

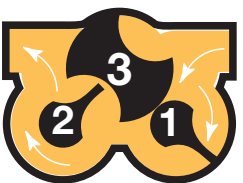
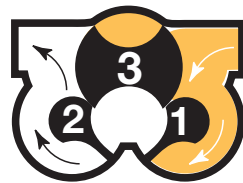
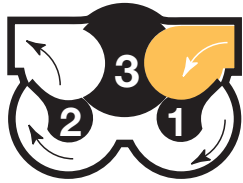
POSITIVE DISPLACEMENT METERS

FOR CUSTODY TRANSFER OF VALUABLE FUELS & LIQUIDS



THE ORIGINAL TRI-ROTOR METER

PROVEN MOST TRUSTED AND RELIABLE SINCE 1956



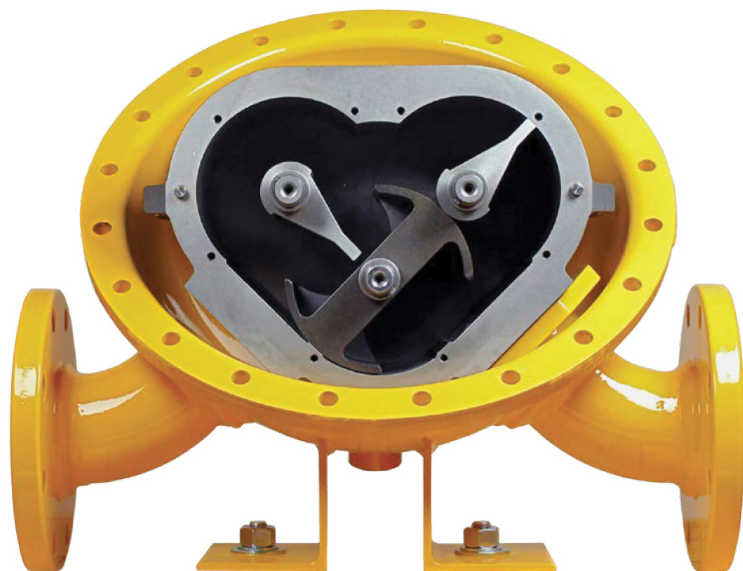
The Liquid Controls tri-rotor meter design consists of a housing in which three rotors turn and measure fuel in synchronized relationship with no metal-to-metal contact.

The bladed displacement rotors (1 & 2), alternately rotate through the half-cylinder bores of the meter element, while the single blocking rotor (3) rotates within its bore to produce a continuous capillary seal between the unmetered, upstream product and the metered, downstream product.

Because the force exerted by the fluid flowing through the meter is at right angles to the faces of the displacement rotors, and the rotor shafts are always in a horizontal plane, there is no axial thrust, thereby eliminating wear between the rotors and the bearing plates and ultimately providing a lifetime of measurement accuracy.

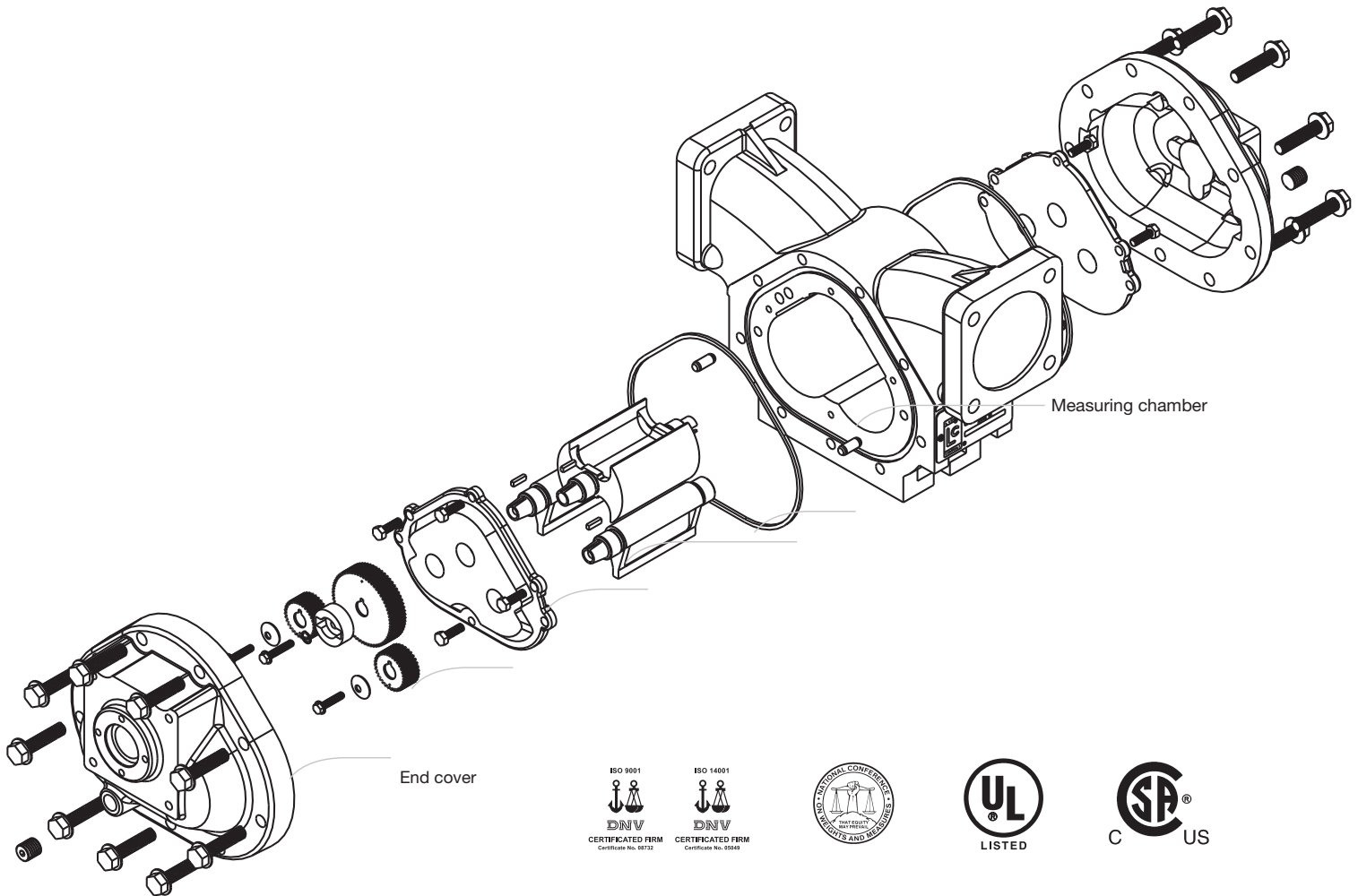
NO METAL-TO-METAL CONTACT RESULTS IN...

- Sustained accuracy over time
- Minimum maintenance
- Maximum service life



EXPLODED METER VIEW

LC POSITIVE DISPLACEMENT METER



**LOW PRESSURE
DROP**

~2.3 PSI

*avg. based on flowrate

**WIDE RANGE
TEMP**

-40° TO 160°

(-40° to 71°C)

**FULL FLOW
RANGE**

6 -1000 GPM

(20 to 3780 LPM)

SUSTAINED ACCURACY!

Zero wear and no metal-to-metal contact inside the measuring chamber results in maximum accuracy retention over time, fewer re-calibrations, and longer service life.

REFINED FUELS AND LPG

FOR TRUCK MOUNTED FUEL DELIVERY SYSTEMS

- Liquid Controls M and MA® Series truck meters provide the industry's most time-proven record of superior accuracy and long lasting performance.
- The New M-7® and MA-7® meters are ideal for applications with lower flow rate requirements such in refined fuels and LPG delivery applications.
- Common applications include delivery of fuel for home heating, diesel fuel for farms and fleets, and LPG to farms and homes.
- When coupled with LCR.iQ™, LCR® 600, or LCR®-II electronic registers, the LC meter system is the most reliable, easy to use, and best value in the industry.

M-7®

REFINED FUELS TRUCK METERS



M-7® for refined fuels with LCR.iQ™, E-7 valve, optical air eliminator and high-capacity strainer.

MA-7®

LPG / TRUCK METERS



MA-7® for LPG applications with LCR.iQ™ register, strainer and air eliminator.

REGISTRATION

LCR.iQ™



LCR® 600



LCR®-II



AVIATION REFUELING

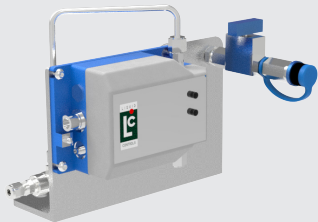
FOR TRUCK MOUNTED REFUELERS AND HYDRANT DELIVERY SYSTEMS

- Liquid Controls M-Series meters for Class 2 Aviation fueling applications began in 1956 with the US Air Force and continues today to be the preferred meter for aviation fueling.
- Meter sizes from M-25[®], M-30[®], M-40[®], M-60[®], M-80[®] cover the full range of aviation fueling applications from 40 gpm to 1000 gpm.
- LCR.iQ[™] provides an easy to use, intuitive operator interface and ties together critical sensing devices in aviation fueling systems, reducing complexity, improving efficiency and maintains all fueling system data.

M-25[®], M-30[®], M-40[®], M-60[®], M-80[®]

AVIATION FUEL METERS

LC ACCESSORIES FOR AVIATION FUELING



Slipstream[®]
Densitometers

Real-time fuel density input into the LCR.iQ[™] provides highest level of accuracy for volume to weight (mass) conversion and reporting.



Differential Pressure
Transducers

Real-time differential pressure input allows active monitoring of critical dP changes during fueling for improved safety and reporting.



Temperature-Volume
Compensation

Real-time fuel temperature compensation provides a higher level of volume accuracy than stand-alone volume measurement.



M-60[®] meter with LCR.iQ[™] register.

BULK PLANT & LOADING

BULK PLANT AND LOADING TERMINAL METERS

- The larger M, MSA & MSAA series meters are ideal for bulk measurement during loading and unloading of tanks, railcars, ships, and barges.
- MSA & MSAA series meters have a spherical steel case for higher system pressure applications up to 1,440 PSI with ruggedness, accuracy, and configurations to handle nearly any bulk metering requirement.
- Meter accessories include bulk air/vapor eliminators, strainers, valves, and mechanical or electronic registers.
- MSA & MSAA series meters feature the same high-quality meter elements and accuracy that are the hallmark of all LC PD meters and have flow rates up to 1,000 gpm.

M, MSA, and MSAA Series Meters



M-30® with LCR.iQ electronic register



Toptech® MultiLoad® II and SMP preset controllers for terminal applications.



MSAA-75 with mechanical register.

RANGE & SPECIFICATIONS

LC METERS MEET NTEP (NIST HANDBOOK 44) AND MANY INTERNATIONAL WEIGHTS AND MEASURES ACCURACY REQUIREMENTS, AS WELL AS U.S. MILITARY SPECIFICATIONS.

M-Series	Size	Flange Size	Nominal Flow Rate Range		Maximum Pressure		
		Inches	GPM	LPM	PSI	BAR	kPa
	M-5®	1.5	6-60	22-227	150	10.3	1034
	M-7®	2	10-100	20-378	150	10.3	1034
	M-10®	2	15-150	56-567	150	10.3	1034
	M-15®	3	20-200	75-756	150	10.3	1034
	M-25®	3	30-300	110-1134	150	10.3	1034
	M-30®	4	35-350	132-1323	150	10.3	1034
	M-40®	4	45-450	170-1701	150	10.3	1034
	M-60®AVI	4	45-600	170-2268	150	10.3	1034
	M-60®	4	60-600	225-2268	150	10.3	1034
	M-80®	6	80-1000	300-3024	150	10.3	1034

MA® Series	Size	Flange Size	Nominal Flow Rate Range		Maximum Pressure		
		Inches	GPM	LPM	PSI	BAR	kPa
	MA-4®	1.5	6-60	22-227	150	10.3	1034
	MA-5®	2	10-100	20-378	150	10.3	1034
	MA-7®	2	10-100	20-378	150	10.3	1034
	MA-15®	3	20-200	75-756	150	10.3	1034

MSA-Series	Size	Flange Size	Nominal Flow Rate Range		Maximum Pressure		
		Inches	GPM	LPM	PSI	BAR	kPa
	MSA-30	3	35-350	132-1325	300	20.7	2068
	MSA-75	4	70-700	265-2650	300	20.7	2068

MSAA- Series	Size	Flange Size	Nominal Flow Rate Range		Maximum Pressure		
		Inches	GPM	LPM	PSI	BAR	kPa
	MSAA-30	3	35-350	132-1325	285	19.7	1965
	MSAA-40	3	45-450	170-1703	285	19.7	1965
	MSAA-75	4	70-700	265-2650	285	19.7	1965
	MSAA-120	6	100-1000	378-3785	285	19.7	1965

^a Stated accuracy obtainable when all variables remain constant. Reading/measurements reflect a minimum of one minute of flow at selected rate(s). All accuracy statements based on metering safety solvent (aliphatic hydrocarbon), approximate viscosity 1 CPS. On higher viscosity products, the average deviation in accuracy will be less.



Liquid Controls LLC
105 Albrecht Drive
Lake Bluff, IL 60044

+1 847.295.1050
+1 800.458.5262

LCinfo@idexcorp.com

www.LCMeter.com



To learn more about
our Liquid Controls
scan this QR code or visit:
LCMeter.com