



# PRECESSION VORTEX FLOW METER

Model: F07.0403





New High-tech  
Enterprise



CE

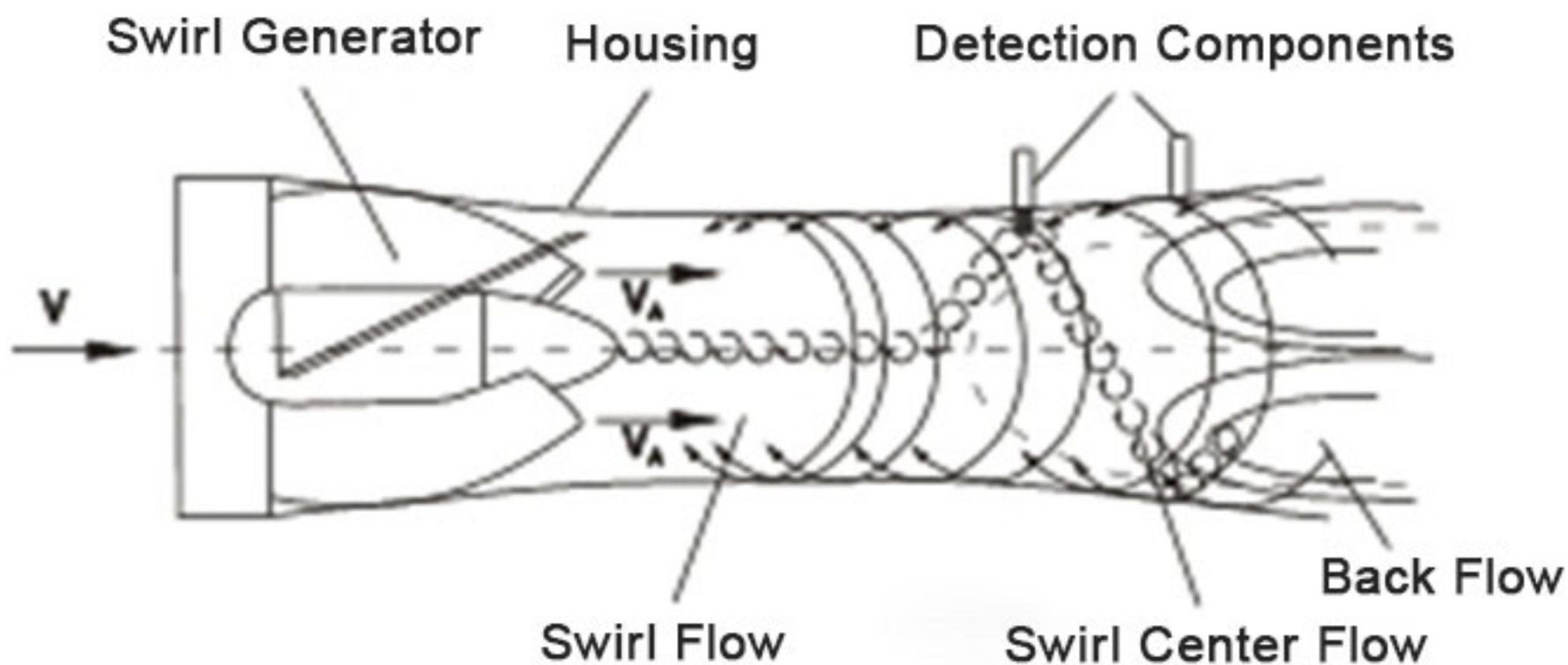


Ex-proof



ISO

# Working Principle



# ••• CASES •••

Without movable mechanical parts inside, incorrosive, reliable & stable.



Long service life, long time running, no need special maintenance.



Application



Environment Protection



Textile Industry



Petrochemical Engineering



Oil & Gas

Industry

# DETAILS

## 1. LCD HD Display



OK [ ] H  
OPER 0.000 Nm<sup>3</sup>/h  
00000065.927  
Nm<sup>3</sup>  
0.0°C 5157.7KPa

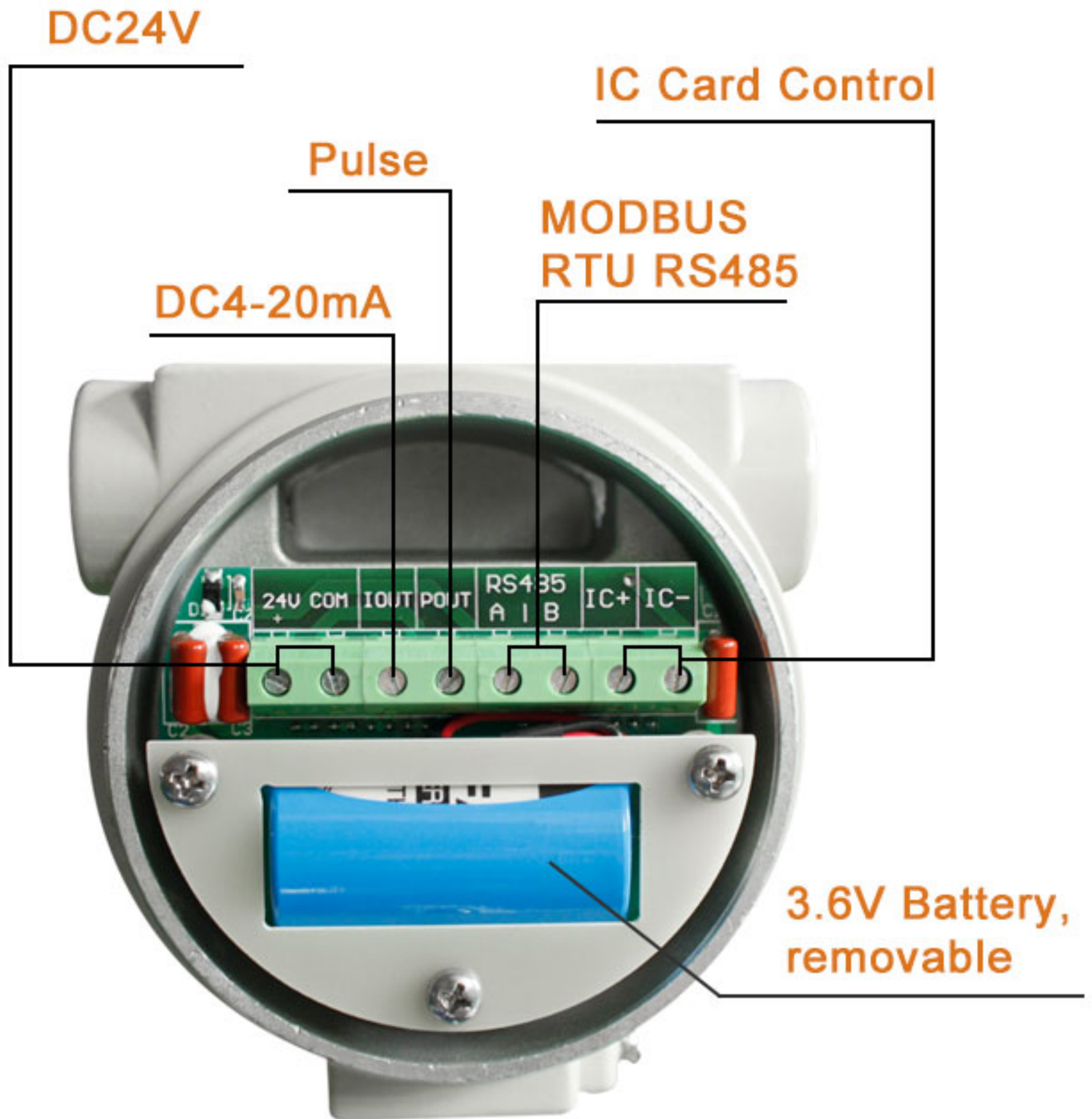
Standard Instantaneous Flow

OK [ ] H  
WORK 0.000 m<sup>3</sup>/h  
00000065.927  
Nm<sup>3</sup>  
0.0°C 5157.7KPa

Operating Instantaneous Flow

Display parameters can switch freely, can display instantaneous flow (Nm<sup>3</sup>/h), total flow (Nm<sup>3</sup>), medium temperature (°C) and pressure (Kpa) at the same screen.

## 2. Dual Power



Lower power consumption, could use the battery powered and connect the external power, too.

## 3. Sensor

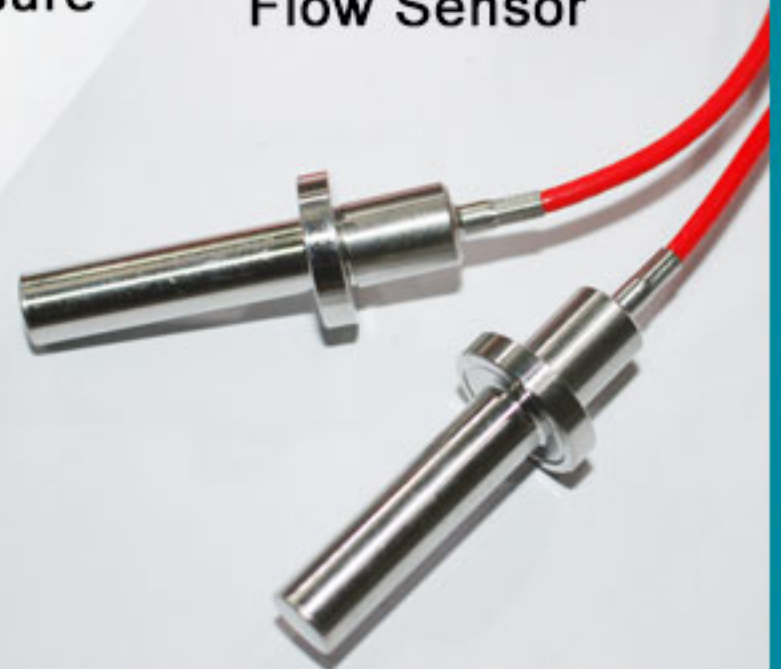
Intelligent flow meter integrates the flow sensor, micro-processor, pressure and temperature sensor together.



Absolute Pressure  
Sensor



PT1000  
Temperature  
Sensor

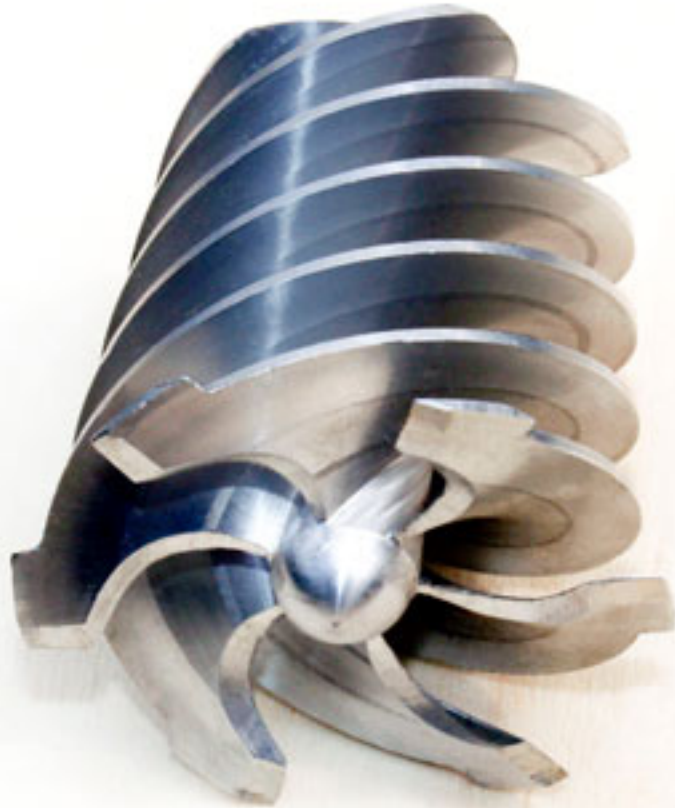


Flow Sensor

### Military Quality

Double flow sensor, enjoy excellent stability, high accuracy and anti-vibration performance

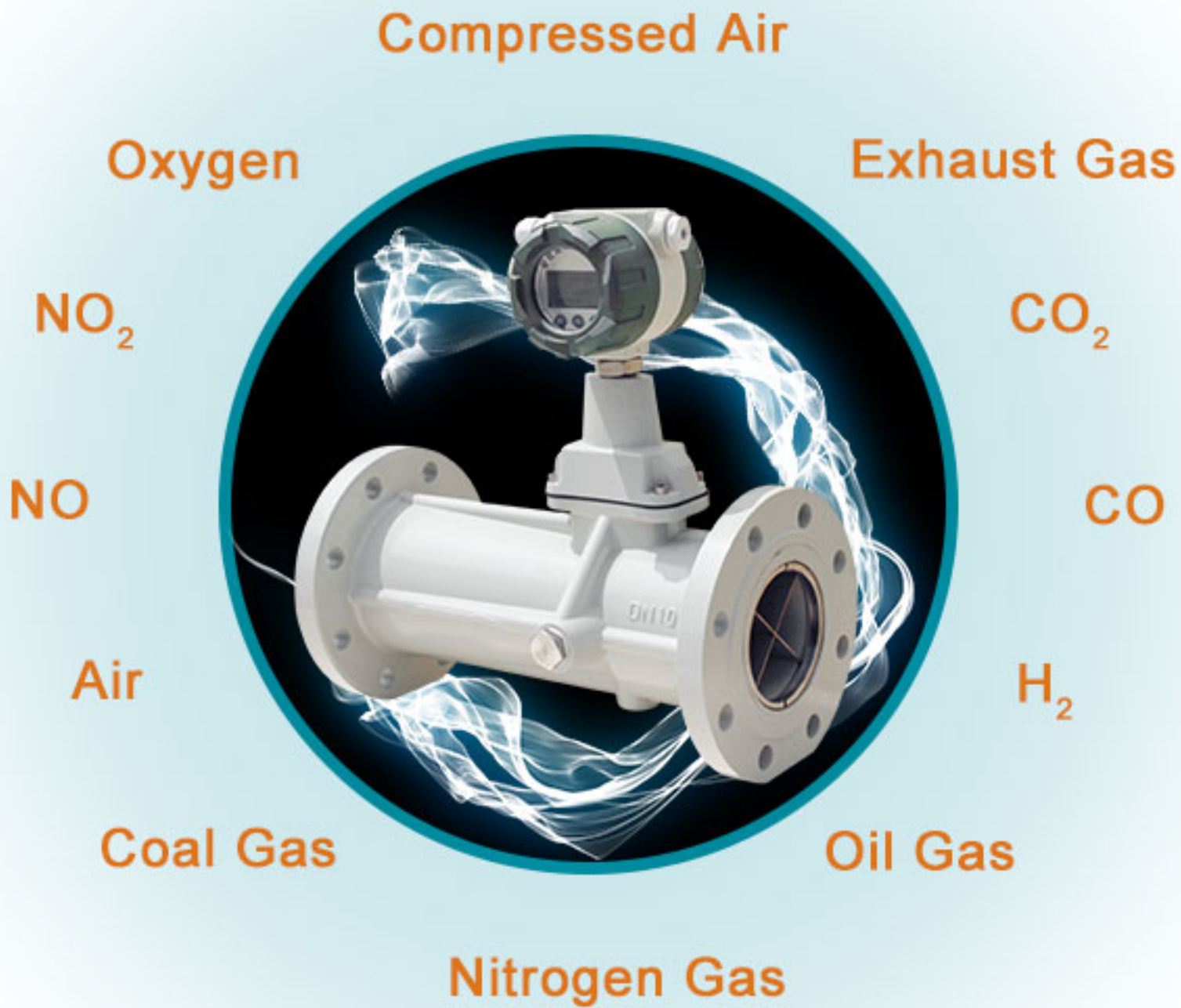
## 4. Swirl Generator



Minimize pressure loss based on fluid functionology design



## 5. Measuring Medium

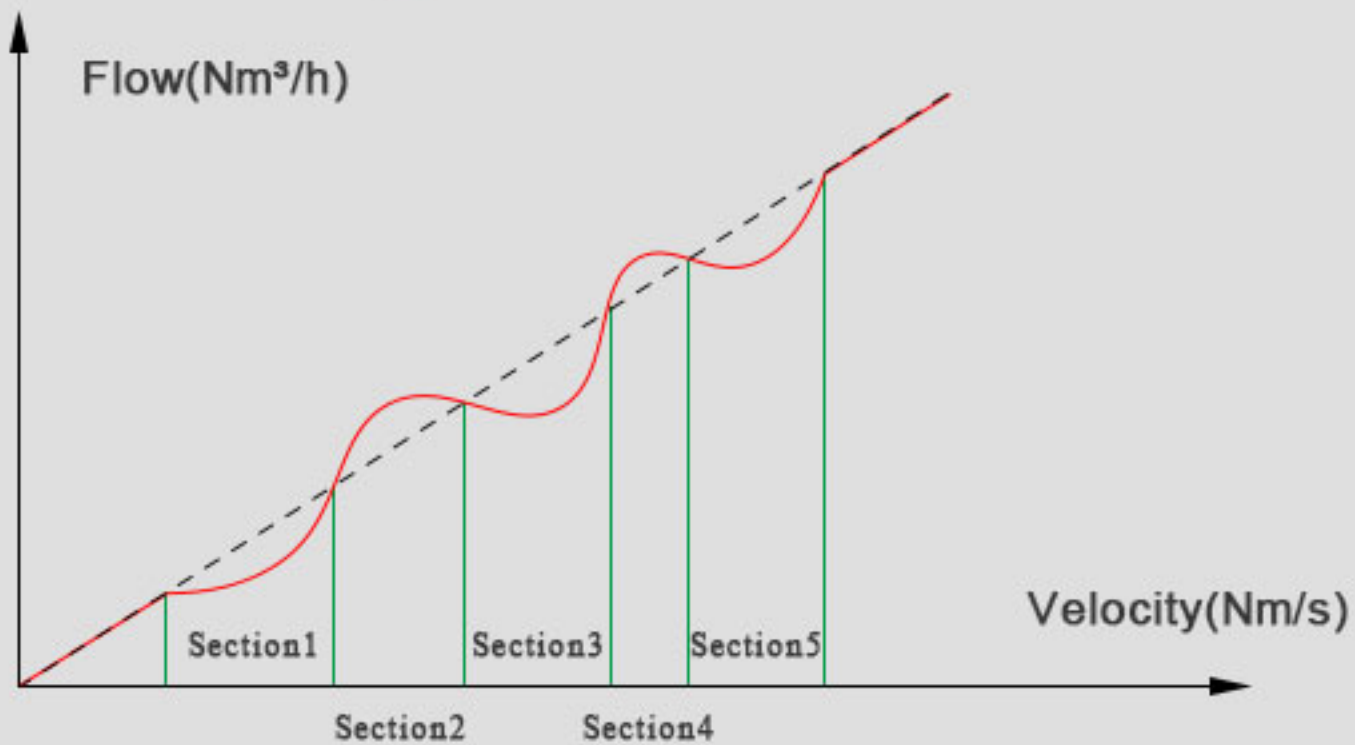


Remarks : Steam is not workable



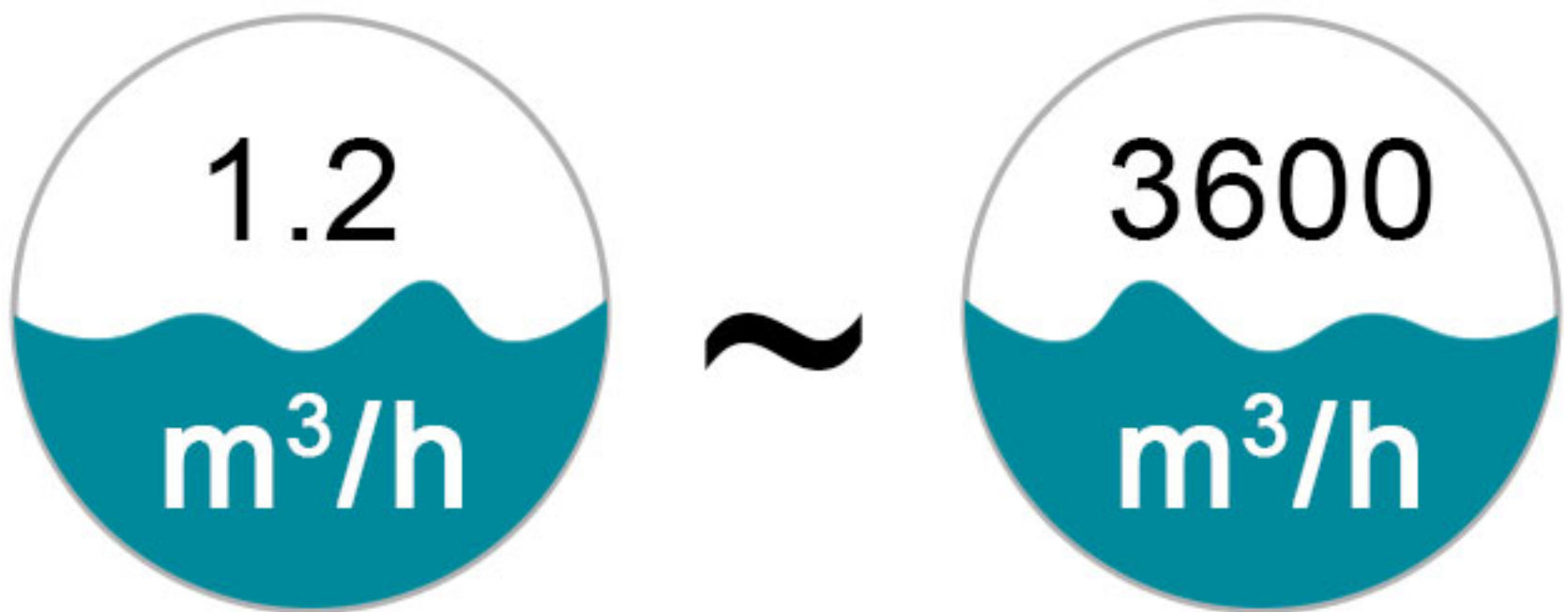
## 6. Segment Correction

### Precession Vortex Flowmeter Segment Correction



Can be divided into five sections for correction, this operation will make measuring more accurate

## 7. Flow Range

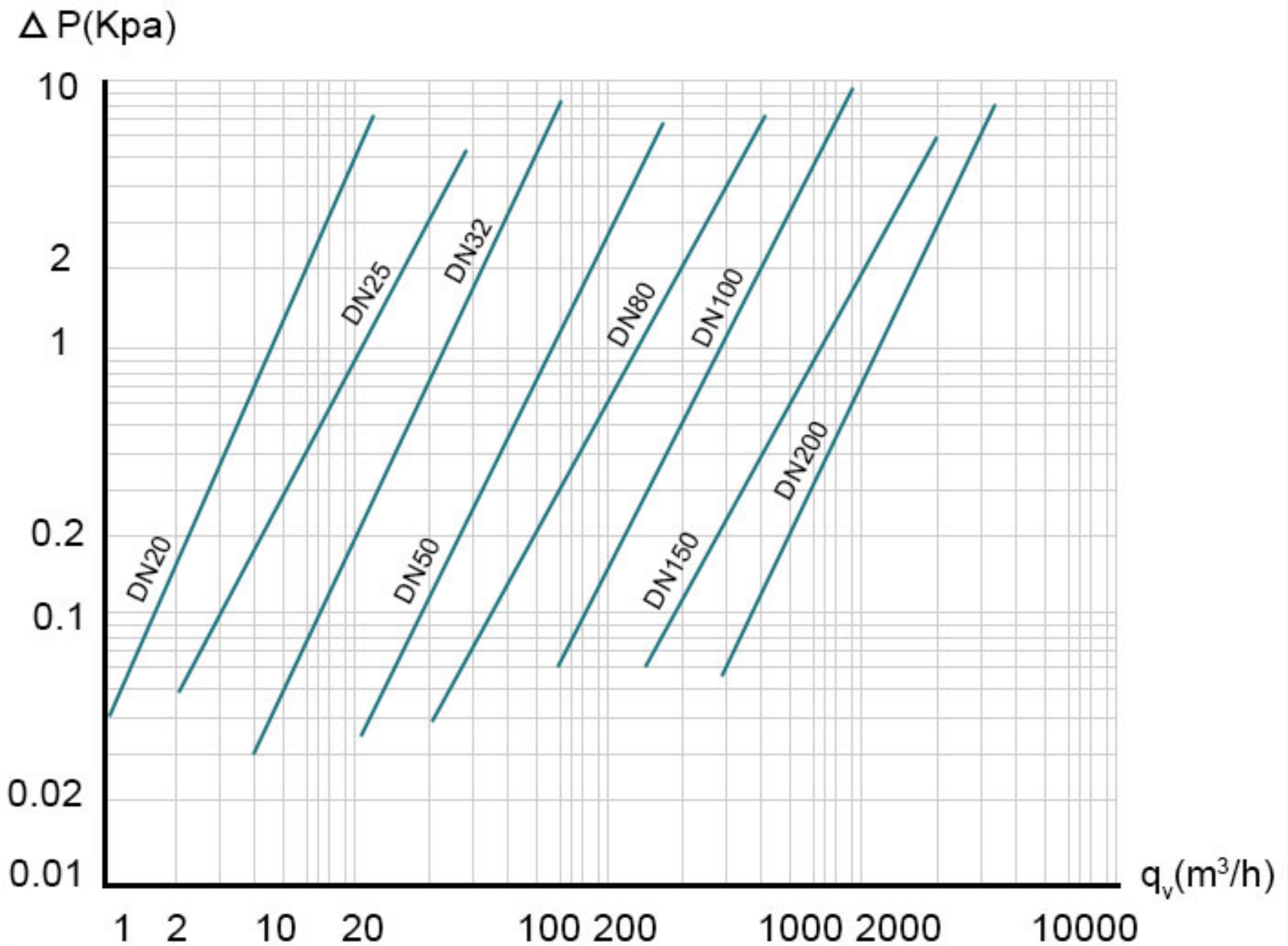


Precession vortex flow meter combines the swirl generator and swirl eliminator in the flow sensor, which can reduce the pressure loss, realize wider flow measuring range, upgrade measurement !

## Precession Vortex Flow Meter Main Technical Parameters

Caliber (mm)	20	25	32	50	80	100	150	200
Flow Range (m <sup>3</sup> /h)	1.2~15	2.5~30	4.5~60	10~150	28~400	50~800	150~2250	360~3600
Accuracy	1.0~1.5%							
Repeatability	Less than 1/3 of basic error absolute value							
Working Pressure (MPa)	1.6Mpa, 2.5Mpa, 4.0Mpa, 6.3Mpa Special pressure please double check							
Application Condition	Environment temperature: -30°C~+65°C Relative humidity: 5%~95% Medium temperature: -20°C~+80°C Atmospheric pressure: 86KPa~106KPa							
Working Power	24VDC+3.6V battery power, can remove the battery							
Output Signal	4-20mA, pulse, RS485, alarm							
Applicable Medium	All gases (except steam)							
Explosion-proof Mark	Ex ia II C T6 Ga							

# Pressure Loss Curve



Flow meter actual pressure loss calculation formula like below:

$$\Delta P_1 = \frac{\rho}{1.205} \Delta P \dots \dots \dots (1)$$

# Installation Dimension Drawing

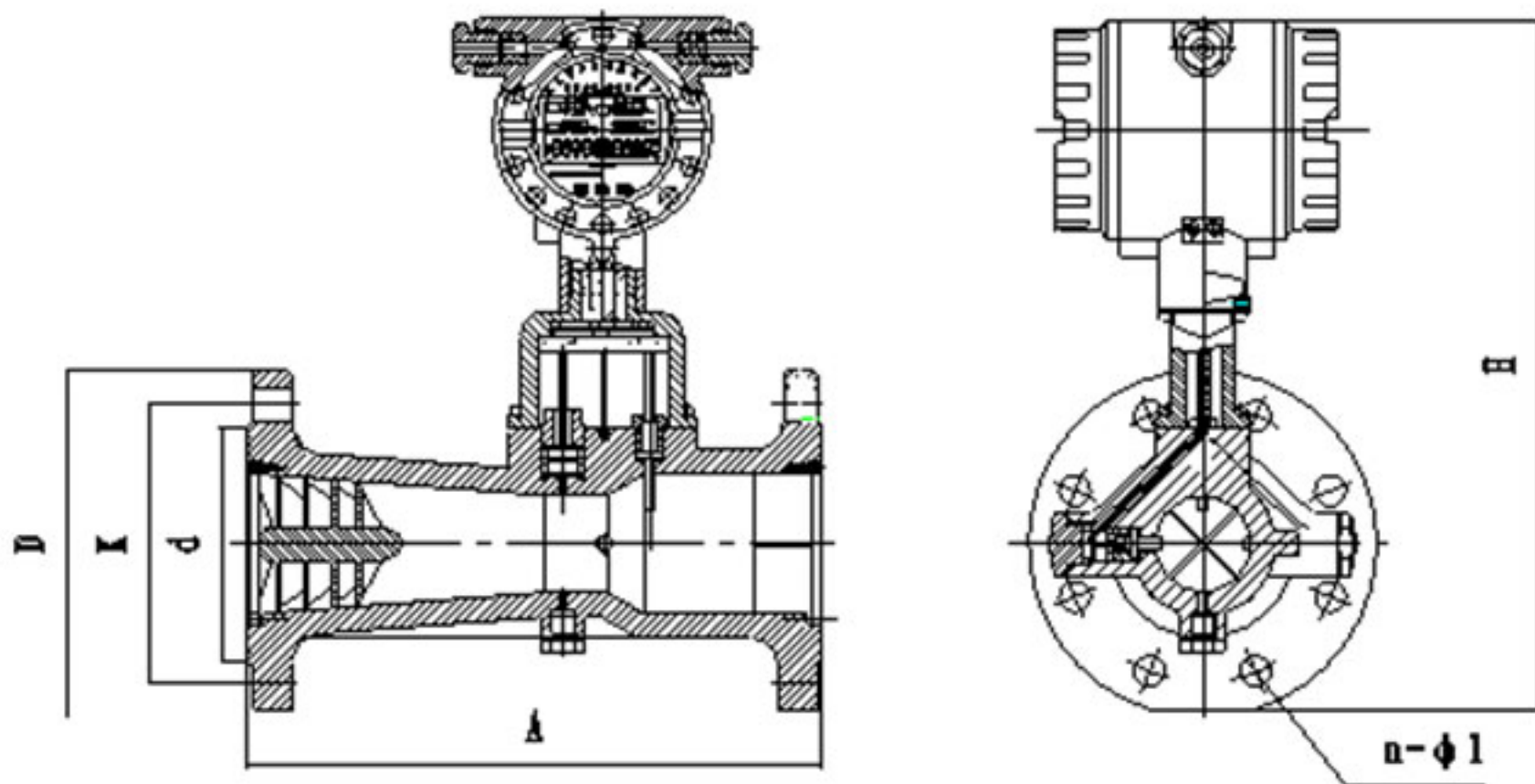


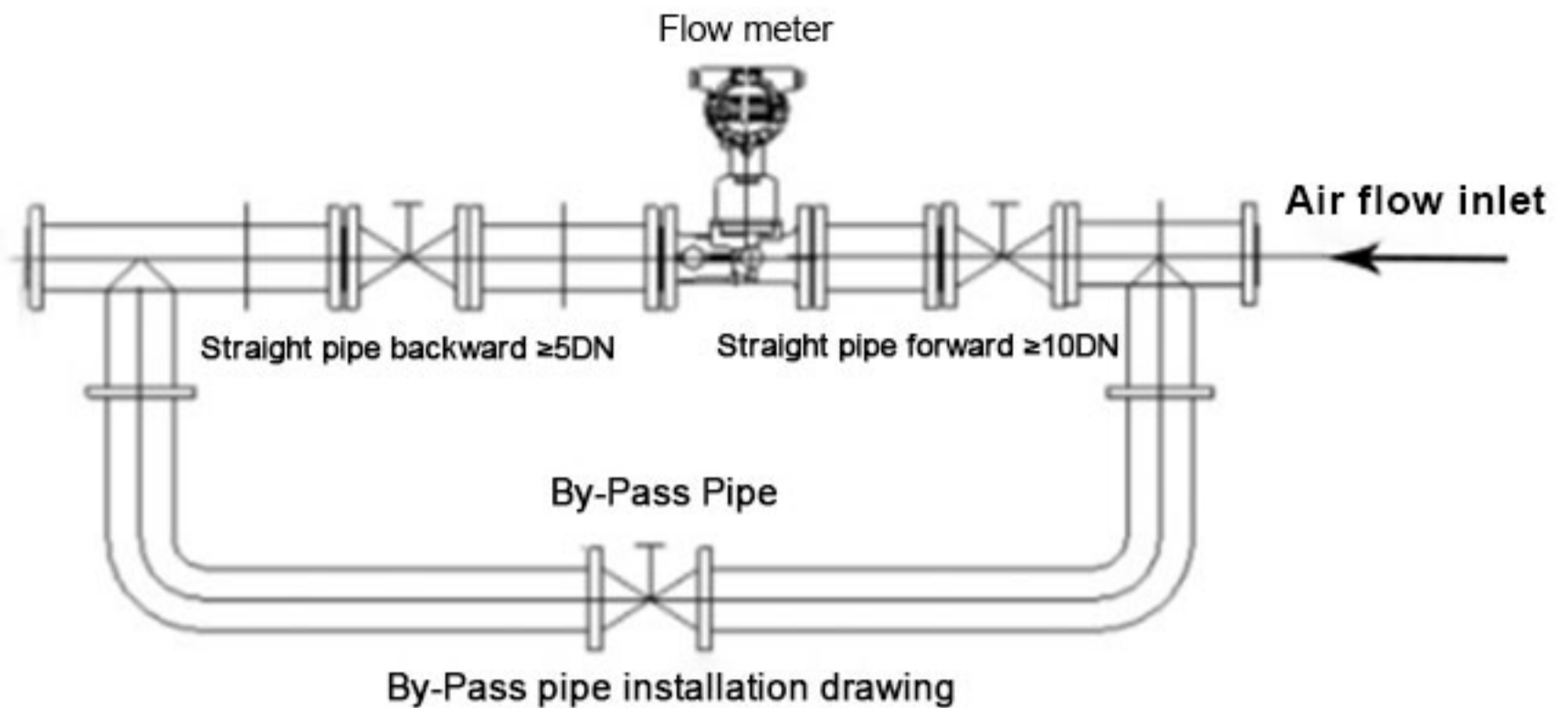
Table:

Unit: mm

Caliber (mm)	Length (mm)	PN1.6~4.0MPa						H	Dφ	Kφ	N	L	dφ	H	Dφ	Kφ	N	L	dφ	
		H	Dφ	Kφ	N	L	dφ													
25	200	305	115	85	4	14	65													
32	200	320	140	100	4	18	76													
50	230	330	165	125	4	18	99													
80	330	360	200	160	8	18	132													
		PN1.6MPa						※PN2.5~4.0MPa												
100	410	376	220	180	8	18	156	390	235	190	8	22	156							
150	570	430	285	240	8	22	211	450	300	250	8	26	211							
		PN1.6MPa						PN2.5MPa						※PN4.0MPa						
200	700	470	340	295	12	22	266	490	360	310	12	26	274	510	375	320	12	30	284	

Note: ※ is special requirements.

## Flow Meter Installation :



## Straight pipe line requirements :

Illustration	See below pic
Guarantee the upstream straight pipeline at least 3D, and the downstream straight pipeline at least 2D, see pic I. (D: Nominal Caliber)	I  Diagram I shows a horizontal pipe with a flow meter in the center. The upstream section is labeled '3D' and the downstream section is labeled '2D'.
Bend Pipe: The required upstream straight pipeline at least 3D, the downstream straight pipeline at least 2D, see pic II.	II  Diagram II shows a pipe with a bend. The upstream section is labeled '3D' and the downstream section is labeled '2D'. A dimension 'min. 6D' is shown for the bend radius.
Reducing Pipe: The required upstream straight pipeline at least 3D, the downstream straight pipeline at least 2D, see pic III.	III  Diagram III shows a pipe that tapers from left to right. The upstream section is labeled '3D' and the downstream section is labeled '2D'.
Expanding Pipe: The required upstream straight pipeline at least 3D, the downstream straight pipeline at least 2D, see pic IV.	IV  Diagram IV shows a pipe that tapers from right to left. The upstream section is labeled '3D' and the downstream section is labeled '2D'.
Valve: The required upstream straight pipeline at least 5D, the downstream straight pipeline at least 2D, see pic V.	V  Diagram V shows a pipe with a valve on the left. The upstream section is labeled '5D' and the downstream section is labeled '2D'.

Straight Pipeline Requirement