



PIC ENGINEERING

GENERAL BROCHURE

2023 & 2024



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GRINDING & LAPPING MACHINES FOR VALVES



VALVA SERIES
For Flat Seats Globe Valve



VSK SERIES
For Conical Seats
Globe Valve



SL SERIES
For Gate Valves



TSV SERIES
Safety or Relief Valves Repair Machine

TURNING MACHINES



TD SERIES
Portable Lathes Machine



TDF SERIES
Portable Flange Facers Machine



ROTAGO
Ball Valve Lapping Machine

SAFETY VALVE & SHUT-OFF VALVE TEST BENCHES



PS-T10.03
Portable Test Bench



PS-15M / PS-75M
Portable Test Bench With Upper Gantry

Certification & Documentation System


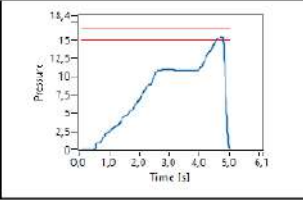
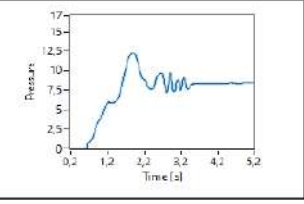



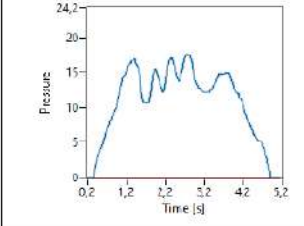
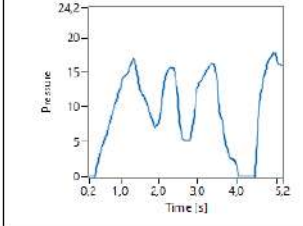
EFCO Valve Test Documentation System is designed according to the latest design software. It is Pre-installed and configured when delivered. The equipment comes with a heavy-duty carrying case, which allows it to be mobile and used anywhere on the site, linking to the EFCO Valve Test Benches.

This equipment are used to store data, and certificate info when performing;-

- 1) Pop Test and Seat Leakage Test for Safety Relief Valve.
- 2) Body Leakage Test and Seat Leakage Test for Shut-Off Valve or Control Valves

It is user-friendly, and test results can be saved on the laptop or printed out with the printer that comes together with the equipment.

EFCO Maschinenbau GmbH Otto-Brenner-Str. 5-7 52353 Düren		Test report of safety valves			
Plant	Werk-SV	Report No	20210210003		
Valve type	SV-Typ	Date	10.02.2021		
Valve-No.	SV-Test	Customer	Kunde-SV		
Rev.-No.	3	Job number			
Part-No.	2	Manufacturer	Herst-SV		
Install. location	Ort-SV	Manufacturer No.	3353		
Technical Data					
DN-inlet (mm)	DN-Outlet (mm)	PN (bar)	Seat (mm)	Lift (mm)	A/X.meas. (mm)
50	65	0	0	0	
Material					
Material of seat	Material of cone	Material of housing			
Spring charact.					
Spring-No.	Ext. diameter (mm)	Wire diameter (mm)	No. of windings	Unloaded spring length (mm)	
	0	0	0	0	
					
Release pressure test OK			Seat leakage test OK		
Nominal responding pressure	16,0 bar	Test Pressure	15,5 bar		
Current responding pressure	15,5 bar	Leakage	0 Bubbles/min		
Lower tolerance limit	15,0 bar	Upper tolerance limit	5 Bubbles/min		
Upper tolerance limit	16,7 bar	Test time	5,0 s		
Test medium	Air	Test medium	Air		
Test method		Test method			
Test temperature		Test temperature			
Closing pressure test					
Current closing pressure	0,0 bar				
Test medium	Air				
Test method					
Comments		Inspector			
Bemerkung SV ok		Test date	10.02.2021		
		Location of inspection			
		Surveyor			

EFCO Maschinenbau GmbH Otto-Brenner-Str. 5-7 52353 Düren		Test report of shut-off valves			
Plant	Werk-AA	Report No	20210210004		
Valve type	AA-Typ	Date	10.02.2021		
Valve-No.	AA-Test	Customer	Kunde-AA		
Rev.-No.	Rev 5	Job number			
Part-No.	T6	Manufacturer	Herst-AA		
Installation location	Ort-AA	Manufacturer No.	HNr 7		
Technical Data					
Type	DN (mm)	PN (bar)			
501	600	255			
Material					
Material of seat	Material of cone	Material of housing			
Sitz	Kegel	Gehäuse			
					
Housing testing - pressure not OK			Seat leakage test OK		
Test pressure (before start)	0,0 bar	Test Pressure	22,0 bar		
Test pressure (after stop)	0,0 bar	Leakage	0 Bubbles/min		
Lower tolerance limit	0,0 bar	Upper tolerance limit	6 Bubbles/min		
Test time	5,0 s	Test time	5,0 s		
Test medium	Water	Test medium	Air		
Test method		Test method			
Test temperature		Test temperature			
Comments		Inspector			
Bemerkung AA		Test date	10.02.2021		
		Location of inspection			
		Surveyor			



SMART PRESSURE TRANSMITTER



SMART DIFFERENTIAL PRESSURE TRANSMITTERS



SMART DIFFERENTIAL PRESSURE TRANSMITTERS with Diaphragm Seals



HYDROSTATIC LEVEL PROBE



FLANGED DIAPHRAGM SEALS with Flush / Extended Diaphragm



FLANGED DIAPHRAGM SEALS with Direct Diaphragm Cleaning System



TEMPERATURE SENSORS



SMART TEMPERATURE TRANSMITTER



HEAD MOUNTED SMART TEMPERATURE TRANSMITTER



DISPLAY & DATA LOGGERS



MANIFOLDS & NEEDLE VALVES



ELECTROPNEUMATIC POSITIONER



FLOW METERS



LEVEL SWITCHES





We will show you!

Schmiederer
South East Asia



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**DIAPHRAGM
PRESSURE GAUGES**



**BOURDON TUBE
PRESSURE GAUGES**



**CAPSULE
PRESSURE GAUGES**



**DIFFERENTIAL
PRESSURE GAUGE
with contact switch**



**GAS-FILLED
THERMOMETER**



**BI-METALLIC
THERMOMETER**



ACCESORIES



DIAPHRAGM SEALS

- For corrosive, aggressive and viscous process media
- For clogging media
- For sanitary & hygienic applications
- For high temperature and pressure
- For special mounting positions



MANODAMP®

Mechanical axle damping

WHY MANODAMP®

- No problems with leaking of filling fluids
- Price advantage
- Simple maintenance
- Long-term usage in rough environment



We will show you!

Schmieder
South East Asia



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**ELECTROMAGNETIC
FLOWMETER**



**TURBINE
FLOWMETER**



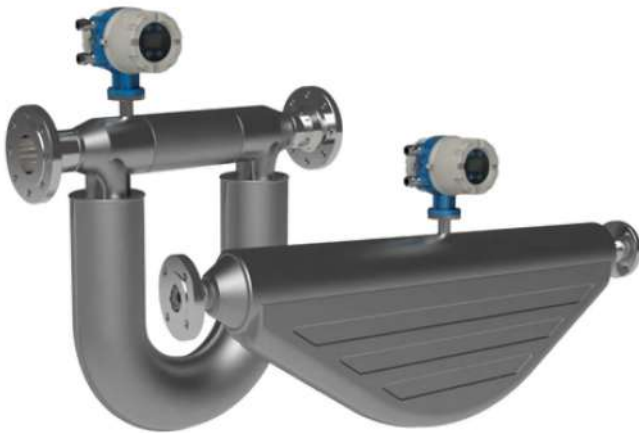
**VOXEL
FLOWMETER**



**PORTABLE CLAMP-ON
ULTRASONIC
FLOWMETER**



**PERMANENT CLAMP-ON
ULTRASONIC
FLOWMETER**



**CORIOLIS
MASS FLOWMETER**



**ANALYTICAL METER
SENSOR & CONTROLLER**

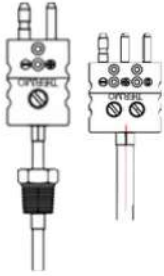




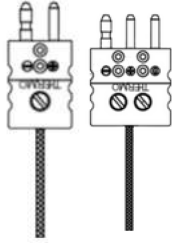
RTD & THERMOCOUPLE

IMMERSION TEMPERATURE SENSOR

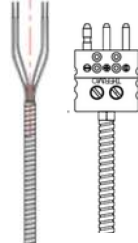
INDUSTRIAL TEMPERATURE SENSOR



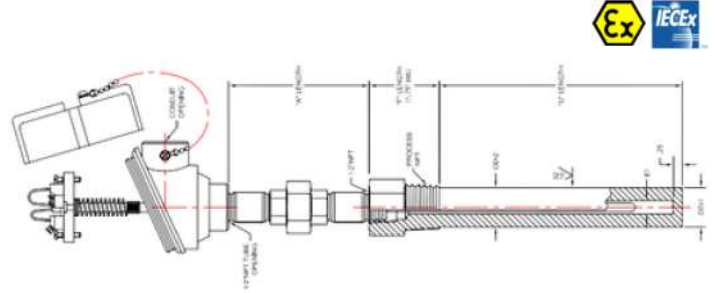
With PVC Lead Wire



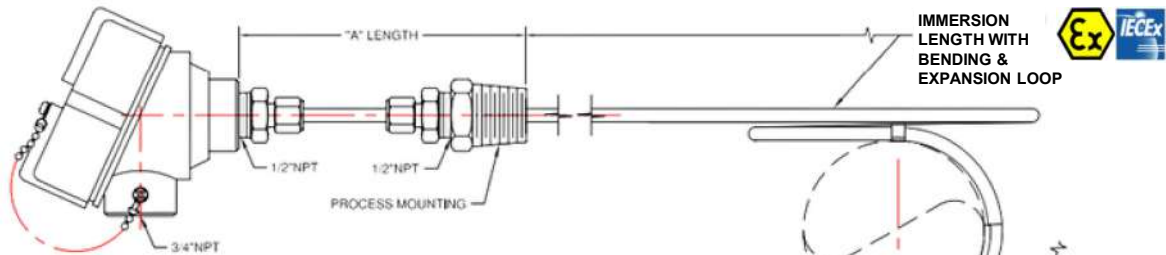
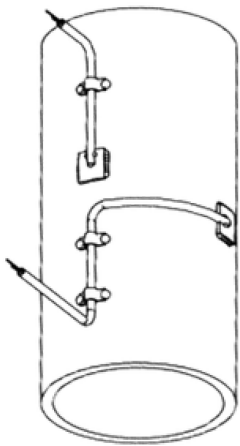
With Flangeless Lead Wire



With Armoured Lead Wire



TUBE SKIN THERMOCOUPLE



Used for monitoring surface temperatures on boilers, super heater or heat exchanger tubes

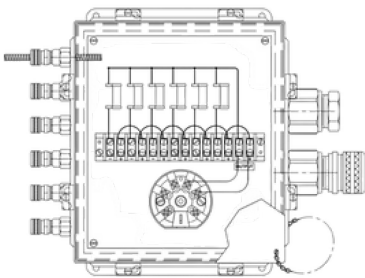
Paired with a weld pad shaped to the curvature of the tube or knife edge for fast response

Weld Pad

MULTIPOINT TEMPERATURE SENSOR

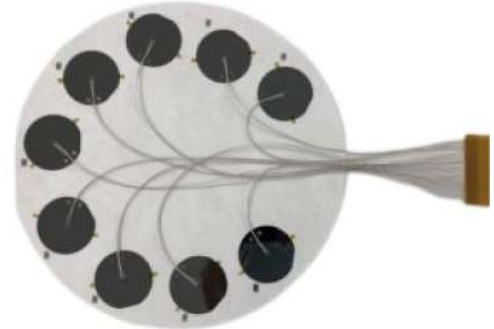
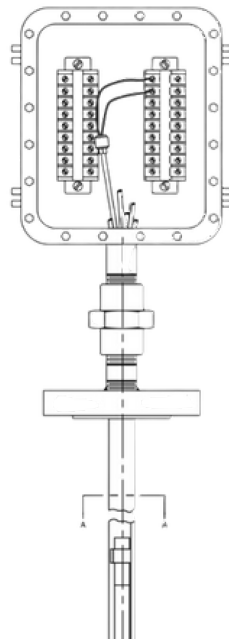
WAFER SENSORS

MULTIPOINT TEMPERATURE SENSOR



Used to monitor temperatures at various points with all thermocouples

Consist of a junction box suitable for terminating the thermocouples and joining them to cables running back



The Instrumented Wafer (Thermocouples, Bonded Wafer or RTDs) finds application in

knowing and controlling the temperature at The surface of a wafer is critical.



Variable area flow meters



Classical, reliable & cost-effective.
Used in all areas of industry.

Metal measuring tubes are perfect at high temperatures and pressures, a natural fit for the chemical industry.



Flap-type flow meters



Reliable measurement units even for large volume flow

Used in water preparation systems, power plants, as controls in cobbling process and in systems for building and swimming pools



Bypass Flow meters



Cost-effective measurement for large nominal widths, frequently used in bath water systems

Measurement for liquid, gases, as well as bases and acids available



Piston-type flow meters



Used for the positionally independent measurement of water, oils or other liquids

Can be used in horizontal or vertical pipelines



Differential pressure flow meters



- Wide range of connection variants
- calibrated for liquids or gases customer specifications
- Horizontal or vertical installation
- Variants: steel, stainless steel, brass
- Wear-free, no moving parts
- Optional differential pressure indicators/transmitters in differential variants





Compact Orifice



Triple compact orifice



OVAL WHEEL METER

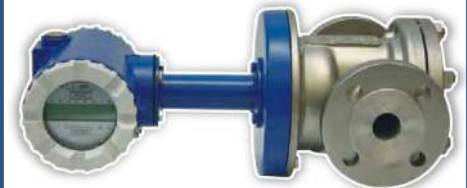
Type Flowal® Plus

Flowal® Series OR Plastic

Flowal® Series OF



Type OI



Oval Wheel Meter OI

Turbine Meter

RQ Series 1 with Universal Smart Transmitter (UST)

RQ Series 1 with Universal Smart Transmitter (UST)



Type OP



Oval Wheel Meter OP



Coriolis mass
Flowmeter
Series
FMO

Coriolis Mass
Flowmeter
FMD

Dosing &
Filling System



Small Magnetic
Inductive Flowmeter
With Shortest Filling Time
Above 0.1sec
Accuracy $\pm 0.5\%$

Density &
Concentration meter



DIMF 2.0 TVS



DIMF 1.3 TVS

Electromagnetic
Flowmeter



SpiraMAG®

Accessories



Strainer NC
welded design



Strainer

Centrifugal Gas
Separator



Centrifugal Gas
Separator Series
ZGA

TDSS

TURBINE FLOWMETER

SPECIFICATIONS

- Liquid application
- Pulse NPN/ PNP, 4~20mA, 0~10 vdc
- PVC/ PP/ PVDF/ SS304/ SS316
- Enclosure: IP67/IP68

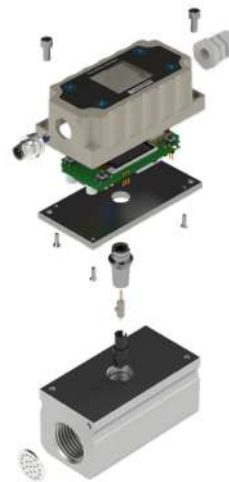


FTMF

THERMAL MASS FLOWMETER

SPECIFICATIONS

- Gas application
- 4~20mA, Pulse, ModBus,
- IP67/ Exd enclosure
- Turndown Ratio 100:1



FATS / CTMD

INSERTION TYPE THERMAL MASS FLOWMETER

SPECIFICATIONS

- Gas applications
- 4~20mA, 0~10vdc, Pulse
- Flow/Temperature & Pressure Measurement
- Enclosure: IP65/IP67/ATEX Zone
- 2 Turndown Ratio 100:1



WGAA

WET GAS AVERAGE PITOT TUBE FLOWMETER

SPECIFICATIONS

- Wet Gas application
- 4~20mA, Pulse HART, MODBUS RTU
- Bi-directional measurement
- 40 bar / 600°C
- Available for 2" ~100" line sizes



BOPT

AVERAGE PITOT TUBE FLOWMETER

SPECIFICATIONS

- Liquid/Gas/Steam application
- 4~20mA, Pulse HART, MODBUS RTU
- CS/ SS304/ SS316/ SS316L/ Titanium
- 320 bar/ 1200°C max.
- Pressure and Temperature Compensation



FLOWMETER FOR SPRINKLERS SYSTEM

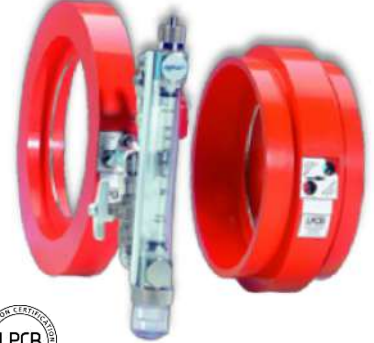
Firesure Duo FM & LPC



Firesure Type FM



Firesure Type LPC



LOW TO MEDIUM FLOWS

UNIFLUX



REFLUX



FLUXLINE



MEDIUM TO HIGH FLOWS

LPL



IMT



DELTAFLUX



CONTOIL[®] fuel oil meters



**DFM
BOARD-COMPUTER
(BC)**



VZD2, DN 4-8



VZO/VZF, DN 15-50



F - Series
flow indicators &
batching controls



DOMINO[®]
flow meters &
dosing units for
chemical liquid

CONTINUOUS MEASUREMENT LEVEL TRANSMITTER

Non-Contact Radar



Guided Wave Radar



Ultrasonic



PROCESS LEVEL SWITCH



Vibrating
(Solid/Liquid)



Capacitance



Admittance



Microwave



Rotary Paddle

Waste



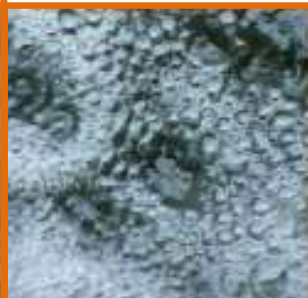
Oils



Water



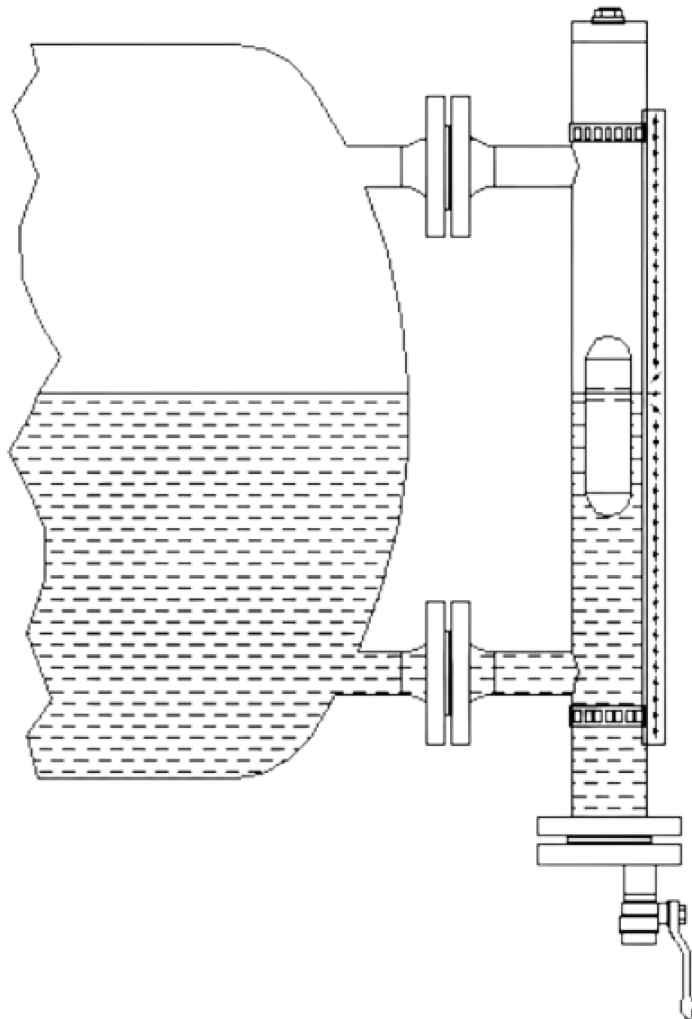
Chemicals



Slurry



MAGNETIC LEVEL GAUGE



ACCESSORIES

LEVEL TRANSMITTERS OR SWITCHES



MMS (Moisture Measuring Sensor)

Universal sensor

- analogue measuring arrangement
- capacitive measuring principle

universal usage & easy installation

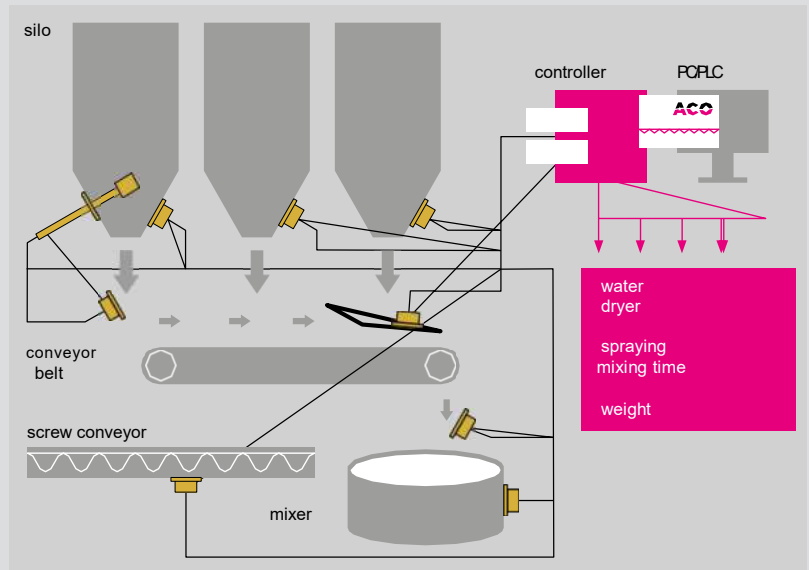


fig.: Feasible mounting positions of moisture measuring sensors

easy and precise **Sensor integration**

„The best sensor does no good if it has been placed in the wrong position.“

Integration kits The perfect solution

Our tailor-made integration kits enable a feasible integration of the sensor within the process.



SFM1_HACK
Compaction unit

specially designed for the **determination of fall**.

A pneumatic cylinder sweeps the collected material, compacting coarse material onto the ACO moisture sensor.



SFM4 Screw
compaction unit

to be placed in a free fall situation of material

first section of the compaction unit and conveys it right across the installed ACO

under constant and equal conditions (density, dumping height, etc...).

PN1 Sampler

to be **mounted in a free fall situation**, e.g. in a drop shaft.

Bulk good falls and is collected in a cup consisting of an ACO moisture measuring sensor. Moisture content is measured at the bottom of the cup.



TFM1
Compaction unit

specially designed for the **determination of the residual**

Its hydraulic cylinder provides the compaction unit a longer life.



Globe Valves

Features

- Precise Control / Severe Service
- Best solution for throttling service in Oil, Gas, Petrochemical, etc.



Angle Valves

Features

- Viscosity, Resistance Fluid
- Control at High Differential Pressure, Slurry & Viscosity



Mixing / Divert 3-way Valves

Features

- Mixing & Diverting Service
- Fluid Control mutually to three directional pipings



Self-Acting Pressure Regulators

Performance

- Direct operated / Pilot operated.
- Easy setting / Fast action.
- Low-cost maintenance.

Specification

- Pressure-reducing type (P2 control)
- Back pressure/ Relief type (P1 control)
- Tank blanketing type.



Ball Valves

Feature

- Soft / Metal Seat
- Comply with API standards designed for pressure and vacuum service.

V-Notch Ball Valves

Feature

- High rangeability
- Excellent proportional control
- Suitable for critical conditions in powders, slurry, gummy, fibrous material, and other fluids with special characteristics.



High Performance Butterfly Valves

Feature

- High flow, low pressure control
- High performance
- Triple Offset



Teflon Block Valves

Feature

- Anti-corrosion
- Chemical Injection, Acid or Alkaline
- Compact design with multi-spring diaphragm actuator



Tank Bottom Flush Valves

Feature

- Convenient
- Fast Draining
- No pocket or dead area in the body



Desuperheaters

Feature

- Venturi / Mechanical Nozzle / Variable Nozzle
 - Precise Control of Steam Temperature for optimization
 - Tailor-made design for each process
- Available in Carbon steel, Stainless Steel or Alloy steel materials

Actuators



Cylinder Actuators



Accessories

▶ MH-750

▶ MH-740

▶ MH-700

▶ MR-5000R



Diaphragm Actuators

Piston Actuators

VALVES, ACTUATORS & ACCESSORIES



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Butterfly valve



Body CI, SS Disc, EPDM, Manual Lever



Body CI, SS Disc, EPDM Gear Box Operator



c/w Pneumatic Valve Namur Solenoid Valve



c/w Electrical Actuator



Electro-Pneumatic Positioner, Smart Positioner



Smart Electro-Pneumatic Positioner (4-20mA)



Electro-Pneumatic Positioner, -Linear (4-20mA)

Pneumatic Actuator



c/w Ball Valve (Threaded End)



c/w Limit Switch and Namur Solenoid Valve



Limit Switch



Pneumatic Actuator



Ball Valve



Flow Switch



2-Way Solenoid Valve – Water, Pneumatic, Hydraulic, Vacuum



FRL – Filter Regulator Lubricator (Pneumatic)



FRL-Filter Regulator and Lubricator (High Pressure) Water Meter



5/2, 3/2 Solenoid Valve, Type: Inline, Namur





MULTIFUNCTION
CALIBRATORS

DIGITAL
MULTIMETERS



PRESSURE
CALIBRATION



CALIBRATION
SOFTWARE

LAB DESIGN



DECADE BOXES



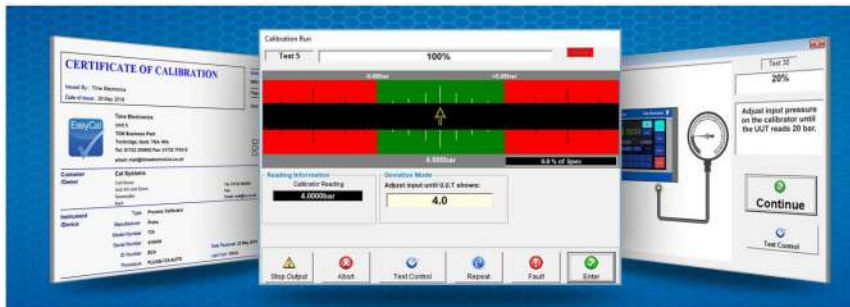
PORTABLE ELECTRICAL &
PROCESS CALIBRATORS



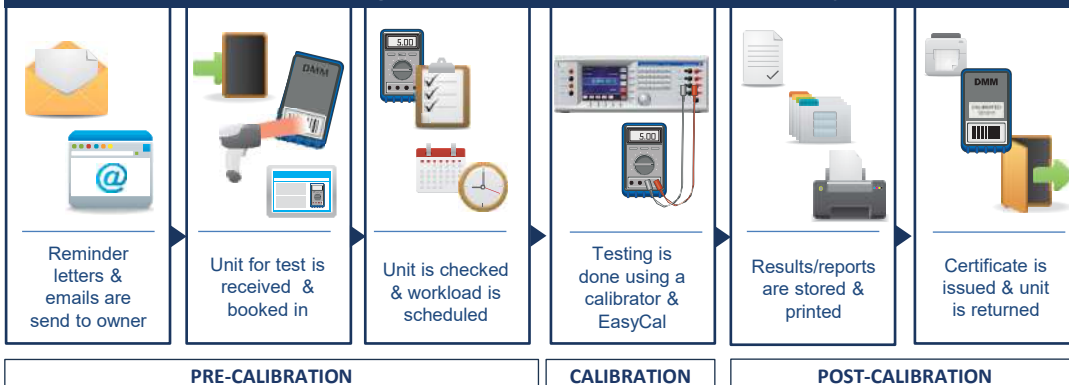
CalBench™



EasyCal – Calibration Software



Automating the Calibration Process with EasyCal



HOSES & FITTINGS



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INDUSTRIAL HOSE



HARAFLEX

FLEXAUST

SEMPERIT

HANKIL

TOGAWA

Air

Water Suction & Delivery

Bulk Material Delivery

Multipurpose

Welding

Sandblasting

Helix Suction

Ventilation Duct

Layflat

Compressed Air

Oil Delivery

Bulk Material Suction & Delivery

Steam

Radiator

Clear hose

Wire Spring

Exhaust Duct

Water Delivery

Oil Suction & Delivery

UHMWPE / XLPE
Chemical Suction & Delivery

Tank Cleaning

Dock

Fibre Reinforced

Air Duct

HYDRAULIC HOSE

Aeroquip RYCO EXIT-FLEX SEMPERIT



STAINLESS STEEL HOSE

Applicable Standard: EN ISO 10380

Diameter: 1/4 inch-12 inch

Temperature Range: -200°C to 700°C

Hose Material: Stainless Steel-A151,



HYDRAGUARD AUSTRALIA

OD: 10mm—116mm

Length: 12m / 20m / 50m

Hose Material: High density



HYDRAULIC FITTINGS



**One-Piece
Pre-Crimped
Hose Fitting**



**Two-Piece Insert
& Ferrule**



Hydraulic Adaptors



**DIN 2353 Type
Tube Fittings**



INDUSTRIAL FITTINGS



GASSOFLEX



Application : Petrol
Model No. : EN 13765:2010

COMPOSITE



Application : Chemical
Model No. : EN 13765:2010



Application : Cryogenic
Model No. : EN 13766:2010
Temperature : -50°C to 50°C (LPG)
-196°C to 50°C (LNG)



Application : Chemical
Model No. : EN 13765:2010
Temperature : -30°C to 240°C

CABLE GLANDS



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Standard Polyamide
& Metal Cable Gland



EMC Cable Glands
(Electromagnetic
compatibility)

VenGLAND® & VenPLUG
(Cable glands with
Pressure Equalization)



EX / EX E
Cable Glands



EX Accessories,
Gaskets & Adaptors



WISKA
make power smile



bimed



HAWKE

International



ARMOURED
CABLE GLAND
For Hazardous Areas



FLAMEPROOF!
SAFETY

APPROVED

NICKEL-PLATED
CABLE GLANDS



Measure The Difference

SUPERtrol – II (ST2)



Multifunction Flow Computer

8 Channel Analogue Scanner With 10 Relays

mL- CS8A



MS827



NEMA 4X/IP65 Enclosure with Instrumental Panel Option

Temperature Controller

mL- TCR4



INFILINK-HMI Software

Flow Computers & Field Indicators

Touchscreen HMI & IIoT Gateways



CALIBRATORS, TEST BENCH & VALVE REPAIR MACHINE RENTAL



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PORTABLE VALVE REPAIR MACHINE

TYPE OF MACHINE

- Safety Valve Repair Machine
- Globe Valve Conical Seat Repair Machine
- Gate Valve Repair Machine
- Check Valve Repair Machine
- Globe Valve Flat Seat Repair Machine
- Portable Lathe Machine



TEST BENCH

TYPE OF TEST BENCHES

- Safety Valve Test Bench using air and water
- Safety Valve Test Bench using air
- Manual Clamp Control Valve Test Bench using air and water



PORTABLE CALIBRATOR

TYPE OF CALIBRATOR

- Pressure Pump
- Digital Gauge
- Dry Block Calibrator
- Multi Function Calibrator
- Electrical Calibrator Simulator
- Temperature reference probe



CLAMP-ON ULTRASONIC FLOWMETER

TYPE OF CLAMP-ON FLOWMETER

- Portable Clamp-on Ultrasonic Flowmeter
- Permanent Clamp-on Ultrasonic Flowmeter for data-logging

PORTABLE INSTALLATION

PERMANENT INSTALLATION





PANEL ASSEMBLY & CABLE LAYING WORKS

PLC PANELS | MCC PANELS | CABLE & CABLE TRAY INSTALLATION



CONTROL VALVE TESTING AND TROUBLESHOOTING

GATE VALVE | GLOBE VALVE | BUTTERFLY VALVE | SAFETY RELIEF VALVE



VALVE REPAIR

SEAT LEAKAGE | LAPPING | GRINDING | REPAINT



LEVEL CALIBRATIONS

NON-CONTACT | GUIDED WAVE RADAR | LEVEL GAUGE | DP LEVEL TRANSMITTER





PRESSURE CALIBRATION

PRESSURE GAUGE | PRESSURE TRANSMITTER | PRESSURE SWITCH



TEMPERATURE CALIBRATION

THERMOCOUPLE | RTD | THERMOMETERS



FLOW VERIFICATION

FLOW MEASUREMENT | FLOW VOLUME | DATA ANALYSIS



PROCESS INSTRUMENT CALIBRATION

