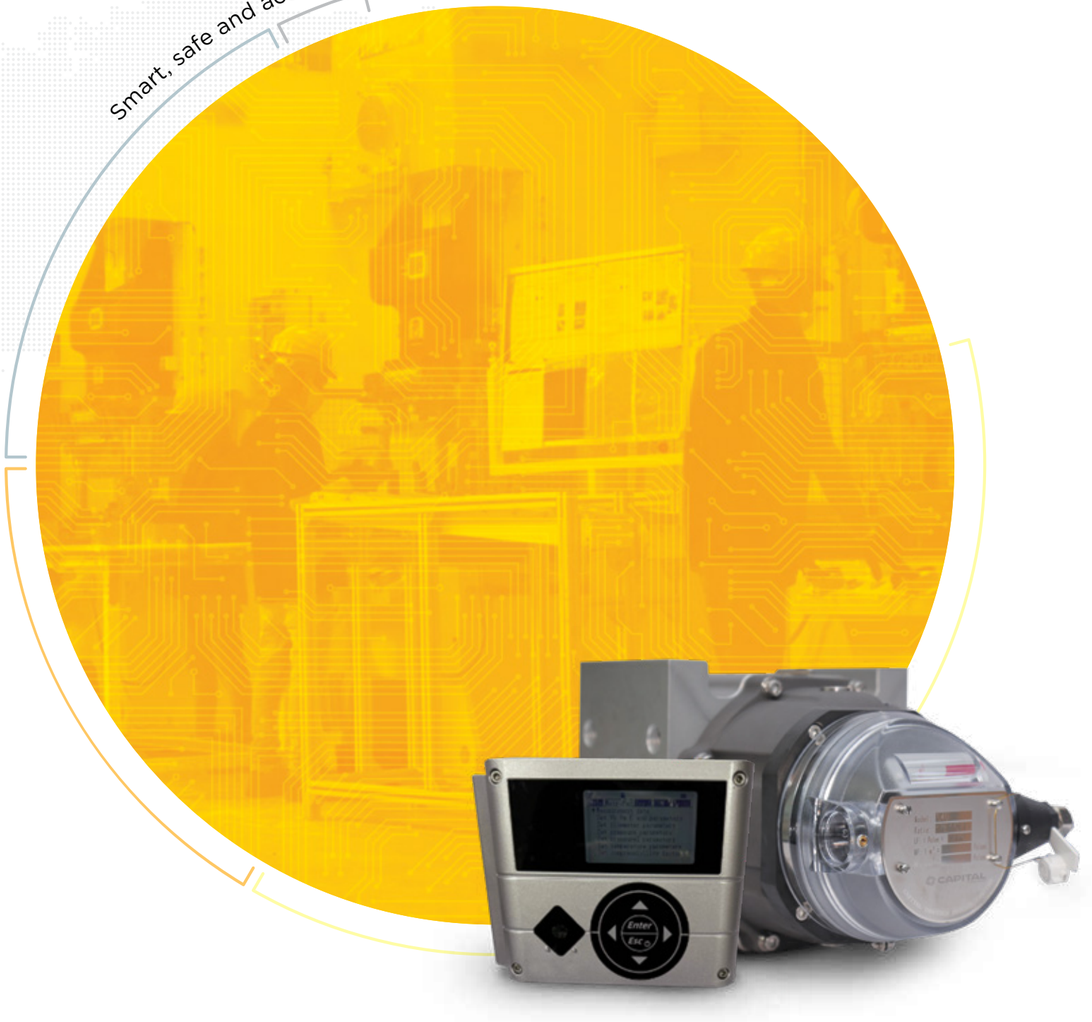
CAPITAL
A Step Ahead

Smart, safe and accurate.



CAPITAL
A Step Ahead

CAPITAL INNOTECH PRIVATE LIMITED
E-100, Mewar Industrial Area, Udaipur, Rajasthan
+91 294 2490414, +91 8800 331 747
info@capitalinnotech.com www.capitalinnotech.com

AS LEADERS IN MANUFACTURING INDUSTRY,

Capital has set the bar with its unwavering commitment to quality and exceptional client service. Through our extensive inventory of diverse and customizable products, our talented team goes above and beyond to make sure your needs are met, and expectations exceeded.

ROTARY POSITIVE DISPLACEMENT METERS APPLICATIONS

The RPD rotary displacement gas meter is a high precision instrument for gas volume measurement and flow measurement of natural gas and other non-aggressive gases in gas stations and plants.

KEY FEATURES

- Meter sizes G 10 to G 1000
- Flow rates from 0.4 to 1600 m3/h
- Nominal sizes from DN 25 to DN 200
- Pressure class PN 10/16 and ANSI 150*
- No special servicing is required after installation. Generally the oil must be replaced at least every 5 years.
- Meter housing made of anodized high strength Aluminum
- Index head by default made of synthetic material, optional made of Aluminum
- Rotating counter (355 °)
- No inlet or outlet section required
- Horizontal and vertical mounting position
- Approvals according to MID (2014 /32 /EU), OIML, PED (PED 2014/68/EU), ATEX

DESCRIPTION AND OPERATION

The RPD rotary gas meter registers the operating volume using an eight-digit mechanical counter. Via pulses the operating volume can be transferred to an electronic volume corrector and converted to normal or standard conditions. The RPD rotary meter is approved for custody transfer according to MID (2014 /32/EU) / OIML.

Rotary gas meters are operating according the displacement principle. In the meter housing are two 8-shaped coordinated rotating pistons without touching each other. The measuring chamber is regularly filled and emptied by the rotation. During each revolution four crescent-shaped volumes are moved through the measuring chamber, in which the rotation speed is proportional to the gas flow. The rotation of the pistons is synchronized by a gear train outside the measuring chamber.

01 PRESS SHOP
02 POWDER COATING
03 CED (CATHODIC ELECTRODE DEPOSITION)
04 INJECTION MOULDING
05 BAKE LITE
06 CNC MACHINE SHOP
07 EP (ELECTRO PLATING)
08 ASSEMBLY & TESTING
09 CALIBRATION
10 R&D

PERFORMANCE DATA

DN [mm]	G-Type	Qmin [m3/h]	Qmax [m3/h]	Standard Rangeability	V [dm3]	LF [imp/m3]	MF [imp/m3]	HF [imp/m3]	Screwed connection
25	10	0.4	16	1:40	0.177	10	100	28098.8	RF/F-F
*1 1/2	16	0.5	25	1:50	0.210	10	100	23744.75	RF/F-F
50	16	0.5	25	1:50	0.210	10	100	23744.75	RF/F-F
50	25	0.5	40	1:80	0.283	10	100	17617	RF/F-F
50	40	0.5	65	1:130	0.566	10	100	8808.5	RF/F-F
50	65	0.5	100	1:200	0.708	10	100	7035.45	RF/F-F
80	100	0.65	160	1:250	1.05	1	10	4748.95	RF/F-F
80	160	1.6	250	1:160	2.78	1	10	1795.2	RF/F-F
100	160	1.6	250	1:160	2.78	1	10	1795.2	RF/F-F
100	250	2.0	400	1:200	4.20	1	10	1187.25	RF/F-F
100	400	3.2	650	1:200	5.66	1	10	883.2	RF/F-F
150	400	6.5	650	1:100	10.5	1	10	476.625	RF/F-F
150	650	10.0	1000	1:100	15.7	1	10	317.75	RF/F-F
200	1000	16.0	1600	1:100	19.7	0.1	1	253.675	RF/F-F

APPROVALS

OIML · ISO 14001 · ISO 9001 · EN 12480 · MID - B · MID - D · ISO 27001 · IP65 RATED · Ex

A Step Ahead

ELECTRONIC VOLUME CORRECTOR (EVC)

PRODUCT OVERVIEW

TEC -III is a gas volume corrector that enables PTZ, PT or T conversion. The device is designed to measure volume, energy and flow gas. Primarily battery powered with the possibility to connect external power supply.

APRROVALS

TEC- III accords with standard EN 12405- 1:2021 and EN 12405-2:2012.
ATEx accords with intrinsic safety explosions proof standard EN60079-0, EN60079-11, Housing protection meets IP66 of standard EN60529.

MAIN ADVANTAGES

- Industrial housing cooperates with various types of gas meter like turbine, rotary, ultrasonic by LF, HF, Namur, Reed contact, Encoder.
- Friendly user menu interface, equipped with 256x160 monochromatic dot matrix LCD display and 6 – buttons touch screen.
- 4 Independent serial transmission ports (2xRS485/RS232 + Optical interface 62056-21+ Bluetooth 5.0).
- Built-in GSM 2G/3G,4G, NB-Iot modem (Option).
- Various I/O interfaces: upto 7 configurable inputs, Upto 4 binary or frequency outputs with Photoelectric isolation.
- Low -Power consumption design, built-in lithium battery to provide power for more than 6 years under the specified operating mode, up to three batteries.
- Large capacity and varities of metering data records and event archives function, Non- volatile in the lifetime (periodic record, daily record, monthly record, event archive, etc).
- Multi- Level security protection: Independent hardware switch, seal sticker, lead seal, login password.
- With tamper-proof magnetic interference detection and opening cover detection alarm.
- Optional additional second external pressure transducers based on a built-in temperature sensor for comparison.
- Additional 4mA-20mAtwo wire analogue current output, the parameters can be configured.

TECHNICAL SPECIFICATIONS	
Housing Material	Aluminum Alloy
Dimensions	202x183x72mm
Weight	2.5 kg
Display	Dot Matrix LCD 256*160-graphic 4*
Keyboard	6 Bottons touch screen: up, down, left, right, enter, return,
Base Conditions	Adjustable by authorized service personnel, available options, • I Reference pressure pb(absolute): default 1,01325 bar • I Reference temperature Tb: default 273,15k (Ooc) • I Reference temp for combustion T1:default 298,15k(250C)
The Maximum permissible error (MPE) according to standard" EN 12405-1"	0,5% at reference conditions: 1% at nominal operating conditions.
The Maximum permissible error (MPE) according to standard" EN 12405-2"	ECD Class A
Algorithms for calculations of compression factor:	SGERG-88, AGA8-92, AGA8-G-2, AGA NX-19 mod constant compression factor k1
Relative Humidity	Max 95% at temp.70oC
Ambient Temperature Range	-25*c to 55*c (MID Certified)-25*C to 70*C (Without MID)
Hosing Protection Level:	IP 66(EN 60529)

TECHNICAL SPECIFICATIONS	
Environment Conditions class (Mechanical/ Electromagnetic)	M2/E2
Ex Classification (According to EN60079-0, EN60079-11)	(Ex) II 1G Exia IIB T4 Ga (Ex) II 2G ib IIB T3 Gb
Internal Supply for EVC	D-size lithium 3.6V/19Ah (up to 3 batteries when without modem) under specified condition:6 years/pcs
Internal Supply for MODEM	D-size lithium 3.6V/19Ah, operating TIME:6 YEARS (2 Communications per day)
External Supply	Intrinsically safe power supply INT-S3 or other (supply output 6.5V DC+_10% supply input 12 to 24v DC+_10%)
Transmission Ports	L2 independent serial transmission ports, speed up to 192.00 bps: com1, com2 standard Rs-48s (Optical interface COM3[EC62056-21 IGSM2G/3G, 4G, NB-IoT option Bluetooth 5.0 option,
Transmission Protocols	MODBUS RTU, other Protocols, can be customized on request.
Measuring Pressure (bar, abs)	IP1 external pressure-Screw thread NPT1/4 customizable, I pressure range option: 0.8-2/1-5/2-10/4-20/10-50/20-100/0.8-10/7-100 mid Certified 0.8-5/0.8-20/1-35/1-50/2-70/5-120 no MID (Maximum permissible errors of p1 MPE +0.2% of measured value standard condition +0.5% of measured value standard condition P2 external, optional-absolute pressure built-in temperature
Measuring temperature	(Temperature sensor 4-wire diameter less than 6mm) (Temperature range:-30o C to +80Oc) I Maximum permissible errors of T1 MPE +0.1% of measured value base condition +.02% of measured value operating condition
Inputs	Up to 7 Ex digital inputs: -2 LF inputs reed contact, pulse, signal, -2 TS tamper protection switch closed be fault -1 HF inputs frequency up to 5kHz EN60947-5-6 -2 Ex digital inputs, Binary input
Outputs	L4 Ex digital OC outputs separated: -1x configurable-binary or frequency up to 5kHz -3x configurable binary open collector type
Analog Outputs	4Ma-20Ma two-wire analogue current output, +0.25% FS output error of Q or Q optional
Registration Periods	I Periodic records-1440 records I Hourly records-11500 records (Daily records-4 years [Monthly records-more than 30 years start-stop records-1000 records)
Event Archive	Alarm event IoT communication event, resetting event, Calibration log, gas component change log

A Step Ahead