

LUX智能旋进旋涡流量计

Intelligent precession vortex flowmeters

概述

智能旋进旋涡流量计是我公司开发研制的具有国内领先水平的新型气体流量仪表。该流量计集流量、温度、压力检测功能于一体，并能进行温度、压力、压缩因子自动补偿，是石油、化工、电力、冶金等行业用于气体计量的理想仪表。

Intelligent precession vortex flowmeters is our new product, it can measure the flow, temperature, pressure at the same time, it also offers automatic compensation of temperature, pressure, compression factor, which makes it an ideal choice for gas measuring in petroleum, Chemical, electric power, metallurgy industry.



流量计结构 structure

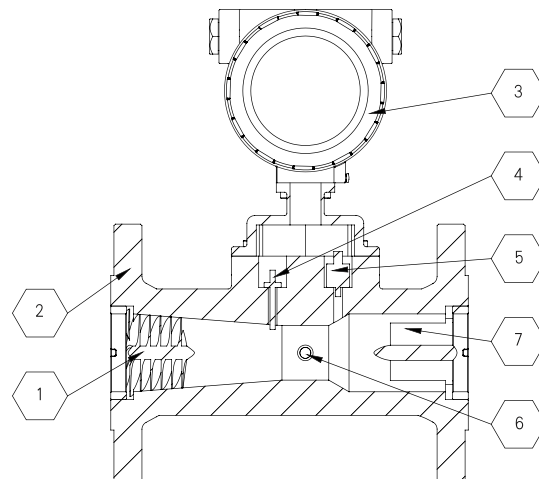
流量计由以下七个基本部件组成（图1）： 7 parts in total

1. 旋涡发生体 Vertex generator
2. 壳体 Shell
3. 一体化温压补偿表头 Integrated header of temperature and pressure compensation
4. 温度传感器 Temperature sensor
5. 压力传感器 Pressure sensor
6. 压电晶体传感器 Piezoelectricity crystal probe
7. 消旋器 Racemic device

工作原理 Working principle

流量传感器的流通剖面类似文丘利管的型线。在入口侧安放一组螺旋型导流叶片，当流体进入流量传感器时，导流叶片迫使流体产生剧烈的旋涡流。当流体进入扩散段时，旋涡流受到回流的作用，开始作二次旋转，形成陀螺式的涡流进动现象。该进动频率与流量大小成正比，不受流体物理性质和密度的影响，检测元件测得流体二次旋转进动频率就能在较宽的流量范围内获得良好的线性度。信号经前置放大器放大、滤波、整形转换为与流速成正比的脉冲信号，然后再与温度、压力等检测信号一起被送往微处理器进行积算处理，最后在液晶显示屏上显示出测量结果（瞬时流量、累积流量及温度、压力数据）。

Circulation profile of the flow Sensor is like contour of Venturi tube. Lateral placement of a set of spiral - type guide vane at the entrance. When fluid goes into the flow sensor, guide vane forcing a dramatic spiral flow of fluid. When fluid into the diffuser, with the effect of swirl flow under reflux, starting for the second rotation, the formation of gyro - type Vortex Flow phenomena. The precession frequency proportional to the size of the flow, immune from the effects of fluid physical properties and density. Detecting element get the quadratic spin precession frequency of the measured fluid, over a wide flow range to get good linearity. Signal amplification, filtering and shaping of the preamplifier, converts pulse signal is proportional to the velocity. Together with temperature and pressure will be send to the microprocessor for integrating process Then it shows the results on the LED screen. (Instantaneous flow rate, cumulative flow and temperature, and pressure data)



主要技术参数与功能 Main technical parameters and functions

流量计规格、基本参数和性能指标 Flow meter specification, basic parameters and performance index (见表1 See Table 1) 表1 Table 1

公称通径 Nominal Diameter DN (mm)	检定流量范围 Range of flow (m³/h)	可测流量范围 Measurable range of flow (m³/h)	工作压力 Working Pressure (MPa)	准确度等级 Level of accuracy	
15	1～8	0.6～9	1.6 2.5 4.0 6.3	1.5	
20	2～15	1～15			
25	2.5～25	2～30			
32	5～50	3～60			
40	7～70	5～70			
50	10～100	8～130			
65	20～200	15～300			
80	28～280	20～300	1.6		
100	60～600	50～800			
125	90～900	70～1000			
150	150～1500	150～2000			
200	300～3000	300～3600	1.6		

注：1. 准确度：为温度、压力修正后的系统精度； 2. A、B用以区别相同口径不同流量范围。

Notes: 1, Accuracy is after the modification of the temperature and pressure. 2, A and B distinguish the different flow ranges of the same size



流量计外形尺寸及安装外形尺寸图 Flowmeter size and installing dimensions

流量计的外形尺寸如图所示，图中未注尺寸列于表1中，流量计采用法兰连接方式，法兰尺寸执行GB/T9112~9113-2000标准。
The dimension of the flow meter as shown in the picture, with farlane connection GB/T9112-9113-2000

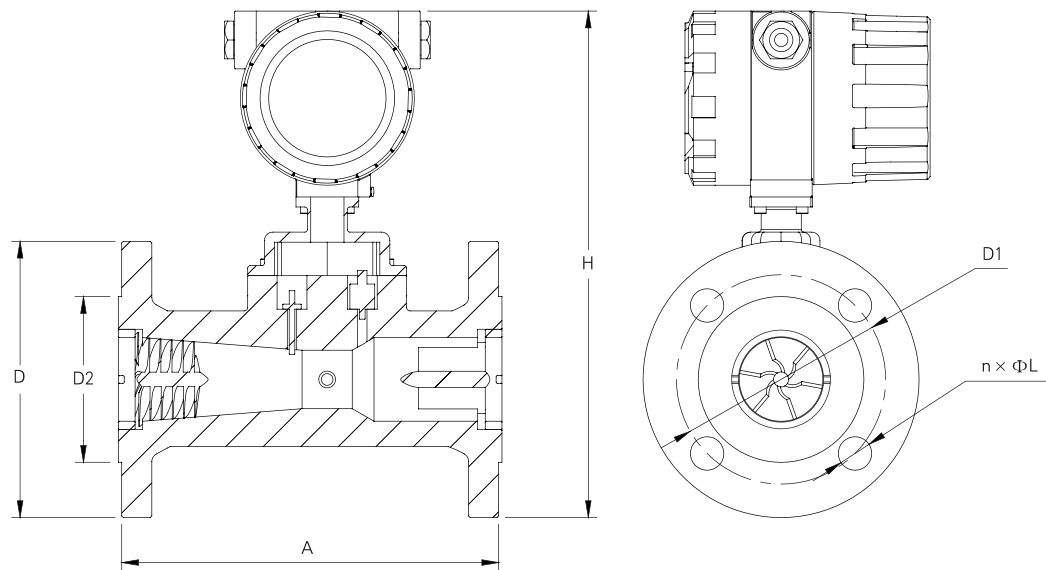


表2 Table 2 单位Unit: mm

DN	A	D	D1	D2	H	n × ød
15	162	105	75	56	290	4~14
20	162	105	75	56	290	4~14
25	182	115	85	65	300	4~14
32	200	140	100	76	320	4~18
40	233	150	110	84	325	4~18
50	233	160	125	99	330	4~18
65	300	180	145	118	350	4~18
80	330	200	160	132	360	8~18
100	410	220	180	156	380	8~18
125	516	250	210	184	460	8~18
150	580	285	240	211	500	8~22
200	670	340	295	266	550	12~22

注：※为特殊规格要求。special specifications

