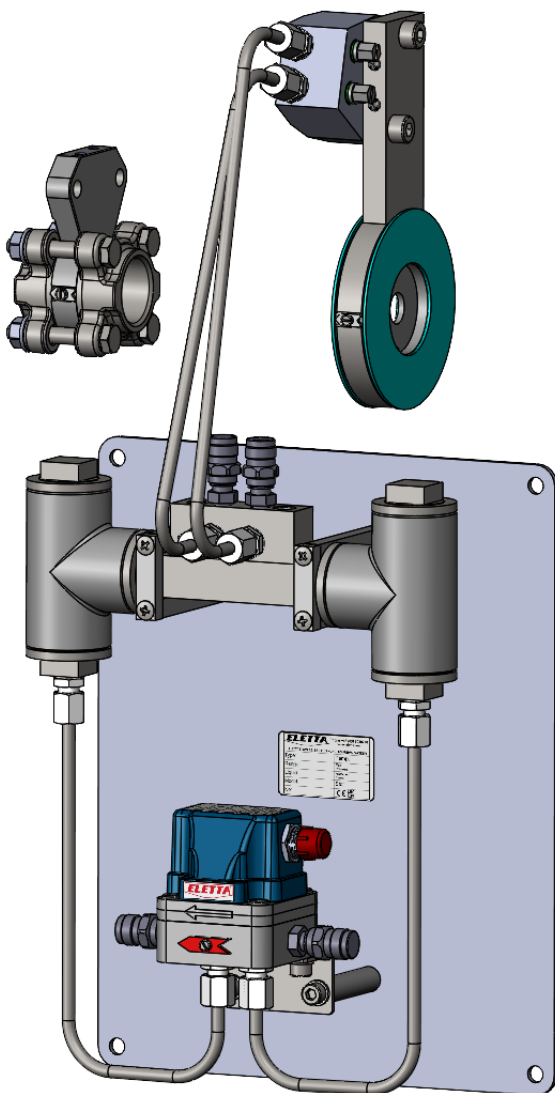


ROBUST HIGH QUALITY FLOW MONITORS

LEAFLET
ELETTA STEAM



Reliable Steam Flow Measurement



Introducing Eletta Steam, a robust, cost effective design for steam flow measurement. Designed for accuracy and ease of use, Eletta Steam is your go-to solution for all of your steam flow monitoring needs.

Whether it be determining your efficiency of your boiler steam flow or monitoring steam flow in your sterilization lines, Eletta Steam has you covered.

Eletta has been manufacturing high quality flow measurement instrumentation for over 75 years and are well known in the industry for superior quality and support. Eletta products are used where operational safety demands, efficient supervision, and rugged installation is required.

The Eletta Steam Flow Steam system is based on the proven and dependable differential pressure principle, using an orifice plates as the primary flow element.

Key Features

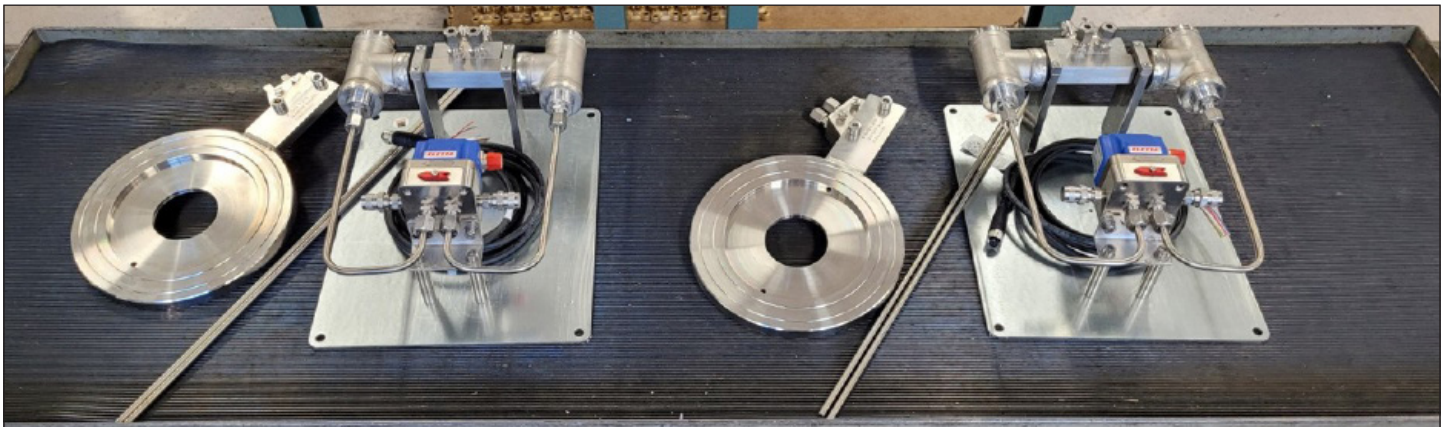
- For pipe sizes from 1/2" up to 20"
- 4-20mA Output plus MODBUS standard
- Alternate Control Units available
- Low Maintenance
- Ease of Installation
- Calibration Software included
- No Moving Parts

How it Works:

Eletta Steam consists of 2 parts. A primary flow element and a control unit assembly. The primary flow element for Eletta Steam is a stainless steel orifice plate which is available for pipe sizes from 1/2" up to 20". Each orifice plate is sized at our factory based off the customers requested flow range and the process operating conditions. The control unit assembly consists of a mounting plate, 2x steam condensing pots, and a control unit. The primary flow element is connected to the control unit assembly via 6mm stainless steel tubing.

The benefits of this design are many. Having a flow element with no moving parts ensures reliable, low/no maintenance for years and years. The flow element also houses no electronics so we can accomodate very high temperatures. The remote control unit assembly allows for easy access to the condensing pots and electronic assembly for easy of maintenance and wiring.

The standard countrol unit is our M.



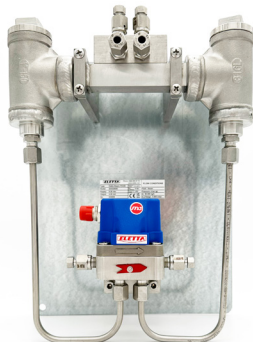
Industries:

- Power Generation - Boiler Control & Turbine Moniting
- Chemical and Petrochemical Industries - Ensuring and providing precise steam source and delivery
- Food and Beverage: Sterilization and Controlling cooking processes
- Pulp and Paper Industry - Steam for drying processes and for power generation
- Manufacrting and Industrial Processes - Steam to power machinery and equipment and heating processes
- Breweries and Distilleries - Steam for precise temperature control during brewing and distillation processes
- Oil and Gas Industry - Steam injection to enhance oil recovery reservoirs and heat for processing activities
- Pharmaceuticals - Providing controled heat for various pharmeceutical manufacturing process

Product Details and Specifications

Control Unit Assembly

- Mounting Plate
- Condensing Pots
- Control Unit
- 6mm Stainless Tubing



Control Unit

- M series
- 4 - 20 mA Output
- Modbus
- Temperature Sensor



User Interface

- Touch-screen Display
- Historical Trends & Graphs
- Remote access from Smart Phone
- Available in 5 Sizes
- e-mail function



Primary Flow Element

- 1/2" to 20"
- Stainless Steel
- Threaded or Flanged
- 6mm Tubing Connections



Flow range	Steam: will be calculated according to application
Flow turndown	10:1
Cover	PA 12 Grilamid with conductive layer inside or optional Stainless Steel
Wetted Materials	Stainless Steel & FPM
Min pressure*	- M310: 1 bar(g) (14,5 PSI) - M325: 1,75 bar(g) (25,4 PSI) * Minimum pressure to get a proper reading, provided there is a flow in the system.
Max pressure	- M310: 10 bar(g) (145 PSI) - M325: 25 bar(g) only for threaded pipes GSS15-25
Temp. Control unit	-10°C to 100°C. (Sensors compensated from -10°C to 80°C.)
Ambient Temp - With display	-10°C to 70°C
Max. temp. Pipe section	-10°C to +230°C (+14°F to 446°F)
Enclosure:	IP67 without Display & IP65 with Optional Display
Process connections:	Threaded: 1/2", 3/4", & 1" Flanged: 1/2" up to 20"
Accuracy	+/-0,5-1% FS of the default differential pressure at reference conditions.
Display (option)	LCD Rate or Total

For complete specification of various models please refer to the manual.

Certificates



Product Details and Specifications

The User Interface receives three values from the Control Unit. They are shown on the left side of the main screen. These are Qa as flow in %, Pa as static Pressure in bar, and H2O T in °C at Sensors as Temperature of water from condensate pots and impulse tubing that is touching the Control Unit sensors. (This is not the Steam's temperature, but as a safety display if the condensate pots get too dried up its water temperature will rise close to 100°C, which is the sensor's limit).

On the right side, the main screen displays the calculated values, starting from Q the flow value as a scaling of Qa to the Q-Max, the totalization for the same. Then the Qc as Flow Compensated for Pressure and Temperature variations against the Design Pressure and Temperature, and the totalization thereof.

Touchscreen Display Functionality

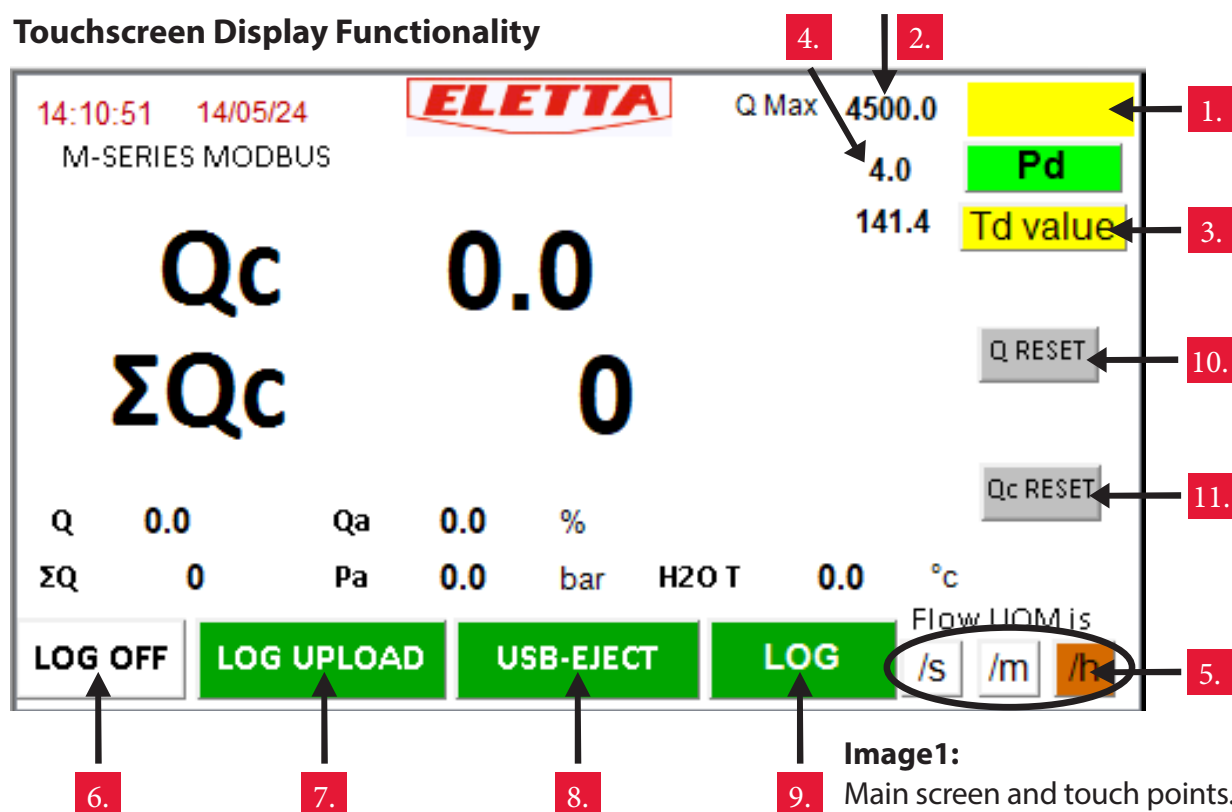


Image1:

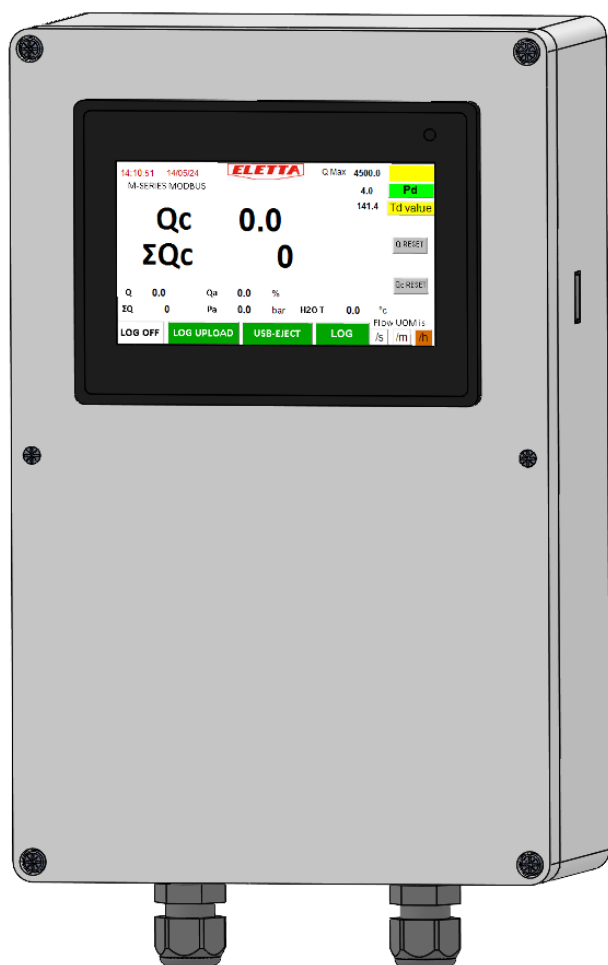
Main screen and touch points.

1. Unit of measurement: touch to type UoM
2. Maximum flow measurement: touch to type Q Max
3. Calculation reference: touch to switch between inputting reference pressure(Pd) or reference temperature(Td).
4. Calculation reference value: touch to type the value of reference Pd/Td
5. Time-unit of UoM: touch to choose between seconds, minutes, or hours.
6. Logging: touch to start or stop logging.
7. Log upload: touch to upload the logging file to a USB flash drive.
8. USB eject: touch to eject the USB flash drive before removal.
9. Log: touch to open logging screen.
10. Q reset: touch to reset the measured flow totalizer.
11. Qc reset: touch to reset the compensated measured flow totalizer.

Product Details and Specifications

User Interface HMI

- Touch-screen Display
- Historical Trends & Graphs
- Remote access from Smart Phone
- e-mail function



Technical Data

Display	Standard 7" WVGA color TFT Special 4.3" Sized and 10" versions also available
Brightness	300 cd/m ²
Resolution	400 x 800 Pixel
Backlight	LED
CPU	32-bit RISC
Memory	up to 128MB
Data logger	up to 20MB
Power Input	24VDC (+/-15%)
Power Consumption	9W
Working Temperature	0 - 60°C
Storage Temperature	-20 - +85°C
Rel. Humidity	10 - 95%, non-condensing
Protection Class	IP66 when panel mounted
Certificates	CE, UL Class I Div. 2

Communication	COM1 & COM2 RS 232/RS485 USB B 1 for programming USB Host Micro-SD-Card Slot 4-32GB Ethernet 10/100MB/s
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Data Logging	Data are collected in the integrated 20MB memory. Option: memory extension via SD card. Log file can be sent in CSV format: (1) onto USB stick (2) Via USB-B cable or LAN cable directly onto a PC
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Options	Housing available in different mate- rials, like ABS, Polycarbonate, PP types of Plastic and Stainless Steel body, for installations in industrial environments, supplied pre-mount ed and pre-wired with Eletta-C. Modem for connection with WLAN: remote monitoring of flow data or switch status via any wireless device that is connected with the same WLAN. Add-On Card (up to 3/5 per Eletta-C) with: a. 2 analog Input b. 1 analog Outputs (AI, AO for 0-20mA, 4-20mA, 0-5,0- 10V) c. 12 DI, Digital Inputs d. 10 DO, Digital Outputs
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Ordering code

Series		
Eletta Steam -		
	Flow Element Process Connection Type	
	GSS	Threaded
	FSS	Flange
	Flow Element Process Connection Size	
	15	1/2"
	20	3/4"
	25	1"
	32	1-1/4" - flange only
	40	1-1/2" - flange only
	50	2" - flange only
	65	2-1/2" - flange only
	80	3" - flange only
	100	4" - flange only
	125	5" - flange only
	150	6" - flange only
	200	8" - flange only
	250	10" - flange only
	300	12" - flange only
	350	14" - flange only
	400	16" - flange only
	450	18" - flange only
	500	20" - flange only
	Control Unit Type	
	M310	Transmitter - 10 bar 10:1 turndown
	M325	Transmitter - 25 bar 10:1 turndown
	Additional Information to be Specified	
	NPT for threaded flow elements (standard is BSPP)	
	ANSI for flanged flow elements (standard is DIN)	
	M Series Control Unit with Stainless Steel Cover	
	M Series Control Unit with Display	

Eletta Steam options

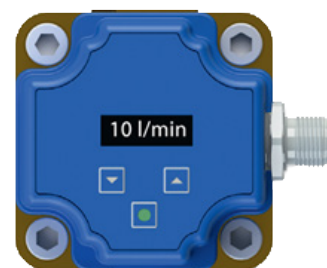
Cover in Stainless Steel

Cover in stainless steel for harsh environments.



Rate Total Display

Visualization of the flow rate and flow total values for direct reading.



User Interface HMI

In addition to having a full color TFT touchscreen local display, you can transfer the steam flow data via WLAN onto portable devices like mobile phones or tablets, or per SMS. So, the user has the flow data or alarms always on hand! And this even without installing an app.



Example of Code

Eletta Steam - FSS100