



NAGMAN FLOW LEVEL SYSTEMS & SOLUTIONS

(An Associate of Nagman Instruments Consortium)



NAGBINE

TURBINE FLOW METER



MEASURE FLOW & LEVEL WITH **CONFIDENCE**

INTRODUCTION

NAGBINE Series **Turbine Flow Meters** measure volumetric flow by converting turbine rotation into an electrical frequency proportional to flow rate, delivering **high accuracy (up to $\pm 0.5\%$)** and excellent repeatability with low maintenance requirements; constructed in **robust stainless-steel housings** (sanitary versions available) they cover a wide size and pressure range with standard 10:1 turndown (optional 20:1) and offer flexible transmitter options and outputs (**pulse, 4–20 mA, RS-485 Modbus**) for smooth **PLC/DCS** integration — ideal for process control, batching and custody applications across **water, fuels & petrochemicals, food & beverage, oils and sanitary systems**.



WORKING PRINCIPLE

Liquid flows through the turbine housing causing an internal rotor to spin. As the rotor spins, an electrical signal is generated in the pickup coil. This signal is converted into engineering units (liters, cubic meters, gallons etc.) on the local display where is applicable. Optional accessory modules can be used to export the signal to other equipment.

Upon receipt, examine your meter for visible damage. The turbine is a precision measuring instrument and should be handled carefully. Remove the protective plugs and caps for a thorough inspection. If any items are damaged or missing, contact

Make sure the turbine flow model meets your specific needs. For your future reference, it might be useful to record this information on nameplate in the manual in case it becomes unreadable on the turbine. Refer to the nameplate for your customized product’s specification.

FEATURES



High Accuracy
 $\pm 0.5\%$ of Rate



Versatile Sizes
DN4 to DN200



Fluid Temps
Up to $+150^{\circ}\text{C}$



Dual Power
& Output
4-20mA / Pulse



Robust Build
SS304 Body



ADVANTAGES

- **High Accuracy & Repeatability** – Delivers precise flow measurement with accuracy up to $\pm 0.2\%$ of rate and excellent repeatability.
- **Wide Flow Range** – Offers a standard 10:1 turndown, extendable to 20:1 for versatile flow applications.
- **Durable Construction** – Built with SS304/SS316 housing, tungsten carbide bearings, and stainless steel rotor for long service life.
- **Multiple Output Options** – Supports pulse, 4–20mA, Modbus RS485 communication for flexible system integration.
- **Display & Power Flexibility** – Available with local display powered by lithium battery or 24V DC supply.
- **Compact & Modular Design** – Offered in compact or remote versions for easy installation and maintenance.
- **Temperature & Pressure Resistant** – Operates reliably up to $+150^{\circ}\text{C}$ and PN40 pressure ratings.
- **Clean Liquid Applications** – Ideal for low-viscosity, impurity-free fluids such as water, diesel, and light oils.

INDUSTRIES



Water &
Wastewater



Oil & Gas



Fuel & Diesel



Chemical
Processing



Petrochemical



Food & Beverage



Pharmaceutical



Power Generation



Marine &
Shipbuilding



Agriculture &
Irrigation



HVAC &
Utility Systems



Manufacturing



TECHNICAL SPECIFICATIONS

MEASURING SYSTEM

Application Range	Liquid: Water; Diesel; etc (1) Without Impurity (2) Low Viscosity
Primary Measured Value	Flow Rate
Secondary Measured Value	Volume Flow

DESIGN

Modular construction	The measurement system consists of a flow sensor and a signal converter. It is available as compact and as separate version.
Compact version converter	N Type: Pulse output without local display
	A Type: 4-20mA Output without local display
	B Type: Local Display; Lithium Battery Power; No Output
	C Type: Local Display; 24V DC Power; 4-20mA Output; Optional Function: (1) Backup Power Supply: Lithium Battery (2) Modbus RS485 (3) Pulse Output
Connection	Thread: DN4-DN50
	Flange: DN15-DN200 (DIN, ANSI, JIS)
	Wafer: DN15-DN100
Measurement Ratio	Standard – 10:1; Optional: 20:1



MEASURING ACCURACY

Reference Conditions	Flow conditions similar to EN 29104
	Medium: Water
	Electrical conductivity: ≥ 300 µS/cm
	Temperature: +10...+30°C / +50...+86°F
	Inlet section: ≥ 10 DN
	Operating pressure: 1 bar / 14.5 psig
Flow Meter Accuracy	Standard: 0.5% of rate
	Optional: 0.2% of rate

OPERATING CONDITIONS

TEMPERATURE	
Process Temperature	T1 Level: -20...+80°C
	T2 Level: -20...+120°C
	T3 Level: -20...+150°C
Ambient Temperature (All Versions)	Standard (with aluminum converter housing):
	-20...+55°C
Storage Temperature	-20...+70°
PRESSURE	
EN 1092-1	DN100...DN200: PN 16
	DN15...DN80: PN 25
	Other pressures on request
ASME B16.5	1/2"...8": 150 lb RF
	Other pressures on request
JIS	1/2"...8": 10 K
	Other pressures on request



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INSTALLATION CONDITIONS

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Installation	Take care that flow sensor is always fully filled
	For detailed information see chapter "Cautions for Installation"
Flow Direction	Forward
	Arrow on flow sensor indicates flow direction
Inlet Run	≥ 10 DN
Outlet Run	≥ 5 DN

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MATERIALS

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Sensor Housing	SS304
	Other materials on request
Flanges	SS202 /SS304
	Other materials on request
ROTOR	
Standard: 2Cr13	EN10088-3 1.4021 X20Cr13
	AISI 420
	BS 420S37
	JIS SUS410J1
Optional: CD4MCu	DN15...DN80
Bearings and Shaft	Tungsten Carbide
Converter Housing	Standard: Polyurethane Coated Die-Cast Aluminum

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PROCESS CONDITIONS

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FLANGE	
EN 1092-1	DN15...200 in PN 6...40
ASME	1/2" ...8" in 150 lb RF
JIS	1/2" ...8" in 10...20K
Design of Gasket Surface	RF
	Other sizes or pressure ratings on request
Thread	DN4...DN50 in PN63

FLOW RATES

Nominal Diameter	Standard Flow Range		Extended Flow Range
(mm)	(m3/h)	(lpm)	(m3/h)
4	0.04 to 0.25	0.7 to 4.2	0.04 to 0.4
6	0.1 to 0.6	1.5 to 10	0.06 to 0.6
10	0.2 to 1.2	3 to 20	0.15 to 1.5
15	0.6 to 6	10 to 100	0.4 to 8
20	0.8 to 8	14 to 140	0.45 to 9
25	1 to 10	16 to 160	0.5 to 10
32	1.5 to 15	25 to 250	0.8 to 15
40	2 to 20	32 to 320	1 to 30
50	4 to 40	64 to 640	2 to 40
65	7 to 70	120 to 1,200	4 to 70
80	10 to 100	160 to 1,600	5 to 100
100	20 to 200	320 to 3,200	10 to 200
125	25 to 250	420 to 4,200	13 to 250
150	30 to 300	500 to 5,000	15 to 300
200	80 to 800	1,300 to 13,000	40 to 800

Note: The flow range as above is for reference only. Consult the sales team if you have special requirement. Refer to the nameplate or certificate for actual flow range.



ORDERING INFORMATION

MODEL SUFFIX CODE					DESCRIPTION	
NAGBINE						
DIAMETER					Three Digitals; for example: 010: 10 mm; 015: 15 mm; 080: 80 mm; 100: 100 mm	
CONVERTER	N				No display; 24V DC; Pulse Output	
	A				No display; 24V DC; 4-20mA Output	
	B				Local display; Lithium Battery Power; *No output*	
	C				Local display; 24V DC Power; *4-20mA Output*	
	R				Local display; 24V DC Power; 4-20mA Output; *Modbus RS485 Communication*	
	H				Local display; 24V DC Power; 4-20mA Output; *HART Communication*	
ACCURACY		05			±0.5% of Flow Rate	
		02			±0.2% of Flow Rate	
FLOW RANGE			S			Standard Range: Refer to flow range table
			E			Extended Range: refer to flow range table
BODY MATERIAL			S			SS304
			L			SS316
PRESSURE RATING			N			Per Standard
			H(x)			Customized Pressure Rating
CONNECTION			DXX		DXX: D06, D10, D16, D25, D40 D06: DIN PN6; D10: DIN PN10 D16: DIN PN16; D25: DIN PN25 D40: DIN PN40	
					AX: A1, A3, A6 A1: ANSI 150#; A3: ANSI 300# A6: ANSI 600#	
					JX: J1, J2, J4 J1: JIS 10K; J2: JIS 20K; J4: JIS 40K	
					TH: Thread; DN4...DN50	
FLUID TEMPERATURE			T1	-20...+80°C		
			T2	-20...+120°C		
			T3	-20...+150°C		

Example - **050C05SSNAIT1** => Diameter: 50mm; Converter: 24V DC Power Supply, 4-20mA Output, Local Display Accuracy: 0.5%; Flow range: 4-40 m3/h; Body Material: SS304; Connection: ANSI 150# Flange; Fluid Temperature: -20...+80°C



EXPLORE MORE POSSIBILITIES



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FLOW METER**



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12+
Models



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**POSITIVE DISPLACEMENT
FLOW METER**



NAGMAN FLOW-LEVEL SYSTEMS AND SOLUTIONS LLP

MANUFACTURER & EXPORTER OF FLOW, WATER AND GAS METER
CALIBRATION TEST BENCHES & MOBILE SKIDS LEVEL METER TEST
& CALIBRATION RIG / SYSTEMS (WET & DRY)
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SCAN FOR WEBSITE

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