



Panoramic wheel 128 m in the city of Ulsan, South Korea

**General commercial offer
for supply of Panoramic wheels 80-200 m high**

«Pax-Design» Llc, 2023



patented 2021 – no copy is allowed!



Dear Sirs!

The amusement ride you're purchasing from us is going to continuously and safely bring you profit, and not losses from downtime. By your request, we'll forward to you a personal offer!

We offer the best base price and the European quality!

The cost of foundations, installation and delivery – no more than 15% from the cost of the Panoramic wheel!

The advantages of our Panoramic wheels:

- 1. Spacious up-to-date swing-safe cabins;**
 - 2. Gear drive without slippage under uneven load of the Panoramic wheel up to 50%;**
 - 3. Light and rigid metal structures for I-VII wind areas;**
 - 4. 3-4 times decrease of volume and cost of the foundations;**
 - 5. 2 times cost decrease of installation;**
 - 6. 2 times decrease of number of eighteen-wheelers for transportation.**
- We have been manufacturing and selling amusement rides in Russia, Europe and in other markets for over 33 years. We supply the amusement rides that are successfully operated for decades without breakdowns because we use high-quality steel and welding, European transmissions, electrical equipment, fasteners, welding and painting materials!**
 - For the Panoramic wheels, we do not apply the rubber tires for the gear drivers that slip during the rain, or when the loading is uneven. We apply a mechanical engagement of the gear wheel with the drive system, thus eliminating slippage!**
 - Our amusement rides comply with safety standards ISO 17842, EN 13814, GOST 33807. We are the only Russian company who sells the amusement rides to Europe.**
 - For over 33 years, we have been steadily fulfilling contracts for the supply of amusement rides, space equipment and high-rise communication towers.**
 - Pax Design Group of Companies is the leader of technical committees TC 427 at Rosstandard and TC 254 at ISO working on development of safety standards for amusement rides.**
 - In July, 2021, in Dagestan, we have put into operation a Panoramic wheel of a new generation. These Panoramic wheels are two times lighter, more technologically advanced and rigid than similar products offered by other manufacturers. That is why we offer the best quality for the best price at the market!**



Contact: +7 903 7902872

Kindest regards, Vladimir Gnezdilov, Candidate of technical sciences, Honored Designer of the Russian Federation, President of Russian Association of Amusement Parks and Attractions, convenor of TC №427 at Rosstandard and TC №254 at ISO, laureate of golden medals: named after V.G. Shukhov, named after S.P. Korolev

Giant Panoramic Wheel pays off through one year of operation!



**We have been designing and manufacturing amusement rides since 1988
Over 33 years, we have constructed more than 520 objects in Europe, Asia,
and Americas:**

- Over 112 major rides around the world;
- 212 telecommunications and TV towers up to 84 meters in height.
- “Moscow – 850” Panoramic Wheel 70m high- the highest in Europe in 1995. Panoramic Wheel 90 m in height for Mirabilandia park, Italy – the highest in Europe in 1998. Panoramic wheel in Ulsan (South Korea) 128 m high (on the top of the parking roof of 48 m height). Roller Coasters for Saudi Arabia, France (Parc Saint-Paul); Austria (Erlebnispark).

- Mobile Gantry for pre-launch preparation of "Soyuz-CT" launchers for Guiana Space Center, France, in 2011. Up to 2021 there were 35 successful launches of Soyuz rockets.

·Set of containers for "Soyuz-ST" launchers transportation from Russia to Guiana Space Center.

·In 2011-15, ISO TC 254, which is headed by Vladimir Gnezdilov developed 3 new world standards "Safety of amusement rides and amusement devices“.



2013 - the Russian and International Union of Scientific and Engineering Public Associations has awarded the specialists of Pax Design with the Golden Medal named after V.G. Shukhov for the creation of the Mobile Gantry for SOYUZ space vehicles in Guiana Space Center (GSC), Kourou, French Guiana.

Since 2015, we have been accomplishing the project of Panoramic wheel 180 m high in UAE.



In January, 2017, Pax Group was entrusted by Rosstandart to lead the committee 427 «Safety of amusement rides:

In May, 2017, in «Skazka» park (Krylatskoye), we have put into operation a roller coaster named Lightning.

Now we are working on a draft design of the equipment of the launch complex for the heavy of the rocket launcher for Roskosmos.

In 2021 we installed panoramic wheel 41 meters in Dagestan

Commercial offer for Panoramic wheels 80-200m high



Pax-Design llc.

Program for Panoramicwheels 80-200 m high.

Design - classical or Oreol (more details on www.pax.ru)

Our advantages:

1. Spacious up-to-date swing-safe cabins;
2. Gear drive without slippage under uneven load of the Ferris wheel up to 50%;
3. Light and rigid metal structures for I-VII wind areas (up to 60 m/s);
4. 3-4 times decrease of volume and cost of the foundations;
5. 2 times cost decrease of installation;
6. 2 times decrease of number of eighteen-wheelers for transportation.

Main characteristics:

Height of Ferris wheel, m	80	90	100	125	150	175	200
service/hour	770	960	1080	1300	1500	1600	1700
time of 1 rotation , min.	15	20	20	20	25	27	30
number of cabins/pers.	32/6 =192	32/10 =320	36/10 =360	44/10 =440	52/12 =624	60/12 =720	68/12 =816
speed of a cabin, m/s	0,27	0,23	0,26	0,3	0,29	0,32	0,34
size of sites for supports, m	28x35	28x35	28x35	30x37	34x42	38x48	42x55
average required power, kW	7	10	14	18	24	30	36
full power, kW	2x14	2x20	2x25	2x35	2x48	2x58	2x70
weight, ton	202	262	337	502	727	1200	1875
number of 40 feet containers	20	26	32	44	62	100	140
manufacture, months/install., days	11/40	12/50	14/60	18/80	24/120	30/180	36/300
Price, \$, starting from...	\$ 4,1 M	\$ 8 M	\$ 12 M	\$ 30 M	\$ 75 M	\$ 150M	\$ 300 M

Basic delivery set:

1. Open or semi-open cabins
2. Supports, rotating part, platform with a roof for I-III wind area
3. Gear drive system and a set of electric equipment
4. Certificate of conformity and operational documentation according to GOST 33807

Optionally, by request:

1. Glass in the floor - €2500.
2. Replacement of semi-open cabin with a climate-control provided one - €3000
3. Replacement of semi-open cabin with an extreme one - €11 250
4. Container for cooling/heating and for protection of electrical equipment – upon request
5. Coat-painting protection from marine climate - 3% from the cost of the wheel
6. Structure reinforcement for IV-VII wind areas; +3% of the cost of the wheel
7. Illumination - €37,5-62,5/m, sign board, advertising screen - by request
8. Additional entrance for passengers with tickets of different price - €8750
9. Lift and cabin for the disabled – €15 000

A buyer's responsibility:

transportation, storage (3-4%), foundations and site (3%), electric power supply, ticket sales systems, security system, service rooms , permissions.

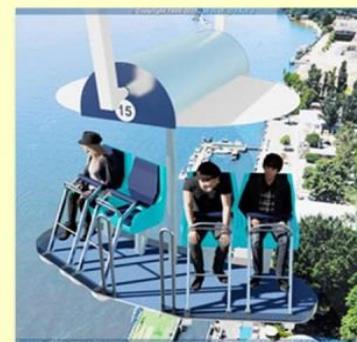
Cabins for the new wheels:



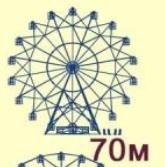
for the giant wheels



climate-controlled



extreeme



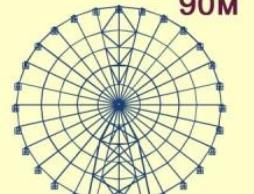
70M



80M



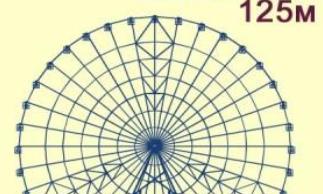
90M



100M



125M



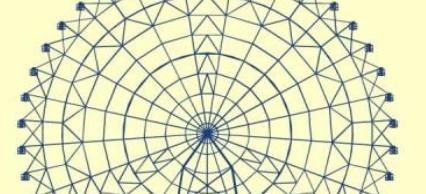
150M



175M



200M



200M



200M



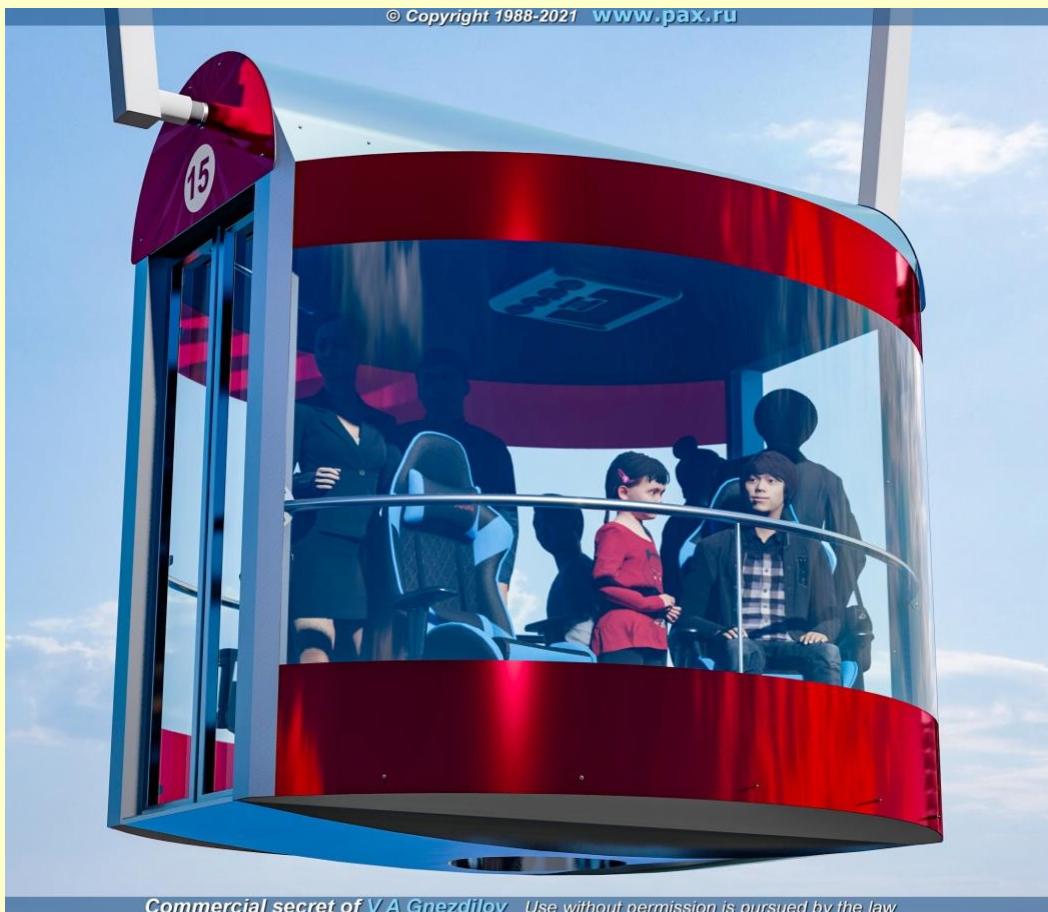
Kinds of cabins for Panoramic wheels



semi-open 1,5*2m for 5 pers.



extreme for 4 pers.



air-conditioned 2,4X2,8m for 10 persons



air-conditioned 2X2,4m for 6 pers.

Commercial offer for Panoramic wheels 80-200m high



Cabins including tables for 12 persons



Commercial offer for Panoramic wheels 80-200m high



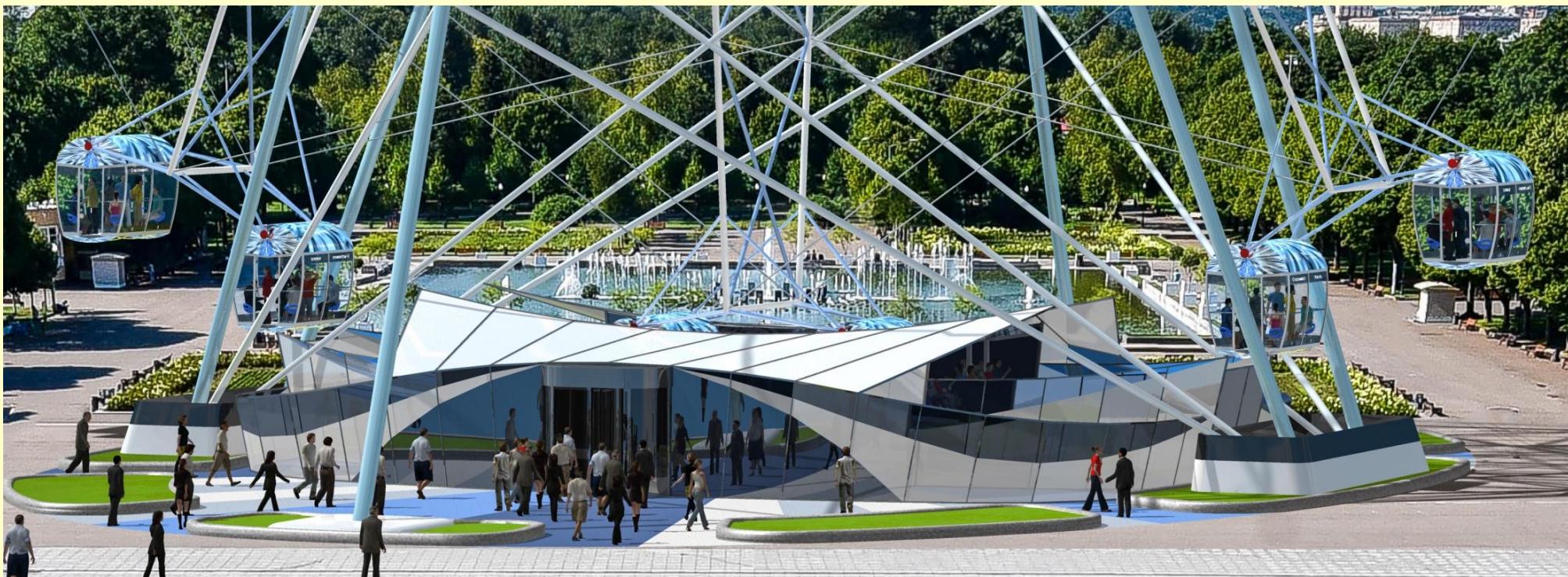
Stations



Station for wheels up to 52m



Station for wheels from 58 up to 91 m



Station for wheels over 100m

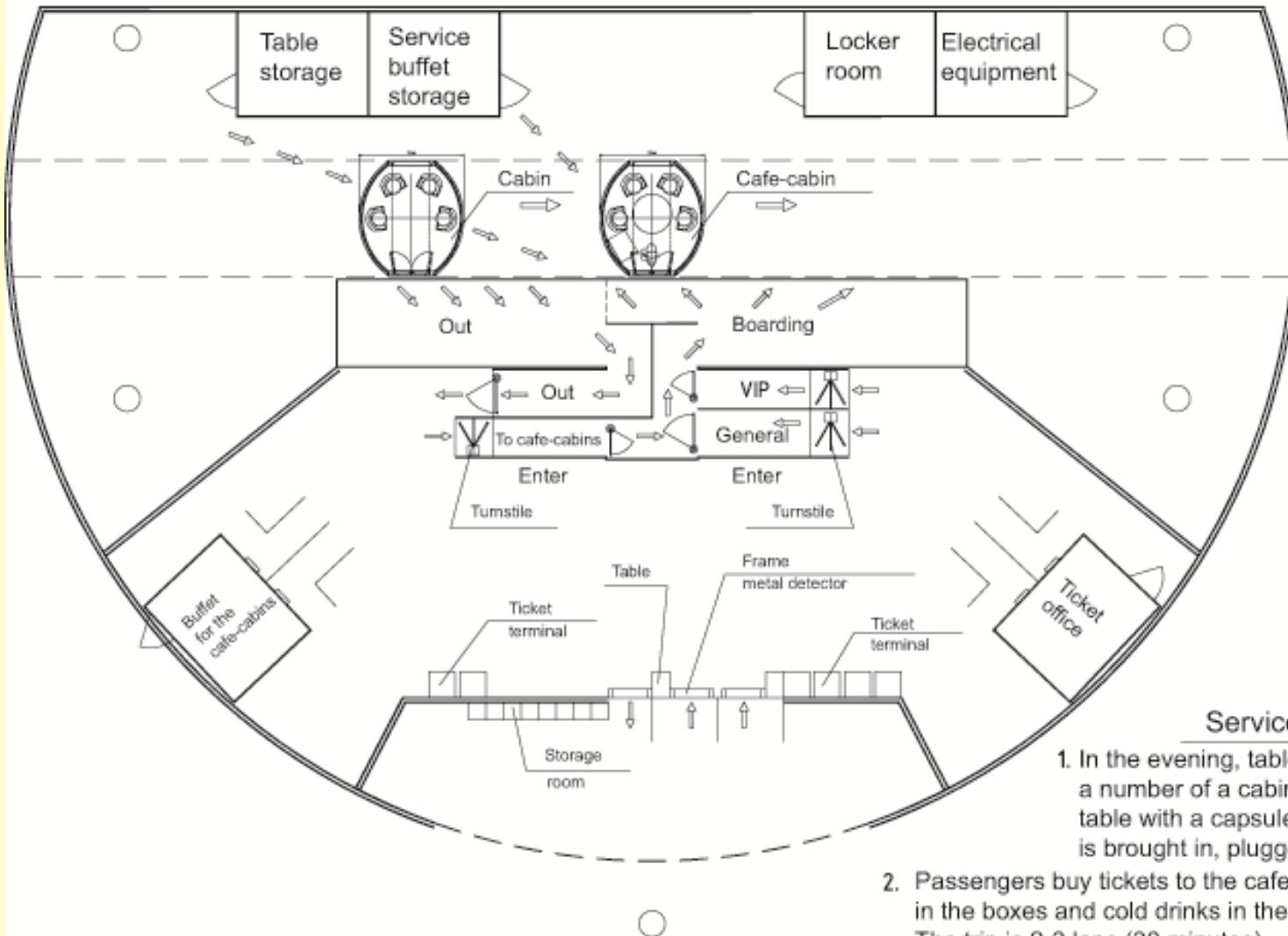
Commercial offer for Panoramic wheels 80-200m high



Service for the cafe-cabins



The scheme of the station for passengers to travel in cabins and cabins-cafe for the panoramic wheel



Pax-Design
November 17 2021

Service of the cafe-cabins

1. In the evening, tables on a leg are taken in to a number of a cabins, fixed in 10 seconds, a service table with a capsule coffee machine and a kettle is brought in, plugged into an outlet.
2. Passengers buy tickets to the cafe cabins, choose and buy food in the boxes and cold drinks in the buffets, proceed to the cabins. The trip is 2-3 laps (30 minutes).
3. Passengers get out and pick up bags with boxes and garbage
4. After passengers, the operator removes the leftovers in 10 seconds

Commercial offer for Panoramic wheels 80-200m high



Panoramic wheel 81m

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Commercial offer for Panoramic wheels 80-200m high



Completeness, characteristics, and cost of 80 m wheel.

Advantages: European quality; spacious cabins; uneven load up to 50% without wheel slippage;

Session : one rotation per 15min. **Service - up to 770 pers./hour**

COMPLETENESS OF A FERRIS WHEEL 80 M HIGH

- Cabins: 32 spacious panoramic cabins, each sized 2,4x2,6 m., and designed for 6 pers . The total area of 4 m² and total capacity of 32x6=192 pers. The Ferris wheel is supplied with mechanical locks and acrylic glass of 5 mm thick.
- Transmission: gear drives supplied with a gear (pinion) engagement to a wheel arc, **the system eliminates slipping of the drive with a drive arc** in the rain and uneven loading up to 50%.
- Metal structures: Two pyramidal supports supplied with access ladders; 32 trusses of the rotating part; bearing units; loading platform under a roof; galvanized fasteners marked according to GOST or ISO.
- Electrical equipment: Control boxes; operator consoles; cable set, sensors - in accordance with the section of the standard "Low-voltage equipment" GOST 33807 or EN 13814. Pavilion for control panel and operator.
- Coat-painting of metal structures: a 3-layer paint system, marine climate.
- Supervision of installation, adjustment, testing, putting into operation, instructing the staff of the Ferris wheel.
- Operational documentation in accordance with GOST 33807 or EN 13814 requirements;
- A set of spare parts and tools for the first year of operation of the Ferris wheel; spare parts supply and technical support for at least 10 years.

main technical characteristics (approximate)

- Dimensions: *height* - 81 m, diameter – 78 m, weight – 190 tn, site for supports - 25x34m; Cabin's speed at the station: 0m/s-0,27m/s; resource – 35 000 hours (3 500 days)
- Electrical equipment (all data are preliminary): - gear drives: while fully loaded - not more than 20 kW and 15 kW, average per hour – 7 kW, the drive power source - V/phase /Hz/A 380/3/50/100A; conditioning – up to 1,5 kW/cab.; cabin power source - V/phase/Hz/A 220/1/50(60)/8 per cable; dynamic illumination - up to 50kW, power supply V/phase/Hz/A 220/1/50/250.*
- Back up electricity supply for evacuation of passengers: *is produced by the 20 kW power generator (to be purchased by buyer), which is required in case of power outage.*
- Effects: VII wind area; earthquake - up to 8,3 magnitude of the Richter scale.
- Temperature - from 10 up to +45 Celsius degree, humidity – up to 99%.
- Number of 40-foot containers for transporting a wheel – 20 vehicles.

Price, including mounting = \$4,1M

Optionally (by request):

1. Extreme cabin + \$ 10 000 to normal cabin
2. Glass in the floor – \$ 3 000
3. Lift and cabin for the disabled – \$12 000
4. Additional entrance – \$ 10 000 (for cabins of different ticket price)
5. Container for cooling/heating and protection of electrical equipment – \$ 8 000
6. Cost of the dynamic illumination - from \$37,5 to \$62,5 per meter.
7. Certificate of conformity EN 13814 upon request.

Buyer's duties: transportation, storage (4%), foundations and site (3%), electric power supply, ticket sales systems, security system, service rooms, permissions.

Payment : 35% prepayment , four payments = 15% each month , 5% - after putting into operation.
Average production time – 11 months, mounting – 40 days.



Panoramic wheel 90m

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Commercial offer for Panoramic wheels 80-200m high



Completeness, characteristics, and cost of 90 m wheel.

Advantages : European quality; spacious cabins; uneven loading of cabins up to 50% does not cause wheel slippage;
Session: 1 rotation per 20 minutes . **Service - up to 960 pers./hour.**

BASIC COMPLETENESS OF A WHEEL

- Cabins: 32 spacious panoramic semi-open cabins 2,4x2,4 m., designed for 6 pers., each cabin 4 m², and the total capacity of 320 pers., supplied with mechanical locks and 3 mm thick polycarbonate glass.
- Transmission : gear drives supplied with a gear (pinion) engagement to a wheel arc, the system **eliminates slipping of the gear drive with a drive arc** in the rain and uneven loading up to 50%.
- Metal structures : Two pyramidal supports supplied with access ladders and sites; 32 trusses of the rotating part; bearing units; loading platform under a roof; galvanized fasteners marked according to GOST or ISO.
- Electrical equipment: Control boxes and operator consoles; cable set, sensors - in accordance with the “Low voltage equipment” section of GOST 33807 or EN 13814. Pavilion for a control panel and an operator.
- Coat-painting of metal structures – 2-layer painting system.
- Installation supervision, adjustment, tests, putting into operation, instructing the staff of the wheel.
- Operational documentation in accordance with requirements of GOST 33807;
- A set of spare parts and tools for the first year of operation of the Ferris wheel; spare parts supply and technical support for at least 10 years.

main technical characteristics (approximate)

- Dimensions : height - 91m, diameter – 88 m, weight – 262 tn, site for supports - 28x35m; volume of foundations ~ 250 m³.*
- Speed of cabins at the station: 0 m/c-0,23 m/s; resource – 35 000 hours (3 500 days)
- *Electrical equipment (all data are preliminary): - gear drives: while fully loaded - not more than 2x20 kW , average per hour –10 kW, drive power source - V/phase /Hz/A 380/3/50/100; conditioning – up to 1 kW per cabin, cabin power source, V/phase /Hz/A 220/1/50(60)/6 per cabin.; dynamic illumination - up to 30 kW, power supply source V/phase /Hz/A 220/1/50/200.*
- Back up electricity supply for evacuation of passengers: is produced by the 20 kW power generator (to be purchased by buyer), which is required in case of power outage.*
- External effects: III wind area; earthquake – up to 8,3 magnitude of the Richter scale.*
- Temperature: from -10 up to +45 Celsius degree, humidity – up to 99%.*
- Number of 40-foot containers for transporting a wheel - 26;*

Price, including installation – \$6,2 M

Optionally (by request):

- 1. Extreme cabin + \$ 10 000 to normal cabin**
- 2. Glass in the floor – \$ 3 000**
- 3. Lift and cabin for the disabled – \$12 000**
- 4. Additional entrance – \$ 10 000 (for cabins of different ticket price)**
- 5. Container for cooling/heating and protection of electrical equipment – \$ 8 000**
- 6. Cost of the dynamic illumination - from \$37,5 to \$62,5 per meter.**
- 7. Certificate of conformity EN 13814 upon request.**

A buyer's responsibility: transportation, storage (1-3%), foundations and site (3%), electric power supply, ticket sales systems, security system, service rooms, permissions.

Payment: 35% prepayment, four payments = 15% each month, 5% - after putting into operation.

Average production time – 12 months, mounting – 50 days.



Panoramic wheel 100m

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Commercial offer for Panoramic wheels 80-200m high



Completeness, characteristics, and cost of 100 m wheel.

Advantages: European quality; spacious cabins; uneven loading of cabins up to 50% does not cause wheel slippage;

Session: 1 rotation per 20 minutes. **Service - up to 1080 pers./hour.**

BASIC COMPLETENESS OF A PANORAMIC WHEEL

- Cabins: 36 spacious panoramic semi-open cabins Ø 2,4X2,8m. designed for 10 persons, each cabin 5 m², and the total capacity of 360 pers., supplied with mechanical locks and 5 mm thick polycarbonate glass.
- Transmission : gear drives supplied with a gear (pinion) engagement to a wheel arc, the system **eliminates slipping of the gear drive with a drive arc** in the rain and uneven loading up to 50%.
- Metal structures : Two pyramidal supports supplied with access ladders and sites; 36 trusses of the rotating part; bearing units; loading platform under a roof; galvanized fasteners marked according to GOST or ISO.
- Electrical equipment : Control boxes and operator consoles; cable set, sensors - in accordance with the “Low voltage equipment” section of GOST 33807 or EN 13814. Pavilion for a control panel and an operator.
- Coat-painting of metal structures – 2-layer painting system.
- Installation supervision, adjustment, tests, putting into operation, instructing the staff of the Ferris wheel.
- Operational documentation in accordance with requirements of GOST 33807 or EN 13814;
- A set of spare parts and tools for the first year of operation of the Ferris wheel; spare parts supply and technical support for at least 10 years.

main technical characteristics (approximate)

- Dimensions : height - 100m, diameter – 97 m, weight – 337 tn, site for supports - 28x35m; volume of foundations ~ 300 m³.*
- Speed of cabins at the station: 0 m/c-0,26 m/s; resource – 35 000 hours (3 500 days)
- *Electrical equipment (all data are preliminary): - gear drives: while fully loaded - not more than 2x25 kW , average per hour –14 kW, drive power source - V/phase /Hz/A 380/3/50/135; conditioning – up to 1 kW per cabin, cabin power source V/phase /Hz/A 220/1/50(60)/6 per cabin.; dynamic illumination - up to 30 kW, power supply source V/phase /Hz/A 220/1/50/200.*
- Back up electricity supply for evacuation of passengers: is produced by the 20 kW power generator (to be purchased by buyer), which is required in case of power outage.*
- External effects: III wind area; earthquake – up to 8,3 magnitude of the Richter scale.*
- Temperature: from -10 up to +45 Celsius degree, humidity – up to 99%.*
- Number of 40-foot containers for transporting a wheel - 32;*

Price, including installation – \$9,6 M

Optionally (by request):

1. Extreme cabin + \$ 10 000 to normal cabin
2. Glass in the floor – \$ 3 000
3. Lift and cabin for the disabled – \$12 000
4. Additional entrance – \$ 10 000 (for cabins of different ticket price)
5. Container for cooling/heating and protection of electrical equipment – \$ 8 000
6. Cost of the dynamic illumination - from \$37,5 to \$62,5 per meter.
7. Certificate of conformity EN 13814 upon request.

A buyer's responsibility: transportation, storage (3-4%), foundations and site (3%), electric power supply, ticket sales systems, security system, service rooms , permissions.

Payment: 25% prepayment, seven payments = 10% each month, 5% - after putting into operation.

Average production time – 14 months (reduction to be discussed), installation – 60 days .



Panoramic wheel 125m

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Commercial offer for Panoramic wheels 80-200m high



Completeness, characteristics, and cost of 125 m wheel.

Advantages: European quality; spacious cabins; uneven loading of cabins up to 50% does not cause wheel slippage; 1 rotation per 25 minutes. **Service - up to 1300 pers./hour. (5 mln./ year)**

BASIC COMPLETENESS OF A PANORAMIC WHEEL

- Cabins: 44 spacious panoramic semi-open cabins 2,4X2,8m. designed for 10 pers., each cabin 5 m², and the total capacity of 440 pers., supplied with mechanical locks and 5 mm thick polycarbonate glass.
- Transmission : gear drives supplied with a gear (pinion) engagement to a wheel arc, the system **eliminates slipping of the gear drive with a drive arc** in the rain and uneven loading up to 50%.
- Metal structures : Two pyramidal supports supplied with access ladders and sites; 44 trusses of the rotating part; bearing units; loading platform under a roof; galvanized fasteners marked according to GOST or ISO.
- Electrical equipment: Control boxes and operator consoles; cable set, sensors - in accordance with the “Low voltage equipment” section of GOST 33807 or EN 13814. Pavilion for a control panel and an operator.
- Coat-painting of metal structures – 3-layer painting system.
- Installation supervision, adjustment, tests, putting into operation, instructing the staff of the Ferris wheel.
- Operational documentation in accordance with requirements of GOST 33807 or EN 13814;
- A set of spare parts and tools for the first year of operation of the Ferris wheel; spare parts supply and technical support for at least 10 years.

main technical characteristics (approximate)

•*Dimensions : height - 125m, diameter – 120 m, weight – 335 tn, site for supports - 30x37m; volume of foundations ~ 360 m³.*

Speed of cabins at the station: 0m/s-0,1m/s-0,3m/s; resource – 35 000 hours (3,500 days)

• *Electrical equipment (all data are preliminary): - gear drives: while fully loaded - not more than 2x35 kW, average per hour – 18 kW, drive power source - V/phase /Hz/A 380/3/50/160; conditioning – up to 2 kW per cabin, cabin power source V/phase /Hz/A 220/1/50(60)/6 per cabin.; dynamic illumination - up to 30 kW, power supply source V/phase /Hz/A 220/1/50/200.*

• *Back up electricity supply for evacuation of passengers: is produced by the 20 kW power generator (to be purchased by buyer), which is required in case of power outage.*

• *External effects: III wind area; earthquake – up to 8,3 magnitude of the Richter scale.*

• *Temperature: from -10 up to +45 Celsius degree, humidity – up to 99%.*

• *Number of railroad cars (40 foot containers) for transportation of the wheel - 44 pcs.;*

Price, including installation – \$16M

Optionally (by request):

1. Cooling – \$1 875, heating – \$375.
2. Replacement of a semi-open cabin with an extreme cabin – \$11 250.
3. Glass in the floor – \$2500.
4. Lift and a cabin for the disabled– \$15 000.
5. Additional entrance – \$8750.
6. Container for cooling/heating and for protection of electrical equipment - \$6250.
7. Marine climate protection - 2 layers of zinc-containing primer, and enamel = 3% of the price for the wheel.
8. Reinforcement of structure for IV-VII wind areas+ 3% per each area.
9. Cost of dynamic illumination – from \$37,5 to \$62,5 per meter.
10. Certificate of conformity (or EN 13814, by request).

A buyer's responsibility: transportation, storage (3-4%), foundations and site (3%), electric power supply, ticket sales systems, security system, service rooms, permissions.

Payment : 15% prepayment , 80% proportional to containers sent, 5% - after the start of operation.

Average production time – 18 months (reduction to be discussed), installation – 80 days.



Panoramic wheel 150m

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Commercial offer for Panoramic wheels 80-200m high



Completeness, characteristics, and cost of 150 m wheel.

Advantages: European quality; spacious cabins; uneven loading of cabins up to 50% does not cause wheel slippage; 1 rotation per 25 minutes. **Service - up to 1500 pers./hour.**

BASIC COMPLETENESS OF A PANORAMIC WHEEL

- Cabins: 52 spacious panoramic semi-open cabins 2,4X3,2m. designed for 12 pers., each cabin 5 m², and the total capacity of 624 pers., supplied with mechanical locks and 5 mm thick polycarbonate glass.
- Transmission : gear drives supplied with a gear (pinion) engagement to a wheel arc, the system **eliminates slipping of the gear drive with a drive arc** in the rain and uneven loading up to 50%.
- Metal structures : Two pyramidal supports supplied with access ladders and sites; 52 trusses of the rotating part; bearing units; loading platform under a roof; galvanized fasteners marked according to GOST or ISO.
- Electrical equipment: Control boxes and operator consoles; cable set, sensors - in accordance with the “Low voltage equipment” section of GOST 33807 or EN 13814. Pavilion for a control panel and an operator.
- Coat-painting of metal structures – 3-layer painting system.
- Installation supervision, adjustment, tests, putting into operation, instructing the staff of the Ferris wheel.
- Operational documentation in accordance with requirements of GOST 33807 or EN 13814;
- A set of spare parts and tools for the first year of operation of the Ferris wheel; spare parts supply and technical support for at least 10 years.

main technical characteristics (approximate)

•*Dimensions : height - 150m, diameter – 147 m, weight – 800 tn, site for supports - 30x37m; volume of foundations ~ 600 m³.*

Speed of cabins at the station: 0m/s-0,1m/s-0,3m/s; resource – 35 000 hours (3,500 days)

• *Electrical equipment (all data are preliminary): - gear drives: while fully loaded - not more than 2x35 kW, average per hour – 18 kW, drive power source - V/phase /Hz/A 380/3/50/160; conditioning – up to 2 kW per cabin, cabin power source V/phase /Hz/A 220/1/50(60)/6 per cabin.; dynamic illumination - up to 30 kW, power supply source V/phase /Hz/A 220/1/50/200.*

• *Back up electricity supply for evacuation of passengers: is produced by the 20 kW power generator (to be purchased by buyer), which is required in case of power outage.*

• *External effects: III wind area; earthquake – up to 8,3 magnitude of the Richter scale.*

• *Temperature: from -10 up to +45 Celsius degree, humidity – up to 99%.*

• *Number of railroad cars (40 foot containers) for transportation of the wheel - 44 pcs.;*

Price, including installation – \$32M

Optionally (by request):

1. Cooling – \$1 875, heating – \$375.
2. Replacement of a semi-open cabin with an extreme cabin – \$11 250.
3. Glass in the floor – \$2500.
4. Lift and a cabin for the disabled– \$15 000.
5. Additional entrance – \$8750.
6. Container for cooling/heating and for protection of electrical equipment - \$6250.
7. Marine climate protection - 2 layers of zinc-containing primer, and enamel = 3% of the price for the wheel.
8. Reinforcement of structure for IV-VII wind areas+ 3% per each area.
9. Cost of dynamic illumination – from \$37,5 to \$62,5 per meter.
10. Certificate of conformity (or EN 13814, by request).

A buyer's responsibility: transportation, storage (3-4%), foundations and site (3%), electric power supply, ticket sales systems, security system, service rooms, permissions.

Payment : 15% prepayment , 80% proportional to containers sent, 5% - after the start of operation.

Average production time – 24 months (reduction to be discussed), installation – 100 days.

Preliminary price wheel 150m=\$32M, 175m=\$69M, wheel 200m=\$145M



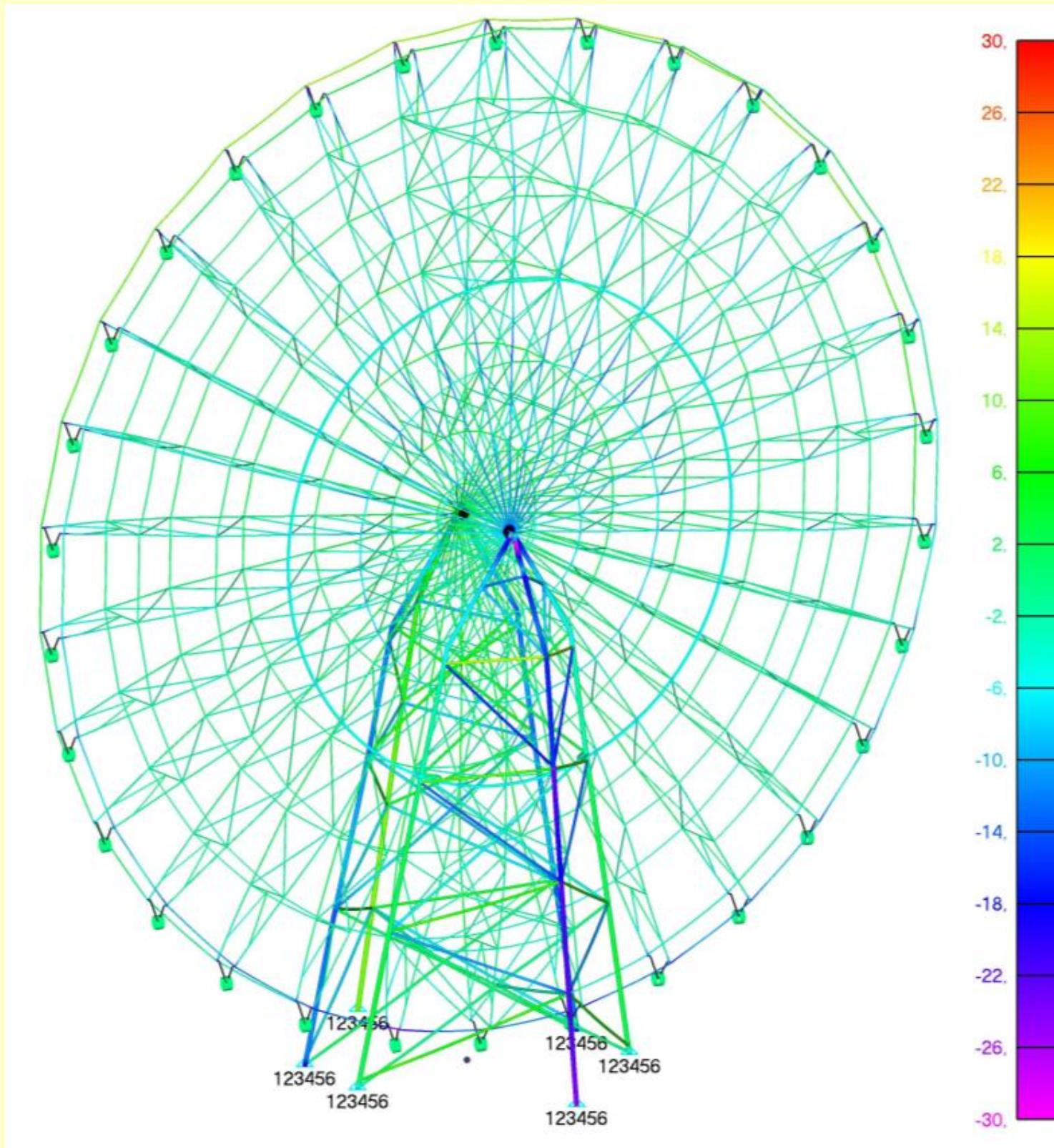
The patented transmission with gear engagement of the wheel and rail prevents the slippage of the wheel in case of uneven passengers load of the cabins up to 50% , in rain or strong wind



Commercial offer for Panoramic wheels 80-200m high



**We make calculations of wheels and foundations
in the NASTRAN software package**



**The result of calculating the strength of the
Panoramic wheel 75m under the influence of
hurricane, V wind area**

Commercial offer for Panoramic wheels 80-200m high



**For the installation of each attraction,
a project for the production of installation
works is being developed**



Installation of a wheel with a height of 80 m in Lazarevskoye, Sochi

Commercial offer for Panoramic wheels 80-200m high



SUPPLIER'S GUARANTEES FOR THE PANORAMIC WHEEL AMUSEMENT RIDE (TERMS AND CONDITIONS OF VALIDITY)

1. Subject to proper maintenance and operation of the amusement ride - i.e., in accordance with GOST 33807 (EN13814) and Amusement Ride's operational documentation, and by officially hired and trained staff, the Amusement Ride Supplier (hereinafter Supplier) provides the following guarantees, which are valid from the moment of signing the act of transfer of the Amusement Ride to the Buyer:
 - a) **on the stationary load-bearing steel structures of the Amusement Ride** - for 49 years, provided that: - the Buyer produces the foundations in accordance with building codes and regulations, - in accordance with the project officially developed by the Supplier on the basis of loads produced by the Amusement Ride; - under the condition of stability of ground under the foundations, under the condition of proper maintenance and repair of the Amusement Ride and timely renewal of coatings;
 - b) **the service life of mechanical parts** of the Amusement Ride is **35,000 hours**;
 - c) Supplier may extend the service life of the Amusement Ride, provided that the Amusement Ride is in a satisfactory condition according to the results of the Supplier's inspection;
 - d) warranties for mechanical parts of drives and cabins - 12 months;
 - e) warranties for replaceable mechanical parts - within their service life;
 - f) warranties for the initial paint coating of the Amusement Ride, provided that the initial, after-installation, and regular restoration of the coating on damaged areas, are valid for 10 years.
 - g) warranties for bearing metal parts of cabins – 10 years;
 - h) warranties for the purchased and electrical parts are in accordance with warranties of their suppliers.
2. The Supplier selects Sellers of parts of the Amusement Ride, including electrical equipment.
3. During the warranty period, the Supplier sends its specialists to fix defects of the Amusement Ride, or to provide technical assistance to the Buyer, if such assistance is needed.
4. The Supplier is not responsible for the incorrect connection of electricity to the Amusement Ride switch cabinet, its grounding, and lightning protection, as well as for the failure of the electronics and electrical equipment of the Amusement ride due to power outages or their non-compliance with current standards.
5. The supplier is not responsible for mechanical damage to the surfaces at the entrance, on the platform, and in the cabins after the Amusement Ride is put into operation.
6. The Supplier guarantees to supply the Amusement Ride with spare parts for 10 (ten) years, provided proper compliance with all the terms of the Contract and of the maintenance of the Amusement Ride. The supply of spare parts during the warranty period is made in exchange for defective parts, which the Buyer shall send to the Supplier at their own expense.
7. If defects occur due to the fault of the Supplier within the warranty period, the latter will provide restoration (repair) at their own expense and within a reasonable time. In all cases, proof of the Supplier's guilt in the identified defects of the Amusement Ride shall be made by the Buyer through the daily updating of the maintenance log of the Amusement Ride. The Buyer is obliged to notify the Supplier of the defect in the prescribed way within 24 hours.
8. Compliance with the rules of operation of the Amusement Ride is mandatory for the Buyer. If the Buyer fails to comply with these rules, which results in breakdowns of critical components of the Amusement Ride, the Supplier has the right to terminate the warranty, maintenance and supply of spare parts for the Amusement Ride. The notification of termination shall be sent by the Supplier to the Buyer by e-mail.
9. The Supplier's warranties are automatically lost if the Buyer starts a commercial operation of the Amusement Ride without a signed Act of Acceptance of the Amusement Ride into ownership (Annex No. 4), modifies critical parts that directly affect the operation of the Amusement Ride, does not replace the worn parts in a timely manner, does not lubricate the parts in a timely manner, allows excessive wear of parts, does not provide a daily update of the maintenance log, accepts untrained staff to work with the Amusement Ride, does not notify the Supplier in the prescribed way of defects, breakdowns, design changes (the relevant form is given in the operating instructions transmitted to the Buyer).
10. The supplier is not responsible for defects and breakdowns caused by excessive natural effects in the area of the Amusement Ride installation (earthquakes, hurricanes, etc.) or insufficient strength of the ground or the site on which the Amusement Ride is installed.
11. The warranties apply to the Amusement Ride given it is bought by the first Buyer. Warranties for repeated installations and for transfer of the Amusement Ride to other persons/entities to be established under a separate contract.



List of manufactured amusement rides

Список аттракционов, выпущенных ГК МИР (с 1989 г.)

№	Наименование	Обозначение	Дата выпуска	Завод. №	Владелец (местонахождение)
1	«Московская горка»	A.01.1.000	1989г.	001	г.Душанбе
2	«Московская горка» (Измайловская)		09.1990г.	002	г.Новосибирск, АО «Вираз»
3	«Московская горка»	A.01.0.000	11.1991г.	001	Москва, АО «Московские аттракционы» после модернизации - Пермь
4	Кат.гора «Конек-Горбунок»	A.04.0.000	27.06.1992г.	002	г.Москва, АО «Пакс», ЦПКИО
5	КГ «Конёк-Горбунок» (Подольский)		12.1991г.	001	г.Усть-Каменогорск, ГОКУКСЦК
6	Кат.гора «Волшебный конек»	008.A.08.1.000	30.10.1993г.	008	Коста-Рика
7	«Пионер»	Б.01.1.000	24.06.1992г.	001	г.Ижевск
8	«Пионер»	009.A.09.1.000	04.94г.(04.08.94)	009	г.Комсомольск-на-Амуре, КААОО им. Гагарина
9	Кат.гора «Astro-Pax-18»	007.A.07.0.000	01.07.1995	007	г.Москва, АО «Пакс» ВВЦ - с 01.07.95г.
10	Качели «UFO»	001.K.01.000	15.07.94г., 95	001	г.Москва, АО «Пакс» ЦПКИО; ВВЦ; г.Мин.Воды - с 04.10.97г.
11	Колесо обозрения «Москва-850»	011.C.02.1.000	16.07.1995	011	г.Москва, АО «Пакс» ВВЦ - с 15.07.96г.
12	Автодром (дораб.)	012.EA.1.000.	27.06.1994г.	012 (1-01)	г.Москва, АО «Пакс» ЦПКИО - с
13	«Орбита-420» (дораб.)	013.ККТ.2.165.2.000	22.05.1994г.	013(б/н)	г.Москва, АО «Пакс» ЦПКИО - с 23.05.94г.
14	Вихрь	ККТ2.111.000	03.08.1992	299	г.Москва, АО «Пакс» ЦПКИО - с 03.08.92г.
15	Карусель «Комета»	024.C.04.0.000	20.04.1996	24	г.Москва, АО «Пакс» ВВЦ - с 20.04.96г.
16	Автодром	023.C.03.0.000	06.11.1995	23	г.Москва, АО «Пакс» ВВЦ - 06.11.95г.
17	Карнавал	ККТ 2.100.002	07.93 /10.96	227	г.Москва, АО «Пакс» ЦПКИО, ВВЦ, г. Калининград, - с
18	Кат.гора «Царская горка»	038.A.12.0.000	07.08.1996	38	г.Москва, АО «Пакс» ВВЦ, г. Краснодар
19	«Северное сияние»				г.Москва, АО «Пакс» ВВЦ, г. Калининград
20	«Северное сияние»		23.07.1995	92020131	г.Москва, АО «Пакс» ЦПКИО, ВВЦ - с 04.02г.
21	«Северное сияние»		14.08.1993	91120120	г.Москва, ЦПКИО, Коста-Рика
22	Орбита	ККТ 2.165.000	23.07.1993	407	г.Москва, ЦПКИО, Коста-Рика
23	Кат.гора «Собра»	047.A.14.1.000	1998		Саудовская Аравия, г.Даммам, экпл. с 21.02.98
24	«Комета»	061.C.15.1.000	12.1998		Вьетнам
25	Колесо обозрения Ø 84	062.C.18.1.000	04.1999		Италия, г.Ровена, «Мирабиландия» - с 1998г.
26	Кат.гора «Бешеный поезд»	052.A.15.1.000	12.1998г.	052-1	Украина, г.Днепропетровск; г.Ялта - с 21.01.99
27	Кат.гора «Бешеный поезд-2»	091.A.16.1.000	04.1999г.	7	г.Москва, ВВЦ; г.Когалым, Тюменская обл. - с 03.06.00
28	Кат.гора «Бешеный поезд-3»	092.A.17.1.000	05.1999г.	092-3	г. Ярославль, экпл. с
29	«Гигантские качели»	074.K.02.1.000	05.1999г.	074-1	г. Ярославль - с 28.05.99г.
30	«Гигантские качели-2»	097.K.03.1.000	15.07.1999г.	097-2	г.Москва, ВВЦ, дораб. под «МАРС-360» - 23.08.00г; г.Новоуральск - с 25.09.01
31	Кат.гора «Бешеный поезд-4»	092.A.17.1.000	08.1999г.	092-4	г.Москва, ЦПКИО; Казахстан, г.Астана - с 03.06.00
32	«Гигантские качели-3»	100.K.04.1.000	08.1999г.	100-3	г.Москва, ЦПКИО - с 08.99г.; ВВЦ - с 18.08.01г., г. Челябинск МУ ЦПКИО им. Ю.А. Гагарина - с 06.05.02
33	Кат.гора «Родео»	113.A.21.1.000	12.1999г.	113-1	Казахстан, г. Атырау, экпл. с 26.04.00г.
34	Кат.гора «Кот в сапогах»	107.A.20.1.000	12.1999г.	107-1	г.Москва, ВВЦ, г. Ярославль ПКИО, экпл. с 22.05.2000
35	«Гигантские качели-4»	102.K.05.1.000	01.2000г.	102-4	Франция, г.Париж; г.Москва - с 19.04.00г.; г. Алма-Ата - с 26.04.01г.; Москва, РВА ВВЦ; г.Геленджик - с 06.07.02г., Оренбург - с 05.2007г.
36	Кат.гора «Дикий поезд-15»	116.A.23.1.000	04.2000г.	116-1	Франция, г. Сант-Паул - с 01.05.00г.
37	Кат.гора «Колесо обозрения-15 м»	119.C.40.1.000	05.2000г.	119-1	г. Ярославль, ПКИО - с 06.06.00г.
38	Кат.гора «Колесо обозрения-15 м»	119.C.40.1.000	05.2000г.	119-2	г. Ярославль, ВСЦ «Спартаковец» - с 02.06.00г.
39	Качели «Морячок»	120.K.06.1.000	05.2000г.	120-1	г. Ярославль, ПКИО - с 26.05.00г.
40	Качели «Морячок»	120.K.06.1.000	05.2000г.	120-2	г. Ярославль, ВСЦ «Спартаковец» - с 02.06.00г.
41	Кат.гора «Родео-2»	115.A.22.1.000	04.2000г.	115-1	г. Москва, парк «Лианозово», ВВЦ - с 19.05.00; г. Ейск, ПКИО - с 09.06.01г.
42	Качели «Морячок»	120.K.06.1.000	06.2000г.	120-3	г.Анапа; г.Москва, ВВЦ - с 07.09.00, г.Геленджик, парк «Адмирал» - с 10.07.01
43	Кат.гора «Кот в сапогах»	118.A.25.1.000	06.2000г.	118-1	г.Анапа; г.Москва, ВВЦ - с 07.09.00; г.Геленджик - с 10.07.01; г.Челябинск, парк им. Ю.А.Гагарина - с 05.06.02г.
44	Качели «Оса»	121.K.07.1.000	07.2000г.	121-1	г.Когалым, Тюменской обл. - с 23.07.00.
45	Колесо обозрения-15 м	125.C.42.1.000	07.2000г.	125-1	г.Москва, РВА ВВЦ; г.Геленджик, парк «Адмирал» - с 11.07.01г.
46	Кат.гора «Родео-3»	122.A.26.1.000	07.2000г.	122-1	г. Москва ЦПКИО; г. Красноярск - с 14.05.2001г.
47	Качели «Оса»	121.K.07.1.000	09.2000г.	121-2	г.Москва, РВА ВВЦ; г.Геленджик, Парк «Адмирал» - с 06.07.02; г.Мариуполь, Украина - с 18.07.03
48	Кат.гора «Дикий поезд»	117.П.24.1.000	10.2000г.	117-1	Франция, г. Сант-Паул - с 10.00г.
49	Колесо обозрения-12 м	123.C.43.1.000	04.2001г.	123-1	г. Москва, КМК-Норд, Ассоциация «Самолет» - с 27.04.01
50	Колесо обозрения «ЛОТТЕ»-75 м	124.C.44.1.000	03.2001г.	124-1	Южная Корея, г. Ульсан - с 19.08.2001
51	Кат.гора «Кот в сапогах»	118.A.25.1.000	05.2001г.	118-2	г.Благовещенск, Амурская обл.- с 20.06.01, г. Южно-Сахалинск - с 24.08.03
52	Кат.гора «Дикий поезд - 8»	130.A.11.1.000	30.05.2001г.	130-1	г.Уфа, Парк «Волшебный мир» - с 23.06.01
53	Кат.гора «Дикий поезд - 8»	130.A.11.1.000	13.06.2001г.	130-2	г.Москва, РВА ВВЦ - с 28.06.01г.;
54	Кат.гора «Дикий поезд - 8»	130.A.11.1.000	8.01.2003г.	130-7	Украина, г.Киев - с 06.05.03г.
55	Кат.гора «Кобра»	129.A.10.1.000	26.07.2001г.	129-1	Казахстан, г. Алма-Ата - с 04.09.01
56	Колесо обозрения-31м	132.C.47.1.000	30.08.2001г.	132-1	г.Сургут, отпр. 10.2001г. экпл. с
57	Катальная гора (Бахрейн)	098.A.19.1.000	01.2002г.	098-1	о. Бахрейн - с 18.07.02г.

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58	Кат.гора «Дикий поезд – 8»	130.А.11.1.000	01.2002г.	130-3	г.Кемерово, ООО «Парк культуры» - с 03.05.02г.
59	Кат.гора «Дикий поезд – 8»	130.А.11.1.000	02.2002г.	130-4	г.Челябинск, МУ ЦПКиО им. Ю.А. Гагарина - с 06.05.02г.
60	Качели «Оса»	121.К.07.1.000	10.2001г.	121-3	г.Комсомольск-на-Амуре, МУП «Благоустройство» - с 07.05.02г.
61	Колесо обозрения-31м	132.С.47.1.000	10.2001г.	132-2	Казахстан, г.Астана - с 09.06.02г.
62	Катальная гора (Al Mojel Projects)	133.А.13.1.000	03.2002г.	133-1	Саудовская Аравия, г.Эр-Рияд, парк Ал Марса - с 16.08.02г.
63	Качели «Оса»	121.К.07.1.000	06.2002г.	121-4	г.Советский, Тюменской обл.
64	Кат.гора «Кот в сапогах»	118.А.25.1.000	02.04.2002г.	118-3	г.Комсомольск-на-Амуре, МУП «Благоустройство» - с 30.04.02г.
65	Кат.гора «Дикий поезд – 8»	130.А.11.1.000	06.2002г.	130-5	г.Геленджик, парк «Адмирал» - с 06.07.02г.
66	Кат.гора «Дикий поезд – 8»	130.А.11.1.000	12.2002г.	130-6	Украина, г.Мариуполь - с 18.07.03г.
67	Башня свободного падения- 24м	134.Б.03.1.000	05.2002г.	134-1	г.Москва, РВА ВВЦ; г.Ярославль ПКиО - с 24.05.02г.
68	Катальная гора «Кобра»	150.А.31.1.000	06.06.2002г.	150-1	г.Геленджик, парк «Адмирал»; Москва, ВВЦ - с 2009г.
69	Колесо обозрения-31м	132.С.47.1.000	29.08.2002г.	132-3	г.Советский, Тюменской обл.
70	Башня свободного падения- 12м	154.Б.07.1.000	02.11.2002г.	154-1	США, Майями; г.Москва, РВА ВВЦ - с 05.09.03г.
71	Гигантские качели «МАРС-120»	140.К.08.1.000	12.2002г.	140-1	г.Москва, РВА ВВЦ 05.01.03г.-12.01.03г., г.Ялта ЧП «Адонис» - с 03.03
72	Башня свободного падения	153.Б.06.1.000	12.2002г.	153-1	Украина
73	Башня свободного падения- 12м	155.Б.08.1.000	12.02.2003г.	155-1	г. Москва, ВВЦ; г.Геленджик, парк «Адмирал» - с 26.05.03
74	Колесо обозрения-31м	132.С.47.1.000	02.04.2003г.	132-4	Украина, г. Киев - с 03.05.03г.
75	Колесо обозрения-54м	156.С.55.1.000	20.05.2003г.	156-1	Белоруссия, г.Минск - с 26.06.03г.
76	Кат.гора «Дикий поезд – 8»	130.А.11.1.000	06.2003г.	130-7	Белоруссия, г.Минск - с 26.06.03г.
77	Колесо обозрения-31м	132.С.47.1.000	06.2003г.	132-5	Украина, г.Мариуполь - с 18.07.03г.
78	Качели «Оса»	121.К.07.1.000	07.2003г.	121-5	Украина, г.Мариуполь - с 18.07.03г.
79	Башня свободного падения- 24м	157.Б.09.1.000	07.2003г.	157-1	Украина, г.Мариуполь - с 24.07.03г.
80	Качели «Оса»	121.К.07.1.000	07.2003г.	121-6	г. Лангепас, Тюменской обл. - с 31.07.03г.
81	Колесо обозрения-31 м	132.С.47.1.000	01.09.2003г.	132-6	г. Красноярск, «ПИКРА» - с 16.09.03г.
82	Кат.гора «Дикий поезд – 12»	141.А.29.1.000	15.09.2003г.	141-1	Испания (около г.Севилья), Matreus Del Allor - с 03.12.03г
83	Кат. гора «Дикий поезд – 12»	141.А.29.1.000	26.01.2004г.	141-2	г. Москва, ВВЦ
84	Башня свободного падения- 38м	152.Б.05.1.000	2004г.	152-1	Франция, г.Сант-Паул
85	Колесо обозрения-75 м	145.С.53.1.000	2004г.	145-1	г. Геленджик, парк «Адмирал»
86	Колесо обозрения-75 м	149.С.54.1.000		149-1	Южная Корея, г.Тэгу,
87	Катальная гора «Астероид»	138.А.28.1.000		138-1	Испания
88	Качели «МАРС-120»	146.К.09.1.000	05.2004г.	146-1	г.Брест
89	Водный спуск «Хара-кири»		07.2004г.	139-1	Украина, г.Мариуполь
90	Кат. гора «Дикий поезд – 14»	165.А.34.1.000	08.2004г.	165-1	Австрия
91	Кат. гора «Формула-Пакс»	160А.33.1.000	06.2005г.	160-1	Франция
92	«Колесо обозрения-31 м»	132.С.47.1.000	07.2005г.	132-8	г.Урай
93	«Колесо обозрения-31 м»	132.С.47.1.000	09. 2005г.	132-7	г.Красноярск
94	«Башня свободного падения» 17м	176.Б.11.1.000	09. 2005г.	176-1	г.Альметьевск
95	Гигантские качели «МАРС-360»	170.К.10.1.000	09. 2005г.	170-1	г.Красноярск; Москва, ВВЦ - с 2009г.
96	«Колесо обозрения-31 м»	132.С.47.1.000	05. 2006г.	132-9	г.Оренбург – 05.2006г.
97	Гигантские качели «Марс-360»	170.К.10.1.000	06. 2006г.	170-2	г.Екатеринбург - с 05.2007г.
98	«Башня свободного падения» 24 м	157.Б.09.1.000	06. 2006г.	157-1	Украина, г.Днепропетровск -
99	Кат. гора «Дикий поезд – 15»	175.А.36.1.000	07. 2006г.	175-1	г.Москва, ВВЦ, г.Краснодар ООО «АВМ»
100	Башня свобод. падения БСП-50м	185.Б.12.1.000	11. 2006г.	185-1	г.Екатеринбург - с 05.2007г.
101	Качели «Марс-360»	170.К.10.1.000	12. 2006г.	170- 2	г.Москва, ВВЦ; г.Кировоград (Украина) - с 04.2007г.
102	Кат. гора «Кобра»	187.А.38.1.000	2010г.	187-1	Швейцария
103	Кат. гора «Формула-Мир»	193.А.39.1.000	06. 2011г.	193-1	г.Москва, ВВЦ
104	Кат. Гора "Золотая стрела"	178.А.37.1.000	08.2013г.	178-1	г. Ярославль - с 08.2013, с 2014 - Мир
105	Качели "Марс-360"	170 К.10.1.000	06.2014	170-4	г. Сочи, ЗАО "Парк-Элис"
106	Кат. гора «Формула-Мир»	193.А.39.1.000	05.2016	193-2	Калининград
107	Кат. Гора "Молния"	178.А.38.1.000	05.2017	194-1	Москва
108	Колесо обозрения-180м	151.С.55.1.000	2015-н.в.	151-1	ОАЭ (проект не завершен)
109	Колесо обозрения-80м	152.С.55.1.000	2018	152-1	Крым
110	Проект АПЭК для РН "АнгараБП"		2018		Москва, Роскосмос
111	Проект МКСО для РН "Енисей"		2019-2020		Москва, Роскосмос
112	Колесо обозрения-41м	235.С.53.1.000	июль 2021	235-1	Дагестан



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