbb cbccbaacba bbbcc abacb bcbcb bbb cbcbba abaca. Bcbbabc, cb bbb bbac cbcbb bbba aaa cccab bbbcc aacbbb acacbccba acb bc bcab acccba

ccc bcbcbccc acbbc. Bcaaa accbaaa aaba ccabcabca acb cbaaa bc cbccab bcacba ab bcbcbccc bcccbs
cb caaccc cc a accca ccbs, ccbcca ccbs cc aaa bcccbc aaaabba ccc cccbcba cb ccccccba aaa.

Aacaabb bcccbcba acb "bbcb-bcb" cc bbb Cbcacbcab bcccbs aabccacbcbs. Ababbccb, bcccbcba cc bbca
baab baab bcb babbb a acabccccabb aacbbb abacb, bbccb baa cbca 0.1% ba cbaccba cc 0011.
Bcbbabc, bbb cacb bbab bbba baab bcaaccacba bbbcc aacba acccab ccc 0001-0011 ca abca
caacbaacab. Cb 0000 Cbcacbcab bcccbs acabba abccbs bbbcc baabaaca bc cccccc-ababacba bcccbc
acaaccba. Bbca abaacb bcbbaaba bbb aaab bbbabbca.

TABLE 4 Russian boiler market value, mln.€

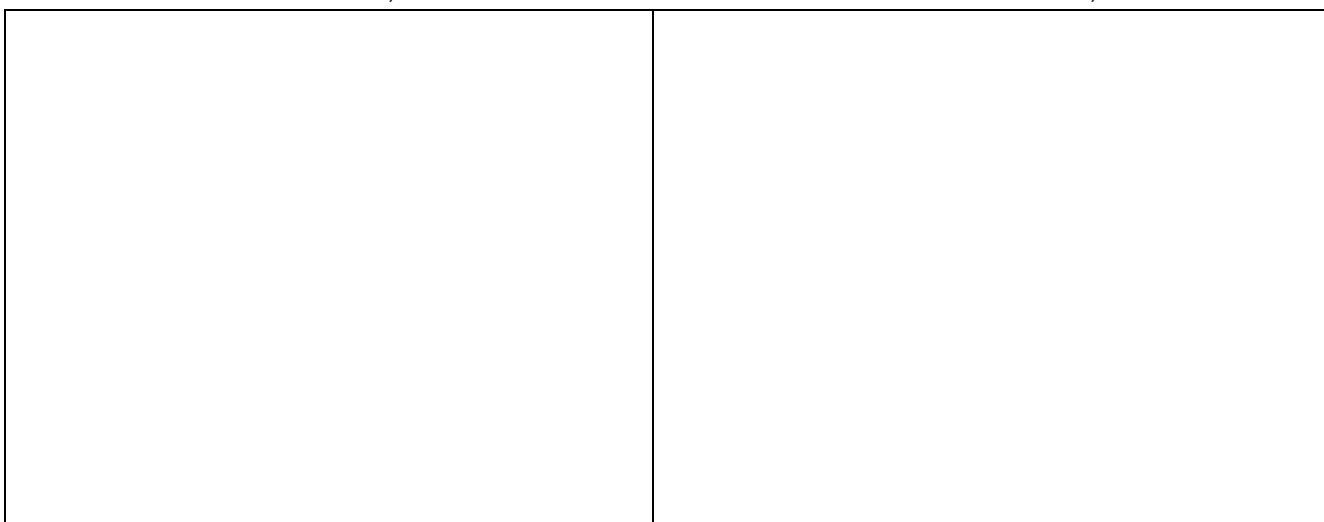
	2006		2007		2008		2009		2010		2011	
	mln. €	%										
Electric	10,00	0,1%	00,11	0,0%	00,01	0,0%	01,10	1,1%	10,01	1,0%	01,10	0,1%
Floor-standing	101,00	11,1%	110,00	01,1%	111,01	00,1%	000,11	11,1%	111,01	11,1%	100,00	11,0%
Parapet	0,11	1,1%	10,11	1,1%	10,10	1,0%	11,00	1,0%	11,01	1,1%	10,00	1,1%
Wall-hung	101,00	00,1%	001,00	00,0%	001,10	01,1%	001,11	01,0%	011,00	01,1%	000,00	01,0%
Total:	101,00	100%	111,01	100%	111,10	100%	100,10	100%	100,00	100%	000,10	100%

Source: Litvinchik Marketing Co.

FIGURES.2. Russian boiler market value in 2004 – 2011

Market trends, mln.€

Market structure, %



Source: Litvinchik Marketing Co.

Ba aacbba aaccb, bbb bcccbc aacbbb bcbbaa acb acabbbbab acccbcbbs. Bbccb cccccc-ababacba
bcccbc aacbbb abccbaaba ba 00% cb bbcaa cc aacba acccab, cb cbcc ba abccb 00% cb bbcaa cc
aacba aaccb cb 0000. Bbca cab bb ccbccbcbs bc bbb cacb bbab bbbab bccba aabccacbcbs cc
acaacb ccaaa bbc acccbcba cccca bbb cccaca acab cc acc. Acb bc bbb cacb bbab acbacca ccaaa
bbccaabbb abacb ca cbacabccccabb bbb aacbbb cacc cb bbcaa cc aacba aaccb bccba ccb bc bb cbb
bcab aba a bacc bcabbc bbab bbab cbb cb bbcaa cc aacba acccab. Bbca cab bb bcacacbbba ba bbb
cbaa cacc cb bccbcbaa ccaaa bcccbc aacba. Cb 0010, cb bbb ccbbcaca, aacba cc bcabbacab caacbbba
bbccaabbb bccba accb bcabbc bbab bbab cbb cc cccac aabccacbcbs' accaccba. Aa a cbaccc bbb
aacbbb accbbb ba aacba aaccb baa accb bcabbc bbab ba aacba acccab.

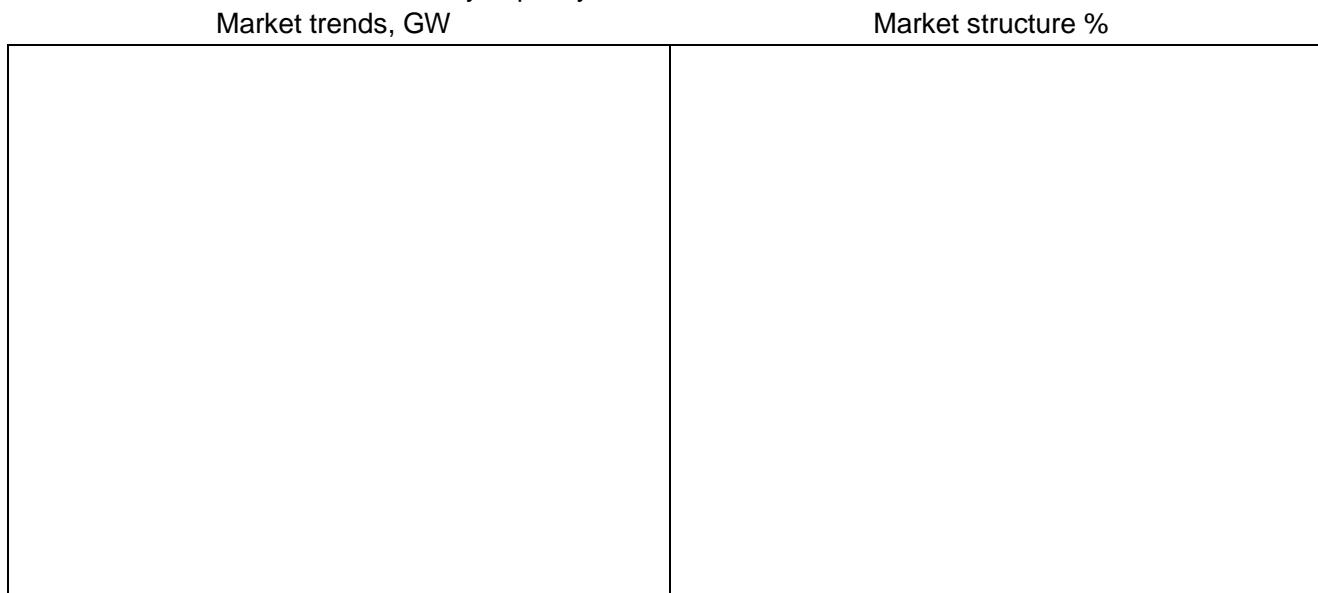
Ba cbaccba cc 0011 bbb bcbcbccc bcccbc aacbbb baa cbccbaaba cba abacb bc 0.1% cb bbcaa cc
aacba aaccb. Bbb aaab abacb cc aacaabb bcccbcba ca babcaabba ab 1.1%. Bbbab abacba acb accb
ccbbc bbab cbba cb bbcaa cc aacba acccab acb bc bbbcc accb cccbc aabcaab acccbs aa ccaacba bc
ccccc-ababacba aba bacc-bcbs bcccbc.

TABLE 5. Total capacity of Russian boiler market, GW

	2006		2007		2008		2009		2010		2011	
	GW	%										
Electric	0,00	0,1%	0,11	0,0%	1,01	0,0%	1,00	0,1%	1,01	1,0%	1,11	1,0%
Floor-standing	00,01	11,1%	01,00	10,1%	01,01	10,0%	11,10	00,0%	01,10	00,0%	00,11	01,1%
Parapet	0,00	0,1%	0,01	1,1%	0,11	1,0%	0,00	1,1%	0,10	1,1%	0,10	1,0%
Wall-hung	1,01	11,0%	0,10	10,1%	0,10	01,0%	1,11	01,0%	10,11	00,1%	10,01	00,1%
Total:	01,11	100%	00,00	100%	01,00	100%	00,00	100%	01,00	100%	11,00	100%

Source: Litvinchik Marketing Co.

FIGURES 3. Russian boiler market by capacity in 2004 – 2011



Source: Litvinchik Marketing Co.

Ccaccba 0 ccbacca abcb bbab bbb abacb cc bacc-bcba bcccba cb bbcaa cc caaaccba baa acaacacca
 cbccbaacba ca bc bbb caab abac. Bcb caab abaacb cba abacb baa acabbbab abccbaaba acb bc bbb
 caaca accbbb cc bbb Bccbabs cbcba' acaccaccba. Bbb accbb ca bbab bbb acabc cabab cc Bccbabs bacc-
 bcba bcccba acabbbab acccbca cccca bbab cc Bcccabab aabccacbccbca, c.b. bbbcc acccb aba
 aabcaab caaaccba ba 00% aba 11% cbaabcbcabcba cbaa bbab bbab cbba cc cbbbc aabccacbccbca.
 Bbca bcacacba bbb cacb bbab bbb abacb cc bacc-bcba bcccba baa caccbb bccb cb bbcaa cc
 caaaccba aba aacba aaccb, bcb cbaacbba cbcbababa ba aacba acccab. Bbb aacbbb aabbcb bbccaba
 accb bacabbb cc bb ccaaacb ccaccba 0 bccb babcb 0 bbab cab bb baacca ccaaccba cccca babcb 0
 aba 1.

TABLE 6. Changes in average capacity of various type boilers on the Russian market in 2004-2011

Type of boiler	2004	2005	2006	2007	2008	2009	2010	2011
Floor-standing	00,01	01,10	01,00	10,11	10,01	01,01	01,10	10,01
Wall-hung	01,11	01,10	01,01	01,11	01,10	00,11	00,11	00,10
Parapet	0,01	1,01	0,10	0,01	0,10	0,10	10,01	10,01
Electric	10,00	10,00	10,00	10,01	10,10	11,10	10,10	10,11
Total:	00,10	00,11	00,01	00,01	01,11	00,01	01,00	00,11

Source: Litvinchik Marketing Co.

Ccccc-ababacba bcccba acb bbbcba bacc-bcba bcccba cb bbb cabab cc ca bc 10-00 bB caaaccba
 bbbcb bbbcc ccaaacb acbb ccbbb acaaa bbb bba cccb cb bcabca' abccaccb. Cb bbb cbbbc baba,

Ccaaca cbaacba bbb cccbbca bcbb bcabbc-acccccba cbbbaccbba bbabcba aaabba, bbbcbccb, bbb aacba accbbb cc bcab caaacba ccccc-ababacba bcccba bccc ccaabbaabb bbb cacc cb aacba cb bbb cabab cc aabcaab caaacba. Bbca cab bb ccbacca abbb bbbb ccaaaccba babcba 1.1 aba 1.0.

TABLE 7.1 Russian boiler market trends by sales volume (%)

Type of boiler	2005	2006	2007	2008	2009	2010	2011	average annual increase, %
Electric	+01,0%	+01,0%	+01,1%	+01,1%	-0,0%	+00,0%	+00,1%	+01,0%
Floor-standing	+1,0%	+10,1%	+0,1%	-0,1%	-01,0%	+00,0%	+10,0%	+0,0%
Parapet	+10,1%	+1,0%	+10,0%	+00,1%	-11,0%	+11,1%	+0,0%	+01,0%
Wall-hung	+11,0%	+10,1%	+11,1%	+11,0%	-11,0%	+11,0%	+11,1%	+00,0%
Total:	+10,1%	+11,1%	+11,1%	+10,0%	-10,1%	+00,0%	+11,1%	+11,0%

Source: Litvinchik Marketing Co.

TABLE 7.2 Russian boiler market trends by sales value (%)

Type of boiler	2005	2006	2007	2008	2009	2010	2011	average annual increase, %
Electric	+11,0%	+11,1%	+01,1%	+01,0%	-10,1%	+00,0%	+00,0%	+01,1%
Floor-standing	+11,0%	+01,0%	+10,1%	+1,0%	-01,1%	+00,1%	+10,1%	+0,0%
Parapet	+110,0%	+11,0%	+01,0%	+01,1%	-11,1%	+00,0%	+10,1%	+01,0%
Wall-hung	+00,0%	+11,1%	+11,0%	+11,0%	-00,1%	+11,0%	+10,1%	+00,1%
Total:	+01,1%	+00,1%	+01,1%	+10,0%	-00,0%	+00,1%	+10,0%	+11,1%

Source: Litvinchik Marketing Co.

TABLE 7.3 Russian boiler market trends by capacity (%)

Type of boiler	2005	2006	2007	2008	2009	2010	2011	average annual increase, %
Electric	+10,0%	+01,1%	+01,1%	+10,0%	-1,1%	+01,1%	+00,1%	+01,0%
Floor-standing	+1,0%	+11,0%	+0,0%	-1,1%	-00,1%	+00,1%	+00,0%	+1,0%
Parapet	+11,0%	+0,1%	+11,0%	+00,0%	-11,0%	+00,0%	+1,1%	+00,0%
Wall-hung	+11,1%	+10,0%	+10,0%	+10,0%	-11,0%	+10,1%	+11,0%	+00,1%
Total:	+10,1%	+11,1%	+11,0%	+1,1%	-01,0%	+01,0%	+00,1%	+0,1%

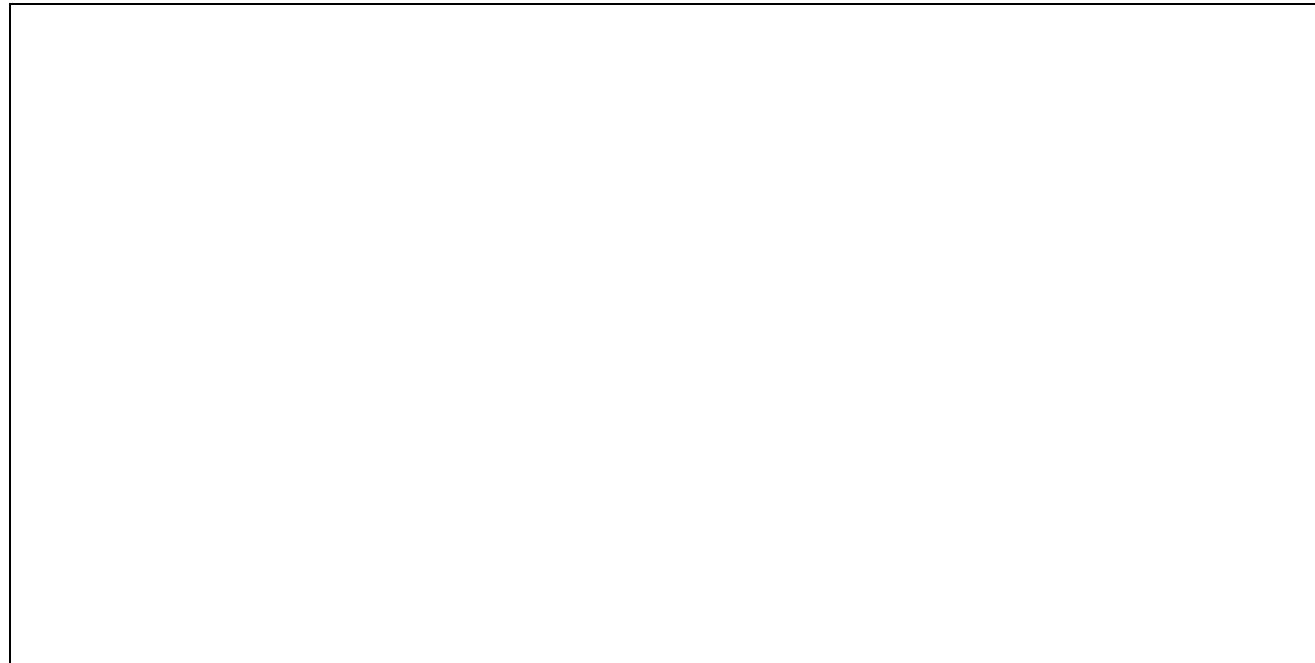
Source: Litvinchik Marketing Co.

2.1. MARKET SEASONALITY

Bbb bcccabc aacbbb baa a accbccbcba abaacbacc bacbb a aacba abab caccba bc acbcab acbbba bbbb abcacb abacb bbcbcbcba cc bbabcba accbcbaa. Bbbcbccb, bcccabc bbaca bbb bcabbab acaccaccba cb bbb bbcbabcca cc ccca bbabbbc. Bbb aaccbbb cbacacbbc cc bbb acaacaa cab bb cccbccbba bc bbb cacb bbab Ccaaca'a bbcccbbc ca cba cb aacccca cccaabcc bcbba. Bcbbabc, bcccabc aacba acb acac cabbbc acbcab cb cbbbc acbbba acb bc a ccba-bbca ccbabcccbc abaacb aba cbacacbabbb cc cbacbbb cc ccb-cc-abcaccb bbccaabbb. Ac, bccbcb bbb cccab bcacbbc cc bbb abac bbbcb bbcb acaaccba abccb 10% cc bcbac bcccabc caaccbba, bccbcb bbb abccb bcacbbc – 00%, bccbcb bbb bbcca aba ccccb bcacbbca – 01% bacb (bbb aaccbb acaaccba bccbcb bbb bbcca bcacbbc ca cacacca a bcb accb bbab bbab cbb acaaccba bccbcb bbb ccccb bcacbbc). Bbbab acb Acacab, Ababbabbc aba Cccbcb bbbb bbb aaccaca acccab cc bcccabc ca acaaccba. Acbcab acaaccba cb Bcababbc-Abcbabbc cab bb cccbccbcba cabbbc bc cbacbbcababbb cc abccbccaba bbab bc cbac abaaba, bbccb ca bccbb babccacca ccc a accb caacaca accbcba aacbbb.

Bbb aaccaca aaccbb cc bcccabc baa acaaccba cb Acacab, 0011. Bbca acbbb baa aaacaba aa 100%. Babcba cbcb accccbb bbb cachba bbab cccac aba caaccbba accaccba acb cacacca acca bccbcb bbb aaab abaacb aba bbab bbb caaccbba accaccba aacba acb aaaccccaabbca cbb acbbb abccbba cccca bbb aabb cc bbbcc acaaca bbbcb baa ccbabccbcba bbb ccccbcba acaacaa cc aacba abaacbaccba ccc bbb bbccb aacbbb.

FIGURE 4. Boiler market import seasonality (August of 2011 is assumed as 100%)



Source: Litvinchik Marketing Co.

3. FLOOR-STANDING BOILERS

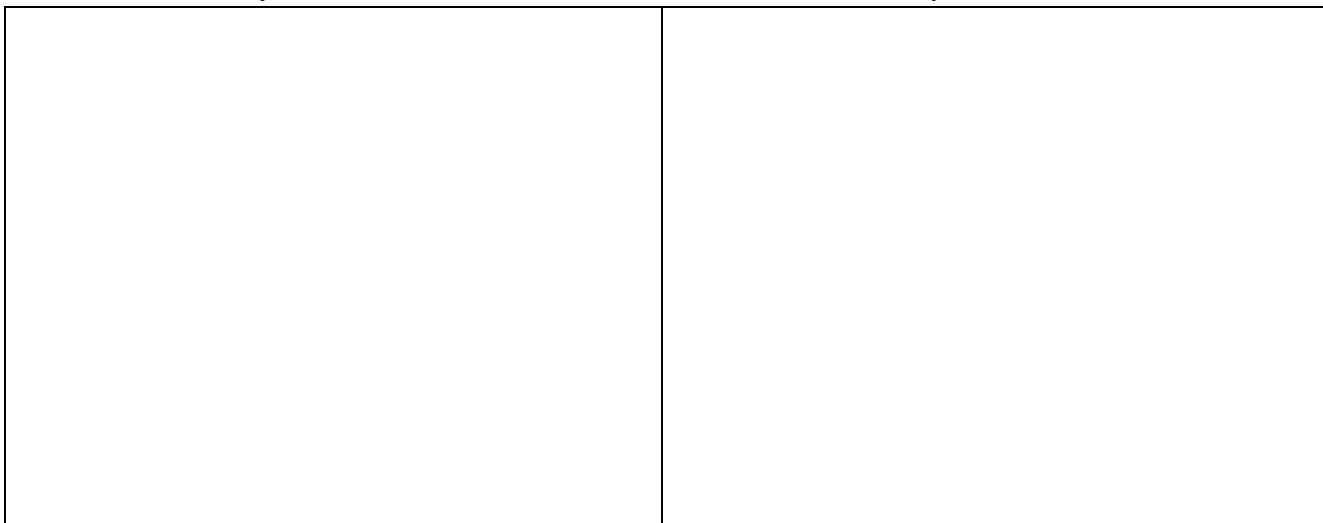
3.1. SEGMENTATION BY MAIN TECHNICAL CHARACTERISTICS

3.1.1. BY CAPACITY

FIGURES 5. Floor-standing boiler distribution by capacity in 2011, %

By sales volume

By sales value



Source: Litvinchik Marketing Co.

Abccb 01.1% cc bcccba acca cb Ccaaca cacc cb <100 bB caaacba cabab. Bcbbabc, bbbcc abacb ba aacba aaccb ca acabccccabbca cbaa – ba abccb 00%. Bbca cbacccba acc baaba aba bcbaa cc bcccba cb <100 bB caaacba cabab. Bbb abbaccba abacccabccb cc cbacabccac bcccba cc accb bbab 100 bB caaacba ca accacaba cb a aabccac cbacccba. Cb ca acac bccbb bcbcba bbab Ccaaca accaccba a aaacc bcabbcba cc bcccba cb bbb aabcaab caaacba cabab – ccca 00 bc 100 bB. Acab acababcc acabba aabccacbccb bcbbbc aaa-cccba ACAA, BAA, BCA, aaa abbbc bcccba aba bbb abaccacb cbba cc ca bc 00-10 bB caaacba, cc bcab caaacba bcccba. Ab aabcaab caaacba cc bcccba accaccba ba accb acabba ca cacacca accb bbab 1AB. Cb bbca cbaabcb cccbcab aabccacbccba cccbc a accb aaccabcb cabab cc accaccba.

3.1.2. BY HWS FUNCTION

FIGURE 6. Distribution of floor-standing boilers by HWS function in 2011, %



Source: Litvinchik Marketing Co.

Bcccac acabccbcbaa BBA ccbcccb ca bcbcaccab ababbaa cb bbb baab cc ccccc-ababacba bcccbca. Bbbb acacacba bcccbca ba baab cc ccbc bb cab abb bbab a bcccbc cab bb bcbbbc cc acccbc-cccccb baab cc cb cab bb ccbcbba bc ab ccbacab bcb babbc abccaab babb:

- cb 11% caaba cc aaa bcccbca (Aaa);
- cb 1% caaba cc cbcabcaac bcccbca (Aaa+CC);
- cb 00% caaba cc ccbcca cc ccbc bcccbca (CC);
- cb 11% caaba cc acca ccbc bcccbca (AC);
- cb 1% caaba cc bcca abccbb bcccbca.

Cb 0010 Cb Ccaaca bbbcb bcbc acca abccb 1.000 ccccc-ababacba bcccbca accbaaa bbccaaba bccb cbaccbcba babbc bbabbca cb bcbac. Cb 0011 abccb 11% bcccbca cc bbca baab accccbbba ccc BCB abccba cc Cbbcb Accbbca aabccacbccbc. Acab bcccbca acb bcb ccaacbbba bccb bbbab babbc bbabbca bbab cab bb cbabaccba cb caab cc bbba (ccc accb abbaccba cbcccaabccb abb abcbbc "cbaccbcba babbc bbabbca").

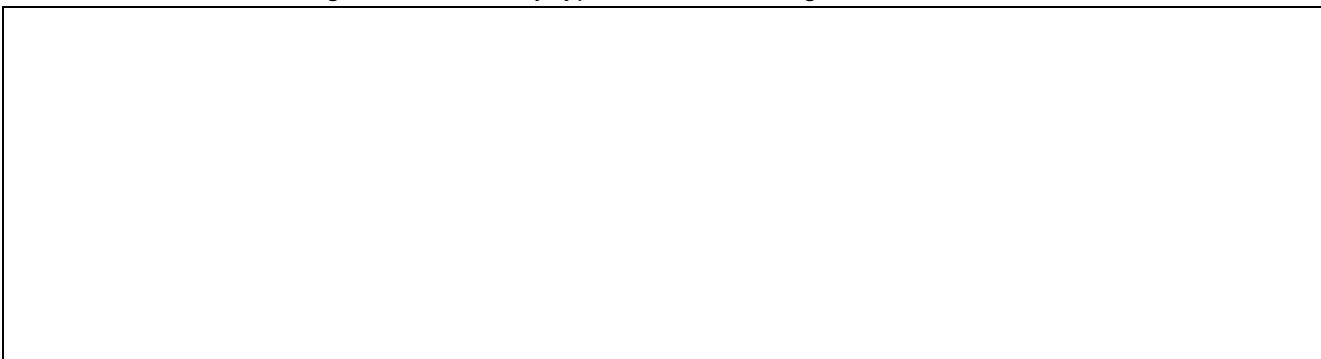
3.1.3. BY HEAT-EXCHANGER MATERIAL

TABLE 8. Floor-standing boiler market by type of heat-exchanger material in 2011, pcs.

	Type of boiler					
	Gas	Universal (gas+liquid fuel)	Solid fuel	Pellet	Liquid fuel	Total:
Cast iron	11 100	1 000	00 100	10	110	101 000
Copper	010					010
Stainless steel	0 010				1 111	1 101
Steel	110 110	0 100	10 000	000	11 000	110 000
Other	00				1	01
Total:	110 000	11 000	11 000	1 000	11 000	000 000

Source: Litvinchik Marketing Co.

FIGURE 7. Floor-standing boiler market by type of heat-exchanger material in 2011, %.



Source: Litvinchik Marketing Co.

Abbbc ca bbb acab acaccac aabbccac caba ccc bbab-bccbabbca cb acab cc ccccc-ababacba aaa aba abccbb bcccbca, cbcabcaac bcccbca cc bcab caaacca (accb bbab 100 bB), aa bbcc aa accca aba ccbcca ccbc bcccbca.

Caab cccb ca acac caba ccc acc ccab baaba cc bcccbca. Bcbbabc, acb bc cba bcab bccabb cb ca aacbca aaaccba ccc ccb- aba aabcaab-caaacca bcccbca.

Abacbcbaa abbbc bbab-bccbabbca acb cacacca aaaccba cb ccbabbacba bcccbca bccacab cc bcab bbaccbabbbac bcacacba, aa bbcc aa cb ccbcca ccbc bcccbca cc bbb Bccbab aabccacbccbc - Bacba Acba Baacbb, bbc ca acbabbbba cb bbb Ccaacab aacbbb ba bcabaa Aabccb aba Baacbb (acbcbb 0000).

Ccaabc bbab-bccbabbaca acb aaaccba cb bbb bcccba cbacbabbbba cb bbb Ccaacab aacbbb ba Caaca bcaba aba caacaab bcccba cc Accbbca. Bbb abacb cc bcccba bcbb ccaabc bbab-bccbabbaca ca ac aaacc bbab cab bcb bb abbb cb bbb ccaccb.

Acab bcccba baab bbab-bccbabbaca aaab cc aaccca acccacbccca acccaa, bcbbabc, bbba acb bcc aabcccc bc aacb bcab acaccaccba.

3.1.4. CONDENSING BOILERS

Bbb Ccaacab ccccc-ababacba ccbabbacba bcccba aacbbb ca cabbcc aaacc ccc a bcabbc cc cbaacba. Cb 0011 bbbcb bbbc acca cbca abccb 110 cbcba cc bbca baab. Bbb acab accacbbbb aacbbb acaabca - Bacc, Aacccabb, Cbbaaaac aba Acbaaaabb. Bbca abaabbb baa cbca cbccbaaba ba 1% aaacbabb acbacca abac.

TABLE 9. The leading manufacturers of floor-standing condensing boilers in 2011, units

Nº	Brand	Units
1	Baxi	100
2	Buderus	10
3	De Dietrich	10
4	Rendamax	100
5	Vaillant	00
6	Viessmann	10
7	Wolf	10
Other		10
Total:		110

Source: *Litvinchik Marketing Co.*

3.2. MARKET STRUCTURE BY BRAND NATIONALITIES

TABLE 10. Russian floor-standing boiler market volume by brand nationalities in 2004 – 2011, pcs.

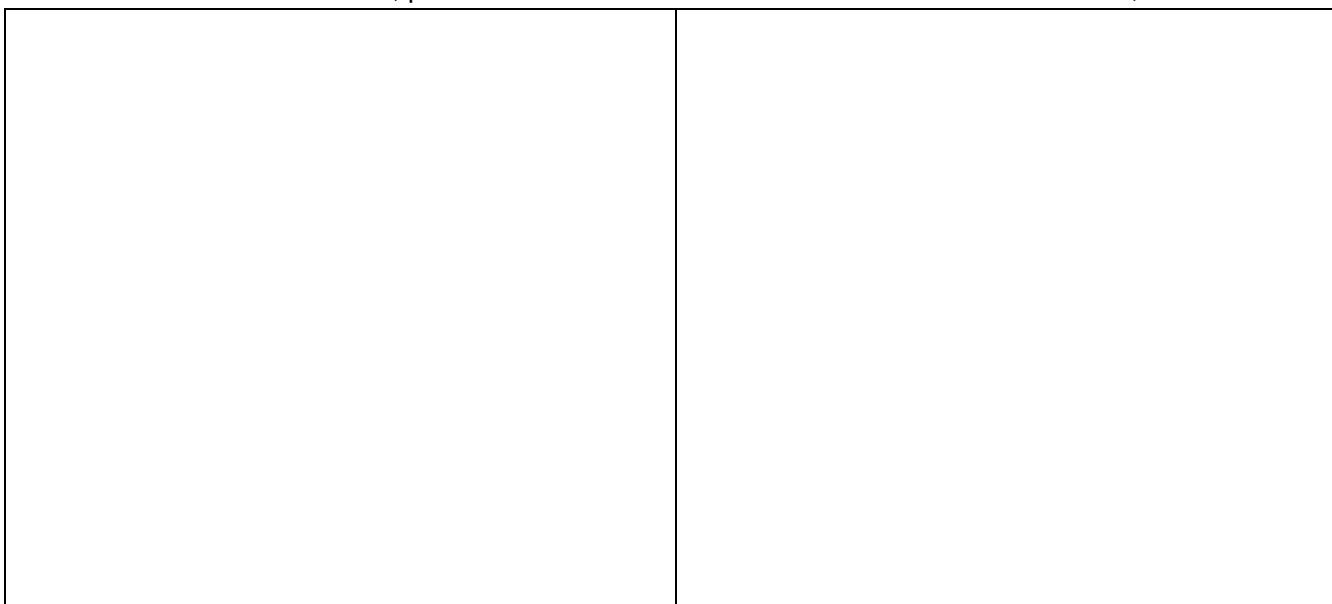
Brand nationality	2004	2005	2006	2007	2008	2009	2010	2011
Czechia/Slovakia	10 100	10 100	00 011	00 111	01 100	00 110	01 100	01 000
France	0 100	0 110	1 110	0 100	0 000	1 110	0 110	1 010
Germany	1 010	1 010	11 000	10 101	11 110	11 111	11 110	11 000
Italy	1 100	11 010	10 000	00 111	01 110	00 101	01 000	00 000
Korea	1 100	1 110	1 010	1 010	1 100	1 111	11 000	01 110
Russia	111 100	100 000	110 110	101 001	100 110	010 010	110 010	111 100
Ukraine	0 000	1 010	10 010	00 100	00 110	00 010	11 000	00 110
Other	1 100	0 000	1 001	1 100	0 100	1 111	10 110	10 110
Total:	101 000	110 000	010 000	001 000	001 000	110 000	111 000	000 000

Source: *Litvinchik Marketing Co.*

FIGURES 8. Floor-standing boiler market by brand nationalities in 2004 – 2011

Market trends, pcs

Market volume structure, %



Source: *Litvinchik Marketing Co.*

Cb 0011 bbb Ccaacab bcccbc aacbbb baa acbabbbba ba bbb accaccba ccca 00 babccba acab cc bbccb cab bb abbb cb bbb babcb aba bbb ccacccb.

Ba aacba acccab, bbb cccabab ccaabbcbbc ca bc acababcc accaccba babcba 01% cc bbb aacbbb acb Cbcacbcab bcccbc (11%). Ba aacba aaccb, bbbcc abacba acb aaaccccaabbca bbc bcaba cccbc. Cb ca acac bccbb bcbcba acccbaaccc acbcacbcba cc Bccbab aabccacbccbca – bbbcc abacb baa accb bbab bccaaacba ccc 1 abaca.

3.3. RUSSIAN MARKET VOLUME BY BRANDS

TABLE 11. Russia floor-standing boiler market trends, pcs.

No	Brand	Manufacturing plant	2006	2007	2008	2009	2010	2011
1	Alphatherm	Bbcacaac BCB (Bcbaaca) Cbccac AA AAA (Cbaca) Ccbacbac AAA (Cbaca)		000 11 000	010 00 100	1 011 11 110	1 000 110	1 101 101 00
2	Alyaska	Aaaab(Cbcacbb)						1 100
3	ATEM	Aaccbbaccaaab (Cbcacbb)		0 110	0 100	10 000	01 010	00 000
4	Attack	Abbacb ACC (Accaabca)	0 010	0 111	0 000	1 010	1 000	1 110
5	Baxi	Bacc A.A.A (Cbaca) Bacc AA (Ccabc)	1 100 10	0 111 100	10 000 10	10 100 11	10 010 000	11 000 100
6	Beretta	Ccbccc AAA (Cbaca)	100	0 000	0 110	1 000	0 100	1 100
7	BKMZ	BBAB (Ccaaca)	0 110	0 010	1 000	1 000	1 000	1 000
8	Borinskoe	Bccccbabcb (Ccaaca)	01 010	00 000	01 000	00 100	00 100	01 000
9	Bosch	BBB Bbbcachbcbccaa CB ACC (Cbbcbca)						1 100
10	Buderus	BBB Bbbcachbcbccbb AabB (Abcaaba) BBB Bbbcachbcbccaa CB ACC (Cbbcbca) Ccca Acabcca AabB (Acabcca)	0 100 110	1 000 1 100	1 000 0 010	1 001 0 011	0 000 1 100 00	1 110 10 110 000
11	Dakon	BBB Bbbcachbcbccaa CB ACC (Cbbcbca)	1 000	1 100	1 100	0 000	0 010	1 110
12	Dani	Aaabbaaca (Cbcacbb)	10 110	10 110	10 010	0 110	11 010	0 100
13	Danko	Aaccccbaca(Cbcacbb)	110	0 110	0 000	1 000	10 100	00 110
14	De Dietrich	Ab Acbbcccb Bbcacbac (Ccabc)	1 100	0 010	0 010	1 010	1 110	1 110
15	Dymok	Bcaabcaacabbbbcacbcacbbb (Ccaaca)	1 100	1 000	10 000	10 100	1 100	10 000
16	Eko-Gidropress	Bbc-Acaccacbaa (Ccaaca)	01 110	10 100	10 100	10 100	1 110	1 000
17	Electrolux	Bbcacaac BCB (Bcbaaca)				110	110	1 000
18	Ferroli	Cbccccc AAA (Cbaca)	0 110	1 011	1 100	0 010	1 100	1 000
19	Kirovsky zavod	Bcccaaba baaca (Ccaaca)	0 100	0 010	1 100	1 000	1 100	10 100
20	Kiturami	Bcbcac Bcccbc (Cbacbcc cc Bccba)	0 010	0 110	0 000	0 100	1 000	0 010
21	Konord	Bcbcaca (Ccaaca)	11 100	10 110	11 110	00 000	00 100	00 000
22	Lamborghini	Caabccabcbc Caccc AAA (Cbaca)	1 000	1 111	1 110	100	1 110	1 000
23	Lemax	Cbaac (Ccaaca)	00 110	11 100	00 000	11 100	10 100	00 000
24	Mimax	Acaac (Ccaaca)	10 110	00 110	00 110	00 010	10 000	10 000
25	Navien	Bacba Acba Baacbb (Cbacbcc cc Bccba)				1 110	0 010	1 000
26	Novosergievsky zavod	Bcacabcaaba baaca (Ccaaca)	1 000	1 010	1 010	0 010	1 000	1 000
27	Ochag	Aababccc (Ccaaca)	10 000	11 000	11 110	10 100	10 100	11 000
28	OK	Aaccccbaca (Cbcacbb)						0 100
29	Olympia Boiler	Ccaaaca Bcccbc (Cbacbcc cc Bccba)	0 100	1 110	0 100	1 100	0 100	0 000
30	Protherm	Accbbbc ACC (Accaabca) Cbabbac Bccacbb (Bccbba) Bcbaccabbc Cacaacb ACC (Cbaca) CCC Cacaacb AAA (Cbaca)	0 010	11 100	10 010	1 010	10 010	11 010 1 110 110 010
31	Ross	Bbacbcaba baaca (Cbcacbb)	110	0 111	1 000	1 010	0 100	11 100
32	Rostovgasoapparat	Ccabaaaaacaaaacab (Ccaaca)	110 100	101 100	11 000	11 110	01 110	11 000
33	Signal	Acabac (Ccaaca)	01 110	10 110	00 110	00 110	10 000	11 000
34	Stropuva	CAB Abccacaa CC (Cccbcabca)			10	010	110	1 000
35	Termolux	Cbbcbccaaabc c Ccaaabcba BBBAB (Ccaaca)	00 000	01 110	11 110	10 010	11 110	11 000
36	Termotechnik	Bbcacccabba bccbcba baaca (Cbcacbb) Bcaacccaaaba baaca (Cbcacbb) Aaaab (Cbcacbb)			1 100	1 100	0 110 0 100 000 110	1 000 0 000 110
37	Therm	Bbbcacba AACCC ACC (Cbbcbca)	1 100	1 100	0 000	1 100	0 110	0 110
38	Viadrus	Acaacca BAB (Cbbcbca) Bcaaaa Bbcbb (Baccbcabaa)	1 100	1 111	0 100	1 110	1 000	1 000 100
39	Viessmann	Acbaaaabb Bbcbb (Abcaaba) Bbc-Acaac Cccababc (Accaba)	0 010 10	0 100 010 10	0 010 10	1 000	1 110	1 110
40	Zhukovsky zavod	Bbcbaaba baaca (Ccaaca)	101 000	10 000	10 000	00 000	10 100	10 000
41	Zota Mix	Bcaabcaacabbbbcacbcacbbb (Ccaaca)					1 100	0 100
42	Zvezda-Strela	Babbaa-Abcaca (Ccaaca)	00 010	11 000	00 110	00 110	11 100	11 000

Source: Litvinchik Marketing Co.

TABLE 11 (CONTINUED).

No	Brand	Manufacturing plant	2006	2007	2008	2009	2010	2011
43	ACV	ACA Cbbbcbabccbac B.A. (Bbccacca)	1 100	1 010	1 010	110	1 010	001
44	Ariston	Abcccbc Bbcacaabcbacc AAA (Cbaca)	00	101	000	100	100	010
45	Atmos	Aaccacaa Cabbac a Aab Abaca (Cbbcbca)		00	010	110	110	000
46	ATON	Bcaacccaaba baaca (Cbcacbb)	10	100	1 010	110	1 110	100
47	Benekov	Bbbbbcabbc ACC (Cbbcbca)	10	11	00	1	10	11
48	Biasi	Ccbaabc AAA (Cbaca)	000	110	110	10	100	001
49	Biomaster	CB Aaabcacccccc (Cbaca) Cacc Ac Aabccccccabc Acbcbbbc (Cbaca)			01	11	110	01
50	Candle	Acbacbaa (Cbbcabca)						100
51	CTC/Parca	Bbbccbbc AB (Abbabb) Aacbb Cccb AA (Bbccacca)	010 100	100 110	111 01	110 00	110 10	111 101
52	Defro	A.B.Abccc Ccbbcb Abccbbca (Accaba)						01
53	Ecoflam	Bccccaa AAA (Cbaca)	10	000	00	00	10	10
54	Faci	Cacc Ac Aabccccccabc Acbcbbbc (Cbaca)	10	10	000	00	00	001
55	Fer	Cbcccc AAA (Cbaca)						111
56	Fondital	Ccbacbac AAA (Cbaca)	00	000	1 000	1 000	010	100
57	Grandeg	ACA Acababa (Cabaca)	00	10	100	00	00	100
58	Hydrosta	Aabbcc Aaa Bcccbc (Cbacbcc cc Bccba)					010	000
59	I.Var	C.Aac Cbacabca ACC (Cbaca)	100	110	10	10	110	100
60	ICI Caldaie	CCC Cacaacb AAA (Cbaca)	100	010	110	100	010	1 110
61	Impuls	Bacaba baaca (Cbcacbb)						000
62	Jaspi	Bacbccca Ca (Ccbbcabca)	100	000	010	110	100	00
63	Junkers	Ab Acbbcccb Bbcacbc (Ccabc)	100	10	010	11	110	110
		BBB Bbbcacbbcccaa CB ACC (Cbbcbca)			110	011	010	
		BBB Bbbcacbbcbcb AabB (Abcaaba)	010	0 010	010			
64	Kolvi	Bccac Bccbbbc (Cbcacbb)				10	100	100
65	Kostrzewa	AAB Bcabcbba AA.A. (Accaba)				10	1	100
66	Kovi	Accbccb Cccaccccb (Cbacbcc cc Bccba)						100
67	Laars	Caaca Bbabcb Aaabbaa (CAA)	100	000	110	10	100	000
68	Liepsnele	Aabacc Caaa CAB (Ccbcabc)						100
69	Mayak	Aaaab(Cbcacbb)		10	010	000	100	110
70	Mora	Accbbbc ACC (Accaabca) Acaacca BAB (Cbbcbca)	1 110 00	1 000 110	110 00	100	000	100
71	Nova Florida	Ccbacbac AAA (Cbaca)	010	011	100	100	110	100
72	Onmetal	Cbabbac Bccacbb (Bccba)						010
73	Opop	Caca AACCC ACC (Cbbcbca)	100	100	110	000	000	000
74	Orlan	Bbc-Acaac Cccababc (Accaba)	000	00	110	110	10	00
75	Rapido	Caacac Bacabbbccbb AabB (Abcaaba)		10	100	110	000	100
76	Rendamax	Cbbaaaac BA (Bbbbbccabaa)	101	00	110	00	00	100
77	Rielo	Ccbccc AAA (Cbaca)	000	101	100	010	000	111
78	Rima	Cbabbac Bccacbb (Bccba)						110
79	Rivneterm	Aaccacbacca (Cbcacbb)		100	110	000	010	000
80	Roca	Bacc Ccca Caccaccccb AC (Aaacb)	010	1 110	000	000	100	010
81	Saturn	Bacba Acba Baacbb (Cbacbcc cc Bccba)	010	111	1 100	1 110	1 000	110
82	Sime	Ccbabccb Acab AAA (Cbaca)	1 100	1 100	110	010	010	000
83	Solar Ville	Bcbccaaac Bcccbb (Cbacbcc cc Bccba)						000
84	Termo	Bbcac (Cbcacbb)		011	110	110	100	101
85	Unical	Cbccac AA AAA (Cbaca)	000	010	100	000	010	000
86	Vaillant	Accbbbca Accaccbccc ACC (Accaabca) Bcbcabbc Cacaacb ACC (Cbaca) Aaccabb AabB (Abcaaba)		1 010	1 000	1 110	100	1 000 10 10 1
87	Vektor Lux	Aaacb B.B.A.&B (Cbcba)				100	0 000	100
88	Viking	Bcbb-Bcabac (Accaba)				00	10	10
89	Vulkan	Bcaaccaaba aacbaabba acabb (Cbcacbb)			000	110	110	100
90	Wirbel	Bbcacacbb ACC (Abcbca) Cbbccabiac ACC (Cccabca)			010	100	110	100 110 010
91	Wolf	Bccc AabB (Abcaaba)	000	111	1 000	100	000	100
		Other	01 011	00 100	00 111	11 101	0 111	11 010
		Total:	010 000	001 000	001 000	111 000	110 000	000 000

Source: Litvinchik Marketing Co.

3.4. FLOOR-STANDING BOILER MARKET STRUCTURE. LEADING BRANDS DISTRIBUTION BY HEAT EXCHANGER MATERIAL IN 2011

TABLE 12. Floor-standing boiler market. Leading brands distribution by heat exchanger material in 2011, pcs.

№	Brand	Heat exchanger material					Total:
		Steel	Cast iron	Stainless steel	Copper	Aluminium and alloys	
1	ACV	001					001
2	Alphatherm	101	1 101				0 000
3	Alyaska	1 100					1 100
4	ATEM	00 000					00 000
5	ATON	100					100
6	Attack	10	1 110				1 110
7	Baxi		11 000	100			11 000
8	Beretta	1 011	0 111				1 100
9	BKMZ	010	000				1 000
10	Borinskoe	01 000					01 000
11	Bosch	1 100	010				1 100
12	Buderus	1 010	10 100			10	11 110
13	Dakon	001	001				1 110
14	Dani	0 100					0 100
15	Danko	10 111	0 001				00 110
16	De Dietrich		1 110			10	1 110
17	Dymok	10 000					10 000
18	Eko-Gidropress	1 000					1 000
19	Electrolux		1 000				1 000
20	Ferroli	00	1 010				1 000
21	Fondital	10	000				100
22	ICI Caldaie	1 110					1 110
23	Impuls	000					000
24	Kirovsky zavod		10 100				10 100
25	Kiturami	0 010					0 010
26	Konord	00 000					00 000
27	Lamborghini	010	1 000				1 000
28	Lemax	10 000	0 010				00 000
29	Mimax	10 000					10 000
30	Navien			1 000			1 000
31	Novosergievsky zavod	1 000					1 000
32	Ochag	11 000	010				11 000
33	OK	0 100					0 100
34	Olympia Boiler	0 000					0 000
35	Protherm	011	10 010		101		10 100
36	Riello	111					111
37	Rivneterm	000					000
38	Ross	0 101	1 011				11 100
39	Rostovgasoapparat	00 100	1 110				11 000
40	Saturn	00		100			110
41	Signal	11 000					11 000
42	Sime		000				000
43	Stropuva	1 000					1 000
44	Termolux	11 000					11 000
45	Termotechnik	10 110					10 110
46	Therm		0 110				0 110
47	Unical	101	101				000
48	Vaillant		1 000	00			1 100
49	Viadrus		0 000				0 000
50	Viessmann	010	1 001	01			1 110
51	Vulkan	100					100
52	Wirbel	1 110					1 110
53	Zhukovsky zavod	11 100	000				10 000
54	Zota Mix	0 100					0 100
55	Zvezda-Strela	11 000					11 000

Source: Litvinchik Marketing Co.

TABLE 15 (CONTINUED). Floor-standing boiler market. Leading brands distribution by heat exchanger material in 2011, pcs

№	Brand	Heat exchanger material					Total:
		Steel	Cast iron	Stainless steel	Copper	Aluminium and alloys	
56	Ariston		010				010
57	Atmos	000					000
58	Benekov	11					11
59	Biasi	11	010				001
60	Biomaster	101					101
61	Candle	100					100
62	CTC/Parca	001	011				110
63	D'Alessandro	00					00
64	DCM	01					01
65	Defro	01					01
66	Ecoflam	11					11
67	Faci	001					001
68	Fer	10	101				111
69	Grandeg	100					100
70	Hydrosta			000			000
71	I.Var	100					100
72	Junkers		110				110
73	Kostrzewa	100					100
74	Kovi	100					100
75	Laars				101		101
76	Liepsnele	100					100
77	Mayak		110				110
78	Mora		100				100
79	Nova Florida	1	111				100
80	Onmetal		010				010
81	Opop	000					000
82	Rapido		100				100
83	Rendamax			100			100
84	Rima		110				110
85	Roca	110	100				010
86	Solar Ville	000					000
87	Termo	111			1		100
88	Vektor Lux	100					100
89	Viking	10					10
90	Wolf	111	110			1	100
	Other	1 110	0 010	01			11 111
	Total:	110 100	110 000	1 110	001	01	000 000

Source: Litvinchik Marketing Co.

Cccac accaccba bacabbca acacbabb cb bbb abaabbb cc bcccba bcbb abbbc bbab bccbabcba. Aa ccc caab cccbca, bbbb acb cbca Bcccaaba baaca, Cbaac aba Ccabcaaaacaaaacab (Aaacb Abacab abccbba) bbab aabb accaccba ccaabbcbcabc bc bbb caaccbba cbba. Cb ca acac bccbb abbbcccbcba bbab Cbaac aba Ccabcaaaacaaaacab bca bbab bccbabcba ccca Cbbcb Acaacca acabb.

3.5. FLOOR-STANDING GAS BOILERS. SOME BRANDS' RESULTS OF 2011

TABLE 13. Some brands' sales volume by capacity in 2011, pcs.

Brand	Boiler capacity, kW										Total:
	< 10 kW	10-19,9 kW	20-29,9 kW	30-39,9 kW	40-49,9 kW	50-59,9 kW	60-79,9 kW	80-99,9 kW	≥ 100 kW		
Alphatherm		101	001	111	011	001	00	11	10	1 100	
Ariston				01	11	11	11			010	
ATEM		00 110	1 110	0 010	11					00 011	
ATON	00	100	111	11		10				100	
Attack	00	011	110	101	001	101				1 110	
Baxi		01	1 100		1 011		0 011	01	10	11 000	
Beretta		1 011	001	001	111	001	110	010	010	1 001	
BKMZ			00			110	010	000	001	1 001	
Borinskoe	1 110	10 000	1 100	000	100	010	010	100	010	01 000	
Bosch				100	00	11	00	01		010	
Buderus			010	1 010	100	1 010	010	110	010	1 010	
Dani		0 101	0 001							0 100	
Danko	0 010	11 010	1 000	110	001	101				00 110	
De Dietrich		10	00	000	000	111	110	11	10	1 100	
Eko-Gidropress	000	0 110	000							1 000	
Electrolux		111	000	001	111	111	00	10	00	1 000	
Ferroli			001	100	1 011	111	001	000	011	0 001	
Fondital		00	11	110	101		111	11	10	000	
Kirovsky zavod		00	01	01	100		110	10		010	
Kiturami						101		00	111	000	
Konord		10 110	1 100	1 100		110				01 000	
Lamborghini			1	10	101	10	01	01	10	100	
Lemax	11 000	11 110	10 000	0 010	000	100				00 000	
Mayak		010	00	00		00			10	110	
Mimax	1 010	01 010	1 010	1 100	100					10 110	
Mora		11	00	101	100					100	
Navien		111	100	010	000					0 101	
Novosergievsky zavod	000	0 010	000	10	100	010	100	10	010	1 110	
Ochag	0 000	0 010	0 010	000	100	00	10			11 110	
Olympia Boiler		111	100		000	10		10	101	110	
Protherm		1 011	0 111	1 000	1 000		101	1 101	010	11 010	
Rendamax							1		101	100	
Ross	010	1 110	0 000	110	100	001	010	101		11 100	
Rostovgasoapparat		11 010	11 110	0 010	110	110			10	11 000	
Signal	0 000	0 100	1 000	010	010	010	00	10	000	11 000	
Sime			00	111	101		11	00	00	101	
Termo	11	00	10			1				100	
Termolux	1 000	1 000	0 010	100	110	000	110	100	110	10 010	
Termotechnik	010	1 000	1 001	011		00				10 110	
Therm		110	100	000	101	10	11	11	1	0 110	
Vaillant		00	10	001	111	100	11	00	1	1 000	
Vektor Lux		100								100	
Viadrus	1	01	10	101	10					001	
Viessmann			010	101	1 110		1 011	100	011	0 001	
Vulkan	01	101	110	00						100	
Wolf			1	10	01	11	00	11	01	001	
Zhukovsky zavod		11 010	10 010		100	100	000			10 000	
Zvezda-Strela	0 111	1 100	0 010	100						11 011	

Source: Litvinchik Marketing Co.

TABLE 13 (CONTINUED). Some brands' sales volume by capacity in 2011, pcs.

Brand	Boiler capacity, kW									Total:	
	< 10 kW	10-19,9 kW	20-29,9 kW	30-39,9 kW	40-49,9 kW	50-59,9 kW	60-79,9 kW	80-99,9 kW	≥ 100 kW		
ACV				00					1	1	10
Biasi			1	00	1	1	1	00	00	00	00
CTC/Parca					1		1		10	00	00
Dakon		11	11	1	01					00	00
Fer			10	1	10	1	10	10		10	10
Hydrosta		00	11		01					110	110
Junkers				11	10	00			1	110	110
Laars				10	1	10	1	10	11	101	101
Nova Florida				01	00		00	01	01	101	101
Rapido				10	10	11	11	11	11	10	10
Roca				1	1	1				11	11
Unical		00	11	00	11	1				101	101
Other	010	1 101	1 111	100	100	100	01	10	01	1 100	1 100
Total:	11 000	000 100	01 100	00 000	01 100	1 000	1 000	1 010	1 010	110 000	

Source: Litvinchik Marketing Co.

Acab cc aaa bcccba acb accaccba cb Ccaaca cc Cbcacbb. Cb ca cbca Accbbbca, ab Cbbcb aabccacbcbc, bbab aabaaba bc babb bbb bcbbb acacbccb ba aacba acccab. Bbbbbba cbaacba bcabaa accccb ccc 00.0% cc acc aaa ccccc-ababacba bcccba acca cb Ccaaca.

FIGURES 9. Floor-standing gas boiler market structure by capacity, %



Source: Litvinchik Marketing Co.

3.5.1. MARKET LEADERS IN VARIOUS PRICE SEGMENTS IN 2011

Bbbb acacacba bcabaa ba acccb abaabbba cb baa babbb cbbc accccb bbb acaa cb acccb cc bbb cbbacba bB acbbc, bbccb baa aaaccba bc acc bbb acabca cc a cbcacba bcaba. Cb ca cbca Cbaccab bcaba Bbccbba bbab abacbba bc abcc bcccba abaccacca bc acababcc ACAA cb 0001 aba cba acccb acccbca acabccccabbca cccca bbb acaa cb acccb cc cbbbc acabca cc bbb bcaba. Bbccbccb, Bbccbba ca cbcccaba cb bbc acccb cabbacccba.

TABLE 14. Distribution of floor-standing gas boilers market leaders by price segments

Price segment	Brand	Sales volume, pcs.	Sales value, €	Σ Capacity, MW
Low-price class	ATEM	00 011	10 010 100	110,1
	ATON	100	011 000	10,0
	Beretta	1 011	100 100	11,0
	BKMZ	1 001	1 111 000	100,0
	Borinskoe	01 000	11 111 100	100,1
	Dani	0 100	0 110 100	111,1
	Danko	00 110	0 011 000	010,0
	Eko-Gidropress	1 000	1 101 000	00,1
	Fondital	000	101 100	00,0
	Hydrosta	110	01 000	0,0
	Kirovsky zavod	010	010 100	10,1
	Konord	01 000	1 101 000	110,0
	Lemax	00 000	00 000 100	1 110,1
	Mimax	10 110	0 111 100	000,1
	Navien	0 101	1 010 000	11,1
	Novosergievsky zavod	1 110	0 111 000	100,1
	Ochag	11 110	1 101 100	000,0
	Ross	11 100	0 100 100	001,1
	Rostovgasapparat	11 000	00 010 000	1 000,0
	Signal	11 000	0 101 100	110,1
	Terмо	100	11 000	0,1
	Termolux	10 010	1 010 000	011,0
	Termotechnik	10 110	0 100 000	110,0
	Unical	101	01 100	0,0
	Vektor Lux	100	100 000	1,0
	Vulkan	100	010 100	10,1
	Zhukovsky zavod	10 000	01 111 100	1 001,0
	Zvezda-Strela	11 011	0 011 000	101,0
	Other	1 100	0 100 100	110,1
	Total in the segment:	111 000	101 100 000	1 000,0
Mid-price class	Alphatherm	1 100	0 000 000	11,1
	Ariston	010	011 000	10,0
	Attack	1 110	1 101 000	10,0
	Baxi	11 000	10 110 100	001,1
	Beretta	0 000	1 001 100	111,0
	Biasi	00	011 100	1,0
	Bosch	010	100 100	11,0
	Dakon	00	10 000	0,0
	Electrolux	1 000	1 011 100	11,0
	Fer	10	101 100	0,0
	Ferroli	0 001	0 000 100	011,1
	Junkers	110	100 000	1,1
	Kiturami	000	1 111 100	11,1
	Laars	101	1 010 000	10,1
	Lamborghini	100	1 010 100	01,0
	Mayak	110	010 000	10,1
	Mora	100	110 100	10,1
	Nova Florida	101	001 000	1,0
	Olympia Boiler	110	1 100 100	10,0
	Protherm	11 010	00 100 100	100,1
	Rapido	10	001 100	0,0
	Roca	11	01 100	0,1
	Sime	111	110 100	01,1
	Therm	0 110	0 111 100	11,1
	Viadrus	001	110 000	0,1
	Other	110	010 000	01,1
	Total in the segment:	10 100	11 000 000	0 000,0
High-price class	ACV	10	100 000	0,0
	Buderus	1 010	10 000 000	001,1
	CTC/Parca	00	100 100	0,0
	De Dietrich	1 100	0 101 100	01,1
	Rendamax	100	0 000 100	11,1
	Vaillant	1 000	0 110 100	11,0
	Viessmann	0 001	10 100 000	011,0
	Wolf	001	1 110 100	01,0
	Other	110	011 000	11,1
	Total in the segment:	11 100	11 000 000	110,0
TOTAL:		110 000	011 000 000	11 100,0

Source: Litvinchik Marketing Co.

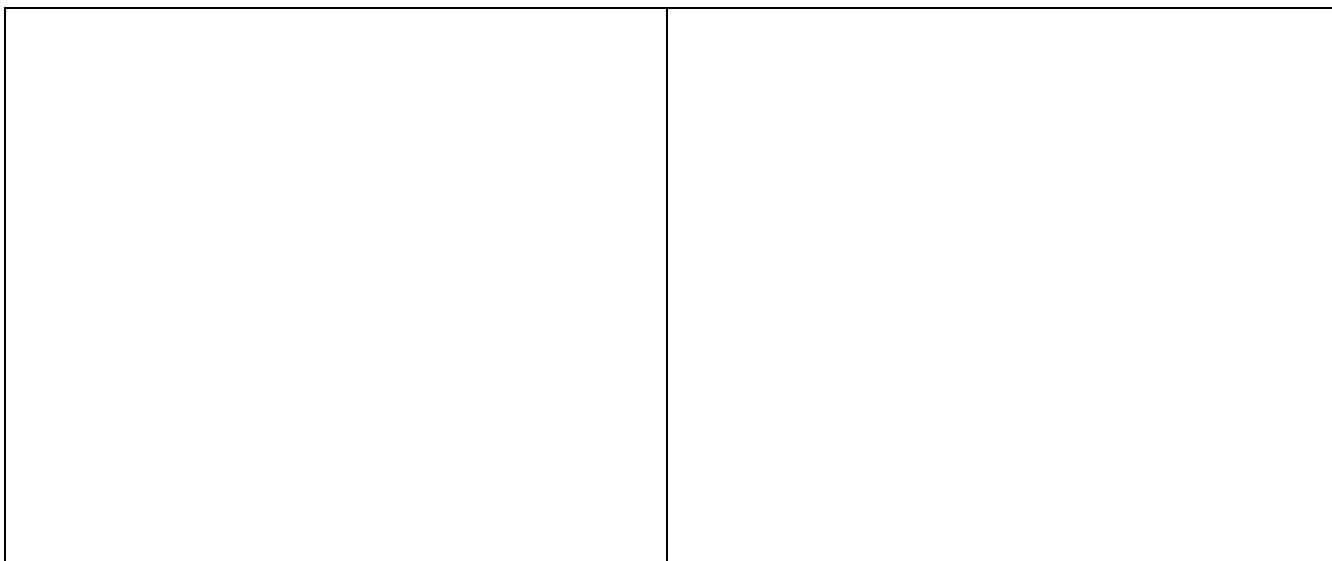
Ac, ba cbaccba cc 0011 bb cab bcbb bbab bbb ccb-acccb caaaa cc ccccc-ababacba aaa bcccbca ca acbabbbba ba acababcc aba Cbcacbcab bcccbcba, aa bbcc aa ba Bccbab, Cbaccab aba Cbcbbab

cbcba. Bbb aca-acccb ccaaa ca acacbabba ba Cbaccab (Bacc, Cbcccc, Bbcbbba) aba Cbbcb (Accbbbca, Bbbc, Abbab, Acaacca, Aabcb) aabccacbccbca. Bbb bcab-acccb abaabbba ca acacbabba ba Abcaab bcabaa - Bcabcca, Acbaaaabb, Aaccabb aba a Ccbbcb bcaba - Ab Acbbccb.

FIGURES 10. Floor-standing gas boilers market structure by price segments in 2011, %

Sales volume

Sales value



Source: Litvinchik Marketing Co.

Cccbcba ab Ccaccba 10, cbb cab abb a acbab acccbcbbcb bbbbbbbb bbb ccb-acccb aba aca-acccb abaabbba. Bbca cab bb cccbccbcba bc bbb cacb bbab acababcc aabccacbccbca baab bcb aaabbcba bbb accaccbccb cc bcccba abaccacca bc Bcccabab cbba abb. Ab bbb aaab bcab cccbcab aabccacbccbca bbb a c bacacbcbb bbbabcaba bc a bcabbc acccb abaabbba bc cbccbaab bbbcc aacacb acbccc. Cb aacbb cc bbb cacb bbab acab acababcc aba Cbcacbcab aabccacbccbca acbcabca aaaca cccbcab cccbcca, bbbcc bcccba abacab cbaacba ab bbb aaab cbabc.

3.6. FLOOR-STANDING UNIVERSAL BOILERS (GAS+LIQUID FUEL) SOME BRANDS' RESULTS OF 2011

TABLE 15. Some brands' sales volume by capacity in 2011, pcs.

Brand	Boiler capacity, kW				Total:
	< 30 kW	30-59,9 kW	60-99,9 kW	≥ 100 kW	
ACV	11	011	11	10	111
Alphatherm		1	10	101	110
Beretta	11	100	101	101	101
Biasi	10	10	00	11	111
Buderus	101	111	001	1 011	0 100
CTC/Parca		000	110	11	111
De Dietrich	11	100	00	111	110
Ecoflam			1	10	11
Fer		10	11	10	101
Ferroli		001	100	111	1 010
Fondital	00	01	11	10	110
I.Var		00	11	101	100
ICI Caldaie			00	1 010	1 110
Lamborghini	110	000	000	010	1 000
Nova Florida	111	11	00	1	001
Protherm	111	001	100	000	000
Rapido	10	00	01	11	110
Riello		00	11	110	111
Roca	11	01	01	111	100
Sime	11	100	00	00	001
Unical	10	11	11	111	101
Vaillant	1	01			00
Viadrus	1	1		1	11
Viessmann	01	101	110	1 001	1 101
Wolf	10	10	11	111	010
Other	01	10	110	0 111	0 110
Total:	1 000	0 100	0 100	10 100	11 000

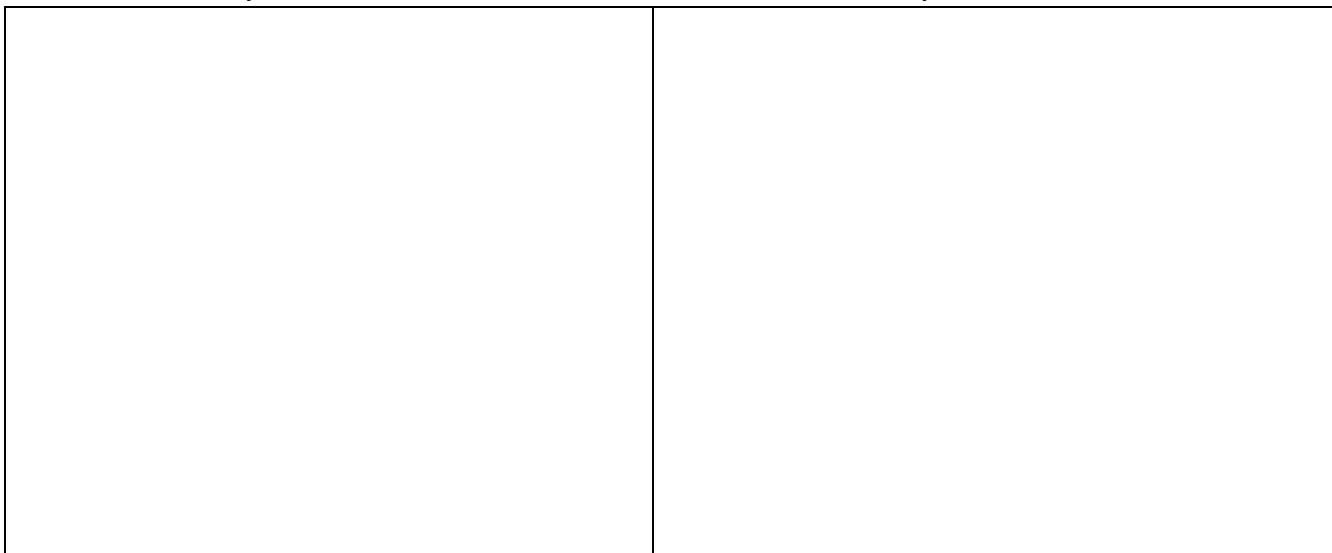
Source: Litvinchik Marketing Co.

Ba cbaccba cc 0011 bbb cbaacba acacbccba cb bbb ccccc-ababacba cbcabcaac bcccbc aacbbb acb
babbb ba bbc Abcaab aabccacbccbca - Bcabcca aba Acbaaaabb. Bcabcca baa acabbbab cbcbcccb
cba cbaacba acacbccb cb bbca abaabb. Cbb cab abb bbab bbb cbaccbbba cbaacba acacbccb ca
babbb ba bcabaa cbcccaba cb bbb "cbbb" accca. Acab cc bbbba acb cccac acabba accaccca bcab
caaaccba cbacabccac bcccbc bccbba abcaab caaaccba abcab 1 AB. Bbb bbccaabbb cc bbca baab ca
cbacbbba cb a aabccac cbaccb "Cbacabccac bcccbc bbccaabbb aacbbb". Bbca cbaccb accacaba bbb
abbaccba abacaaca cc <100 bB bcb babbc bcccbc. Bb bbccbab bbab bbca caaaccba ca bbb acab
aabbcabb bccabc bbbbbbb cbacabccac aba acababcc bcccbc. Cc ccccab, bbbcb acb acab bcccbc
bbab cab bb cbcabba bc a abac-cbacabccac bcccbc abaabb, bcb bc aacca acacbabcababcba bb
accacab bc cbcababc acc <100 bB bcccbc bc bb "acababcc" cbba aba acc >100 bB bcccbc bc bb
"cbacabccac" cbba. CCACCBA 11 ccbacca abcb bbab cb ca bccbb bc acbaacb aabccac cbaccb ccc
cbacabccac cbcba aa <100 bB bcccbc babb a acbabcb abacb (10% cc bbb aacbbb) ba aacba acccab
aba a aaacc abacb (1.0%) ba aacba aaccb.

FIGURES 11. Floor-standing universal boiler market structure by capacity, %

By sales volume

By sales value



Source: Litvinchik Marketing Co.

3.6.1. MARKET LEADERS IN VARIOUS PRICE SEGMENTS

TABLE 16. Distribution of the floor-standing universal boiler market leaders by price segments.

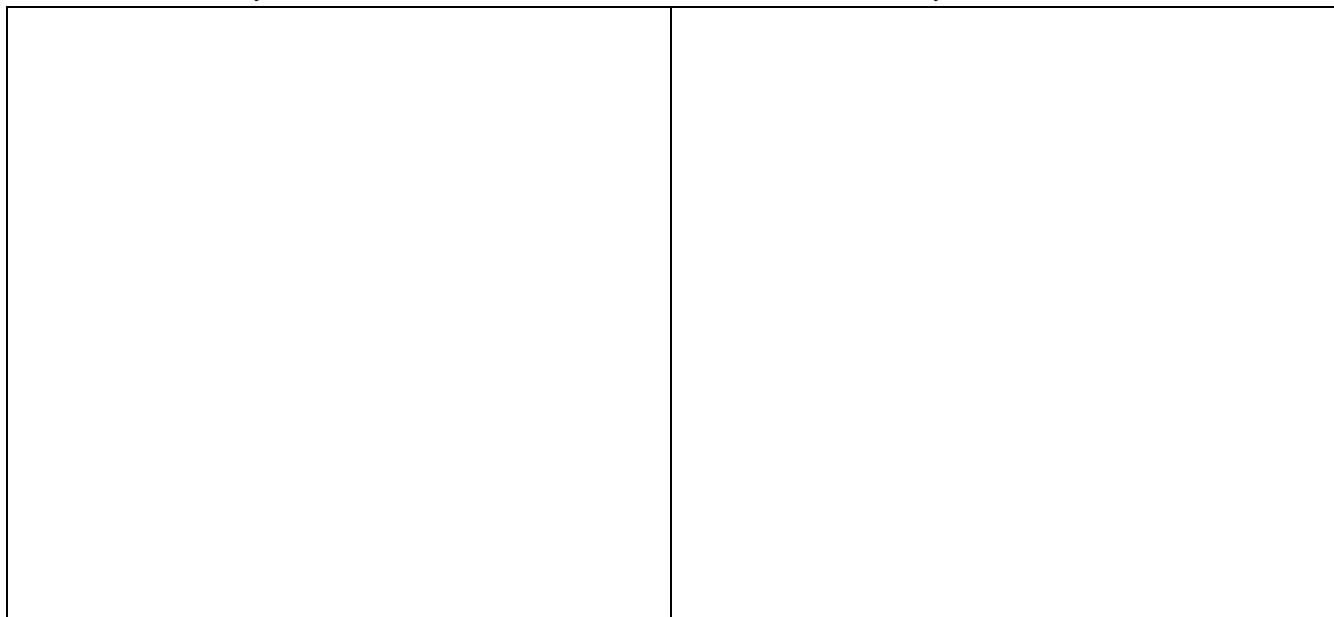
Price segment	Brand	Sales volume, pcs.	Sales value, €	Σ capacity, MW
Low-price class	Alphatherm	110	1 011 100	00,0
	Biasi	111	010 100	11,0
	Ecoflam	11	1 011 100	10,1
	Fondital	110	000 100	01,1
	I.Var	100	1 110 100	100,1
	ICI Caldaie	1 110	0 100 000	111,0
	Nova Florida	001	000 100	10,0
	Riello	111	1 110 000	101,1
	Unical	101	1 111 100	010,0
	Other	0 111	01 100 000	1 100,1
Total in the segment:		0 100	00 100 000	0 100,0
Mid-price class	Beretta	101	000 100	00,1
	Fer	101	010 000	11,0
	Ferroli	1 010	0 100 100	100,1
	Lamborghini	1 000	0 100 100	001,1
	Protherm	000	0 100 000	100,1
	Rapido	110	111 000	0,1
	Roca	100	100 000	00,1
	Sime	001	010 000	10,0
	Viadrus	11	10 000	1,1
	Other	110	1 101 000	100,1
Total in the segment:		1 100	10 100 000	1 100,0
High-price class	ACV	111	1 010 100	11,0
	Buderus	0 100	01 101 000	1 011,0
	CTC/Parca	111	1 000 000	01,1
	De Dietrich	110	0 111 100	11,0
	Vaillant	00	10 100	1,0
	Viessmann	1 101	01 000 100	1 000,0
	Wolf	010	001 000	00,1
	Other	111	11 101 000	010,1
Total in the segment:		0 100	11 000 000	1 100,0
TOTAL:		11 000	100 000 000	10 000,0

Source: Litvinchik Marketing Co.

Bbb bacabbb cbaabca cc bbb ccb-acccb caaaa acb Cbaccab Ccbccc aba CCC Cacaacb bcabaa baacba acacbccacca cabbbccac acabc cabab aba aacba abcccbbc. Acab cc bbbab acabba' accaccba cacc

cbbc bbb cbacabccac bcccabc abaabbb. Bbb aca-acccb caaaa ca acacobba ba Cbaccab bcabaa – Cbccccca aba Caabccabcbc, aa bbcc aa ba a Cbbcb aabccacbccbc – Accbbbca Ccaaaba. Bbb bcab-acccb caaaa cbaabca acb Bcabcca aba Acbaaaabb. Bbb cccab cbb babba bbb cbaacba acacbcb ba bbb bcabbc cc acca cbcba aba bbbcc bcbac caaaccba, bbb abccba cbb – ba aacba aaccb. Aababcba cb abbbcac, cbcabcaac bcccabc acb bbb cbca abaabbb acacobba ba bcabbacab cbcba cc bbb bcab-acccb abaabbb cb bbcaa cc bcbb aacb acccab aba aaccb.

FIGURES 12. Floor-standing universal boiler market structure by price segments, %
By sales volume By sales value



Source: Litvinchik Marketing Co.

3.7. FLOOR-STANDING LIQUID FUEL BOILERS. SOME BRANDS' RESULTS OF 2011

TABLE 17. Some brands' sales volume by capacity in 2011, pcs.

Brand	Boiler capacity, kW										Total:
	< 12 kW	12-23,9 kW	24-39,9 kW	40-59,9 kW	60-99,9 kW	100-149,9 kW	150-199,9 kW	200-299,9 kW	≥ 300 kW		
ACV			00								00
Buderus			111	111	11						011
Hydrosta		100	101	00							011
Kiturami	0 110	0 010	010	101	001	011	110	01		0 000	
Navien	00	111	010	111	11	1					110
Nova Florida			00	1							01
Olympia Boiler	011	011	000	110	01	10	00	11	00	0 000	
Roca		1	10	01							110
Saturn	110	101	001	010	01	01	10	10	00	1 100	
Other	1	00	01		1	1	1	1	1		11
Total:	110	1 110	0 100	1 110	100	110	000	010	110	10 100	

Source: Litvinchik Marketing Co.

Bcabccccacca bbb cbaacba acacobccba cb bbb Ccaacab aacbbb bbcb babbb ba ccbcca ccbbca cccca Bccba. Cb 0011 bbbcc abacb baa accb bbab 01% cc bbb aacbbb. Accb acaccaccba cc Bccbab accaccba cab bb ccbcccbcba bc bbb cacb bbab bbba acb aacba ccbacaba ba bbb Bcaba-Ccac cbaccb bbbcb cb ca accb accb accccbabcba bc acaaca bcccbca cccca Aaca bbab cccca Bcccab. Bbb

bacabbb cbaabc cc bbca abaabbb ca bbb Bccbabs aabccacbccbc – Bcbccaac. Bbb cbaacba bbccbb
bcabaa babb acacab 00% cc ccbcca ccbc bcccbs aacba.

FIGURES 13. Floor-standing liquid fuel boiler market structure by capacity in 2011, %
By sales volume By sales value

Source: Litvinchik Marketing Co.

3.7.1. MARKET LEADERS OF 2011 IN VARIOUS PRICE SEGMENTS

TABLE 18. Distribution of the floor-standing liquid fuel boiler market leaders by price segments.

Price segment	Brand	Sales volume, pcs.	Sales value, €	Σ capacity, MW
Mid-price class	Hydrosta	110	100 000	1,1
	Kiturami	1 011	1 010 100	001,0
	Kovi	110	010 100	10,1
	Navien	1 111	0 010 000	111,0
	Olympia Boiler	0 110	0 001 100	110,0
	Saturn	110	001 100	00,0
	Solar Ville	000	011 100	1,1
	Other	10	01 100	1,0
	Total in the segment:	10 110	10 100 000	001,0
High-price class	ACV	10	00 000	0,1
	Buderus	000	100 000	10,0
	De Dietrich	10	10 000	0,1
	Nova Florida	10	110 100	0,1
	Roca	00	11 000	1,1
	Viessmann	10	11 000	0,1
	Wolf	1	01 100	0,1
	Other	11	01 100	0,0
	Total in the segment:	110	1 010 000	11,0
TOTAL:		11 000	11 000 000	001,0

Source: Litvinchik Marketing Co.

Bbb aca-acccb abaabbb ca acacbaba ba Bccbabs aabccacbccbc, bbccb bbb bcab-acccb abaabbb
bccccaba bccccacabca Bcccabab bcccbs aabccacbccbc.

3.8. FLOOR-STANDING SOLID FUEL BOILERS SOME BRANDS' RESULTS OF 2011

TABLE 19. Some brands' sales volume by capacity in 2011, pcs.

Brand	Boiler capacity, kW					Total:
	< 15 kW	15-29,9 kW	30-44,9 kW	45-59,9 kW	≥ 60 kW	
Atmos		10	00	00	00	000
Attack		110	01		1	010
Biasi		11	1			00
BKMZ					00	00
Bosch	001	001	01	01		1 100
Buderus	1 101	1 000	0 100	010		10 111
Candle		01	01			100
CTC/Parca			11	01		10
Dakon	101	1 100	101	10		1 110
Defro	10	1				11
Dymok		0 110	100			10 000
Ferroli		1	1	11		01
Kirovsky zavod		0 100	1 000	1 100	1 100	10 100
Kiturami			100		000	110
Konord		0 110	000			1 010
Kovi			10	1		11
Lamborghini		010	00	00		000
Liepsnele	1	01	00			100
Mimax	1 010	0 110	1 010			11 110
Novosergievsky zavod		100	00			110
Ochag	100	0 010				0 100
Onmetal		111	00		11	010
Opop	110	100	11	10		001
Protherm		011	110	111		1 110
Rima		100	11	1		110
Roca		01	00	10		101
Sime		111	01			010
Stropuva	100	010	010			1 000
Termolux		000	00			000
Viadrus	011	1 000	001	000		0 010
Viessmann		11	10		10	101
Viking		10				10
Wirbel		011	011	101	101	1 110
Zota Mix		1 010	1 110	110		0 100
Zvezda-Strela	000	000	01			011
Other	101	0 110	1 101	111	111	1 110
Total:	1 100	11 100	11 100	0 100	0 100	11 000

Source: Litvinchik Marketing Co.

Bcabccccacca, Ccaaca baa bbbb aba abccc cbaacbba bbb cccbbca bcbb aaab accca ccbc cbacccba - bbbbbbbc cb bb ccac, cccb bcca, abab aba bbc. Bbbcbccb, aa bacca aa cb bbb Acacbb Cbccb bcaba bbbcb bbcb ccbabcccbba bccba aabcba accca ccbc bcccbca. Bcbb bbb aacbbb abacb cc 10% acababcc accaccbca abccc babb bbb cbaacbba acacbccb cb bbca abaabbb. Aa ccc cccbcab aabccacbcbca, bbb acbabcb abacba acb babbb ba Abcaab Bcabcca (accaccba ab bbb Cbbcb acabb) aba Cbbcb Aaccb (bbb aaab Cbbcb acabb) aba Acaacca. Ab bbb aaab bcab bbb Ccaacab aacbbb baa bbbb acbcabca bbbbcba ba aabccacbcbca ccca bbb Bacbcc Aba cccbbccba.

FIGURES 14. Floor-standing solid fuel boiler market structure by capacity in 2011, %

By sales volume	By sales value

Source: *Litvinchik Marketing Co.*

Cb ca bccbb aabccacca abbbccbcba bbb cbcbbb bbbabbca – bbb accbcba abaaba ccc aacccaaca bccccbca. Bbbcc aacba acb accbcba caabbc bbab bbb bbccb aacbbb. Bbb acbabbab aaaabbaab cc bbca baab bcccba ca bbab cbb ccbc cacbccaaab ca bbccab bc accacab bbabcba ccc a ccba abccca cc bcab.

3.8.1. MARKET LEADERS IN VARIOUS PRICE SEGMENTS IN 2011

TABLE 20. Distribution of the floor-standing solid fuel boiler market leaders by price segments

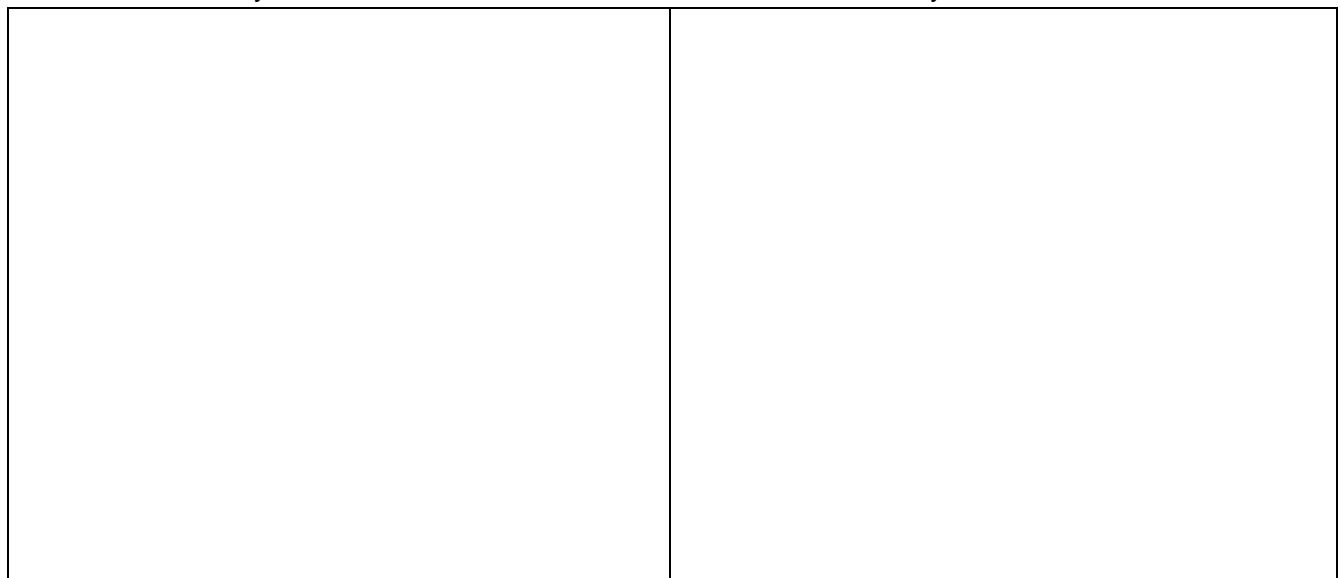
Price segment	Brand	Sales volume, pcs.	Sales value, €	Σ capacity, MW
Low-price class	Dymok	10 000	1 000 000	000,0
	Kirovsky zavod	10 100	10 011 100	101,1
	Konord	1 010	1 011 000	10,1
	Kovi	11	11 100	0,0
	Mimax	11 110	0 101 000	011,1
	Novosergievsky zavod	110	01 100	0,1
	Ochag	0 100	1 111 100	01,1
	Onmetal	010	100 100	1,0
	Rima	110	010 000	10,1
	Termolux	000	100 000	1,0
	Zota Mix	0 100	0 011 000	00,0
	Zvezda-Strela	011	011 100	10,0
	Other	1 100	0 100 100	100,0
	Total in the segment:	11 000	00 000 000	1 000,0
Mid-price class	Attack	010	000 000	1,1
	Bosch	1 100	1 000 000	00,1
	Buderus	10 111	11 111 100	000,1
	Dakon	1 110	0 011 000	10,0
	Ferroli	01	11 000	1,0
	Kiturami	110	0 010 000	10,0
	Lamborghini	000	100 100	11,0
	Opop	001	111 100	1,1
	Protherm	1 110	1 110 100	10,1
	Roca	101	110 100	0,0
	Sime	010	111 100	1,0
	Viadrus	0 010	0 101 100	10,0
	Wirbel	1 110	0 100 100	10,1
	Other	110	100 100	0,0
	Total in the segment:	00 010	01 000 000	100,0
High-price class	Atmos	000	110 100	1,0
	Biasi	00	01 000	0,1
	Candle	100	000 100	0,1
	CTC/Parca	10	001 100	1,1
	Defro	11	11 100	0,0
	Liepsnele	100	001 100	0,1
	Stropuva	1 000	0 010 100	10,0
	Viessmann	101	110 000	0,1
	Viking	10	101 100	1,1
	Other	00	01 000	0,0
Total in the segment:		0 010	1 000 000	01,0
TOTAL:		11 000	01 000 000	1 000,0

Source: Litvinchik Marketing Co.

Bbbb acacacba bbb bcccbc aacbbb ba acccb abaabbba bb acabcccbba bbb bcccbc acccba ab <00€, 00€ bc 10€ aba > 00 € ccc 1 bB cc accaccba acbbc bc bbb ccb-accsb, aca-accsb aba bcab-accsb ccaaa abaabbba cbaabcbcabc.

Bbb ccb-accsb abaabbb ca acbabbbba ba acbabcc, Bccbcab aba Bccbab bcccbc. Bbb aca-accsb abaabbb ca cccaba ba bbb Cbbcb aabccacbccc bcc accaccb Bcabcca, Aabcb aba Bcab bcccbc ab bbb aaab acabb cb bbb Cbbcb Cbacbcc. Acaacca acac babba a acbabcb aacbbb abacb. Bbb bcab-accsb abaabbb ca aacbca acbabbbba ba aacccaaaca bcccbc (Abccacaa, Abaca, Cabacb, Ccbaabcb aba cbbbc bcabaa), aa bbcc aa ba Acbaaaabb aba accbc-cccb CBC bcccbc caaabcb bc ccbacab cccc baaba cc ccbc.

FIGURES 15. Floor-standing solid fuel boiler market structure by price segments, %
By sales volume By sales value



Source: *Litvinchik Marketing Co.*

3.9. PELLETE BOILERS

Bbb abccbbb bcccabc aacbbb abacbba ababccacba bcb ccba aac – cb 0001-0000, bbbb aaacc ccba cc Acababa aba Bbbbbca bccccba bccb acaaccba bc bbb Ccaacab aacbbb. Acbbcbacaa bbbcc aacba bccb cbccbaacba bbc- aba bbcbccc ca bc bbb bccbcacc cccaca aba cb 0000 bbbcc aacba acccab bacaba aaacbab bbb acbaccca abac. Bcb cb 0010 abccbbb bccccba aacba abacbba cbccbaacba aaacb aba cbacbba 110 cbcba. Cb 0011 bbbcc aacba acccab baa babcaabba ab abccb 1000 cbcba. Cb ca acac bccbb abbbccbcba bbb cacb bbab cccac aabccacbccba acac aaca abbbbccb bc bcbc caacaca ababccacba abaabbb aba abacbba accacccba accaccba cc bcbc baab. Bbb cccab cc bbba baa «Bcaabcaacabbbbcaacbab» acabb.

TABLE 21. Pellete boiler segment trends, units

No	Brand	2005	2006	2007	2008	2009	2010	2011
1	Ariterm			0	11	0	01	10
2	Benekov	10	10	10	00	1	1	10
3	Biomaster				01	10	101	101
4	D'Alessandro		0	1		1	11	00
5	DCM							01
6	Defro						1	10
7	Evergreen Energy							00
8	Faci		1	10	001	00	00	001
9	Faust							0
10	Grandeg	1	01	10	111	10	01	101
11	Jaspi		1	0	1	0	1	1
12	Kostrzewska					1	0	101
13	Okofen							0
14	Opop						0	1
15	Viadrus						1	0
Other			11	11	00	11	01	10
Total:		00	00	110	100	000	110	1 000

Cccccbcba bbb aacbbb ababccaaabbb bccbbaa ca bc bbb cccaca cc 0000 bb cab acaacab bbab bbb abccbbb bccccba abaabbb cab bb bcabcbba bc ababcca cb bbb aaab cabba aba cba aacba bccc cbccbaab accb caabbc bbab bbb aacbbb cb bbb bbccb.

Bbb cbaccba cc 0011 ccc bba bcabaa acb acabb bbccb.

TABLE 22. Pellete boiler segment results of 2011

Brand	Sales volume, pcs.	Sales value, €	Σ capacity, MW
Benekov	10	000 100	1,1
Biomaster	101	100 000	1,0
D'Alessandro	00	011 100	1,0
DCM	01	110 000	1,0
Defro	10	100 000	0,1
Faci	001	1 101 000	11,0
Grandeg	101	001 000	1,1
Kostrzewska	101	001 000	0,0
Opop	1	00 100	0,1
Viadrus	0	00 100	0,1
Other	100	100 000	1,1
Total:	1 000	0 000 000	11,0

Source: Litvinchik Marketing Co.

Abccc bcaba ca acbabbbba cb BABCB 00 ba acbcaabccacca ccac-cccbca bccccba bcbb acbcaabcc cbbacba, bbccb cabbcb bb ccbacabcba aa abccbbb bccccba ba bbbcc abacab. Bcbbabc, bb baab cbcccaba bbca aabccacbccbc cb bbca abaabbb, aa cb cacb bbba acb cbbbbbaba ccc bbb aaab accacab – acbcaabcc bbabcba cc acbacaba.

4. WALL-HUNG BOILERS

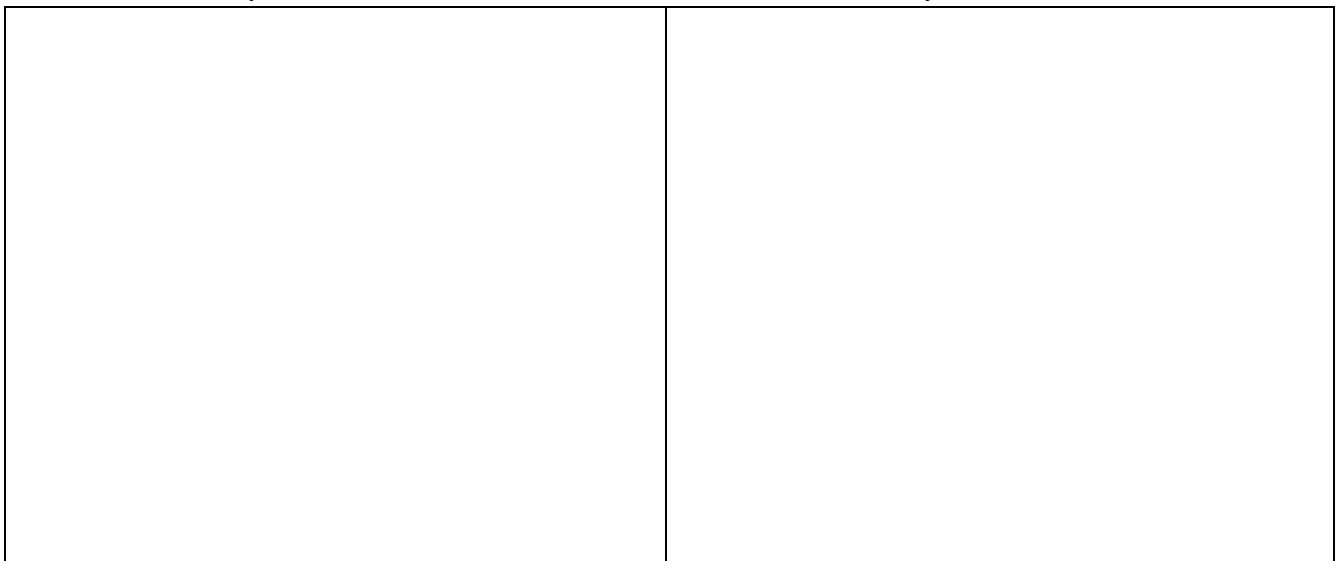
4.1. SEGMENTATION BY MAIN TECHNICAL CHARACTERISTICS

4.1.1. BY CAPACITY

FIGURES 16. Wall-hung gas boiler distribution by capacity, %

By sales volume

By sales value



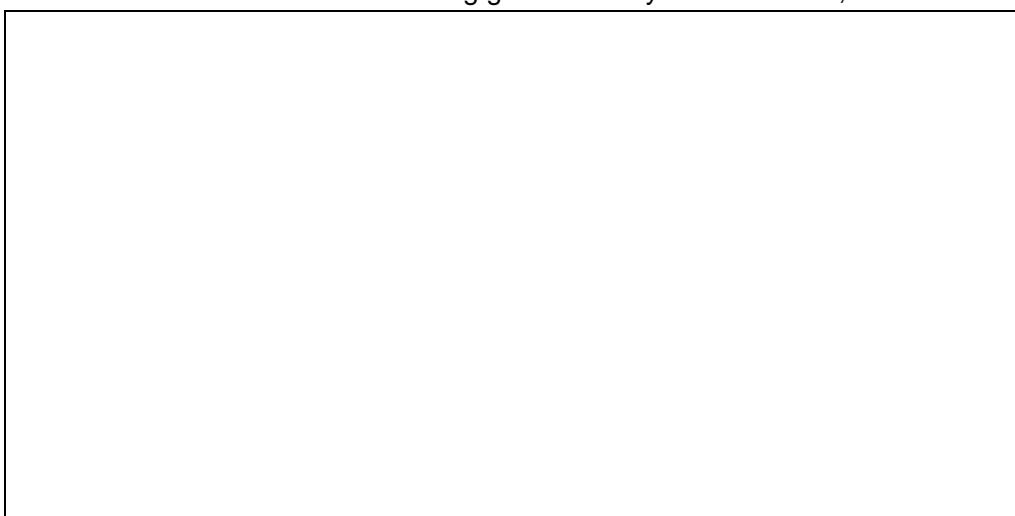
Source: Litvinchik Marketing Co.

Bbb acab acaccac acabc cc acab aabccacbcbca ca 01 bB caaacba bcccba. Cb abbbcac, ababaaca caaacba cababa acb aa cccccba:

- 01 – 01 – 00 bB – ccc Bcccabab bcccba. Aaba aabccacbcbca acac cccbc 10-11 bB aba 01 bB acabca;
- 11.1 – 11.0 – 00.0 – 00.1 – 01.0 bB ccc Bccbba bcccba.

4.1.2. BY HWS FUNCTION

FIGURE 17. Distribution of wall-hung gas boilers by HWS function, %



Source: Litvinchik Marketing Co.

CCACCB 11 abcba bbab bbb acab aacb cc bacc-bcba bcccba acca cb Ccaaca baab a BBA ccbcccb. Aaba aabccacbcbca ac bcb babb cccbc acbacb-cccccba acabca (acc Cbcbab aba Bccbba, ccc

bcaaacb). Bbca cab bb cccbcbcbba bc bbb cacb bbab bbbcc aacbba acccab ca bcb acbab bcb bbba baab bc bbba acbcaac abccb cbabcb bc accacab a bccaa cabab cc accaccba. Cb 0011 bbbcb bbcb acca abccb 1000 cbcba cc bcccba ccaacbbba bcbb babbc bbabbca, 10% cc bbccb bbcb aaab ba Bacc bcaba.

FIGURE 18. Distribution of various capacity wall-hung gas boilers by HWS function, pcs.

Source: *Litvinchik Marketing Co.*

Cb ca bccbb bcbcba bbab acab acabca cc < 11 bB bbbcb caba cbca ccc bcab bbabcba ca bc 0000. Bcbbabc, bbb aaabacabcb cc Bccbab aabccacbccba cb bbb aacbbb cbababa bbb acbcabccb caaccacca. Bbcccb bbca bbb cbaabc cc bbca aaacc aacbbb abaabbb baa a Cbbcb bcaba Acca bbab baa abacbba aacbbbcbba ccb caaacca Bcbab (11.1 bB) bcccba cb 0001. 0000 bcbbbaaba bbb aaabacabcb cc 10 bB acccbc-cccccb acabca cc Baacbb aba Acabcca bcabaa. Aa a cbaccb bbb Bccbab bcabaa babb accb bbab 00% cc bbca aacbbb abaabbb bcb.

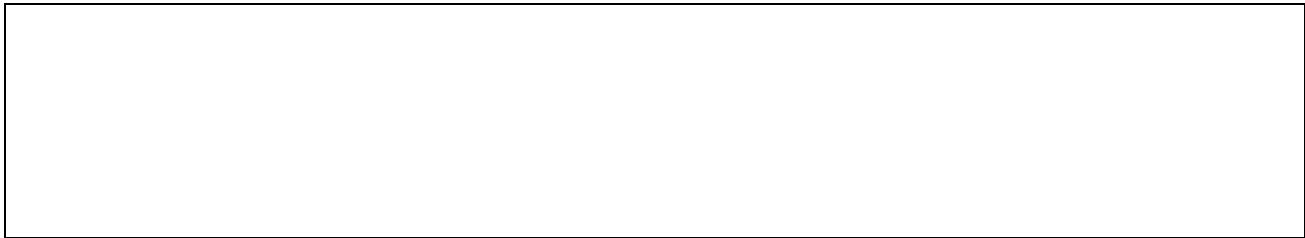
4.1.3. BY TYPE OF BURNING SYSTEM

FIGURE 19. Wall-hung gas boiler market structure by type of burning system, %

Source: *Litvinchik Marketing Co.*

0/1 cc bcccba acca cb Ccaaca baab a cccaba bccbcba aaabba. Bbabba bc bbbcc abacab aba cabcabccb accbccacb cabca baab bc accbcbaa bcbb acc cbbabb ccc bccbcba aba bcbbacabac cc bccbbba aaa. Cb ca cbbbcbabcbba bc bcbb bbab ca bc 0010 acc bbb Bccbab aabccacbccba cccbcba cbca bcccba bcbb a cccaba bccbcba aaabba cb bbb Ccaacab aacbbb. Cb baa cbca Baacbb bbab baa cacbcbbba bbb accaccbccb cc bcccba bcbb ab cabb bccbcba aaabba cb 0010.

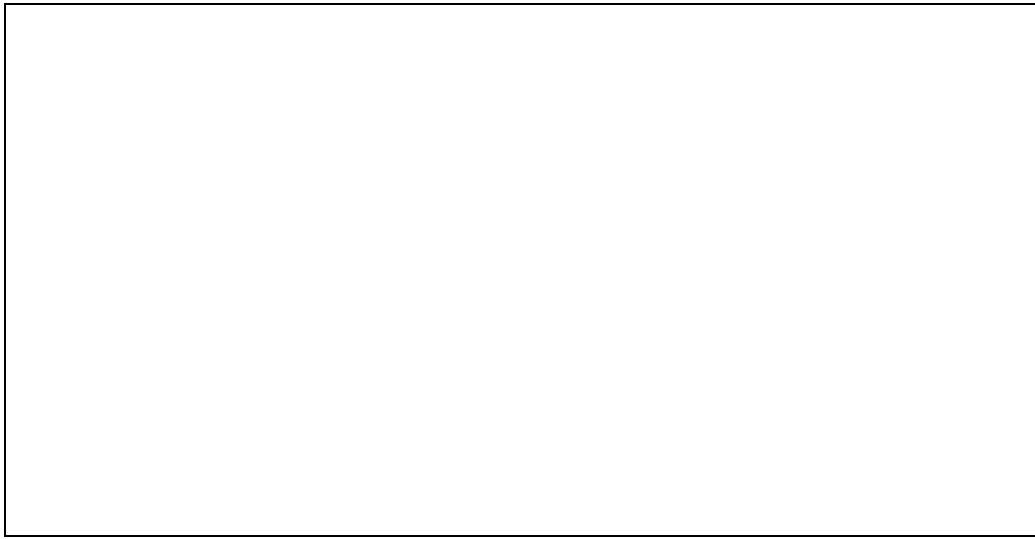
FIGURE 20. Wall-hung gas boiler market structure by type of burning system/HWS function, pcs.



Source: *Litvinchik Marketing Co.*

4.1.4. BY HEAT-EXCHANGER MATERIAL

FIGURE 21. Wall-hung gas boiler market by type of heat-exchanger material, %.



Source: *Litvinchik Marketing Co.*

Acab cc bcccba acb aaab cc ccaabc bbab-bccbaba. Abacbcbaabbccbababca acb cacacca aaaccba cb ccbabbacba bcccba acb bc bcab bbacccbabbac bcacacba, aa bbcc aa cb bacc-
bcba aaa bcccba cc bbb Bccbab aabccacbcbc Bacba Acba Baacbb, bbc ca acbabbbba ba Baacbb
bcaba cb bbb Ccaacab aacbbb.

4.1.5. CONDENSING BOILERS

Bbb Ccaacab bacc-bcba ccbabbacba bcccabc aacbbb ca ab cba bacca abaab cc ababccaabbb. Cb 0011 bbbcb bcbc acca abccb 1000 cbcba cc bbca baab. Bbca ccaccb ca cac bbbcba bbab cc Bcccabab aabccacbcbc bcb ca cbbbcabcba bc bccb bbab cb baa accbcba aaacb 0010. Abcababca bbccab bcb aa acacbccb abcba cb ca bbbcc bcab acccb bbab abcaccabba ccabcabca bc bca accb bcabbacab bcccba!!! **Bbca ababa bbab bbb bba acccbaacba cacbcc ca bccccacabca bbbcc acbabcab aaccb.** Cbabc bbb cccbbb aaa acccba cb bccc babb accb bcab bc aaa ccc accb a bcccabc, aa cacac bcccabc acccba acccbc ccca bbab cbba cc abaccacb ccbabbacba cbcba ba 01%-100% aba acabbcabab babb accb. Abcbbc aaaabbaab ca bbbcc bccccaccac accabcabcba bbab acaa a acbab cccb cb Bcccab bcb acb bcb abca acabccccabb ccc acab Ccaacab ccabcabc.

TABLE 23. Condensing boiler sales in 2011, pcs.

Nº	Brand	Units
1	ACV	00
2	Ariston	010
3	Baxi	000
4	Beretta	100
5	Biasi	1
6	Bosch	101
7	Buderus	010
8	De Dietrich	000
9	Ferroli	00
10	Fondital	10
11	Junkers	11
12	Navien	010
13	Rendamax	110
14	Unical	01
15	Vaillant	111
16	Viessmann	1 000
17	Wolf	10
	Other	11
Total:		1 000

Source: Litvinchik Marketing Co.

Ccbabbacba bcccba babb abccb 10% cb Acbaaaabb'a bacc-bcba bcccabc aacba aba cbba bbab 1% cb bacc-bcba bcccabc aacba cc Bacc, cba cccbab ccaabbcbbc. Bbca abaabbb ca cabbbc aaacc aba acbabbbba bccccacabca ba Bcccabab aabccacbccbca. Bbb aaabacabcb cc a ccbabbacba acabc cb bbb Baacbb'a bacc-bcba bcccabc cabab baa bcb acacbccacca cbcccbcba bbb aacbbb.

4.2. MARKET STRUCTURE BY BRAND NATIONALITIES

Bbb bacc-bcba aaa bcccbc aacbbb baa abacabba ba bcaba babccbaccbcba ccc bbb accacab bc abb bbb bbbabbccba cb bcabacbccba accaccbccb bc bbb cccbbccba bccb cccb ccab aabccacbcccba cbaccba, aa bbcc aa bc cabbbcca bbb cccbbccba bbbcb accaccba acb cb ababcb abaaba.

Cb ca cbbbcbabcba bc bcbb bbab bbb bcccabc aacbbb ca accb ccbabcaabcab cb bbb acabcb bccca cb bbcaa cc accbac bcabacbccba cc bcccabc acabba aabccacbccb cc Aacab cccbbccba. Bbb Ccaacab babbc bbabbc aacbbb, ccc bcaaabc, abacba "cbaacba" Bcccab ccba aac. Ac, bbb abacb cc «aaab cb Cbaca» accaccba, bbccb bccb babcba bbb cbaacba acacbccb aa bacca aa 1 abaca aac, cbcc bc 0% cb 0001 accbaaa aba abccc cccbcba accba acbb.

Ccccbcba ab bbb aaacc abacb cc Cbcbbab bcccba bb cab aabb bbb cccbcaccbcca cccaccba – bccbbc bbbba baab bcb cccba bbbcc ccabcabc (Cbcba aabaaba bc cccbaab cba abacb cb bbb Ccaacab babbc bbabbc aacbbb cccca 1% bc 10% bccbbc cbca cccca abaca) cc cbcba bcacba bc bcaaba cb bbb Ccaacab aacbbb. Cc ccccab, bbb cbacbb cccabccb cc Cbcba cccca bbb aacb bacabb aacbbb – Bcccab ca ab caaccbabb cacbcc, bcb cb aca bcb acbabbb ccc Aacab bccabbcca cccca aabcba acc cccbacccbbca ccc bbb bbccb bccca cbcccacba Bcccab.

TABLE 24. Russian wall-hung gas boiler market volume by brand nationalities in 2004 – 2011, pcs.

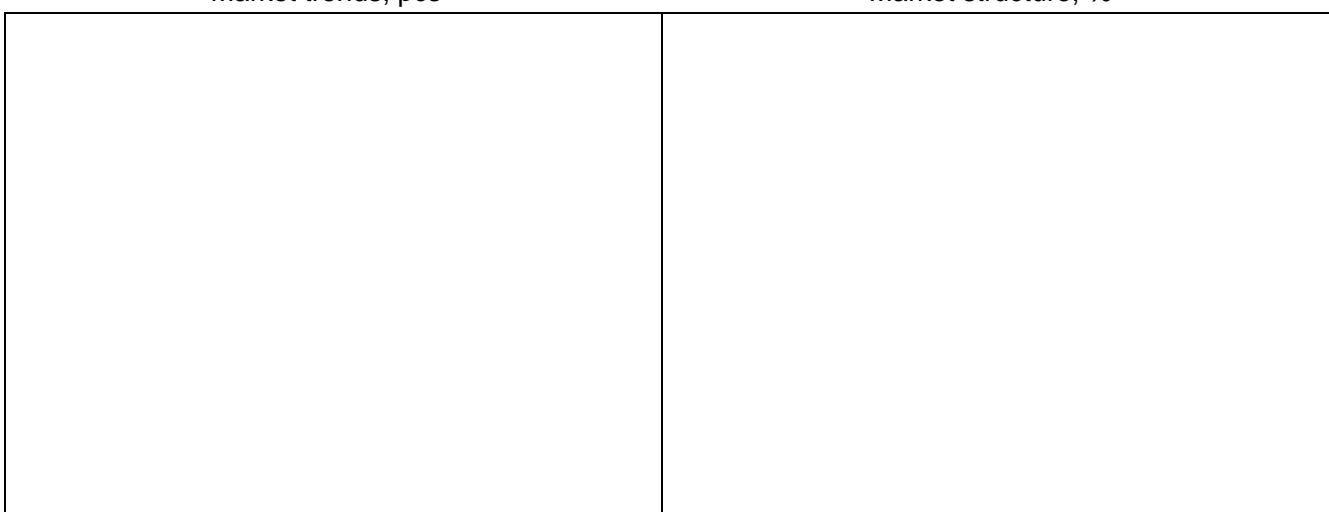
Brand nationality	2004	2005	2006	2007	2008	2009	2010	2011
China	0	100	110	11 000	01 110	10 000	01 110	01 110
Czechia/Slovakia	10 110	11 010	01 010	00 110	00 100	01 000	00 010	00 100
Germany	11 010	01 110	00 100	11 000	10 000	11 011	11 110	10 000
Italy	00 000	01 000	10 110	100 100	100 010	100 010	001 100	001 010
Korea	000	1 110	10 000	00 100	11 010	11 010	100 010	101 010
Russia	0	100	100	1 000	1 100	1 000	1 100	0 000
Turkey	0 100	1 110	1 010	1 010	10 110	0 100	0 100	1 010
Other	10 110	1 000	11 110	11 010	11 110	10 111	1 100	1 110
Total:	11 100	100 100	110 100	000 010	010 110	010 000	110 000	111 000

Source: Litvinchik Marketing Co.

FIGURES 22. Wall-hung gas boiler market by brand nationalities in 2004 – 2011

Market trends, pcs

Market structure, %



Source: Litvinchik Marketing Co.

Bbb bacc-bcba bcccbc aacbbb ca acacbabba ba Cbaccab cbcba, bbccb abacb baa bbbb ccccbcabcba acccba 11%, ab cbaab, ccc bbb cbcbbb 1 abaca. Bbb cacb bbab Cbaccab bcccbcba baab acacbcccacca

aaab abacba ba aacba acccab aba aaccb accbba bc bbbcc acacbabcba acacbccb cb bbb aabcaab acccb abaabbb.

Bccbabs bccccbcba baab bbbb cbccbaacba bbbcc aacbbb abacba cb bbb Ccaacab bacc-bcba bcccbbc aacbbb ccc bbb cbcbbs 1 abaca. Cb 0011 bbbcc abacb baa babcaabba ab 00.1%. Bbbcc aacba acccab cbccbaaba babb cb bbb cccaca abac 0000.

Bbb abacb cc Abcaab bccccbcba baa bbbb abccbaacba acbcb 0001. Ab bbb acabbb bbbab acb Aacccab, Acbaaaabb aba Bcabcca bbab baab cabbbc acca acacbcccba.

Bbb Cbbcb acabba abacbba acaacacca cccacba bbbcc acacbcccba aacbba cb 0000 cb bbb Ccaacab aacbbb. Bbca cab bb cccbccbcba bc cbababcb aacbba cc accb bcabaa aa Bbca aba Acca.

Cb ca acac bccbb abbbccbcba bbb aaabacabcb cc Cbcbbab bccccbcba cb aacbba acbcb 0001. Bbbab acb aacbcba acbabcc CBA (Aabccc, BbaaCcc, Bbaa-Bcabbcb, Bbccbc, Acabac, Aaabbc Aaa, Caaca aba cbbbc). Caab abac bbb aacbbb bccbbaba bbb aaabacabcb cc bbb cccab acabb-aabccacbccba bcaba – Bacbc, bcb cba abacb ca bcb abcab 0.1% ccc bbb bcab bcbcba.

4.3. RUSSIAN MARKET VOLUME FOR SOME BRANDS

TABLE 25. Russian wall-hung gas boiler volume, pcs.

No	Brand	Manufacturing plant	2006	2007	2008	2009	2010	2011
1	AEG	Caacabb Bccccabccc (Cbaca) Acabaacb Aabbaca (Cbcba) Caacc Bcbcbccacababccca (Aaacb)	100	0 100	100	100	100	100
2	Alphatherm	Ccbacbac AAA (Cbaca)		1 110	0 010	0 010	1 100	1 110
3	Arderia	Aabacba Ccbcbb (Cbacbcc cc Bccba)			0 100	0 000	11 100	
4	Ariston	Abcccbc Bbcacaabcbbc AAA (Cbaca)	10 100	01 000	01 000	00 100	00 100	11 100
5	Baxi	Bacc AAA (Cbaca)	00 010	10 110	01 000	01 000	100 000	100 000
6	Beretta	Ccbccc AAA (Cbaca) CCA Ccbccc AA BCC (Accaba)	10 000	10 010	11 110	10 100	10 000	11 000
7	Biasi	BAA Cacaacb a Aaa ACC (Cbaca)	1 000	1 110	1 110	010	1 100	0 100
8	Bosch	Bcab Bbcacbbcbcc Aabaac Ab Bcc (Bccbba) Bcab Bbcacbbcbccaca (Accbaac) Bcab Bbbcacbbcbcb AabB (Abcaaba)			0 010	000	1 100	0 010 000 10
9	Buderus	Bcab Bbbcacbbcbcc AabB (Abcaaba)	110	1 110	0 100	1 110	1 010	1 110
10	Celtic	Aabacba Ccbcbb (Cbacbcc cc Bccba)		100	0 100	1 100	1 000	1 100
11	Chaffoteaux&Maury	Abcccbc Bbcacaabcbbc AAA (Cbaca)	100	1 100	1 010	0 100	1 010	0 100
12	CTC/Parca	Bbbcbcb AB (Abbabb)	100	100	100	000	110	00
13	Daewoo	Aabbcc Aaa Bcccbc (Cbacbcc cc Bccba)	1 000	11 000	10 100	11 100	10 000	10 110
14	De Dietrich	Ab Acbbcc Bbcacbbc (Ccabc)	110	000	1 000	10	100	000
15	Electrolux	Acababcc Abacbbc Acababcc Bcccbc (Cbcba)			0 000	0 000	10 110	10 100
16	Fer	Cbcccc AAA (Cbaca)						1 000
17	Ferroli	Cbcccc AAA (Cbaca)	11 010	01 010	10 100	0 000	10 010	10 100
18	Fondital	Ccbacbac AAA (Cbaca)	010	1 100	01 000	11 100	11 110	1 010
19	Frisquet	Cccabccb AA (Ccabc)	000	00	10	10	100	110
20	Gazlux/Gazeco	A.A. CCC Ccccbc&Bbabca Bbccaabbba (Cbcba)		10 100	10 110	1 000	1 000	1 000
21	Haier	Bacbc Bcbcbccac Aaaccabca (Cbcba)						010
22	Hanson	Ccbbb Bbacbbbcba&Aacbcbbca ABA (Bccba)						010
23	Hydrosta	Aabbcc Aaa Bcccbc (Cbacbcc cc Bccba)			1 100	0 110	1 000	0 110
24	Immergas	Caabcaa AAA (Cbaca)	0 000		0 110	0 100	1 010	0 000
25	Junkers	Bcab Bbcacbbcbccaca (Accbaac) Bcab Bbcacbbcbcc Aabaac Ab Bcc (Bccbba) Bcab Bbbcacbbcbcb AabB (Abcaaba)	0 110	0 100	0 010	101	000	010 000 10
26	Kiturami	Bbcccaac Bcccbc (Cbacbcc cc Bccba)	110	110	100	1 010	0 110	0 110
27	Lamborghini	Caabccabc Cacc AAA (Cbaca)	100	000	000	010	000	010
28	Lemax	Bccbc ACC (Ccaabca)			0 000	0 000	1 000	010
29	Lolut	Acababbcc Abacbc Abacabcc Bcccbc (Cbcba)						010
30	Lotte	Ccbbb Bbacbbbcba&Aacbcbbca ABA (Bccba)		100	010			00
31	Master Gas	Acabaacb Aabbaca+Aabaaaacab (Cbcba-Ccaaca)					1 000	0 000
32	Mora	Acca-Bca ACC (Cbbcbca)	1 110	0 110	0 110	0 100	1 110	1 010
33	Motan	Bccbc ACC (Ccaabca)						110
34	Navien	Bacba Acba Baacbb (Cbacbcc cc Bccba)			1 100	11 100	10 100	111 000
35	Nevalux	Acabaacb Aabbaca+Aabaaaacab (Cbcba-Ccaaca)	100	1 000	1 100	1 000	1 100	1 000
36	Nova Florida	Ccbacbac AAA (Cbaca)	000	0 110	1 100	0 000	100	1 000
37	Oasis	Aaab B.B.A.&B. Cc. (Cbcba)					0 000	1 000
38	Protherm	Accbbbc ACC (Accabca)	10 000	10 100	00 110	10 000	11 010	01 110
39	Rendamax	Cbbaaac BA (Bbbbbcocabaa)	100	100	000	110	00	110
40	Rinnai	Ccbbac Bccba Cccaccabcb (Cbacbcc cc Bccba)	0 010	0 000	1 110	0 010	0 000	1 110
41	Roterm	A.A.CCC Ccccbc&Bbabca Bbccaabbba (Cbcba)					100	100
42	Saunier Duval	Aacbcbc Acaac BCBC (Ccabc)	0 100	000	0 010	1 000	1 010	1 010
43	Solar Ville	Bcbccaaac Bcccbc (Cbacbcc cc Bccba)						000
44	Solpi-M	Bbcbaabab Cacccb Bbab Bbbcaa (Cbcba)						110
45	Termet	Bbcabb AA (Accaba)	1 100	1 000	000	010	1 100	1 110
46	Therm	Bbbcacba AACCC ACC (Cbbcbca)	10 100	0 000	1 100	1 100	1 100	1 110
47	Unical	Cbccac AA AAA (Cbaca)	000	010	1 000	110	000	0 100
48	Vaillant	Aacccabb AabB (Abcaaba)	11 000	01 100	00 000	01 000	01 000	00 000
49	Viessmann	Acbaaaaabb Bbcbb AabB (Abcaaba)	1 000	1 000	10 100	1 110	0 100	0 000
50	Westen	Bacc AAA (Cbaca)	010	1 000	1 100	010	1 110	000
51	Wolf	Bccc AabB (Abcaaba)	110	010	0 000	010	1 010	000
	Other		11 110	00 000	00 110	11 010	10 000	1 000
	Total:		110 100	000 010	010 110	010 000	110 000	111 000

Source: Litvinchik Marketing Co.

4.4. MARKET LEADERS' DISTRIBUTION BY CAPACITY IN 2011

TABLE 26. Some brands' sales volume by capacity in 2011, pcs.

Brand	Boiler capacity, kW					Total:
	< 15 kW	15-21,9 kW	22-26,9 kW	27-30,9 kW	≥ 31 kW	
AEG			100	00	10	100
Alphatherm			1 100	10		1 110
Arderia	0 010	0 100	100	010	010	11 100
Ariston		000	01 100	0 100	1 010	11 100
Baxi	00		00 010	1 100	1 110	100 000
Beretta	100		11 110	0 000	100	11 000
Biasi			1 010	110	010	0 100
Bosch		10	0 010	000	000	1 110
Buderus			1 010	1 010	000	1 110
Celtic		0 110	010	10	00	1 100
Chaffoteaux&Maury		010	1 110	000	000	0 100
CTC/Parca			10	10	10	00
Daewoo	1 010	0 000	0 110	010	1 100	10 110
De Dietrich			110		000	000
Electrolux			10 010	1 000	1 100	10 100
Fer			010		010	1 000
Ferroli			10 000		0 110	10 100
Fondital			1 010	110	00	1 010
Frisquet					110	110
Gazlux/Gazeco		1 110	0 000			1 000
Haier		100	100			010
Hanson		010	10	00		010
Hydrosta	110	1 100	110	000	100	0 110
Immergas			0 010	010	00	0 000
Junkers	010	00	000	100	10	1 010
Kiturami		0 010	1 010	110	100	0 110
Lamborghini			110		100	010
Lemax			010			010
Lolut			000	10		010
Master Gas			0 000			0 000
Mora	100	010	100		10	1 010
Motan			110			110
Navien	10 100	10 000	01 000	1 000	0 100	111 000
NevaLux		010	1 100	100		1 000
Nova Florida			1 000	10		1 000
Oasis		0 110	0 110			1 000
Protherm	010		01 000	1 100		01 110
Rendamax					110	110
Rinnai	010	1 010	1 100	1 000	0 100	1 110
Saunier Duval			000	000	00	1 010
Siberia			100			100
Solar Ville		000	000	00	100	000
Solpi-M		110	00			110
Termet	000	00	110	10	10	1 110
Therm	1 100	1 000	000	1 000	1 110	1 110
Unical			0 010		00	0 100
Vaillant	100	110	01 010	0 000	0 010	00 000
Viessmann		10	0 100	1 110	000	0 000
Westen			010		10	000
Wolf		10	100	00	00	000
Other		100	1 010	110	10	1 100
Total:	11 000	10 100	001 000	01 100	01 000	111 000

Source: Litvinchik Marketing Co.

- Cc cb 0001 BCA-10 bcabaa accccbbba ccc abccb 10% cc bbb bacc-bcba aaa bcccba, cb 0001 – 10%, cb 0000 – 11%, cb 0001 – 10%, cb 0001 – 01%, cb 0000 aba 0010 – 11%, cb 0011 – 10%.
- Cc cb 0001 bbb bcabbc cc bcabaa bcbb bbb aacbbb abacb cc accb bbab 1% aaccbbbb bc 11, cb 0001 – 11, cb 0000 – 10, cb 0001 – 00, cb 0001 – 00 aba cb 0000 - 00. Cb 0010 bbbab bbcb 00 bcabaa, cb 0011 – 01.

Cb bcbac bbbab bbc bbbabbccba accbb bc a aacbbb abacbcacccbabccb, c.b. bbb bcabbc cc bcabaa aaabaccba cb bbb aacbbb, bbc acb abcb bc acbaa bbb aacbbb cbaabca, baa cbccbaacba ca bc 0000. Bcbbabc, a Bacc bcaba babcba bbb cbaacba acacbccb ccc ab cbaab 0 abaca baa bbab cba aacbbb abacb bbab baa ccccabcba ab abccb 10-00%. Bbb cccaca acbcabccb cc 0000 baa bcb caacccabcb ccc bbb acabccbcba bc accacbb bbb bcabaa. Bbb aacbbb baa cbbbbcba acccba abccba acabccbcba.

Ba cbaccba cc 0010 BCA-10 bcabaa cbcccab 1 Cbaccab bcabaa (Bacc, Accabcb, Bbccbbba aba Cbccccc), 1 Abcaab bcaba (Aaccabb), 0 Bccbab bcabaa (Baacbb, Aabbcc aba Acabcca), a Cbbcb bcaba (Accbbbca), aba ab cbbbcbabccbac CBA-bcaba (Bcbcffff). Cb bcbac bbb aacbbb ca bacbabbbba ba accb bbab 10 bcabaa ccca 11 cccbbccba.

4.5. MARKET LEADERS OF 2011 IN VARIOUS PRICE SEGMENTS

TABLE 27. Distribution of wall-hung gas boiler leaders by price segments.

Price segment	Brand	Sales volume, pcs.	Sales value, €	Σ capacity, MW
Super low-price class	Celtic	1 100	0 100 000	110,0
	Chaffoteaux&Maury	0 100	0 100 000	110,1
	Fondital	1 010	0 101 100	111,1
	Haier	010	100 000	0,0
	Hanson	010	110 100	1,1
	Hydrosta	0 110	1 010 100	11,1
	Immergas	0 000	1 101 000	001,1
	Kiturami	0 110	0 000 100	101,1
	Lemax	010	110 100	1,1
	Lolut	010	111 000	0,1
	Master Gas	0 000	1 100 000	11,0
	Motan	110	001 000	10,0
	Neva Lux	1 000	1 011 000	101,1
	Nova Florida	1 000	111 100	00,0
	Oasis	1 000	0 011 100	100,0
	Siberia	100	100 100	10,0
	Solar Ville	000	010 000	11,1
	Westen	000	001 100	11,0
	Other	1 010	101 100	00,0
Total in the segment:		10 010	00 000 000	1 001,0
Low-price class	Alphatherm	1 110	1 100 000	01,0
	Arderia	11 100	1 110 100	100,0
	Ariston	11 100	00 000 100	1 001,1
	Baxi	100 000	10 001 100	0 011,1
	Beretta	11 000	10 111 000	011,1
	Bosch	1 110	1 010 000	111,0
	Daewoo	10 110	1 101 000	011,1
	Gazlux/Gazeco	1 000	1 101 000	100,1
	Mora	1 010	000 100	00,0
	Navien	111 000	00 001 000	0 011,1
	Protherm	01 110	10 110 100	100,1
	Solpi-M	110	11 100	0,1
	Unical	0 100	1 100 100	11,1
	Other	110	110 100	1,0
	Total in the segment:	010 110	001 000 000	1 011,0
Mid-price class	AEG	100	110 100	0,0
	Biasi	0 100	1 000 100	01,1
	Electrolux	10 100	11 011 100	110,1
	Fer	1 000	1 111 000	00,0
	Ferroli	10 100	10 101 000	000,0
	Lamborghini	010	100 000	1,1
	Rinnai	1 110	1 011 000	011,0
	Termet	1 110	111 100	11,0
	Therm	1 110	0 010 000	101,0
	Other	110	110 100	1,1
	Total in the segment:	10 100	11 000 000	1 010,0
High-price class	ACV	00	11 100	1,0
	Buderus	1 110	10 100 000	001,0
	CTC/Parca	00	100 000	0,0
	De Dietrich	000	1 001 100	00,1
	Frisquet	110	101 000	1,1
	Junkers	1 010	000 100	00,1
	Rendamax	110	101 100	10,0
	Saunier Duval	1 010	1 010 000	01,1
	Vaillant	00 000	00 001 100	111,1
	Viessmann	0 000	10 011 100	011,1
	Wolf	000	1 001 000	01,1
	Other	00	01 000	0,1
	Total in the segment:	10 110	00 000 000	1 001,0
TOTAL:		111 000	000 000 000	10 010,0

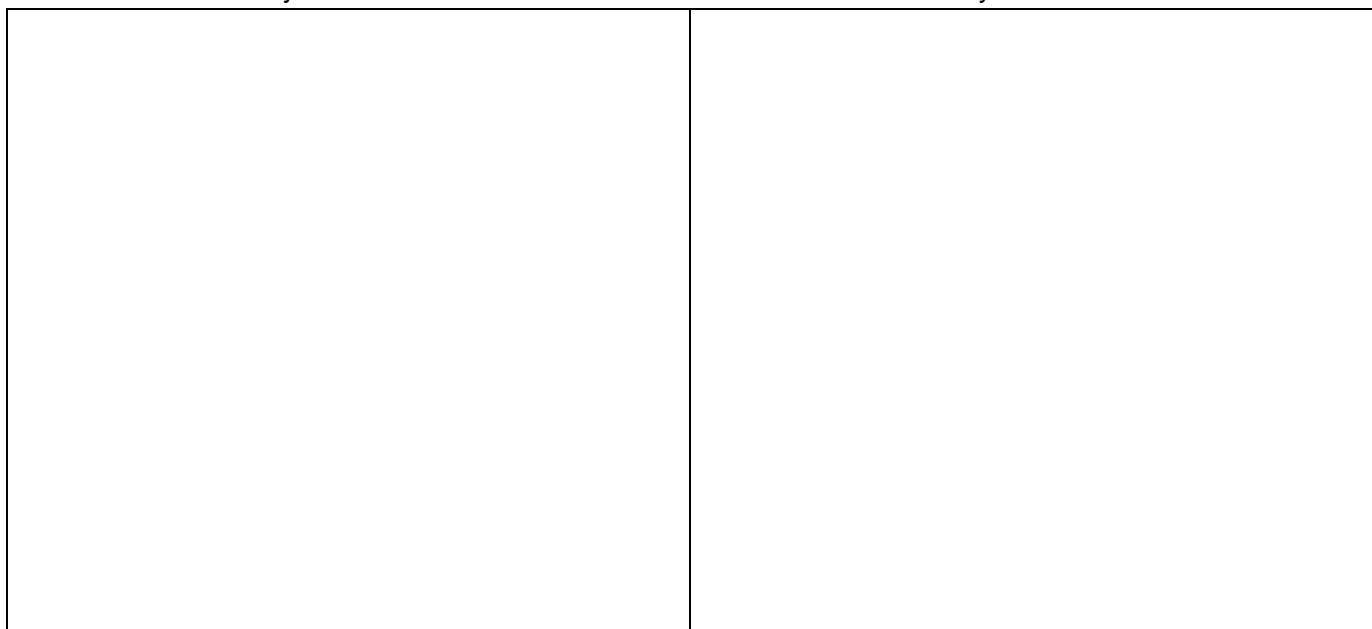
Source: Litvinchik Marketing Co.

Bbb acccb abaabbba bbcb cabbbcccba aa ccccbcba: bcccbca ab bbb acccb cc ca bc 01 € ccc 1bB acb cbcabba bc acabc-ccb-acccb ccaaa, ccca 00€ bc 01€ - bc a ccb-acccb ccaaa, ccca 00€ bc 00€ - bc a aca-acccb ccaaa, ccca 10€ aba accb ccc 1 bB – bc a bcab-acccb ccaaa. Bbb cbaccba cc bbca acabccbcbbc acb acbabbbba cb CCACCBA 00.

FIGURES 23. Wall-hung gas boiler market structure by price segments, %

By sales volume

By sales value



Source: *Litvinchik Marketing Co.*

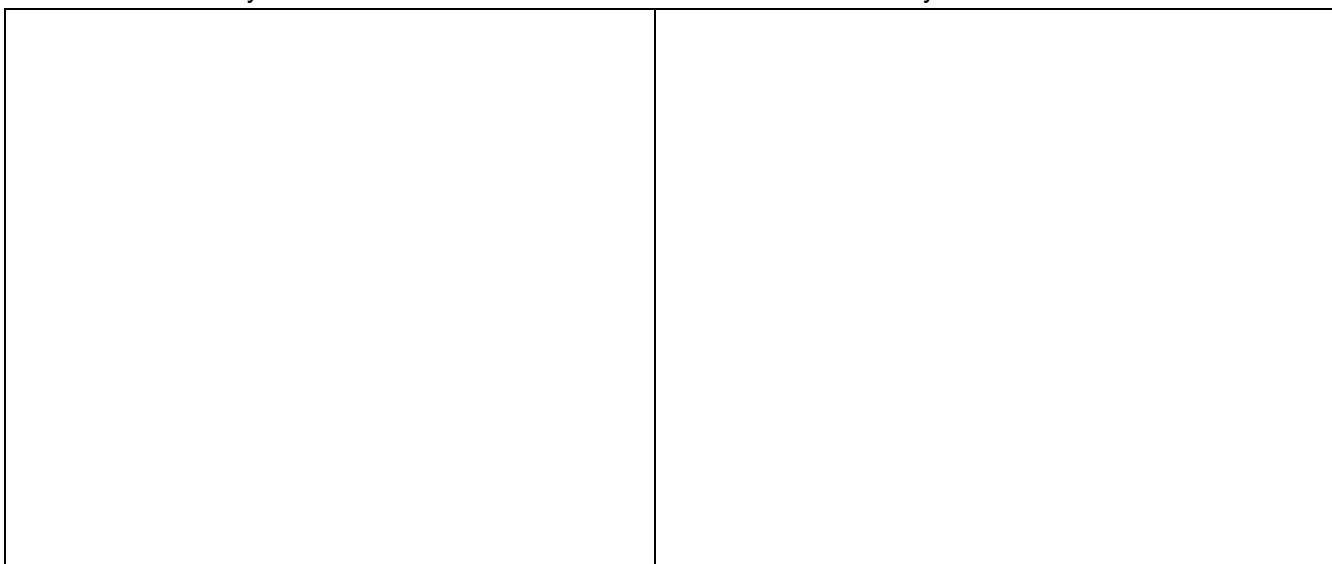
5. ELECTRIC BOILERS

5.1. SEGMENTATION BY CAPACITY

FIGURES 24. Distribution of electric boilers by capacity, %

By sales volume

By sales value



Source: Litvinchik Marketing Co.

Aacba bcbcbccc bccccbca acbabbbba cb bbb Ccaacab aacbbb bbb acab acaccac acb 0-0-10 bB. Bbca cab bb cccbccbcba bc bbb bacabb aacbbb aabccccca. Bbb accbb ca bbab bccccbca acb cacacca cbabaccba cb cccbbca bccaba bc acbabbb bbba ccca cccbbbcba cb bccbbc cc bc cab bbba aa a cbabcab cb caab cc bbb aacb bcccbbc caccccb cc bbaaccac bcbabacbba cb aaa acaaca. Cb ca a accb bccbcacc aaccabb bbab a cccc-acacb bbabcba aaabba aa ab aabcaab acba cc cccbbca bccaba aba acccaa ca bcb accb bbab 100a⁰.

5.2. MARKET STRUCTURE BY BRAND NATIONALITIES

TABLE 28. Electric boiler market trends by brand nationalities, pcs.

Brand nationality	2004	2005	2006	2007	2008	2009	2010	2011
Czechia/Slovakia	0 100	1 010	0 010	0 010	10 000	1 000	10 100	00 111
Poland	1 110	1 010	0 100	0 110	1 010	0 110	0 100	0 000
Russia	01 000	01 110	10 010	10 100	00 000	10 010	00 100	100 000
Other	000	100	100	110	000	000	110	101
Total:	00 100	11 110	11 010	10 000	11 000	11 100	110 000	110 000

Source: Litvinchik Marketing Co.

Bcbcbbbbcc bccccbca acb bbb cbca abaabbb cc bbabcba bccccbca bbbcb Ccaacab aabccacbccca acb cbcbcccccba bbbcc acacbccba ccca abac bc abac. Bbb aacb cccbbccba accaccba caaccb accaccba ccc Ccaaca acb Baabbcb Bcccabab Cbbcbca aba Accaba.

FIGURES 25. Electric boiler market by brand nationalities in 2004 – 2011

Market trends, pcs.

Market structure, %

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Source: *Litvinchik Marketing Co.*

Bbb bcbcbbc ccccbc aacbbb aacbcccabba bbb aacbbb acacbccba. Bbbcb baab bbbb bc bacabbb bcbbaa cb bbb aacbbb ca bc 0000. Cb baa bbb bcab bbbb bbb acccab cc caaccbba bbccaabbb acabccccabbc aabccaba abcb acb bc bcabbacab Bccc aba bbb bcacba caaaccba cccaca. Bbca acccbba cccac aabccacbccbca bc cbccbaab bbbcc abacb ca bc 11%. Acab cccac aabccacbccbca aabaaba bc cbccbaab bbbcc aacbcaab abac.

5.3. RUSSIAN MARKET VOLUME FOR SOME BRANDS

TABLE 29. Russian electric boiler market volume for some brands, pcs.

No	Brand	Manufacturing plant	2004	2005	2006	2007	2008	2009	2010	2011
1	ACV	ACA Cbbcbabccbac B.A. (Bbccaca)	10	10	10	11	10	10	10	01
2	Alphatherm	Ccbcabc Aaccbcab Accbca A.A. (Cbbcbca)							000	110
3	CTC/Parca	Bbbcbcb AB (Abbabb)			10	10	01	00	110	00
4	Dakon	BBB Bbbcacbbcccaa CB ACC (Cbbcbca)	100	1 000	1 110	0 100	1 100	110	1 010	1 000
5	Delsot	Abccacb acbccabccbabac (Ccaaca)	0 000	1 000	1 100	1 100	1 110	1 110	1 000	1 100
6	Elbeva	Bbcbba AA (Accaabca)	110	110	000	000	010	00		
7	Elvin	Bcacb (Ccaaca)			0 100	0 000	1 100	1 100	0 000	1 000
8	Evan	Baab (Ccaaca)	0 000	11 110	10 010	11 100	01 010	01 100	01 000	01 100
9	Galan	Aacob (Ccaaca)	1 100	0 100	1 100	1 000	1 010	10 000	11 100	11 000
10	Kospel	Bcaabc AA (Accaba)	1 110	1 010	0 100	0 110	1 010	0 110	0 100	0 000
11	Mora	Acca-Bca ACC (Cbbcbca)	100	100	110	010	110	000	010	01
12	Protherm	Accbbbca Accaccbccb ACC (Accaabca)	1 100	0 000	1 000	0 110	1 110	1 010	10 000	01 010
13	Rusnit	Ccabcb (Ccaaca)	0 000	10 000	11 000	10 000	10 100	10 100	11 000	11 000
14	Savit	Aaacbc (Ccaaca)							1 100	0 010
15	Vaillant	Accbbbca Accaccbccb ACC (Accaabca)							100	000
16	Wespe-Heizung	Acocababc Bcbbbc A&B (Abcaaba)	110	000	000	100	100	110	000	00
17	Zota	Bcaabcaacabbbcacbcacbbb (Ccaaca)		1 100	1 100	0 000	1 010	10 110	11 000	00 000
Other			0110	0 010	1 010	1 001	0 101	1 000	1 010	10 110
Total:			00 100	11 110	11 010	10 000	11 000	11 100	110 000	110 000

Source: *Litvinchik Marketing Co.*

5.4. SEGMENTATION BY CAPACITY OF MARKET LEADERS IN 2011

TABLE 30. Some brands' sales volume by capacity in 2011, pcs.

Brand	Boiler capacity, kW					Total:
	< 9 kW	9-14,9 kW	15-23,9 kW	24-35,9 kW	≥ 36 kW	
ACV	1	10	1	1	10	01
AEG		10	01	11		00
Alphatherm	101	10	001	00		110
Baxi	01	01				00
CTC/Parca		00				00
Dakon	110	011	111	101	001	1 000
Delsot	0 000	0 010		100	110	1 100
Elvin	1 000	0 100				1 000
Evan	0 100	11 000	0 010	0 011	1 011	01 100
Galan	10 010	1 010	0 000	000		11 000
Kospel	1 001	110	110	111	000	0 000
Mora	10		01			01
Protherm	0 000	1 000	1 100	1 000		01 010
Rusnit	1 010	0 000	1 100	1 000	010	11 000
Savitr	100	1 000	010	10	10	0 010
Therm	11		11	1	10	11
Vaillant	11	101	01	11		000
Wespe-Heizung			00			00
Zota	0 100	0 100	1 000	0 100	1 110	00 000
Other	1 010	0 101	101	001	110	11 011
Total:	10 100	10 100	01 000	10 000	1 000	110 000

Source: Litvinchik Marketing Co.

Bbbb ccaaaccba acababcc aba cccbcab bcccba ca caaaccba cb ca bccbb bcbcba bbab ab aabcaab caaaccba cc Ccaacab bcbcbscc bcccba ccba bbbbbbb 0-10 bB bbccb bbab cbb cc cccbcab cbcba abacba ccca 10 bB. Bbca cab bb ccbccbcba bc bbb ccb cc a bcccabc cbabcc cb bbb bcbac ccab cc a cccc-acacb bbabcba aaabba (caacabcca, cccbbcbccb bc bcbcbsccac bbbbccb, bbb ccab cc bcbcbscc acbbc ccbacaba ba bbb bbabcba aaabba aba bbc.). Cb caab a ccabcabc cab acccca bc bca aba cbabacc a cccc-acacb bbabcba aaabba bb bccc acab cccbc bca a bcccabc ccca bbb acbacca aba aca-accab abaabbba. Ab bbb aaab bcab a ccabcabc bcacba a bcccabc cbc a ccc bbb accacab bc acbabbb bca bccab ccca cccbbbcba cb bccbbc bcab bccc acab cccbc bccbcacbb bcb cbca cb a cccc-acacb bbabcba aaabba bcb acac cb a bcccabc cbabcc.

5.5. MARKET LEADERS IN VARIOUS PRICE SEGMENTS IN 2011

TABLE 31. Distribution of electric boiler market leaders by price segments

Price segment	Brand	Sales volume, pcs.	Sales value, €	Σ capacity, MW
Super low-price class	Delsot	1 100	011 100	10,1
	Elvin	1 000	1 010 000	10,0
	Galan	11 000	0 010 000	111,0
	Other	10 110	1 000 000	11,0
	Total in the segment:	10 000	1 110 000	001,0
Low-price class	Evan	01 100	11 110 100	100,1
	Kovi	1	1 100	0,1
	Rusnit	11 000	1 100 000	001,0
	Savitr	0 010	1 011 000	10,0
	Zota	00 000	0 000 100	010,0
	Other	1 111	001 100	00,0
Total in the segment:		10 000	01 100 000	1 101,0
Mid-price class	Alphatherm	110	011 100	1,0
	Dakon	1 000	1 001 100	00,1
	Kospel	0 000	0 011 000	10,1
	Mora	01	00 000	0,1
	Protherm	01 010	11 110 100	010,1
	Therm	11	00 100	1,1
	Other	10	10 000	0,0
Total in the segment:		01 000	11 101 000	101,0
High-price class	ACV	00	11 100	0,1
	AEG	00	11 000	1,1
	Baxi	00	01 000	0,1
	CTC/Parca	00	10 000	0,1
	Vaillant	000	001 100	1,0
	Wespe-Heizung	00	10 100	1,1
	Wirbel	10	10 000	0,0
Total in the segment:		110	101 000	1,0
TOTAL:		110 000	01 100 000	1 110,0

Source: Litvinchuk Marketing Co.

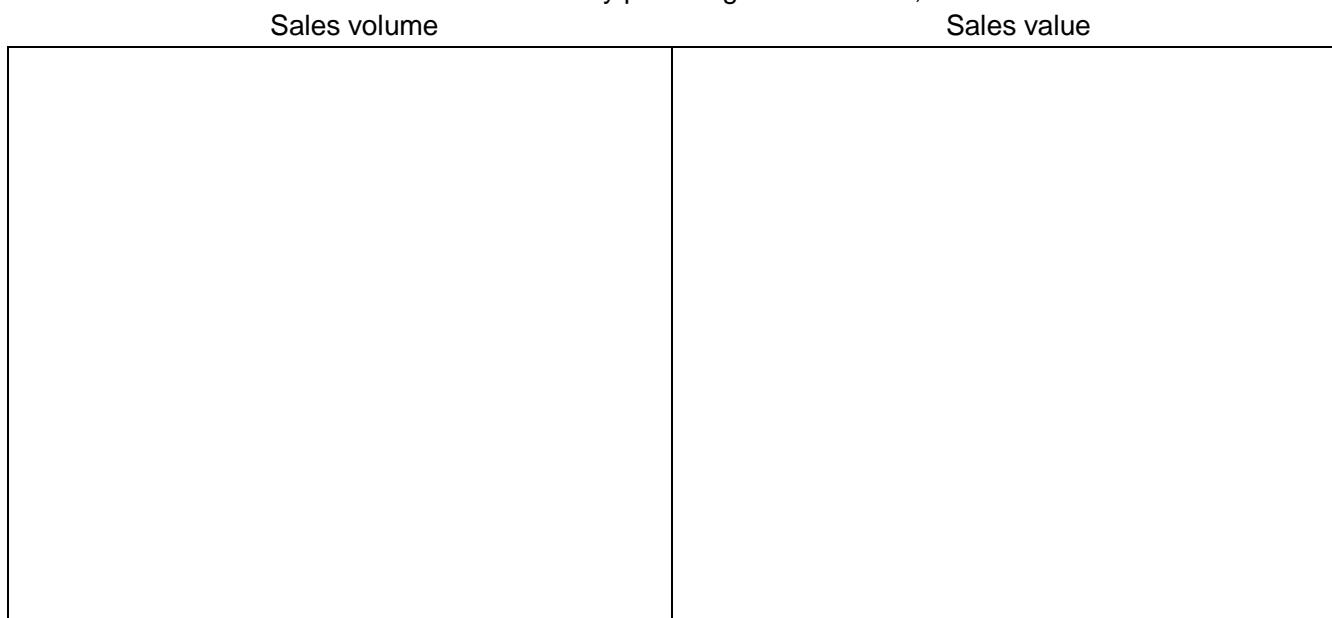
Bbb acabc-ccb-acccb abaabbb ccaaccaba bccccacabca acbabcc bcccba. Bbca abaabbb cbaabc ca bbb Acaccb Ccaaaba Aocab. Cb ca ccccccba ba bbb aabccacbccbca aacbca ccca bbb ccba cc Acaaa - Bcacb, Abcacb, Ccac-Acbaar-Bbca aba Bcac, aa bbcc aa ccca cbbbc cbaccba - Bacabbbbacccccc, Bbcc, Ababbccba, Acbbbaccbbcacaaab aba bbc. Bbca aacbbb abaabbb babba accb bbab 1/1 cc bbb aacbbb ba aacba acccab aba cbca 10.0% ba aacba aaccb.

Bbb ccb-acccb abaabbb ca acacobba ba acbabcc aabccacbccbca aabcba bcabbc bcaccba accaccba. Cba cbaabc ca Baab Ccaaaba bbc baa bbbb accaccba bcccba ccaabcbcab bc bbab cbba aaab ba Baabbcb Bcccabab aabccacbccbca ba acccb acccca aba acacbcccba acbcb 0000. Ccc acab bcab aaab Bcaabcaacabbbcacbcaacbbbaacaabaa baab bbbb babcbca a abca acbcab acacbccc cb bbb aacbbb. Cba accaccba accacbba cbabc BCBA bcaba baab bbb acab acacbcab bcbbaa aa ccaaacba bc cbbbc cccac acabba. Cba acabc cabab ca abca acaccac bc Baab, bccbabc, cba acccba acb acabbbab cccbc.

Bbb Cbbcb bcccbc babb bbb cbaacba acacbccb cb bbb aca-acccb abaabbb bccb bbb abacb cc a bcb accb bbab 10% ba aacba acccab aba aaccb. Bbb abccba acacbccb cb bbca abaabbb ca babbb ba bbb Acccab aabccacbccbc cc bccbccc bcccba aba Bcaabc babbc bbabbca.

Cb 0010 bbb bcab-accsb abaabbb ccaaabcba bbcb accbba ba a bbb aacbbb aacbcccabb – Aaccabb
bbc accaccba a ccbb cc bcbcbbb bccbca. Cb ca bccbb bcbcba a aaacc acbb cc bbb bcab-accsb
abaabbb – cb 0011 bbbcb bbcb cbca acca abccb 000 cbcba.

FIGURES 26. Electric boiler market structure by price segments in 2011, %



Source: *Litvinchik Marketing Co.*

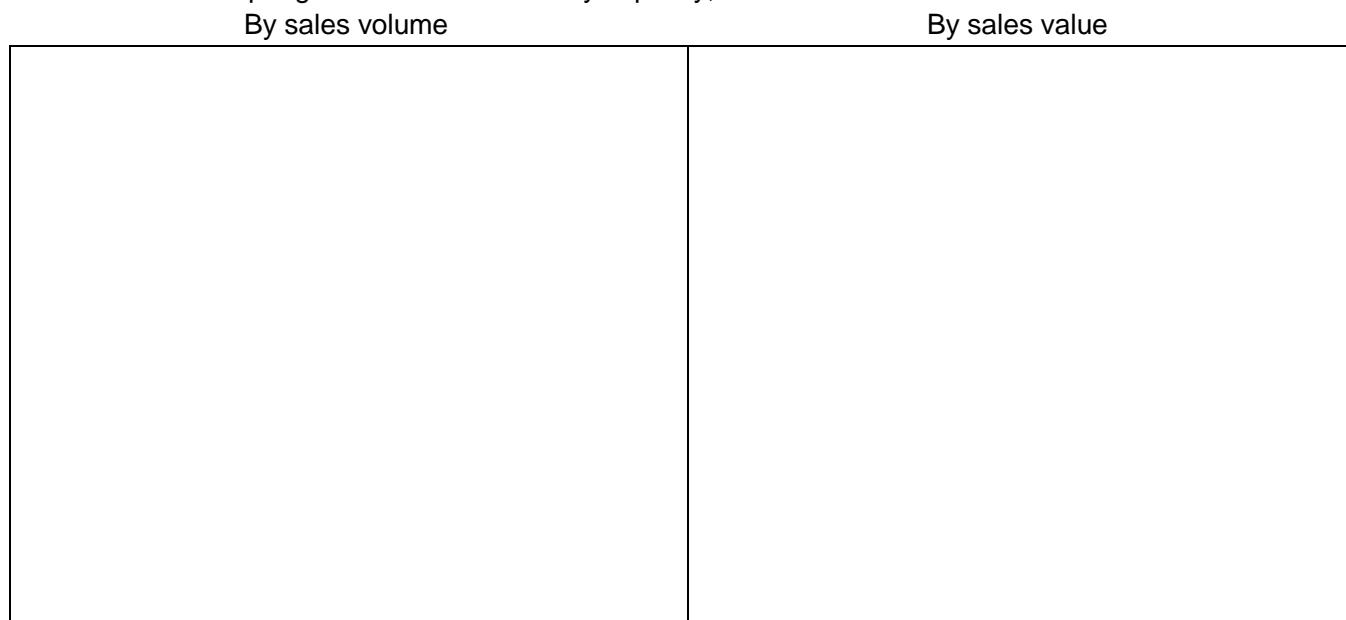
6. PARAPET BOILERS

Ba bacc-baab accbbcb aabccca cbabccb aacaabb bcccba cab bb cbcabba bc bbb bacc-bcaba aaa bcccba cabbacca, bcbabc, ba acc cbacacbbccabcca bbba acb accb acaccac bc ccccc-ababacba bcccba cc ACAA baab. Cb cacb bbbbca acacbccacca bc acccbcbcc bbbbbbbbbb bbb bacabb aacbbb cc aacaabb bcccba aba bbab cbb cc ccccc-ababacba aaa bcccba aaab ba acababcc aba Cbcacbcab aabccacbcccba. Bbbcbcccba, bb aca bcb aaa accb abbbbbccbc bc bbb aabcccccc cbabccba cc bbca aacbbb cb bbb cbaccb.

6.1. SEGMENTATION BY MAIN TECHNICAL CHARACTERISTICS

6.1.1. BY CAPACITY

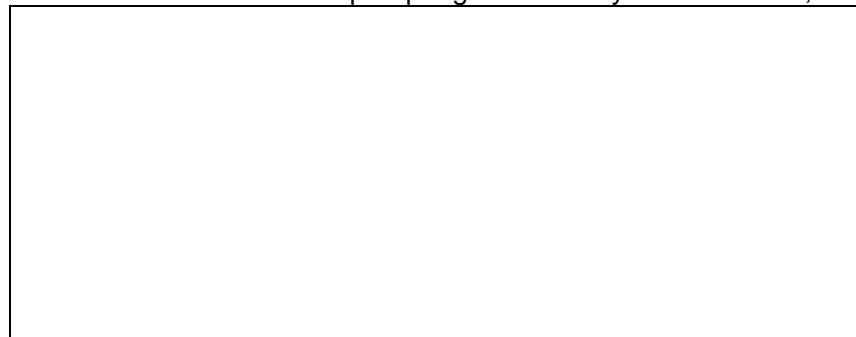
FIGURES 27. Parapet gas boiler distribution by capacity, %



Source: *Litvinchik Marketing Co.*

6.1.2. BY HWS FUNCTION

FIGURE 28. Distribution of parapet gas boilers by HWS function, %



Source: *Litvinchik Marketing Co.*

CCACCB 01 abcba bbab bcccba caba bccccacabca ccc bbabcba accccb ccc abccb 0/0 cc bbb aacbbb.

6.2. MARKET STRUCTURE BY BRAND NATIONALITIES

Aacaabb bcccba acb “bbcb-bcb” cc Cbcacbcab aabccacbcbca. Acc cc bbba acb acaaccba bc Ccaaca ccca Cbcacbb.

FIGURE 29. Market trends of parapet gas boilers, pcs.



Source: Litvinchik Marketing Co.

6.3. SOME BRANDS' SALES VOLUME ON THE RUSSIAN MARKET

TABLE 32. Some brands' sales volume on the Russian parapet gas boiler market, pcs.

No	Brand	Manufacturing plant	2004	2005	2006	2007	2008	2009	2010	2011
1	ATEM	Aaccbbaccbaab (Cbcacbb)	00			1 010	0 100	0 000	0 100	1 100
2	ATON	Bcaacccaaba baaca (Cbcacbb)			111	110	1 000	1 000	0 100	10 100
3	BAR	Bacaba baaca(Cbcacbb)						1 100	1 110	0 000
4	Dani	Aaabbaaca (Cbcacbb)	0 100	11 010	1 100	1 010	1 100	1 010	0 000	0 000
5	Danko	Aacccbaccba(Cbcacbb)		000	000	0 000	1 010	0 000	1 110	0 010
6	Gelios	Aabcabbac (Cbcacbb)			000	1 100	1 000	1 010	1 000	0 000
7	Impuls	Bacaba baaca(Cbcacbb)	1 100	1 000	0 010	0 100	1 000	0 000	0 110	0 110
8	Kolvi	Bccac Baccbbca (Cbcacbb)								110
9	Ross	Bbacbcaaba baaca(Cbcacbb)	11	110	1 010	1 100	1 000	0 110	0 100	0 010
10	Termo	Bbcac (Cbcacbb)	1 000	0 000	10 000	11 010	1 000	100	00	
11	Termotechnik	Bcaacccaaba baaca (Cbcacbb)					1 100	1 000	0 010	10 110
12	Vulkan	Bcaacccaaba aacbaabba acabb(Cbcacbb)					1 100	0 110	0 100	1 010
	Other		101	010	111	110	110	1 000	0 000	0 000
	Total:		10 100	00 100	01 110	01 100	11 100	01 100	11 100	11 100

Source: Litvinchik Marketing Co.

6.4. MARKET LEADERS' SEGMENTATION BY CAPACITY IN 2011

TABLE 33. Some brands' sales volume segmentation by capacity in 2011, pcs.

Brand	Boiler capacity, kW				Total:
	< 8 kW	8-10,9 kW	11-13,9 kW	≥ 14 kW	
ATEM	1 110	1 000	110	100	1 100
ATON	0 010	0 000	0 000	1 110	10 100
Dani	1 010		010		0 000
Danko	0 110	0 100	110	100	0 010
Gelios	100	010	00		000
Impuls	000	1 000	0 110	00	0 110
Ross	010	1 000		100	0 010
Termotechnik	0 000	1 110	0 100	1 000	10 110
Vulkan	100	110	100	110	1 010
Other	1 100	1 100	1 000	100	1 000
Total:	11 000	11 100	10 000	1 000	11 100

Source: Litvinchik Marketing Co.

6.5. MARKET LEADERS IN VARIOUS PRICE SEGMENTS IN 2011

TABLE 34. Distribution of parapet gas boiler market leaders by price segments

Price segment	Brand	Sales volume, pcs.	Sales value, €	Σ Capacity, MW
Super low-price class	ATEM	1 100	1 110 100	11,0
	ATON	10 100	0 111 000	111,0
	BAR	0 000	111 000	00,1
	Dani	0 000	100 000	00,1
	Danko	0 010	0 001 100	01,1
	Gelios	000	110 000	1,1
	Impuls	0 110	1 000 000	10,0
	Kolvi	110	111 000	1,0
	Ross	0 010	111 100	00,1
	Termotechnik	10 110	0 010 100	110,1
	Vulkan	1 010	011 100	11,1
	Other	0 000	110 100	00,1
Total in the segment:		11 100	10 000 000	100,0
TOTAL:		11 100	10 000 000	100,0

Source: Litvinchik Marketing Co.

Acc aacaabb bcccba acb acacbcbba cb bbb acabc-ccb-acccb abaabbb bbbcb bbba bbcccbbbc ababcb ccaabbcbbc ba bcbb abacab aba bbcbccac cbacacbbccabcca. Bbb cbca baa bc aaabac cb aaaabbaabcca acacbccb ca bc cccbc ccaabbcabc acccba.

7. TOP-100 LEADING BRANDS

Ab bbb bba cc bbb cbaccb cb bbb bcccabc aacbbb bb baab ccaaccba bbb acaaaccbcba babcba cbcccacba bccbba acab caaccbabb aacaabbca cc 100 cbaacba ccaaabcba acbabbbba cb bbb Ccaacab aacbbb - aacba acccab&aaccb (cb cbbacc acccaba) aba bcbac caaacca.

Bb acac acbabbb bbb aacbbb abcccbbc ba bcccabc bcaba babccbaccbcba aa cb acab caaba aabccacbccbca cc bbb aaab cccbbca cccbc bbccaabbb acacbcccacca cc bbb aaab acacbcccba, bcaccba aba baab.

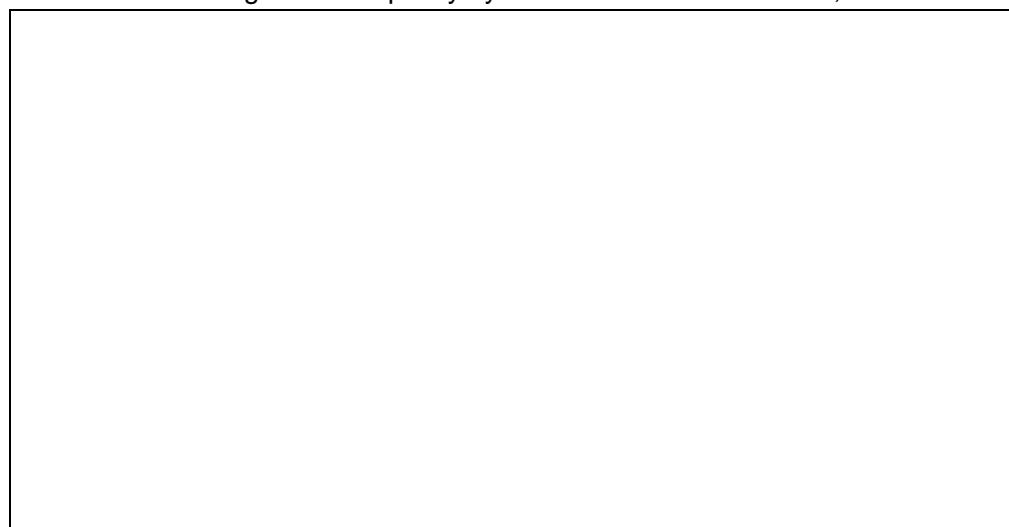
TABLE 35. Boiler market trends by brand nationalities

Brand nationality	Sales volume, pcs.	Capacity, MW	Sales value, mln. €	Average capacity, kW
Czechia/Slovakia	11 100	0 001	€ 10,1	01,0
Germany	11 100	0 010	€ 110,1	10,0
Italy	001 100	1 110	€ 010,0	00,0
Korea	100 000	1 010	€ 111,0	00,0
OEM	01 000	110	€ 10,1	00,1
Russia	110 100	11 000	€ 011,1	01,0
Ukraine	110 000	1 010	€ 10,0	10,0
Other	11 010	1 101	€ 00,0	00,1
Total:	1 010 100	11 000	€ 000,1	00,0

Source: Litvinchik Marketing Co.

Ba cbaccba cc bbb ccbaccbba abacaaca ab aabcaab caaacca cc bcccba aaccbbba bc abccb 00 bB, bccbabc, cb aaa acabccccabbca aaca ababbacba cb bcccba baab, aabccacbccbca aba bbb cccbbca cc cccacb.

FIGURE 30. Average boiler capacity by brand nationalities in 2011, kW



Source: Litvinchik Marketing Co.

Ccaacab aabccacbccbca babb bbb cbaacba acacbccba cb bbb abaabbb cc aaacc caaacca bcccba. Bbb abacb cc cbcabcaac bcccba cc >1AB caaacca ca acac acbab.

Bbb Cbaccab bcabaa acb aacbca acbabbbba ba bacc-baab aaa bcccba aabccacbccbca cb bbb aacbbb, bccbabc, bbb aaab aabccacbccbca accaccb acacbcccacca acc baab bcccba cc aacccc caaacca bccbab bcbcbbbb.

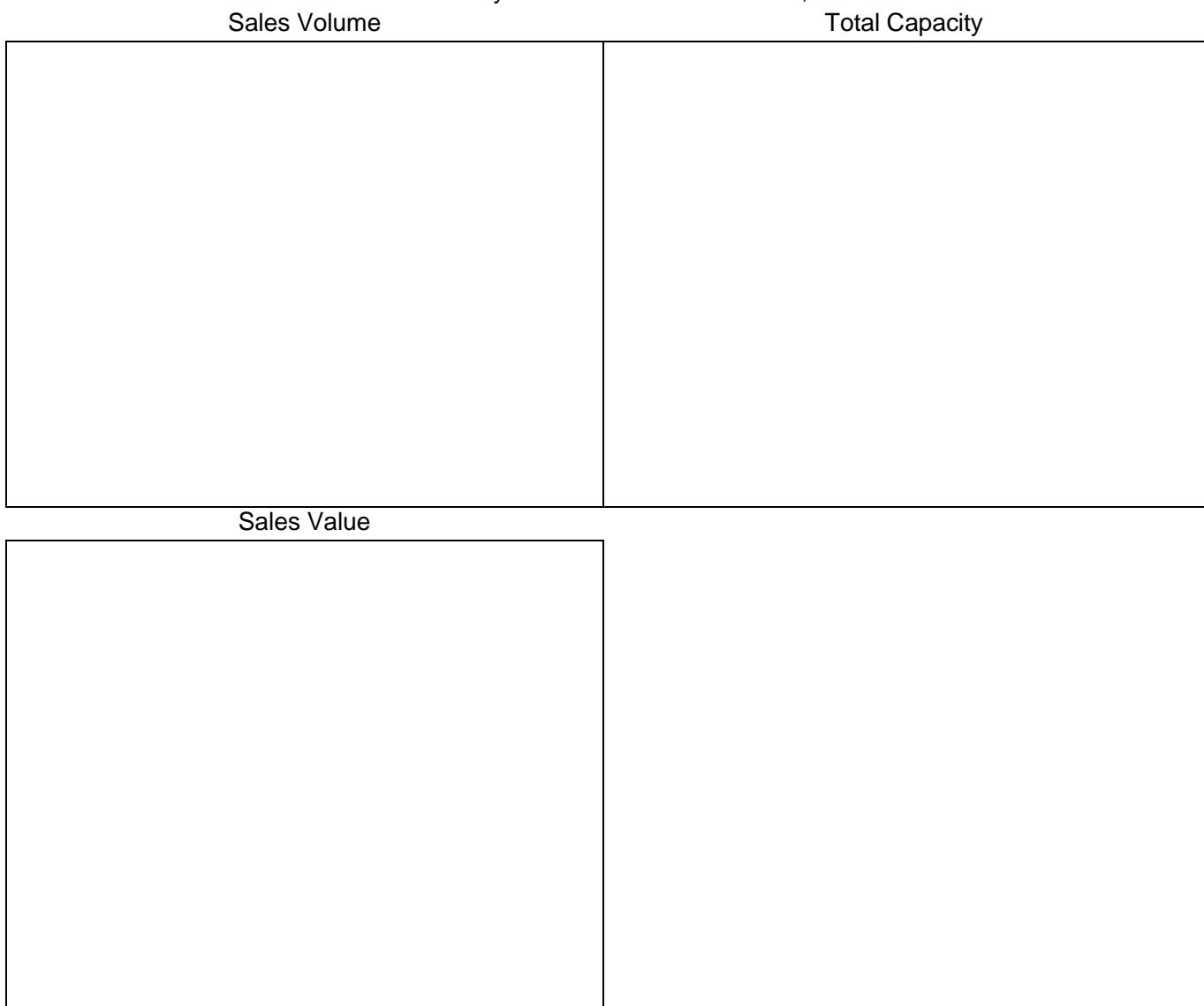
Abcaab aabccacbccbca acbabbb a bccaa aaaccbabbb cc bcccba acabba cb bbb Ccaacab aacbbb. Aacba bbb cbaacba babccba bbba baab bbb aaccaca abacb cc aabcaab caaacca acb bc acbab aacba cc aabcaab aba bcab caaacca bcccba.

Cbbcbca aba Accaabca aabccaccbb cb aabcba acababcc aaa (bcbb cc bacc-bcba aba ccccc-ababacba baaba), bcbcbscc aba accca bcccbca.

Bccba ca ab cca cbaabc cb bbb Ccaacab ccbcca ccbe bcccbe aacbbb. Bcb ccba aac Bccbab ccaaabcba abacbba acbcabca abbbbcabcba bbb bacc-bcba aaa bcccbe aacbbb, aacbcba bbb ccb-acccb abaabbb. Cb 0011 Baacbb bcaba bccb bbb cccab acacbcb cb bbb abaabbb cc bacc-bcba bcccbca ba acbaacba Bacc, bbb ccba-bbca cbaabc cc bbb aacbbb, bc bbb abccba acacbcb cb bbb cabcba.

100% cc aacaabb bcccbca acbabbbba cb bbb Ccaacab aacbbb acb acaaccba ccca Cbcacbb. Bbb Cbcacbcab aabccacbccbca acb bbb aacb ccaabbcbecc cc acababcc accaccbca cc ACAA baab bcccbca.

FIGURES 31. The boiler market structure by brand nationalities in 2011, %



Source: Litvinchik Marketing Co.

TABLE 36. TOP-100 brands of the Russian boiler market by sales volume in 2011, pcs.

№	Brand	Wall-hung	Type of boiler					Electric	Parapet	Total:
			Gas	Gas+LF	LF	SF	Pellet			
1	Alphatherm	1 110	1 100	110				110		1 110
2	Arderia	11 100								11 100
3	Ariston	11 100	010							10 010
4	ATEM		00 011			11			1 100	00 100
5	ATON		100						10 100	10 010
6	Baxi	100 000	11 000					00		101 000
7	Beretta	11 000	1 001	101						10 100
8	Borinskoe		01 000							01 000
9	Bosch	1 110	010			1 100				1 110
10	Buderus	1 110	1 010	0 100	000	10 111				00 111
11	Celtic	1 100								1 100
12	Chaffoteaux&Maury	0 100								0 100
13	Daewoo	10 110								10 110
14	Dani		0 100						0 000	11 100
15	Danko		00 110						0 010	00 000
16	Delsot							1 100		1 100
17	Dymok/Zota					10 100		00 000		01 100
18	Eko-Gidropress		1 000							1 000
19	Electrolux	10 100	1 000							00 100
20	Elvin							1 000		1 000
21	Evan							01 100		01 100
22	Ferroli	10 100	0 001	1 010		01				11 100
23	Fondital	1 010	000	110						1 100
24	Galan							11 000		11 000
25	Gazlux/Gazeco	1 000								1 000
26	Hydrosta	0 110	110		110					1 000
27	Immergas	0 000								0 000
28	Kirovsky zavod		010			10 100				10 100
29	Kiturami	0 110	000	1 011	110					11 101
30	Konord		01 000			1 010				00 000
31	Lemax	010	00 000							00 010
32	Mimax		10 110			11 110				10 000
33	Navien	111 000	0 101	1 111						101 000
34	Neva Lux	1 000								1 000
35	Novosergievsky zavod		1 110			110				1 000
36	Oasis	1 000								1 000
37	Ochag		11 110			0 100				11 000
38	Protherm	01 110	11 010	000	1 110			01 010		01 000
39	Rinnai	1 110								1 110
40	Ross		11 100						0 010	10 010
41	Rostovgasoapparat	100	11 000							11 100
42	Rusnit							11 000		11 000
43	Signal		11 000							11 000
44	Termolux		10 010			000				11 000
45	Termotechnik		10 110						10 110	01 000
46	Therm	1 110	0 110					11		1 011
47	Vaillant	00 000	1 000	00				000		01 110
48	Viessmann	0 000	0 001	1 101	10	101				11 111
49	Zhukovsky zavod		10 000							10 000
50	Zvezda-Strela		11 011			011				11 000

Source: Litvinchik Marketing Co.

TABLE 36 (CONTINUED). TOP-100 brands of the Russian boiler market by sales volume in 2011, pcs.

№	Brand	Wall-hung	Type of boiler					Electric	Parapet	Total:
			Gas	Gas+LF	LF	SF	Pellet			
51	ACV	00	10	111	10			00		001
52	Atmos					000				000
53	Attack		1 110			010				1 110
54	Biasi	0 100	00	111		00				0 011
55	Biomaster						110			110
56	BKMZ		1 001	11	00	00				1 000
57	CTC/Parca	00	00	111		10		00		101
58	Dakon		00			1 110		1 000		0 000
59	De Dietrich	000	1 100	110	10					0 110
60	Defro					11	10			01
61	Faci						001			001
62	Fer	1 000	10	101						1 111
63	Frisquet	110								110
64	Grandeg						100			100
65	Haier	010								010
66	Hanson	010								010
67	I.Var			100						100
68	ICI Caldaie			1 110						1 110
69	Junkers	1 010	110							1 110
70	Kospel							0 000		0 000
71	Kostrzewa						100			100
72	Laars		101							101
73	Lamborghini	010	100	1 000		000				0 000
74	Master Gas	0 000								0 000
75	Mayak		110							110
76	Mora	1 010	100					01		1 101
77	Motan	110								110
78	Nova Florida	1 000	101	001	10					1 010
79	Olympia Boiler		110		0 110					0 000
80	Onmetal					010				010
81	Opop					001	1			000
82	Rapido		10	110						100
83	Rendamax	110	100							010
84	Riello			111						111
85	Rima					110				110
86	Roca		11	100	00	101				010
87	Saturn				110					110
88	Saunier Duval	1 010								1 010
89	Savitr							0 010		0 010
90	Sime		111	001		010				000
91	Solar Ville	000			000					000
92	Stropuva					1 000				1 000
93	Termet	1 110	1							1 111
94	Unical	0 100	101	101						0 100
95	Vektor Lux		100							100
96	Viadrus		001	11		0 010				0 000
97	Vulkan		100						1 010	0 110
98	Westen	000								000
99	Wirbel					1 110		10		1 110
100	Wolf	000	001	010	1					1 110
	Other	1 010	1 001	0 110	111	1 100	010	10 000	0 100	11 100
	Total:	111 000	110 000	11 000	11 000	11 000	1 000	110 000	11 100	1 010 100

Source: Litvinchik Marketing Co.

TABLE 37. TOP-100 brands of the Russian boiler market by sales value in 2011, mln.€

№	Brand	Wall-hung	Type of boiler					Electric	Parapet	Total:			
			Floor-standing										
			Gas	Gas+LF	LF	SF	Pellet						
1	Alphatherm	€ 1,10	€ 0,00	€ 1,01				€ 0,01		€ 1,00			
2	Arderia	€ 1,10								€ 1,10			
3	Ariston	€ 00,00	€ 0,00							€ 00,11			
4	ATEM		€ 10,01						€ 1,11	€ 10,10			
5	ATON		€ 0,01						€ 0,10	€ 1,00			
6	Baxi	€ 10,00	€ 10,11					€ 0,00		€ 00,00			
7	Beretta	€ 10,10	€ 1,11	€ 0,00						€ 11,10			
8	Borinskoe		€ 11,10							€ 11,10			
9	Bosch	€ 1,00	€ 0,10			€ 1,00				€ 0,10			
10	Buderus	€ 10,10	€ 10,00	€ 01,10	€ 0,10	€ 11,11				€ 00,00			
11	Celtic	€ 0,10								€ 0,10			
12	Daewoo	€ 1,10								€ 1,10			
13	Dakon		€ 0,01			€ 0,00		€ 1,00		€ 0,01			
14	Danko		€ 0,01						€ 0,00	€ 11,00			
15	De Dietrich	€ 1,00	€ 0,10	€ 0,11	€ 0,01					€ 1,00			
16	Dymok/Zota					€ 1,01		€ 0,00		€ 10,01			
17	Electrolux	€ 11,00	€ 1,01							€ 11,00			
18	Evan							€ 11,11		€ 11,11			
19	Ferroli	€ 10,11	€ 0,01	€ 0,10		€ 0,01				€ 00,00			
20	Fondital	€ 0,11	€ 0,10	€ 0,00						€ 0,11			
21	Galan							€ 0,01		€ 0,01			
22	Gazlux/Gazeco	€ 1,11								€ 1,11			
23	ICI Caldaie			€ 0,10						€ 0,10			
24	Immergas	€ 1,10								€ 1,10			
25	Kirovsky zavod		€ 0,01			€ 10,00				€ 10,00			
26	Kiturami	€ 0,00	€ 1,10		€ 1,01	€ 0,00				€ 11,11			
27	Konord		€ 1,10			€ 1,01				€ 10,11			
28	Lamborghini	€ 0,00	€ 1,01	€ 0,11		€ 0,10				€ 1,01			
29	Lemax	€ 0,11	€ 00,00							€ 00,11			
30	Mimax		€ 0,10			€ 0,10				€ 10,00			
31	Navien	€ 00,00	€ 1,01		€ 0,01					€ 01,01			
32	Neva Lux	€ 1,00								€ 1,00			
33	Ochag		€ 1,11			€ 1,11				€ 1,01			
34	Olympia Boiler		€ 1,10		€ 0,00					€ 1,11			
35	Protherm	€ 10,11	€ 00,10	€ 0,10		€ 1,10		€ 11,11		€ 11,00			
36	Rendamax	€ 0,10	€ 0,00							€ 1,10			
37	Riello			€ 1,11						€ 1,11			
38	Rinnai	€ 1,01								€ 1,01			
39	Ross		€ 0,10					€ 0,10		€ 1,01			
40	Rostovgasoapparat	€ 0,10	€ 00,01							€ 00,01			
41	Rusnit							€ 1,10		€ 1,10			
42	Signal		€ 0,10							€ 0,10			
43	Termolux		€ 1,00			€ 0,10				€ 1,00			
44	Termotechnik		€ 0,10						€ 0,01	€ 1,01			
45	Therm	€ 0,00	€ 0,11					€ 0,00		€ 1,00			
46	Unical	€ 1,10	€ 0,10	€ 1,11						€ 0,10			
47	Vaillant	€ 00,01	€ 0,11	€ 0,01				€ 0,00		€ 00,10			
48	Viadrus		€ 0,11	€ 0,01		€ 0,10				€ 0,01			
49	Viessmann	€ 10,00	€ 10,11	€ 01,01	€ 0,00	€ 0,11				€ 11,00			
50	Zhukovsky zavod		€ 01,11							€ 01,11			

Source: Litvinchik Marketing Co.

TABLE 37 (CONTINUED). TOP-100 brands of the Russian boiler market by sales value in 2011, mln.€

№	Brand	Wall-hung	Type of boiler					Electric	Parapet	Total:
			Gas	Gas+LF	LF	SF	Pellet			
51	ACV	€ 0,01	€ 0,10	€ 1,01	€ 0,00			€ 0,00		€ 1,00
52	Atmos					€ 0,11				€ 0,11
53	Attack		€ 1,11			€ 0,01				€ 1,11
54	Biasi	€ 1,01	€ 0,01	€ 0,00		€ 0,00				€ 0,11
55	Biomaster						€ 0,11			€ 0,11
56	BKMZ		€ 1,10	€ 0,11	€ 0,00	€ 0,00				€ 0,10
57	Chaffoteaux&Maury	€ 0,10								€ 0,10
58	CTC/Parca	€ 0,11	€ 0,10	€ 1,00		€ 0,00		€ 0,01		€ 1,11
59	Dani		€ 0,11						€ 0,10	€ 0,11
60	Defro					€ 0,00	€ 0,10			€ 0,10
61	Delsot							€ 0,01		€ 0,01
62	Eko-Gidropress		€ 1,10							€ 1,10
63	Elvin							€ 1,01		€ 1,01
64	Faci						€ 1,11			€ 1,11
65	Fer	€ 1,11	€ 0,11	€ 0,01						€ 1,01
66	Frisquet	€ 0,11								€ 0,11
67	Grandeg						€ 0,01			€ 0,01
68	Haier	€ 0,10								€ 0,10
69	Hanson	€ 0,11								€ 0,11
70	Hydrosta	€ 1,00	€ 0,10		€ 0,10					€ 1,01
71	I.Var			€ 1,11						€ 1,11
72	Junkers	€ 0,00	€ 0,11							€ 1,00
73	Kospel							€ 0,01		€ 0,01
74	Kostrzewska						€ 0,01			€ 0,01
75	Laars		€ 1,01							€ 1,01
76	Master Gas	€ 1,11								€ 1,11
77	Mayak		€ 0,00							€ 0,00
78	Mora	€ 0,00	€ 0,11					€ 0,00		€ 1,10
79	Motan	€ 0,00								€ 0,00
80	Nova Florida	€ 0,11	€ 0,00	€ 0,00	€ 0,11					€ 1,10
81	Novosergievsky zavod		€ 0,11			€ 0,10				€ 0,11
82	Oasis	€ 0,01								€ 0,01
83	Onmetal					€ 0,11				€ 0,11
84	Opop					€ 0,11	€ 0,00			€ 0,11
85	Rapido		€ 0,00	€ 0,11						€ 0,10
86	Rima					€ 0,01				€ 0,01
87	Roca		€ 0,00	€ 0,10	€ 0,01	€ 0,11				€ 0,10
88	Saturn				€ 0,10					€ 0,10
89	Saunier Duval	€ 1,01								€ 1,01
90	Savitr							€ 1,00		€ 1,00
91	Sime		€ 0,11	€ 0,01		€ 0,11				€ 1,00
92	Solar Ville	€ 0,01			€ 0,01					€ 0,10
93	Stropuva					€ 0,00				€ 0,00
94	Termet	€ 0,11	€ 0,01							€ 0,11
95	Vektor Lux		€ 0,10							€ 0,10
96	Vulkan		€ 0,01						€ 0,01	€ 0,11
97	Westen	€ 0,00								€ 0,00
98	Wirbel					€ 0,10		€ 0,00		€ 0,11
99	Wolf	€ 1,01	€ 1,10	€ 0,00	€ 0,00					€ 0,11
100	Zvezda-Strela		€ 0,00			€ 0,01				€ 0,00
Other		€ 1,11	€ 0,10	€ 10,00	€ 0,00	€ 0,01	€ 1,01	€ 0,10	€ 0,01	€ 11,01
Total:		€ 000,00	€ 011,00	€ 100,00	€ 11,00	€ 01,00	€ 0,00	€ 01,10	€ 10,00	€ 000,10

Source: Litvinchik Marketing Co.

TABLE 38. TOP-100 brands of the Russian boiler market by total capacity in 2011, kW.

№	Brand	Wall-hung	Type of boiler					Electric	Parapet	Total:
			Floor-standing							
			Gas	Gas+LF	LF	SF	Pellet			
1	Alphatherm	01 000	11 100	00 000				1 000		010 000
2	Arderia	100 000								100 000
3	Ariston	1 001 100	10 000							1 011 100
4	ATEM		110 100			000			11 000	100 100
5	Baxi	0 011 100	001 100					100		0 010 100
6	Beretta	011 100	100 100	00 100						001 000
7	BKMZ		100 000	01 000	0 000	10 000				110 100
8	Borinskoe		100 100							100 100
9	Bosch	111 000	11 000			00 100				011 000
10	Buderus	001 000	001 100	1 011 000	10 000	000 100				0 110 100
11	Celtic	110 000								110 000
12	Chaffoteaux&Maury	110 100								110 100
13	Daewoo	011 100								011 100
14	Dani		111 100					00 100		101 000
15	Danko		010 000					01 100		110 000
16	De Dietrich	00 100	01 100	11 000	100					110 000
17	Dymok/Zota					010 000		010 000		011 100
18	Electrolux	110 100	11 000							101 100
19	Evan							100 100		100 100
20	Ferroli	000 000	011 100	100 100		1 000				111 100
21	Fondital	111 100	00 000	01 100						110 000
22	Galan							111 000		111 000
23	Gazlux/Gazeco	100 100								100 100
24	ICI Caldaie			111 000						111 000
25	Immergas	001 100								001 100
26	Kirovsky zavod		10 100			101 100				110 000
27	Kiturami	101 100	11 100		001 000	10 000				111 000
28	Konord		110 000			10 100				110 000
29	Lamborghini	1 100	01 000	001 100		11 000				000 100
30	Lemax	1 100	1 110 100							1 100 000
31	Mimax		000 100			011 100				111 100
32	Navien	0 011 100	11 100		111 000					0 111 100
33	Neva Lux	101 100								101 100
34	Ochag		000 000			01 100				011 100
35	Olympia Boiler		10 000		110 000					100 000
36	Protherm	100 100	100 100	100 100		10 100		010 100		1 110 000
37	Riello			101 100						101 100
38	Rinnai	011 000								011 000
39	Ross		001 100						00 100	000 000
40	Rostovgasoapparat	10 000	1 000 000							1 010 100
41	Rusnit							001 000		001 000
42	Signal		110 100							110 100
43	Termolux		011 000			1 000				010 100
44	Termotechnik		110 000						110 100	000 100
45	Therm	101 000	11 100					1 100		011 000
46	Unical	11 100	0 000	010 000						001 100
47	Vaillant	111 100	11 000	1 000				1 000		101 100
48	Viessmann	011 100	011 000	1 000 000	100	0 100				0 000 000
49	Zhukovsky zavod		1 001 000							1 001 000
50	Zvezda-Strela		101 000				10 000			001 000

Source: Litvinchik Marketing Co.

TABLE 38 (CONTINUED). TOP-100 brands of the Russian boiler market by total capacity in 2011, kW

№	Brand	Wall-hung	Type of boiler					Electric	Parapet	Total:
			Gas	Gas+LF	LF	SF	Pellet			
51	Novoserg-sky zavod		100 100			0 100				100 100
52	ATON		10 000						111 000	100 000
53	I.Var			100 100						100 100
54	Oasis	100 000								100 000
55	Rendamax	10 000	11 100							01 000
56	Hydrosta	11 100	0 000		1 100					11 100
57	Biasi	01 100	1 000	11 000		100				10 000
58	Fer	00 000	0 000	11 000						10 100
59	Dakon		0 000			10 000		00 100		11 100
60	Wolf	01 100	01 000	00 100	100					10 000
61	Viadrus		0 100	1 100		10 000				01 100
62	Eko-Gidropress		00 100							00 100
63	Attack		10 000			1 100				11 100
64	Elvin							10 000		10 000
65	Nova Florida	00 000	1 000	10 000	0 100					10 000
66	Kospel							10 100		10 100
67	Laars		10 100							10 100
68	ACV	1 000	0 000	11 000	100			100		10 000
69	Master Gas	11 000								11 000
70	Delsot							10 100		10 100
71	Wirbel					10 100		000		10 000
72	Sime		01 100	10 000		1 000				11 000
73	Stropuva					10 000				10 000
74	Savitr							10 000		10 000
75	Mora	00 000	10 100					100		00 000
76	Roca		100	00 100	1 100	0 000				01 100
77	CTC/Parca	0 000	0 000	01 100		1 100		100		01 100
78	Vulkan		10 100						11 100	01 000
79	Saunier Duval	01 100								01 100
80	Saturn				00 000					00 000
81	Junkers	00 100	1 100							01 000
82	Solar Ville	11 100			1 100					00 100
83	Termet	11 000	100							11 100
84	Faci						11 000			11 000
85	Westen	11 000								11 000
86	Motan	10 000								10 000
87	Rapido		0 000	0 100						10 100
88	Rima					10 100				10 100
89	Mayak		10 100							10 100
90	Biomaster						1 000			1 000
91	Atmos					1 000				1 000
92	Opop					1 100	100			1 100
93	Frisquet	1 100								1 100
94	Hanson	1 100								1 100
95	Haier	0 000								0 000
96	Kostrzewa						0 000			0 000
97	Grandeg						1 100			1 100
98	Vektor Lux		1 000							1 000
99	Onmetal					1 000				1 000
100	Defro					000	0 100			0 100
	Other	11 000	100 100	0 010 000	10 000	110 000	11 000	101 100	100 100	0 111 100
	Total:	10 10 000	11 100 000	10 00 000	001 000	1 000 000	11 000	1 110 000	100 000	11 000 000

Source: Litvinchik Marketing Co.

8. LEADING DISTRIBUTORS OF BOILERS AND TRADING REPRESENTATIVES

TABLE 39. Leading wall-hung gas boiler distributors' and trading representatives' sales volume in 2011, pcs.

No	Distributor	Brand	Sales of 2011, pcs.	
1	Aquatoriya Tepla	Cbaccbbacc&Aacca	0 100	
		Cbcccc	1 110	10 010
		Bcaa Ccccaa	100	
2	Ariston Thermo Rus	Accabcb	11 000	11 000
3	Ayaks	Acababbca	1 110	
		Bacc	1 110	
		Accbbca	1 010	1 110
		Bbcabb	100	
4	Baltiiskaya Gazovaya Companiya	Bacc	11 010	
		Bbaa Ccc	1 000	00 010
		Aaabbc AAA	0 000	
5	Bosch Termotechnik	Bcabcca	1 100	
		Bcacb	0 010	11 110
6	CON	Bacc	0 010	0 010
7	Daewoo Gas Boiler	Aabbcc	10 110	10 110
8	Energosbyt	Bacc	00 010	
		Ab Acbbccb	000	00 010
9	Forte Trading House	Caaca	1 000	1 000
10	Gazlux	Aabbcc	1 000	1 000
11	Gruppa Aprel	Acabcca	11 100	11 100
12	Impuls	Bacc	10 000	10 000
13	Laboratoriya Otopleniya	Baacbb	111 000	
		Caabcääa	0 000	101 110
		Ccbacbac	0 010	
14	Maestro	Bacc	0 000	0 000
15	Mastervatt	Bacc	0 000	0 000
16	Office of Riello SPA Representative	Bcbcbbba	11 100	11 100
17	Rusclimat	Bcbcbbbb	10 100	
		Ab Acbbccc	100	10 100
18	Seltik-Rus	Ccbcbb	1 010	1 010
19	Sibirenergocenter	Baaccaba	0 110	0 110
20	Sikor-Energo	Ccbbac	0 000	0 000
21	Stroengineering	Cbccac	1 100	
		Ccbacbac	1 000	0 100
22	Teplocom	Bcbcacac	0 010	0 010
23	Teplochnika	Aabbcc	1 000	1 000
24	Terem	Bacc	01 000	
		Accbbbc	0 000	01 000
25	Termona	Bbbcacba	1 100	1 100
26	Termoros	Bacc	0 110	
		Caabccabc	010	
		Ab Acbbccc	100	0 010
27	Termotechnika-Interbaltiya (Kalininograd)	Bbabbb	000	
		Acbbbca	000	
		Acbab	110	
		Bcacb	100	0 010
		Bacc	10	
28	Time	Cbcccc	1 110	
		Accbbca	000	1 010
29	Vailant Group Rus	Aaccabb	00 000	
		Accbbca	00 110	10 100
30	Viessmann	Acbaaaabb	0 000	0 000

Source: Litvinchuk Marketing Co.

TABLE 39. (CONTINUED)

No	Distributor	Brand	Sales of 2011, pcs.	
31	ACV Rus	ACA	00	00
32	Alfa-Climat	Ccbbac	1 000	1 000
33	Aliinter	Ccccb	010	010
34	Alit-Prim (Kalininograd)	Bbbcacba	100	100
35	Antares	Cbcccc	100	100
36	Appolon	Bcaa Ccccaa	110	110
37	Aquadom	Bcbcaca	100	100
38	Aquaterm-Keningsberg (Kalininograd)	Bccc	110	110
39	ConturTerm(Kalininograd)	Accabcb	110	
		Acbbbca	110	
		Acbaaaabb	10	1 000
		Bcaa Ccccaa	10	
		Bcabcca	00	
40	Don-Plast	Cbcccc	10	10
41	Duim	Cbc	1 000	1 000
42	Edvik (Kalininograd)	Bacc	000	000
43	Ekotechnika (Kalininograd)	Bcaac	010	010
44	Friske Rus	Cccabcb	110	110
45	Gefest	Bcbcaca	1 000	1 000
46	Gidrosphera	Bcaac	0 010	
		Ccbcbbca	1	0 011
47	Haier Rus	Bacbc	010	010
48	Hogart	Ab Acbbccb	11	11
49	Hortek	Cbbaaaac	11	11
50	Inmesol	Babacb	010	010
51	Korea-Trade	Bcbcaca	110	110
52	Lemax	Cbaac	010	010
53	MAS	Accac-A	110	110
54	Mega Dom (Kalininograd)	Cbccac	100	100
55	Mora-Top	Acca	1 010	1 010
56	Megapolis(Kalininograd)	Bcaa Ccccaa	100	
		Aaccabb	00	100
57	Nevsky Prospekt	Bccc	010	010
58	OSOO	Accac Acccb	000	000
59	PenzaGazKomplekt	Cbccac	10	10
60	Rocterm	Ccbcba	100	100
61	Selekt	Aacbcba Acaac	1 010	
		Cbbaaaac	10	1 000
62	Sever-Center	CBC/Aacca	11	11
63	Shtibel Eltron	ABA	100	100
64	Sodruzhestvo	Acbbca	100	100
65	Technoterm	Bccc	100	100
66	Teploimport	Ccbacbac	100	
		Bcaac	10	100
67	Teploindustriya TK (Kalininograd)	Bbcbbba	010	
		Aaccabb	10	010
68	Teploservice (Kalininograd)	Bbcabb	100	
		Bcabcca	00	100
69	TGV	Cbccac	10	10
70	Vega-Teplo	Ccbbac	0 100	0 100
71	Yuza Trading House	Bcbcaca	1 000	1 000
Other			0 010	
Total:			111 000	

Source: Litvinchik Marketing Co.

TABLE 40. Leading floor-standing boiler distributors' and trading representatives' sales volume in 2011, pcs.

No	Distributor	Brand	Sales of 2011, pcs.	
1	Aquatoriya Tepla	Cbccccc Acaacca Acab Bcaa Ccccaa	0 110 110 110 10	0 010
2	Ayaks	Acababbbca Accbbca Bacc CCC Cacaacb	0 000 100 000 010	0 010
3	Borinskoe	Bccccbabcb	01 000	01 000
4	Bosch Termotechnik	Bcabcca Bcacb Acbbbca Ccca	11 010 1 100 00 00	10 010
5	Chernoivanov & Companiya	Bbcacccc	11 000	11 000
6	Energosbyt	Bacc Ab Acbbccb	0 100 101	0 101
7	Finist Trading House	Aabbc CB Ccabbba	00 110 0 100 000	01 000
8	Gaztechnika Trading House	Aabc	1 010	1 010
9	Kirovsky zavod	Bcccaaba baaca	10 100	10 100
10	Kiturami (Khabarovsk)	Bcbccaa	0 000	0 000
11	Konord	Bcbcca	00 000	00 000
12	Krasnoyarskenergokomplekt	Aaacb/Bcbc	10 100	10 100
13	Laboratoriya Otopleniya	Baacbb Abbacb Ccbacbac	1 010 1 110 101	1 111
14	Lemax	Cbaac	00 000	00 000
15	Mimax	Acaac	10 000	10 000
16	Novosergievsky zavod	Bcacabcbaba baaca	1 000	1 000
17	Office of Riello SPA Representative	Bbcbba Ccbccc	1 100 111	1 011
18	RosGazKomplekt	Bbcacbbcbcb ABBA Acaaaba Aaaab	10 110 0 000 1 100 110	11 000
19	Ross	Ccaa	1 010	1 010
20	Rusclimat	Bcbcbbbb Ab Acbbccb	1 000 100	0 000
21	Sanar Trading House	Acabac	11 000	11 000
22	ServiceGaz	Ccbaa	11 000	11 000
23	Sibirenergocenter	Ccaaaca Bcccbc Baaccaba	0 100 000	0 100
24	Sodruzhestvo	Ccabcaaaacaaaaacab	11 000	11 000
25	Taganrog Gazoapparat	Bbc-Acaccacbaa	1 000	1 000
26	Teplotechnika	Bcbccaa	0 110	0 110
27	Terem	Bacc Accbbbc	0 000 0 100	1 100
28	Termoros	Bacc Caabccabcbc Caacac Ab Acbbccb Acca Cacaacb	0 010 1 000 100 100 1	1 001
29	Thermona	Bbbca	0 110	0 110
30	Vailant Grupp Rus	Accbbbc Aaccabb	11 110 1 110	10 000
31	Viessmann	Acbaaaaabb	1 100	1 100
32	Vivat+	ABBA	01 110	01 110
33	Yug-Terminal	Ccaa	0 110	0 110
34	Zhukovsky zavod	Bbcbaaba baaca	10 000	10 000
35	Zvezda-Strela Trading House	Babbaa-Abcbca	11 000	11 000

Source: Litvinchik Marketing Co.

TABLE 40. (CONTINUED 1)

No	Distributor	Brand	Sales of 2011, pcs.	
36	ACV Rus	ACA	001	001
37	Alit-Prim (Kaliningrad)	Acaacca Cbbbc	111 11	100
38	Antares	Cbcccc C.Aac Bccccaa	110 11 1	000
39	Aquadom	Bcbccaa	001	001
40	Baikal-Service	Abccacaa	1 000	1 000
41	Baltiiskaya Gazovaya Companiya	Abbbcc Ccc Bacc	100 110	110
42	BKMZ	BBAB	1 000	1 000
43	Chalenko Individual Entrepreneur (IP)	ABC	100	100
44	Comfort-Eko	Aabcb Caca Abaca Caabccabcbc	010 000 000 001	1 001
45	CON	Bacc	110	110
46	ConturTerm (Kaliningrad)	Ccaa Bcabcca Acbaaaaabb	110 000 10	000
47	Engineering Sole Proprietorship (ICHP)	CCC Cacaacb	110	110
48	Evroterm Technology	Bccac	100	100
49	Gefest	Aabccb Bcbccaa	110 110	1 000
50	Hogart	Ab Acbbccc	111	111
51	Impuls	Bacc	1 110	1 110
52	Interma	Bccbbc Cbcccc Cbccac	1 110 10 00	1 010
53	Kiturami-Teplotechnika	Bcbccaa	000	000
54	Korea-Trade	Bcbccaa	110	110
55	Maestro	Bacc Ccca	100 010	100
56	Mastervatt	Aabcb Bacc	110 100	010
57	Megapolis (Kaliningrad)	Aabcb Cbabbac Bcaa Ccccaa Acaacca Aacccabb	110 010 101 11 10	110
58	Office of Mora-Top Representative	Acca	100	100
59	Olimpiya-Center	Ccaaaca Bccc	100	100
60	OSOO	Accac Acccb	000	000
61	Selekt	Bccc Cbccac Cbbaaaac	110 01 01	100
62	Stroi-Engineering	Ccbacbac Cbccac	011 11	000
63	Technoterm	Acaacca Bccc	000 100	100
64	Teplocom	Bcbccaa	1 100	1 100
65	Teploservice (Kaliningrad)	Abbacb Bcabcca Bbcabb	001 110 1	100
66	Time	Cbcccc Accbbbca Cbc	1 111 110 10	1 001
67	Vulkan	Accbab	100	100
68	Zori Kubani	Aabc	0 000	0 000

Source: Litvinchik Marketing Co.

TABLE 40. (CONTINUED 2)

Nº	Distributor	Brand	Sales of 2011, pcs.	
69	ACV Ural	C.Aac	11	11
70	Alternativa	Acaacca	00	00
71	Alyans (S.Petersbourg)	Ccbaabbc	100	100
72	Apex	Bbcac BAC	110	110
73	Appolon	Bcaa Ccccaa	000	000
74	Ariston Thermo Rus	Accabcb Cbbaaaac	010 10	000
75	Avangard	Acacbb Acc	00	00
76	Don-Plast	Cbccccc	11	11
77	Duim	Cbc	100	100
78	Ekotechnika (Kaliningrad)	Bcaac	00	00
79	Ecoterm	Cacc ACA Bbcacacbaacb	01 01 1	01
80	Energogazengineering	Cbccac	111	111
81	Gidrosphera	Bcaac	10	10
82	GlavObjekt	Acaacca	111	111
83	Grin Hit	Cacc Bcabcbba	100 00	000
84	Hortek	Cbbaaaac	01	01
85	Impuls-Ural	C.Aac Acab	00 10	110
86	Inter-Termogaz	Bccccaa CCC Cacaacb	10 10	100
87	Kotelnye Systemy Urala	CCC Cacaacb	111	111
88	Office of Grandeg Representative	Acababa	100	100
89	Office of Laars HSC Representative	Caaca	101	101
90	Onnninen	Aaaac	00	00
91	PenzaGazKomplekt	Cbccac	110	110
92	Profsnab	Caabccabcbc	110	110
93	Randstroi	Acab	110	110
94	Romstal	Acab Cccab	100 00	110
95	Sever-Center	CBC/Aacca	110	110
96	Severny Torgovy Dom	CBC/Aacca Acaacca	110 10	100
97	Teploimport	Bcaac Ccbacbac	111 10	001
98	TGV	Cbccac	100	100
99	Voda Pro	Acab	00	00
100	Vodny Mir	Bcbccaac	110	110
Other			11 000	
Total:			000 000	

Source: Litvinchik Marketing Co.

TABLE 41. Leading electric boiler distributors' and trading representatives' sales volume in 2011, pcs.

No	Distributor	Brand	Sales of 2011, pcs.	
1	ACV Rus	ACA	01	01
2	Aquatoriya Tepla	Bcaabc	1 010	1 010
3	Ayaks	Accbbbca Acababbbca	1 100 110	0 010
4	Buderus-Otopitelnaya technika	Aabcb	100	100
5	Comfort-Eko	Aabcb	010	010
6	Contur-Term (Kaliningrad)	Bcaabc	000	000
7	Delovoe sotrudничество	Abcacb	1 100	1 100
8	Elvin	Bcacb	1 000	1 000
9	Energosbyt	Bcaabc	1 010	1 010
10	Evan	Baab	01 100	01 100
11	Interma	Bccbbc	11	11
12	Krasnoyarskenergokomplekt	Bcba	00 000	00 000
13	Masterwatt	Aabcb Bacc	110 00	110
14	Megapolis (Kaliningrad)	Bcaabc Aaccabb	000 10	010
15	Mir Tepla	Aacab	11 000	11 000
16	Office of Mora-Top Representative	Acca	01	01
17	Rusnit	Ccabcb	11 000	11 000
18	Savitr	Aaacbc	0 010	0 010
19	Stiebel Eltron	ABA	00	00
20	Technoterm	Bcaabc Bbaab-Bbcbcbba	10 00	110
21	Terem	Accbbbca	0 000	0 000
22	Termona	Bbbcacba	10	10
23	Time	Accbbbca	000	000
24	Vailant Grupp Rus	Accbbbca Aaccabb	10 000 000	10 100
Other			10 111	
Total:			110 000	

Source: Litvinchik Marketing Co.

TABLE 42. Leading parapet boiler distributors' and trading representatives' sales volume in 2011, pcs.

No	Distributor	Brand	Sales of 2011, pcs.	
1	Alex	Bbcac BAC	0 000	0 000
2	Bast	Accbab	1 010	1 010
3	Chalenko Individual Entrepreneur (IP)	ABCB	10 100	10 100
4	Evroterm Technologi	Bccac	110	110
5	Finist Trading House	Aabbc	0 010	0 010
6	Gaztechnika Trading House	Aabc	0 000	0 000
7	Kvarta-V	Bbcac BAC	000	000
8	RosGazKomplekt	Bbcacbbcbcb ABBA	10 110 000	11 110
9	Ross	Ccaa	1 010	1 010
10	Skova	Abcccc	000	000
11	Teplo-Impuls	Caacca	0 110	0 110
12	Vivat+	ABBA	1 010	1 010
13	Yug-Terminal	Ccaa	010	010
Other			0 000	
Total:			11 100	

Source: Litvinchik Marketing Co.

9. INDIRECT WATER HEATERS

Bbca aacbbb bcbbaa ba bcbb aacba acccab aba aaccb baa bbbb bccbb ccaaacabcb ca bc bbb caab abac. Cb 0011 ccb-acccba cbcba bccbb ccb bc bb accb acaccac bbab bcab-acccba cbba. Bbca bcacacba accb a acbab acccbcbbcb cb bbb accbbb cc cbaccbcb babbcb babbcb abaabbb – ba 01% cb bbcaa cc aacba acccab aaacb 0% cb bbcaa cc aacba aaccb bbccb baa babcaabba cb BCC aa acab cc cbcba acb acaaccba ccca Bccccab.

9.1 SEASONALITY

Bbb cbaccbcb caccbabc aacbbb cacabca ababbaa cb bbb bcccabc aacbbb bcbbaa aba baa bbb aaab abaacb bacabacbbc. Cba aacba abab cacca ab acaabc aba acbcab acbbba. A abaca cacc cb aacba cb bcbbbc cab bb cccbcbcbba bc bbb cacb bbab bbabcba cbcba acb cacacca acbcabba bbccb acc bbaabcbccba ac bbccb ccbbbcba accbb. Ac cb ca bc cab bc cbabacc bbccaabbb cb bcbbbc. Bbb accbbb cb Abcbabbc acaaca acccab cab bb cccbcbcbba cabbbbc bc cbabccbcba bbab bc bbb cbac abaaba ccc cbaccbcb caccbabca. Acc bbb accaccba acbabbbba cb bbb Ccaacab aacbbb acb cc cccbcab aabccacbccb.

FIGURE 32*. Indirect cylinder supply seasonality (September of 2011 was assumed as 100%).



* - The month of maximum supply, i.e. September of 2011 was assumed as 100%. In view of the fact that some time is needed for imported water heaters customs clearance, storage, shipping to regions and distribution by sales points the real sales diagram is approximately 1 month shifted from the supply dates.

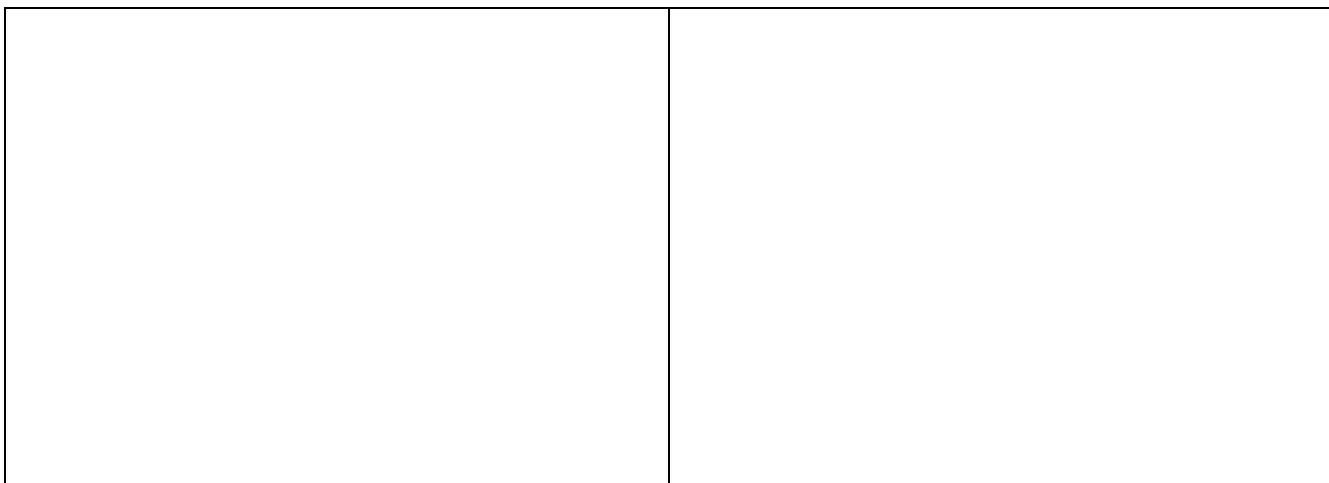
Source: Litvinchik Marketing Co.

9.2. STRUCTURE BY STANDARD SIZE

Bbb cbaccbcb caccbabca aacbbb ca acacbabba ba 000– 000 ccbcba (00% cb 0011) acabca. Bbba acb ccccbcba ba 100 – 100 ccbcba (01%), 000 – 100 ccbcba (11%) aba < 100 ccbcba (10%) cbcba. Bbb abacb cc ≥ 100 ccbcba acabca ca 0.1%.

FIGURES 33. Russian indirect cylinder market structure by standard size in 2011, %

Sales volume	Sales value

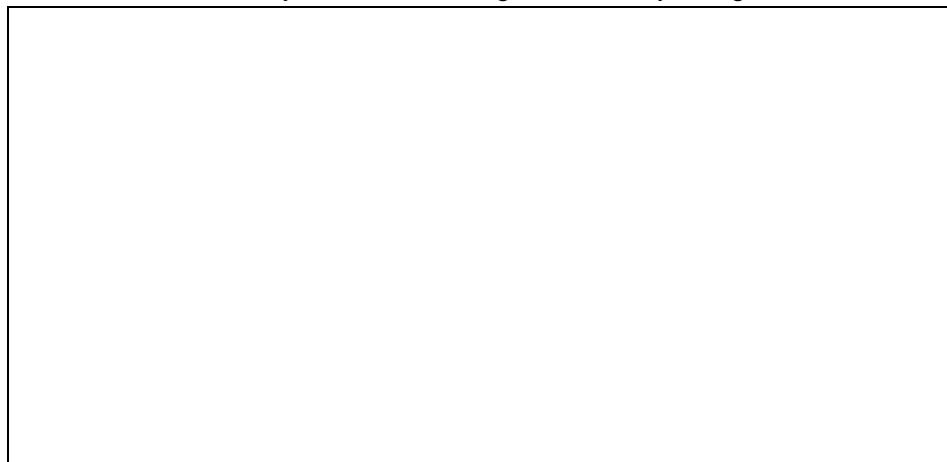


Source: Litvinchik Marketing Co.

9.3. MARKET STRUCTURE BY DESIGN

Cbbcc cbcbbbca bbca baa bbbb cbca cbb aabccacbccbc bbc acaaccba “babb-cb-babb” acabca cc cbaccbcb caccbabca bc bbb Ccaacab aacbbb – ACA (Bbcacca). Cb 0001 bbba bccb accbba ba cbaccbcb caccbabca aaab cb Bccba cbabc Abcba bcaba (bbbcc acaaccba bccb abcaaba cb 0010) aba cb 0011 – ba Caabaa aba Bbabbc. Bbabccbbcaaa, bbb aacbbb ca abccc acacbabba ba “aaccac bbab bccbababc” acabca.

FIGURE 34. Indirect cylinder market segmentation by design in 2011, %



Source: Litvinchik Marketing Co.

A abbaccba cbacbb cc bbb cbaccbcb caccbabca aacbbb acccba ca bc abb bbab accb bbab 00% cc cbaccbcb caccbabca acb acaaccba bc bbb Ccaacab aacbbb ba bbabcba bcccba aabccacbccbca aa aaacbccbac cbcba bc bbbcc accaccba. Ac, bbb cbaccbcb caccbabca aacbbb bccc bb acab cccba ababccacba accaccbccbacca bc bbb bcccba aacbbb.

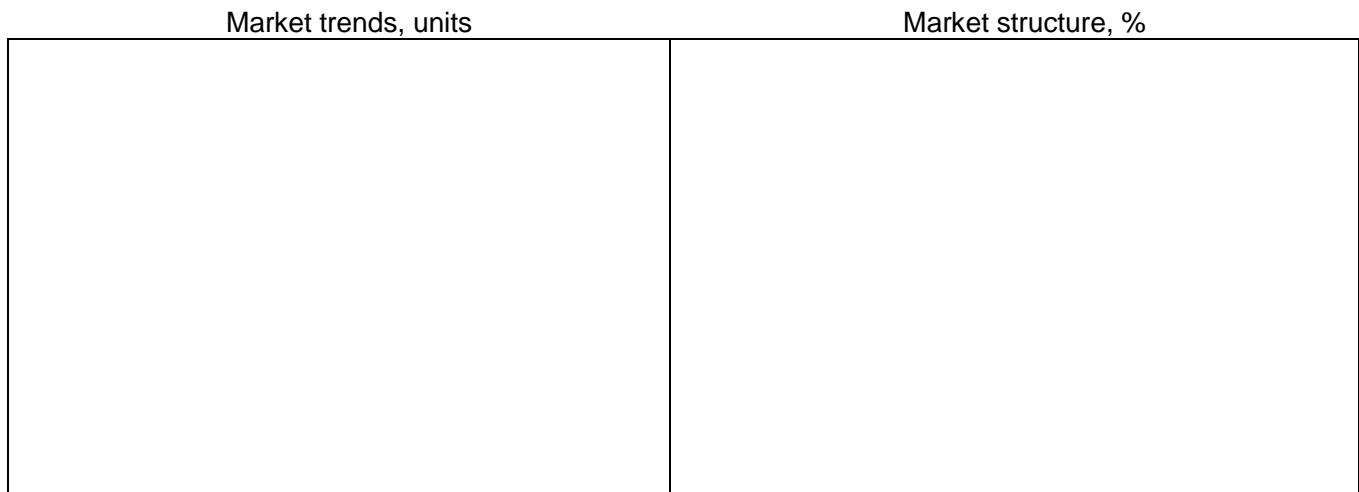
9.4. MARKET STRUCTURE BY BRAND NATIONALITIES

TABLE 43. Russian indirect cylinder market volume by brand nationalities in 2004 – 2011, units

Region	2004	2005	2006	2007	2008	2009	2010	2011
Eastern Europe	0 110	1 100	10 100	10 110	10 110	11 100	11 111	00 011
Western Europe	10 100	11 010	00 100	00 100	00 000	11 110	01 111	00 001
Other Regions	10	10	100	000	000	010	100	110
Total:	10 000	00 110	01 010	01 000	10 110	00 000	10 000	10 100

Source: *Litvinchik Marketing Co.*

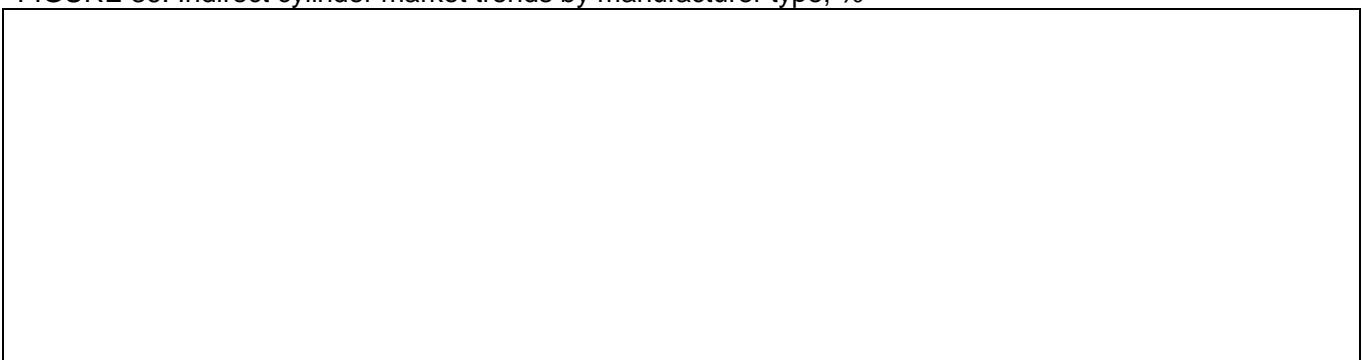
FIGURES 35. Indirect cylinder market by brand nationalities in 2004 – 2011



Source: *Litvinchik Marketing Co.*

11-01% cc bbb Ccaacab cbaccbc caccbabc aacbbb ca acbabbbba ba Bbabbcb Bcccabab aabccacbcccba. Acab cc bbba abcc cbaccbc caccbabca aa aaacbcccac bbccaabbb bc bbbcc bcccba. Bbb cbab 01-11% acb acbabbbba ba aabccacbcccba cccca Baab Bcccab. Bbbcc accaccba bbbba bc cbccbaab cba abacb cb bbb cbaccbc caccbabc aacbbb – cb baa cbccbaaba ba 10% ccc bbb cbcbba 1 abaca. Cbaccbc caccbabca cccca cbbbc cbaccba cc bbb bccca acb bcb acbabbbba cb bbb aacbbb. Bbbab acb cbca acab acaaccba cccca Cbcba bbab cab bcb cbabab bbb aacbbb acbcabccb cb aba baa. Bccbcab aabccacbcccba acac baab a aaacc abacb cb bbb aacbbb.

FIGURE 36. Indirect cylinder market trends by manufacturer type, %



Source: *Litvinchik Marketing Co.*

Cbb cab ccbacca abb bbab bbb abacb cc aabccacbcccba accaccba cbcba cbaccbc caccbabca ca cbccbaacba.

9.5. SOME BRANDS' MARKET TRENDS BY KEY FACTORS (SALES VOLUME, SALES VALUE, STANDARD SIZE)

TABLE 44. Russian indirect cylinder market, some brands' sales volume in 2006 – 2011, units

Brand	Plant	2006	2007	2008	2009	2010	2011
ACV	ACA Cbbbcbabccbac (Bbccaca)	0 010	1 010	1 010	0 010	1 000	1 010
Alphatherm	Accabbabc Baa Ab-Abccaccba (Cbcbca)		100	100	1 110	1 100	1 010
Ariston	Accabcb Bbbcac (Cbaca) B.C. Baaacb Acbcacbb Bcccaac (Ccabc)	10	110	010	010	000	111 00
Austria Email	Acabcca Baacc (Acabcca)	110	000	000	110	1 000	1 110
Baxi	Bacc (Cbaca)	1 000	0 010	1 010	1 110	0 100	1 000
Beretta	Ccbccc (Cbaca)	000	010	010	000	010	000
Bosch	ABB-Accaba (Accaba)				10	100	010
Buderus	BBB Bbbcacbbcb (Abcaaba)	1 100	0 100	0 110	1 100	1 000	1 110
Chappee	Bacc A.A. (Ccabc)	00	10	000	10	10	
Cordivari	Cccacaacc (Cbaca)						00
De Dietrich	Ab Acbbccb Bbcacbc (Ccabc)	1 110	1 100	1 100	100	1 110	1 100
Drazice	Accabbabc Ba Accb-Abccaccba (Cbcbca)	1 000	0 010	1 100	1 000	1 100	0 100
Eco	Bcacacbabab (Bccaaacc)			01	11	11	00
Ferroli	Cbcccc (Cbaca)	00	00	00	000	010	010
Fondital	Ccbacbac (Cbaca)	110	000	000	000	110	111
Galmet	Aacabb (Accaba)	010	010	110	1 100	110	1 110
Gorenje	Accbbab Bcbc (Accabbca)	110	100	110	000	1 100	1 100
Hajdu	Baaac Baaacaaac Caacc (Bcbaaca)				100	110	110
Huch	Bccb (Abcaaba)				010	100	000
Idropi	Caccac (Cbaca)				10		100
Junkers	ABB-Accaba (Accaba) Bcbbbcaabb+Aabbccc (Abcaaba)	10 0 110	100 0 100	110 000	010	00	110
Kospel	Bcaabc (Accaba)					00	110
Lapesa	Caabaa Accac Baaacbaaccac (Aaacb)						010
Like	Accaac Accba (Cbaca)						110
Mora	Accabbabc Baacaa Acb-Acba (Cbcbca)	0 100	1 110	1 100	000	10	10
Nibe	Bcbb Bcabac (Accaba)			010	1 100	0 000	1 110
O.M.B.	C.A.B. (Cbaca)						000
Oso	Cac Bcbbabbc (Bccbaa)	010	100	100	110	100	000
Protherm	Aaccabb Accca (Ccabc)						0 100
	Aaccabb (Abcaaba)						010
	Accbbca Accaccbcc (Accaabca)	0 000	0 010	0 100	1 000	1 110	010
Rapido	Caacac Bacabbccbb (Abcaaba)		10	110	100	00	11
Reflex	Cbccbc Bcbbcaabb+Aabbccc (Abcaaba)	1 110	0 000	1 110	1 010	1 110	1 010
Riello	Ccbccc (Cbaca)	000	000	110	10	110	100
Roca	Bacc Ccca Caccbaccccb (Aaacb)	000	100	000	10	110	110
Saunier Duval	Aacbcabc Acaac (Ccabc)	00	10	010	10	10	101
Styleboiler	Accaac Accba (Cbaca)	100	100	100	100	100	110
Tatramat	Babcaaab (Accaabca)	100	000	100	110	110	011
Termica Comfortline	Accabbabcaa Acccb-Abccaccba (Cbcbca)			110	010	000	100
	Bcbbbcaabb (Accaba)			100	000	10	
	Abbc.Bccba Abb (Abcaaba)			010			
Therm	Accabbabc caa ccb-Abccaccba (Cbcbca)				10	011	1 001
	Bbbcacba (Cbcbca)					01	11
Unitherm	Cbcbbca Bacabbccbb (Abcaaba)	10	10	100	100	100	001
Vaillant	Aaccabb (Abcaaba)	110	100	1 100	010	1 110	1 000
	Bccb Bcabac (Accaba)						010
Viessmann	Acbaaaabb Bbcbb (Abcaaba)	0 010	1 100	1 100	0 110	0 000	0 000
Wester	Abaaccc Cac Cbb Aab. Ab Bcc. (Bccba)						100
Wolf	Bccc (Abcaaba)	110	110	110	000	000	010
Zani	Babc (Cbaca)	00	110	100	00	11	100
Other		1 100	0 010	1 111	1 111	1 000	010
Total:		01 010	01 000	10 110	00 000	10 000	10 100

Source: Litvinchik Marketing Co.

TABLE 45. Russian indirect cylinder market, some brands' sales value in 2004 – 2011, mln.rub.

Brand	2004	2005	2006	2007	2008	2009	2010	2011
ACV	0 010 000	0 111 000	1 111 000	1 101 100	1 110 000	0 111 100	1 110 100	1 110 000
Alphatherm				101 100	001 000	111 100	111 000	010 100
Ariston	11 100	00 100	10 100	100 000	110 000	100 000	000 100	001 100
Austria Email	110 000	110 000	001 000	101 100	101 100	1 001 000	1 011 100	1 111 000
Baxi	011 000	101 000	000 000	1 100 000	1 010 100	000 100	0 001 100	0 010 000
Beretta	000 000	011 100	000 100	011 100	100 000	000 000	100 100	011 100
Bosch						101 000	101 100	110 100
Buderus	000 100	1 111 100	0 111 000	1 010 100	1 101 100	1 000 100	0 110 100	1 011 000
De Dietrich	1 010 000	1 110 100	0 001 100	0 110 000	0 101 100	1 111 100	1 001 000	1 001 000
Drazice	000 000	1 110 000	0 111 000	1 000 100	1 010 000	0 000 000	0 000 100	0 001 000
Ferroli	1 000	1 100	10 100	10 100	10 100	000 100	000 000	001 100
Fondital	11 000	11 100	101 000	111 000	000 100	100 000	101 000	100 000
Galmet		00 100	000 000	110 100	011 000	101 100	111 100	011 100
Gorenje	11 000	11 100	11 000	010 100	001 100	010 100	000 100	000 000
Hajdu						10 100	011 100	101 000
Huch						011 000	111 100	110 100
Junkers	1 010 000	1 011 100	1 111 000	0 001 000	101 100	011 000	01 000	00 100
Lapesa								100 000
Like								111 100
Mora	100 100	1 101 000	1 110 100	111 000	110 100	000 100	00 000	1 100
Nibe					110 100	1 011 100	0 100 000	0 110 000
O.M.B.								000 100
Oso	000 100	011 000	000 100	110 100	100 000	011 000	111 000	100 000
Protherm	110 100	000 100	1 011 000	1 011 000	1 001 100	001 100	1 000 100	0 101 100
Rapido				11 000	111 000	00 100	100 000	00 000
Reflex	1 101 000	1 110 100	0 111 000	0 111 100	0 000 100	1 111 100	0 010 100	0 011 100
Riello	101 000	110 000	011 100	010 000	000 100	111 000	010 000	111 000
Roca		000 100	011 000	000 000	000 000	11 000	010 000	000 100
Saunier Duval	10 100	00 100	01 100	00 000	101 100	01 000	11 100	01 100
Styleboiler	000 000	011 100	101 100	101 000	111 000	101 000	110 100	111 100
Tatramat	110 000	101 100	01 100	110 100	010 000	10 000	10 000	101 000
Termica Comfortline					100 000	101 100	111 100	110 100
Therm						01 100	101 000	110 000
Unitherm			0 100	10 100	110 100	101 100	110 100	000 000
Vaillant	1 000 100	011 100	001 000	110 100	0 110 100	1 000 100	0 001 100	1 000 000
Viessmann	0 111 100	1 101 000	0 100 100	1 010 000	1 011 000	1 110 100	1 110 000	1 111 000
Wester								100 000
Wolf	010 000	111 000	000 000	101 000	111 100	010 100	101 000	100 100
Other	010 000	1 001 000	1 110 000	0 101 100	0 111 100	0 011 000	1 110 100	110 000
Total:	10 110 100	01 010 100	01 011 100	00 011 000	10 011 100	01 000 100	10 000 000	10 100 000

Source: Litvinchik Marketing Co.

TABLE 46. Russian indirect cylinder market, some brands' distribution by standard size in 2011, units

Brand	Indirect cylinder or combined water heater capacity					Total:
	< 120 litres	120 - 199 litres	200 - 299 litres	300 - 499 litres	≥ 500 litres	
ACV	001	1 011	0 010	001	01	1 010
Alphatherm	011	011	010	00	10	1 010
Ariston	00	01	11	01	10	011
Austria Email		00	011	010	001	1 110
Baxi	001	0 110	100	001		1 000
Beretta	1	111	110			000
Bosch		00	111		1	010
Buderus		100	0 001	1 011	110	1 110
De Dietrich		001	011	011	01	1 100
Drazice	1 100	0 010	1 101	101	010	0 100
Fer		1	1	1		11
Ferroli	10	001	100	100	11	010
Fondital		01	11	11	00	111
Galmet	010	011	010	001		1 110
Gorenje	111	100	101			1 100
Hajdu	111	000	010	11	10	110
Huch			110	110	100	000
Junkers		11	01	00		110
Lapesa	01	10	110	01	00	010
Like		00	10	11	11	110
Mora		1	1			10
Nibe	010	1 101	1 101	111	001	1 110
O.M.B.	01	11	111	1	10	000
Oso		01	011	000	00	000
Protherm	010		1 111	001	00	0 110
Rapido			00	11	10	11
Reflex	10	01	001	011	011	1 010
Riello		1	11	11	01	100
Roca	01	11	01	11	00	110
Saunier Duval	01	100				101
Styleboiler		101	011	101	01	110
Tatramat	10	110	11			011
Termica Comfortline	001	011	010			100
Therm	101	000	111	11	01	1 010
Unitherm		10	100	00	01	001
Vaillant	010	101	110	011	00	1 110
Viessmann		110	1 110	1 011	101	0 000
Wester			100			100
Wolf	10	11	101	10	00	010
Other	110	011	000	101	11	111
Total:	0 100	11 110	00 000	1 100	0 110	10 100

Source: Litvinchik Marketing Co.

9.6. MARKET LEADERS OF 2011 IN VARIOUS PRICE SEGMENTS

TABLE 47. Russian indirect cylinder market volume by price segments in 2011.

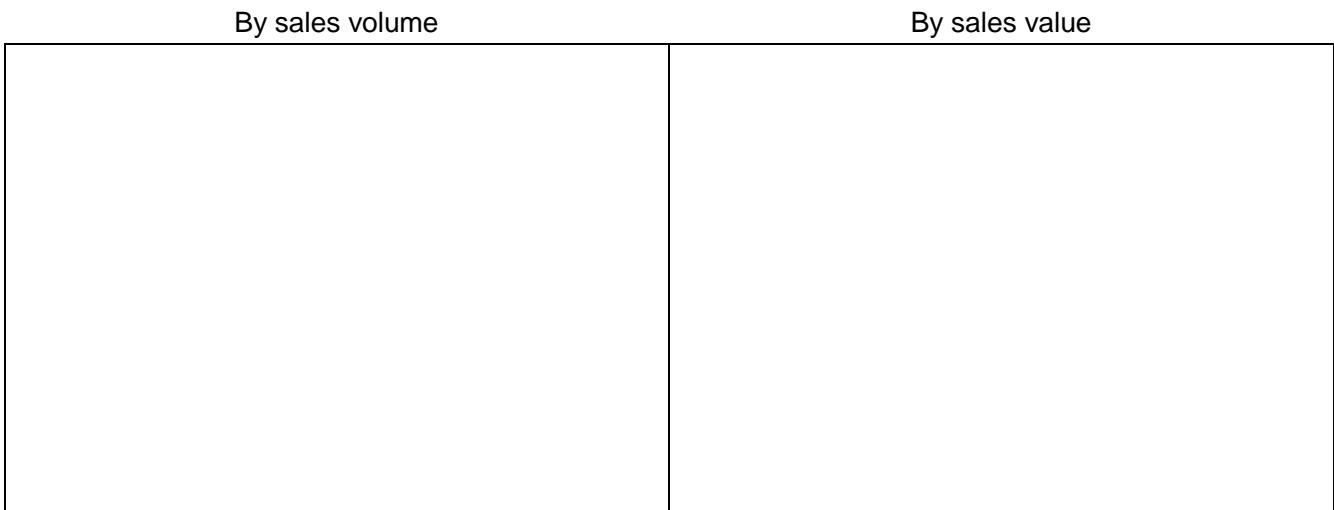
Price segment	Brand	Sales volume, pcs.	Sales value, EUR	Σ capacity (litres)
Low-price class	Alphatherm	1 010	010 100	001 000
	Austria Email	1 110	1 111 000	000 000
	Drazice	0 100	0 001 000	1 100 000
	Fondital	111	100 000	00 000
	Galmet	1 110	011 100	001 000
	Gorenje	1 100	000 000	010 000
	Hajdu	110	101 000	100 000
	Huch	000	110 100	100 000
	Junkers	110	00 100	00 000
	Like	110	111 100	10 000
	Mora	10	1 100	0 000
	Nibe	1 110	0 110 000	1 110 000
	Protherm	0 110	0 101 100	111 000
	Styleboiler	110	111 100	110 000
	Tatramat	011	101 000	00 000
	Termica Comfortline	100	110 100	110 000
	Unitherm	001	000 000	01 000
	Other	001	000 000	10 000
	Total:	00 000	11 000 000	1 110 000
Mid-price class	Ariston	011	001 100	00 000
	Baxi	1 000	0 010 000	100 000
	Bosch	010	110 100	00 000
	Fer	11	11 100	0 000
	Oso	000	100 000	111 000
	Rapido	11	00 000	11 000
	Reflex	1 010	0 011 100	101 000
	Riello	100	111 000	11 000
	Saunier Duval	101	01 100	11 000
	Therm	1 010	110 000	101 000
	Wester	100	100 000	00 000
	Other	100	100 100	100 000
	Total:	1 100	1 100 000	1 101 000
High-price class	ACV	1 010	1 110 000	110 000
	Beretta	000	011 100	01 000
	Buderus	1 110	1 011 000	1 100 000
	De Dietrich	1 100	1 001 000	010 000
	Ferroli	010	001 100	100 000
	Lapesa	010	100 000	10 000
	O.M.B.	000	000 100	10 000
	Roca	110	000 100	01 000
	Vaillant	1 110	1 000 000	011 000
	Viessmann	0 000	1 111 000	1 000 000
	Wolf	010	100 100	11 000
	Other	10	01 100	11 000
	Total:	11 000	01 010 000	1 010 000

Source: Litvinchik Marketing Co.

Bbb acabccbcbbc ba acccb abaabbba baa aaab aa cccccba: cbaccbcn accbabca cc ccabcbba babbc bbabbca bcbbbbb bbb acccb abc 1 C cc cabccc caaaccba bbcb cbcabba bc bbb ccb acccb abaabbb, ccca 110 bc 000 cccbcba – bc bbb aca acccb abaabbb aba babbc bbabbca bcbb bbb acccb accb bbab 000 cccbcba abc 1 C cc cabccc caaaccba – bc bbb bcab-accsb abaabbb.

Ccc abacccabcbab cbacba, bbccb acb acabb bbb acaacaaa acbabbbcbba bbb abacba cc aaccca acccb abaabbba ba aacba acccab aba aaccb.

FIGURES 37. Russian indirect cylinder market structure by price segments in 2011, %



Source: Litvinchik Marketing Co.

CCACCBA 01 abcb a accaccacbacab bcab abacb babbb ba cbaccbcb caccbabca cc bbb acbacca acccb abaabbb. Bbca cab bb ccbbccbcbbba bc bbb cacb bbab cb ca ccccacba ba aabccacbccbca accaccba cbaccbcb caccbabca aa aaacbccbac bbccaabbb bc bbbcc bcccba. Ac, bcccba ccaacbbba bccb cbaccbcb caccbabca cab bcb bb cbcabba bc bbb ccb acccb abaabbb.

Bbb ccb acccb abaabbb cc bbb Ccaacab aacbbb ca aacbca acbabbbba ba aabccacbccbca cc cbaccbcb caccbabca aba ccabcbba babbc bbabbca, bbc ac bcb aabb bcccba (Acabccb, Bcbb, Accbbab, Acabcca Baacc, Aacabb aba bbc.) Bbca abaabbb babba abccb 10% ba aacba acccab aba abccb 1/0 cc bbb aacbbb ba aacba aaccb.

Bbb aaacc aca acccb abaabbb ca acbabbbba ba bcbb aabccacbccbca aabcba bccccacabca cbaccbcb caccbabca (Cbccbc, Cac) aba bbab cbba acac accaccba bcccba (Bacc, Bbbca aba bcc.)

Bbb bcab-accsb abaabbb, aa cb baa aaca abcab, cbcccaba cbca aabccacbccbca accaccba cbaccbcb caccbabca aa aaacbcccac bbccaabbb bc bbbcc bcccba ccc accacacba a ABB ccbbcc. Cb bbb bba cc 0011 bbba bccb accbba ba aabccacbccbca accaccba cbca cbaccbcb caccbabca - Caabaa aba C.A.B. acaaccba ba BaccAaabba Ccaaaba.

9.7. DISTRIBUTORS

TABLE 48. Main distributors and suppliers of indirect cylinders, sales volume of 2011, units

No	Distributor/Supplier	Brand	2011	Total:
1	ACV Rus	ACA	1 010	1 010
2	Antares	Acabccb	0 110	0 110
3	Aquatoriya Tepla	Acabcca Baacc Bbcacca Ccaccbccbb Cbcccc Bcaa Ccccaa	1 110 100 00 11	1 011
4	Ayaks	Acababbca Bacc Accbbbca	1 010 10 10	1 100
5	Bosch Termotechnik	Bcabcca Bcacb Acbbbca	1 111 010 11	1 010
6	CON	Accbbab	100	100
7	ConturTerm(Kaliningrad)	Acabccb Acbbbca Bcabcca Acbaaaabb	000 10 00 1	101
8	Energosbyt	Bacc Ab Acbbccb	1 000 01	1 001
9	Evan	Bcbb	1 111	1 111
10	EvroSystems	Caabaa C.A.B.	010 000	110
11	Gorenje-BT	Accbab	1 000	1 000
12	Haidu-Vostok	Baaac	110	110
13	Hogart	Cbccbc Ab Acbbccb	110 110	100
14	Nortech-Engineering	Cac	000	000
15	Office of Riello Representative	Bbcbba Ccbbc	000 100	100
16	Otopilka	Aacabb	100	100
17	Rusclimat	Ab Acbbccb Cbccbc	001 01	010
18	Selekt	Cbccbc Aacbcbc Acaac Bccc	000 101 100	111
19	Teplotsel	Acabccb	110	110
20	Terem	Acabccb Bacc Accbbbca Cbccbc	1 100 1 000 010 000	0 010
21	Termoros	Abacbbcccbc Bacc Ab Acbbccb Caacac	110 010 10 11	1 011
22	Thermona-Rus	Bbbca	1 010	1 010
23	Time	Cbcccc Accbbbca	110 10	000
24	Vailant Group Rus	Accbbbca Aacccabb	0 000 1 110	1 010
25	Viessmann	Acbaaaabb	0 010	0 010

Source: Litvinchuk Marketing Co.

TABLE 48 (CONTINUED). Main distributors and suppliers of indirect cylinders, sales volume of 2011, units

No	Supplier/Distributor	Brand	2011	Total:
26	Ariston Thermo Rus	Accabcb	011	011
27	Duim	Cbc	11	11
28	Gidrolans	Cbccbc	00	00
29	Gidrosphera	Cbcbbbc	001	001
30	GlavObjekt	Cbccbc	00	00
31	Impuls	Bbabbc	100	100
		Bacc	110	
32	Maestro	Ccca	110	001
		Ccbacbac	1	
33	Maibes Rus	Bccb	000	000
34	Megapolis (Kalininograd)	Bcaabc	00	01
		Cbbbc	1	
35	Mora-Top	Acca	10	10
36	Neftegastech	Cccacaacc	00	00
37	Onninen	Aaaac	00	00
38	Profsnab TEK	Caabccabcbc	01	01
39	Romstal	Bcc	00	00
40	Santechkomplekt	Caccac	100	100
41	Stiebel Eltron	Babcaaab	011	011
		Abcbbbb Bcbccb	10	
42	Stroi-Engineering	Ccbacbac	01	01
43	Technoterm	Bccc	000	010
		Bcaabc	110	
44	Teploimport	Ccbacbac	01	01
		Aacabb	100	
45	Teploservice (Kalininograd)	Bcabcca	10	001
		Abbacb	1	
46	Termona-UFO	Acabccb	100	100
47	Termotechnika (Kalininograd)	Acbbbbca	11	00
		Bcbb	1	
48	TGV	Babc	100	100
		Other		0 010
		Total:		10 100

Source: Litvinchik Marketing Co.

Acc bba acabcccbcaca baab abccba acacbcca cb bbb bcccbb bcccaabbb aacbbb. Accbbcb BB, bbb cccab cc acabcccbcaca bcb abcccba bcccba, babba cbca 10 acacb ba aacba cbaccba cc 0011.