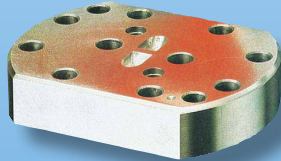
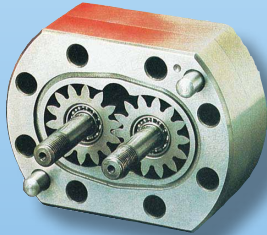


Positive Displacement Flowmeter



measuring
•
monitoring
•
analyzing

ZDM



- Viscosities up to 100,000 cSt
- Accuracy: $\pm 0.3\%$ of Flow
- Pressure: to 6500 PSIG
- Can Detect Flow Direction
- Handles a Variety of Lubricating Fluids



KOBOLD companies worldwide:

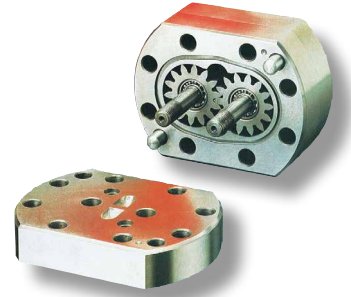
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Description

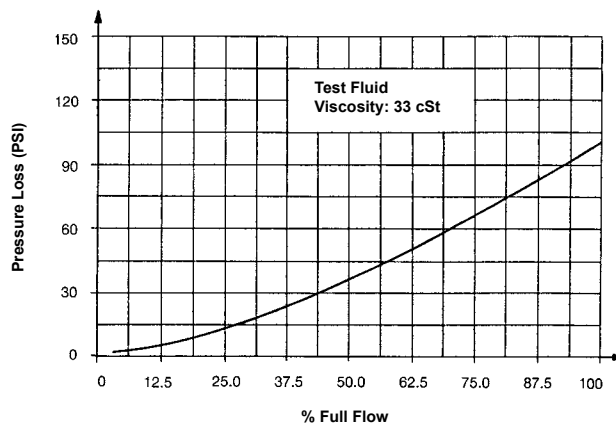
The ZDM is designed for difficult metering that requires precision. Available in either stainless steel or cast iron, it offers a state-of-the-art solution. Capable of operating at pressures to 6500 PSI and temperatures from -40°F to 410°F, it is rugged enough to operate under demanding requirements. It has the ability to precisely meter fluids with viscosities ranging from 1 cSt to 100,000 cSt. All liquids that can be pumped and have known lubrication properties can be measured, for example: gasoline, paraffin, kerosene, diesel, mineral oils, hydraulic oils, inks, dyes, paints, greases, polyurethane, glues, pastes, creams, resins, waxes, and many others.



Specifications

<p>Viscosity Capability: 1...100,000 cSt</p> <p>Accuracy: ±0.3% of Reading (Ranges: 02-40) ±0.5% of Reading (Range 50):</p> <p>Repeatability: ±0.05% of Reading</p> <p>Orientation Sensitivity: None</p> <p>Inlet/Outlet Location: Bottom Ports; Parallel or Side Ports; 180° Opposed</p> <p>Construction Housing: Cast Iron (DIN EN 1563) or Stainless Steel (DIN 1.4305)</p> <p>Gears: Stainless Steel (DIN 1.4122)</p> <p>Shafts: Stainless Steel (DIN 1.4112)</p> <p>Seals Cast Iron Unit: FKM St. Steel Unit: FKM Optional: EPDM, PTFE, NBR</p> <p>Bearings Cast Iron Unit: Stainless Steel (DIN 1.4037) St. Steel Unit: Stainless Steel (DIN 1.4037)</p>	<p>Max. Pressure Cast Iron: 4500 PSIG 5000 PSIG (range code 50) Stainless Steel: 6500 PSIG</p> <p>Temperature Range Standard: -40...248 °F Ex-Design: -4...212 °F Option..C: -40...410 °F Max Ambient: 122 °F</p> <p>Required Filter Size ZDM-..02/..04/..07: 10 µm ZDM-..08/..09: 20 µm ZDM-..10/..20/..40/..150: 50 µm</p> <p>Protection: IP 65 (Option "C": IP 64)</p> <p>Electrical Input Power: Vs;10-28 V_{DC} (±4 V_{DC}) 40 mA Max.</p> <p>Output Signal: Push/Pull Voltage Pulse (0...Vs-1VDC)</p>
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Typical Pressure Loss vs Flow Rate Behavior





Order Details* (Example: **ZDM-3209 B**)

Fitting Orientation, Type	Body Material	Range Oil (GPM) ²⁾	K-factor (Pulses/Gal)	Fitting Size	Optional Fitting Size Add Suffix "..B"
ZDM-1.. = Bottom Ports, BSP Threads ZDM-2.. = Side Ports, BSP Threads ZDM-3.. = Bottom Ports, NPT ZDM-4.. = Side Ports, NPT ZDM-5.. = Bottom Ports, SAE ZDM-6.. = Side Ports, SAE	..1.. = Cast Iron	..02 = 0.0005...0.53	189272	3/8"	-
		..04 = 0.0011...1.06	94636	1/2"	-
		..07 = 0.0026...2.64	37854.4	1/2"	-
		..08 = 0.0053...4.76	18927.2	1/2"	-
	..2.. = Stainless Steel	..09 = 0.0079...10.57	9463.6	1/2"	3/4"
		..10 = 0.0132...21.13	3785.44	3/4"	1"
		..20 = 0.0264...31.70	1892.72	3/4"	1"
		..40 = 0.2642...66.00	946.36	1-1/4"	1-1/2"
		..50¹⁾ = 0.39...138.00*	1135.63	1-1/2"	2"

All models include a 5 meter 4-pin Micro-DC M12 shielded electrical cable and DIN calibration certificate.

¹⁾Range Code 50 is only available for cast iron versions.

²⁾ Ranges based off of 21 cSt media. Media with a viscosity above or below this value may alter the effective range.

* With your order, please also submit the media type, the operating pressure, and the viscosity at operating temperature.

Options

Description	Suffix
Optional Fitting Size (See Table Above)	..B
EPDM Seals in Place of Standard Seals	..E
PTFE Seals in Place of Standard Seals	..T
Intrinsically-Safe 5-10 V _{DC} Pulse Sensor (incl. 1 Zener Barriers)	..EX
Externally-Mounted Sensor Pre-amplifier for Temperatures Above 248 °F (Internal Mounting is Standard)	..C



ZDM for High Temperature (Option C)
(with Side Mount Ports)



ZDM with Mounting Plate
(with Side Mount Ports)

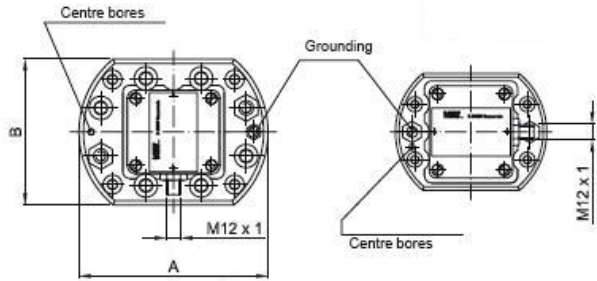
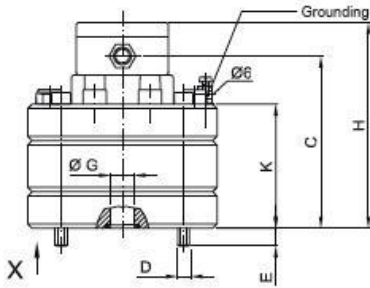


Positive Displacement Flowmeter Model ZDM

ZDM-..02 to ZDM-..40

Dimensions

Cast Iron Version

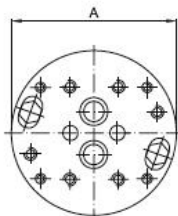
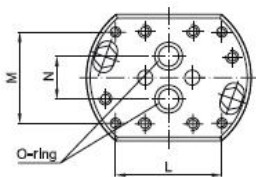


Model Number	Size (inches)												Weight (lbs)
	A	B	C	D	E	G	H	K	L	M	N	O-ring	
ZDM-..02	3.94	3.15	3.58	M 6	0.49	0.35	4.49	2.28	2.76	1.57	0.79	0.43 x 0.08	6.17
ZDM-..04	3.94	3.15	3.60	M 6	0.45	0.35	4.51	2.30	2.76	1.57	0.79	0.43 x 0.08	6.17
ZDM-..07	3.94	3.15	3.70	M 6	0.35	0.35	4.61	2.40	2.76	1.57	0.79	0.43 x 0.08	6.17
ZDM-..08	3.94	3.15	3.68	M 6	0.37	0.35	4.59	2.38	2.76	1.57	0.79	0.43 x 0.08	6.61
ZDM-..09	4.53	3.54	3.80	M 8	0.45	0.63	4.70	2.50	3.15	1.50	1.34	0.71 x 0.10	8.82
ZDM-..10	5.12	3.94	3.98	M 8	0.47	0.63	4.88	2.67	3.31	2.83	1.34	0.71 x 0.10	11.7
ZDM-..20	5.12	3.94	4.65	M 8	0.59	0.63	5.55	3.35	3.31	2.83	1.34	0.71 x 0.10	14.8
ZDM-..40	7.09	5.51	5.63	M 12	0.79	1.18	6.54	4.33	1.81	3.74	1.77	1.42 x 0.10	32.4

Connection Drawings

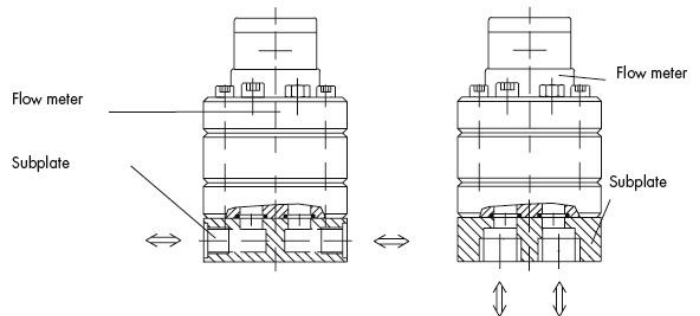
Cast Iron Version

Stainless Steel Version



Side Ports

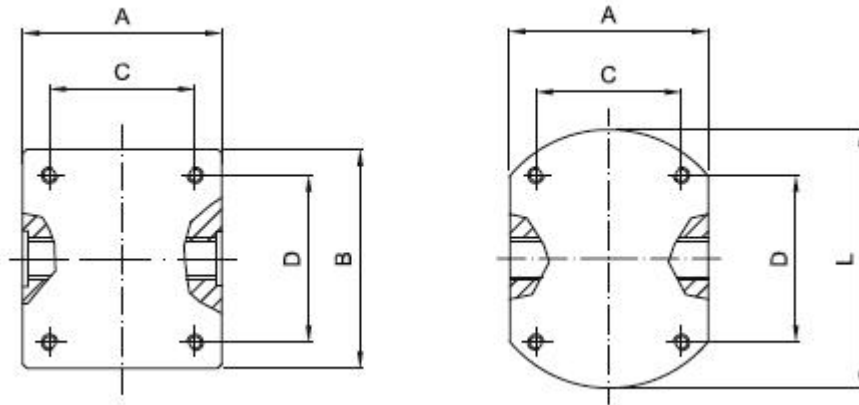
Bottom Ports



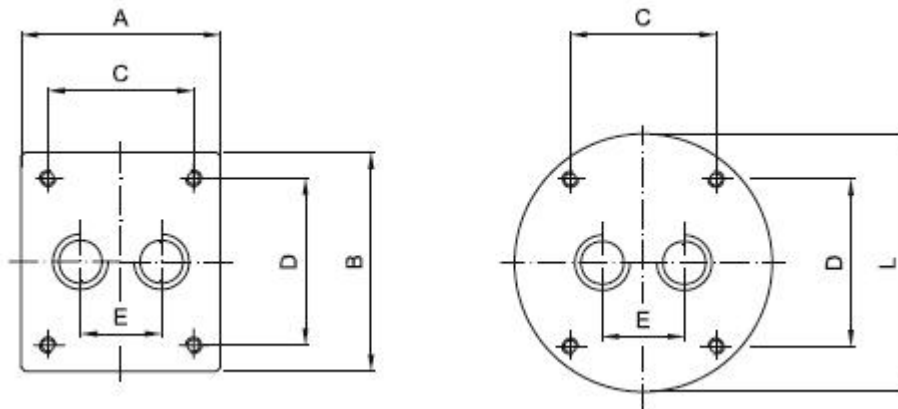
ZDM-..02 to ZDM-..40

Subplate Dimensions

Side Ports



Bottom Ports



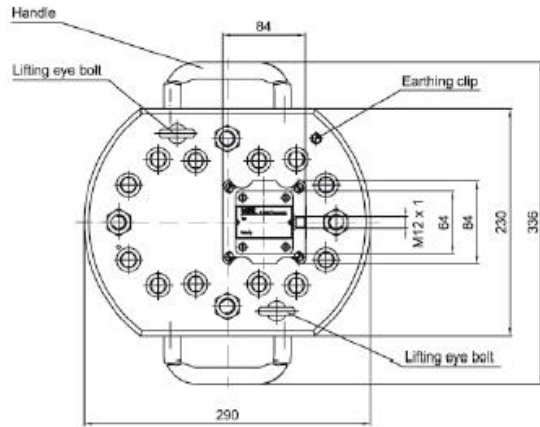
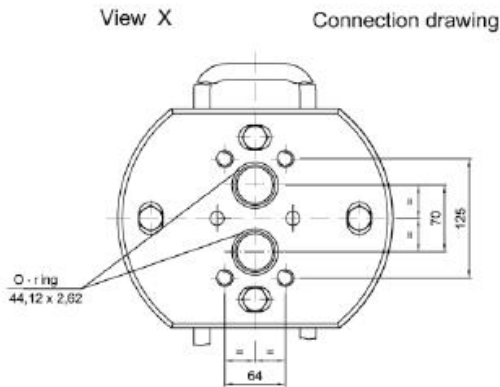
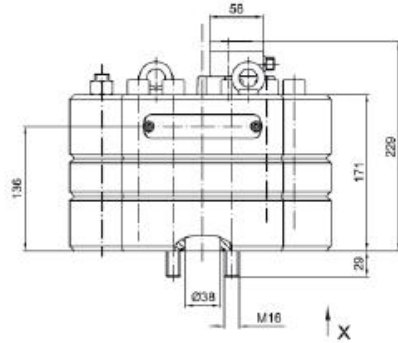
Model Number	Size (inch)					Weight (lbs)
	A	B	C	D	L	
ZDM-..02, ZDM-..04, ZDM-..07 & ZDM-..08	3.15	3.54	1.57	2.76	3.94	3.97
ZDM-..09	3.54	3.94	1.49	3.15	4.53	5.95
ZDM-..10 & ZDM-..20	3.94	4.33	2.83	3.31	5.12	7.94
ZDM-..40 Cast Iron 1 1/4"	4.72	5.12	3.94	4.33	-	16.31
ZDM-..40 Cast Iron 1 1/2"	5.51	4.72	4.72	3.94	-	16.31
ZDM-..40 Stainless Steel	5.51	-	3.94	4.33	7.09	26.46



Positive Displacement Flowmeter Model ZDM

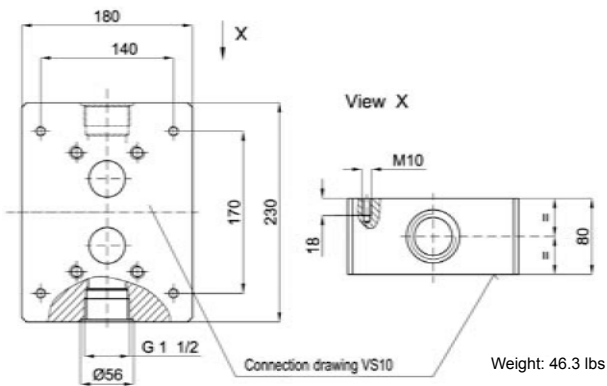
ZDM-..150

Dimensions

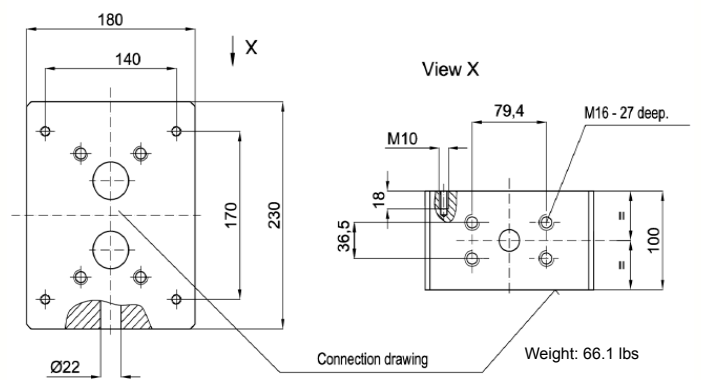


Subplate Dimensions

ZDM-..150 with 1-1/2" NPT Connection



ZDM-..150 with SAE 1-1/2" Connection



Dimensions in mm