Russian axial control valve

REGULATOR
Scientific and manufacturing company

Introduction

REGULATOR
Scientific and manufacturing company

NPO Regulator is a modern dynamically developing company focused on manufacturing of high performance shut-off valves and control valves, pressure controllers on the basis of the control valves, axial control valves, safety valves, pilot-actuated (impulse) safety valves, switching devices, safety valve blocks, high pressure shut-off valves, diaphragm actuators. The products are used in many national key projects and exported to Asia, Europe, etc.

Established in 2012, our company is located in the city of Yaroslavl, Russia. As a control valve supplier specialized in designing and manufacturing high-end control valves and serving high-end customers, our company has more that 120 employees, 90% of which are technicians and employees with an educational background of univercity graduate or above. Our company has various advanced equipment needed for manufactured control valves and flow testing systems and laboratories.

Axial valves

REGULATOR
Scientific and manufacturing company

Worldwide experience

Regulator has extensive experience in designing and manufacturing valves for the gas and oil industry.

Control products:

- axial control valves

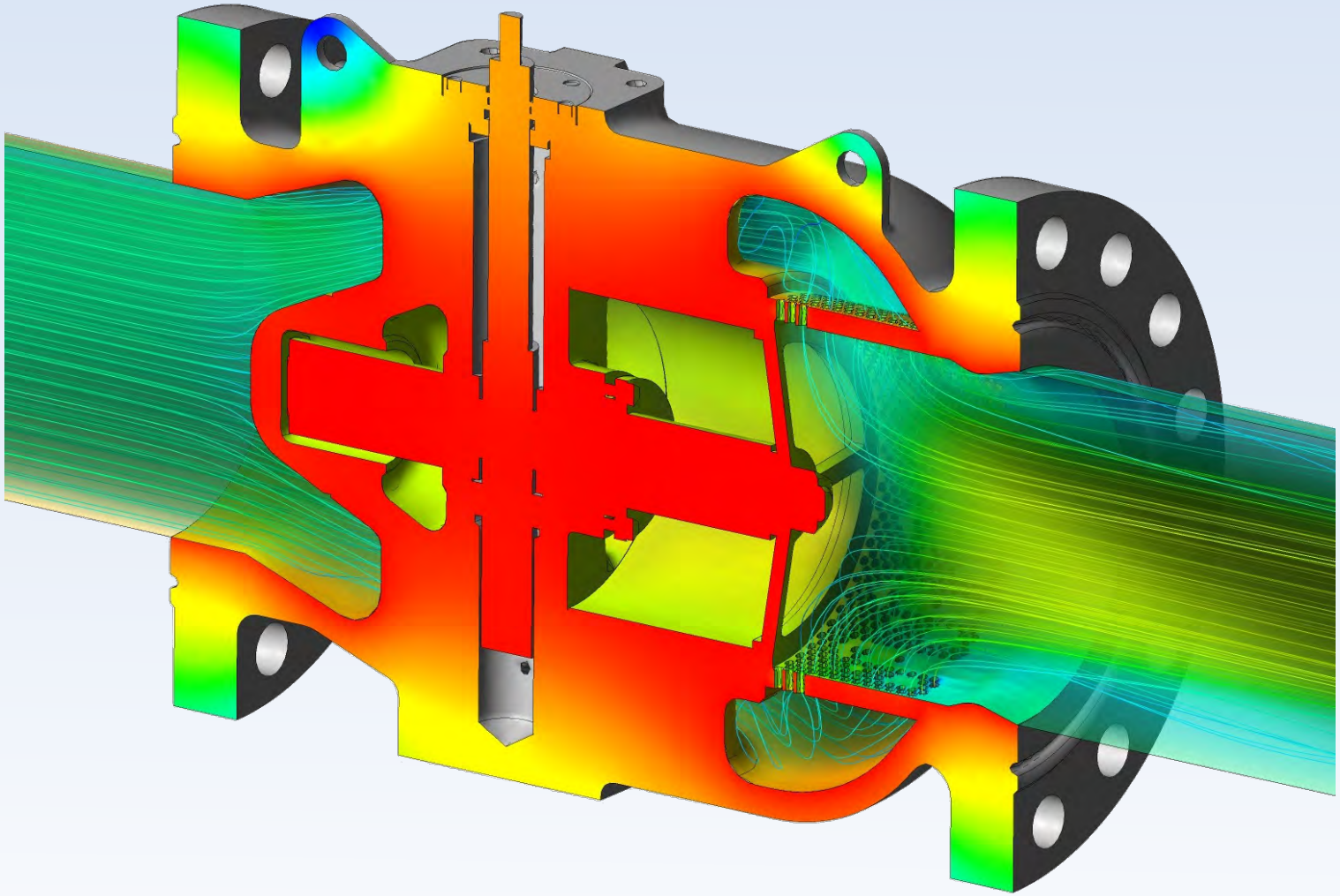
Axial valves can be supplied with a full range of pneumatic, electric and hydraulic actuators for accurate control and reliable operation of your process.

- anti surge valves

The most technically outstanding valves with extended control system, quick action less than 3 sec. and high control accuracy.

Axial flow

REGULATOR
Scientific and manufacturing company



A unique concept

After Russian Government announced policy of import substitution we have started our researches in this area. We've been inspired by the unique valves produced by Mokveld company and our Research Department has started designing and calculating to make axial control and axial anti surge valve by ourselves. After a long period of hard working we have found a solution and now we are announcing series manufacturing of the axial valves by NPO Regulator, Russia. We can supply both Gas and Oil Industries with our axial valves for production, processing,transmission, storage and distribution of their products.

Unique possibilities

REGULATOR
Scientific and manufacturing company

Availability
Streamlined flow path through full-port body avoids turbulence and prevents erosion and vibration

Accurate control
Static and dynamic forces on the control element (piston) are minimnzed

Silent
Streamlined flow path avoids turbulence and energy conversion in the valve body itself

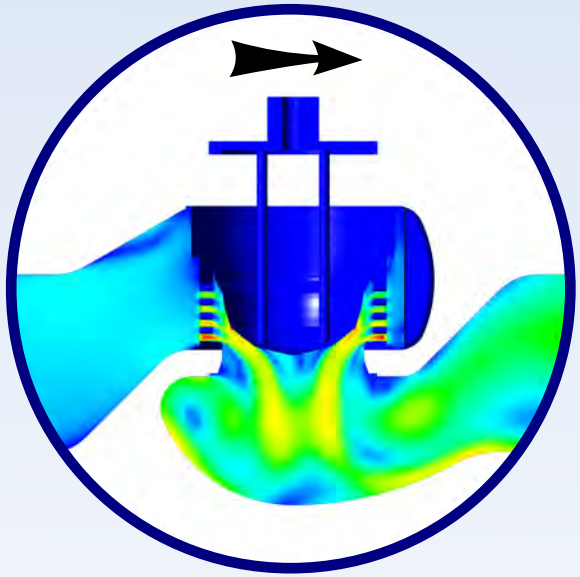
High capacity
The inherent capacity of the axial valve is extremely high

Compact
The one-piece valve body provides 20% to 70% weight reduction compared to globe valves

High turndown
Accurate control features make the valve suitable for applications that require high turndown providing a one-valvesolution for the full process envelope

Reliability

REGULATOR
Scientific and manufacturing company

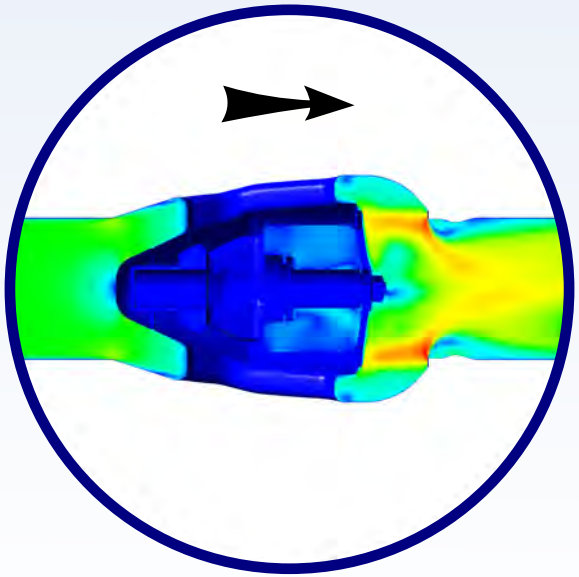


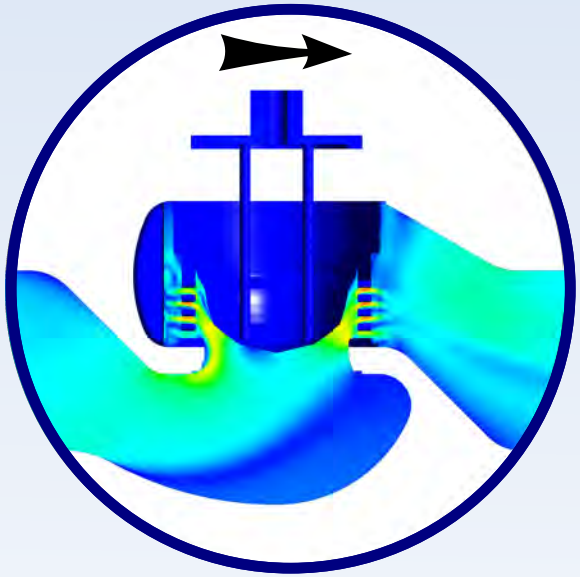
over the plug

Conventional Globe Valve
Turbulence and high velosity at outlet wall give risk of vibration induced failures.

Axial control Valve
An intelligent valve design that carefully manages fluid velocity in all areas of the valve (trim and body) by smart engineering of the relevant valve parts is the key to reliability.

over the plug





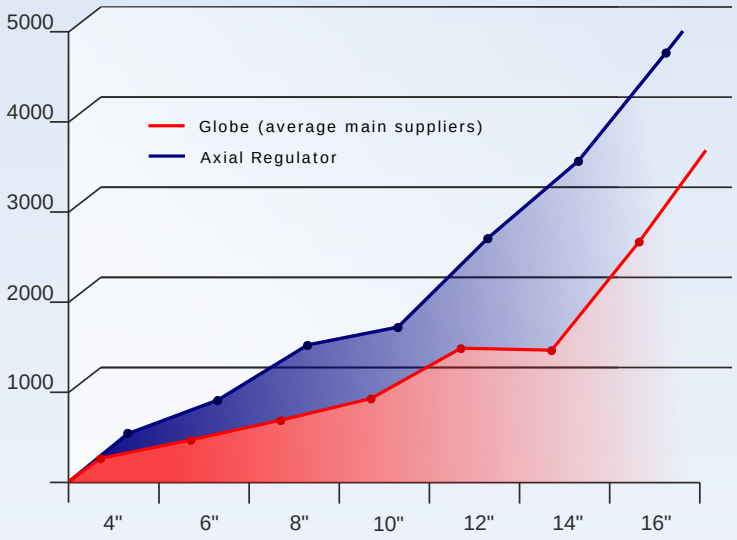
under the plug

Conventional Globe Valve
Preferential flow deteriorates trim performence and leads to unbalanced trim forces.

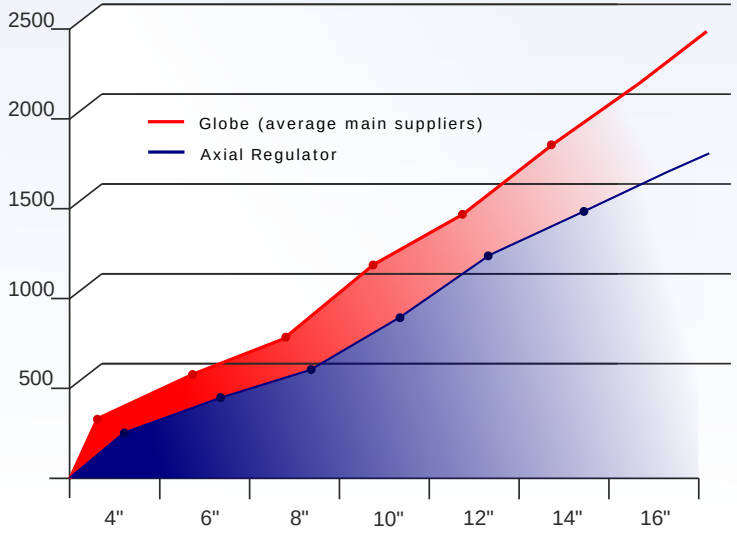
Reduced operational costs

REGULATOR
Scientific and manufacturing company

Capacity comparison between axial and conventional globe control valves



Weight comparison between axial and conventional globe control valves



High capacity

The inherent capacity of the axial control valve is very high compared to conventional globe control valve designs and enables the selection of a smaller valve size. Alternatively the higher capacity can be used to minimize pressure drop over the valve or to provide for special features, such as a modified control characteristic, additional noise abatement, anti-cavitation or a wider operating envelope for future process changes.

A compact and low weight design

The axial flow valve is a rugged design and provides

- especially in combination with relatively small actuators,
- a very compact and low weight solution.

Low emission and fire safe

The high integrity valve body is an integral casting, without any welds or bolted parts and no leak paths to atmosphere other than the stem conduit. A redundant stem seal is provided to prevent emission to atmosphere in case of leakage of the primary piston rod seals inside the inner body. The excellent sealing system ensures compliance with all international standards for fugitive emission. These qualities are ensured by the use of spesial patented sealing manufactured by NPO REGULATOR.

Variety of trims

REGULATOR
Scientific and manufacturing company

Trim selection

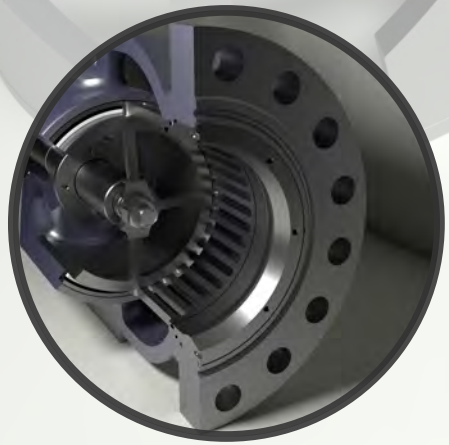
A wide variety of trims for gas or liquid are available, ranging from single-stage cages with high capacity and lownoise capabilities to multi-stage labyrinth-style cages offering very high noise abatement and/or high anti-cavitation coefficients. All trims can be provided with linear or equal control characteristics.

Custom-designed trim

Depending on the process envelope we can design an application-specific trim to optimise control characteristic and valve size.

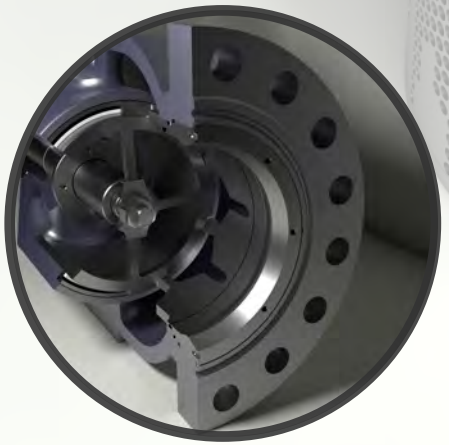
Selection of single-stage trims

Suitable for low to moderate pressure drops offering - dependent on type selection - very high capacity and considerable noise abatement.



Selection of the trim with maximum flow capacity

These cages are used for the working mediums containing abrasive parts or when the maximum flow capacity is needed.

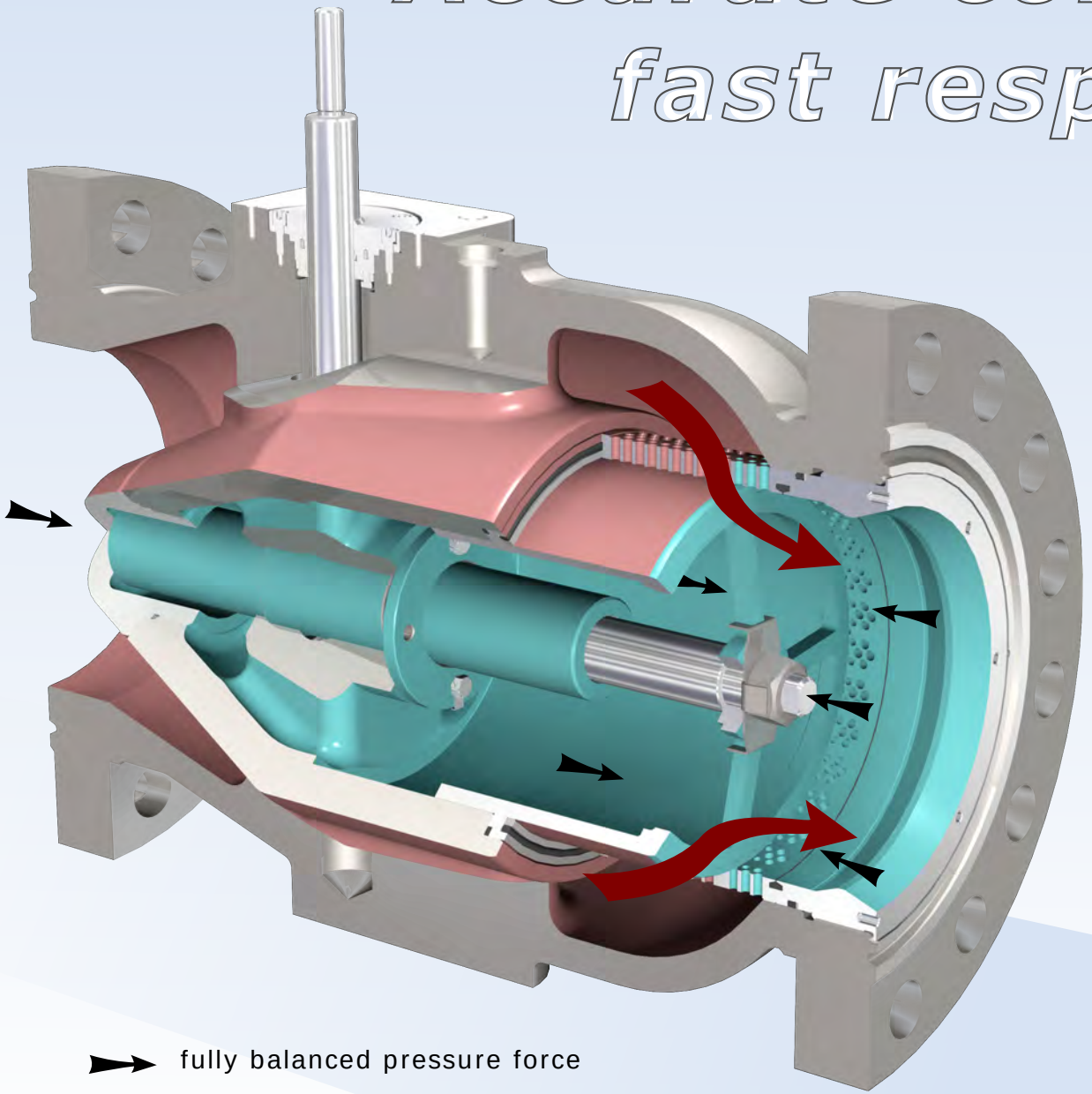


Selection of multi hole trims

Ultra-low noise trims specifically designed for moderate to high pressure-drop gas applications.

Accurate control and fast response

REGULATOR
Scientific and manufacturing company



fully balanced pressure force

evenly distributed flow for minimal dynamic force

High turndown

High dynamic and static valve forces may lead to operational problems and do require large size actuators. As a result of the evenly distributed flow through the cage, the dynamic forces on piston operation are negligible. Axial control valves are fitted with a fully pressure balanced piston assembly. The operating thrust is virtually independent of the differential pressure across the valve.

Fast response and short stroking times, as typically required for compressor surge control, are achieved with relatively small actuators.

Parameters of control range

REGULATOR
Scientific and manufacturing company

Medium type:	liquids and gases, including corrosion ones
Body type:	straight-through
Range of nominal diameters:	DN50..DN700
Range of nominal pressures:	up to PN200
Flow characteristic:	equal percentage, linear, quick open
Leakage class:	IV, V, VI, A
Connection type:	flange
Medium temperature range:	-10^{o}C..+200^{o}C
Ambient temperature range:	-60^{o}C..+50^{o}C
Actuator type:	pneumatic, diaphragm actuator, pneumatic piston actuator, electric actuator, hand operating mechanism

Other valves manufacturing by Regulator

REGULATOR
Scientific and manufacturing company

- high performance shut-off valves and control valves
- pressure controllers on the basis of the control valves
- axial control valves
- safety valves
- pilot-actuated safety valves
- switching devices
- safety valve blocks
- high pressure shut-off valves
- diaphragm actuators

Industries served:

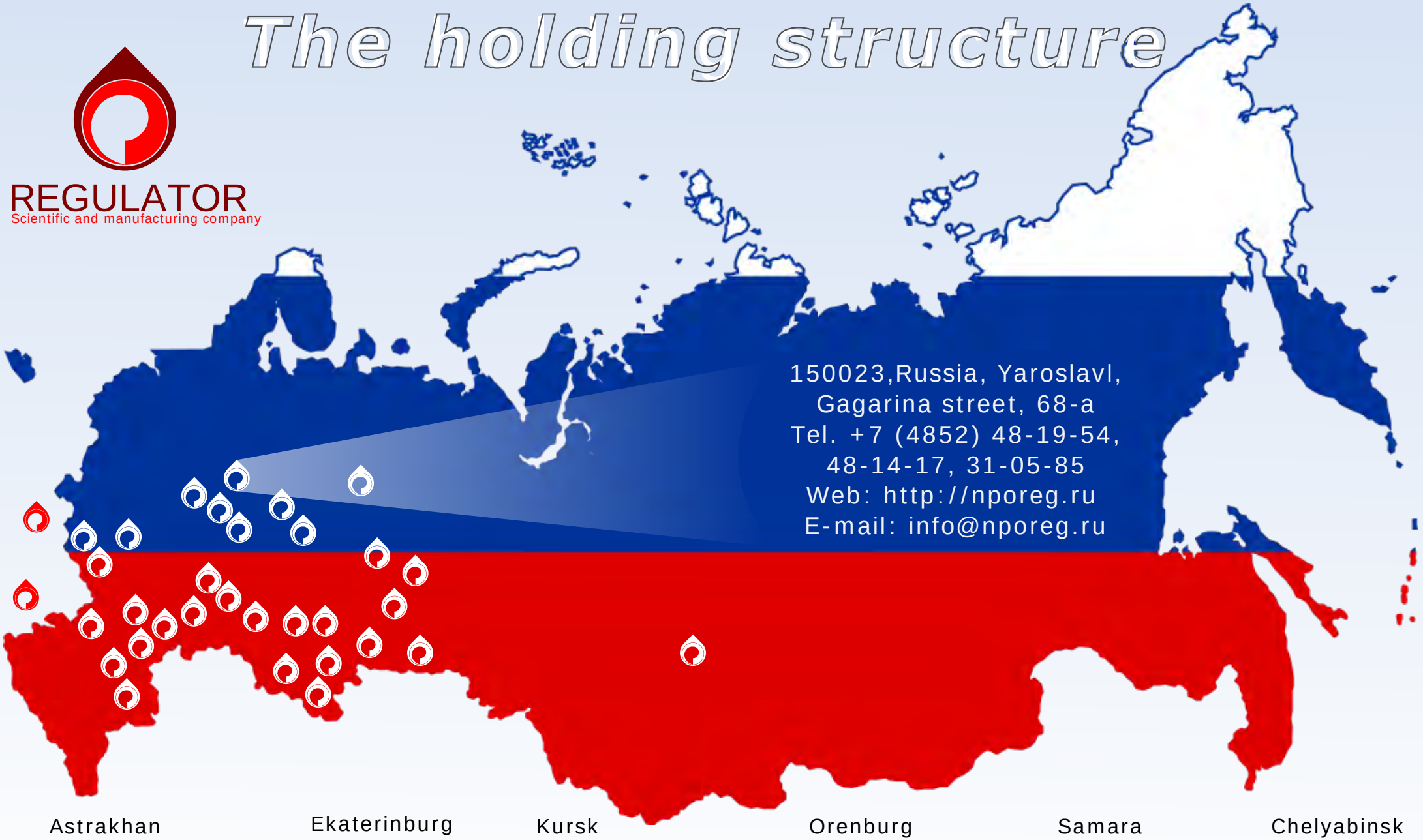
- Metallurgy industry
- Oil industry
- Nuclear industry
- Urban water supply
- Power generation industry
- Cryogenic industry
- Mining industry
- Light industry
- Chemical industry

Our main Customers

REGULATOR
Scientific and manufacturing company

The holding structure

REGULATOR
Scientific and manufacturing company



150023,Russia, Yaroslavl,
Gagarina street, 68-a
Tel. +7 (4852) 48-19-54,
48-14-17, 31-05-85
Web: http://nporeg.ru
E-mail: info@nporeg.ru

Astrakhan
Balakovo
Volgograd
Volsk
Voronezh
Dnepropetrovsk

Ekaterinburg
Izhevsk
Kazan
Krasnodar
Krasnoyarsk
Kurgan

Kursk
Lipetsk
Magnitogorsk
Minsk
Moscow
Nizhny Novgorod

Orenburg
Orsk
Penza
Perm
Rostov-on-Don
Ryazan

Samara
Saransk
Stary Oskol
Togliatti
Ulyanovsk
Ufa

Chelyabinsk
Engels
Yaroslavl