

ISTEC
Flow Measurement & Control

OIL METER

ENGINEERING MANUAL

9200 SERIES



FLOW MEASUREMENT & CONTROL SOLUTIONS

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PRODUCT OVERVIEW

ISTEC's 9200 Series are positive displacement type meters that offer very high accuracy over a wide flow range. Viscosity and density do not influence their accuracy. Two types of registers are available, a non-resettable mechanical counter (with or w/o pulse output) and electronic display. The electronic unit features a LCD display with two totals (one that is resettable) as well as flow rate indication. All counters are sealed and reset to zero after reaching maximum capacity.

The 9200 Series is available with different body materials, pistons and gaskets to measure many other liquids (gasoline, freon, kerosene, etc.). They can be ordered in matched pairs and a high accuracy version is available.

COMPONENT DESCRIPTION

BODY

Pipe Sizes 1/8" (4mm) to 1" (25mm)	Brass
Pipe Size 1 1/2" (40mm) & 2" (50mm)	Cast Iron

CONNECTIONS

Pipe Sizes 1/8" (4mm) & 1/4" (8mm)	Female NPT
Pipe Sizes 1/2" (15mm) to 1 1/2" (40mm)	Male NPT Unions
Pipe Size 2" (50mm)	ANSI 150# Flange

WETTED PARTS

Measuring Chamber	Brass
Rotary Piston	Anodized Aluminum
O-Rings	FPM Fluoro-Elastomer

COUNTER

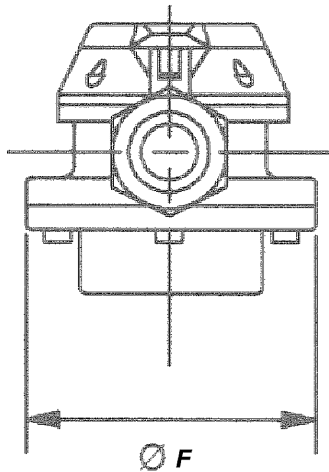
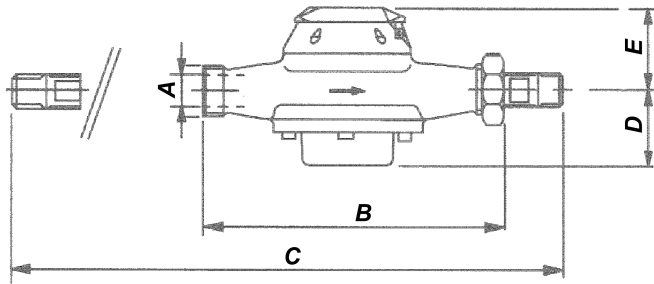
Calibration	U.S. Gallons (Metric Available)
Housing	Plastic
Gears	Plastic

TECHNICAL SPECIFICATIONS

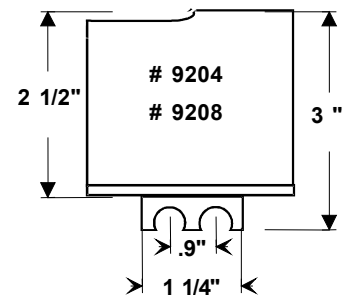
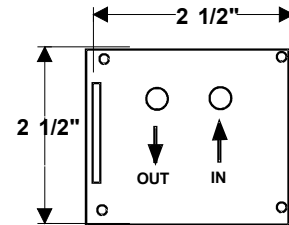
MODEL #		9204 9205	9208 9209	9215 9215/LCD 9216	9220 9220/LCD 9221	9225 9225/LCD 9226	9240 9240/LCD 9241	9250 9250/LCD 9251
ACCURACY (Std)		± 1%	± 1%	± 1%	± 1%	± 1%	± 1%	± 1%
MIN. FLOW (Qmin)	gph	0.25	1	4	8	20	60	200
	lph	1	4	10	30	75	225	750
CONT. FLOW (Qn)	gph	14	35	105	265	530	1600	5300
	lph	50	135	400	1000	2000	6000	20000
MAX. FLOW (Qmax)	gph	20	50	160	400	800	2400	8000
	lph	80	200	600	1500	3000	9000	30000
MAX. PRESS.	psi	355	355	225	225	225	225	225
	bar	25	25	16	16	16	16	16
MAX. TEMP.	°F	140	140	266	266	266	266	266
	°C	60	60	130	130	130	130	130
COUNTER RESOLUTION	gal	0.001	0.01	0.01	0.01	0.01	0.1	0.1
	liters	0.001	0.01	0.01	0.1	0.1	0.1	1
COUNTER CAPACITY	gal	100,000	1,000,000	1,000,000	1,000,000	1,000,000	10,000,000	10,000,000
	liters	100,000	1,000,000	1,000,000	1,000,000	1,000,000	10,000,000	10,000,000
WEIGHT	lbs	1.5	1.7	4.9	5.5	9.3	38	90.2
	kg	0.65	0.75	2.2	2.5	4.2	17.3	41
PULSE RATE	gpp	0.1	0.1	0.1	0.1	1	10	10
	lpp	0.1	0.1	0.1	1	1	1	10
CONNECTIONS		1/8" NPT	1/4" NPT	1/2" NPT	3/4" NPT	1" NPT	1 1/2" NPT	2" FLG

DIMENSIONS

MODEL #	9215	9220	9225	9240	9250
	9215/LCD 9216	9220/LCD 9221	9225/LCD 9226	9240/LCD 9241	9250/LCD 9251
A	1/2"	3/4"	1"	1-1/2"	2"
	15mm	20mm	25mm	40mm	50mm
B	6-1/2"	6-1/2"	7-1/2"	12"	13-3/4"
	165mm	165mm	190mm	300mm	350mm
C	11-1/4"	11-1/2"	12-3/4"	17-1/2"	N/A
	285mm	292mm	324mm	446mm	N/A
D	1-1/2"	2-1/8"	3"	4-1/2"	6-1/2"
	40mm	54mm	77mm	116mm	166mm
E (Mech)	2-3/8"	2-3/8"	2-1/2"	4-1/2"	5"
	59mm	56mm	63mm	114mm	125mm
E (LCD)	5-1/2"	5-3/8"	5-5/8"	6"	8"
	138mm	135mm	143mm	152mm	203mm
E (Pulse)	3-1/4"	3-1/8"	3-1/2"	5-1/2"	5-7/8"
	83mm	81mm	88mm	138mm	149mm
F	4-1/8"	4-1/8"	5-1/8"	8-1/4"	11"
	105mm	105mm	130mm	210mm	280mm



9204/9205/9208/9209



OIL METER SPECIFICATION: 9200 SERIES

AS MANUFACTURED BY ISTECH CORPORATION

92 MAIN STREET, SPARTA, NJ 07871

The contractor shall furnish and install as shown on the plans a rotary piston type positive displacement flow meter. The meter shall be designed and constructed specifically to measure all grades of fuel oil, diesel, gasoline or kerosene as well as other lubricating media. It shall be factory assembled, calibrated and tested, incorporating the following features:

BODY

The meter shall have a line size of _____ inch(s)/_____mm(s). The body shall be constructed of brass in the 1/8" (4mm) to 1" (25mm) sizes. The 1 1/2" (40mm) and 2" (50mm) bodies shall be constructed of cast iron.

FITTINGS

The 1/8" (4mm) and 1/4" (8mm) sizes shall have female NPT fittings. The 1/2" (15mm) through 1 1/2" (40mm) sizes shall have male NPT fittings. The 2" (50mm) meter shall have ANSI Standard 150# flanged ends.

FLOW MEASUREMENT

The measuring element shall be an anodized aluminum rotary piston. It shall operate on a volumetric principal (positive displacement) and be suitable for high viscosity fluids. It shall maintain its accuracy over a wide flow range and be unaffected by flow disturbances.

COUNTER

The meter shall have a "dry-type" mechanical counter. The counter shall be physically separated from the fluid flow and magnetically driven by the rotary piston. The counter shall display the accumulated total in U.S. gallons (metric counters available) and shall be non-resettable.

A mechanical counter with pulse output shall also be available. The "dry-contact" switch contact shall be rated for a maximum of 48 volts AC/DC at a maximum current of 50mA. It shall provide a contact closure for every 0.1 (9205 through 9221), 1 (9226) or 10 (9241 & 9251) gallons of flow.

An electronic display (LCD) shall be available to provide a resettable as well as non-resettable total and indication of flow-rate and operating hours.

ACCURACY

The standard meter shall have an accuracy of $\pm 1.0\%$ of actual value. A $\pm 0.5\%$ of actual value version shall also be available. Meters calibrated as matched pairs shall be available for differential measurement applications.

FLOW RANGE

The meter shall have a minimum flow rating of _____ gph (_____ lph). It shall have a continuous flow rating of _____ gph (_____ lph). The peak flow, which the meter can not be subjected to for more than one hour per day, shall be _____ gph (_____ lph).