

Square liquid crystal display



IC card integrated



theory

SN57 series gas turbine flowmeter draw on the advanced concept of aviation technology and integrate the theory of fluid mechanics, electromagnetism and so on. It is a new generation of gas precision measuring instrument with high precision and high reliability, which integrates temperature, pressure, flow sensor and intelligent flow integrator.

When the inflow flow rate is timed, the flow is rectified and accelerated under the action of a special integrated rectifier for the air inlet. Since the turbine blade is at a certain Angle to the flow direction of the fluid, the turbine generates a rotational moment. After overcoming the friction moment and fluid resistance moment, the turbine starts to rotate. Within a certain flow range, the angular velocity of turbine rotation is proportional to the fluid volume flow. According to the principle of electromagnetic induction, the use of magnetic sensor signal from coaxial rotation during induction out with fluid volume flow is proportional to the pulse signal, the signal after amplification, filtering, plastic with temperature and pressure sensor signal into micro processing unit of intelligent flow totalizer. especially for processing, and the volume of a gas flow rate and total directly display on the LCD screen.

main feature

- ◆ wide range: according to different specifications, the highest range can reach 1:226.
- ◆ High quality aluminum alloy turbine, with higher steady flow and corrosion resistance
- ◆ Imported special bearings, long service life
- ◆ The measuring room is isolated from the ventilation room to ensure the safety of the instrument
- ◆ can detect the temperature, pressure and flow of the measured gas, can automatically track and compensate the flow, and display the gas volume accumulation under the standard state ($P_b=101.325\text{kPa}$, $T_b=293.15\text{K}$); Can query real-time temperature and pressure values
- ◆ Wide flow range ($Q_{\max}/Q_{\min} \geq 20:1$), good repeatability, high accuracy (up to 1.0 level), small pressure loss, low starting flow, up to $0.6\text{m}^3/\text{h}$
- ◆ Multi-point nonlinear correction of intelligent instrument coefficient
- ◆ Built-in pressure and temperature sensor, high safety performance, compact structure, beautiful appearance
- ◆ meters with explosion-proof and protective functions, explosion-proof mark for Exd DEL BT4, Exia, CT4, protection grade for IP65
- ◆ The system works with low power consumption, and a 3.6V10Ah lithium battery can be used continuously for more than 1 year
- ◆ Adopt new microprocessor and high performance integrated chip, high precision, powerful function, superior performance.
- ◆ adopts the world class new technology of micro power consumption, low power consumption of the whole machine. It can be operated by internal battery for a long time, and can be operated by external power supply.
- ◆ The company can use linear correction technology, can be up to ten segments of linear correction. It can greatly provide the calculation precision of the instrument.
- ◆ The head of the flowmeter can be rotated by 350 degrees to facilitate on-site viewing of data.
- ◆ high accuracy, generally up to $\pm 1.5\%$, high accuracy up to $\pm 1.0\%$
- ◆ good repeatability, short-term repeatability can reach $0.05\%r \sim 0.2\%r$, it is because of good repeatability, is the first choice of flow meter in trade settlement.
- ◆ According to user requirements, GPRS network gas turbine flowmeter can be provided, you can choose the built-in GPRS or external GPRS signal acquisition box. Realize low cost, long distance wireless data transmission, can realize remote meter reading, remote monitoring of flow meter status, battery.

main technical parameters

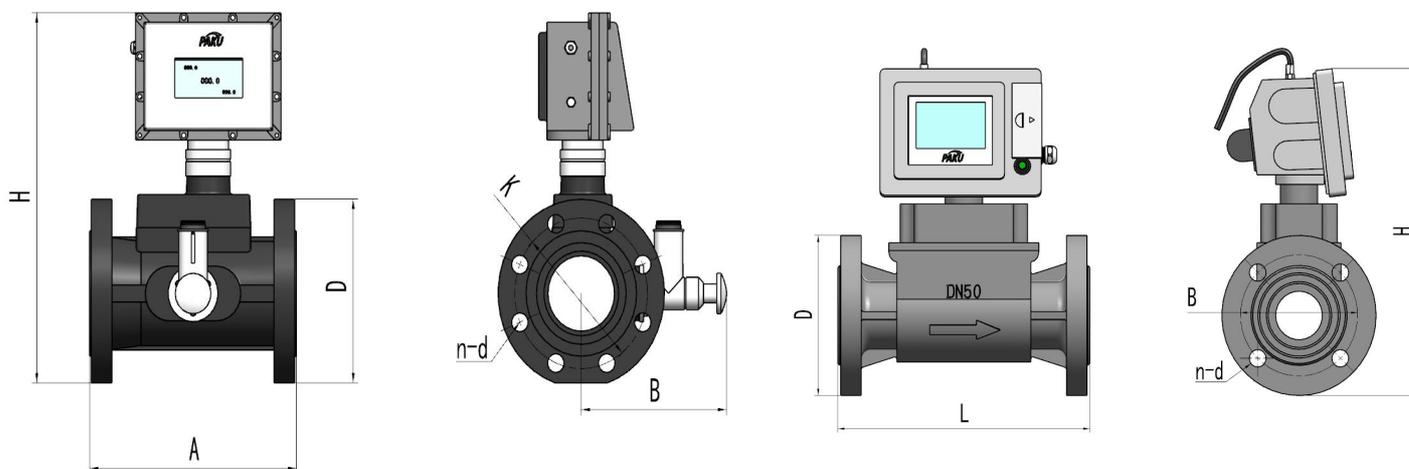
Meter diameter	普通型: 50mm、80mm、100mm、150mm、200mm 精密型: 25mm、50mm、80mm、100mm、150mm、200mm、250mm、300mm
nominal pressure	1.6Mpa, 2.5Mpa, 4.0Mpa, 6.3Mpa (higher than this pressure can be customized)
compensation way	Double temperature and pressure compensation
output signal	Pulse, 4–20mA, RS485, IC card signal
communication protocol	MODBUS–RTU. HART (customize)
power supply	1、 External 24VDC DC power supply. Battery powered, 3.6 lithium battery.
service conditions	Medium temperature: –2(TC–80° C Ambient temperature: –30° C–60° C Relative humidity: 5%–90% Atmospheric pressure: 86kPa–106kPa
Protection grade	IP65、IP67
anti-hazard classification	ExdIICT6Gb
applicable medium	Natural gas, compressed air, nitrogen and other low flow rate gas
turn down	1 : 10–1: 20
precision	1.0、1.5
texture	General type: aluminum alloy. Precision type: caliber M200: aluminum alloy; Diameter 250, 300: stainless steel
product standard	GB_T 21391–2008
installation direction	horizontal installation

Common range table

caliber	Flow range m ³ /h	caliber	Flow range m ³ /h	precisi
DN25	5–70 (Type selection: L1)	DN150	50–1000 (Type selection: L5)	1.0% 1.5%
DN50	(Type selection: L2)	DN200	100–2000(Type selection: L6)	
DN80	(Type selection: L3)	DN250	200–4000(Type selection: L7)	
DN100	32–650(Selection: L4)	DN300	300–6000(Type selection: L8)	

Precision range table

caliber	Flow range m ³ /h	caliber	Flow range m ³ /h	precision
DN25	2–20 (model selection: M1)	DN150	50–1000 (model selection: M9)	1.0% 1.5%
	5–70 (model selection: M1)		80–1600 (model selection: M9)	
DN50	6–100 (model selection: M2)	DN200	80–1600 (model selection: M10)	
	10–160 (model selection: M2)		125–2500 (model selection: M10)	
DN80	13–250 (model selection: M3)	DN250	125–2500 (model selection: M11)	
	20–400 (model selection: M3)		200–4000 (model selection: M11)	
DN100	20–400 (model selection: M4)	DN300	200–4000 (model selection: M12)	
	32–650 (model selection: M4)		320–6500 (model selection: M12)	



size specification

Diameter mm	L	B	H	K	n	d	inch	Conventional pressure MPa
25	200	115	236	85	4	φ 14	M12 × 50	4.0
40	200	150	266	110	4	φ 18	M16 × 55	
50	200	165	285	125	4	φ 18	M16 × 60	
65	240	185	300	145	4	φ 18	M16 × 65	1.6
80	240	200	319	160	8	φ 18	M16 × 70	
100	300	220	337	180	8	φ 18	M16 × 80	
150	450	285	395	240	8	φ 22	M20 × 80	
200	500	340	448	295	12	φ 22	M20 × 90	
250	500	403	495	355	12	φ 26	M24 × 90	
300	500	460	548	410	12	φ 26	M24 × 100	

Dielectric Strength

connection type	inside nominal diameter		Conventional pressure rating	Special pressure rating
Flange type	stainless steel materials	DN25~ DN100	1.6MPa	Below 6.3 MPA
		DN150、DN200		Below 4.0 MPA
		DN250、DN300		Below 2.5 MPA
	Cast aluminium	DN25~DN150		----
Threaded connection type	stainless steel materials	DN25、DN40、DN50		Below 4.0 MPA

Selection table

SN57-	A	A	L1	4	B4	A	A	specification
SN57-								SN57 series gas turbine flowmeter
	A							ordinary type
	B							PD-SO
		A						Type A: Square LCD display
		B						Type B: circular liquid crystal display
		C1						Economical stand-alone version: IC card gas control (optional, see SN59 series for details)
		C2						Precision stand-alone version: IC card gas control (optional, see SN59 series for details)
		C3						Precision network version: IC card gas control (optional, see SN59 series for details)
			L1					Refer to the range table to select the appropriate range, e.g. L1 (Common)
			M1					Refer to the range table to select the appropriate range, e.g. M1 (precision type)
				4				4-20 ma output
				C				pulse output
				R				RS485 output
				CR				Equivalent pulse output +RS485 output
				M				MODBUS-RTU (customization)
				H				HART (customization)
					B4			Pressure resistance: 4bar, selection B4
					B7			Pressure resistance: 7bar, type B7
					B...			Custom compression
						A		Accuracy: grade 1.0
						B		Accuracy: Level 1.5
							D	External 24VDC DC power supply
							C	Battery powered, 3.6 lithium battery

* The selection table is only available for parameter selection, and the corresponding code is delivered.