



# Optimass - One Tube,

## No Limits!

KROHNE, developer of the first commercial straight tube Coriolis mass flowmeter has produced yet another first; OPTIMASS - a revolutionary family of mass flowmeters which overcomes the constraints on flow, materials and applications traditionally associated with single straight tube Coriolis meters.

Designed specifically to cater for the needs of the pharmaceutical, chemical, food and beverage industries, OPTIMASS promises superb accuracy and reliability, as well as providing a whole host of innovative features and benefits for the user.

### A new generation in mass flow

The OPTIMASS family comprises 2 styles of meter; the single straight tube 'Series 70' and the single Z tube 'Series 71'.

The single straight tube incorporates Adaptive Sensor Technology (AST), a ground breaking new concept developed by KROHNE, offering incredible stability and, consequently, maximum accuracy in the most difficult applications, whilst the small diameter Z tube provides utmost precision on low flow metering.

Discover the difference 2

Series 70 Straight tube 3

Series 71 Z tube 3

Adaptive Sensor Technology 3

Hygienic process connection 3

Tried and tested technology 4

# contents

# Discover the difference

OPTIMASS has been specifically designed to overcome metering problems in notoriously difficult applications within the pharmaceutical, chemical, food and beverage industries.

## Pharmaceutical

OPTIMASS meets ASME Bio processing equipment standards, and has EHEDG hygiene approval as well as a wide range of industry approved seals. Each meter is self-draining and can be sterilised. There is also a heating jacket available for solidifying products. OPTIMASS is suitable for a range of pharmaceutical applications including:

- Ingredient batching in reactors
- Ultra pure water ring main measurement
- Solvent extraction.

## Food and beverage

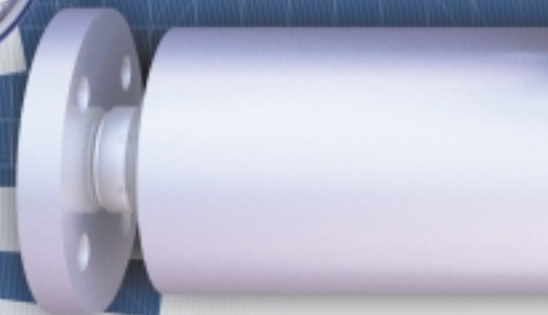
OPTIMASS complies with European and US food hygiene standards, and all materials are FDA approved. The unique 'single seal' aseptic process connection system for the series 70 satisfies the most stringent food hygiene demands, making the meter suitable for a wide range of metering duties including:

- Dosing of hops extract
- Density measurement in yoghurt evaporators
- BRIX measurement of concentrated juice
- Liquid dough flow measurement
- Ingredient batching

## Chemical

Manufactured in accordance with European Pressure Equipment Directives (PED), Cenelec, Atex and FM standards OPTIMASS is suitable for use in hazardous area environments. The availability of wetted parts in Titanium, Hastelloy® or stainless steel offers unbeatable chemical resistance in aggressive and corrosive applications. The meters are suitable for a range of chemical applications including:

- Production balance of raw material feed
- Bulk loading from storage to road rail tankers
- Quality control by determining concentration density.



# Introducing Optimass

## Key Features:

- Adaptive Sensor Technology
- Intelligent electronics
- Hygienic Process Connection System
- Small footprint for easy installation
- Flow handling from 15 - 430,000 Kg/hr (0.5 - 15,800lbs/min)
- Modular design
- Smooth transition from tube to process pipe
- Fully programmable electronics providing a choice of multiple outputs
- Compliance with EHEDG, 3A standards and using FDA approved materials
- Approval for custody transfer

## Series 70 - Straight tube

The OPTIMASS straight tube meter is available in 7 sizes and is suitable for flow rates from 950 - 430,000 Kg/hr (35 - 15,800lbs/min) The straight tube is resistant to blocking or fouling and is available in Hastelloy®, titanium and stainless steel.

- Modular sensor for Ex or non-Ex applications
- Secondary containment for up to 63 bar, PED approved

## Series 71 - Single Z tube

Designed primarily for low flow in the pharmaceutical industry, the OPTIMASS Single Z tube series 71 is ideal for blending, dosing and batching applications. The meter is available in 3 sizes and is suitable from 15 - 350Kg/hr (0.5 - 12.5lbs/min). The single Z tube is available in stainless steel and Hastelloy®. Each meter is of a robust design with a compact footprint for easy installation. Standard 1/4" NPT or hygienic connections are also available.

- Secondary pressure containment
- Liquid heating jacket option



## New Intelligent Electronics

The OPTIMASS range has been designed with all new electronics which provide excellent turndown capabilities. The main converter can either be mounted integrally or remotely up to 300m (1000ft) away using standard 4-core cable. A sensor signal processor is permanently mounted to the meter.

## New Adaptive Sensor Technology



KROHNE's patented AST design adaptively tunes the Series 70, independent of external forces and fluid density, to produce an inherently balanced meter that can cope with the most demanding process conditions and still deliver accurate and reliable measurement. The meter can be fitted anywhere in the process pipework, even being clamped on the body itself.

## New Hygienic Process Connection System

KROHNE has overcome the problem of welding titanium onto stainless steel by developing an ingenious 'single seal' aseptic process connection system in accordance with DIN 11864-1. The meters are available with a wide range of hygienic connectors with EHEDG approval, and most industry standard hygienic connectors can be accommodated.



Series 70 - Straight tube

**KROHNE**

The Level and Flow Company

## Tried and tested technology

To ensure highest standards of quality and accuracy, all meters in the OPTIMASS family have been rigorously tested to validate all specifications.



Both Series 70 and Series 71 are currently being employed at major chemical, pharmaceutical, food and beverage sites in Europe to actively measure the mass flow of substances such as margarine, coffee

extract and pesticides, and are delivering previously unattainable levels of performance.

### Four years development

OPTIMASS has been carefully developed over a four-year period, drawing on KROHNE's wealth of experience in the mass flow market, and taking into consideration new developments in material technology and digital electronics. Research and development for the OPTIMASS generation has taken place at the KROHNE Ltd group centre of excellence

for Coriolis mass flowmeter technology in Wellingborough, UK under the skilled leadership of Product Manager, Eddie Bridges, and Coriolis Development Manager, Yousif Hussain.

Having already scooped the 'MIAA Innovation Award' for inventing the world's first commercially viable single straight tube mass flowmeter, as well as the 'Metrology for World Class Manufacturing Award', KROHNE is confident that its new OPTIMASS generation will overcome previous mass flow measurement boundaries, and prove the ultimate in mass flow accuracy.

### Patents

Such is the importance of the newly developed technology being employed in the OPTIMASS range that KROHNE has successfully gained various patents for straight tube Coriolis meters including Adaptive Sensor Technology and the hygienic process connection system.

## Discover more!

A full range of brochures and a CD providing detailed information on KROHNE's new OPTIMASS range are now available by e-mailing [optimass@krohne.co.uk](mailto:optimass@krohne.co.uk)



ROYAL MAIL

2

POSTAGE PAID

STOCKPORT  
527

For further information on KROHNE products please contact:

KROHNE Ltd, Rutherford Drive, Park Farm Industrial Estate, Wellingborough, Northants NN8 6AE  
Tel: 01933 408500 Fax: 01933 408501 Email: [info@krohne.co.uk](mailto:info@krohne.co.uk) [www.krohne.co.uk](http://www.krohne.co.uk)

**KROHNE**

The Level and Flow Company