



## Описание на турбинные расходомеры. Серия CSB, PSB, VSB, TSB, RSB, SSB

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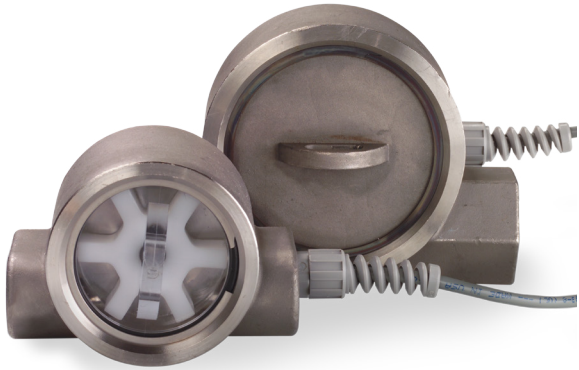
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# FLOWSTAT TURBINE FLOW SENSOR

Perfect monitoring solution for chillers/cooling circuits, HVAC, medical equipment, batching and industrial process control applications.



## TECHNICAL SPECIFICATIONS

**Measuring Accuracy**  
±2% of full scale

**Repeatability**  
±0.5% of full scale

**Flow Measuring Range**  
1/2" porting: 0.5-15 GPM (2-60 LPM)  
1/2" porting low flow option: 0.25-4.5 (1-17 LPM)  
3/4" - 1" porting: 1.5-50 GPM (60-200 LPM)

**Turn Down Ratio**  
10:1

**Fluid Temperature Range**  
20-225°F (-7° to 107°)

**Maximum Operating Pressure**  
to 200 PSIG (14 bar)

*With Optional Stainless Steel Cover:*  
to 500 PSIG (34 bar)

**Filtration Requirements**  
150 Micron filter recommended

**Standard Calibration Fluid**  
Water @ 70°F Temperature (21°C),  
1.0 sg

## BENEFITS

### Choice of Three Port Sizes

Select from 1/2", 3/4" or 1" NPT porting to meet system requirements.

**NOTE:** Using reduced ID fittings will affect calibrated range.

### Encapsulated Circuitry

Withstands the harshest environments.

### Several Outputs Available

The standard interface is a 2-wire, 4-20mA current loop. Sensor signal may be transmitted on a low cost wire without degradation. Pulse, relay and 0-5 VDC (regulated) are also available.

### Connects Directly to your Flow Monitoring Instruments

Can be connected directly to analog acquisition cards, chart recorders or other monitoring instruments, without external signal conditioning.

### Simply Plumb and Apply Power

Comes factory calibrated to your flow range specifications.

## MATERIALS OF CONSTRUCTION

### Wetted Components

Component	Materials
Casing	Stainless Steel 316
Cover	Clear polycarbonate (Optional Stainless Steel 316)
Seal	Buna-N® (other options available)
Impeller	Acetal Copolymer
Bearing	PEEK (Polyetheretherketone)
Shaft	316 Stainless Steel

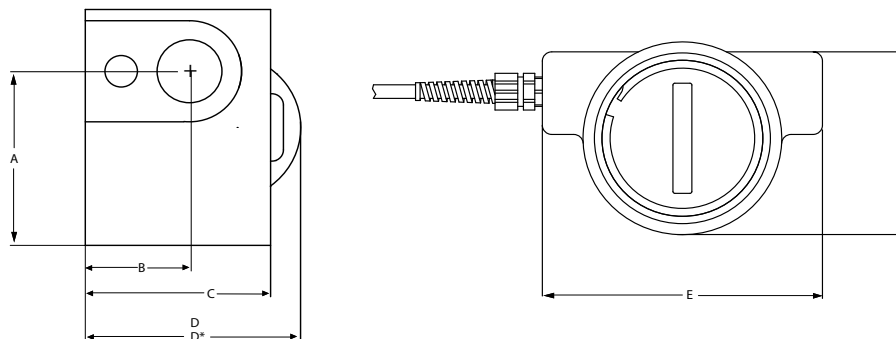
### Non-Wetted Components

Component	Materials
Encapsulant	Epoxy
Strain Relief	Nylon
Lock Ring	Stainless Steel
Wire Insulation	High-Temperature PVC

*Buna-N is a registered trademark of Chemische Werke Huls.*

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## MECHANICAL DIMENSIONS

DIM	1/2" NPTF	3/4" NPTF - 1" NPTF
A	1.94" (49mm)	3.06" (78mm)
B	1.13" (29mm)	1.33" (34mm)
C	2.00" (51mm)	2.46" (62mm)
D	2.45" (62mm)	2.78" (71mm)
D*	2.45" (62mm)	2.88" (73mm)
E	3.70" (94mm)	5.25" (133mm)
F	2.63" (67mm)	3.80" (97mm)

\*Dimensions with clear polycarbonate cover installed.

## ELECTRONIC SPECIFICATIONS

4-20 mA version		0-5 VDC (regulated) version	
Power Requirements	12-24 VDC, Regulated, Loop powered	Power Requirements	12-24 VDC, Regulated
Load driving capacity	Use the following equation to calculate maximum load resistance: Max Loop Load ( $\Omega$ ) = 50 (Power supply volts - 12).	Maximum Current	25 mA DC, Regulated
Maximum Transmission Distance	Limited only by wire resistance & supply voltage	Minimum Load resistance	1000 Ohms
Response time	2 seconds to 90% (step change)	Maximum Transmission Distance	200 feet recommended
Resolution	Infinite	Resolution	Infinite
Over-current limit	Self limiting at 35 mA	Response time	< 5 seconds to 90% (step change)
Other protection	Reverse polarity		
Relay Output		Pulse Output Version	
Power Requirements	12-24 VDC, Regulated	Power Requirements	12-24 VDC, Regulated
Maximum Transmission Distance	200 feet recommended	Response Time	<100 mS
Switch Contact	Form C, 5A max 120 or 240 VAC	Maximum Current	25 mA DC, Regulated
Set Point Repeatability	1% of full scale	Maximum Transmission Distance	200 feet recommended
		Minimum Load Resistance	1000 Ohms
		Protection	Short circuit & reverse polarity
		K-Factor	1/2" port $\approx$ 200 pulses/gallons 3/4" & 1" ports $\approx$ 60 pulses/gallons

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## PART NUMBER GUIDE

### OUTPUT

- Current =  C
- Pulse =  P
- Relay =  R
- Voltage =  V

### ROTOR COVER

- Clear Polycarbonate to 200 psi =  C
- 316 Stainless Steel to 500 psi =  S

### PORT SIZE RANGE

- 1/2" NPT =  B
- 3/4" NPT =  C
- 1" NPT =  D

### MAX. FLOW RATE: GPM

1/2" NPT:

- 5 GPM up to 15 GPM Max. =
- flow rates available

3/4" & 1" NPT:

- 15 GPM up to 50 GPM Max. =
- flow rates available

*\*Important: Choose a maximum flow rate. For 1/2" NPT: 5-15 maximum GPM. For 3/4" and 1" NPT: 15-50 maximum GPM. Minimum flow rate will be 10% of maximum flow rate. Example: If your maximum flow rate is 8 GPM, the minimum flow rate would be .8 (8 x .1 = .8) Thus, the correct flow range would be .8-8.0 GPM.*

### OPTIONS

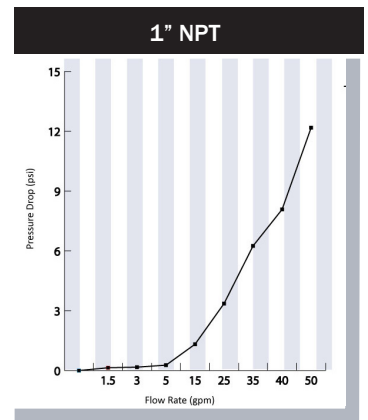
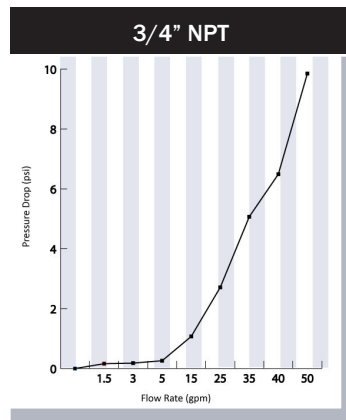
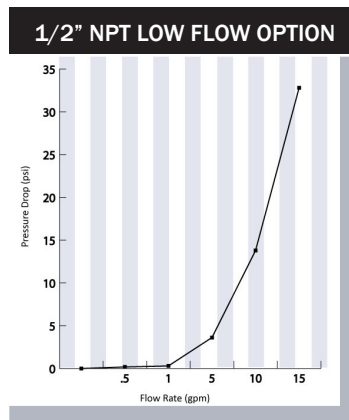
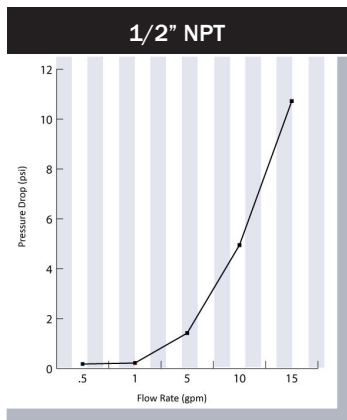
- Control Cover =  C
- Electronic Disconnect =  D
- Low Flow Option\*\* =  L  F

*\*\* The low flow option will accommodate full-scale flow rates from 2.5 - 4.5 GPM for 1/2" only.*

### COVER SEAL

- Buna-N (Standard) =  B
- EPR (Optional) =  E
- FKM (Optional) =  V

## TYPICAL PRESSURE DIFFERENTIALS





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