



















**9** Vasenko ul., Saransk



**47 (800) 250-83-88** 



#### About the plant «ΠΕΟ ΝΝΗ» ΟΑ **AWARD OF** FIRST BATCH OF **RED BANNER OF** AGREED ON AN AGREEMENT MULTILAYER BELLOWS FOR **DECISION TAKEN** ON THE ACQUISITION OF 000 "SEVERMASH" WORTH INSTRUMENTATION THE MINISTRY OF COMMISSIONING OF A **BELLOWS UNITS WITH A** 13 MILLION RUBLES WERE INSTRUMENT-MAKING. **TESTING LABORATORY** TOTAL VALUE OF MORE **MECHANICAL** PRODUCED AND DELIVERED. ON CONSTRUCTION OF AN **AUTOMATION FACILITIES** OF FLOW MEASUREMENTS THAN 8 MILLION RUBLES INSTRUMENT-BUILDING FIXED AND CONTROL SYSTEMS PLANT IN SARANSK **TACHOMETER** 2014 2012 1996 1981 1956 1963 LICENSE **OBTAINED** THE VOLUME OF SUPPLIES FOR EQUIPMENT OF BELLOWS BLOCKS FOR JSC "NII OEP" REACHED **ENGINEERING AND** 32 MILLION RUBLES. **MANUFACTURE** FOR **NUCLEAR FACILITIES** 2016 2009 1959 CERTIFICATE OBTAINED FOR **BELLOWS ASSEMBLIES'** COMPLIANCE WITH THE FIRST BATCH OF REQUIREMENTS TO PRODUCTS **BELLOWS** APPLIED IN THE DOMAIN OF **NUCLEAR ENERGY** 2018 2007 2012 **DECISION TAKEN ON** PRODUCTION SET UP FOR IMPLEMENTATION OF MULTI-LAYERED BELLOWS LEAN PRODUCTION **PRINCIPLES** PATENT OBTAINED FOR A UTILITY MODEL - PRESSURE AND TEMPERATURE RELAY SENSOR, GAGE PRESSURE, **EXPLOSION-PROOF**

2017





















### WELDING ENGINEERING

Laser beam welding

Argon arc welding



#### **MACHINING PROCESS**

Automatic lathes
CNC milling machines

Four-axis machining centres

Sliding head machines

Grinding equipment



# COATING APPLICATION

Painting lines

Galvanizing lines
Zinc etching



Ferrous and non-ferrous metal stamping

Aluminum casting

Plastic molding

Articles manufacture of rubber compounds

300 mln rub. of investments for 10 years





PROCESS CONTROL AND MANAGEMENT



TEMPERATURE AND PRESSURE CONTROL



MOTION MEASUREMENT



PROCESS AUTOMATION

95 types of instruments





#### MATERIALS FOR BELLOWS MANUFACTURE

Alloy, grade **36HXTIO**Beryllium bronze, grade **5p52**Stainless corrosionand heat-resistant steel, grades

08X18H10T, 12X18H10T

Brass, grade Л-80

The applied processes allow manufacture bellows and bellows assemblies as per customer's drawings of specific materials Inconel

625, 10X17H13H2T, Титан BT-1 (Titan VT-1), etc.

### BELLOWS: SINGLE-LAYERED AND MULTI-LAYERED

min

Diameter, mm: 9

Wall 0,08 thickness, mm:



Diameter as per GOST 21482-76, GOST 22388-90, mm:

max

Diameter as per customer's specifications and drawings, mm:

0,25 Wall thickness, mm:

OVER
1000
STANDARD SIZES

#### DIAPHRAGMS

min

Diameter, mm: 20
Thickness, mm: 0,045



125 Diameter, mm:

max

250 Wall

thickness, mm:

#### **MULTI-LAYERED BELLOWS**

min

Diameter, mm: 22

Wall **0,16** thickness, mm:



#### max

Diameter as per GOST R 55019-2012, mm:

250 Diameter as per customer's drawings, mm:

0,3 Wall thickness, mm:

Number of layers



Welded plated

bellows

**ADVANTAGES** 

### **FLEXIBILITY**

ADJUSTABLE SECTION WIDTH

**DENSE PACKAGING** 

LONG LENGTH

**LOW RIGIDITY** 

PRODUCTION OF NON-ROUND SHAPES

# **Applied materials**

Steel **20**Stainless corrosion- and heat-resistant steel, grade **12X18H10T** 

## **Parameters**

Diameters as per customer's drawings, mm

28<



<160

Diaphragm thickness, mm

0,1<



<0,3





## QUICK-CONNECT VALVE SYSTEM

Quick-connect valve system KBC-1 (hereinafter referred to as KBC-1) **Complies with din 13260-2** is intended for mounting in low-pressure mains of 0.6 MPa (6.0 kgf/cm2) max. and serves for quick connection of pneumatic equipment to a source of required gas.

# INSTALLATION IN MAINS TRANSFERRING GASES AS FOLLOWS











# TECHNICAL CHARACTERISTICS

Nominal bore diameter DN, mm	3,5
Nominal pressure PN, MPa, except for vacuum valve	0.2 to 0.6
Nominal pressure PN, MPa, for vacuum valve	0 to -0.08
Climatic category for operation within the ambient temperature range of plus 10 °C to plus 35 °C and relative humidity of 30–80 %	УХЛ 4.2 as per GOST 15150-69

Leakage class as per GOST 9544	B1
The highest flow rate of gas, I/min, at the least, except for vacuum valve	40
The highest flow rate of gas, I/min, at the least, for vacuum valve	10
Overall dimensions, mm	80x80x60
Maximum weight, kg	0,6



# QUICK-CONNECT VALVE SYSTEM



GAS VALVE ЦТКА 494689.003

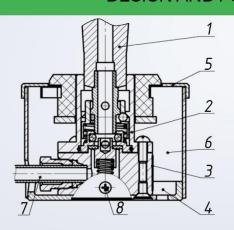


GAS CONNECTOR LITKA 494689.002

# DESIGN AND FUNCTION

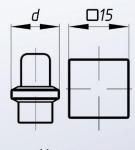
**MOUNTING BOX** 

ЦТКА 494689.004

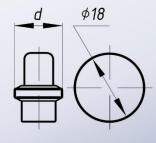


- 1 Gas connector
- 2 Gas valve
- 3 Name plate
- 4 KM base
- 5 KM cover
- 6 KM shell
- 7 48 mm gas pipe
- 8 Screw B2M3x6 2 pcs

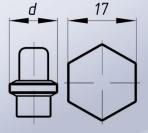
# GEOMETRIC FORMS OF THE GAS VALVE SEAT AND OF GAS CONNECTOR



Air vacuum



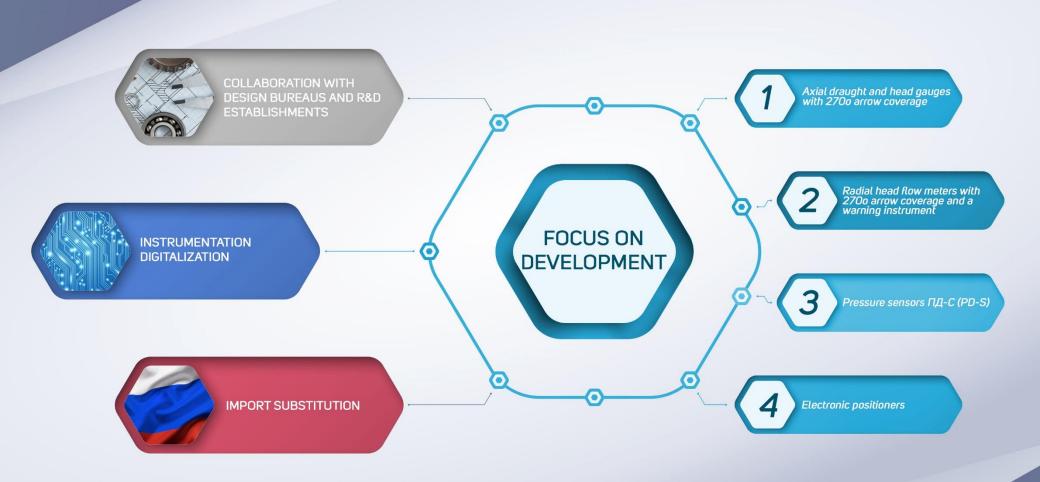
Nitrous oxide

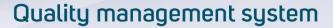


Oxygen, carbon dioxide

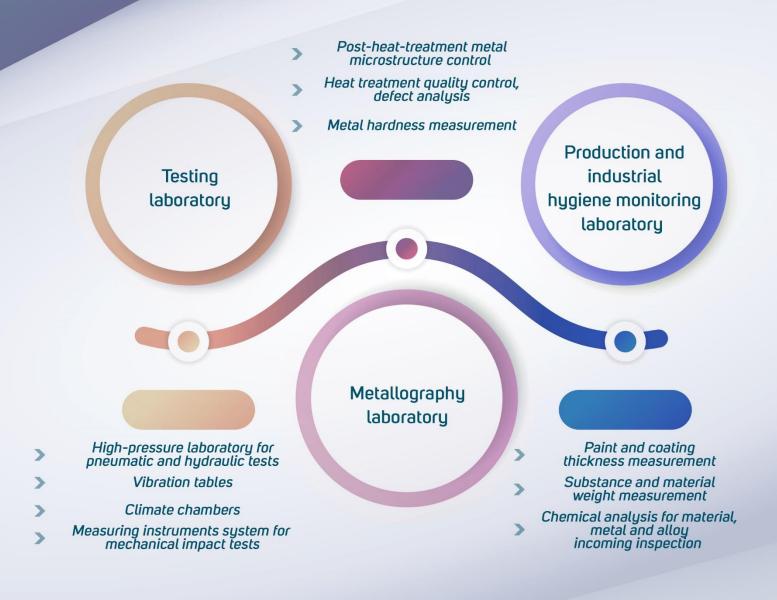
Service life limit – 3,000 hours Assigned life – 4 years















PJSC SIW QUALITY
MANAGEMENT SYSTEMS
COMPLY WITH THE
REQUIREMENTS OF

GOST RV 0015-002-2012 GOST ISO 9001-2011

We are the only enterprise in the Volga region with the licenses for equipment engineering and manufacture for nuclear facilities of nuclear power plants for 10 years























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