



ROMET™



RM7000 TC
WITH INTERNAL PULSER

ROTARY GAS METERS
RM IMPERIAL SERIES

STANDARD COUNTER (STD CTR)

STD CTR meters register the non-compensated, displaced gas volume in actual cubic feet (cf). The meter module is available with either a side or end reading (for most meter sizes) counter. The ability to rotate the counter module in 90° increments allows the meter to be mounted in any orientation, while still offering full accessibility when reading the counter.

A remote instrument (e.g. Romet EVC2®B) or automatic meter reading (AMR) device may be connected to the meter with the addition of an optional internal or external pulser assembly. The equivalent instrument drive module (STD ID or DCID) can be retrofitted to a STD CTR meter body.

STANDARD INSTRUMENT DRIVE (STD ID) - DCID OPTIONAL

STD ID / DCID meters measure the non-compensated, displaced gas volume in actual cubic feet (cf). The meter module produces a specific displaced volume with each rotation of the instrument drive. The instrument drive platform accommodates most electronic (e.g. Romet EVC2®B) and mechanical instruments. The instrument drive module can be rotated in 90° increments to facilitate the mounting of the meter in any orientation.

DCID - Option

The **D**igital **C**ounter **I**nstrument **D**rive meter offers the convenience of a meter module with an end reading counter to register the non-compensated volume.

TEMPERATURE COMPENSATED COUNTER (TC) - TCID OPTIONAL

TC meters measure the non-compensated, displaced gas volume in actual cubic feet (cf) and convert this volume to a base temperature condition. Both the non-compensated and temperature compensated gas volumes are registered on counters. The temperature compensation is performed from -40°F to +122°F, with a typical error of less than 0.5%.

TCID - Option

The **T**emperature **C**ompensated **I**nstrument **D**rive produces a specific compensated volume with each rotation of the instrument drive. The instrument drive platform accommodates most electronic (e.g. Romet EVC2®B) and mechanical instruments.

ROMET ADVANTAGE

Romet Limited has been manufacturing high quality performance rotary gas meters for over twenty-five years. Our modern, vertically integrated plant provides for virtually all in-house manufacturing, allowing our meters to be produced to very high quality specifications. This includes state-of-the-art CNC

machining, plastic injection molding, computerized anodizing, extensive R & D and engineering facilities. Romet rotary meters deliver an excellent combination of accuracy and rangeability to generate the optimum in gas registration. Our unique designs provide reliable long-term service with features such as:

- **Metal gears** to provide reliable, "install and forget" confidence in your cash register.
- **Pinned timing gear to impeller construction** permanently locks the meter Accuracy, preventing the shifting of the impeller timing due to sudden load demands or contaminants passing through the meter.
- **Simple internal construction** makes servicing quick and easy. Romet meters have as much as 30% fewer parts than the competition.
- **Common parts** throughout the family of meter sizes minimizes the inventory of spare parts.
- **Rugged, aluminum and steel** design delivers long reliable service.
- **5 Year Warranty on parts and labour** is the best in the gas industry.

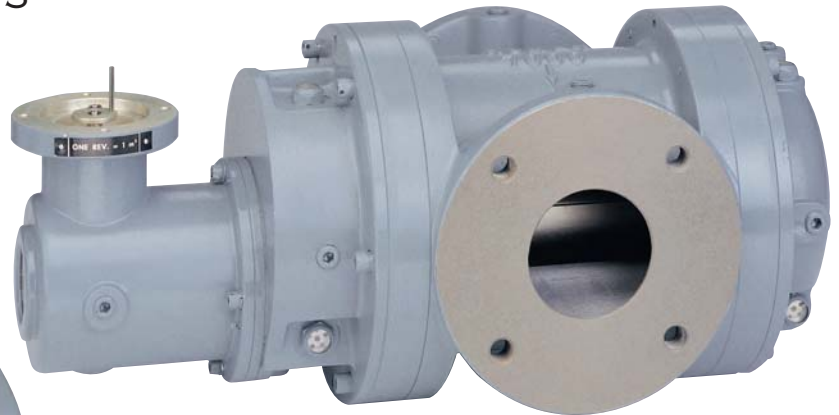
Our extensive expertise within the international gas industry and the ability to work with our customers has made Romet the leader in rotary meter technology.

ROTARY GAS METERS - *RM IMPERIAL SERIES*

VARIOUS GAS METER TYPES



RM2000 STD CTR SIDE INDEX
WITH INTERNAL PULSER



RM7000 DCID



RM7000 TC
WITH INTERNAL PULSER

RM1000 STD CTR SIDE INDEX

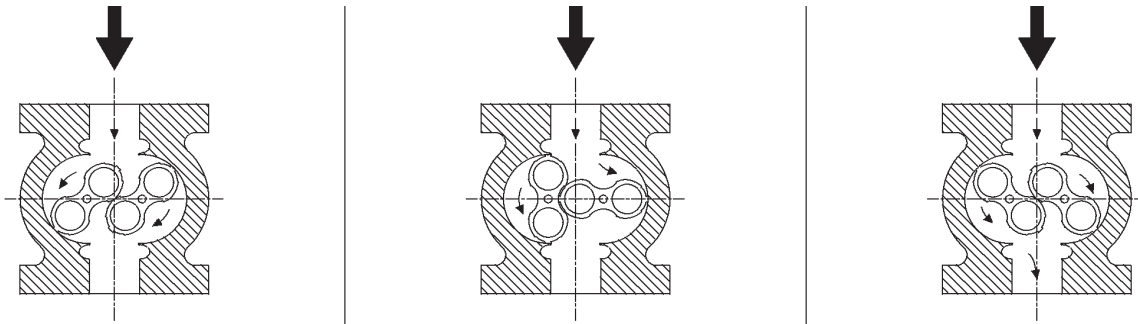


RM5000 TCID

PRINCIPLE OF OPERATION

Gas entering the inlet of the meter produces a differential pressure within the meter chamber, which causes the impellers to rotate. Timing gears synchronize the impellers to turn in opposite directions. The volume of gas within each measuring chamber half is displaced by the rotation of

each impeller. The rotation of the impellers is translated into specific units of volume (cf) by means of a precision gear train. The volume is, in turn, registered on a digital counter.

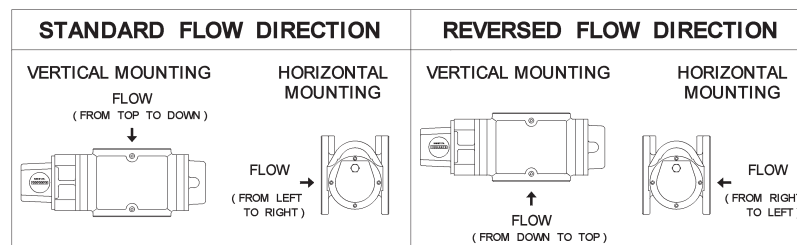


MATERIAL SPECIFICATIONS

Pressure Body and Covers:	Cast aluminum alloy
Impellers:	Extruded aluminum alloy
Impeller shafts:	High grade alloyed steel
O-rings/Gaskets:	Synthetic elastomer
Bearings:	High Carbon Steel
Magnet coupling:	Hard ferrite ceramic magnet
Timing gears:	Steel alloy
Reduction gears:	Steel alloy
Plastic components:	Brand name engineered thermoplastics

TECHNICAL DATA

Meter Type:	Rotary Positive Displacement Gas Meter.
Application:	Natural gas and other non-corrosive gases on request.
Installation:	



Operating temperature:	-40°F to +122°F
Counter:	Up to 8-digit counter (with various numerical configurations on request)
Flat face flange connections:	ANSI 150
Output Pulse Connectors:	"Binder" or "Cannon" 6 pin Female (other connectors on request)
Instrument Drive:	Various platforms are available to accommodate most instrument manufacturers
Options:	L.F. (low frequency) pulser H.F. (high frequency) pulser Reverse flow modification Stainless steel bearings, timing gears and/or external hardware
Optional Accessories:	Meter oil Screen Tees Pressure access plugs for differential testing and/or oil replacement Service tool kit

PERFORMANCE SPECIFICATIONS

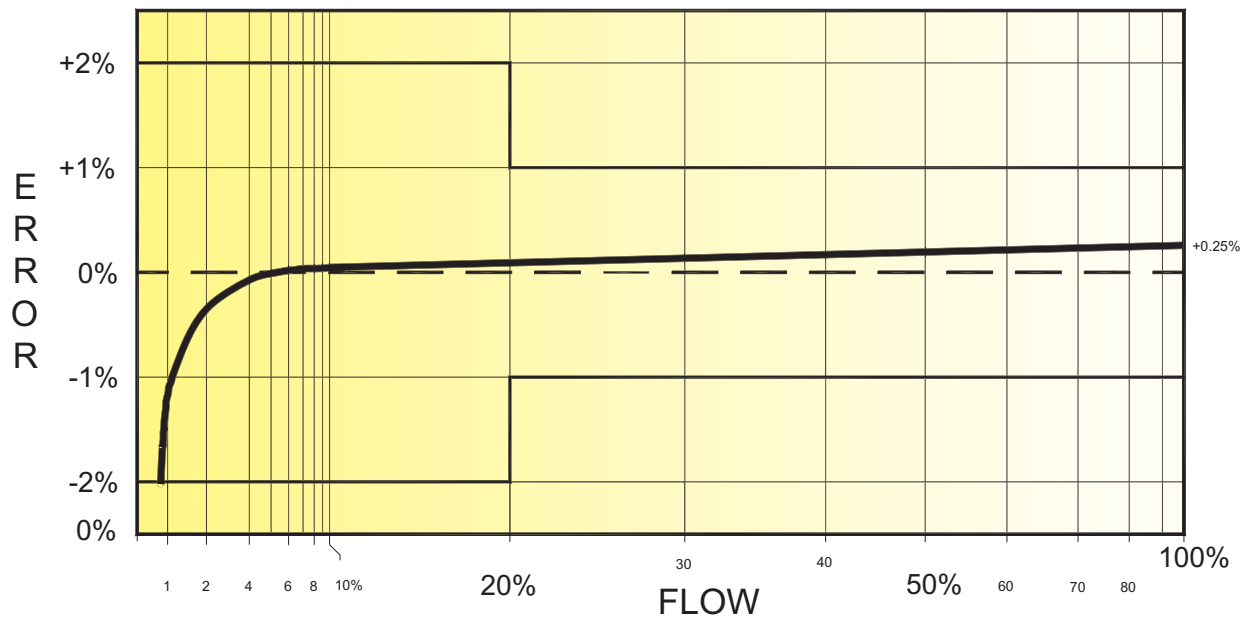
	RM1000	RM1500	RM2000	RM3000	RM5000	RM7000	RM11000	RM16000	RM23000
MAOP (psig)	175	175	175	175	175	175	175	175	175
Q _{MAX} (cfh)	1000	1500	2000	3000	5000	7000	11000	16000	23000
Differential Pressure @ Q _{MAX} (I.W.C.)*	0.46	0.53	0.59	0.67	0.74	0.80	0.82	1.42	1.92
Typical Start Flow (cfh)	0.9	1.0	3.7	3.8	4.0	4.8	4.9	5.1	5.9
Counter Resolution (cf)	1	1	1	1	1	1	1	10	10
Instrument Drive Rate (cf/revolution)	10	10	10/100	10/100	10/100	10/100	10/100	100	100
L.F. Pulse Resolution (cf/pulse)	10	10	10	10	10	10	10	100	100
H.F. Pulse Frequency (pulse/cf)	1254	900	653	450	272	163	101	92	71

*Differential Pressure values based on natural gas at 7" I.W.C.

For **RM38000** meter size refer to literature: "ROTARY GAS METERS, **RM38000**•RM1100•G650".

For **RM25000** meter size refer to literature: "ROTARY GAS METERS, **RM25000**•RM700•G400-150".

Also available in RM metric.



ROMET METER TYPICAL ACCURACY CURVE

The rangeability of Romet meters meets or exceeds international standards

Approved by or conforms to:

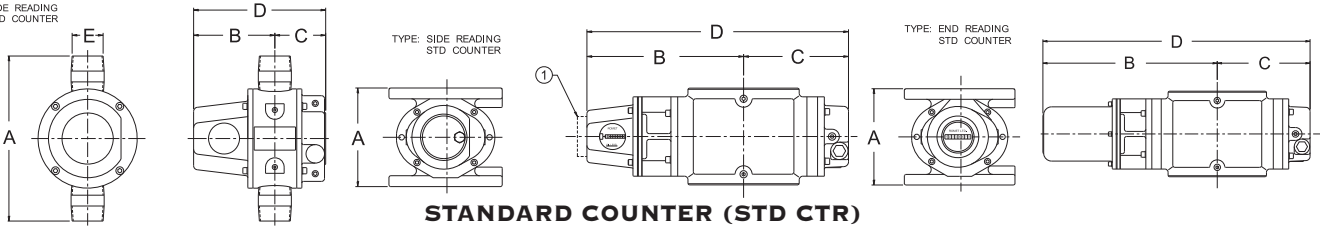
Canada
USA

Measurement Canada LMB-EG-08, AG-0316 and S-A-01.
B109.3 revised



DIMENSIONS AND WEIGHTS

TYPE: SIDE READING STD COUNTER



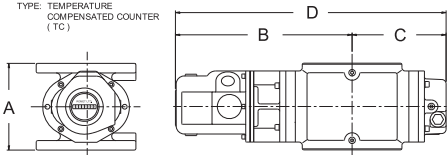
STANDARD COUNTER (STD CTR)

METER SIZE	A (inches)	B (inches)	C (inches)	D (inches)	E (inches)	WEIGHT (lbs)	ANSI 125/150 F.F. flange dimensions*	A (inches)	B (inches)	C (inches)	D (inches)	A (inches)	B (inches)	C (inches)	D (inches)	WEIGHT (lbs)
RM1000	10.50	5.01	3.08	8.09	1.5 NPT	12.0	2"	6.75	5.01	3.08	8.09	N/A	N/A	N/A	N/A	15.0
RM1500	10.50	5.39	3.44	8.83	1.5 NPT	13.0	2"	6.75	5.39	3.44	8.83	N/A	N/A	N/A	N/A	16.0
RM2000	N/A	N/A	N/A	N/A	N/A	N/A	2"	6.75	8.53	4.75	13.28	6.75	9.95	4.75	14.70	26.0
RM3000	N/A	N/A	N/A	N/A	N/A	N/A	2"	6.75	9.35	5.58	14.93	6.75	10.78	5.58	16.36	27.0
RM5000	N/A	N/A	N/A	N/A	N/A	N/A	3"	6.75	11.08	7.30	18.38	6.75	12.50	7.30	19.80	32.0
RM7000	N/A	N/A	N/A	N/A	N/A	N/A	3"	9.50	10.75	6.91	17.66	9.50	12.17	6.91	19.08	48.0
RM11000	N/A	N/A	N/A	N/A	N/A	N/A	4"	9.50	13.11	9.28	22.39	9.50	14.53	9.28	23.81	60.0
RM16000	N/A	N/A	N/A	N/A	N/A	N/A	4"	9.50	13.68	9.84	23.52	9.50	15.10	9.84	24.94	62.0
RM23000	N/A	N/A	N/A	N/A	N/A	N/A	4"	9.50	15.68	11.84	27.52	9.50	17.10	11.34	28.94	78.0

NOTE 1: ADD 1.12" TO DIMENSION D FOR THE ADDITION OF AN EXTERNAL PULSER (ONLY AVAILABLE ON SIDE READING COUNTER METERS)

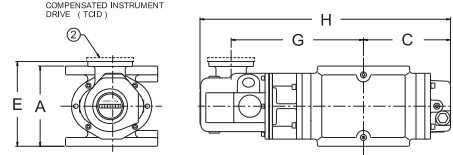
*Noted that the maximum operating pressure (MAOP) is 175 psig. For higher pressure ratings, contact Romet.

TYPE: TEMPERATURE COMPENSATED COUNTER (TC)



TEMPERATURE COMPENSATED (TC)

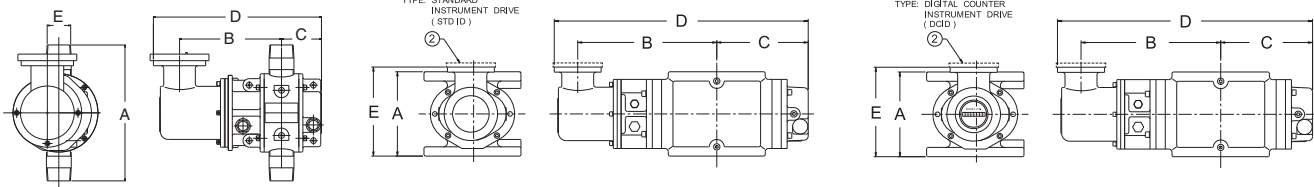
TYPE: TEMPERATURE COMPENSATED INSTRUMENT DRIVE (TCID)



TEMPERATURE COMPENSATED INSTRUMENT DRIVE (TCID)

METER SIZE	A (inches)	B (inches)	C (inches)	D (inches)	WEIGHT (lbs)	ANSI 125/150 F.F. flange dimensions*	A (inches)	B (inches)	C (inches)	D (inches)	E (inches)	WEIGHT (lbs)
RM2000	6.75	11.07	4.75	15.82	29.0	2"	6.75	8.08	4.75	15.88	7.37	33.0
RM3000	6.75	11.90	5.58	17.48	31.0	2"	6.75	8.90	5.58	17.53	7.37	36.0
RM5000	6.75	13.62	7.30	20.92	34.0	3"	6.75	10.63	7.30	20.98	7.37	40.0
RM7000	9.50	13.48	6.91	20.39	54.0	3"	9.50	10.27	6.91	20.45	9.37	55.0
RM11000	9.50	15.85	9.28	25.13	64.0	4"	9.50	12.64	9.28	25.19	9.37	66.0
RM16000	9.50	16.41	9.84	26.25	69.0	4"	9.50	13.20	9.84	26.31	9.37	70.0
RM23000	9.50	18.41	11.84	30.25	84.0	4"	9.50	15.20	11.84	30.31	9.37	84.0

NOTE 2: ADD 0.50" TO DIMENSION E FOR THE ADDITION OF A PLATFORM *Noted that the maximum operating pressure (MAOP) is 175 psig. For higher pressure ratings, contact Romet.



STANDARD INSTRUMENT DRIVE (STD ID) & DIGITAL COUNTER INSTRUMENT DRIVE (DCID)

METER SIZE	A (inches)	B (inches)	C (inches)	D (inches)	E (inches)	WEIGHT (lbs)	ANSI 125/150 F.F. flange dimensions*	A (inches)	B (inches)	C (inches)	D (inches)	E (inches)	A (inches)	B (inches)	C (inches)	D (inches)	E (inches)	WEIGHT (lbs)
RM1000	10.50	7.80	3.08	12.86	1.5 NPT	15.0	2"	6.75	7.80	3.08	12.86	7.37	6.75	7.80	3.08	12.86	7.37	15.0
RM1500	10.50	8.16	3.44	13.60	1.5 NPT	16.0	2"	6.75	8.16	3.44	13.60	7.37	6.75	8.16	3.44	13.60	7.37	16.0
RM2000	N/A	N/A	N/A	N/A	N/A	N/A	2"	6.75	8.79	4.75	15.54	7.37	6.75	8.79	4.75	15.54	7.37	26.0
RM3000	N/A	N/A	N/A	N/A	N/A	N/A	2"	6.75	9.61	5.58	17.19	7.37	6.75	9.61	5.58	17.19	7.37	27.0
RM5000	N/A	N/A	N/A	N/A	N/A	N/A	3"	6.75	11.34	7.30	20.64	7.37	6.75	11.34	7.30	20.64	7.37	32.0
RM7000	N/A	N/A	N/A	N/A	N/A	N/A	3"	9.50	11.01	6.91	19.92	8.75	9.50	11.01	6.91	19.92	8.75	48.0
RM11000	N/A	N/A	N/A	N/A	N/A	N/A	4"	9.50	13.38	9.28	24.66	8.75	9.50	13.38	9.28	24.66	8.75	56.0
RM16000	N/A	N/A	N/A	N/A	N/A	N/A	4"	9.50	13.94	9.84	25.78	8.75	9.50	13.94	9.84	25.78	8.75	68.0
RM23000	N/A	N/A	N/A	N/A	N/A	N/A	4"	9.50	15.94	11.84	29.78	8.75	9.50	15.94	11.84	29.78	8.75	74.0

NOTE 2: ADD 0.50" TO DIMENSION E FOR THE ADDITION OF A PLATFORM

*Noted that the maximum operating pressure (MAOP) is 175 psig. For higher pressure ratings, contact Romet.

Note: Backup index option add to dimension C and D for:

- i) RM1000, RM1500 +0.93"
- ii) RM2000 to RM5000 +0.56"
- iii) RM7000 to RM23000 +0.68"

ECM2® - LATEST INNOVATION IN ELECTRONIC COMPENSATION

The ECM2®/PTZ/AT (Electronically Compensated Meter) series sets a new standard in gas measurement. The universal module adapts to all Romet rotary meter sizes from the RM1000 to RM38000. Meter rangeability has been extended to over 200:1 with an error of less than $\pm 1\%$. Since the drag of a mechanical counter module has been eliminated, very low start flows (as low as 0.9 cfh) are achieved. The user-friendly menus can be easily scrolled with the convenient dual LCDs that show both the parameter description and value. The rugged front face mounted push buttons (or button-less version with scroll button

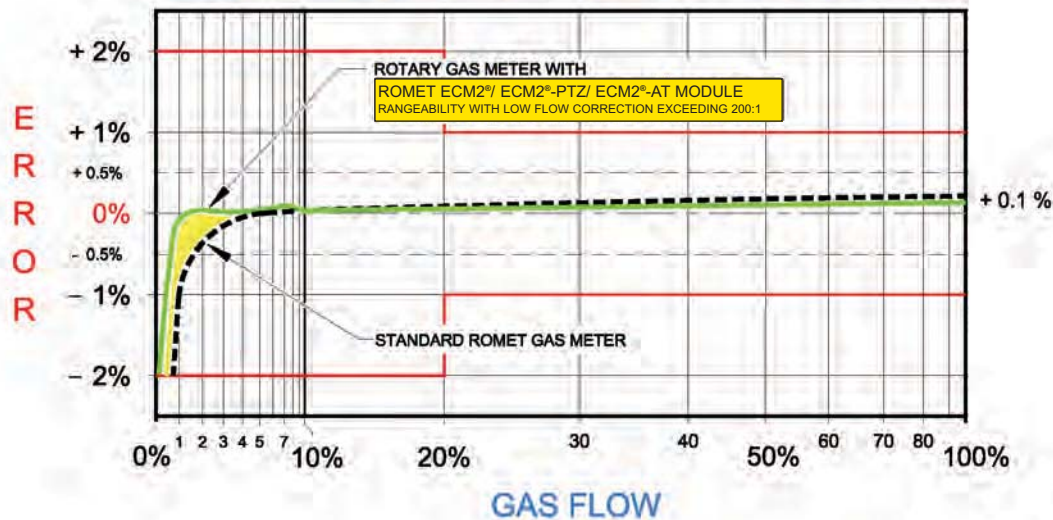
and optional portable keyboard) ensure reliable, quick access to this information. Measurement integrity is protected in the event of a power loss by a non-volatile EEPROM memory that stores the last hourly volumetric indexes, set-up configuration and calibration or settings. Live flow rates to “clock” the meter and peak flow rates to check meter sizing are just a few of the features found in the ECM2/PTZ/AT units. The ECM2 has a programmable fixed pressure factor for PFM applications while the ECM2-PTZ and ECM2-AT

have live pressure factors along with supercompressibility factors. The ECM2-AT has communication and full Audit Trail compatibilities.



ECM2® WITH FRONT FACE MOUNTED PUSH BUTTONS

ROTARY GAS METER ACCURACY CURVES



ECM2®/PTZ/AT TYPICAL ACCURACY CURVE

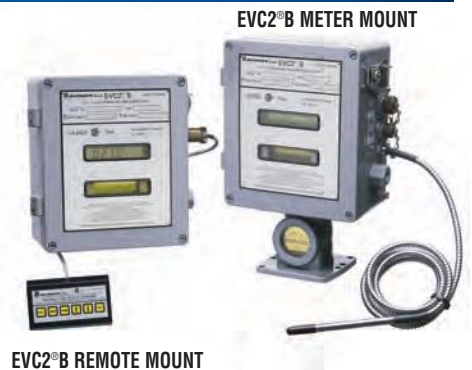
For ECM2® and ECM2®-PTZ refer to literature: “ELECTRONICALLY COMPENSATED METERS, ECM2®-PTZ/ECM2®”.
For ECM2®-AT refer to literature: “ELECTRONICALLY COMPENSATED METERS, ECM2®-AT, FULL AUDIT TRAIL”.

EVC2®B - THE VANGUARD IN ELECTRONIC

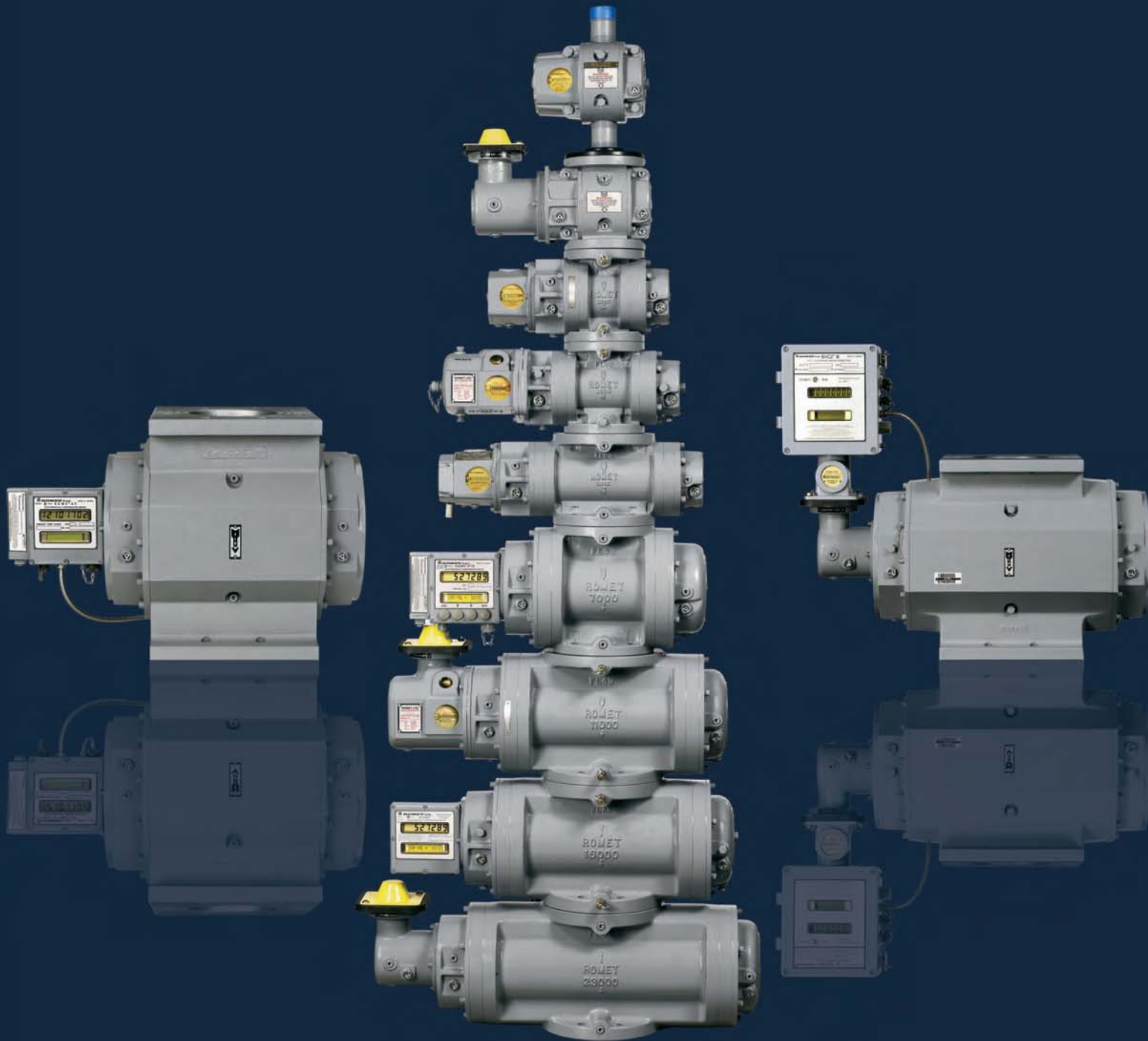
The Romet EVC2®B delivers exceptional accuracy and reliability in electronic volume compensation using the latest in low voltage, microprocessor electronics. The user-friendly menus can be scrolled using the inside front keypad or with a computer using the optional serial port. The dual LCD provides both the parameter description and the corresponding value, eliminating the use of codes and making user access quick and easy. A separate battery compartment within the

EVC2B enclosure permits the replacement of the battery without the necessity of entering the main enclosure for the electronics. The EVC2B security is protected by a combination of access codes and a sealable access door. The meter mount model mates to the standard instrument drive found on most rotary, turbine and larger diaphragm meters. The remote model allows for installations up to 350 feet from the meter.

For EVC2®B refer to literature: “ELECTRONIC VOLUME CORRECTOR, EVC2®B”.



EVC2®B REMOTE MOUNT



The values quoted are typical of normal production. They do not constitute a specification. Romet Limited reserves the right to change any information in this literature without notice. All of the information and data in this literature has been carefully compiled and thoroughly checked. However, Romet Limited will not assume responsibility for any possible omissions or errors.

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Romet Limited's gas metering technology is protected under U.S. Patent No. 4,910,519 and 6,453,721 and Canadian Patent No. 1,293,568.

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IMAC Systems, Inc.
90 Main Street, PO Box 1605
Tullytown, PA 19007

1-800-955-4GAS
Phone: (215) 946-2200
Fax: (215) 943-2984

sales@imacsystems.com