# MODULAR STEEL TANKS

For storage of domestic potable, industrial and firefighting water.





# FLAMAX TANKS

FLAMAX modular tanks are simple and robust water storage facilities with capacity ranging from 25 to 50 000 m<sup>3</sup>.

#### PICTURE OF COMPLETED FACILITY:



03 FLAMAX TANKS

### **AESTHETIC APPEARANCE**



04 FLAMAX TANKS

### **ADVANCED TECHNOLOGY**



05 FLAMAX TANKS FLAMAX.RU

### **CUSTOM SOLUTIONS**



# MANUFACTURING AND INSTALLATION

Advanced European technology – thousands of satisfied customers worldwide.

#### PICTURE OF COMPLETED FACILITY:

- X5 Retail, Voronezh
- Aidarovskoye village, Ramonsky district, Voronezh region
- Capacity: 2 x 550 m<sup>3</sup>
  Date: 2014



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### **PREFABRICATION**

All components of FLAMAX tanks are prefabricated using high-precision machinery and undergo a strict outgoing inspection.

This ensures maximum structural reliability compared to products produced on site.









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# PACKAGED DELIVERY

Tanks can be delivered by any mode of transport, as all components are standard size and fit EUR-pallets.

This allows easy delivering of cargo to the most isolated areas of construction sites.

Unloading is possible by a usual forklift. Thanks to sealed and compact package components can be stored in any accessible location prior to installation.

As a result, shipping, unloading and storage costs can be substantially reduced as compared to the same works for other types of tanks.



#### PICTURE 1

Loaded heavy truck: two packed 700 m<sup>3</sup> tanks

#### PICTURE 2

At the appointed time the tanks are delivered to the installation site

#### PICTURE 3

Unloading of packed tanks by a forklift takes less than 60 minutes

#### PICTURE 4

Tanks are placed on standard EUR-pallets and take up minimum space on the construction site when being stored prior to installation







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### QUICK YEAR-ROUND INSTALLATION

Assembling of tanks doesn't involve working at heights, welding operations and using heavy equipment.

Assembly procedure allows installation at any time of the year within the minimum period of time ( $1000 \text{ m}^3$  for 5-7 days).

Tanks can be installed both outside and inside buildings/structures in very confined spaces.

Tanks can be disassembled and reassembled at a new location.



#### PICTURE OF COMPLETED FACILITY:

- State Public Institution Fund for Gasification, Energy-Saving Technology and Utility Development of the Republic of Tatarstan
- Arsk (Republic of Tatarstan) Capacity: 2 x 500 m<sup>3</sup>
- Date: 2018

#### PICTURE 2

Tank assembly can be performed by a small team of 4 - 5 workers

#### PICTURE 3

Tanks are assembled using a synchrolift system with hydraulic jacks instead of heavy-duty special vehicles

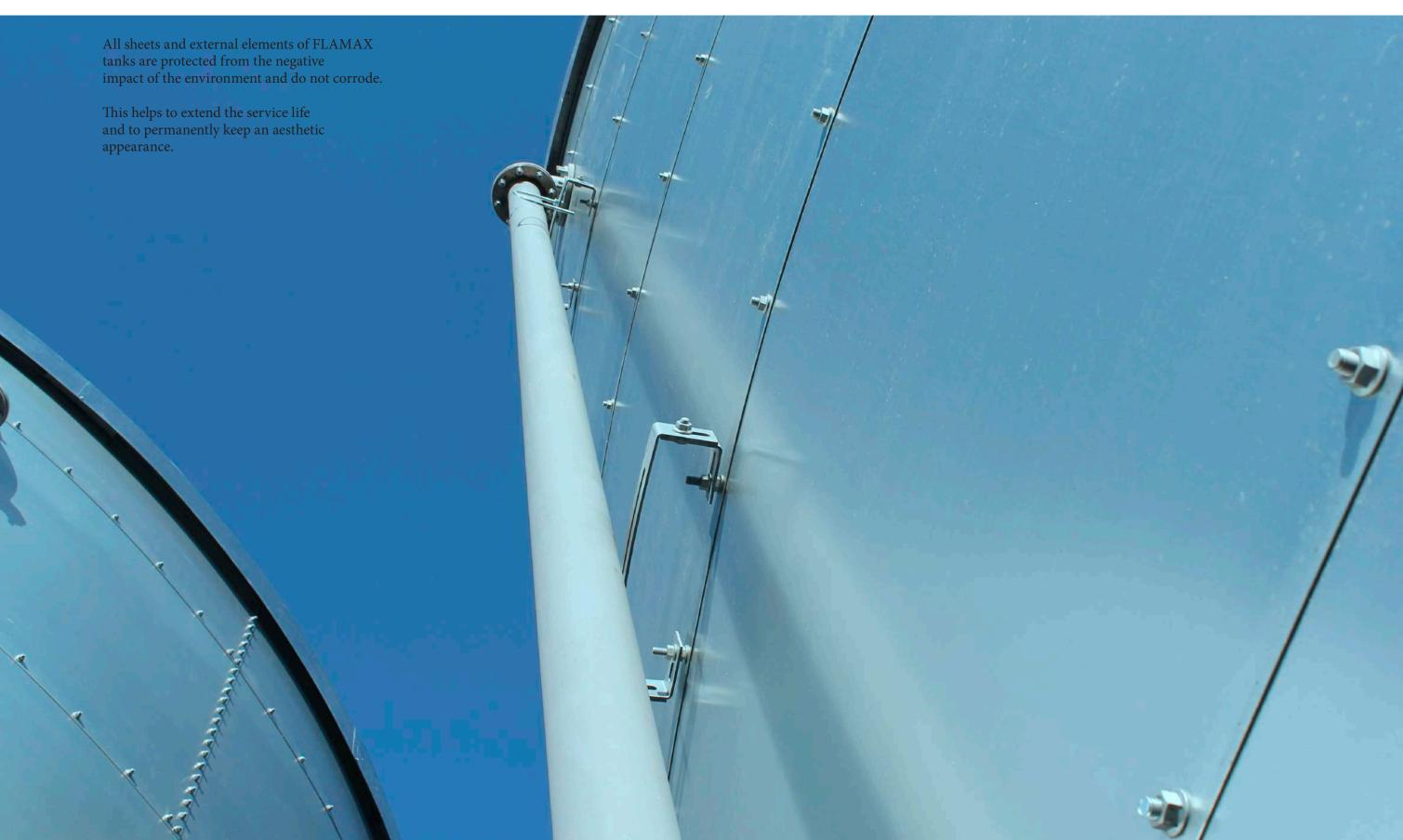








### **ENVIRONMENTAL STABILITY**



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### ABSOLUTE INTEGRITY

A key feature of FLAMAX tanks is a high strength reinforced PVC membrane, which provides a perfect long-term sealing of the tank, preserves drinking water quality and requires no special care and complicated maintenance.









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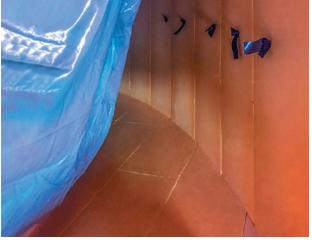
# 为DC

# OPERATION UNDER EXTREME CONDITIONS FROM -55 °C TO +55 °C

Depending on the installation region we provide the most effective heat insulation of walls, roof and floor, which allows to operate the FLAMAX tanks under rough climatic conditions.





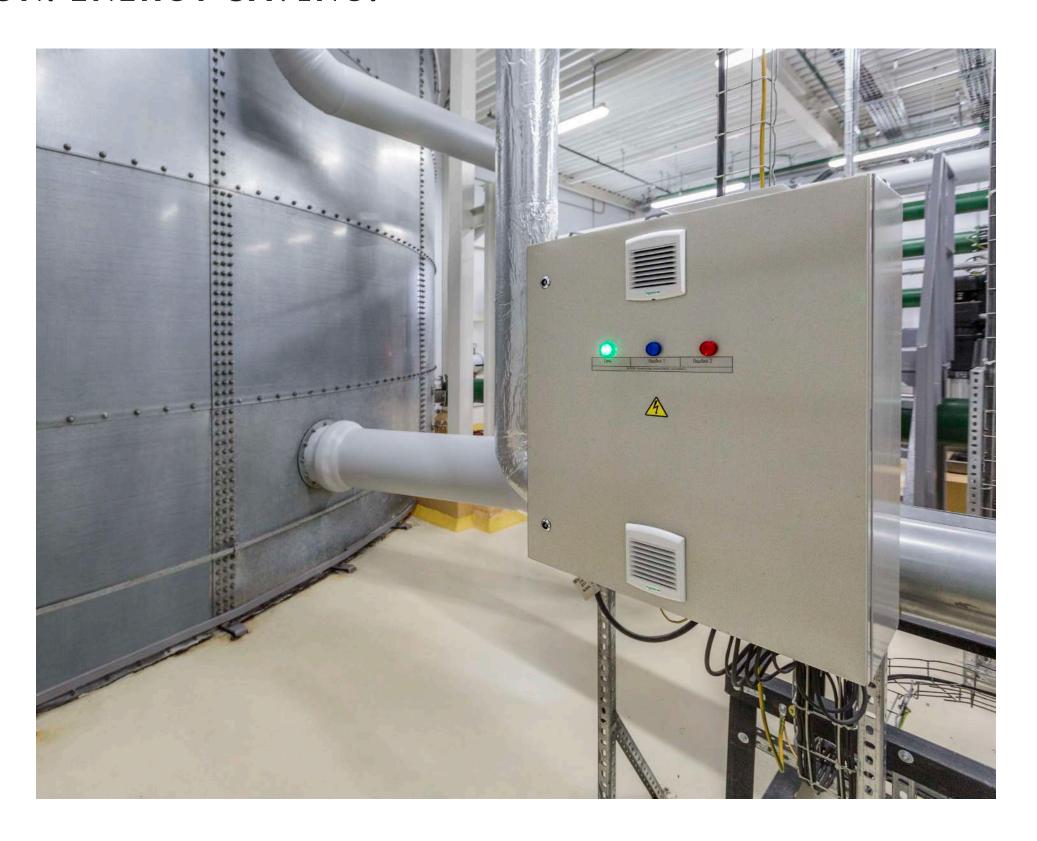


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### +†.

# AUTOMATION. ENERGY SAVING.

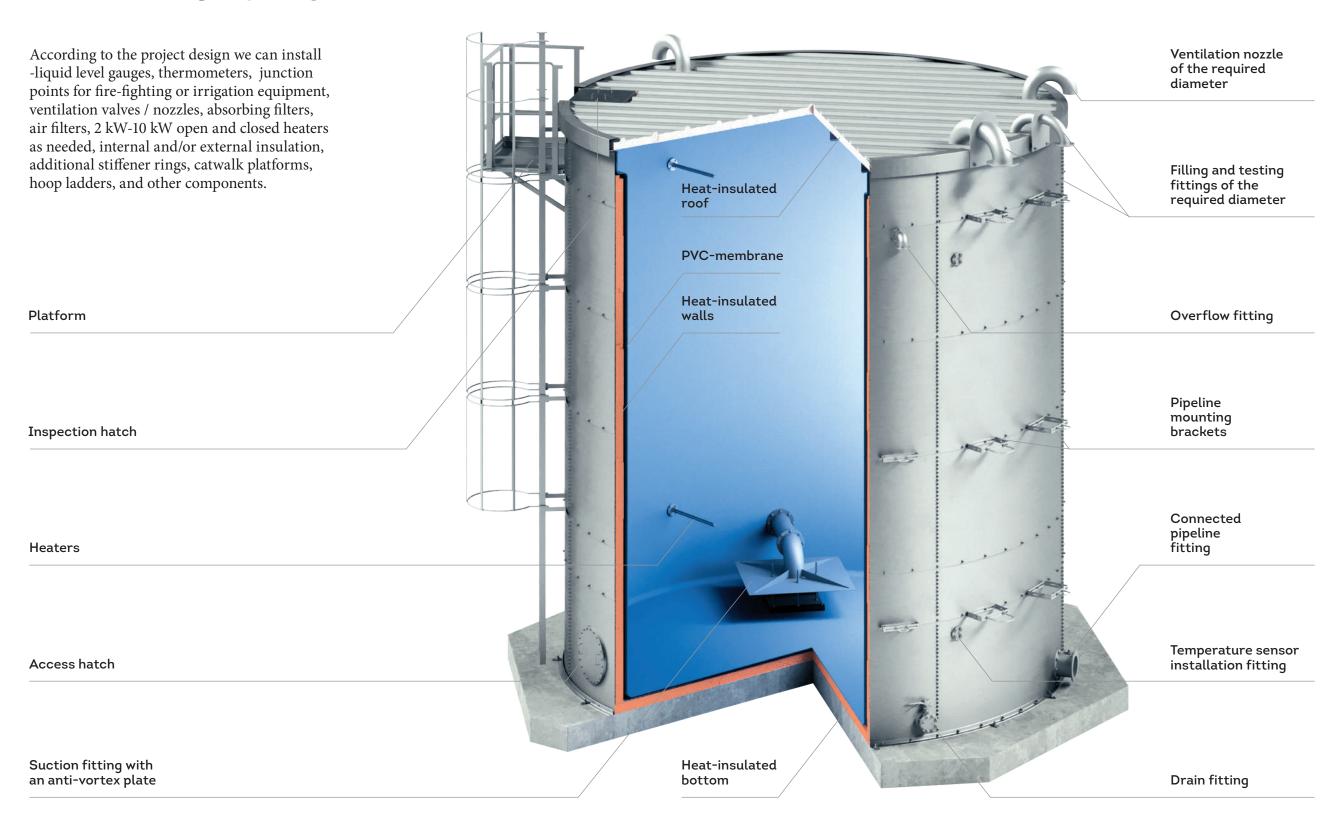
Advanced system of automation and environmental monitoring in the FLAMAX tanks can significantly reduce operating costs and ensure a seamless interaction between tanks and pumping station equipment.





16 COMPONENT PARTS FLAMAX.RU

### TANK IN SECTION

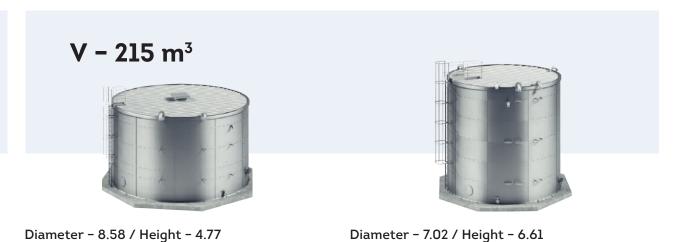


## **DIMENSIONS**

Dimensions of tanks having equal capacity can vary widely. Thus, the tank size is determined according to the source data received from the customer. Below is a partial indicative list of tank dimensions.



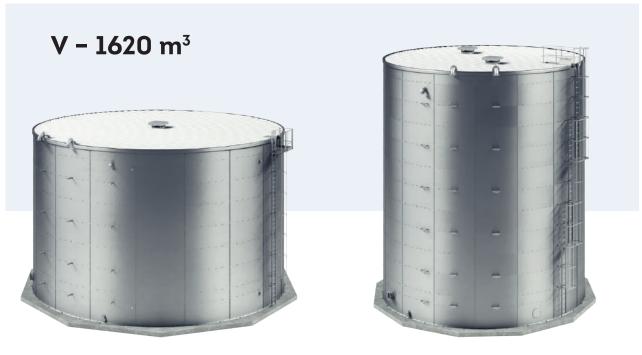
Diameter - 5.46 / Height - 5.41 Diameter - 4.21 / Height - 6.24





Diameter - 11.7 / Height - 6.61





Diameter - 15.6 / Height - 9.57 Diameter - 12.48 / Height - 14.37

18 DIMENSIONS FLAMAX.RU

# TABLE OF TANK USEFUL CAPACITY DEPENDING ON HEIGHT AND DIAMETER, m<sup>3</sup>

	Oty of rings in height, pcs.	1	11/2	2	21/2	3	31/2	4	41/2	5	51/2	6	61/2	7	71/2	8	81/2	9	91/2	10	101/2	11
	Height, m	1,25	1,81	2,37	3,01	3,57	4,21	4,77	5,41	5,97	6,61	7,17	7,81	8,37	9,01	9,57	10,2	10,77	11,41	11,97	12,61	13,17
Oty of sheets in a ring, pcs	Diameter, m																					
4	3,12	4	8	13	18	22	27	31														
5	3,90	7	13	20	28	34	42	49	56	63	71	77										
6	4,68	9	19	29	40	49	60	70	81	91	102	111	122	132	143	153	164	173	184	194	205	214
7	5,46	13	26	39	54	67	82	95	110	123	138	151	166	180	194	208	223	236	251	264	279	292
8	6,24	17	34	51	71	88	107	124	144	161	181	198	217	234	254	271	291	308	327	345	364	381
9	7,02	21	43	65	89	111	136	157	182	204	229	250	275	297	322	343	368	390	414	436	461	483
10	7,80	26	53	80	110	137	168	194	225	252	282	309	340	366	397	424	454	481	512	538	569	596
11	8,58	32	64	97	134	166	203	235	272	305	342	374	411	443	480	513	550	582	619	651	688	721
12	9,36	38	76	115	159	197	241	280	324	363	407	445	489	528	572	610	654	693	737	775	819	858
13	10,14	44	90	135	186	232	283	329	380	425	477	522	574	619	671	716	768	813	865	910	961	1 007
14	10,92	51	104	156	216	269	329	381	441	493	553	606	666	718	778	830	890	943	1003	1 055	1115	1167
15	11,70	59	119	179	248	308	377	437	506	566	635	695	764	824	893	953	1 022	1 082	1 151	1 211	1280	1340
16	12,48	67	136	204	282	351	429	498	576	644	723	791	869	938	1 016	1 085	1163	1 231	1 310	1378	1 456	1 525
17	13,26	76	153	231	319	396	485	562	650	728	816	893	982	1 059	1 147	1 225	1 313	1390	1 479	1556	1644	1722
18	14,04	85	172	258	357	444	543	630	729	816	915	1 001	1100	1187	1 286	1 373	1 472	1 558	1 657	1744	1843	1930
19	14,82	95	191	288	398	495	605	702	812	909	1 019	1 116	1 226	1 323	1 433	1 529	1 640	1736	1 847	1943	2 054	2 150
20	15,60	105	212	319	441	548	671	778	900	1007	1 129	1 236	1 358	1 465	1588	1 695	1 817	1 924	2 046	2 153	2 276	2 383

\*Useful capacity values are based on the abovewater portion height of 500 mm of the unused residue level of 200 mm \*\*This table does not include the whole model range

<sup>\*\*\*</sup>Thickness of heat insulating material is determined on the basis of the thermotechnical calculation depending on the installation region and conditions. In case of applying internal insulation the useful capacity is reduced by the amount of insulation volume

# ALLOCATION

Tanks and their allocation are selected according to the source data and always meet the most technically challenging and non-standard customer requirements.

FLAMAX offers comprehensive turn key solutions for the construction of tanks with a pumping station. In this case the customer gains a key advantage: no need to solve problems with the responsibility allocation between contractors.

A comprehensive solution allows to reduce the overall design cost for customers.

Tanks with a pumping station are two very closely related components of one engineering system.



20 ALLOCATION FLAMAX.RU

### 1 FREESTANDING TANKS

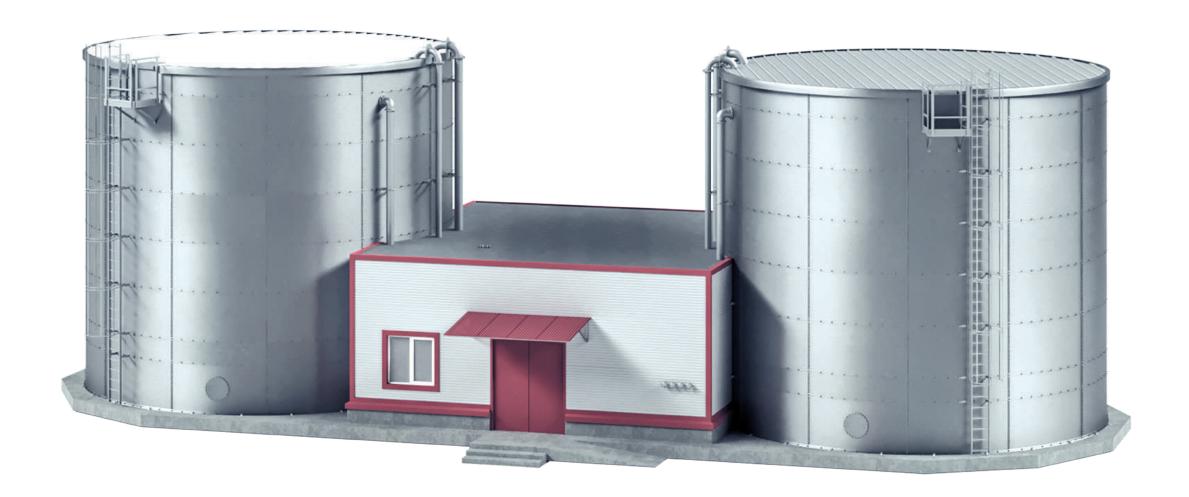
Freestanding tanks: a classical architectural solution



21 ALLOCATION FLAMAX.RU

# 2 TANKS ADJACENT TO THE PUMP STATION/BUILDING

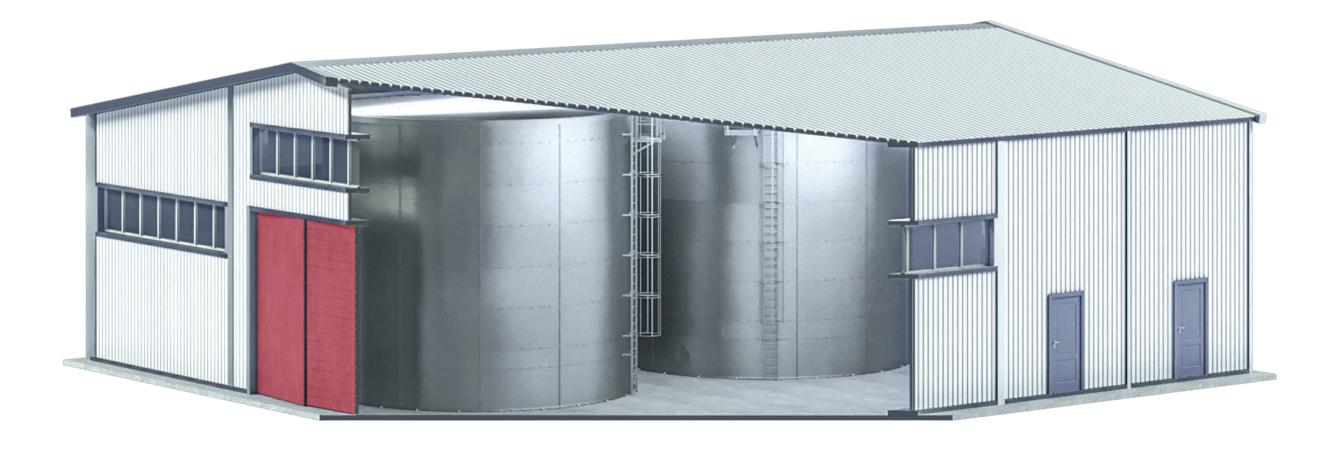
Tanks are adjacent to the pump station/ building: site space saving, no heating of water-filled pipelines is required, easy operation of basic units, direct access to conduits for maintenance.

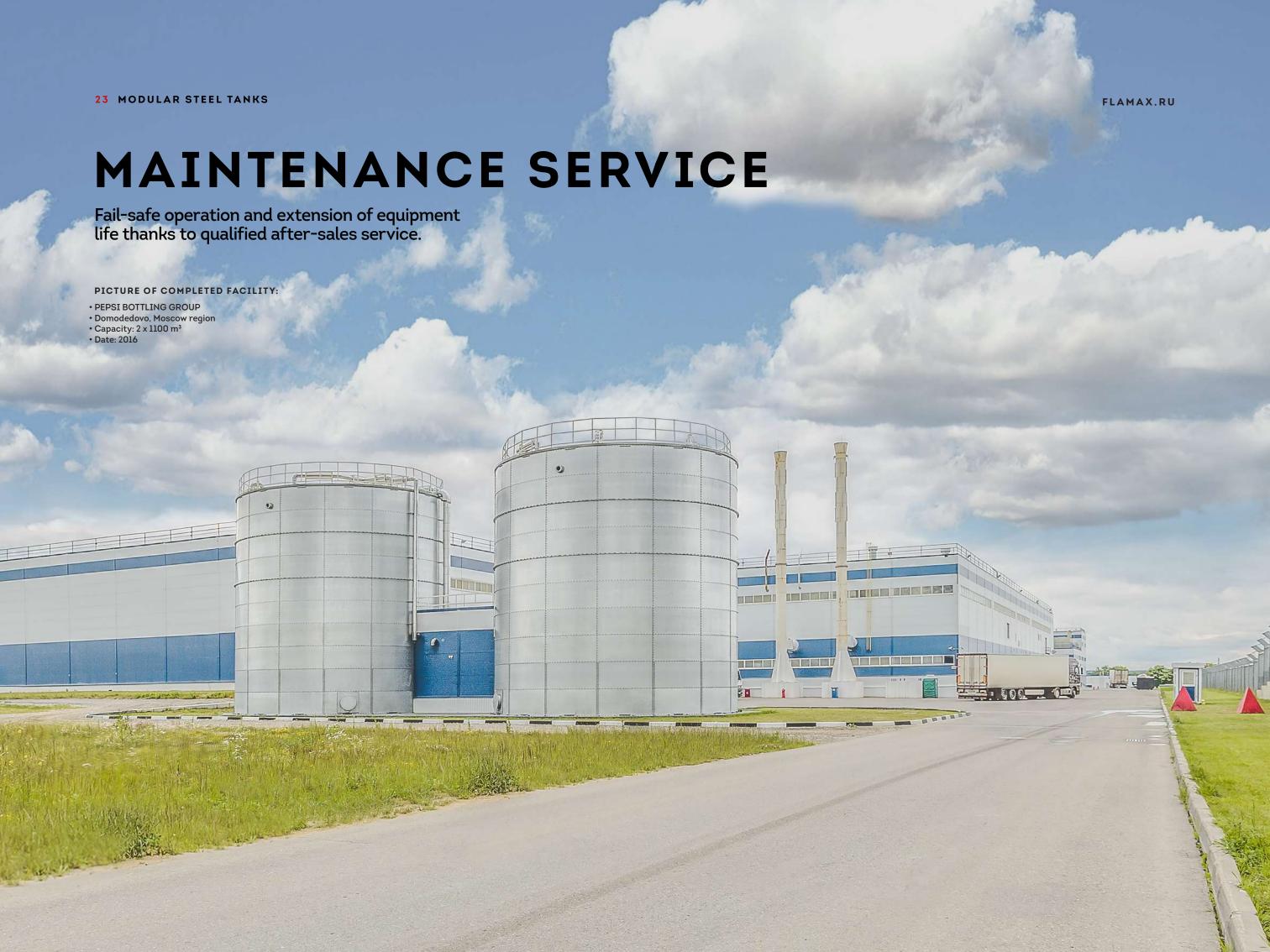


22 ALLOCATION FLAMAX.RU

# 3 TANKS PLACED INDOORS

Tanks are inside buildings/structures: a significant reduction of tank cost due to lack of wind and snow loads.





24 MAINTENANCE SERVICE FLAMAX.RU

### SERVICE DEPARTMENT OPERATION

#### FLAMAX customer service staff

provides a full range of services: from simple technical inspection to the complex replacement of separate components. Well-organized operation of customer service helps to minimize costs for maintenance of tanks, provide consistent quality and uninterrupted operation of systems, allows to avoid unscheduled downtime.

Service strategy of our company consists in providing failure-free operation of equipment after commissioning, continuous monitoring of main units and components, as well as in maximum participation in maintenance or repair works performed by customers



#### PICTURE 1

Primary service inspection of interior space in order to identify problems and check general condition of the tank is performed by a special robot

#### PICTURE 2,3

The tank hasn't been serviced for more than 10 years. Internal flanges and membrane are removed

#### PICTURE 4

A new membrane is installed, flanges, suction fitting and other components are replaced. The tank is as good as new!







### **UNIVERSAL SERVICE PACKAGES**

FLAMAX offers various packages of operational procedures within the framework of contracts and maintenance -schedule:

# ECONOMY package

24-hour remote consulting on all equipment-related issues with an agreed number of emergency site visits.

# STANDARD package

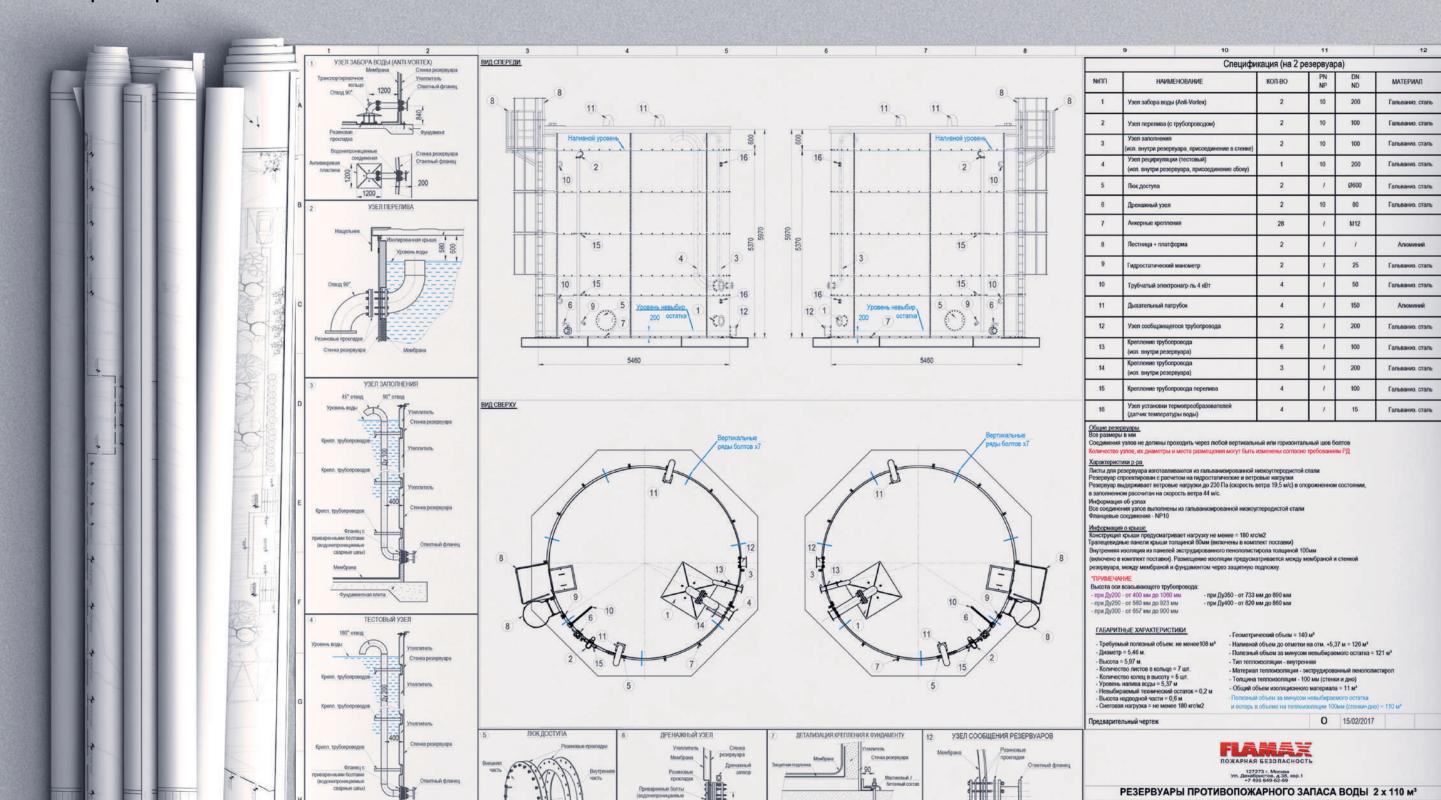
24-hour remote consulting on all equipment-related issues with an agreed number of scheduled and emergency site visits.

# BUSINESS package

24-hour remote consulting on all equipment-related issues with an agreed number of scheduled and emergency site visits. Extension of warranty period.

## FOR ENGINEERING COMPANIES

FLAMAX design department is actively cooperating with engineering companies, providing comprehensive support from design development and documents preparation to obtaining an expert report.



27 FOR ENGINEERING COMPANIES FLAMAX.RU

### SUPPORT OF ENGINEERING COMPANIES

We always provide prompt all-round assistance in design development to engineering companies, ready to use our product:

#### SELECT

the tank that best matches the declared technical specifications.

#### CONSIDER

all technical issues associated with related works:

- develop foundation requirements indicating loads and tolerances
- develop power supply requirements
- recommend schemes and principles to control water filling and heating automation.

#### **PROVIDE**

drawings of designed tank, electric circuit diagrams, automation flow chart, assignment for related works, as well as photorealistic image of the tank (if needed).

#### **CONSULT**

on design regulations and standards relating to the tanks for firefighting & potable water storage, as well as various automation equipment and processing facilities of pumping stations.

# REFERENCE LIST

### Facilities completed in 2015-2018

No.	NAME OF FACILITY	ADDRESS OF FACILITY	CAPACITY AND QTY OF TANKS	INSTALLATION YEAR
1	DATAPRO data center	Moscow	2x280 m³	2015
2	X5-Retail distribution center	Voronezh region	2 x 550 m <sup>3</sup>	2015
3	Vorsino cross docking facility	Kaluga region	2 x 600 m³ FM Global	2015
4	FM Logistic logistics center	Moscow region, Noginsky district	2 x1052 m³	2015
5	ENTER Logistika warehouse facility	Reutov, Moscow region	2 x 240 m³ FM Global	2015
6	Decathlon store	Korabselki, Leningrad region	2 x 375 m³	2015
7	STAVROVO AUTOMOTIVE SYSTEMS plant	Peterhof, Leningrad region	2 x 470 m³ FM Global	2015
8	Decathlon store	Osinovaya gora, Tula region	2 x120 m³	2015
9	IKEA furniture plant	Novgorod region	2 x 700 m <sup>3</sup>	2015
10	Leroy Merlin shopping center	Kazan	2 x 790 m³ (indoors)	2015
11	Decathlon store	Novaya Adygeya, Republic of Adygeya	2 x 385 m³	2015
12	Tehnodom Tomilino	Tomilino, Moscow region	2 x 355 m³	2015
13	NPK KATREN	Khimki, Moscow region	1 x 300 m <sup>3</sup>	2016
14	NORD CITY MALL SHOPPING CENTER	Sadovyi village, Novosibirsk region	2 x 500 m <sup>3</sup>	2016
15	Pepsico Bottling Group	Domodedovo, Moscow region	2 x 1100 m³ FM Global	2016
16	Leroy Merlin shopping center	Kirov	2 x 800 m <sup>3</sup>	2016
17	Leroy Merlin shopping center	Kostroma	2 x 915 m³ (indoors)	2016
18	Leroy Merlin shopping center	Ulyanovsk	2 x 785 m³ (indoors)	2016
19	Leroy Merlin shopping center	Saratov	2 x 800 m³ (indoors)	2016
20	Radumlya Logopark	Radumlya, Moscow region	2 x 750 m <sup>3</sup>	2016
21	Bytplast plastic articles plant	Egoryevsk, Moscow region	2 x 600 m <sup>3</sup>	2016
22	A Plus Park Perm industrial logistics facility	Perm krai	2 x 650 m <sup>3</sup>	2017
23	Leroy Merlin shopping center	Kaliningrad	2 x 760 m <sup>3</sup>	2017
24	Petrovich shopping center	St. Petersburg	2 x 540 m <sup>3</sup>	2017
25	Leroy Merlin shopping center	Voronezh	2 x 965 m <sup>3</sup>	2017

\*as of 29.10.2018

# REFERENCE LIST

### Facilities completed in 2015-2018

No.	NAME OF FACILITY	ADDRESS OF FACILITY	CAPACITY AND QTY OF TANKS	INSTALLATION YEAR
26	Leroy Merlin shopping center	Kursk	2 x 860 m³	2017
27	Lenta shopping center	Domodedovo, Moscow region	2 x 315 m³	2017
28	Leroy Merlin shopping center	Irkutsk	2 x 1000 m <sup>3</sup>	2017
29	Leroy Merlin shopping center	Troitsk, Moscow region	2 x 910 m³ (indoors)	2017
30	Honeywell plant	Lipetsk	2 x 200 m³ FM Global	2017
31	Leroy Merlin shopping center	Tyumen	2 x 850 m³ (indoors)	2017
32	Petkorm pet food plant	Dmitrov, Moscow region	2 x 500 m <sup>3</sup>	2017
33	Paketti Group plant	Klimovsk, Moscow region	2 x 425 m³	2017
34	Leroy Merlin shopping center	Istra, Moscow region	2 x 850 m <sup>3</sup>	2017
35	Selgross shopping center	Zelenograd, Moscow region	2 x 250 m³ (indoors)	2017
36	Biokad plant	St. Petersburg	2 x 550 m³	2017
37	SEVER-3 logistics center	Solnechnogorskiy district, Moscow region	2 x 600 m <sup>3</sup>	2017
38	Municipal water service company	Arsk, Republic of Tatarstan	2 x 500 m <sup>3</sup>	2017
39	ETM warehouse	Kazan	2 x 435 m³	2018
40	Leroy Merlin shopping center	Cherepovets	2 x 865 m³	2018
41	Monetka retail chain warehouse	Ekaterinburg	2 x 650 m <sup>3</sup>	2018
42	Leroy Merlin shopping center (as part of MEGA)	Novaya Adygeya, Republic of Adygeya	2 x 1140 m <sup>3</sup>	2018
43	Petrovich shopping center	St. Petersburg	2 x 432 m³	2018
44	Leroy Merlin shopping center	Nizhniy Novgorod	2 x 800 m³ (indoors)	2018
45	Leroy Merlin shopping center	Saransk	2 x 830 m <sup>3</sup>	2018
46	IKEA distribution center	Solnechnogorskiy district, Moscow region	1 x 750 m³ FM Global	2018
47	Mercedes-Benz plant	Solnechnogorskiy district, Moscow region	2 x 630 m³	2018
48	Industrial warehouse facility of Vardek furniture plant	Leningrad Region	2 x 350 m³	2018
49	Leroy Merlin shopping center	Domodedovo, Moscow region	2 x 925 m³ (indoors)	2018
50	Masterwatt company warehouse	Mytischi, Moscow region	2 x 460 m³	2018

\*as of 29.10.2018

# REFERENCE LIST

### Facilities completed in 2015-2018

No.	NAME OF FACILITY	ADDRESS OF FACILITY	CAPACITY AND QTY OF TANKS	INSTALLATION YEAR
51	Leroy Merlin shopping center	Ekaterinburg	2 x 835 m³ (indoors)	2018
52	Leroy Merlin shopping center	Kemerovo	2 x 600 m³ (indoors)	2018 (in progress)
53	Pyaterochka retail chain	Saratov	2 x 450 m <sup>3</sup>	2018
54	Leroy Merlin shopping center	Ramenskoe, Moscow region	2 x 777 m <sup>3</sup>	2018
55	M2 agricultural enterprise	Volokolamskiy district, Moscow region	2 x 273 m³ (indoors)	2018 (in progress)
56	Vikhorevka railway station (RZD)	Irkutsk region	2 x 1000 m <sup>3</sup>	2018 (in progress)
57	ORIMI tea processing facility	St. Petersburg	2x200 m³	2018
58	Wildberries distribution center	Podolskiy district, Moscow region	2 x 745 m <sup>3</sup>	2018
59	Car spare parts δ care products warehouse	Pushkino, Moscow region	2 x 500 m <sup>3</sup>	2018 (in progress)
60	M60 LOGOPARK	Artem, Primorsky krai	2 x 870 m³ (indoors)	2018 (in progress)
61	Monetka retail chain warehouse	Nefteyugansk	2 x 690 m <sup>3</sup>	2018 (in progress)
62	Baza-1 warehouse facility	Podolskiy district, Moscow region	2 x 600 m³ FM Global	2018 (in progress)
63	SEVER-4 logistics center	Solnechnogorskiy district, Moscow region	2 x 600 m <sup>3</sup>	2018 (in progress)
64	Leroy Merlin shopping center	Izhevsk	2 x 860 m <sup>3</sup>	2018 (in progress)
65	Leroy Merlin shopping center	Rostov-on-Don	2 x 830 m <sup>3</sup>	2018 (in progress)
66	Huhtamaki CIS plant	Ivanteevka, Moscow region	2 x 250 m <sup>3</sup>	2018 (in progress)
67	FM Logistic logistics center	Aksayskiy district, Rostov region	2 x 1080 m³	2018 (in progress)
68	ETM warehouse	Samara	2 x 400 m <sup>3</sup>	2018 (in progress)
69	Taman seaport	Taman, Krasnodar krai	2 x 1000 m <sup>3</sup> + 2 x 100 m <sup>3</sup>	2018 (in progress)

# Thank you for your attention!



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