EMIS

FLOW METER

2025

EMIS

47
intellectual property certificates

20 patents for utility model

12 industrial design patents

08 software registration certificates

07 patents for inventions

23 000
square meters of production area

500+ number of employees

035+ product range

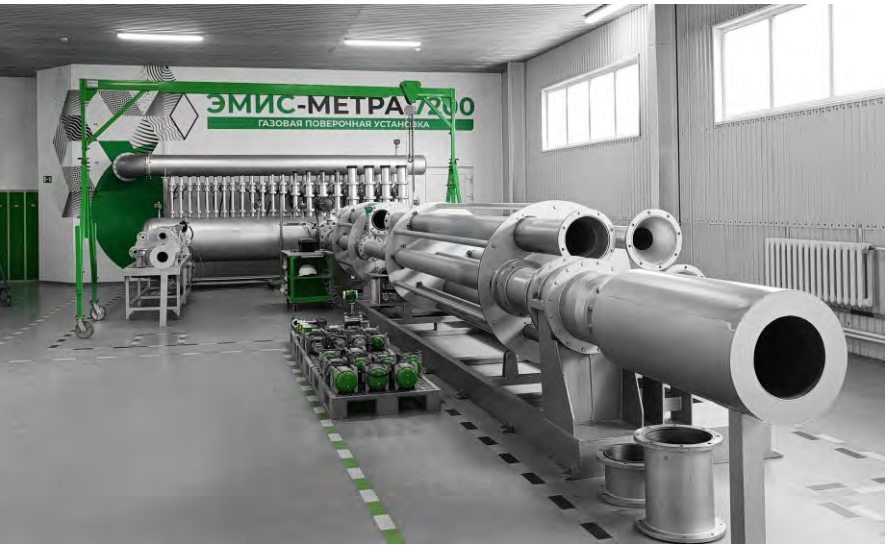
005+ metrological bases

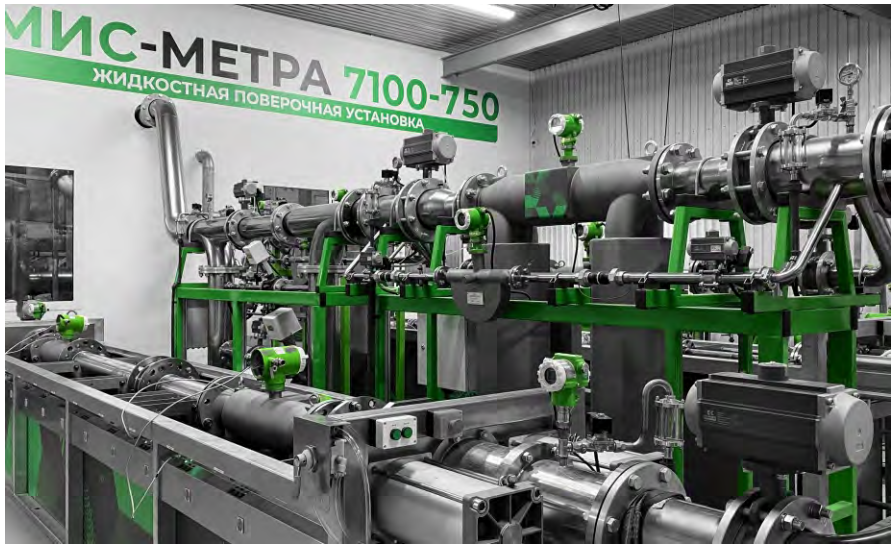
EMIS - Leading Manufacturer of instrumentation and control equipment in Russia!

The company was founded in 2003. Over the years of growth and active development, the company has become one of the leaders of the Russian automation market.
As a domestic manufacturer, EMIS offers products that are not inferior in characteristics to global brands, but surpass them in certain parameters.

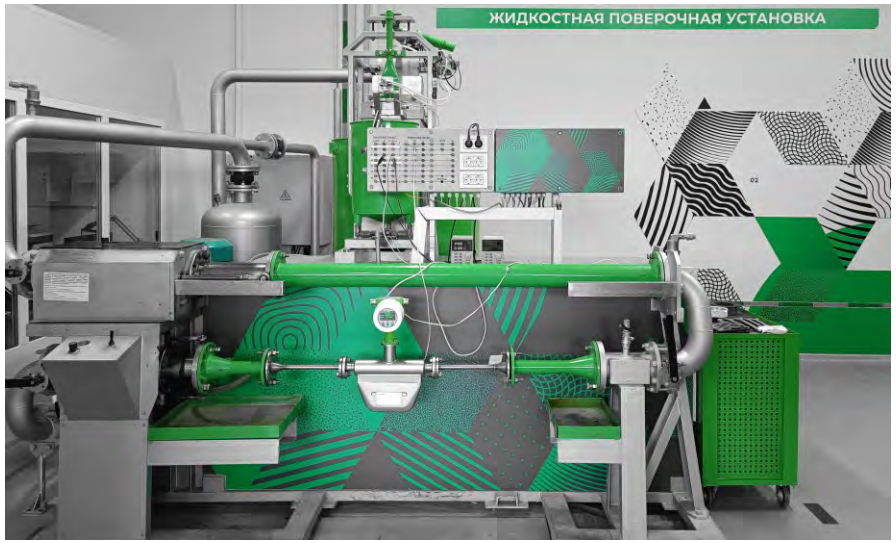
METROLOGICAL BASE

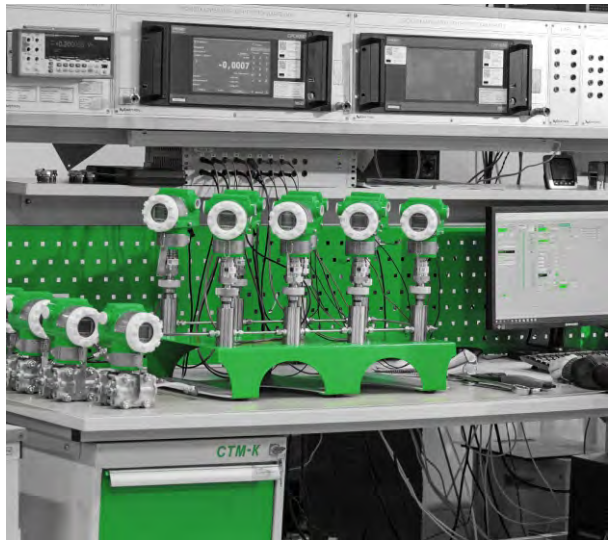
EMIS





As a leading manufacturer of instrumentation and control systems, EMIS has its own metrological base, consisting of a set of primary and secondary reference standards for liquid and gas flow rates.





EMIS

EMIS-METRA 7100-750

Primary reference standard
Innovative development
by specialists of the company

EMIS

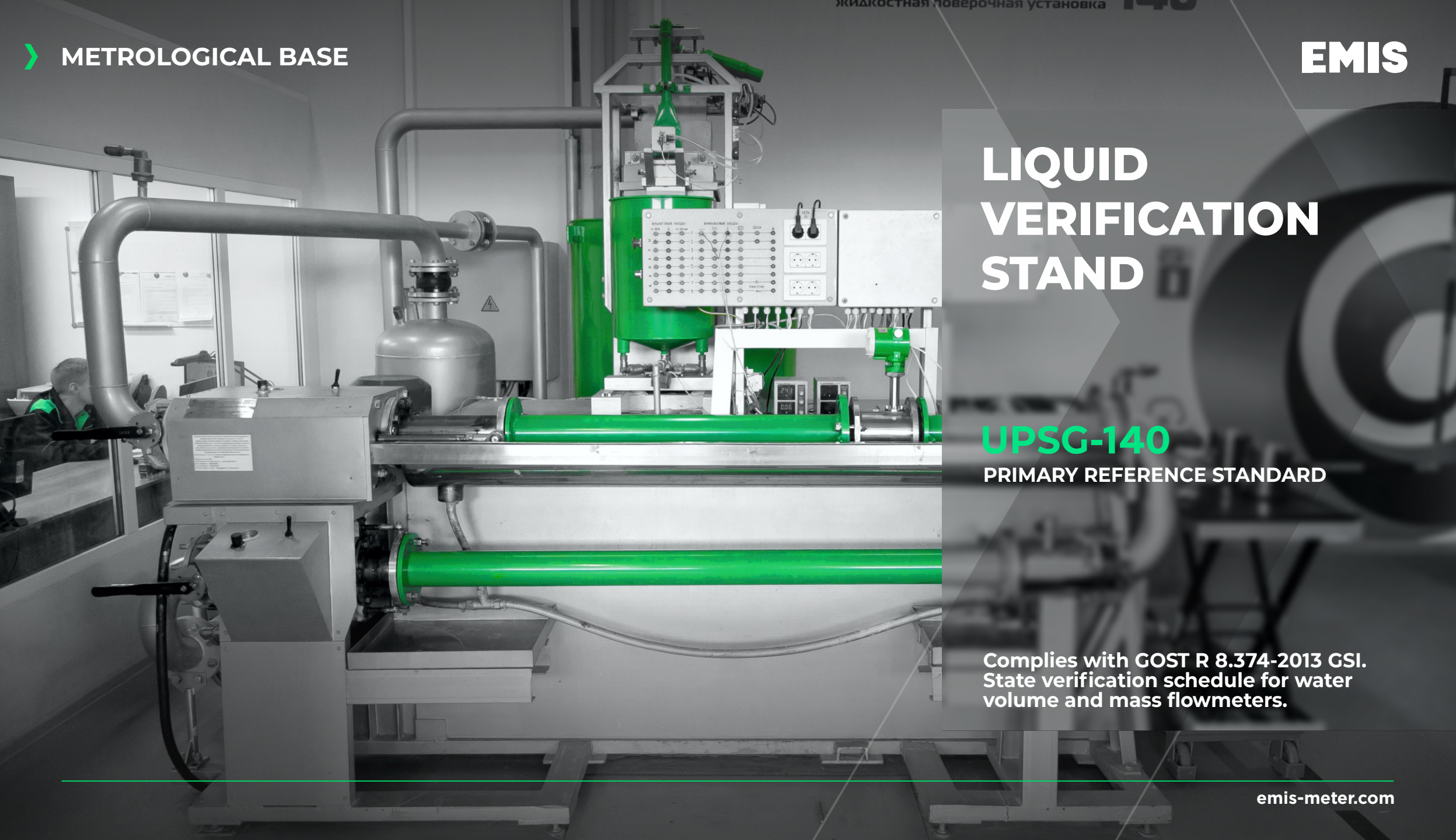
GAS VERIFICATION STAND

EMIS-METRA 7200

PRIMARY REFERENCE STANDARD

Complies with GOST R 8.618-2014 GSI. State verification schedule for gas volume and mass flowmeters.

EMIS



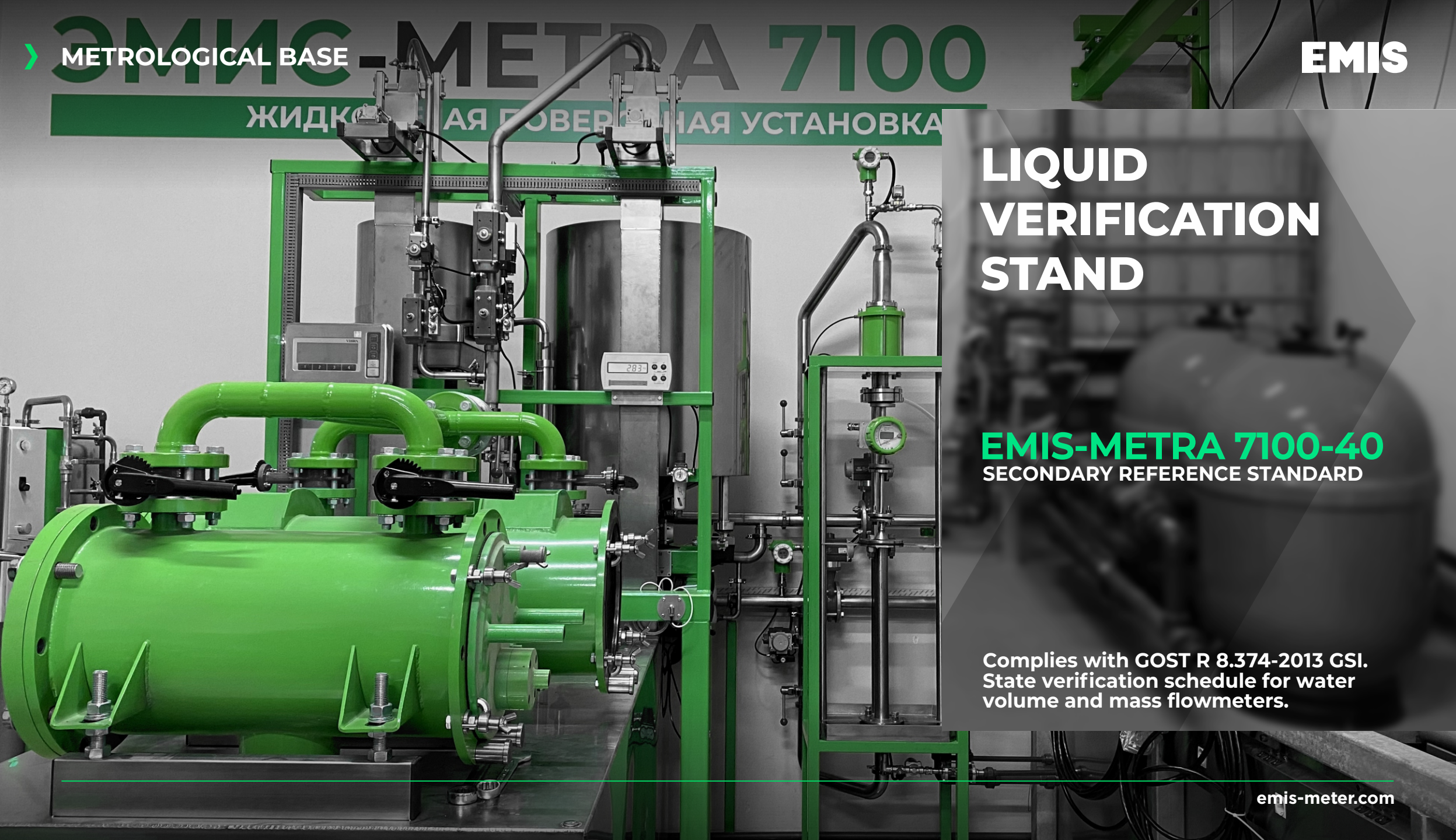
LIQUID VERIFICATION STAND

UPSG-140

PRIMARY REFERENCE STANDARD

Complies with GOST R 8.374-2013 GSI. State verification schedule for water volume and mass flowmeters.

EMIS



LIQUID VERIFICATION STAND

EMIS-METRA 7100-40

SECONDARY REFERENCE STANDARD

Complies with GOST R 8.374-2013 GSI. State verification schedule for water volume and mass flowmeters.

EMIS

LIQUID VERIFICATION STAND

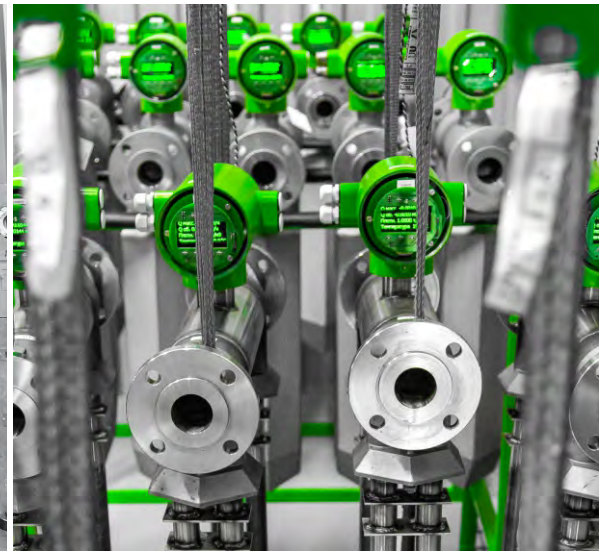
EMIS-METRA 7100-750

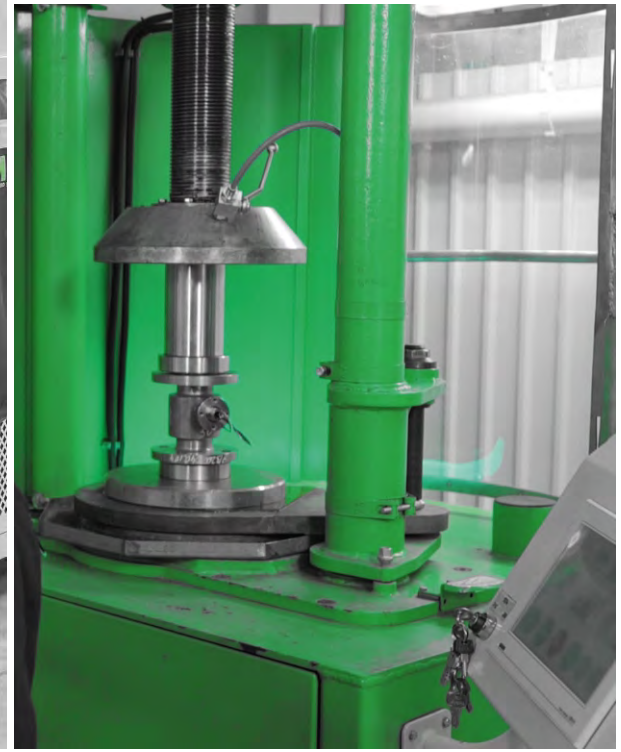
SECONDARY REFERENCE STANDARD

Complies with requirments of secondary measurument standard of State verification schedule for measuring instruments of volume and mass of water in flow, volume of water and capacity under static measurements, mass and volume flow of water, approved by Rosstandard decree dated February 7, 2007.

LABORATORY AND TESTING FACILITIES

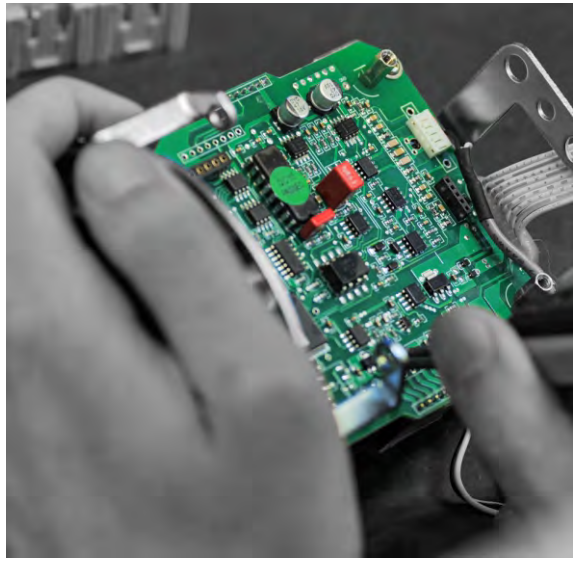
EMIS



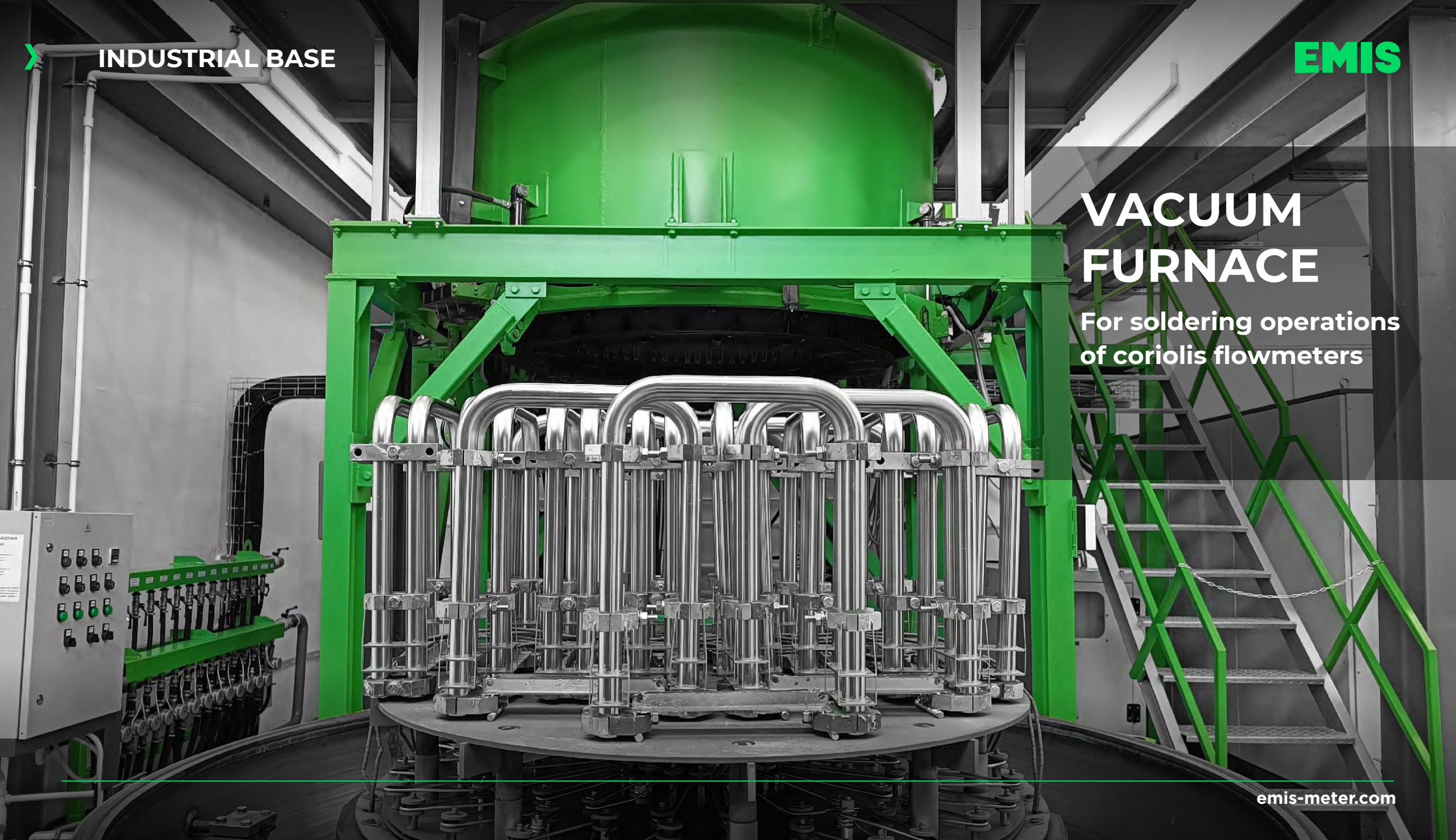


INDUSTRIAL BASE

EMIS



EMIS



VACUUM FURNACE

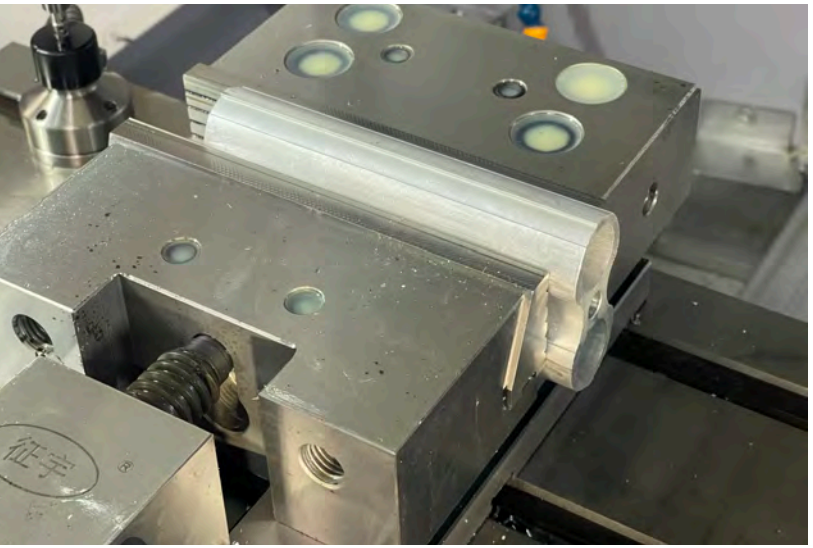
For soldering operations of coriolis flowmeters

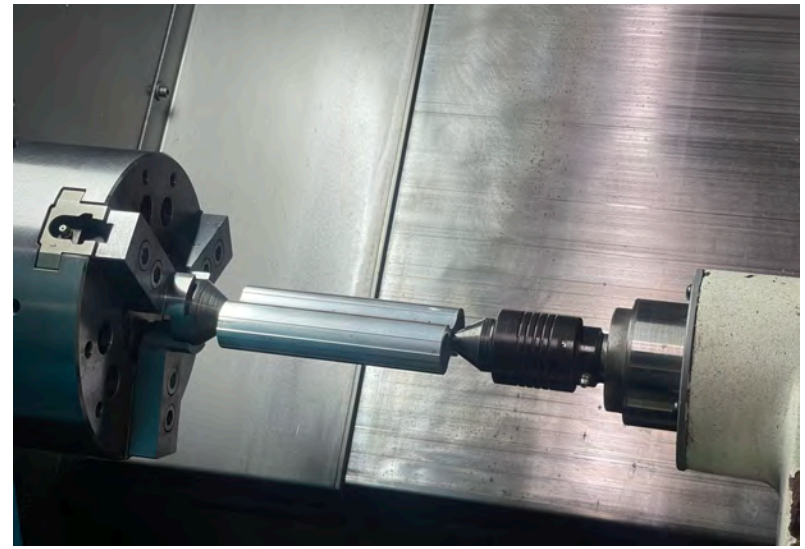
WELDING ROBOT

OTC-DAIHEN FD-V6LS

METAL PROCESSING AREA

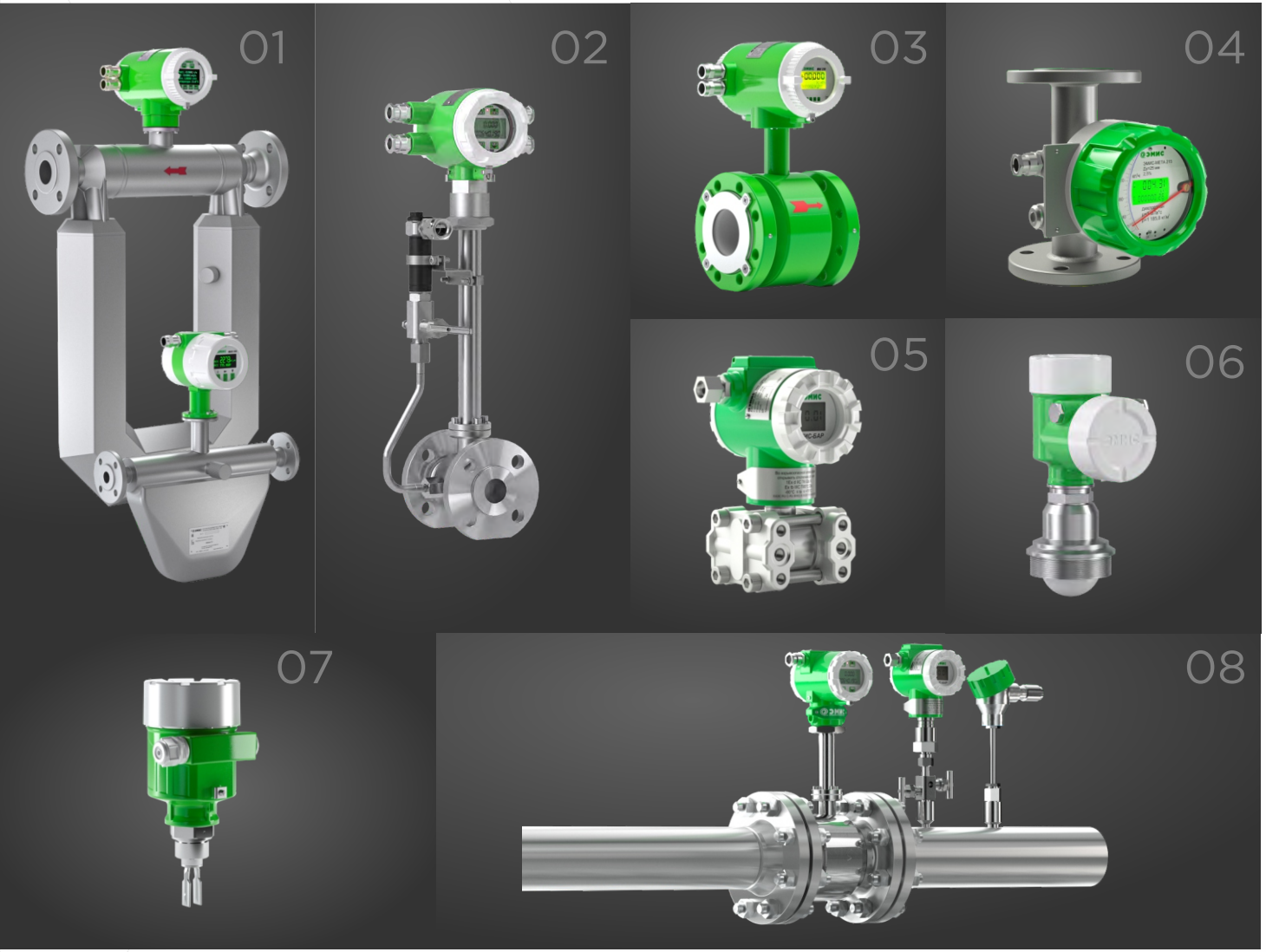
EMIS





PRODUCT RANGE

EMIS



The JSC «EMIS» product range includes 7 types of flow meters, 20 models of pressure transmitters, level switches and related equipment.

01 Coriolis flowmeters

02 Vortex flowmeters

03 Electromagnetic flowmeters

04 Rotameters

05 Pressure and DP transmitters

06 Level meters

07 Level switches

08 Energy metering skids

EMIS

EMIS-MASS 260

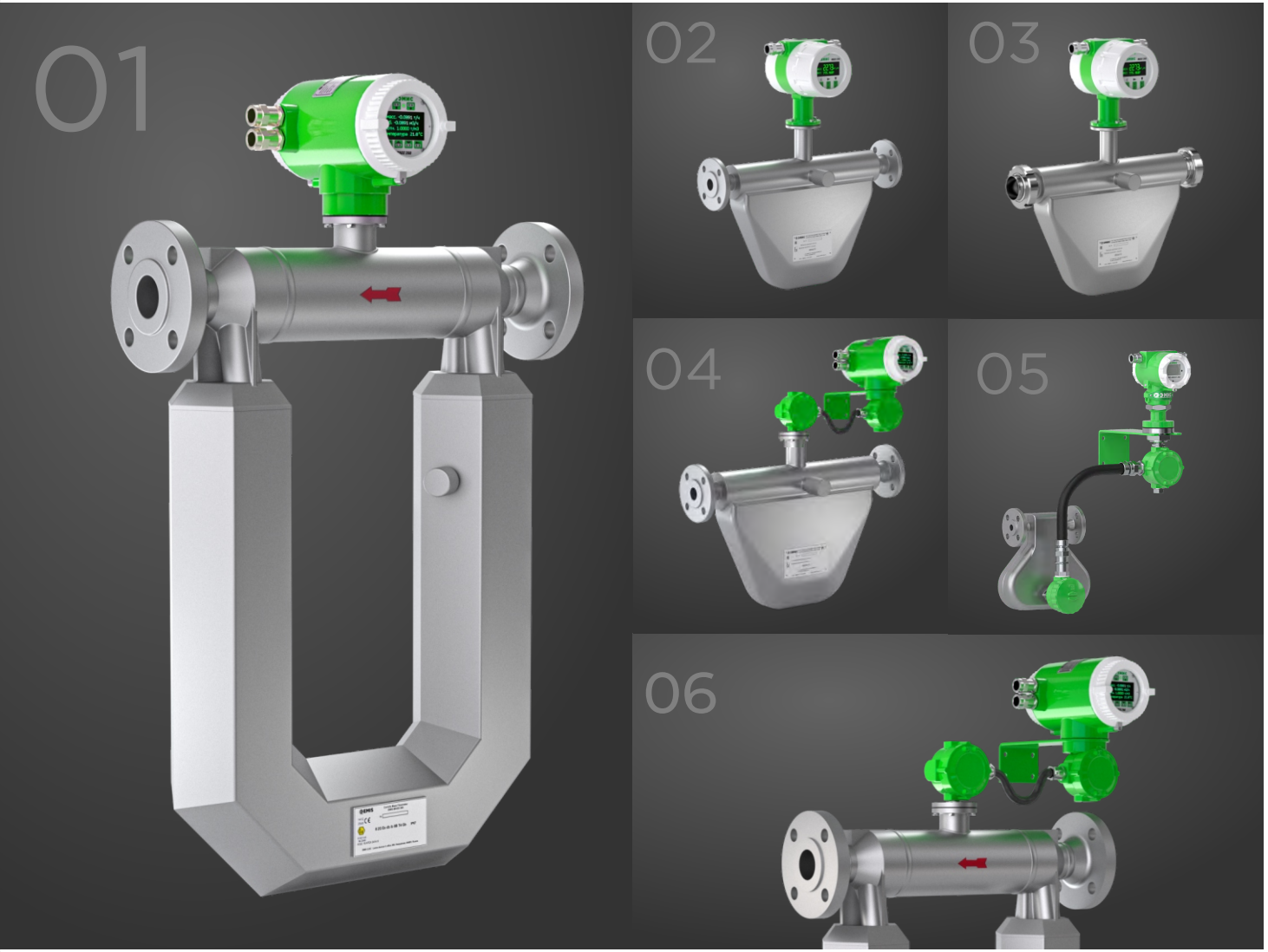
CORIOLIS MASS FLOWMETER

Direct real-time measurement of
mass and volumetric flow rate and density.

MORE ❯

emis-meter.com

EMIS



Coriolis flowmeters series

01 EMIS-MASS 260
Standard version

02 EMIS-MASS 260
Compact version

03 EMIS-MASS 260
Food grade version

04 EMIS-MASS 260
Remote version with standard electronic unit

05 EMIS-MASS 260
Low flow version

06 EMIS-MASS 260
Remote version with U and UIP electronic unit

EMIS-MASS 260

EMIS

Specifications

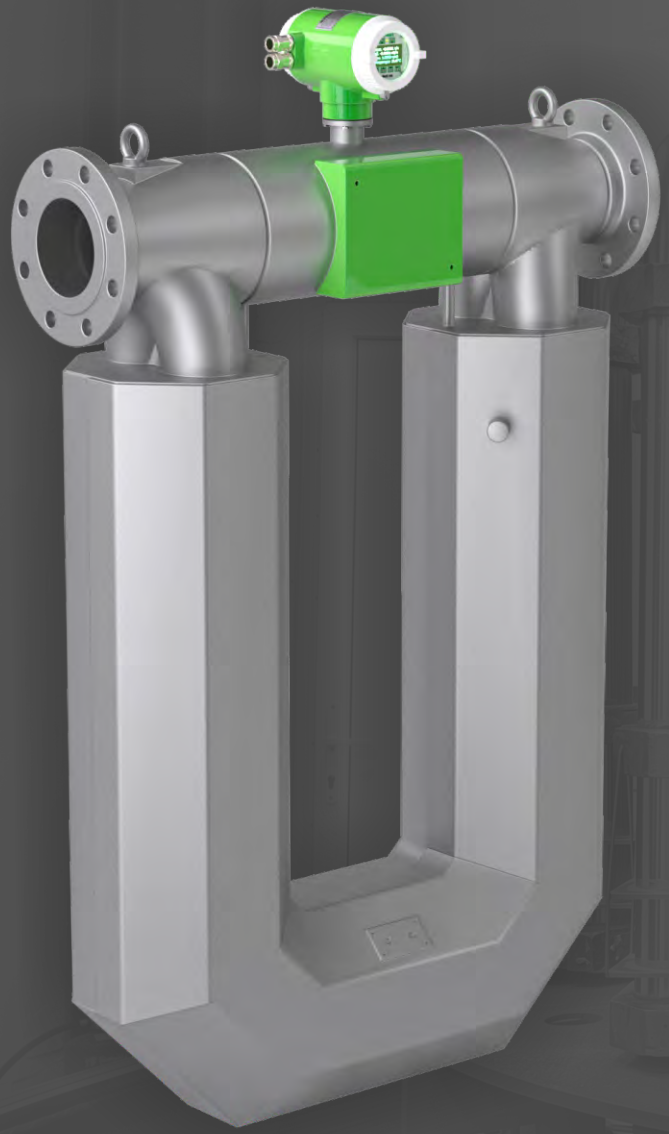
Measured medium	liquid / gas / CNG / LPG
Diameter liquid/gas, mm	10...250
Process pressure, MPa	up to 25
Process temperature range, °C	-196...+250
Ambient temperature, °C	-60...+70
Accuracy, %	±0,1; ±0,15; ±0,2; ±0,25; ±0,5
Explosion protection modifications:	ExA- II 2G Ex db ib IIA T6 ... T2 Gb; ExB - II 2G Ex db ib IIB T6 ... T2 Gb; ExC - II 2G Ex db ib IIC T6 ... T2 Gb (only for DN <100)
Output signals:	Pulse / 4-20 mA / RS-485 / Modbus / HART/ Ethernet / USB / TCP-IP
Ingress protection	IP 66/ IP 67

FDT GROUP | HART COMMUNICATION PROTOCOL | SIL Safety Integrity Level | H_2 HYDROGEN VERSION | H_2S HYDROGEN SULFIDE VERSION

Features & advantages

- Measurement of highly viscous liquids and liquids with solid and gas inclusions up to 3%;
- Certified net oil computer. Mass flowmeters can have the ability to measure the concentration of substances in two-phase luquids with controlled accuracy;
- Optional manufacturing of instruments with mounting dimentions matching those of foreign equivalents, with flanges conforming to GOST 33259, EN1092-1 (DIN 2513), ASME/ANSI;
- Calculation of the volumetric gas flow rate converted to standard conditions;
- Proprietary software EMIS-INTEGRATOR;
- Adjustable weight and pulse duration;
- Dosing function;
- No additional error in the current output.

EMIS



DN 150 U - shape design

With Extended flow range 35 - 700 tons per hour
Pressure drop up to 1 bar

With Extended flow range 35-900 tons per hour
Pressure drop up to 2 bar

EMIS

Dn 50 K
With Extended-flow range:

3,5 - 64 tons per hour (pressure drop -1 bar)

3,5 – 86 tons per hour (pressure drop 2 bar)

Flow range of standard vertion 3,5 – 50 tons per hour

SPECIAL MODIFICATIONS OF CORIOLIS FLOWMETERS – WITH HEATING JACKET

flow range: DN15...100
compact version

EMIS-MASS 260 FOR LOW FLOW

EMIS

Specifications

Measured medium	liquid
Dn liquid, mm	10, 15
process pressure, MPa	up to 25
process temperature, °C	-60...+200
ambient temperature, °C	-60...+70
accuracy	0,1; 0,15; 0,2; 0,25; 0,5
output signals	pulse (passive), digital RS-485, pulse (active), analog current 4-20 mA (active/passive/digital with HART)
explosion protection	Ex

EMIS-MASS 260 INPUT/OUTPUT SIGNAL CHARACTERISTICS

Output signals:

pulse
frequesncy from 0Hz до 10 000Hz; adjustable pulse value and duration;
optional active/passive mode selection
output conform NAMUR NA 01

discrete
dosing mode or malfunction indicator

analog current
Variable values corresponding to 4-20 mA current can be configured through HART v.7
conform to NAMUR NE 43

RS-485
with digital protocol Modbus RTU; archiving function
register map adapted to **Prolink**

Ethernet
digital protocol Modbus TCP/IP

USB interface
used for on-site instrument setups

Input signals:

input for pressure sensor
Self-diagnostics comform to NAMUR NE 107

CERTIFIED BY EUROPEAN REGULATIONS

International Center for Quality Certification - ICQC Ltd.
63-19, Skolas street, Jurmala, LV-2016, Latvia
Phone: +371 27168371 E-mail: office@icqc.lv Web: www.icqc.lv
SIA „International Center for Quality Certification - ICQC"
Reg. Nr.LV40103539825
Skolas iela 63-19, Jūrmala, LV-2016, Latvija

EU Notified Body No. 2549

LATAK-S1-499

(1) **EU-TYPE EXAMINATION CERTIFICATE**

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres – Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **ICQC 19 ATEX 0414 X**

(4) Equipment: **Mass Flowmeter EMIS-MASS 260**

(5) Manufacturer: **EMIS CJSC**

(6) Address: **Lenina Avenue 3, Office 308, Chelyabinsk, 454091, Russia**

(7) This equipment and any acceptable variation, also documents which are specified in the schedule to this certificate.

(8) The certification body ICQC, Notified body No. 2549 in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
The examination and test results are recorded in confidential report no **414/2019/08/ATEX**

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2012/A11:2013, EN 60079-1:2014, EN 60079-11:2012

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and the construction of the specified equipment in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacture and supply of this equipment. These are not covered by the certificate

(12) The marking of the equipment or protective system shall include the following:
See table 2 in schedule to certificate

Head of Certification Body: Sergey Kovalev

Date of issue: 07 May, 2019
Jurmala, Latvia

Certificate without signature are void. This certificate may only be reproduced in its entirety and without any change, schedule included. Extracts or modifications must be authorized by SIA ICQC.
Page 1 of 4
053-V-ATEX-ES tipa pārbaudes sertifikāts R-00-16.11.2015

- Atmospheres Explosibles Directive 2014/34/EU (ATEX)
- Pressure Equipment Directive 2014/68/EU (PED)
- Electromagnetic compatibility Directive 2014/30/EU (EMC)

EMIS

EMIS-VIHR 200

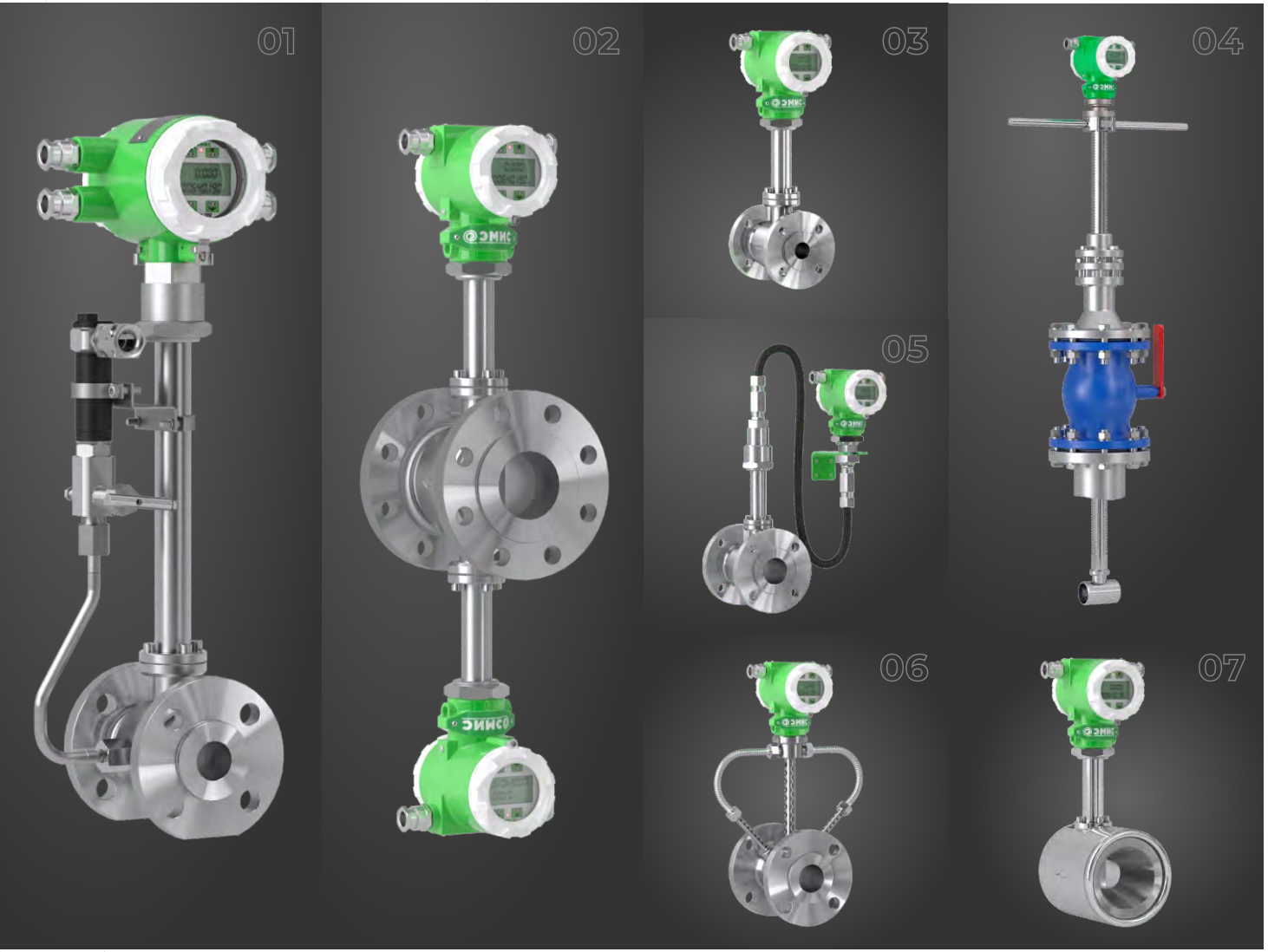
VORTEX FLOWMETER

Liquid, steam and gas measurement under high temperature, high pressure, for mediums with mechanical inclusions and other impurities.

MORE ❯

emis-meter.com

EMIS



Vortex flowmeter series

01 EMIS-VIHR 200
3 in 1 version

02 EMIS-VIHR 200
Dual-sensor version

03 EMIS-VIHR 200
Standart version sandwich/flanged

04 EMIS-VIHR 205
Insertion version

05 EMIS-VIHR 200
Remote version

06 EMIS-VIHR 200
High-temperature version

07 EMIS-VIHR 200 PPD
High-pressure version

EMIS-VIHR 200 TWO-WIRE TYPE

EMIS

Specifications

Measured medium	liquid/gas/steam/oxygen
DN, mm	15...300
Process pressure, MPa	30
Process temperature, °C	-200...+450
Ambient temperature, °C	-40...+70
Accuracy liquid/gas, steam, %	±0,5/±0,7
Output signals:	Current with HART (passive) NAMUR without additional error; 1: pulse/frequency output (passive) with NAMUR NE43 / 2: pulse/frequency output (passive)
Explosion protection	1 Exib IIB/IIC (T1-T6) Gb X, 1 Exib IIC (T1-T6) Gb X, 1 Exia IIB/IIC (T1-T6) Gb X, RV Exd I Mb X, 0 Exia IIB/IIC (T1-T6) Gb X
Power supply, V	16-30
Ingress protection	IP 66/68

FDT GROUP | HART COMMUNICATION PROTOCOL | SIL | HYDROGEN VERSION | OXYGEN VERSION | HYDROGEN SULFIDE VERSION

EMIS-VIHR 200 FOUR-WIRE TYPE

EMIS

Specifications

Measured medium	liquid/gas/steam
DN, mm	15...300
Process pressure, MPa	30
Process temperature, °C	-200...+450
Ambient temperature, °C	-60...+70
Accuracy liquid/gas, steam, %	±0,5/±0,7
Output signals:	4-20 mA + HART Digital Modbus RTU RS-485 / USB, frequency / pulse
Explosion protection	1 Exd IIC (T1-T6) Gb X, 1 Exib IIB/IIC (T1-T6) Gb X, RV Exib IMb X, RO Exia IMa X, RV ExdI Mb X.
Ingress protection	IP 66/68
Power supply, V	12-30, current loop

FDT GROUP | HART COMMUNICATION PROTOCOL | SIL | HYDROGEN VERSION | OXYGEN VERSION | HYDROGEN SULFIDE VERSION

The configuration of the flow meter with extended version of the electronic converter has the function of certified calculation of mass flow and mass of the measured medium, and also conversion of gas volume flow to standard conditions.

Measured medium	Reference document	Absolute pressure, MPa	Temperature, C
Water		0,1 ... 25	0 ... +450
Saturated steam	GSSSD MR 147-2008	0,1 ... 21,5	100 ... +371, 85
Overheated steam		0, 1 ... 25	100 ... +450
Wet petroleum gas	GSSSD MR 113-03	0,1 ... 15	-10 ... +227
Natural gas	GOST R 8.662-2009	0,1 ... 30	-23,15 ... +76,85
	GOST 30319.2-2015	0,1 ... 7,5	-23,15 ... +76,85
	GOST 30319.3-2015	0,1 ... 30	-23,15 ... +76,85
Air	GSSSD 8-79	0,1 ... 15	-60 ... +450
Nitrogen, acetylene, oxygen,			-73,15 ... +151, 85
ammonia, argon, hydrogen	GSSSD MR134-2007	0,1 ... 10	-53,15 ... +151, 85
Carbon dioxide			

EMIS-VIHR 200 VERSION 3 IN 1. FOUR-WIRE TYPE

EMIS

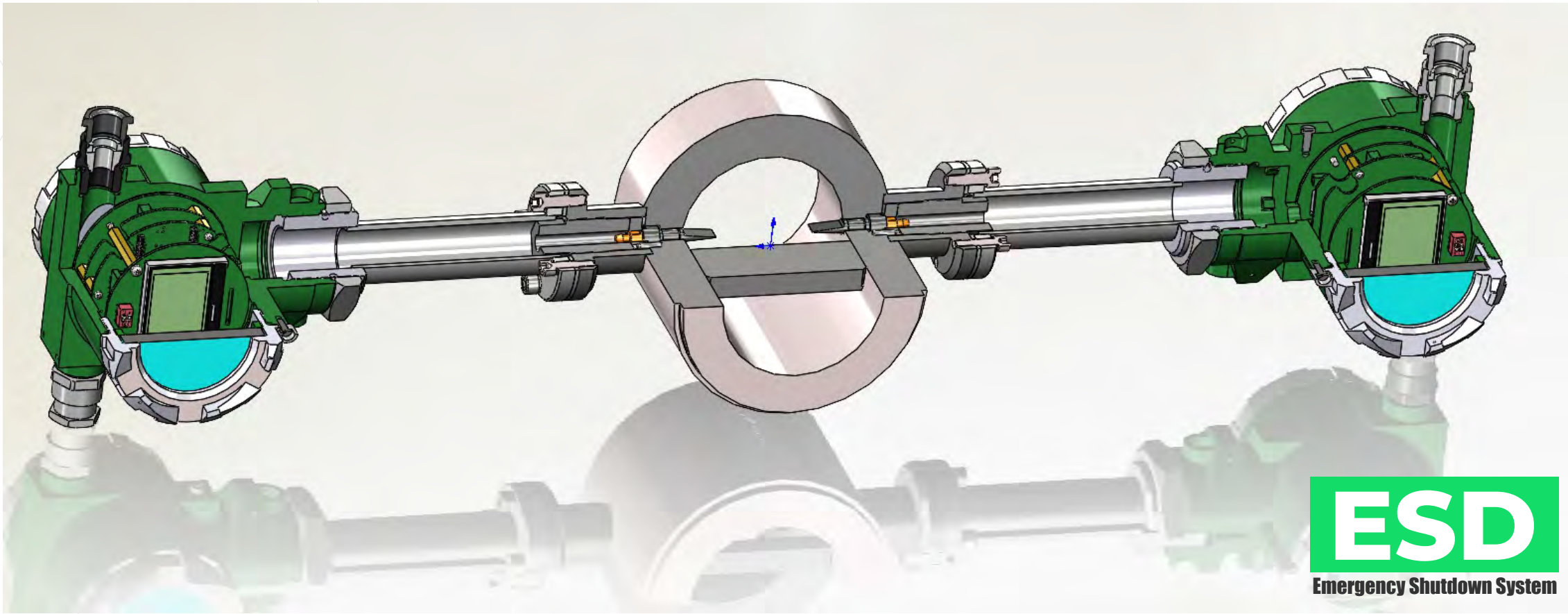
Specifications

Measured medium	liquid/gas
DN, mm	VsT 15...300 / VsTD 25...300 / VTD 40...300
Process pressure, MPa	up to 16
Process temperature, °C	-60...+250
Ambient temperature, °C	-60...+70
Power supply, V	12-30
Output signals:	4-20 mA + HART Digital Modbus RTU RS-485 / USB, frequency / pulse
Explosion protection	Ex

*version with integrated temperature transmitter and external pressure transmitter
**version with external temperature transmitter and pressure transmitter

EMIS-VIHR 200. DUAL-SENSOR VERSION

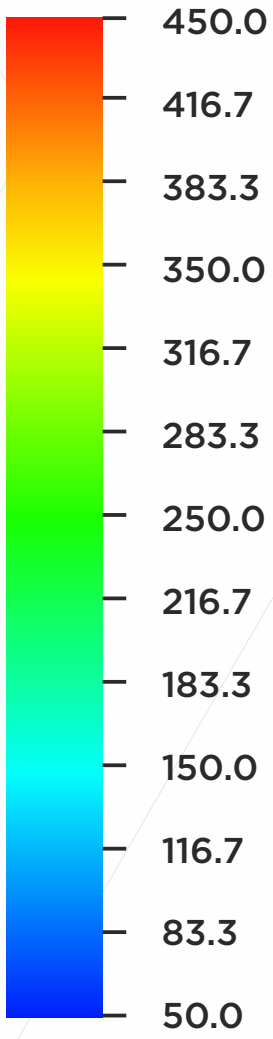
EMIS

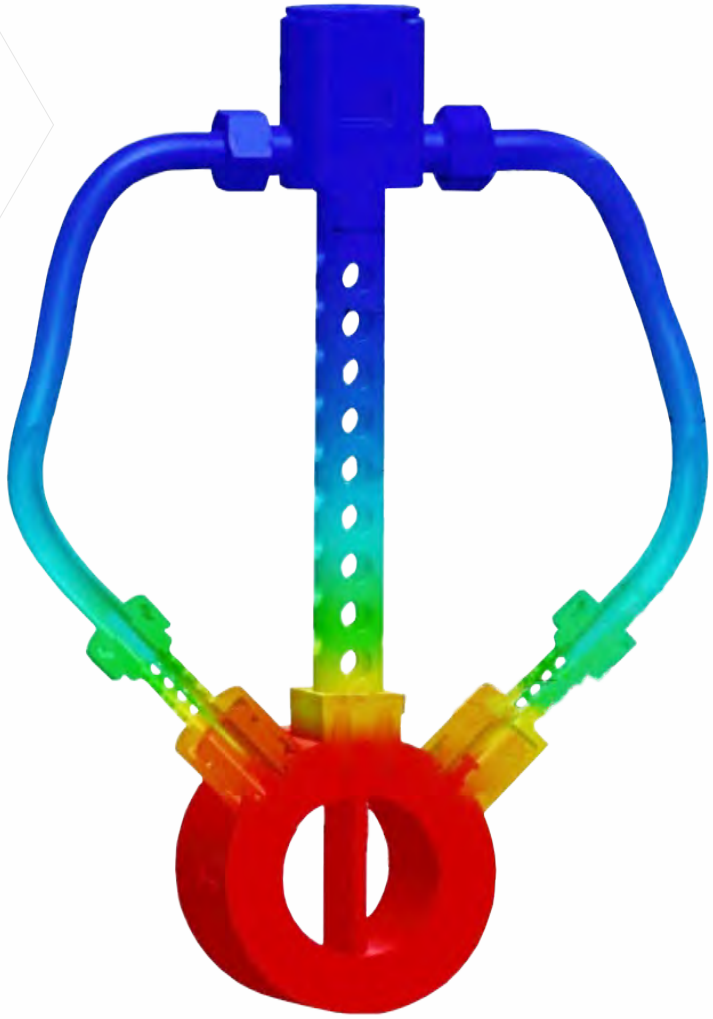


- New type with two-sensor design. This design is added to description of PAC.
- Certification according to IEC 61508 standard corresponding to SIL 2.

EMIS-VIHR 200. FOUR-WIRE TYPE

EMIS





Special version

High temperature version designed to measure volume and volumetric flow rate of superheated steam, water solutions, liquids and gases

Applied in various industries in commercial accounting systems, gas and steam meters.

450° Maximum process temperature

EMIS-VIHR 200

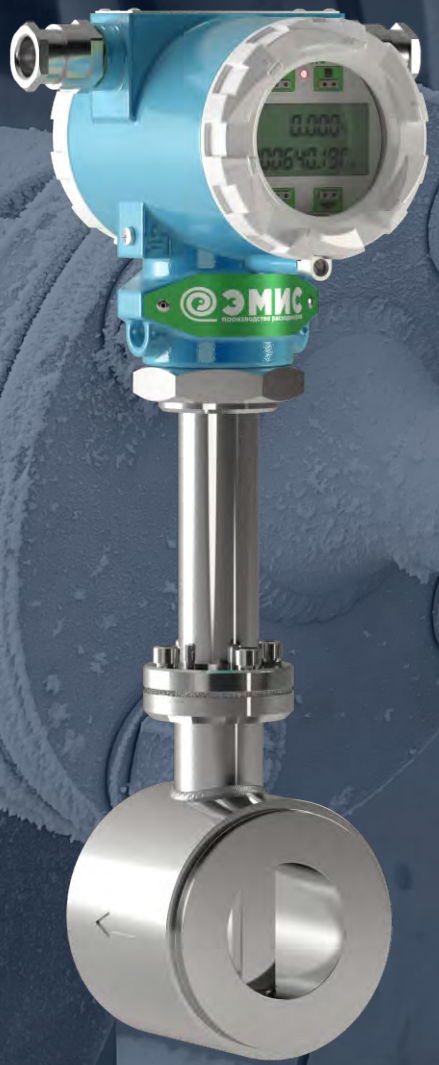
EMIS

Features & advantages

- Accuracy of gas flow measurement up to 0,7%;
- Two-wire type of enclosure, including remote type with display and control buttons;
- The content of gas inclusions in liquids could be up to 2.5% by volume for flowmeters with accuracy 0.5% and up to 4% for flowmeters with accuracy 1%and 1.5%.
- Full-bore flowmeters measure the flow rate of liquid with gas inclusions up to 15% by volume with accuracy ±6,5%;
- Digital signal filtering;
- Simulation method of verification without removing the device from the pipeline;
- Built in approved algorithms for reducing gas and APG measurements to standard conditions and calculating the mass of water and steam;
- Permits remote data communication, configuration, testing through RS-485 HART and USB;
- Approved build-in gas "mass computer";
- Free of charge "EMIS-Integrator" service and diagnostic software.
- The production of vortex flow meters according to the geometric dimensions of third-party manufacturers for replacement without changing the installation dimensions on the site.

OXYGEN VERSION EMIS-VIHR 200

EMIS



The product is manufactured in accordance with internal regulations and instructions, using appropriate materials for manufacturing. After assembly and carrying out hydraulic, pneumatic and metrological tests, the instrument passes Nephras solvent degreasing.

For marking the body of the electronic unit is painted blue.

EMIS

Specifications

Measured medium	liquid /gas / steam
Pipeline DN, mm	300...2000
Process pressure, MPa	up to 2,5
Process temperature, °C	-40...+250
Ambient temperature, °C	-60...+70
Accuracy liquid /gas, steam, %	up to ±0,5 / до ±1,0
Output signals:	puls; analog: current 4...20mA; digital: RS-485 with Modbus RTU; HART; USB (technology use).
Explosion protection	1 Ex ib IIB/IIC (T2-T6) Gb X, 1 Ex ia IIB/IIC (T2-T6) Gb X, 1 Ex d IIC (T2-T6) Gb X, 0 Exia IIB (T2-T6) Gb X, 0 Exia IIC (T2-T6) Gb X.
Ingress protection	IP 66/68

EMIS

Features & advantages

- Reduced design and installation costs;
- Wide dynamic range;
- Installation works reduced to minimal;
- Easy installation (deinstallation) without stopping the process;
- Optional installing and setting up and the flow meter on a pipeline with different diameter;
- Increased process stability;
- Constant measurement accuracy even under changing process conditions;
- No moving parts;
- Reliability and long service life;
- Adaptive signal processing adjustment based on Fourier series reduces vibration impact on measurement accuracy;
- Reduced maintenance costs;
- Remote data transfer, settings, verification via RS-485 Modbus RTU;
- Only flow sensor, whose diameter is 40 mm, is subject to real flow verification, regardless of the flowmeter DN.

EMIS

РОССИЙСКАЯ ФЕДЕРАЦИЯ

ПАТЕНТ

НА ИЗОБРЕТЕНИЕ

№ 2709430

ДАТЧИК ИЗГИБАЮЩЕГО МОМЕНТА ДЛЯ ВИХРЕВЫХ РАСХОДОМЕРОВ

Патентообладатель: *Закрытое акционерное общество "Электронные и механические измерительные системы" (ЗАО "ЭМИС") (RU)*

Авторы: *Вельмогин Александр Михайлович (RU), Костарев Евгений Владимирович (RU), Рогожин Сергей Сергеевич (RU), Лапин Сергей Александрович (RU), Петров Арсений Владимирович (RU), Петров Владимир Владимирович (RU)*

Заявка № **2019116726**
Приоритет изобретения **30 мая 2019 г.**
Дата государственной регистрации в Государственном реестре изобретений Российской Федерации **17 декабря 2019 г.**
Срок действия исключительного права на изобретение истекает **30 мая 2039 г.**

Руководитель Федеральной службы по интеллектуальной собственности

Г.П. Ивлиев

PATENT FOR THE PRODUCTION OF BENDING MOMENT SENSORS FOR VORTEX FLOWMETERS

CERTIFIED BY EUROPEAN REGULATIONS

International Center for Quality Certification - ICQC Ltd.
63-19, Skolas street, Jurmala, LV-2016, Latvia
Phone: +371 27168371 E-mail: office@icqc.lv Web: www.icqc.lv
SIA „International Center for Quality Certification - ICQC"
Reg. Nr.LV40103539825
Skolas iela 63-19, Jūrmala, LV-2016, Latvija

EU Notified Body No. 2549

LATAK-S1-499

(1) **EU-TYPE EXAMINATION CERTIFICATE**

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres – Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **ICQC 18 ATEX 0406 X**

(4) Equipment: **Vortex Flowmeter EMIS-VIHR 200 models EV-200, EV-200-PPD**

(5) Manufacturer: **EMIS CJSC**

(6) Address: **Lenina Avenue 3, Office 308, Chelyabinsk, 454091, Russia**

(7) This equipment and any acceptable variation, also documents which are specified in the schedule to this certificate.

(8) The certification body ICQC, Notified body No. 2549 in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
The examination and test results are recorded in confidential report no **406/2018/08/ATEX**

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2012/A11:2013, EN 60079-1:2014, EN 60079-11:2012

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and the construction of the specified equipment in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacture and supply of this equipment. These are not covered by the certificate

(12) The marking of the equipment or protective system shall include the following:
Ex **See table 1 in schedule to certificate**

Head of Certification Body: Sergey Kovalev

Date of issue: 26 October, 2018
Jurmala, Latvia

Certificate without signature are void. This certificate may only be reproduced in its entirety and without any change, schedule included. Extracts or modifications must be authorized by SIA ICQC.
Page 1 of 5

053-V-ATEX-ES tipa pārbaudes sertifikāts R-00-16.11.2015

- Atmospheres Explosibles Directive 2014/34/EU (ATEX)
- Pressure Equipment Directive 2014/68/EU (PED)
- Electromagnetic compatibility Directive 2014/30/EU (EMC)

EMIS

EMIS-BAR

PRESSURE TRANSMITTERS

Pressure measurement

MORE ›

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Pressure transmitters series

01 EMIS-BAR - 143, 153, 193
Differential pressure transmitter

02 EMIS-BAR - 105, 133
Gauge pressure transmitter, Absolute pressure transmitter. Flanged connection

03 EMIS-BAR - 163, 164
Hydrostatic pressure transmitter with diaphragm seal and flange connection

04 EMIS-BAR - 173-176
Gauge pressure transmitter with remote diaphragm seal

05 EMIS-BAR - 103, 123
Gauge pressure transmitter, absolute pressure transmitter. In-line connection

05 EMIS-BAR - 113
Gauge pressure transmitter with diaphragm seal

07 EMIS-BAR - 183-188
Differential pressure transmitter with remote diaphragm seal

GAUGE PRESSURE TRANSMITTERS

EMIS

EMIS-BAR - 103
Gauge pressure transmitter in-line connection

EMIS-BAR - 105
Gauge pressure transmitter flanged connection

EMIS-BAR - 113
Gauge pressure transmitter with diaphragm deal

EMIS-BAR - 173-176
Gauge pressure transmitter with remote Diaphragm seal

Specifications

Measuring range, MPa	up to 70
Accuracy, %	±0,04; ±0,065 ; ±0,1; ±0,2; ±0,5; ±1,0; ±2,5
Range adjustment	100:1
Process temperature, °C	-90...+700 (using a medium separator)
Ambient temperature, °C	-60 ...+ 85 with preservation of explosion protect
Operation of the LCD display, °C	-42 ...+ 85
Output signals	Analog: current 4-20 mA, digital based on the HART protocol including DD and FDT / DTM libraries
Diaphragm material	316L stainless steel, Hastelloy Hc – 276, Tantalum, Monel, 316L gold-plated.
Ingress protection	IP 65; IP 66; IP 67; IP 68

FDT GROUP | HART COMMUNICATION PROTOCOL | SIL | HYDROGEN VERSION | OXYGEN VERSION | HYDROGEN SULFIDE VERSION

DIFFERENTIAL PRESSURE TRANSMITTERS

EMIS

EMIS-BAR - 143, 153, 193
Differential pressure
transmitter flanged connection

EMIS-BAR - 183-188
Differential pressure transmitter
with remote Diaphragm seal

Specifications

Measuring range, MPa	Differential pressure static pressure 153 up to 14 / 143 up to 14/ 193 up to 2MPa
Accuracy, %	0,04: 0,065, 0,074; 0,086; 0,1...2,5
Range adjustment	100:1
Process temperature, °C	-90...+400 / using a medium separator
Ambient temperature, °C	-60 ...+ 85 with preservation of explosion protect
Output signals	4-20 mA, HART with DD and DTM
Diaphragm material	316L stainless steel, Hastelloy Hc – 276, Tantalum, Monel, 316L gold-plated.

FDT GROUP | HART COMMUNICATION PROTOCOL | SIL | HYDROGEN VERSION | OXYGEN VERSION | HYDROGEN SULFIDE VERSION

ABSOLUTE PRESSURE TRANSMITTERS

EMIS

EMIS-BAR- 133
Absolute pressure transmitter flanged

EMIS-BAR - 123
Absolute pressure transmitter in-line connection

EMIS-BAR - 175-176
Absolute pressure transmitter with remote diaphragm seal

Specifications

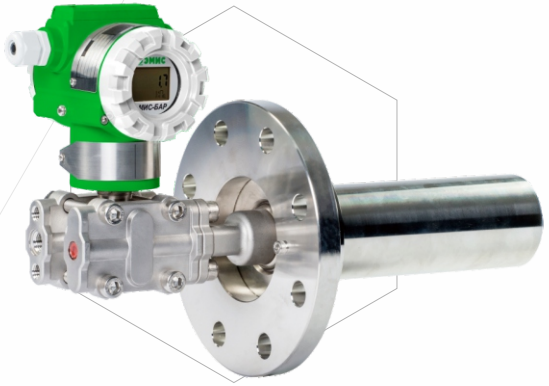
Measuring range, MPa	up to 40
Accuracy, %	0,04: 0,065, 0,074; 0,1...0,5
Range adjustment	30:1
Process temperature, °C	-90...+230 / with remote diaphragm seal
Ambient temperature, °C	-60 ...+ 85 with preservation of explosion protect
Output signals	4-20 mA, HART with DD and DTM
Explosion protection modifications	II2G Ex db II CT6 .. .T4Gb 111 G Ex ia IIC T6 ... T4 Ga 111 G Ex ia IIB T6 ... T4 Ga 1 Ml Ex ia I Ma; 1 M2 Ex db I Mb
Diaphragm material	316L stainless steel, Hastelloy Hc – 276, Tantalum, Monel, 316L gold-plated.

FDT GROUP | HART COMMUNICATION PROTOCOL | SIL | HYDROGEN VERSION | OXYGEN VERSION | HYDROGEN SULFIDE VERSION

HYDROSTATIC PRESSURE TRANSMITTERS

EMIS

EMIS-BAR - 163
Hydrostatic pressure transmitter
with direct mount diaphragm seal



EMIS-BAR - 164
Hydrostatic pressure transmitter
with direct mounted extended dafragm seal

Specifications

Measuring range, MPa	up to 10
Accuracy, %	0,74; 0,1; 0,15; 0,2; 0,25; 0,5.
Range adjustment	30:1
Process temperature, °C	-90...+150 / using a medium separator
Ambient temperature, °C	-60 ...+ 85 with preservation of explosion protect
Output signals	4-20 mA, HART with DD and DTM
Explosion protection modifications	II2G Ex db II CT6 .. .T4Gb 111 G Ex ia IIC T6 ... T4 Ga 111 G Ex ia IIB T6 ... T4 Ga 1 Ml Ex ia I Ma; 1 M2 Ex db I Mb
Diaphragm material	316L stainless steel, Hastelloy Hc – 276, Tantalum, Monel, 316L gold-plated.

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Explosion protection modifications

- 0 Ex ia IIB/IIC T6...T4 Ga X;
- 1 Exd IIC T6...T4 Gb X;
- 1 Exd ia IIC T6...T4 Gb X;
- Ex ia IIIC T85 / T100 / T135°C Da;
- Ex ia IIIB T80 / T95 / T135°C Da;
- Ex tb IIIC T85 / T100 / T135°C Db;
- PO Ex ia I Ma X;
- PB Ex d I Mb X;
- PB Exd ia I Mb X.

- Explosion protection is provided at ambient temperature from -60 to +85 degrees Celsius.

Features & advantages

- The accuracy corresponding to the best world transmitters (the basic reduced error from ±0.04%);
- Long-term stable operation which is one of the best in the industry: less than 0.1% of the range within 10 years;
- Minimum temperature effect due to dynamic temperature compensation in the pressure sensor;
- Two-chamber enclosure, zero point adjustment in the hazardous area without violating the explosion protection of the housing;
- Ambient temperature -60... + 85 °C with preservation of explosion protection;
- Interral self-diagnostic corresponding to NAMUR NE 107, DD and DTM-files, current output conforming Ne43;
- High overload capability: up to 105 MPa;
- Warranty period is 36 month;
- Average service life is 30 years;
- Free of charge multifunctional “EMIS-integrator” software.

EMIS-BAR with TRANSMITTER CONVERTER EMIS-SISTEMA 800

Provides autonomous operation of control and measuring devices with current output 4-20 mA, resistive, HART

Installed in places where no power supply.

Has energy-independent memory. Provides long-term autonomous operation

The minimum power consumption of 0.7 W and the switch-on time no more than 2 seconds reduces energy consumption.

EMIS

EMIS-ESKO 2210

METERING SKID

Flow measurement of heat transfer medium, water, steam, gas.

MORE ❯

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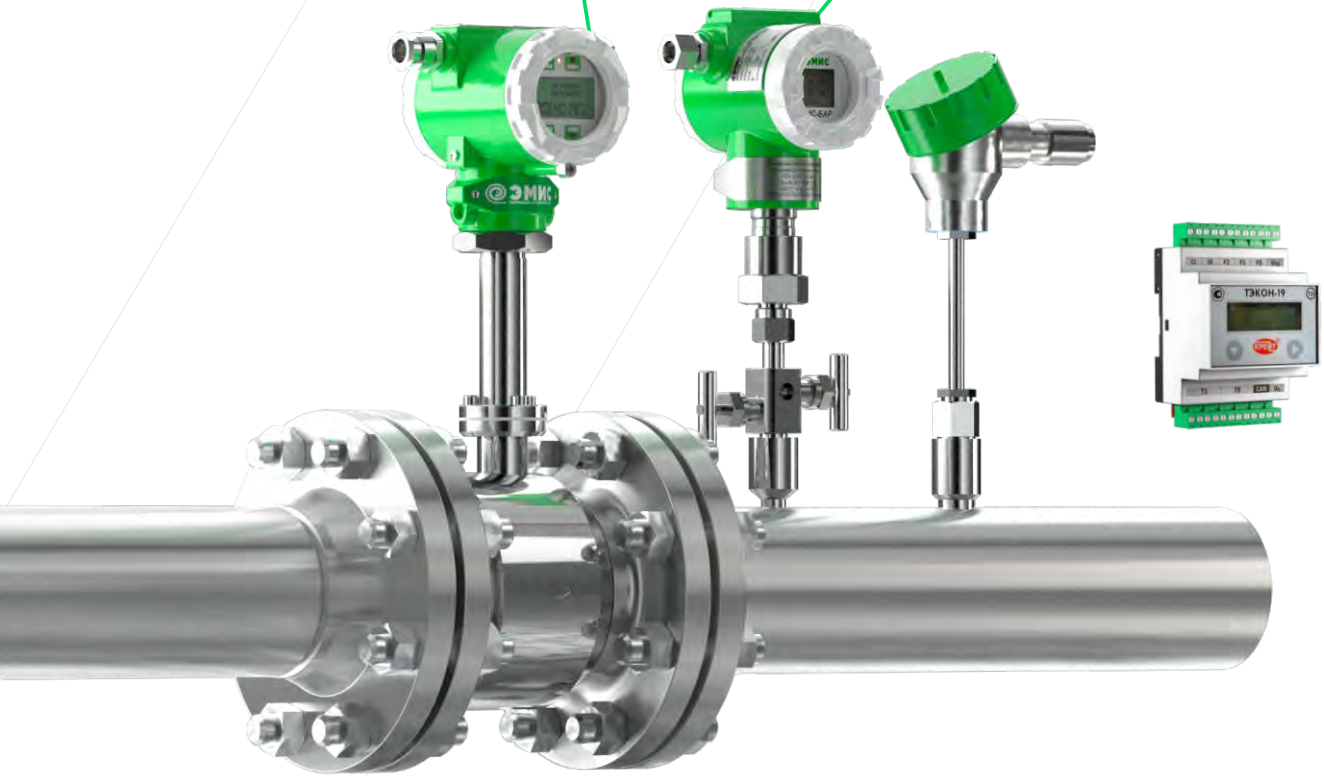
Metering skid EMIS-ESKO 2210

Vortex Flow-meter EMIS-VIHR 200

other manufacturers' flow meters are permitted

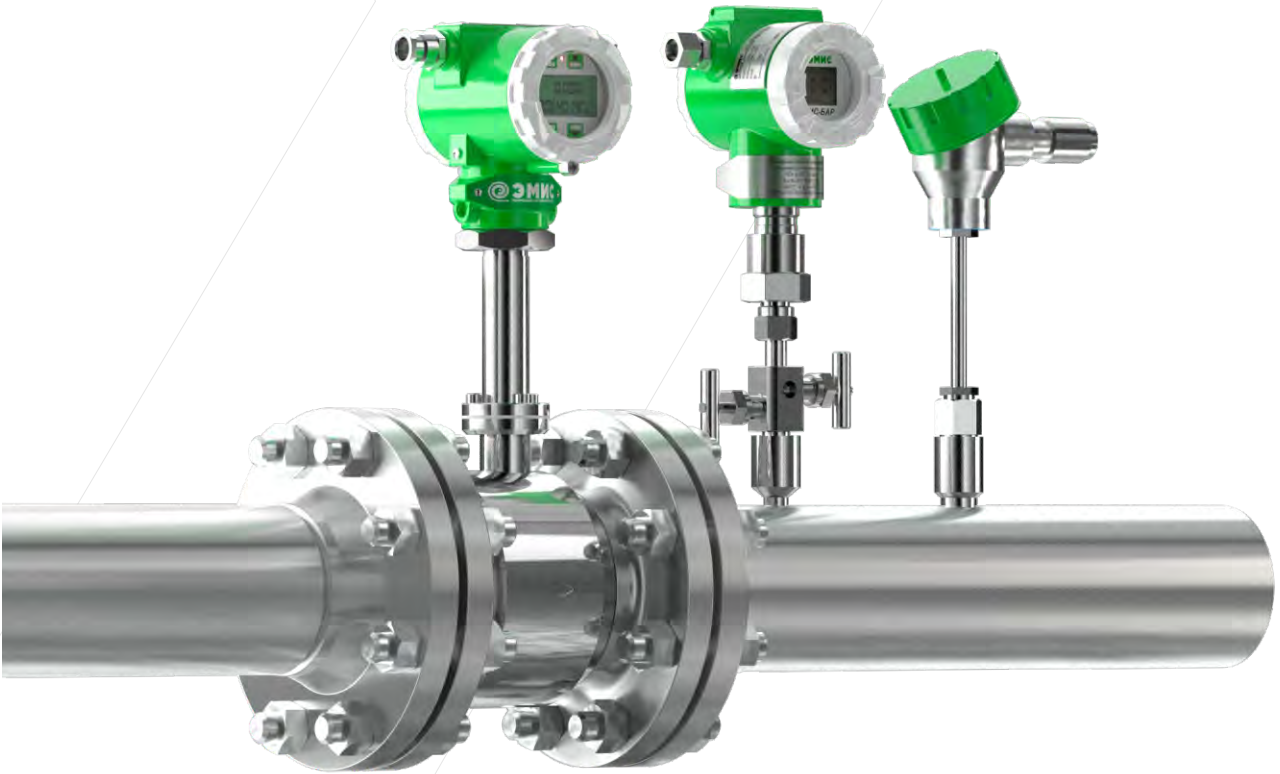
Pressure transmitter EMIS-BAR

other manufacturers' pressure transmitters are permitted



Metering skid EMIS-ESKO 2210

EMIS

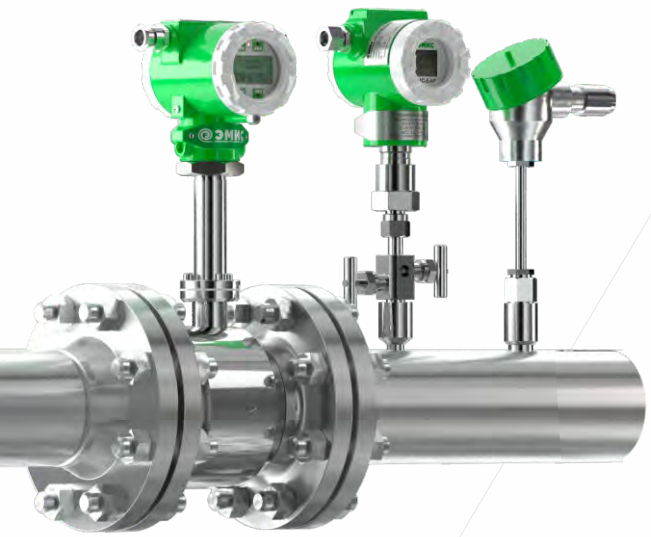


Is used for commercial and process metering of:

- steam;
- gases.

Purpose

- Commerecial metering of steam in boilers or for process control;
- Commercial metering of natural gas;
- Monitoring of compressor operation and metering of compressed air consumption.

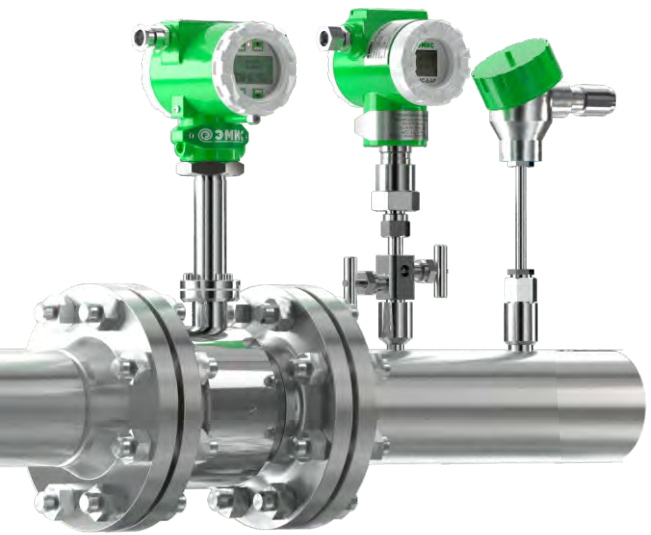


Features & advantages

Direct measurement of gas consumption by three main parameters: flow rate under operating conditions, absolute pressure and temperature, calculates gas flow rate (volume) converted to standard conditions: P abs=0.101325 MPa, Tc=20°C This indicator is used in settlements between consumer and supplier.

Measured medium	liquid, gas, steam
Diameter, mm	15...300
Output signals:	Digital based on Modbus RTU protocol, with RS-485/ RS-232 interface; digital based on the Modbus TCP protocol, with an Ethernet interface; GSM; GPRS
Explosion protection	«Exd» - explosion-proof enclosure of instrumentation included in the complex; «Exi» - intrinsically safe circuit of instrumentation included in the complex.
Power supply, V	24 V DC, 220 V AC

Metering skid EMIS-ESKO 2210



Features & advantages

- Flaxibility of the metering skid due to optional use of various types of instrumentation, wide range of diameters and temperature range of the medium;
- Certified instrumentation with optional raplacement of its components;
- Vendor documents available;
- Archives and realtime clock;
- Data transmission through GSM.

EMIS

EMIS-MAG 270

ELECTROMAGNETIC FLOWMETER

Measure the flow rate of electrically conductive liquids, including contaminated and corrosive fluids.

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EMIS

Electromagnetic flowmeters series

01 EMIS-MAG 270
Standard version

02 EMIS-MAG 270
Food grade

03 EMIS-MAG 270
Mine version

EMIS-MAG 270

EMIS

Specifications

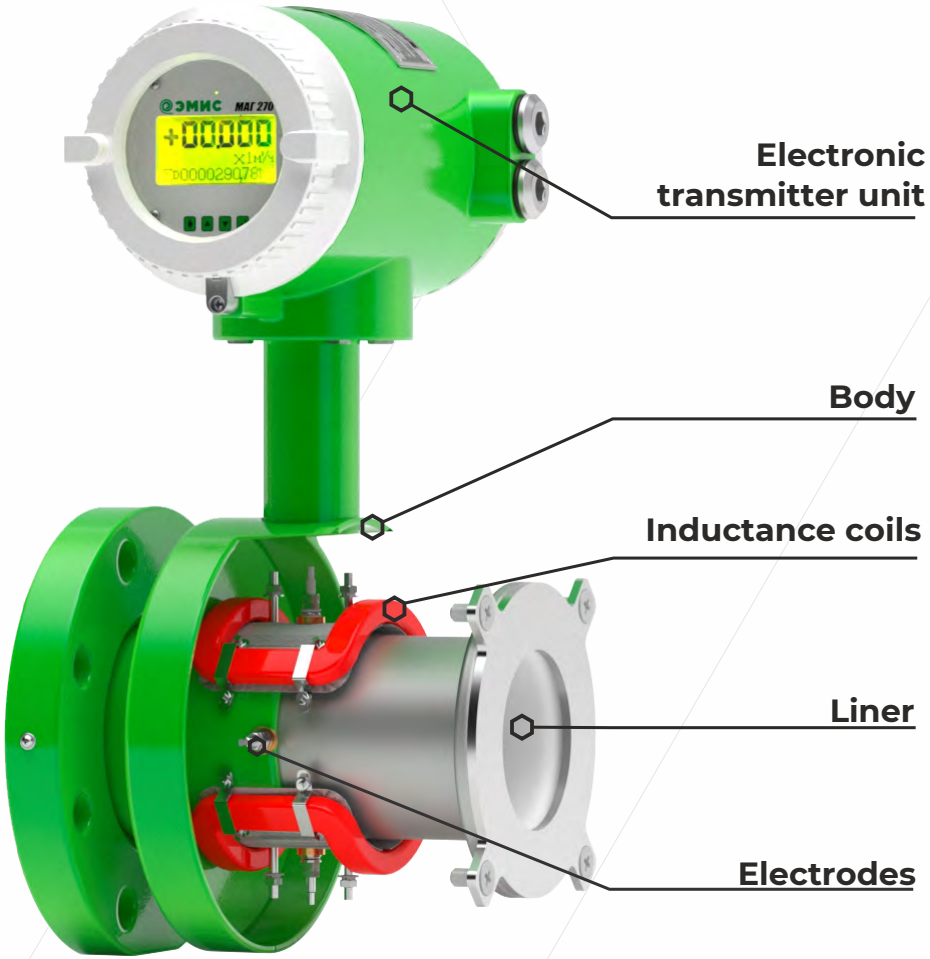
Food & beverage application is available

Measured medium	electrically conductive liquids with minimum conductivity of $5 \cdot 10^{-4}$ Sm/m
Diameter, mm	15...600
Process pressure, MPa	up to 25
Process temperature range, °C	-40...+180
Ambient temperature, °C	integrated type: -40 ... +50 Remote type: - 40 ... +75
Accuracy, %	±0,5
Output signals:	pulse-frequency; analog: current 4-20 mA; Modbus RTU, with RS-485 interface; HART protocol; alarm sound
Explosion protection	1 Ex db IIC T6 ... T3 Gb X
Power supply, V	24 V DC 220 V AC
Ingress protection	IP 65; IP 66; IP 67; IP 66/67

HART COMMUNICATION PROTOCOL | SIL Safety integrity Level | H_2S HYDROGEN SULFIDE VERSION

EMIS-MAG 270

EMIS



Material of the housing	Lining material	Electrode material
carbon steel	Polytetrafluoroethylene (fluorine plastic-4) PTFE	Stainless steel SS 316 L
stainless steel	Polyurethane rubber PR	Hastelloy
	Chlorophrene rubber (technical rubber) CR	Tungsten carbide
	Fluorinated ethylene propylene FEP	Titan
	Perfluoroalkoxy (fluorine plastic-50) PFA	Tantalum
		Platinum-iridium alloy

LINING MATERIAL AND FEATURE EMIS-MAG 270

EMIS

Material	NAME IN ORDER SHEET	Dn, mm	MEDIUM AND MATERIAL FEATURE	INTEGRAL VERSION	REMOTE VERSION
Polyurethane rubber	PR	50-500	High wear-resistance, but bad resistant to acids and alkalis.	0...+80ºC	0...+80ºC
Chlorophrene rubber (technical rubber)	CR	50-500	High resistant. Resistant to coal-water slurry and contaminated liquids, weak acids and alkalis, oil.	-25...+80ºC	-25...+80ºC
Polytetrafluoroethylene (fluorine plastic-4)	PTFE	40-500	High heat resistance and resilience, low surface tension. Resistant to concentrated acids and alkalis.	-40...+80ºC	-40...+120ºC
Perfluoroalkoxy (fluorine plastic-50)	PFA	15-500	Resistant to hydrochloric, sulfuric, nitric and nitrohydrochloric acids. Properties very similar to PET.	-40...+120ºC	-40...+180ºC
Perfluoroalkoxy (fluoroplastic-50) armoured with SS304 mesh	APFA	50-500	Resistant to hydrochloric, sulfuric, nitric acid and aqua regia. Properties similar to PTF.	-40...+120ºC	-40...+180ºC

Features & advantages

- Simulation-type verification;
- Flow measurement of corrosive mediums;
- High pressure medium (up to 25 MPa);
- Wide range of lining materials and electrodes;
- Measurement the fluids containing solid particles and impurities;
- Wide range of pipeline DN (up to DN 600 mm);
- Flow measurement for mediums with changing density and viscosity;
- Mine-type of explosion protection is available.

EMIS

EMIS-META 215

ROTAMETERS

Liquids and gas flow measurement

MORE ❯

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Rotameter series

01 EMIS-META 215
Explosion-proof version

02 EMIS-META 215
Horizontal version

03 EMIS-META 215
Food grade

EMIS-META 215

EMIS

Specifications

Food & beverage application is available

Measured medium	liquid, gas, oxygen
Pipeline Dn, mm	15...150
Process pressure, MPa	up to 25
Process viscosity, cP	5...250
Process temperature, °C	-40...+420 / -80...+250 -40...+250
Ambient temperature, °C	-60...+70
Accuracy, %	±1/±1,5/±2,5/±4,0
Output signals:	Analog: current 4-20 mA; HART protocol; up to 2 limit switches
Explosion protection	1Ex ib IIB T6...T1 Gb, 1Ex d IIB T6...T1 Gb
Power supply, V	24 V DC
Ingress protection	IP 65; IP67

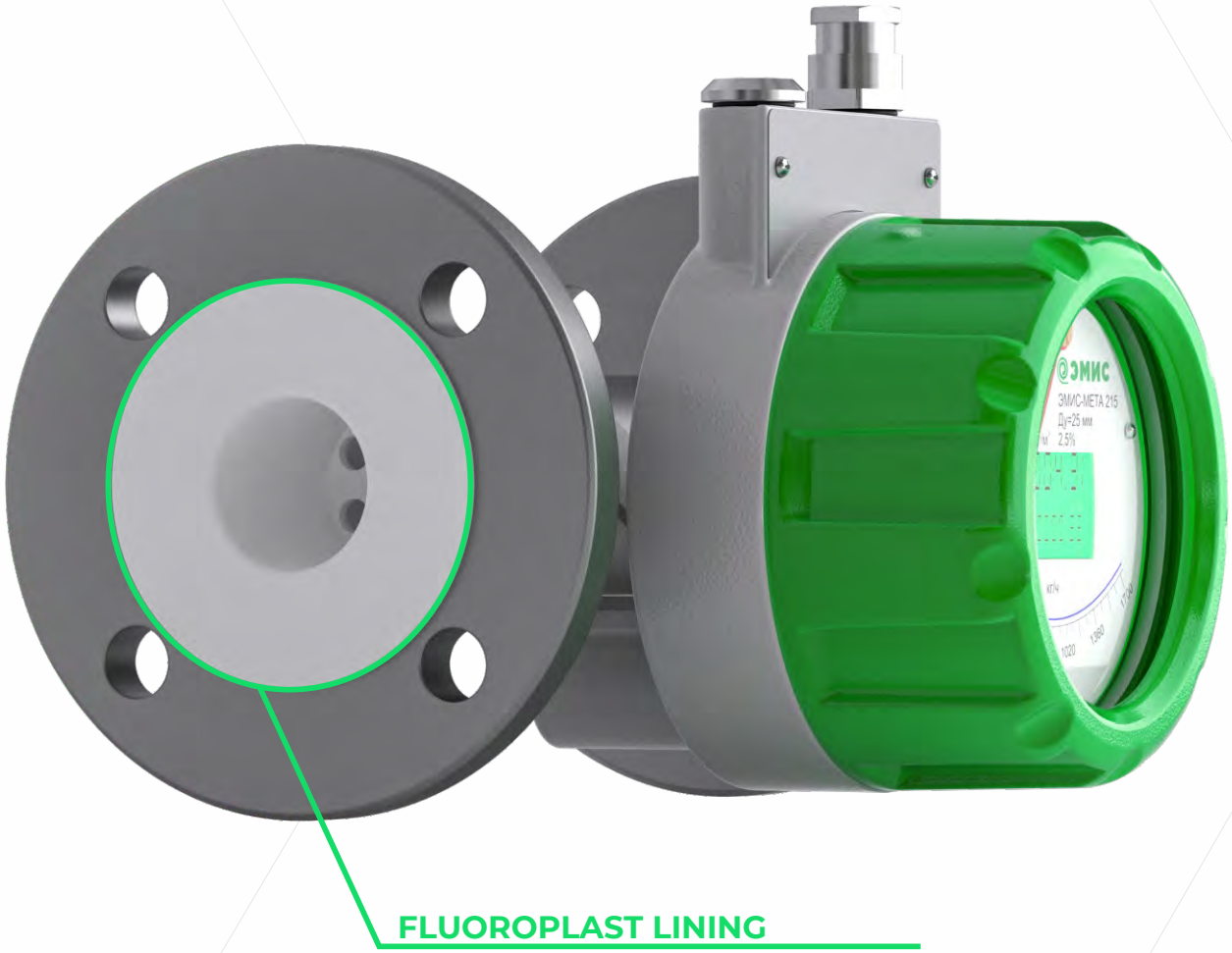
FDT GROUP | HART COMMUNICATION PROTOCOL | SIL | HYDROGEN VERSION | OXYGEN VERSION | HYDROGEN SULFIDE VERSION

Features & advantages

- Horizontal installation with accuracy;
- The universal principle of operation allows to use it for flow measurement of any gases, liquids and steam;
- Corrosion-resistant modification for operation in chemically aggressive conditions (wetted parts with PTFE lining);
- Internal counter with optional current output for remote data transmission;
- HART output interface;
- Optional adjustable limit switches;
- Easy calibration;
- Thermal jacket;
- The customized scale;
- LCD display with current flow and accumulated volume indication.

SPECIAL VERSION OF METAL ROTAMETER EMIS-META 215

EMIS

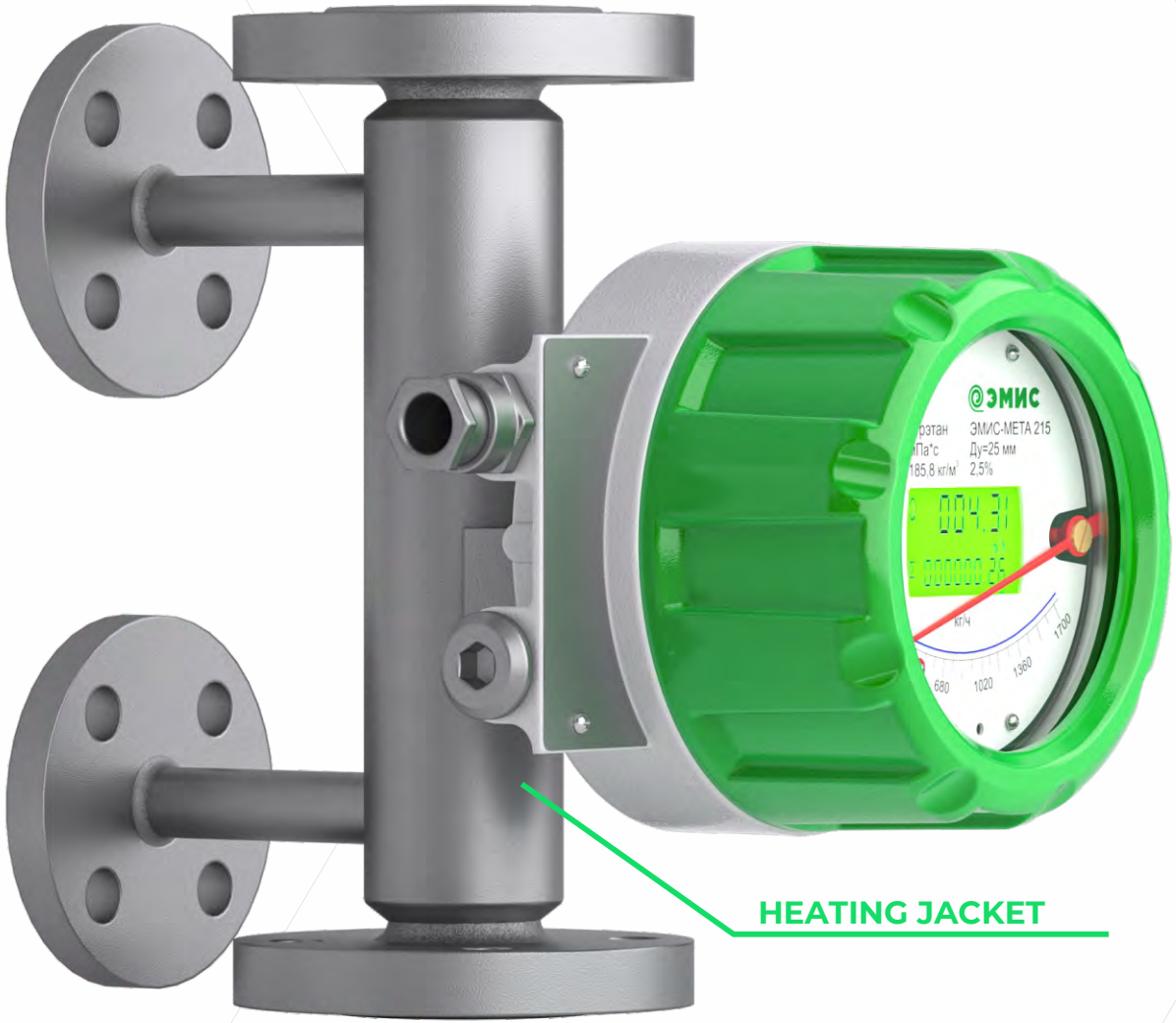


VERSION WITH FLUOROPLAST LINING

Corrosion-resistant version for chemically aggressive mediums.

SPECIAL VERSION OF METAL ROTAMETER EMIS-META 215

EMIS



VERSION WITH HEATING JACKET

Maintaining the temperature of the medium inside the rotameter by heating with oil or steam.

SPECIAL VERSION OF METAL ROTAMETER EMIS-META 215

EMIS

VERSION WITH LIMIT SWITCHES

Ability to install limits switches with adjustable settings. When the arrow reaches the upper or lower limit switch, it is triggered and a signal is transmitted. This signal can be used to activate a light or sound alarm or other electronic devices.

HYDROGEN VERSION

EMIS

Materials resistant to hydrogen cracking are used for the hydrogen version, as well as additional pneumatic leakproofness tests

EMIS

EMIS-SIGNAL

LEVEL SWITCHES

Vibrating level switch.

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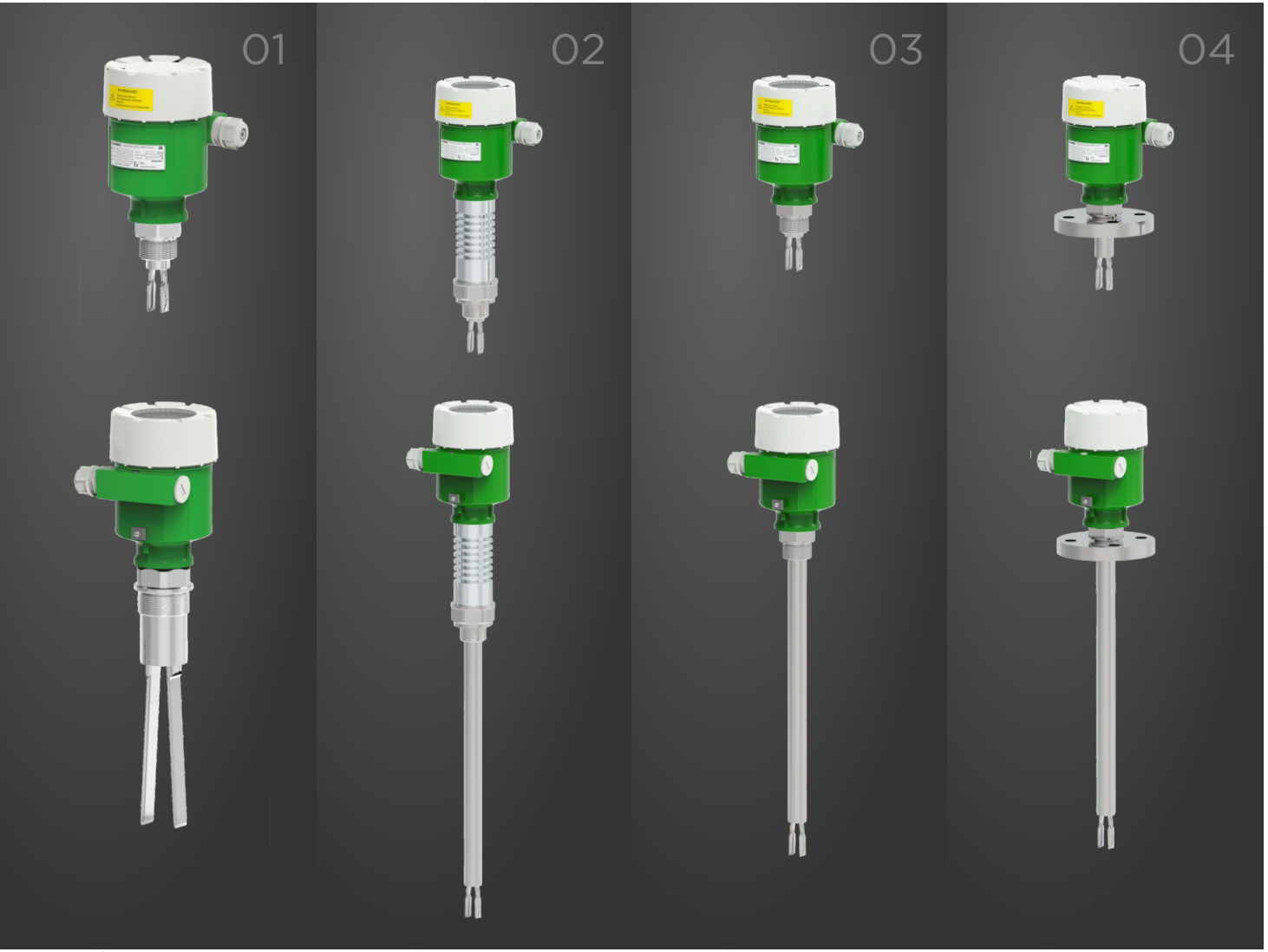

Level switches series

01 EMIS-SIGNAL
Threaded for liquid / bulk mediums

02 EMIS-SIGNAL
High-temperature verison for liquids with standard / extended sensor

03 EMIS-SIGNAL
Threaded for liquids with standard / extended sensor

04 EMIS-SIGNAL
Flanged for liquids with standard / extended sensor

* All above level switches can also be produced for bulk mediums.

EMIS

Specifications

Measured medium	liquid / bulk materials
Absolute pressure range of the controlled medium, MPa	for threaded connection -0,1...10 for flanged connection -0,1...25
Temperature of the measured medium, °C	-60.... +290
Ambient temperature, °C	-60...+75 (from -70 °C to +75 °C with thermal cover)
Output signals	SPDT contact;
Explosion protection modifications:	1 Ex db IIC T6...T2 Gb X; Ex tb IIIC T80°/T95°C/ T130°C/T190°/T290°C Db
Ingress protection	IP 66/67
Resistance to external magnetic field	constant 400 A/m; AC 400 A/m, at 50 Hz
Cable entry threads	M20 x 1.5
Materials used	Electronic unit housing: Aluminum alloy Vibrating Fork: Stainless Steel

FDT GROUP | HART COMMUNICATION PROTOCOL | SIL

EMIS

Features & advantages

- Low susceptibility to mechanical wear of all components, including the vibrating fork.
- No moving parts: no deterioration, no maintenance required, long service life is guaranteed.
- No moving parts that can jam during operation.
- Easy installation and commissioning (no medium filling and calibration required).
- Wide line of standardized process connections for all areas of application.
- Reliable level measurement - regardless of installation position, foam, viscosity and grain size.
- Possibility of installation in any position at the desired height of the switching point.
- Average service life: 12 years.

EMIS

EMIS-PULSE 540/530

LEVEL METER

Level measurement

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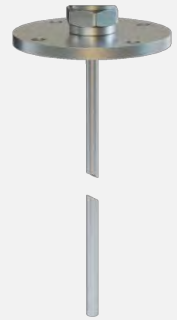
emis-meter.com

EMIS-PULSE 540

Guided wave radar level meters

Specifications

Process media	liquid, bulk solids
Measuring range	up to 75m
Frequency:	1 GHz
Ambient temperature, °C	-60...+85 (от -70 °C до +85 °C with thermal insulation)
Operating temperature, °C	- 60... +450 °C
Operating pressure , MPa	4MPa (special version up to 40 MPa)
Output signals	Analog 4-20 mA / HART v7
Explosion protection	0Ex ia IIC T6...T1 Ga X; Ex ia IIIC T80°C...T450°C; 0Ex ia IIB T6...T1 Ga X; Ex ia IIIB T80°C...T450°C; 1Ex db IIC T6...T1 Gb X; Ex tb IIIC T80°C...T450°C; 1Ex db ia IIC T6...T1 Gb X.
Ingress protection	IP66/IP67; IP66/IP68
Materials used: TRANSMITTER	Housing material: Aluminium/ stainless steel; Antenna material: stainless steel

Guided wave probe type				
Probes overview				
Probe type	Flexible single lead (diameters 2, 4, 8 mm)	Flexible twin lead	Rigid single lead (diameters 10, 16 mm)	Coaxial perforated (diameters 22, 42 mm)
Process media	Liquids (2,4) and bulk solids (8)	Liquids	Liquids (10, 16) and bulk solids (16)	Liquids
Process connection	Thread connection 1,5”, 3/4” G и NPT Flanges (Dn up to 25)			
Measuring range	30 m	30 m	6 m	3 m
Probe material	12X18H10T, AISI 304, 316			
Dielectric constant, ε	≥ 1,6			≥ 1,4

EMIS-PULSE 530
LEVEL METER

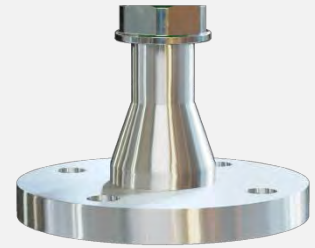
EMIS

Specifications

Process media	liquid, bulk solids
Measuring range	up to 100 m
Frequency:	26GHz – cone, parabolic, rod; 80 GHz – lens antenna
Ambient temperature, °C	-60...+85°C (-70°C ... +85°C with heating shirt)
Operating temperature, °C	- 60... +450°C -196... +445°C - special version
Operating pressure, MPa	4 MPa
Output signal	analog 4-20 мА / HART v7
Explosion protection	0Ex ia IIC T6...T1 Ga X; Ex ia IIIC T80°C...T450°C; 0Ex ia IIB T6...T1 Ga X; Ex ia IIIB T80°C...T450°C; 1Ex db IIC T6...T1 Gb X; Ex tb IIIC T80°C...T450°C; 1Ex db ia IIC T6...T1 Gb X.
Ingress protection	IP66/IP67; IP66/IP68
Materials used: TRANSMITTER	Housing material: Aluminium/ stainless steel; Antenna material: Stainless steel, PTFE.

EMIS-PULSE 530
NON-CONTACTING RADAR LEVEL METER

EMIS

Antenna Type					
Antennas overview					
Antenna type	Lens	Cone	Parabolic	Process seal	Rod
Medium	Liquids and bulk solids	Liquids and bulk solids	Bulk solids	Liquids	Liquids
Process connection	Thread connection 1,5”,3” G и NPT Flanges (Dn up 50)	Thread connection 1,5” G и NPT Fanges (Dn up 50)	Flanges (Dn 200, 250)	Flanges (Dn up 50)	Thread connection 1,5”,3” G и NPT Flanges (Dn up 50)
Measuring range	30 m (Liquids) 100 m (bulk solids)	35 m (Liquids) 70 m (bulk solids)	70 m	30 m	30 m
Contacting surface	PTFE	SS316	SS304	SS316	PTFE
Freguency	80 GHz	26 GHz	26 GHz	26 GHz	26 GHz

EMIS

THANK YOU FOR ATTENTION!

WRITE TO US

sales@emis-meter.com

CALL US

+7 (351) 729-99-12

COME FOR A VISIT

Proizvodsvennaya St. 7/1, Kazantsevo,
Chelyabinsk region, 456518, Russia