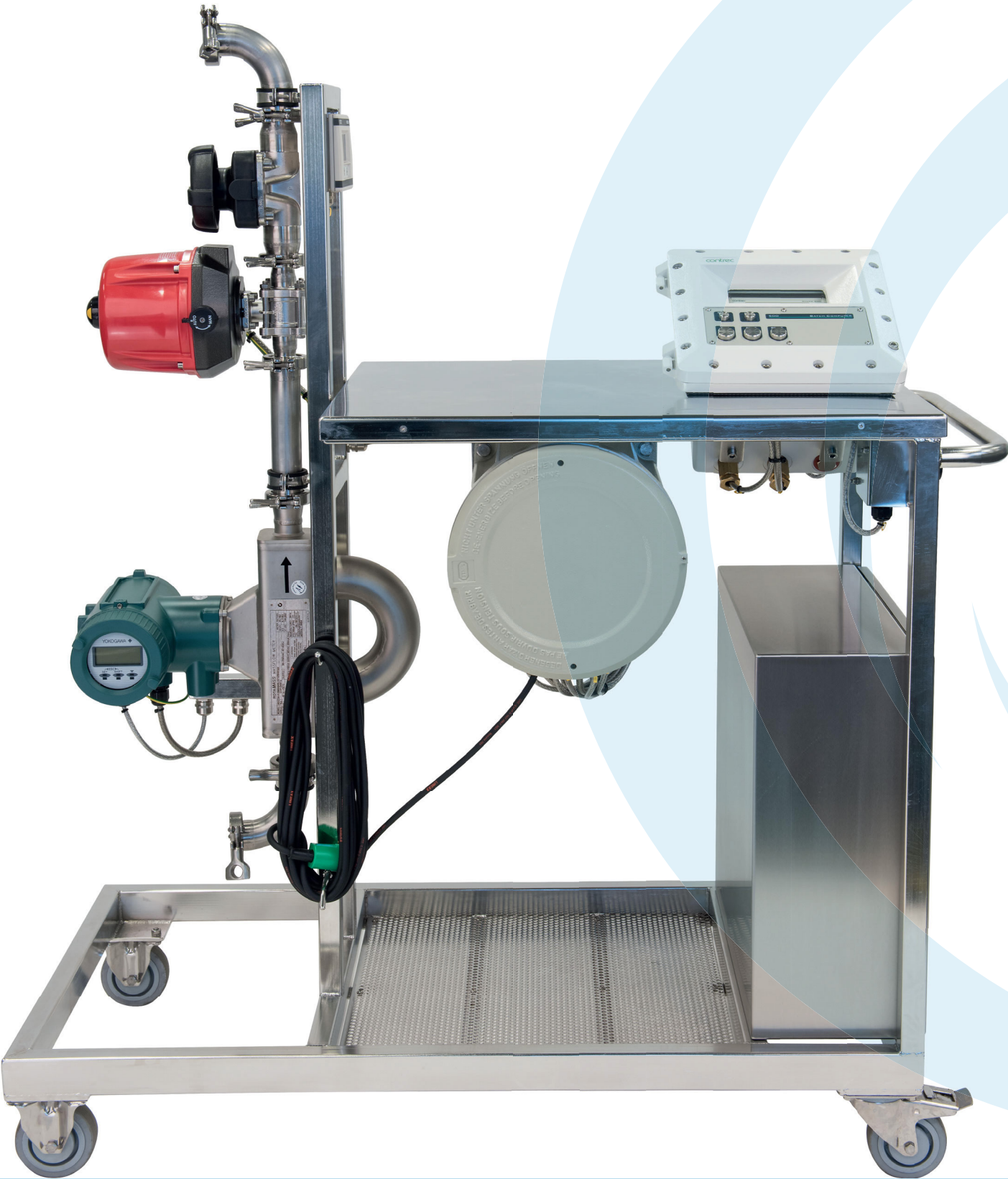




Insacal Quantity Rig

Mobile Calibration of Tank Load Cells

www.insatechpharma.com



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Introduction

Gauging level in tanks by using load cells is a common practice in many production facilities. But calibrating the tanks can be time-consuming because you manually have to place several hundred kilograms of weights on the sides of the tank. Insatech Quantity Rig fills the tank with precise quantities of water making calibration as easy as pressing a button.

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How It Works

Insacal Quantity Rig works by connecting the rig to a preinstalled flanged pipework on the tank. This can be done using Tri-clamps. Water is then pumped into the tank to the specified calibration points and the measurements from the Rig and tank are compared.

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Operation

Insacal Quantity Rig is developed with special focus on operating costs, user friendliness, accuracy and documentation. Furthermore, it is delivered tested and calibrated with accreditation certificates, ready for use.

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Product specifications

Please refer to page ten for detailed specifications.

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Service and Support

Maintenance is limited to a yearly inspection of critical parts, e.g. valve and we recommend calibrating the Rig once a year. We can provide training in the use of the Quantity Rig.

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Introduction

Level gauges are the most common measuring principles in production facilities and load cells are especially useful for gauging level in tanks. Level is a parameter in every pharmaceutical production and it is central that such measurements are accurate otherwise product quality and even production safety can be affected. To ensure reliable measurements the level gauges need to be calibrated at regular intervals and in some industries calibration is needed to fulfill legislative requirements.

Insacal Quantity Rig is an on-site calibration solution that has numerous advantages over manual tank calibration.

Better Work Conditions for Your Calibration Technicians

The traditional method of calibrating load cells is to hang weights on the side of the tank, but this is very tough and time-consuming labor that requires lifting and placing many hundreds of kilograms on to the tank. For each calibration point you must place the exact weight needed for that point and then you have to wait for the measurement to stabilize, then add more weight for the following points as well. When you are done you have to remove all the weights again.

Insacal Quantity Rig fills the tank with water. The weight of the water is measured using a highly accurate state of the art Coriolis mass flow meter. At each point you compare the tank load with the mass measured by the Rig. The only physical work needed is connecting the Rig to water, power and the tank while the calibration is done by a push of a button.

Increased Production Time

While the calibration is ongoing it forces some areas of the production to stand still so every minute saved during calibration will potentially earn you money. With Insacal Quantity Rig we have seen calibrations that are up to 5 times faster than manual calibrations, so if you have several tanks that need to be calibrated 1-2 times a year you can reduce your downtime considerably – hours that can be spent producing more product and making a larger profit.

Less Damage of Factory Inventory

When hanging weights on a tank it is impossible to avoid scratching and denting it. So, wear and tear during calibration could mean that you have to replace the tank earlier than needed. Insacal Quantity Rig uses a hose to connect with the tank so no mechanical damage will ever occur.

Accurate Quantity Measurement

Insacal Quantity Rig combination of a high-quality mass flow meter and easy operated batch controller ensures precise dosing of quantities every time – swift and easily. The automatic valve makes sure that there is no run over as it closes.



Calibration by weights took two men 75 minutes and required lifting several hundred kilos onto the tank





How it works

Insacal Quantity Rig works by pumping water through the master meter on the rig into the tank. Water is pumped into the tank to the specified calibration points and the measurements from the Rig and tank is compared.

Highly Accurate and Stable Calibration

After being connected to the UUT (Unit under test) and a power supply the calibration can begin.

You start by entering the desired batch size into the batch computer. The batch computer controls a control valve to a desired mass flow.

Once the calibration is started, the valve will open, and the connected water supply will feed water. When the set point is reached the control valve will close, ensuring the exact quantity has been added.

The result from the UUT (weigh scale or level gauge) can then be compared to the result from the master meter on the rig.

Both mass and volume can be measured by the master meter.

Insacal Quantity Rig compares the results from the UUT with the Master Meter on the rig. After the calibration is done the data will be shown on the rig's display.

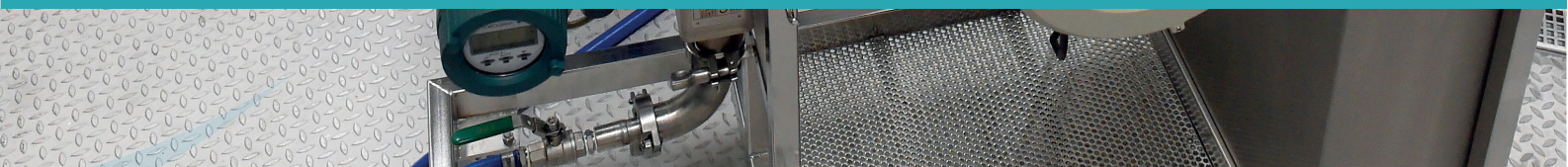


Watch the show case of **Insacal Quantity Rig in action** at a pharmaceutical production site on YouTube





Using Insatech's Insacal Quantity Rig the calibration was performed by one man in less than 15 minutes



Operation



Insacal Quantity Rig has been developed with special focus on operating costs, user friendliness, accuracy and documentation. Furthermore, each rig is delivered tested and calibrated, ready for use in both laboratory and production environments.

User Friendliness

Connections, instruments, and handles are placed ergonomically correct and allow operation from one side.

Furthermore, the software is designed with usability in mind making your operator's user experience easy and effective every time. During the calibration, all results are presented on a display after each calibration point.

Cleaning can be done according to standard industrial procedures and all wet parts are designed for CIP (Clean In Place) and SIP (Steam In Place).

Mobility

Insacal Quantity Rig is designed to be mobile.

Integrated wheels allow the rig to be moved to wherever it is needed. The compact design of the rig means that it fits through standard industrial doors and elevators.

Documentation from Basic to Full Validation

We work according to approved standards, e.g. Good Automation Manufacturing Practice (GAMP) and the rig is designed according to both the machinery directive and the low voltage directive.

The documentation package that comes with the Rig is made according to user specification and ranges from basic operations manual to full validation in accordance with common practice in the pharmaceutical industry.

Is the Standard Rig Insufficient?

If a standard configuration does not fully meet local requirements, Insacal Quantity Rig can be adapted accordingly.

We can design the unit to suit your local requirements, and we prefer to work on a mutually agreed user requirement specification.

Skilled calibration technician moving the rig around the factory with ease

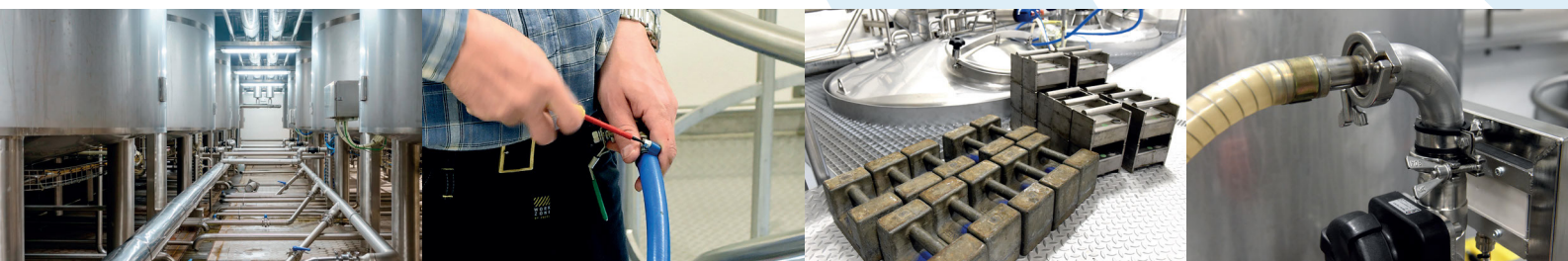




Product specifications

The below specifications are for our standard model, but it can be delivered to almost any specification you might have.

CIP (Clean in place)	Yes
Steam Sterilisable (Steam in place SIP)	Yes
ATEX	Yes (Optional)
Flow Range	5...30.000 kg/h and l/h
Accuracy	0,25%
Pressure	Up to 10 Bar
Temperature	Up to 40 °C
Ambient Temperature	+10...40 °C
Build Material	Stainless steel AISI 316L with electro-polished finish Flow meter: EN 1.4404/AISI 316L or C22
Surface Roughness	Better than Ra 0,8
Pipework Connection	Tri-Clamps or by client standard
Power Supply	230 VAC, 10 A
Dimensions (L x W x H)	1250 x 580 x 1500 mm
Weight	From 120 kg and up, depending on model





Service and support

Please call us if service or further training is required.

Minimal Maintenance

Maintenance is limited to a yearly inspection of critical parts, e.g. the valve and we recommend calibrating the Rig once a year.

Maintenance and recommended spare parts may differ depending on the specifications, but will always be described in the delivered documentation.

Service and Support is Readily Available

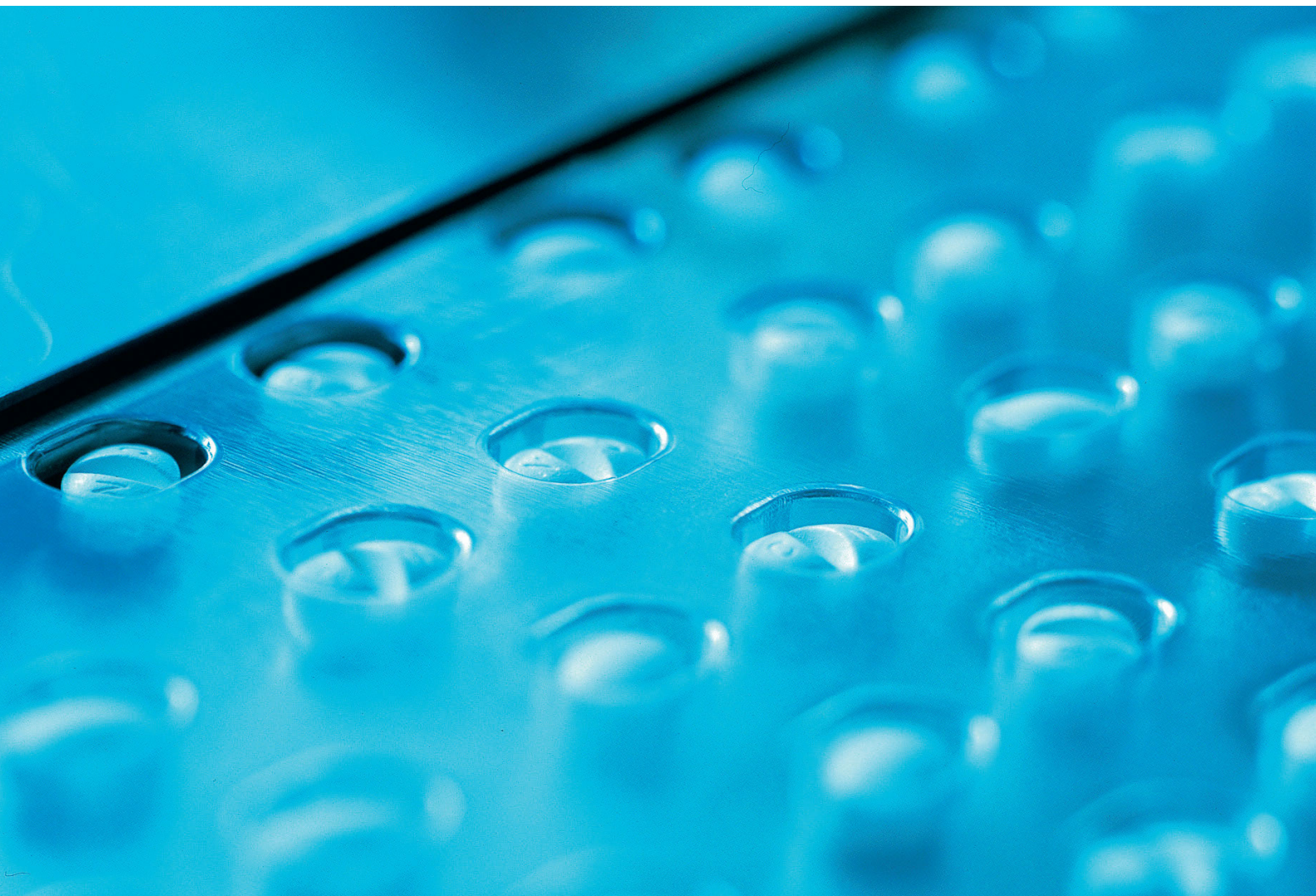
We know that the after sales experience is important to you and your total product experience. Therefore, we have a well-staffed service department ready to help you if challenges should arise.

Insacal Quantity Rig is built with standard components which makes spare parts easily obtainable. If you choose to sign a service agreement with us, we will perform maintenance on the rig and ensure it functions correctly. Furthermore, we will take responsibility for timely calibration of it.

Training

Requirements and the ever-increasing complexity of measuring equipment makes proper training necessary. Insatech can offer equipment and application training either at your or our facilities. Furthermore, the training will be targeted towards your various working situations ensuring that you get the highest benefit possible.





*Insatech solutions can give you
greater flexibility and help you save
time, money and worries*

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