



# Specifications

## MSA-7 Meter

Liquid Controls Europe MS Series rotary motion positive displacement (PD) meters offer the ultimate in measurement accuracy for custody transfer of petroleum products, aviation fuels, LPG and a broad of industrial liquids.

### Superior performance features

**Low pressure drop** – will operate on gravity flow or pump pressure.

**Sustained accuracy** – no metal-to-metal contact inside the measuring chamber means minimal wear and deterioration in accuracy over time, fewer recalibrations and a longer service life. Meters conform to NIST and International Weight and Measures accuracy requirements.

**Wide viscosity range** – LCE meters can accurately meter products from less than 30 SSU (1 cP) to 1500000 SSU (325000 cP).

**Maximum adaptability** - choice of stock or custom elbows/fittings provides unequalled mounting flexibility to meet widely varying installation requirements.

### Industries served

LCE series SM meters are well-suited for use in industries requiring precise flow measurement and reliable, extended service life:

- Refined petroleum products
- Aviation fuels
- LPG
- Agricultural chemicals
- Paints and coatings
- Foods and beverages
- Petrochemicals
- Pharmaceuticals
- Cosmetics
- Printing inks
- Textiles

### Accuracy/Performance

#### Repeatability

Mechanical registration: capable of 0.05% of reading over entire range  
Electronic registration: capable of 0.03% of reading over entire range

#### Linearity

##### Over 5:1 range

Mech. registration: capable of  $\pm 0.125\%$  or better from max. nom. flow rate  
Elect. registration: capable of  $\pm 0.10\%$  or better from max. nom. flow rate

##### Over 10:1 range

Mech. registration: capable of  $\pm 0.22\%$  or better from max. nom. flow rate  
Elect. registration: capable of  $\pm 0.10\%$  or better from max. nom. flow rate

##### Over 40:1 range

Mech. registration: capable of  $\pm 0.5\%$  or better from max. nom. flow rate  
Elect. registration: capable of  $\pm 0.15\%$  or better from max. nom. flow rate

#### Temperature range

-40° F to 160° F (-40° C to 71° C)

### Construction

Meter housing and rotors  
Cast aluminium (other metallurgies, available including brass, cast-iron and stainless steel)

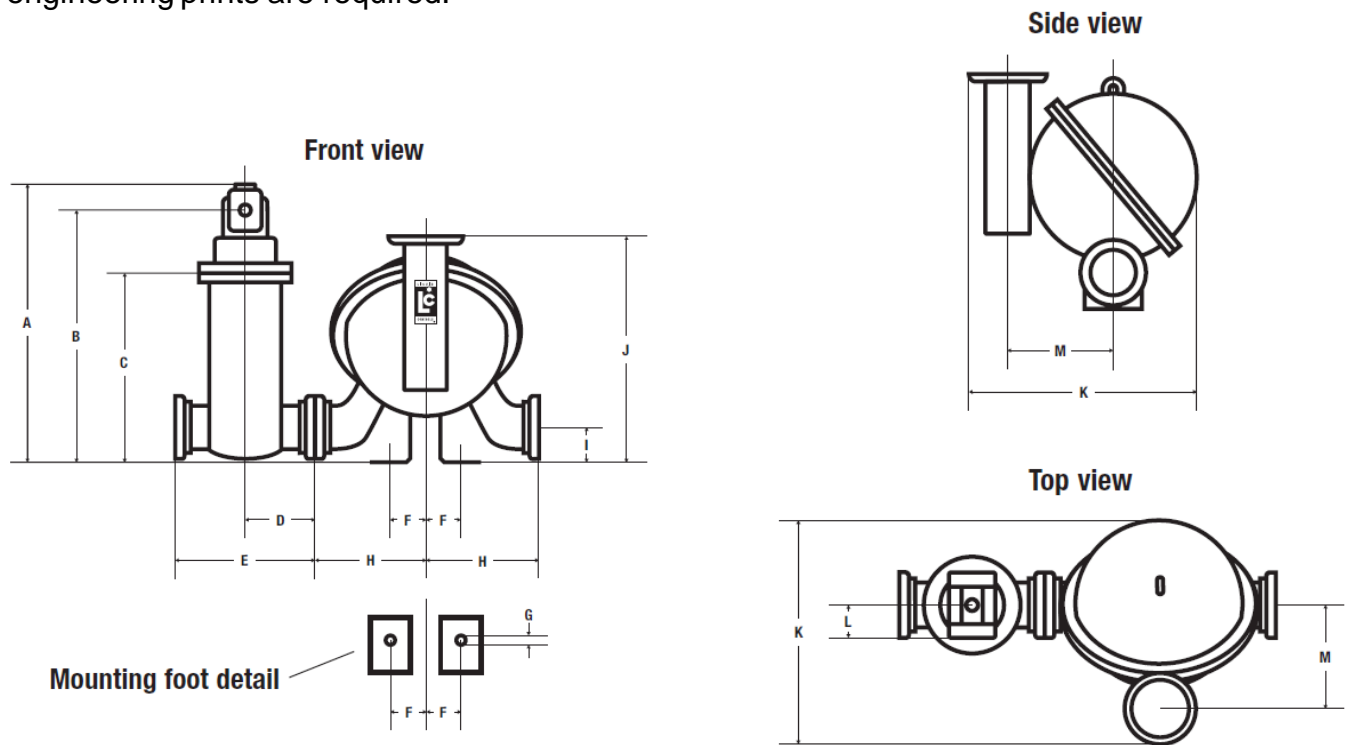
Internal components  
Aluminium, Ni-Resist, stainless steel

Seal materials  
UL recognize component:  
Buna-N, Viton, Teflon

Bearings  
Carbon, Teflon, Ni-Resist

## Dimensions: steel case flow meters

Note: Dimensions shown are not for construction use. Consult factory when certified engineering prints are required.



| Model      | Flange size | Max nom. Flow rate     | Working pressure    | Net weight           | Dimensions | A    | B    | C    | D   |
|------------|-------------|------------------------|---------------------|----------------------|------------|------|------|------|-----|
| MSA-7      | 2"          | 380 l/min<br>(100 GPM) | 21 bar<br>(300 PSI) | 68,5 kg<br>(151 lbs) | mm         | 658  | 587  | 422  | 178 |
|            |             |                        |                     |                      | in         | 25.9 | 23.1 | 16.6 | 7   |
| Dimensions | E           | F                      | G                   | H                    | I          | J    | K    | L    | M   |
| mm         | 356         | 89                     | 19                  | 216                  | 89         | 389  | 398  | 84   | 173 |
| in         | 14          | 3.5                    | .75                 | 8.5                  | 3.5        | 15.3 | 15.7 | 3.3  | 6.8 |

## Construction and application classes

LCE steel-case PD meters are suitable for metering a broad range of products as listed below. The appropriate meter class can be used to specify a desired meter by using the table on the next page of this publication.

| Class | Description  | Bearing Material |
|-------|--|------------------|
| 1     | Refined petroleum products   | Ni-Resist        |
| 2     | Aviation and jet fuel  | Ni-Resist        |
| 7     | Chlorinated solvents   | Carbon           |
| 8     | Acid pH liquids includes: nitric, phosphoric, glacial acetic acids, citric juices, vinegar | Carbon           |
| 10    | LPG  | Carbon           |
| 14    | Crude oil  | Ni-Resist        |
| 16    | General solvents   | Carbon           |
| 37    | Sodium Hydroxide solutions, high sulfur crude oil, alkaline pH liquids                     | Ni-Resist        |



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