CUSTOMIZED SOLUTIONS IN FLUID MEASUREMENT

Metroval

Customized solutions in fluid measurement

Metroval, complete solutions in fluids control

The Metroval history began in 1987 when the company Tecnobrás S.A., water meters manufacturer, won a contract for technology transfer, for manufacturing positive displacement meters, with Bopp & Reuther Messtechnik GmbH, from Germany, known worldwide for its long tradition in the instrumentation and control field. This contract was transferred to Metroval in 1988, date of the company founding.

In 1991, another technology transfer contract, with the company Rheonik Messgerate GmbH – also from Germany, granted the mass meters manufacturing by Coriolis effect, in a pioneering move in Brazil.

With a prominent position in the flow measurement domestic market, the years followed with numerous accomplishments:

- One of the first domestic companies to obtain in 1994 an ISO 9000 certification;
- Inmetro Accreditation in 2004, of its flow gage calibration laboratories, integrating RBC – Brazilian Calibration Laboratories Network;
- Conquest of the largest flow measurement contract of national history: the adequacy of four Petrobras assets in the Campos Basin, totaling 14 oil platforms;
- Opening of a branch office in Macaé (RJ), in order to provide services and support to Oil and Gas companies.

With almost 3 decades of experience, today Metroval is proud to count more than 30,000 meters sold to over 6,000 customers. A genuinely Brazilian company and national leader in measurement technology, Its commitment to quality and technology has placed it as the only company in Latin America to completely dominate the production cycle of flow measurement systems, enabling the continued development of fluid control solutions.

Metroval

Our success history

1988
Metroval arises

1990
Metroval extends its presence in the oil & gas market. The company begins to enhance its participation in gas segment with equipment for CNG and LPG

1994
One of the first companies of its size to achieve the ISO 9000 certification in the segment

1997
Start to partnering with international companies

2000
Participates in creation of joint ordinance number 1 ANP/ INMETRO

2002
Open Macaé, RJ branch, with over 100 employees

2004
Inmetro accreditation of company flowmeter calibration labs, integrating RBC - Rede Brasileira de Calibração

2005
First EMED (measurement station) supplied to Petrobras.

2006
Conclusion of the major flow metering contract of national history: adequacy of four Petrobras assets in Campos Basin, totalizing 14 rig platforms

2009
Provision of four skids for adequacy of oil, water and gas measurement systems to Petrobras

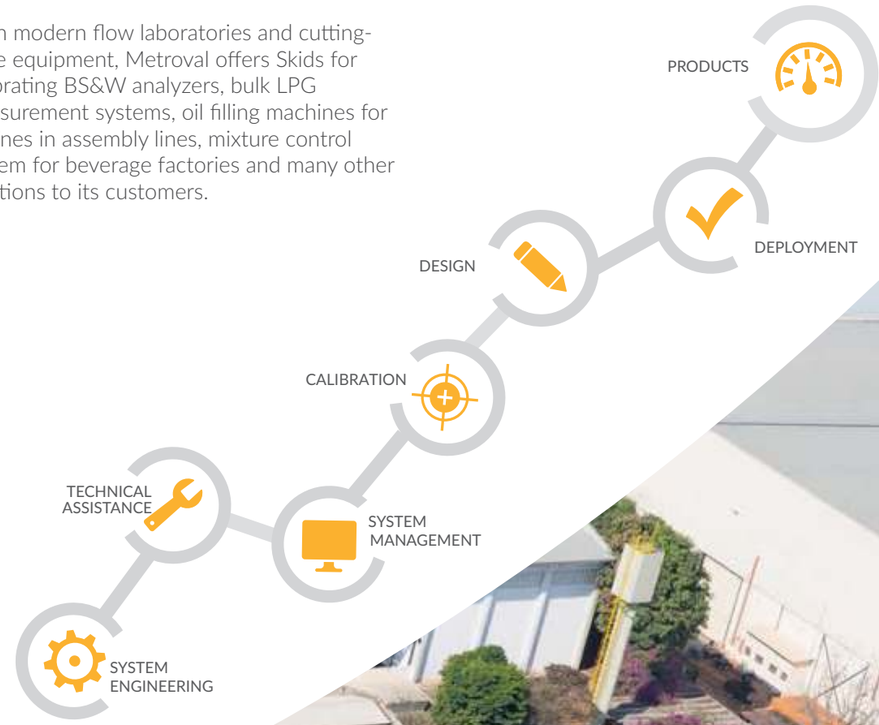
2010
New flow lab, with unique characteristics in Latin America

2012
Win the off-loading measurement contract for eight Hulls to Petrobras

2016
Win the first international on-shore contract in Angola, Africa

WITH MORE THAN 30 YEARS, WE OFFER INNOVATIVE SOLUTIONS FOR THE MOST DIVERSIFIED SEGMENTS

With modern flow laboratories and cutting-edge equipment, Metroval offers Skids for calibrating BS&W analyzers, bulk LPG measurement systems, oil filling machines for engines in assembly lines, mixture control system for beverage factories and many other solutions to its customers.



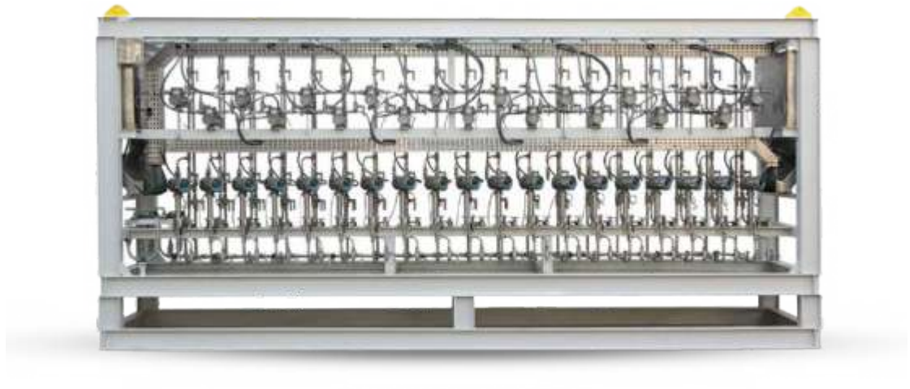
Metroval

DESIGN

CUSTOMIZED SOLUTIONS
for each production process

MEASURE WHAT NEEDS TO BE MEASURED. METROVAL PROVIDES SOLUTIONS FOR MEASURING FLUIDS TO THE MOST DIVERSIFIED INDUSTRY SEGMENTS.

- Automotive
- Biofuel Industries
- CNG (Compressed Natural Gas)
- Food and Beverage
- Fuel Terminals
- LPG and Industrial Gas
- Lubricants and fuels
- Mining
- Oil and Gas
- Paints and Coatings
- Petrochemical and Chemical Industry
- Pharmaceutical
- Pulp and Paper
- Steel Mill
- Sugar and Alcohol
- Thermoelectric
- White Line



Chemical products injection system

The Metroval system for chemicals injection is based on effective control of flow and measurement the amount of fluids injected. Its biggest difference is to make the automatic flow control through a valve / meter flow set. Thus combination allows the complete dosing process control.

Flow metering systems by primary elements

Flow metering through primary elements, such as orifice plate, taper meter, integral orifice and Venturi tubes, associated to straight measurement sections, outflow rectifiers and conditioners.

Integrated systems for flow measurement

Systems for oil, gas flow measurement or other hydrocarbon, mounted or now on skids. Allows total control in measurements of custody transfer, production appropriation, operational and fiscal measurement.

Systems of calibration of flowmeters

Autonomous calibration system with Compact Pover.

Fuel unloading system

Fully automated modular system fuel for loading and unloading and unloading bases. Meets metrological 5992/2008 Inmetro and ABNT requirements.
The system measures and records all magnitudes necessary to calculate the volume discharged under reference conditions, monitoring its quality. Among the magnitudes measured we found: gross volumetric flow and corrected to the reference conditions, specific mass, temperature.

Loading measurement and control system

Fully automated modular system for fuel loading bases.
Meets the metrological requirements of Inmetro and ABNT 5992/2008.
Performs temperature, flow and density measurements, controls the flow and informs the variables measured, correcting the loaded volume to the temperature of 20° C.

Production measurement system

As integral part of the inventory control, the volumetric measurement system for production is guarantee of the proper achievement of the corrected volume at 20°C. The instruments are assembled on a spool and integrate volume, temperature and INPM grade measurements into reliable, state-of-the-art electronics. Available with mass meter.

Mash measurement system

Measurement and control of Brix in Mash is the primordial tool to achieve the maximum efficiency in ethanol production. Brix degree stability in mash formation provides repeatability in fermentation process, and consequently, a stable feed in distillery, thus optimizing the production capacity.

Dosing and filling system

Designed to offer high accuracy (0.5%) and high repeatability (0.05%), allows desired liquid quantities predetermination for filling. It can be constructed based on mass or volume measurement with high accuracy and high repeatability. Can being mobile or fixed.

Lubrificant and Diesel System Solution for retail distributors

Lubricant, diesel oil or supply systems or ARLA 32 for tanker trucks carrying the bulk distribution. This system consist of a P.D flow meter with INMETRO approval for custody transfer and an electronic flow monitor for batching, allowing fractional delivery in an automatic way. All operations can be remotely monitored by management software with web interface.

EMAP metering station for Natural Gas

The EMAP metering station for high pressure Natural Gas is a product specially developed as a solution for companies distributors of NG, that have interest in manage the process of supplying and consumption of gas to gas stations, whether though virtual networks or gas pipelines. This product provides GPRS communication, that enable the monitoring, in realtime, of the gas volume consumed by the customer, avoiding extra costs with the displacement of people to the site where the equipment will be installed just to make readings and control of the process. All these management tools are available in the website. The customer has restricted and exclusive access. The information are protected by password.

Lubrificant oil feeder for assembly lines

System used for lube oil injection in the sump for explosion engine. It uses volumetric meter with high accuracy (0.2%) and high repeatability (0.05%). The lubricants dosages made in engines.

PRODUCTS

METROVAL METERS

Make the right choice

THE CHOICE OF SUITABLE FLOW METER FOR EACH APPLICATION CAN GREATLY IMPROVE YOUR OPERATION. WITH METROVAL METERS YOU GET BETTER COST/BENEFIT COMBINING QUALITY TO THE MORE ADVANCED TECHNOLOGY.

Volumetric meters

The positive displacement volumetric meters are used to measure industrial process fluids. It is an equipment with high accuracy and robustness, and widely used in the fiscal measurement processes. Model approved by Inmetro.

Volumetric meters / micro flows

The gear volumetric meters series HI MV are suitable for measuring very low flows from many different types of fluids.

Density Transmitter

The Metroval density transmitter can be applied in specific mass, density or concentration measuring processes of pure or not purê chemicals, with the presence of particulate matter, even in corrosive chemicals products. Allows parameterization of concentration curves with automatic temperature correction.

Coriolis effect mass flow meter

The mass flow meters are suitable for high and low viscosity liquid measurement, containing particles solid or in suspension. The measurement is made by the Coriolis pronciple measuring directly in mass the liquids or gases flow without the need of pressure, temperature, density or viscosity compensation.

PRODUCTS

METROVAL PRODUCTS

VCDM - Digital Control Valve

Has the capacity to automatically execute the programmed flow control required to fuel loading and unloading process, in addition to ensure the exact volume transfer measurement when linked to an electronic volume presetter.

VCM - Motorized Valve

The motorized valve VCM01 Metroval is compact and extremely precise in the control of dosages of chemicals. It dramatically reduces the space required for installation, since, besides the small size of the set, dispensing pneumatic installation and unique signal wiring for each valve. The electronic actuator allows connection of signal transmission in a network between PLC, requiring only a pair of wires that pass on all valves.

MTM - Metroval Multi-Transmitter

The Metroval Multi-Transmitter (MTM) has a new concept in processing technology and graphical display. It is capable to be used in the entire line of Metroval sensors, either volumetric, mass or density sensors.

Metrobatch

Used for controlling batches, the METROBATCH electronic transmitter may be used together with Metroval positive displacement flowmeters and mass meters with remote or incorporated installation.

Manual samplers

Manual samplers are elements aimed to achieving a representative sample of certain fluid for laboratory analysis.

Automatic oil and gas samplers

The automatic samplers perform is an isokinetic sampling of fluids, capable of extracting reliable samples of the process so that they can be analyzed later in the laboratory. A wide variety of sample volume and frequency can be extracted by means of a probe inserted automatically into the process without a production interruption.

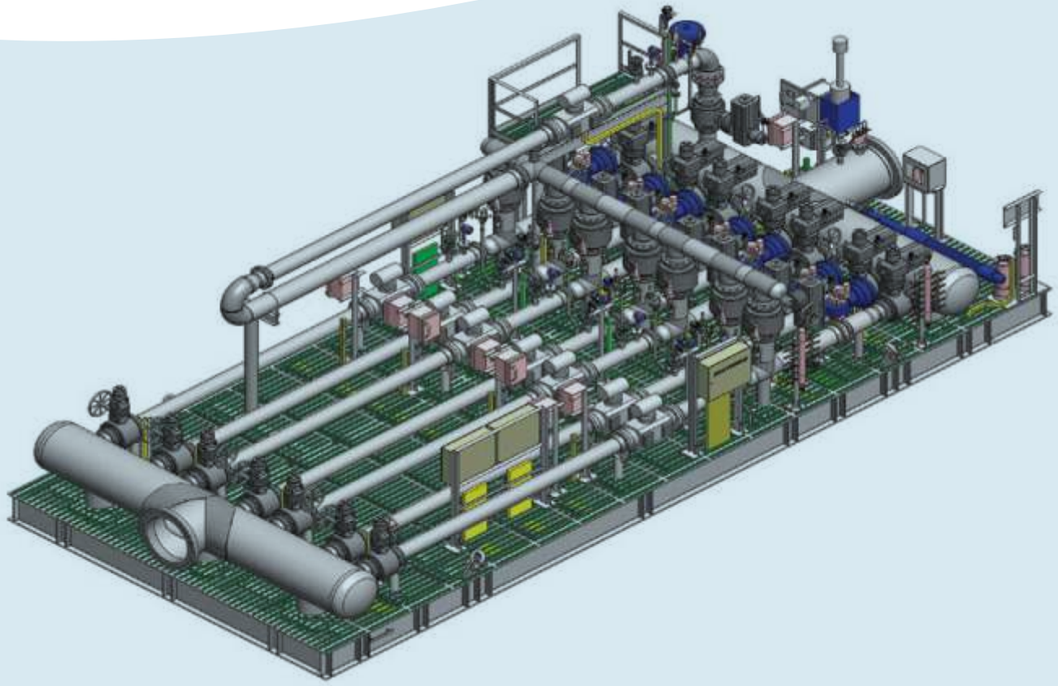
SYSTEMS
ENGINEERING

SYSTEMS ENGINEERING

INTEGRATES SYSTEMS, LONG-TERM BENEFITS. MASTERING ALL CYCLE OF SOLUTIONS IN FLUID CONTROL.

We work intensively on developing conceptual and basic projects, providing to our client multiple solutions, such as:

- Field surveys (onshore abd offshore) for budgets and proposals preparation.
- Plant analysis and improvement studies;
- Preparation of descriptive memorials and technical specifications for services contracting;
- Consulting of oil and gas measurement systems for de adequacy to the applicable law – Joint Ordinance no. 001, ANP / INMETRO;
- Development of process flowcharts, (PFDs), and engineering flowcharts (P&IDs);
- Detailed project, encompassing all activities enabling the installation, maintenance and operations of the systems installed, data sheets and specifications of equipment, instruments, panels and automation systems;
- Supply support;
- Preparation of system DATABOOKS, including certified project, certified supplier documents, manufacturing and material certificates, and all required certificates.



CALIBRATION

METERS CALIBRATION

METROVAL FLOW LABORATORY IS THE MOST WIDE-COVERAGE, MODERN, VERSATILE AND AUTOMATED LAB OF LATIN AMERICA.

Calibration laboratory with the highest flow capacity and lowest uncertainty rate of Latin America

It is able to calibrate flow meters from various measurement technologies such as positive displacement, turbine, mass, electromagnetic, ultrasonic, among others.

- Audited by Cgre and member of of the Brazilian Calibration Laboratories Network (RBC);
- Meets all requirements of the NBR ISO/ IEC 17025 standard;
- Calibration with oil (accredited up to 2,040 m^3/h);
- Flow (0.06 to 2,040) m^3/h;
- Multi-viscosity (1 to 900) cSt;
- Calibration and measurement capacity 0.04% to 0.10%;
- Qualified for accreditation testing (according to OIML 117);
- Qualified for metrological verification (according to OIML 117).

Others labs:

Metroval has density, proofing, dimensional, pressure and temperature calibration laboratories accredited as per NBR-ISO/IEC 17025 standard.
:

Mobile Laboratories:

The mobile calibration labs are mounted into containers and can be conveyed and installed at On-Shore and Off-Shore customer's site.

TECHNICAL ASSISTANCE

TECHNICAL ASSISTANCE SERVICES

METROVAL IS THE ONLY COMPANY HAVING ISO 9001 CERTIFICATE IN ON-SHORE AND OFF-SHORE TECHNICAL ASSISTANCE.

Metroval provide technical assistance service and Metrological Management on-shore and off-shore. The support team is highly trained and qualified for the activities consist of:

- Metrologistis;
- Technical off-shore and on-shore support staff;
- Calibration of measurement instruments (temperature, pression, density and BSW);
- Dimensional analysis of orifice boards and straight stretch of measuring;
- Preventive maintenance;
- Metrological verification of flow computers;
- Calibration tasters volume (compact prover e pipe prover);
- Metrological audits of measurement systems;
- Monitoring of thirdparty audits;
- Preparation of calibration procedures and estimates of uncertainty for instruments and measurement systems;
- Equipment/system installation, commissioning and start-up services;
- Metrological management services.

CGM - Jul/2018_REV A

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Metroval
Customized solutions in fluid measurement