Established in 1981, Malema designs and manufactures measurement and control instruments for abrasive slurries, surfactants and high purity and corrosive chemicals. Malema Sensors products provide improved process control with new leading edge technologies for measurement. Experienced in sensors, electronics, and process instrumentation, Malema incorporates revolutionary technologies into every instrument.

Partnering with other top of their class component manufacturers, Malema offers integrated solutions to fluid delivery and control systems. Utilizing components in the field of fluid measurement with accuracies that are unmatched by any other supplier, Malema offers world class solutions to extreme design challenges in Slurty and Chemical Delivery.

Offering reliability, performance, and quick response times, our solutions deliver innovative solutions of process control.

Malema’s reputation for innovative, technical solutions guarantees a continuous supply of value enhanced products. Malema’s products are based on proven designs and are manufactured to meet the highest quality standards in the semiconductor, medical, laser, biotechnology, water treatment, chemical, and petrochemical industries. Malema excels in customizing flow products for its OEM customers.
Flow Meters/ Flow controllers:

Malema is a leader in flow metering, offering a wide range of flow meters for industrial customers using various technologies for applications such as liquids, gases and steam. Malema’s flow meters range includes:

- Metal Tube Variable Area Flow meters (General purpose & Micro Flow meters)
- Direct Reading Flow meters
- Glass Tube / Plastic Variable Area Flow meters
- Sanitary Flow meters
- Purge meters
- Purge Sets
- Orifice and Pitot Tube Flow meters
- Thermal Mass Flow meters
- Thermal Mass Flow Controllers
- Thermal Flow meters
- Magnetic Induction Flow meters
- Coriolis Mass Flow meters
- Ultrasonic Flow meters
- Paddle Wheel Type Flow meters
- Flow Monitors / Flow Switches
- Flow Set Valves
## Pressure Controlling/Reducing Valves

**Model 902** is a Pressure Controlling/Reducing Valve mounted pneumatic controller used with Malema control valves for pressure control, pressure reduction or over flow control application. The controller comes pre-assembled making it simple for the user to install and operate with very little modification to the existing set up.

### Features:
- **Save installation cost**: Controller comes pre-assembled on the valve
- **Saves loop cost**: Eliminates the need of separate sensor, transmitter, I/P, controller and positioner
- **Low maintenance**

### Sizes:
- ½" to 16"

### Pressure Rating:
- ANSI #150, 300

## Pressure Reducing and Desuperheating Valves

**Desuperheating Valves**

Both steam pressure reduction & temperature reduction (Desuperheating) are done in a single valve making it an extremely efficient, cost effective and compact solution.

### Features:
- **Compact design**
- **High turndown (40:1)**
- **Reduced noise level**
- **Efficient cooling water atomization**
- **Reduced straight runs for pressure & temperature measurements**
- **Better control over changes in flow**

### Sizes:
- 1" to 10"

### Pressure Rating:
- ANSI # 300, 600, 900, 1500

## Model VND

**Variable Nozzle Desuperheater** incorporates latest technology in the spray nozzle design. Specially designed spray nozzle head, nozzle and nozzle cap helps splitting cooling water, increasing velocity, and a rotational effect that ensures the water is injected into the system in a fine symmetrical hollow cone spray.

### Features:
- **Turndown up to 25 : 1 and higher**
- **No separate water control valve necessary**
- **Available in 6" & 9" nozzles design**
- **High performance spray head ensures fine atomization of spray water**
- **Reduced straight runs for pressure & temperature measurements**

### Sizes:
- 1" to 10"

### Pressure Rating:
- ANSI # 150, 300, 600, 900, 1500

## Metal Tube Variable Area Flow Meters:

**AM-2000** is the new series of Metal Tube Variable Area Flowmeters from Malema. All sizes have standardized installation dimension of 250mm (10") flange to flange which helps in easy process piping design. Optional electronic modules for analog output, alarm output and total indication are available.

### Features:
- Standardized installation dimension of 250mm (10") for all sizes.
- Standard SS316L construction.
- Easy maintenance by Modular system.
- Totalizer display option.
- HART communication option

### Sizes:
- 1/2" to 4"

### Range:
- **Water**: 0.1 ~ 440 US GPM; 25 ~ 100000 LPH (20°C)
- **Air**: 0.4 ~ 350 CFM; 0.7 ~ 600 m³/h (0.1 MPa, 0°C)

## Metal Tube Variable Area Flow Meters:

**MX-52D** EPO FLOW is an Intelligent type 2-wire electric output Rotameter with 250 mm (10") standard flange to flange dimension. Advanced magnetic sensor detection technology offers better accuracy. Digital LCD display provided.

### Features:
- No moving parts except for the float guarantees high durability and Reliability
- Digital data processing.
- 2-wire DC 4 to 20 mA output.
- Non magnetic coupling construction, eliminates mechanical friction that achieves high accuracy.
- Simple mechanical construction, compact and light.
- Independent terminal box offers better water tight capability and anti-electromagnetic field interference

### Sizes:
- 1/2" to 4"

### Range:
- **Water**: 0.4~ 350 US GPM; 0.1 ~ 80 m³/hr (20°C)

## Acrylic and Glass Tube Purge Meters:

**Malema** offers a range of Acrylic and Glass tube variable area flowmeters that are compact in design and competitively priced. They are suitable for low flow measurement applications. Built-in flow adjustment valve options are also available.

### Features:
- Wide range of selection of models
- Flow adjustment valve option.
- Alarm switch option
- Analog output option

### Sizes:
- 1/8" to 3/4"

### Range:
- **Water**: 5 mLPM - 10 LPM
- **Air**: 4 NLPM - 300 NLPM
Orifice Flow Meters:

HDT-1000 Multi-Function Digital Flowmeter consists of an orifice flow sensor and a DT series multi-digital differential pressure meter. Suitable for measuring flow of various liquids and gases.

Features:
- Compact and self contained. No need for external devices or Special installation accessories.
- Battery-powered option.
- 4 to 20mA output (2-wire) type and LonWorks output options
- Local Display with Totalizer option
- Wafer, Screw and Flange end connections available.

Sizes: ½” to 12”
Range: Water: 0.23 - 1060 m3/hr (1 - 4660 US GPM)
Air: 3.4 - 17200 Nm3/hr (2 - 10120 SCFM)

Pitot Tube Flow Meters


Features:
- Compact and self contained. No need for any external devices or Special installation accessories.
- Battery-powered option.
- 4 to 20mA output (2-wire) type and LonWorks output options
- Local Display with Totalizer option
- Wafer, Screw and Flange end connections available.

Sizes: 3/4” to 18”
Range: Water: 0-50 to 30000 LPM (0-13.2 to 0-7925 US GPM)

Paddle Wheel Flow Meters

M-10000 Paddle Wheel Flowmeters from Malema has a tangential turbine that helps measuring low flow rates. Designed with smaller foot print, M-10000 flowmeters are easier to install, and more accurate than ever before.

Features:
- Compact configuration with built-in pulse generator.
- Simple and firm construction. Inexpensive.
- Ideal for fuel cell applications or other low to microflow measurement.

Sizes: 1/8” to ¾”
Range: 0.12 - 500 LPH (0.0005 - 2.2 US GPM)

Oval Gear Flow Meters:

Malema Oval Gear (positive displacement type) flowmeters are designed for monitoring fuel consumption of combustion appliances and heaters or elsewhere where small flow measurement is desired. They are also suitable for a variety of liquid flow applications where viscosities are high.

Features:
- Compact configuration with built-in pulse generator.
- Simple and firm construction. Inexpensive.
- Ideal for fuel cell applications or other low to microflow measurement.

Sizes: 1/8” to 3/4”
Range: 0.12 - 500 LPH (0.0005 - 2.2 US GPM)
Electromagnetic Flow Meters:

Malema's Electromagnetic Flowmeter is an advanced microprocessor based instrument suitable for measuring flow of conductive liquids used in chemical, pharmaceutical, power, steel, pulp & paper, waste water and HVAC industries. The MLDZ is the latest Electromagnetic Flowmeter offered by Malema Sensors based on its two decades of flow measurement and control experience.

Features:
- Flow through construction with no obstruction to the flow.
- Flow accuracy is unaffected by the changes in the physical Parameters: Pressure, Temperature, Density, and Viscosity.
- Wide turndown
- All flow meters are individually wet calibrated

Sizes: ½” to 64”
Range: Water: 1.64 - 36 f/s (0.5 - 11 m/s)

Ultrasonic Flow Meters:

UL-320 is a clamp-on type Ultrasonic Flowmeter that operates on transit time principle. Ultrasonic sensors are mounted outside of the piping with clamps. UL320 is suitable for nominal size from 25 to 1000mm (1” to 40”) and various metals and plastics pipes.

Features:
- Easy installation
- Measurement is not affected from the changes in pressure or conductivity of the medium.
- No pressure loss: No obstacles or moving parts inside.
- Advanced DSP signal processing to handle difficult fluid properties
- Various standard functions: Bi-directional indication, flow rate and total flow volume indication, analog current output, pulse output, alarm output, and flow direction output.
- RS-485 as option for serial communication by the multi-drop method

Sizes: Suitable for installation on pipes 1” to 40”
Range: Min. span 0 - 0.7 m3/h; 0 - 3.0 US GPM (for 1” pipe size)
       Max. span 0 - 28100 m3/h; 0 - 123,720 US GPM (for 40” pipe size)

Coriolis Mass Flow Meters:

MASSMAX Series of Coriolis Force Mass Flowmeters helps measure the mass flow rate of various liquids. Measurement is unaffected due to changes in density, velocity, conductivity and other physical characteristics with high accuracy. In addition to mass flow rate measurement, density and temperature of the medium liquid can be measured simultaneously.

Features:
- Single Straight Tube.
- No Obstruction, No Flow dividers.
- High Range ability.
- Measurement of density, Brix and concentration options

Sizes: 1/2” to 3”
Range: 0-950 to 0- 430,000 kg/hr
Thermal Flow Meter Model TH-1000 Series:
The TH series Thermal Flowmeter is suitable for gas flow measurement covering very low flow velocity to high velocity. It is suitable for flow measurement of various kinds of gases. The range offered in this series includes in-line flow sensors from sizes ½” to 6” and insertion style flow sensors from sizes 2” to 60” through various sensor and converter combinations.

Features:
- High accuracy even in very low flow rate
- Extremely low pressure loss
- Flow accuracy not affected by line pressure fluctuations
- Negligible influence of gas temperature changes
- Mass flow measurement
- Suitable for various kinds of gases
- High and low temperature version (-196°C to +550°C)

Sizes: ½” to 60”
Range: 0.5 – 130 m/s (std.); 0-426 SFPS

Thermal Flow Meter Model TF-1000 Series:
The TF-1000 Series of Thermal Flowmeters is a new version of Thermal Flowmeters that are designed for standard gases and suitable for installation in compact locations. A wide variety of sensor models and converters are available to meet the most common applications.

Features:
- Low Cost and High Performance
- Quick Response
- Easy Maintenance
- Very low straight run requirements

Sizes: ¼” to 3”
Range: 0-2 LPM (Normal) to 0-750 m3/hr (Normal)

Thermal Flow Meter Model TF-2000 Series:
The TF-2000 is a series of Thermal Flowmeters that are for miniaturized sizes and flow conditions monitoring flow rates of gases; without getting influenced by changes in pressure or temperature. The LCD units incorporated, indicate flow rate and total flow rates with built in pulse and alarm functions. Remote indication is feasible. These have high range ability and can be mounted horizontally or vertically.

Features:
- Compact configuration with built-in pulse generator.
- Simple and firm construction. Inexpensive.
- Ideal for fuel cell applications or other low to microflow measurement

Sizes: 1/4” to 3” (threaded and flange versions available)
Range: Min. 0 - 2NL/min to Max. 0 - 750Nm3/h

Thermal Flow Meter Model MTF-4000 Series:
MTF-4000 series Thermal Flowmeters are designed for a wide array of applications of gas flow including those for the semiconductor and bio-medical industries. Low cost and high performance are achieved by using the latest circuit designs, sensors and microprocessor technology.

Features:
- Good repeatability
- CE certification
- Local display function available
- RS-485 communication
- Temperature compensation built in

Sizes: 1/4” to 3/4”
Range: 0 -100 to 0- 1000 NLPM (0-3.53 to 35 SCFM)
Thermal Flow Meter Model MTHF Series

MTHF Series of Thermal Flowmeters come with or without an LCD display, and all models come with linear 0-5 V DC and 4-20 mA output with high performance. Thermal flow measurement technology offers advantages in accuracy, sensitivity and turn quality components.

Features:
- ±1% Accuracy
- Linear Output
- No Moving Parts
- Thermal Technology

Sizes: 1/4” FNPT
Range: 0 - 50 NLPM (0 - 1.76 SCFM)

Thermal Flow Meter/Controller Model MTLFC

MTLFC Series of Thermal Flowmeter/Controller comes with or without an LCD display, and all models come with linear 0-5 V DC and 4-20 mA output. The MTLFC Series combines a mass flow transducer with an electromagnetic proportional valve.

Features:
- ±1% Accuracy
- Linear Output
- No Moving Parts
- Thermal Technology

Sizes: 1/2” FNPT
Range: 0 - 500 NLPM in 18 ranges (0 - 17.65 SCFM)

Thermal Flow Meter Model MTMF Series

MTMF Series of Thermal Flowmeters come with or without an LCD display, and all models come with linear 0-5 V DC and 4-20 mA output. High performance. Thermal flow measurement technology offers advantages in accuracy, sensitivity and turn quality components.

Features:
- ±1% Accuracy
- Linear Output
- No Moving Parts
- Thermal Technology

Sizes: 1/2” FNPT
Range: 0 - 200 NLPM (0 - 7 SCFM)

Thermal Flow Meter Model MTSF Series

MTMF Series of Thermal Flowmeters come with or without an LCD display, and all models come with linear 0-5 V DC and 4-20 mA output. High performance. Thermal flow measurement technology offers advantages in accuracy, sensitivity and turn quality components.

Features:
- ±1% Accuracy
- Linear Output
- No Moving Parts
- Thermal Technology

Sizes: 1/2” NPT
Range: 0 - 1500 NLPM in 4 ranges (0 - 53 SCFM)
**Adjustable Flow Switches**

**M-100** series of Adjustable Flow Switches are an extremely sensitive flow switch. It has been engineered to monitor vital flow parameters for instrumentation in process control and inert gases blanket. Infinite adjustment permits detection and signalling of very low fluid flows with the added capability of detection at high flows.

**Features:**
- Field adjustable
- Wide flow range
- For corrosive and non-corrosive liquids or gases
- Extremely accurate and sensitive
- Low pressure drop
- Explosion proof options
- Universal mounting available

**Sizes:** 1/8", 1/4" FNPT
**Range:**
- Water: 1 - 950 mLPM (0.00026 - 0.250 US GPM)
- Air: 20 - 6000 NmLPM (0.0007 - 2.1 SCFM)

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**Adjustable Flow Switches**

**M-200** series of Adjustable Flow Switches are engineered and field tested for sensing increasing and decreasing flow rates of gases or liquids. Pressure variation effects are minimal. This series features such versatility, economy, and accuracy that can be used in virtually any application requiring fool-proof inexpensive flow detection.

**Features:**
- Field adjustable
- Wide flow range
- For corrosive and non-corrosive liquids or gases
- Extremely accurate and sensitive
- Low pressure drop
- Explosion proof options

**Sizes:** 3/8", 1/2", 3/4" FNPT
**Range:**
- Water: 0.2 - 40 LPM (0.052 - 10.56 US GPM)
- Air: 28 - 2830 NmLPM (0.0007 - 2.1 SCFM)

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**Fixed Set Point Flow Switches**

**M-50X/55X** low flow, Fixed Set Point Flow Switches monitor increasing and decreasing flow. They utilize a single moving part which responds to fluid (liquid or gas) flowing within a system. These switches are suitable for a wide range of applications in industrial, biomedical, and OEM products. The flow monitors operate only when fluid flow is positively established.

**Features:**
- Very accurate custom flow settings
- For corrosive and non-corrosive liquids or gases
- Explosion proof options
- Hermetically sealed

**Sizes:** 1/8", 1/4" FNPT
**Range:**
- Water: 1 - 750 mLPM (0.00026 - 0.198 US GPM)
- Air: 50 - 5000 NmLPM (0.00176 - 141.55 SCFM)

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**Fixed Set Point Flow Switches**

**M-60X** Fixed Set Point Flow Switches monitor increasing and decreasing flow. They utilize a single moving part which responds to fluid (liquid or gas) flowing within a system. These switches are suitable for a wide range of applications used in semiconductor, industrial, biomedical, and OEM products. The flow switch operates only when fluid flow is positively established.

**Features:**
- For corrosive and non-corrosive liquids or gases
- Senses increasing or decreasing flow
- Very accurate custom flow settings
- Hermetically sealed
- Explosion proof options
- Universal mounting available

**Sizes:** 1/4", SAE6
**Range:**
- Water: 10 - 1600 mL/min (0.0029 - 0.422 US GPM)
- Air: 300 - 55000 NmLPM (0.010 - 1.94 US GPM)
Fixed Set Point Flow Switches

**M-64**

Fixed Point Flow Switches monitor increasing and decreasing flow. They utilize a single moving part which responds to fluid (liquid or gas) flowing within a system. These switches are suitable for a wide range of applications in industrial, biomedical, and OEM products. The flow monitors operate only when fluid flow is positively established.

**Features:**
- In-line flow switch
- Low pressure drop features.
- Senses increasing or decreasing flow.
- Very accurate custom flow settings.
- Hermetically sealed.
- Universal mounting.

**Sizes:** 3/8”, 1/2” FNPT

**Range:**
- Water: 0.1-7.0 GPM
- Air: 1-70 SCFM

Fixed Set Point Flow Switches

**M-80**

series of Fixed Point Flow Switches are engineered and field tested for sensing increasing and decreasing flow rates of gases or liquids. Pressure variation effects are minimal. This series features such versatility, economy, and accuracy that they can be used in virtually any application requiring foolproof inexpensive flow detection.

**Features:**
- Available in a wide range of fixed flow settings
- Stainless Steel construction
- High Reliability
- Extremely Rensitive
- Low Hysteresis
- Low pressure drop
- Large port sizes

**Sizes:** 1” BSPP, 2” Flanged ANSI(150# RF)

**Range:**
- Water: 0.1-7.0 GPM
- Air: 1-70 SCFM

Fixed Set Point Flow Switches

**M-701**

Fixed Point flow Switches offers low cost flow monitoring with a variety of switch actuation points and low pressure drop. M-701 is designed for ease of maintenance, as the bonnet and shuttle can be removed, leaving the housing and piping intact. All wetted parts are Glass filled Polypropylene or stainless steel, making this switch ideal for a wide range of chemical and temperature requirements.

**Features:**
- Low Cost Model
- Universal Mounting
- Convenient Maintenance

**Sizes:** 3/4”

**Range:** Water: 0.25 - 5.0 USGPM

Paddle Flow Switches for Liquids

**MFS 25**

series of Paddle Flow Switches sense liquid flow in either direction to monitor flow/no-flow conditions. They are supplied in different paddle lengths. The paddle is trimmed during installation to permit switch actuation at the desired flow rate.

**Features:**
- Easy installation into existing pipe
- Suitable for a wide range of pipe sizes 25 to 200 mm( 1” to 8”)
- Reed switch provides a SPDT contact function

**Sizes:** 1” to 8”

**Range:** Range dependent on pipe size (Refer datasheet)
Excess Flow Valves & Globe type Control Valves:

Malema offers a range of Excess Flow Valves that prevent fluid spillage in case of pipe line breaks. Its globe type control valves are designed for harsh media and applications that demand precise flow, pressure and temperature control.

- Large Size Excess Flow Valves (Spring Return)
- Small Size Excess Flow Valves (Velocity Fuse)
- Globe Control Valves : Modulating and On/Off
- 3-Way Flow Mixing/ Diverting Valves
- Pressure Control/Reducing Valves
- Pressure Reducing And Desuperheating Valves
- Desuperheating Valves

Excess Flow Valves

M-XF Excess Flow Valves provide instant shut off in the event of a hose break or line failure, preventing the release of hazardous or inflammable products to the area, which can result in a disastrous fire or explosion causing untold damage to personnel and equipment.

Features:
- Can be disassembled for repair or inspection without removal from pipeline.
- Field adjustable
- Wide adjustable range
- Meets OSHA requirements for safety shutoff valves
- Operates effectively with liquids or gases
- In-line flow

Sizes: 3/4" to 12"; optional up to 20"
Range: Water 0.1 - 2500 USGPM
Air 0.5 - 40000 SCFM

Safety Excess Flow Valves (Velocity Fuses)

M-VF series Safety Excess Flow Valves are engineered for fast automatic shut-off in case of line, hose, or fitting failure protecting plant, personnel, and instruments. Designed for protection of systems handling corrosive, toxic, radioactive, and flammable materials; the valve will instantly detect surges in the system and stop fluid flow.

Features:
- High Reliability
- Field adjustable
- Exceeds OSHA requirements for safety shutoff valves
- Low pressure drop
- Right-angle flow

Range: Air: 0.177 - 130 SCFM
Water: 0.0026 - 20 USGPM
Control Valves Series 100

Series 100: Control Valve bodies are designed for all standard industrial control applications in Carbon steel, Alloy steel and Stainless steel materials. They are manufactured using advanced automatic forming and casting techniques to ensure high quality and precision.

Series 100 Control Valves can be fitted with single spring, multi spring pneumatic actuators, pneumatic or electro-pneumatic positioners, limit switches and other accessories.

Features:
- Design as per ANSI B 16.34.
- Flow Optimized Design with optional low noise trims.
- Flanged, butt welded and socket welded end connections.
- Soft seating options to ensure leak tightness class VI

Sizes: ½” to 16”
Pressure Rating: ANSI #150, 300

Control Valves Series 140/160

Series 140/160: Control Valves are designed for use in applications with high pressure drops and critical operating conditions. Its parabolic plug with highly load able shaft guiding on top and bottom makes it suitable for extreme operating conditions.

Optional cage guided multi-step perforated plugs and low noise silencer baskets make these valves suitable for use in super-critical pressure drops. This trim design ensures cavitation free operation with sub-critical pressure reduction.

Series 140/160 Control Valves can be fitted with single spring, multi spring pneumatic actuators, pneumatic or electro-pneumatic positioners, limit switches and other accessories.

Features:
- Design as per ANSI B 16.34.
- Flow optimized design with optional low noise trims.
- Flanged, butt welded and socket welded end connections.
- Soft seating options to ensure leak tightness class VI

Sizes: 1” to 10”
Range: ANSI #300, 600, 900, 1500

Three Way Valves

Malema: Three Way Flow mixing and diverting valves are designed using series 140/160 control valve bodies. They are ideally suited for temperature control in thermodynamic processes, Cooling systems, Heating and cooling systems for plate pressing, vulcanizing and other presses and attemperator application

Features:
- Design as per ANSI B 16.34.
- Flow optimized design with optional low noise trims.
- Flanged, butt welded and socket welded end connections.

Sizes: 1” to 10”
Range: ANSI #300, 600
Metal Tube Variable Area Flow Meters:

**AM-2000** is the new series of Metal Tube Variable Area Flowmeters from Malema. All sizes have standardized installation dimension of 250mm (10”) flange to flange which helps in easy process piping design. Optional electronic modules for analog output, alarm output and total indication are available.

**Features:**
- Standardized installation dimension of 250mm (10”) for all sizes.
- Standard SS316L construction.
- Easy maintenance by Modular system.
- Totalizer display option.
- HART communication option

**Sizes:** 1/2” to 4”

**Range:**
- Water: 0.1 ~ 440 US GPM; 25 ~ 100000 LPH (20°C)
- Air: 0.4 ~350 CFM; 0.7 ~ 600 m/h (0.1 MPa, 0°C)

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**Pressure Controlling/Reducing Valves**

**Model 902** is a Pressure Controlling/Reducing Valve mounted pneumatic controller used with Malema control valves for pressure control, pressure reduction or over flow control application. The controller comes pre-assembled making it simple for the user to install and operate with very little modification to the existing set up.

**Features:**
- Save installation cost: Controller comes pre-assembled on the valve
- Saves loop cost: Eliminates the need of separate sensor, transmitter, I/P, controller and positioner
- Low maintenance

**Sizes**: 1/2” to 16”

**Pressure Rating**: ANSI #150, 300

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**Pressure Reducing and Desuperheating Valves**

Both steam pressure reduction & temperature reduction (Desuperheating) are done in a single valve making it an extremely efficient, cost effective and compact solution.

**Features:**
- Compact design
- High turndown (40:1)
- Reduced noise level
- Efficient cooling water atomization
- Reduced straight runs for pressure & temperature measurements
- Better control over changes in flow

**Sizes**: 1” to 10”

**Pressure Rating**: ANSI # 300 , 600, 900, 1500

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**Desuperheating Valves**

**Model VND** variable Nozzle Desuperheater incorporates latest technology in the spray nozzle design. Specially designed spray nozzle head, nozzle and nozzle cap helps splitting cooling water, increasing velocity, and a rotational effect that ensures the water is injected into the system in a fine symmetrical hollow cone spray.

**Features:**
- Turndown up to 25 : 1 and higher
- No separate water control valve necessary
- Available in 6” & 9” nozzles design
- High performance spray head ensures fine atomization of spray water
- Reduced straight runs for pressure & temperature measurements

**Sizes**: 1” to 10”

**Pressure Rating**: ANSI # 150, 300 , 600, 900, 1500
Level gauges/switches:

- Spring Balanced Tank Gauges
- Servo Operated Tank Gauges
- Transmitters for Tank Gauges
- Supporting Instruments for Tank Gauging System
- Receiving Indicators for Tank Gauging System
- Metal Tube Level Gauges
- Displacement type Level Transmitters
- Float Type Level Transmitters
- Pressure Type Level Gauges
- Ultrasonic Level Meters
- Level Switches
- Microwave Level Radar
- Micro Pulse Guided Radar

Displacer Type Level Indicator/Transmitter

FST-3000 is a torque tube, displacement type level indicator/transmitter with an intelligent data processing function. In addition to all the features of existing torque tube type level transmitters, its advanced signal processing unit offers high accuracy as well as features such as field adjustment of density, range etc.

Features:
- Up to 3000mm measuring range
- From low temperature liquefied gases (-196°C) to high temp./press. (400°C, class 2500) boilers
- Liquid level, two liquid interface or density measurement
- Ex-d and Ex-1 (Optional)
- Variety of material selection
- 4 point level alarm (Optional)
- HART communication version (Optional)

Servo Tank Level Gauge

FW-9000 is an intelligent Servo Tank Level Gauge. In addition to normal measurement and transmission of liquid level and temperature, interface of two different liquids (i.e. Oil/Water), sludge height (or tank bottom height) and liquid density can also be measured and transmitted.

Two different sizes of wire winding drum are available to cover from small process tanks to large storage tanks of max. height of up to 60m.

Features:
- Flameproof built-in keyboard using Hall effect elements enables operation parameter setting without opening housing cover during electrically active condition in hazardous area. This eliminates difficulties in handling of HHC (Hand Held Communicator).
- High accuracy ensured by high resolution stepper motor controlled by microprocessor.
- High reliability based on intelligent self-diagnosis function
- Perfect Non-contact tension detection system without any slipping rings.
- High durability and long term stability.
- High brightness type 3-line LED indication provides easy recognition in night or dark places with wide visible angle.
Malema endeavors to provide its customers with state of the art flow, pressure, temperature, integrated closed loop (with pumping) solutions and fluid delivery system designs.

We support these endeavors with a large engineering multi-faceted team with specialities in every aspect of fluid delivery. We customize these solutions to match the customers specific requirements.

Our goal is to have a satisfied customer in terms of product or system functionality at a competitive price and timely delivery with lasting relationships.