OVAL GEAR

(POSITIVE DISPLACEMENT METER)



BROIL INDUSTRIAL POSITIVE DISPLACEMENT FLOW METER UTILIZES SPECIALLY DESIGNED OVAL ROTORS AT ITS CORE, ENSURING HIGH ACCURACY AND LONG LIFE. THESE FIELD-PROVEN OVAL ROTORS EXCEL IN MEASURING A WIDE RANGE OF HIGH VISCOSITY FLUIDS, MAKING THE METER SUITABLE FOR DIVERSE INDUSTRIAL APPLICATIONS.

PERFORMANCE DATA

Flow rates : wide flow range from 0.7 L/H to 1,50,000 L/H, Pressure upto 300 Bar, Independent of viscosity, High resolution, Pulsation-free measurement, non-sensitive to pulsating flows, Resistant to corrosion by advanced materials and bearings

MARKETS & AREAS OF APPLICATION

Light and heavy fuel oils, Hydraulics Test rigs with varying viscosities and fluids, Excellent choice for laminating systems, painting systems, adhesive dispense systems, as well as batching systems for various fluids.

Aluminum Wetted Part : Kerosene, Gasoline, Diesel, Light oil, Heavy oil

S. S. Wetted Part : Wine, Bear, Alcohol, Milk and Food Liquid

PPS Wetted Part : for all Chemical & Pharma drug

ADVANTAGES

- Wide range of design options with different output,
- Long life with high accuracy and repeatability

OUTPUT SENSOR

Power voltage : 5 / 12 / 24 V DC

Output signal : NPN/PNP Open Collector/Proxy Sensor

High Ele. Level : Higher Than 8 V DC (Input 12 VDC)

Low Ele. Level : Lower Than 0.8 V DC (Input 12 VDC)

GENERAL SPECIFICATION

Enclosure	: Aluminum / SS - 304 / SS - 316 / CAST IRON
Rotor	: Aluminum / SS - 316 / PPS
Shaft	: Hard SS - 316
Repeatability	: 0.01%
Accuracy (standard position)	: +/- 0.5% Rs / 0.15% FSD
Maximum Working Pressure	: 5 mpa for Al, 30 mpa for SS
Fluid & Ambient Temperature	: -20° to 150° C
Connection	: Thread (F) or Flange

DISPLAY WITH VARIOUS OUTPUT

Power Voltage : 24 V DC

Output Signal

Retransmit : (4 ~ 20) mA / Pulse (programmable)

Communication : RS - 485 / HART Protocol

Relay : High & Low Flow

Battery Operated Meter

Power Voltage : 3.6 V DC Lithium Batteries

Display Mode : Double row LCD as below

Q X.XXXXX Six Digit Instantaneous Flow (m^3/h, L/h, L/M, m^3/M, m^3/h, L/h, kg/M, GPM, T/h, kg/h)

XXXX.XXXX Eight Digit Cumulative Flow

Cumulative flow : Automatically expand the display precision.

The cumulative flow values can be reset.

Power - fail protection :

The instrument coefficient ensures that total flow values for the past ten years are retained even in the event of a power supply drop.

Mechanical Type Meter

Mode : Resettable counter : 9999 Ltr Max

Non Resettable counter : 99999 x 100 Ltr Max

Type : Cumulative Total + Resettable Counter

Cumulative Total + Resettable Counter + Pulse

MODEL RANGE

Model Number	Line Size	Range	Liter / Pulse
BT-DOFS - 004	4 mm	0.7 ~ 60 L/H	0.000363
BT-DOFS - 006	6 mm	5 ~ 150 L/H	0.000714
BT-DOFS - 008	8 mm	20 ~ 300 L/H	0.00240
BT-DOFS - 012	12 mm	50 ~ 1200 L/H	0.00240
BT-DOFS - 020	20 mm	150 ~ 2000 L/H	0.0156
BT-DOFS - 025	25 mm	200 ~ 4000 L/H	0.0208
BT-DOFS - 040	40 mm	400 ~ 10000 L/H	0.1428
BT-DOFS - 050	50 mm	600 ~ 20000 L/H	0.1818
BT-DOFS - 080	80 mm	1000 ~ 50000 L/H	0.333
BT-DOFS - 100	100 mm	2000 ~ 100000 L/H	1.0
BT-DOFS - 150	150 mm	5000 ~ 150000 L/H	3.2

FOR ALL THE MODELS DOUBLE PULSE ARE AVAILABLE

PROXY SENSOR WITH THREAD & FLANGE END DIMENSION

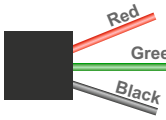
Model Number	CON. (BSP - F)	L 1	L 2	H 1, H 2	H 3	L 3	D 1	D 2	n X D 3	PCD
BT-DOFS - 004	¼"	NA	60	71	14.5	50 X M 5	NA	NA	NA	NA
BT-DOFS - 006	¼"	NA	60	65	20.5	50 X M 5	NA	NA	NA	NA
BT-DOFS - 008	⅜"	NA	68	70	21.0	60 X M 5	NA	NA	NA	NA
BT-DOFS - 012	½"	180	78	73	25.5	60 X M 5	90	15.5	4 X 16	60.3
BT-DOFS - 020	¾"	185	82	81	23.0	75 X M 5	100	19.5	4 X 16	69.9
BT-DOFS - 025	1"	263	103	78	32.0	95 X M 5	110	24.5	4 X 16	79.4
BT-DOFS - 040	1 ½"	317	127	98	40.0	120 X M 8	125	34.5	4 X 16	98.4
BT-DOFS - 050	2"	419	187	115	56.0	175 X M 8	150	45.0	4 X 19	120.4
BT-DOFS - 080	3"	415	205	116	58.0	200 X M 8	190	78.0	4 X 19	152.4

CON. = CONNECTION

ALL THE DIMENSION IN MILLIMETER

ELECTRIC CONNECTION

PULSE OUTPUT



5-24 V DC

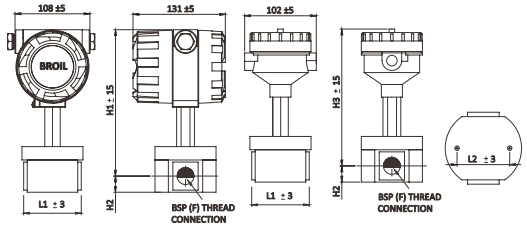
O/p signal NPN/PNP

0 V

DISPLAY OUTPUT

✶ Please Check Display Manual

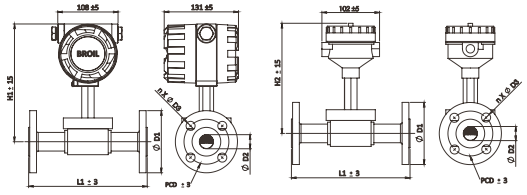
calculate pulse/liter at : 25%, 50%, 75% and 100% flow rate with pure diesel at 25 °C



THREAD END DIMENSION

Model Number	CON. (BSP - F)	L 1	L 2	H 1	H 2	H 3
BT-DOFS - 004	1/4"	60	50 X M 5	NA	14.5	172
BT-DOFS - 006	1/4"	60	50 X M 5	NA	20.5	166
BT-DOFS - 008	3/8"	68	60 X M 5	194	21.0	171
BT-DOFS - 012	1/2"	78	60 X M 5	197	25.5	174
BT-DOFS - 020	3/4"	82	75 X M 5	205	23.0	182
BT-DOFS - 025	1"	103	95 X M 5	202	32.0	179
BT-DOFS - 040	1 1/2"	127	120 X M 8	222	40.0	199
BT-DOFS - 050	2"	187	175 X M 8	239	56.0	216
BT-DOFS - 080	3"	205	200 X M 8	240	58.0	217

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FLANGE END DIMENSION

Model Number	L 1	H 1	H 2	D 1	D 2	n X D 3	PCD
BT-DOFS - 012	180	197	174	90	15.5	4 X 16	60.3
BT-DOFS - 020	185	205	182	100	19.5	4 X 16	69.9
BT-DOFS - 025	263	202	179	110	24.5	4 X 16	79.4
BT-DOFS - 040	317	222	199	125	34.5	4 X 16	98.4
BT-DOFS - 050	419	239	216	150	45.0	4 X 19	120.7
BT-DOFS - 080	415	240	217	190	78.0	4 X 19	152.4

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