



***TM Tecnomatic
is the 1st
European
Company
for Flow
Measurement
Devices***

Tecnomatic has been a Leading Manufacturer of flow and temperature measurement devices since 1962.

Tecnomatic –offices and factory– is located in Cremona, the Ancient Italian City that has been producing violins since 16th Century, which is near Milano.

Tecnomatic Quality Standards are in compliance with the latest ISO:9001.TM Tecnomatic is also PED and ATEX Certified.

Besides, **Tecnomatic** cooperates with Important University Research Centers to continuously improve its products and develop innovative solutions.In particular, the Certified Flow Rate Calculation for Multistage Restriction Orifice shall be highlighted.

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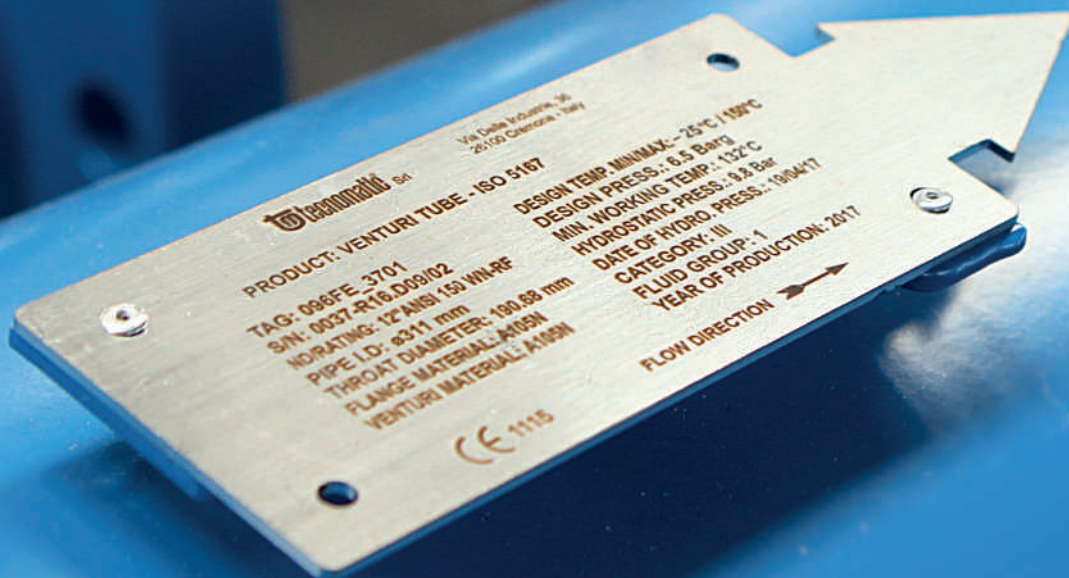
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Technomobili SA

Via Della Industria, 36
20150 Cassinetta - Italy

PRODUCT: VENTURI TUBE - ISO 5167
TAG: 066FE_3701
S/N: 0037.R16.D09102

NO. RATING: 12 ANSI 150 WIL-RE
PIPE I.D.: 83.11 mm
THROAT DIAMETER: 100.83 mm
FLANGE MATERIAL: AISI 316
VENTURI MATERIAL: AISI 316

DESIGN TEMP. MIN/MAX: -25°C / 150°C
MIN. WORKING PRESS.: 6.5 Bar
HYDROSTATIC PRESS.: 132°C
DATE OF HYDRO PRESS.: 19/04/17
CATEGORY: III
FLUID GROUP: 1
YEAR OF PRODUCTION: 2017

FLOW DIRECTION 

CE 1115

World-Wide Presence

Tecnomatic is a Multinational Company with its presence in **more than 30 Countries Worldwide.**



*United Kingdom, Spain, Lybia,
Egypt, Turkey, Iran, Kuwait, Qatar,
Oman, UAE, India, Pakistan,
Indonesia, China, South Korea,
Japan, Canada, Venezuela,
Russia, Syria, Greece, Brasil,
Portugal, Germany, Turkmenistan,
Malaysia, Algeria, USA,
Kazakhstan, Vietnam, Mexico*

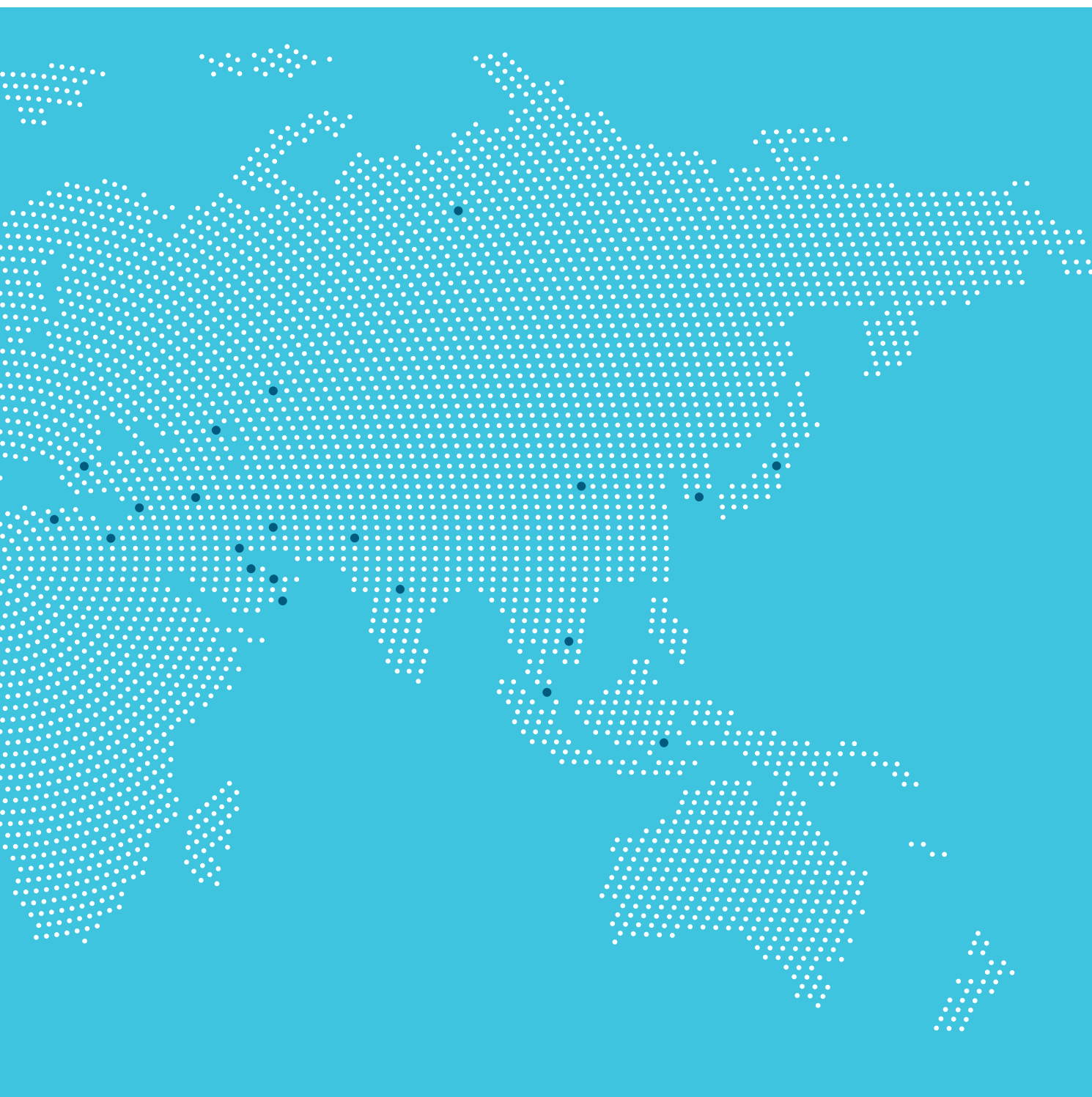
and many more...

WORLD WIDE END USER CLIENTS

ADCO, ADGAS, ADMA, ADWEA, ARAMCO, BHARAT, ENI, ENOC, EXXONMOBIL, GAZPROM, KNPC, KOC, MOTOR OIL, ONGC, PARS OIL, PDO, PDVSA, PETROBRAS, PIDEC, QATAR PETROLEUM, SABIC, TAKREER, TOTAL and many more.

WORLD WIDE EPC'S CLIENTS

AMEC FOSTER WHEELER, BECHTEL, BONATTI, DAELIM, ENPPI, FLUOR, GE OIL & GAS NUOVO PIGNONE, HYUNDAI ENGINEERING, HYUNDAI HEAVY INDUSTRIES, HYUNDAI E&C WILSON CONSORTIUM, KBR, KT, L&T, MAIRE TECNIMONT, PETROFAC, SAIPEM, SAMSUNG, TECHNIP FMC, TECNICAS REUNIDAS, WORLEY PARSONS and many more.





Venturi Tubes

Venturi Tube
from Plate

Venturi Tube
from Bar



DESCRIPTION

The Venturi Tube is a differential pressure device suitable to measure flow rate in a closed conduit with the minimum permanent pressure loss.

TECHNICAL SPECIFICATIONS

Applications	Oil & Gas / Petrochemical Industries / Power Stations
Type and Construction	Manufactured by bar stock / Manufactured by welded plate / For big size and very high wall thickness Venturi Meter can also be manufactured by forging / Conical divergent angle of 7° for low loss venturi / Conical divergent angle of 15° for Classical Venturi / All types can be supplied Truncated or not Truncated / Process connections: all types / Instrument connections: all types / Venturi tube for rectangular duct Pressure Taps: With annular chamber (for classic/standard applications) / With piezometric ring (for light applications) / direct pressure taps (for high wall thickness and heavy applications)
Material	All material requested by the customer / Material Specifications: all / Main material Reference: ASTM-ASME Code
Flow Calculation	Main Reference code: ISO 5167 ASME MFC-3M / Other standards: ANSI 2630 / AGA-3/A PL Ch.14 (1992)/Miller-Spinks-Shell Engineering Handbook

STANDARD LIMITS AND APPLICATION FIELDS

Dimensions:	Venturi by bar stock: 2"-10" / Venturi by welded plate: up to 48" (and above, where acceptable by the Customer) / Venturi by forging: all dimensions
Beta Ratio:	Venturi by bar stock: 0.4÷0.75 / Venturi by welded plate: 0.4÷0.7 / Venturi By Forging: 0.3÷0.75
Reynolds Number Range:	Venturi by bar stock: 200000÷1000000 / Venturi by welded plate: 200000÷2000000 / Venturi by forging: 200000÷2000000

PERFORMANCES

- Accuracy (referred to flow coefficient): as per ISO Code
- Rangeability: $1 \div 4.5$
- Ripetibility: $(+/- 0.1\%)$
- Max PPL (5-15)% of full scale differential pressure

- Straigh Lengths Requirements :as Specified In ISO 5167 International Code

CALIBRATION

- Accuracy (referred to flow coefficient) after calibration in accredited lab: $(+/- 0.25\%)$

NOTE

- Flow Meters can be manufactured according to all Customer Specifications
- Flow Meter can be supplied with all suitable accessories (valves / manifold / condensing pot / transmitter / fitting / tubing)

Venturi Cone Meters

DESCRIPTION

The Venturi Cone Meter is a differential pressure device to measure flow rate in a closed conduit with the minimum pipe straight length and with high rangeability.

►
Venturi
Cone
Meter



TECHNICAL SPECIFICATIONS

Applications	Oil & Gas / Petrochemical Industries / Power Stations / Off Shore Platform
Element Type and Construction	Manufactured by bar stock Manufactured by welded Plate
Material	As per Customer's requirements Main material Reference: ASTM-ASME Code
Flow Calculation	Main Reference code: ISO 5167 -5

STANDARD LIMITS AND APPLICATION FIELDS

Dimensions:	Nominal Diameter of Pipeline: over 2"
Beta V-Cone Ratio:	0.45 ÷ 0.85
Diameter Ratio:	0.893 ÷ 0.526
Reynolds Number Range:	Over 200000

PERFORMANCES

- Accuracy (referred to flow coefficient): as per ISO Code
- Rangeability : 1-10
- Ripetibility: (+/- 0.1%)
- Max PPL 20÷40% of full scale differential pressure
- Required straight length: 3 I.D.(upstream) ; 2 I.D.(downstream) in the worst conditions

CALIBRATION

- Accuracy (referred to the discharge coefficient) after calibration in accredited laboratory: +/- 0.25%

NOTE

- Flow Meters can be manufactured according to Customer specifications
- Flow Meter can be supplied complete with all relevant accessories (valves / manifold / condensing pot / transmitter / fitting / tubing)

Pressure Reduction

(Single and Multistage Restriction Orifice)

DESCRIPTION

These devices are designed to reduce the fluid pressure. The table here below summarizes typical applications and calculation criteria.

▲
Restriction
orifice Plate RTJ

►
Non Integrale

►
Multistage



FLUID

GAS					LIQUID			
DP < critical DP (see note 1)	DP >= DP critical				CAVITATION NUMBER >2,5	CAVITATION NUMBER <=2,5 (SEE MILLER ENG HANDBOOK)		
	PROCESS		BLOW DOWN (when it is not necessary to control the discharge pressure)	FLARE (controlled discharge with downstream pressure limit)		PROCESS		BLOW DOWN
	CONTINUOUS SERVICE	INTERMITTENT SERVICE	BOTH SERVICE	BOTH SERVICE		little saturation pressure	high saturation pressure	
SINGLE RESTRICTION	MULTISTAGE	MULTISTAGE OR SINGLE RESTRICTION	CRITICAL RESTRICTION	MULTISTAGE (CON WITH DOWNSTREAM PRESSURE <=10 Bar)	SINGLE RESTRICTION	MULTISTAGE (Normally, in this case, multistage reduce all required DP)	MULTISTAGE (Normally, in this case, multistage reduce almost all required DP- leaving a suitable back pressure to avoid Cavitation)	SINGLE RESTRICTION (with allowable DP calculation)
SINGLE HOLE (NOISE LEVEL <= 85 Dba)	SINGLE HOLE (NOISE LEVEL <= 85 Dba)	SINGLE HOLE (NOISE LEVEL <= 85 Dba)	SINGLE HOLE (NOISE LEVEL <= 85 Dba AND LOW FLOW RATE)	SINGLE HOLE (NOISE LEVEL <= 85 Dba)	SINGLE HOLE (NOISE LEVEL <= 85 Dba)			
MULTI HOLE (SEE NOTE2 AND NOTE3)	MULTI HOLE (SEE NOTE2)	MULTI HOLE (SEE NOTE2)	MULTI HOLE (SEE NOTE2)	MULTI HOLE (SEE NOTE2)	MULTI HOLE (SEE NOTE2)			

NOTE 1: CRITICAL DP APPROXIMATELY A HALF OF UPSTREAM PRESSURE

NOTE 2: MULTI HOLE APPLICABLE TO REDUCE NOISE WHEN NOISE LEVEL BY SINGLE PLATE > 85 Dba

NOTE 3: MULTI HOLE ALSO APPLICABLE (IN CASE OF CRITICAL RESTRICTION) TO REDUCE TO REDUCE PLATE

TECHNICAL SPECIFICATIONS

Applications

Oil & Gas / Petrochemical Industries / Power Stations

Type Of Elements

Single Stage Restriction (refer to pipe taps configuration in-ISO 5167 and in Miller Engineering Handbook) **Critical Restriction** (typically sized according to Miller Engineering Handbook) **Multistage Restriction** (sized according to TM Tecnomatic certified calculation)

Material

All material requested by the customer / Material Specifications : all
Main Material Reference : ASTM-ASME Code

Type Of Multistage Construction

With body by bar stock
With body from pipe

Calculation

Accuracy (referred to the pressure drop): +/- 2% up to 1 1/2" ; +/- 1% for 2" and above)
Gas Service: multistage calculation is performed to avoid to have sound velocity in the vena contracta section of each stage
Liquid Service: multistage calculation shall be carried out to avoid cavitation

Multiport Averaging Pitot Tube (Mapflow)

DESCRIPTION

The Multiport Averaging Pitot Tube (Mapflow) is a differential pressure device suitable to measure the flow rate in a closed conduit for general applications (it is a general purpose and affordable device). Normally used in big pipes with low flow velocity.

▶
Mapflow
Mod. R21

▶▶
Mapflow
Mod. ED21



TECHNICAL SPECIFICATIONS

Applications

Oil & Gas / Petrochemical Industries / Power Stations

Type Of Elements

Standard Model ED-20/21: Diamond Shape—Manufactured by Square Bar 20x20 mm

Standard Model ED-45/46: Diamond Shape—Manufactured by Square Bar 45x45 mm

Special Device: Diamond Shape—Manufactured by Square Bar sized with Stress and Vibrations Analysis Results;

Material

As per Customer's requirements / Main material References: ASME/ASTM

Process Connections

Threaded Coupling / Flanged Nozzle

Flow Calculation

Main Reference code: TM TECNOMATIC STANDARDS

NOTE: All Type of Sensors can be supplied with End Support and Retractable System

STANDARD LIMITS AND APPLICATION FIELDS

Dimensions:

Up to 100" and over

Reynolds Number Range:

Over 200000

PERFORMANCES

- Accuracy (referred to flow coefficient): 2÷2.5% for Standard Device; to be evaluated case by case for Special Devices
- Repeatability: +/- 0.15%
- Max PPL 10÷15% of full scale differential pressure

CALIBRATION

- Not Applicable

NOTE

- Flow Meters can be manufactured according to all Customer Specifications
- Flow Meter can be supplied complete with all relevant accessories (valves / manifold / condensing pot / transmitter / fitting / tubing)

Wedge Meters

DESCRIPTION

The Wedge Meter is a differential pressure device suitable to measure the flow rate of dirty liquids in a closed conduit (slurry applications).

Wedge
Meter



TECHNICAL SPECIFICATIONS

Applications	Oil & Gas / Petrochemical Industries
Element Type and Construction	Manufactured by bar stock Manufactured by welded Plate
Material	As per Customer's requirements Main material Reference: ASTM-ASME Code
Flow Calculation	Miller Engineering Handbook

STANDARD LIMITS AND APPLICATION FIELDS

Dimensions:	Nominal Diameter of Pipeline : over 2"
Wedge Equivalent Ratio:	0.4÷0.7
Reynolds Number Range:	Over 200000

PERFORMANCES

- Accuracy (referred to the discharge coefficient) : $3 \div 3.5\%$
- Rangeability: $1 \div 4.5$
- Repeatability: $\pm 0.1\%$
- Max PPL: $20 \div 40\%$ of full scale differential pressure
- Straight pipe requirements: 5 I.D.(upstream); 5 I.D.(downstream) in the worst conditions

CALIBRATION

- Accuracy (referred to the discharge coefficient) after calibration in accredited laboratory: $\pm 0.25\%$

NOTE

- Flow Meters can be manufactured according to Customer specifications
- Flow Meter can be supplied complete with all relevant accessories (valves / manifold / condensing pot / transmitter / fitting / tubing)

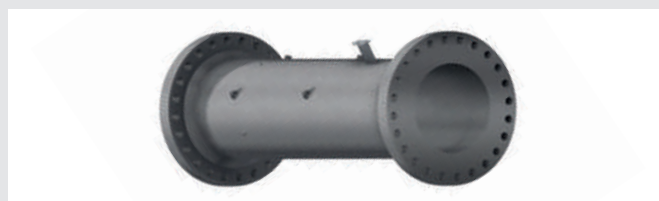
Flow Nozzles

Flow Nozzle
ISA 1932

Flow Nozzle
Long Radius

DESCRIPTION

Flow Nozzle is a differential pressure device to measure flow rate in a closed conduit for heavy applications and high flow rate.



TECHNICAL SPECIFICATIONS

Applications

Oil & Gas / Petrochemical Industries / Power Stations

Type Of Elements

ASME Long Radius / ASME Long Radius with diffuser / ASME Throat Taps;
ASME Throat Taps with diffuser / Short Nozzle ISA 1932 / Venturi Nozzle with ISA Inlet

Material

All material requested by the customer / Material Specifications : all
Main Material Reference : ASTM-ASME Code

Type Of Construction

Flanged / Welding in Pipe with pins / With complete spool pipe and Flow conditioner

Flow Calculation

Main Reference code : ISO 5167/ASME MFC-3M ; ASME PTC 19.5 ASME PTC 6 (very high performance) Other standards: ANSI 2630 /AGA-3/A PI. Ch.14 (1992)/Miller-Spinks-Shell Engineering Handbook

STANDARD LIMITS AND APPLICATION FIELDS

Dimensions:

ISA 1932 Nozzle: 2"-20" / Long Radius Nozzle: 2"-24" / Venturi Nozzle: 2 1/2" - 20"

Beta Ratio:

ISA 1932 Nozzle: 0.3-0.8 / Long Radius Nozzle 0.2-0.8 / Venturi Nozzle: 0.316-0.775

Reynolds Number Range:

ISA 1932 Nozzle: 70000-10000000(For Low Beta ratio); 20000-10000000(For High Beta ratio)
Long Radius Nozzle 10000-10000000 / Venturi Nozzle: 150000-2000000

PERFORMANCES

- Accuracy (referred to flow coefficient): as per ISO Code
- Rangeability : 1-4.5
- Ripetibility: (+/- 0.1%)
- Max PPL (50-70)% of full scale differential pressure
- Straigh Lengths Requirements: as Specified In ISO 5167 International Code

CALIBRATION

- Accuracy (referred to flow coefficient) after calibration in accredited lab: (+/- 0.25%)

NOTE

- Flow Meters can be manufactured according to all Customer Specifications.
- Flow Meter can be supplied with all suitable accessories (VALVES / MANIFOLD/CONDENSING POT /TRANSMITTER/FITTING/TUBING)

Flow Conditioners

DESCRIPTION

The Flow Conditioner is a device that improves the fluid velocity profile across the flow section. This device is typically applied when pipe straight length requirements cannot be satisfied. This often happens when, due to layout constraints, it is not possible to install a flow meter in a straight portion of pipe suitable to obtain acceptable metering conditions. With this device it is possible to have the best fluid velocity profile, even if the pipe straight length is less than the minimum prescribed by the code. On the other hand, the introduction of a flow conditioners introduces additional permanent pressure losses that shall be verified against process constraints.

- ▲
*Tube Bundle
Flow
Straightener*
- ▶
*Zanker Flow
Conditioner*
- ▼
*Tube Bundle
Flow
Straightener*



PERFORMANCES

- Flow conditioner can reduce upstream pipe straight length requirements to a half of what prescribed by ISO 5167-1

NOTE

Flow Conditioners can be supplied alone or included in meter run section as an accessory of flow meter device

TECHNICAL SPECIFICATIONS

Applications	Oil & Gas / Petrochemical Industries / Power Stations
Conditioner Type	The Tube Bundle flow Straightener / The Gallagher Flow Conditioner / Perforated Plate Flow Conditioner (K-Lab Nova / Spearman) / Sprengle Flow Conditioner / Zanker Flow Conditioner
Material	As per Customer's requirements / Main material Reference : ASTM-ASME Code
Permanent Pressure Loss introduced by Flow Conditioners	Tube Bundle flow Straightener: $k=0.75$ / Gallagher Flow Conditioner: $k=2$ (approx.) K-Lab Nova Perforated Plate Flow Contitioner: $k=2$ / Spearman Perforated Plate Flow Contitioner: $k=3.2$ / Sprengle Flow Conditioner: $k=11 \div 14$ / Zanker Flow Conditioner: $k=3$

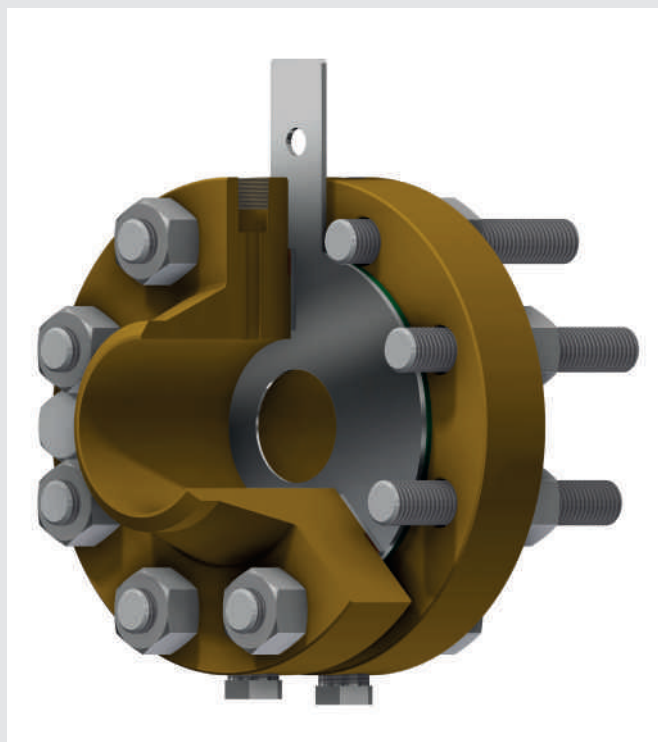
REFERENCE CODE: ISO 5167

Orifice Plate Assembly

DESCRIPTION

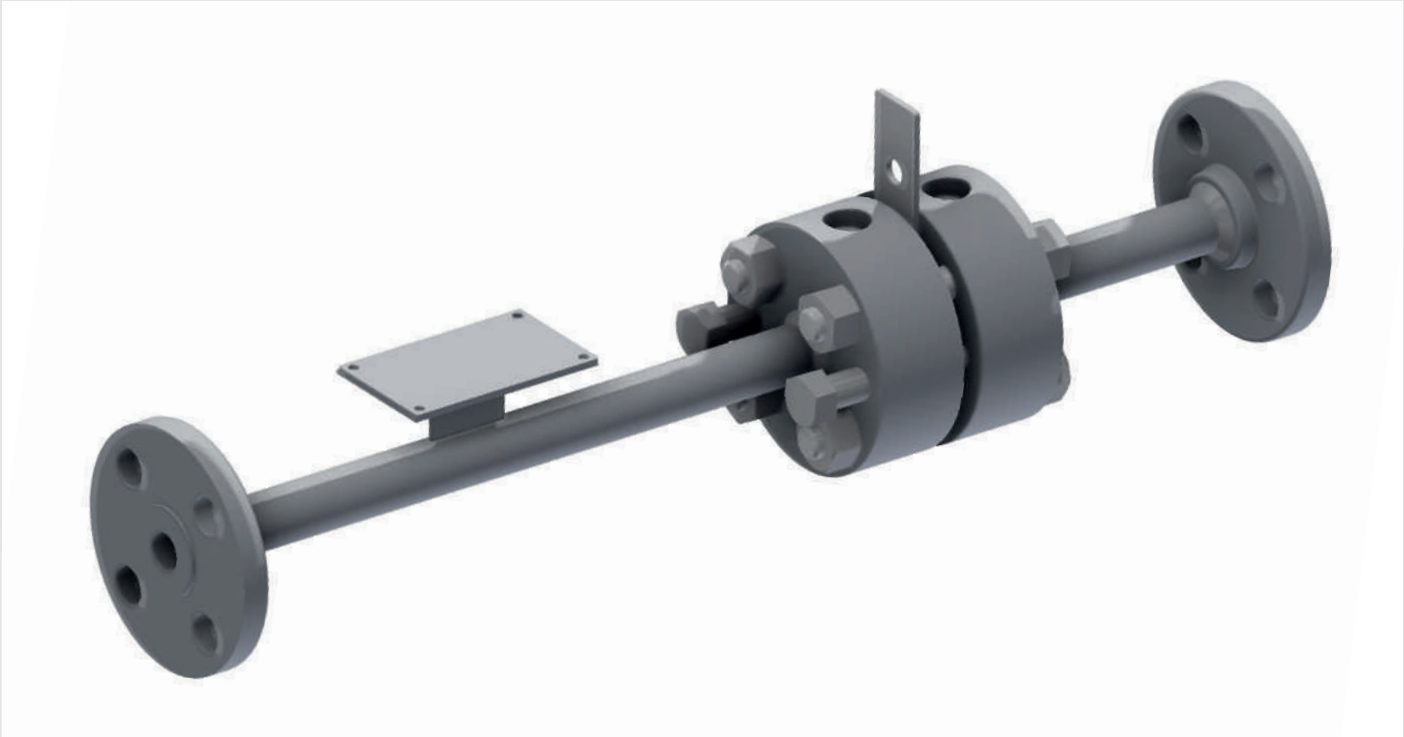
The Orifice Plate is a differential pressure device suitable to measure the flow rate in a closed conduit (it is an affordable device for general applications).

►
Orifice Plate
Assembly
WN-RF
►►
Meter
Run



TECHNICAL SPECIFICATIONS

Applications	Oil & Gas / Petrochemical Industries / Power Stations
Type Of Elements	Square Edge Orifice / Quadrant Orifice / Conical Entrance Orifice / Segmental orifice
Material	As per Customer's requirements / Main material Reference: ASTM-ASME Code
Type of Pressure Taps and Relevant Calculation	Flange Taps Corner Taps Radius Taps Pipe Taps
Type Of Construction	Flange Taps: with pressure taps on flanges or on carrier ring Corner Taps: with pressure taps on flanges, or on annular chambers, or on a monolithic plate Radius / Pipe Taps: pressure taps shall be welded on pipe (in this case the assembly shall be supplied complete with the relevant spool pipe)
Flow Calculation	Main Reference code: ISO 5167/ASME MFC-3M; ASME PTC 19.5
Type of Plate Connections	All / Main Connections: RF-RJ
Type of Flanges	WN-SW-LJ-THD-SO according to International Standards (ANSI/ASME/UNI/DIN/API)
Other Options	Single Chamber Orifice Plate Assembly: is a special kind of construction with a system that allows an easy removal of the plate from the assembly Dual Chamber Orifice Plate Assembly: is a special kind of construction with a system that allows an easy removal of the plate from the assembly under pressure (with the line still in operation)



STANDARD LIMITS AND APPLICATION FIELDS

<i>Dimensions:</i>	All taps configurations: 2"÷40"
<i>Beta Ratio:</i>	All taps configurations: 0.1÷0.75
<i>Reynolds Number Range:</i>	For beta ratio up to 0.56: greater than 5000 (for lower Reynolds numbers, special orifice types are required)

PERFORMANCES

- Accuracy (referred to the discharge coefficient): as per ISO Code
- Rangeability: 1÷4.5
- Repeatability: +/- 0.1%
- Max PPL 50÷70% of full scale differential pressure
- Straigth Lengths Requirements: as per ISO 5167

TYPICAL SUPPLY CONFIGURATIONS

- Orifice Plate only
- Orifice Plate Assembly
- Meter Run Assembly (up to 2")
- Complete Upstream/ Downstream Spool Orifice Assembly (with Flow Conditioner, if required) for 2" and above

CALIBRATION

- Accuracy (referred to the discharge coefficient) after calibration in an accredited laboratory: +/- 0.25%

NOTE

- Flow Meters can be manufactured according to Customer specifications
- Flow Meter can be supplied complete with all relevant accessories (valves / manifold / condensing pot / transmitter / fitting / tubing)



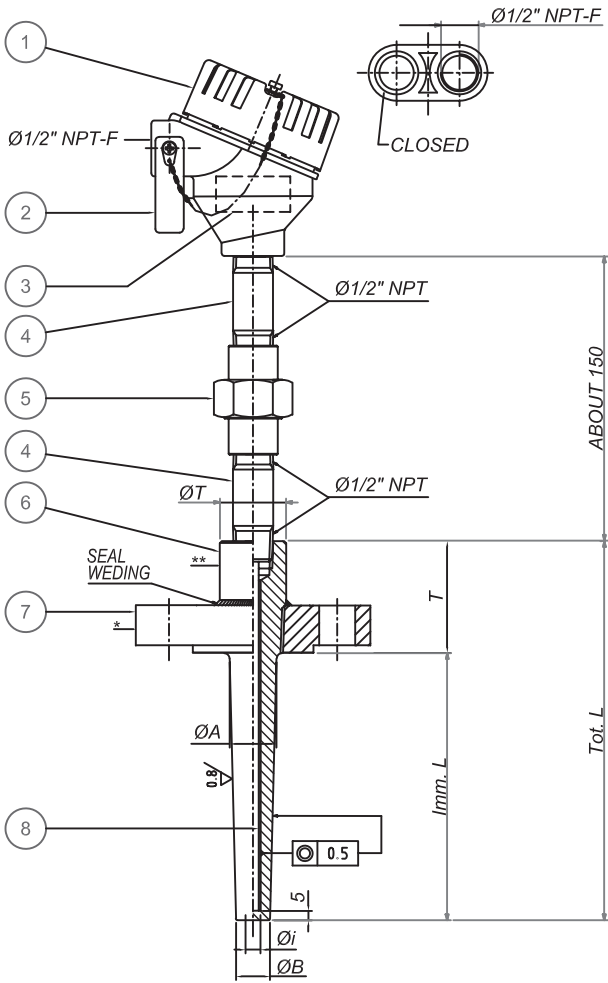
Thermocouples

DESCRIPTION

Thermocouples are the temperature sensing elements most widely used throughout industry for temperature measurements. Their inherent simplicity and low cost together with good characteristics of accuracy and reproducibility, make them precious and handy tools to answer the many challenging probe, encountered in modern producing Processes.

TM Tecnomatic thermocouple assemblies are produced in a wide variety of design to fit practically all applications.

General
Arrangement



8	1	SINGLE T/C TYPE "K"	
7	1	Ø..... FLANGE	
6	1	BAR-STOCK THERMOWELL	
5	1	Ø1/2" NPT-F/F UNION	
4	2	Ø1/2" SCH. 80S NIPPLE	
3	1	TERMINAL BLOCK	
2	1	NAMEPLATE	
1	2	CONNECTION HEAD	
Item	Q.ty	Description	Material

TECHNICAL SPECIFICATIONS

Applications	Oil & Gas / Petrochemical Industries / Power Stations
Type of Elements	Insert with accessories Complete assemblies with / without Thermowell
Material	All material requested by the customer / Material Specifications : all
Type of Construction	Manufactured according to the Customer's requirements (Type E, J, K, R,S,T, B,C,N);

Resistance Temperature Detector

DESCRIPTION

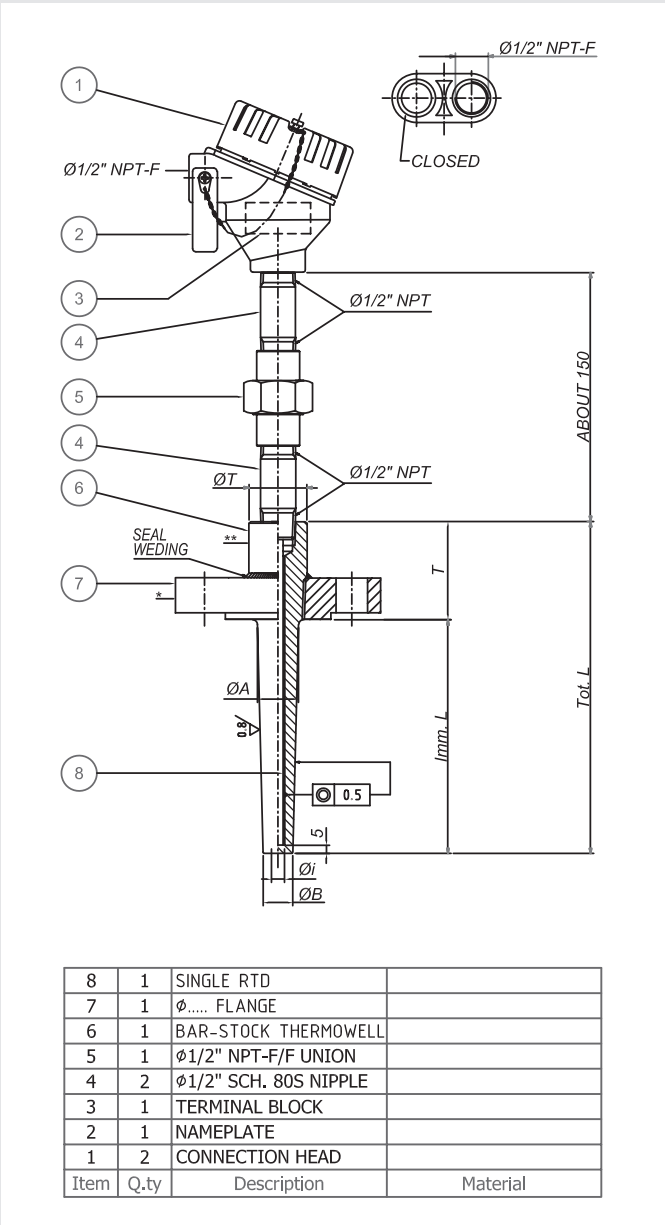
Tecnomatic RTD are carefully selected to meet the basic resistance values and accuracies specified from IEC 60751 Nominal resistance value is 100ohm at 0° C. Standard bulbs have platinum or Nickel wound resistance elements, with hard glass or ceramic base.

One, two or three windings are available on the same bulb. Resistance thermometer bulbs always take up the mean value of the temperature operating over the full winding length, therefore it is important that the full length of the element is exposed to the medium whose temperature is to be measured.

Trouble free working of resistance thermometer bulbs is dependent on proper care being taken in their Installation and the selection of associated components used for this purpose. For this reason we recommend the use of TM resistance inserts.

TM Tecnomatic resistance thermometer inserts are built-up from nickel or st. tube. Standards inserts size are 4, 6 or 8mm O.D. Resistance thermometer bulbs conforming to most other known international standard are already available upon request.

General
Arrangement



8	1	SINGLE RTD	
7	1	Ø..... FLANGE	
6	1	BAR-STOCK THERMOWELL	
5	1	Ø1/2" NPT-F/F UNION	
4	2	Ø1/2" SCH. 80S NIPPLE	
3	1	TERMINAL BLOCK	
2	1	NAMEPLATE	
1	2	CONNECTION HEAD	
Item	Q.ty	Description	Material

TECHNICAL SPECIFICATIONS

Applications	Oil & Gas / Petrochemical Industries / Power Stations
Type of Elements	Insert with accessories / Complete assemblies with / without Thermowell
Material	All material requested by the customer / Material Specifications : all
Type of Construction	Manufactured according to the Customer's requirements

PERFORMANCES

- Versatility
- Different Type of Connections
- Accurate detection

CALIBRATION

- Calibration according to International Standards (IEC 60751, ect.)

NOTE

- Our temperature elements are custom designed to fit all your specific process parameters

Thermowells are precise components serving as protective devices for the primary or sensing temperature elements, as thermocouples, resistance thermometer bulbs, bimetallic thermometers, filled system, etc. of all types of temperature indicating, recording and controlling instruments. Particular care, together with long experience and special designed drilling machines, guarantee the choice of materials and construction of TM Tecnomatic thermowells.

2	1	Ø..... FLANGE	
1	1	BAR-STOCK THERMOWELL	
Item	Q.ty	Description	Material

Oil & Gas / Petrochemical Industries / Power Stations

Bar Stock Thermowell / Pipe Thermowell

All material requested by the customer / Material Specifications : all

Manufactured according to the Customer's requirements

- **Versatility:** they are the most widely used throughout industry for temperature measurements
- **Resistance :** they are built to resist to pressure and temperature solicitations; Accurate temperature and steam velocities measurements

- On request it is possible to verify therewells according to ASME PTC 19.3 (Latest revision)

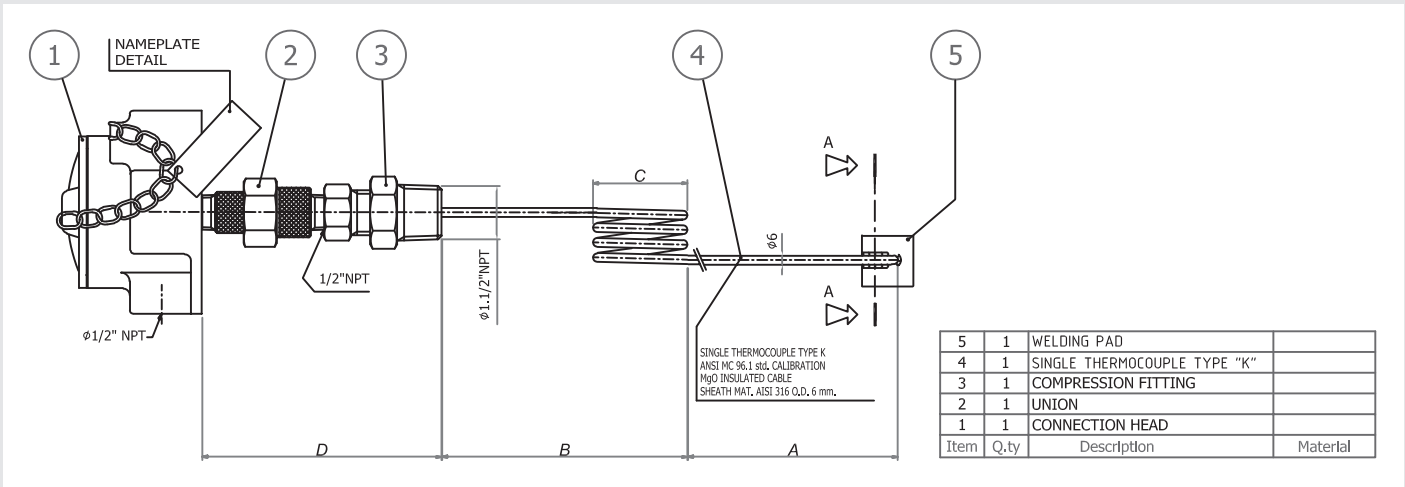
- Our assemblies are custom designed to fit all your specific process parameters

Skin Thermocouples

DESCRIPTION

These thermocouples are built in such a way to guarantee the most intimate contact with the controlled surface together with better accuracy and high speed of response. Suitable for boilers, furnaces, super heaters process tubes, heater tubes and many other applications

General
Arrangement



TECHNICAL SPECIFICATIONS

Applications	Oil & Gas / Petrochemical Industries / Power Stations
Type of Elements	Insert or complete assemblies with different accessories (union, nipples, pad, flanged or threaded process connection, etc.)
Material	All material requested by the customer / Material Specifications : all
Type of Construction	Manufactured according to the Customer's requirements

PERFORMANCES

- Versatility: they are the most widely used throughout industry for temperature measurements
- Accuracy and Reproducibility: make their precious and handy tools to answer th emany challenging problem encountered in modern producing processes
- Accurate detection

CALIBRATION

- Calibration according to International Standards (ANSI , IEC, ect.)

NOTE

- Our temperature elements are custom designed to fit all your specific process parameters

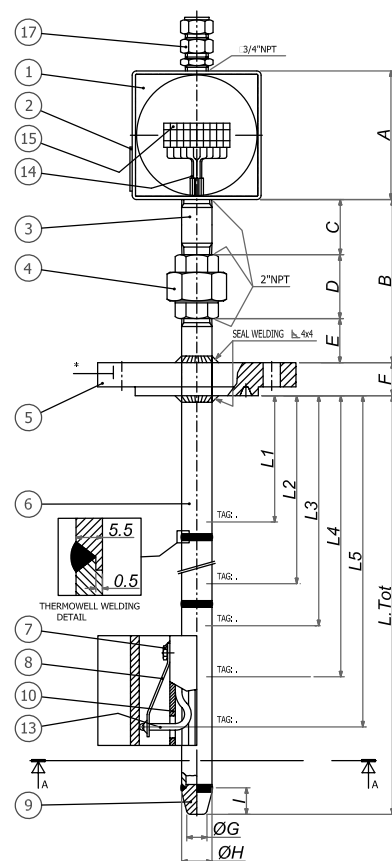
Multipoint Thermocouples Assemblies

(Radial with or without Thermowell)

DESCRIPTION

Multipoint thermocouple assemblies obtain fast temperature readings at different levels in deep or tall vessels reactors, catalyst beds, furnaces and other applications where individual thermocouple would be too difficult or costly to install. Because of the many different conditions peculiar to each application, Multi Point Thermocouples Radial or Thermowell Type generally are custom designed. They are built with the proper number of protecting tubes with thermocouples inside, protecting tubes diameter, thickness, lengths, materials, fittings, flange, extension wires, flexible conduits, supporting frame and junctions boxes to suit your individual installation.

General
Arrangement



17	1	CABLE GLAND FOR ARMURED	
16	2	GASKET	
15	10	TERMINALS	
14	5	FLEXIBLE EXTENSION WIRE	
13	5	SINGLE TC TYPE "J"	
12	1	SUPPORTING RING	
11	1	SWAGE	
10	1	SUPPORTING PIPE	
9	1	TIP FROM BAR STOCK	
8	1	BIMETALLIC STRIP	
7	5	FIXING SCREW	
6	1	Ø2" Sch. 80S PIPE THERMOWELL	
5	1	Ø3" ANSI 600 RTJ FLANGE	
4	1	Ø2" NPT-F/F UNION	
3	1	Ø2"Sch. 80S NIPPLE	
2	1	NAMEPLATE	
1	1	JUNCTION BOX	
Item	Q.ty	Description	Material

TECHNICAL SPECIFICATIONS

Applications

Oil & Gas / Petrochemical Industries / Power Stations

Type of Elements

Radial / With Thermowell / Without Thermowell

Material

All material requested by the customer / Material Specifications : all

Type of Construction

Manufactured according to the Customer's requirements

PERFORMANCES

- Versatility
- Wide range of configurations
- Accurate reading

CALIBRATION

- Calibration according to International Standards (IEC 60751, ect.)

NOTE

- Our temperature elements are custom designed to fit all your specific process parameters



Professional Services

TRAINING



Tecnomatic offers specific Technical Training on the use and performance of its products on site or at its head office. Our Engineers can work closely with you to ensure your employees have the skills needed to ensure safety and efficiency during line operation and intervene immediately in case of possible displayed signals of errors.

SUPERVISION



Our highly qualified staff can assist and survey the maintenance, commissioning or start-up activities to facilitate quick assistance, minimize downtime and improve the various assembly phases of our instrumentation ensuring the correct placement and application of the items. In this way the performance is not compromised.

MAINTANCE



Tecnomatic can assist you when you do not have sufficient knowledge or the necessary resources to perform periodic maintenance on our instruments.

EXPERTISE

Engineering Degree

Certified European Welding Engineer

Certified International Welding Engineer

BOSIET Qualification

Years of experience



***Measurement
Solutions
since 1962***

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