

LDM Type I: Light Density

The CentriFlow® Light Density Meter (LDM) is a specialized version of the CentriFlow® Meter designed to measure low-density materials (typically products 10 lb/ft³ or less). The radius of the Measurement Pan is twice that of the Standard CentriFlow® Meter. By enlarging the Measurement Pan's radius, the LDM is able to accommodate low-density, bulky, large-particle materials such as tobacco (whole leaf, strip, stems, processed leaf, etc.), wood chips, leafy vegetables and many other similar materials. The LDM is available in a variety of sizes to accommodate almost any product that is being fed from a belt or vibratory conveyor. Due to the bulky nature and the larger particle size of products typically fed through the LDM Meter, the meter is typically installed in the In-Line Feed orientation. It can, however, be installed in the Reverse Feed orientation as well.



Material Specification

- Standard meter parts (those other than the product contact surfaces) are constructed of 6061 aluminum or Stainless Steel.
- Standard product flow surfaces (parts within the product flow path) are constructed of Stainless Steel or UHMW. Other materials are available.
- Stainless Steel liners with a variety of coatings are available for high-wear applications or applications where flow concerns are present.
- A variety of liners and coatings are available and can be substituted for the standard flow surfaces if required by the application.

Design Specification

- The Pan is twice the radius of the standard CentriFlow® Type I Meter.
- The Tangential is curved and tilted back in order to improve product flow through the meter.
- Feed Transitions are rarely needed when installing the CentriFlow® LDM Meter.
- The LDM can be tilted back (up to 20 Degrees) to improve product flow.
- Custom Enclosures are available for enclosing the LDM Meter if required. Contact EI for details about this option.

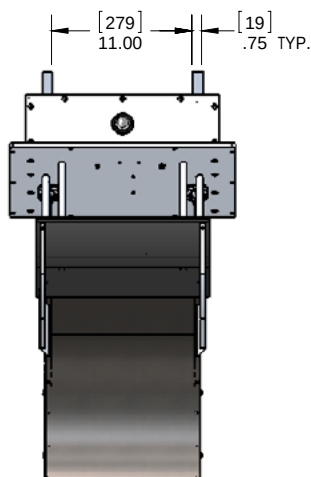
Volumetric Capacity of the CentriFlow® LDM Meter
for REVERSE FLOW ft³/min (m³/hr)

Meter Size	Belt		Vibratory	
	Min	Max	Min	Max
LDM-06	0.84 (1.43)	16.88 (28.67)	8.44 (14.34)	25.31 (43.01)
LDM-12	1.88 (3.19)	37.50 (63.71)	18.75 (31.86)	56.25 (95.57)
LDM-24	3.75 (6.37)	75.00 (127.43)	37.50 (63.71)	112.50 (191.14)
LDM-36	5.63 (9.56)	112.50 (191.14)	56.25 (95.57)	168.75 (286.71)
LDM-48	7.50 (12.74)	150.00 (254.85)	75.00 (127.43)	225.00 (382.28)

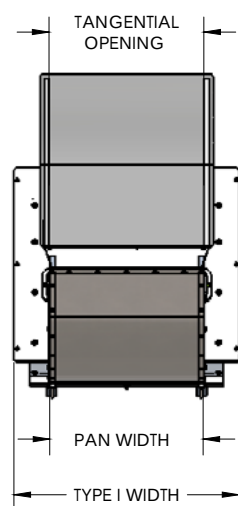
Volumetric Capacity of the CentriFlow® LDM
for IN-LINE FLOW ft³/min (m³/hr)

Meter Size	Belt		Vibratory	
	Min	Max	Min	Max
LDM-06	8.44 (14.34)	50.63 (86.01)	8.44 (14.34)	25.31 (43.01)
LDM-12	18.75 (31.86)	112.50 (191.14)	18.75 (31.86)	56.25 (95.57)
LDM-24	37.50 (63.71)	225.00 (382.28)	37.50 (63.71)	112.50 (191.14)
LDM-36	56.25 (95.57)	337.50 (573.41)	56.25 (95.57)	168.75 (286.71)
LDM-48	75.00 (127.43)	450.00 (764.55)	75.00 (127.43)	225.00 (382.28)

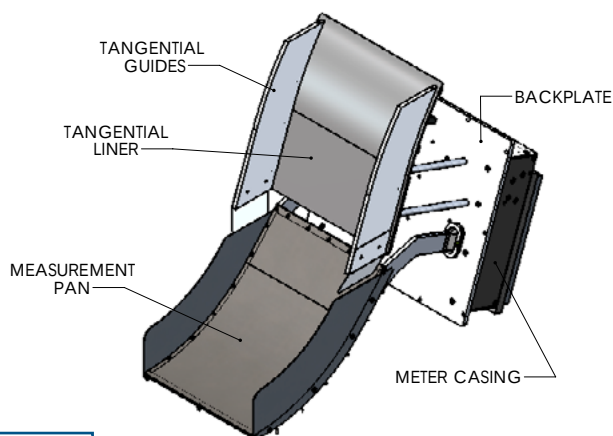
TYPE I LDM SPECS



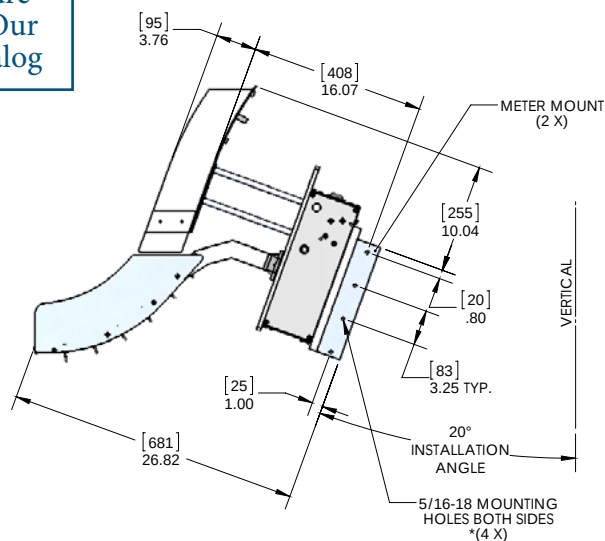
Top View



Front View



For Meters With
An Enclosure
Please See Our
Type II Catalog



Side View

Type I - Specifications

	Type I Width	Tang. Opening	Pan Width	Height	Weight (AL)	Installation Angle
LDM-06	12.00 in 305 mm	6.13 in 156 mm	6.00 in 152 mm	25.18 in 639 mm	60 lb 27 kg	0° - 20° In-Line
LDM-12	18.00 in 457 mm	12.13 in 308 mm	12.00 in 305 mm	25.18 in 639 mm	70 lb 32 kg	0° - 20° In-Line
LDM-24	30.00 in 762 mm	24.13 in 613 mm	24.00 in 610 mm	25.18 in 639 mm	100 lb 45 kg	0° - 20° In-Line
LDM-36	42.00 in 1067 mm	36.13 in 914 mm	36.00 in 914 mm	25.18 in 639 mm	125 lb 57 kg	0° - 20° In-Line
LDM-48	54.00 in 1372 mm	48.13 in 1219 mm	48.00 in 1219 mm	25.18 in 639 mm	150 lb 68 kg	0° - 20° In-Line

Features & Benefits

Why choose the CentriFlow®?

Accuracy

Unlike existing technologies that *calculate* mass flow by making assumptions based on weight, speed, belt tension, or volume, the CentriFlow® Meter actually *measures* flowable solids in a process. This unique measurement ability allows the CentriFlow® Meter to have a typical $\pm 0.25\%$ accuracy full scale on virtually all flowable solids, significantly improving the industry standard.

Turndown Ratio

The CentriFlow® Meter can maintain its accuracy over a large turndown ratio and an additional Multiple Calibration option is available for extreme turndowns. Because the meter's unique design enables it to identify and cancel the friction component, the resulting mass flow signal = mass rate. This linear relationship allows the meter to measure at a typical accuracy of $\pm 0.25\%$ full scale and is unaffected by wide variances in rate.

Solid Construction / Low Maintenance

The CentriFlow® Meter's sturdy high-grade aluminum construction and stainless steel flow paths create a very low maintenance instrument. With no moving parts, it rarely requires recalibration and its solid-construction, low-maintenance design requires very few spare parts.

Plant Efficient Configurations

Designed to fit into nearly any existing process, the CentriFlow® Meter is available in multiple configurations that minimize the need for costly changes to your process. The Type I Configuration is designed to mount at the end of any existing horizontal feed system, while the Type II Configuration is designed for any in-line vertical feed system. Compared to alternatives, the CentriFlow® Meter's compact, space efficient design requires a small footprint.

Flexibility

The CentriFlow® Meter is not affected by changes in product elasticity, density, shape or friction and even fluctuations in flow rate don't impact its accuracy. The linearity of the zero friction formula underlying the meter's design allows the CentriFlow® Meter to measure at various densities and turndown ratios, while maintaining near perfect accuracy.

Continuous Measurement for Continuous Improvement

The CentriFlow® Meter's ability to provide an accurate and real-time, continuous mass flow measurement allows you to optimize your process like never before. The ability to measure gives you the control to manage.

CENTRIFLOW®: ACCURATE MEASUREMENT FOR MANY APPLICATIONS



CentriFlow®: Type I Installations

Type I - In Line Flow

There are two ways to install the CentriFlow® Type I Meter, in the Reverse Flow orientation and in the In Line Flow orientation. An In Line Flow installation allows product travelling in a particular direction to continue travelling in that direction, even as it exits the CentriFlow® Meter. This type of installation ensures the least amount of damage to delicate products and is ideal for delicate materials such as chips or snack foods.

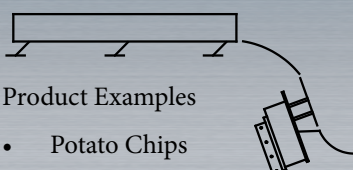
Installing the CentriFlow® Meter in the In-Line orientation typically requires a transition between the feed device (installed before the CentriFlow® Meter) and the meter itself so that product is properly presented to the meter. Transitions are often provided by Eastern Instruments, however, assistance can be provided with modelling and design of the transitions should the transitions be fabricated by a third party.

Type I - Reverse Flow

As with the In Line flow orientation, all models of the CentriFlow® Type I Meter can be utilized in the Reverse Flow orientation as well. The Reverse Flow orientation allows product travelling in a particular direction to reverse and continue flowing in the opposite direction as it exits the CentriFlow® Meter. The Reverse Flow orientation requires the least vertical space as the meter can be positioned directly at the end of a belt or vibratory conveyor in as little as 20" of vertical space.

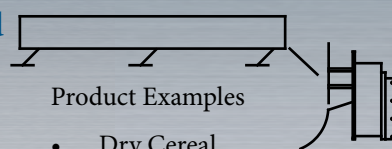
Installing a CentriFlow® Type I Meter in the Reverse Flow orientation is an extremely simple installation that rarely requires the use of transitions from the feed device to the meter. There are some instances, however, in which a transition from a vibratory conveyor may be required in order to properly present product to the CentriFlow® Meter for measurement.

Vibratory Feed



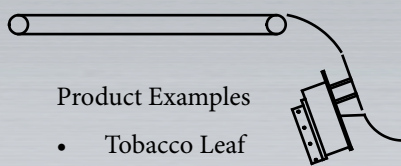
Product Types	Product Examples
• Bulky	• Potato Chips
• Large-Particle	• Tortilla Chips
• Fragile	• Nuts
• Free-Flowing	• Grains

Vibratory Feed



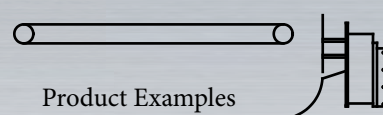
Product Types	Product Examples
• Cohesive	• Dry Cereal
• Sticky	• Shredded Cheese
• Fragile	• Dried Parsley
• Light	• Frozen Vegetables

Belt Feed



Product Types	Product Examples
• Bulky	• Tobacco Leaf
• Large-Particle	• Frozen Vegetables
• Fragile	• Dry Cereal
• Free-Flowing	• Grains

Belt Feed



Product Types	Product Examples
• Cohesive	• Wood Shavings
• Fragile	• Dry Cereal
• Heavy	• Aggregate
• Sticky	• Fertilizer