



# 高精度耐腐蚀齿轮流量计

## High-Precision Corrosion-Resistant Gear Flow Meter

ESPL 系列



### 产品叙述 Product Description

容积式流量计为精密流量测量的设计，用于连续或间断方式测量管路中液体的流量或瞬间流量。适用于高黏度、高压力环境，如重油、聚乙烯醇、树脂...等工况，能准确计量微小流量，表现稳定可靠，满足多数产业对高精度流量监控的需求。

可测液体涵盖水、油品、食品级润滑油、化学药剂、化妆品、肥料、墨水、制药原料、涂料、石油产品、汽车用液体、胶合剂、聚氨酯、电解液与多种添加剂等。

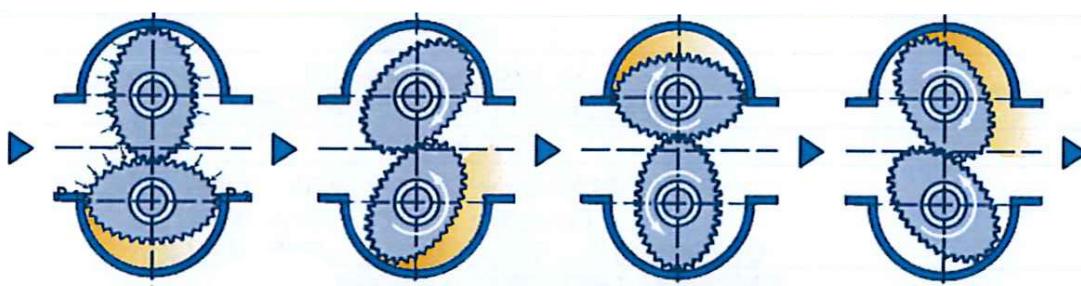
Designed for precise flow measurement, the volumetric flow meter is suitable for continuous or intermittent monitoring of liquid flow or instantaneous flow in pipelines. It performs reliably in high-viscosity, high-pressure environments such as heavy oil, polyvinyl alcohol, resin, and similar conditions. Capable of accurately measuring even small flow rates, it meets the high-precision monitoring needs of a wide range of industries.

Applicable Liquids Include Water, oil products, food-grade lubricants, chemical agents, cosmetics, fertilizers, ink, pharmaceutical ingredients, coatings, petroleum products, automotive fluids, adhesives, polyurethane, electrolytes, and various additives.

### 工作原理与结构 Principle of Operation & Structure

容积式流量计内部设有一对精密互啮的齿轮作为转子。齿轮与流量计腔体共同形成固定体积单位，称为标准容积。当液体流过流量计时，驱动齿轮转动，藉由计算在一定时间内液体通过的标准容积数量，即可精确计量流量。

The volumetric flow meter contains a pair of precision-meshed gears that serve as rotors. These gears, together with the chamber, form a fixed unit of volume known as the standard volume. As liquid flows through the meter, it drives the gears to rotate. By counting the number of standard volumes passing through over time, the flow rate can be measured accurately.





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### 产品特色 Features

- 适用高黏度高腐蚀性介质**：介质黏度越高，从齿轮与计量腔体之间缝隙泄漏的量越少，黏度越大，测量误差越低，有利于提升准确性。在常温条件下，pH 值范围 2 ~ 12 的介质皆可稳定使用，具备优异的化学相容性与耐腐蚀性能。  
Ideal for High-Viscosity and Highly Corrosive Media: The higher the viscosity, the less leakage occurs through the gear and chamber gaps, resulting in reduced measurement error and improved accuracy. Under normal temperature conditions, media with a pH range of 2 to 12 can be used reliably, demonstrating excellent chemical compatibility and corrosion resistance.
- 体积小、重量轻**：运转平稳、低振动、低噪音；可测高黏度流体。测量精度高达±0.5%(F.S.)，量程比最高可达 100 : 1。  
Compact & Lightweight: Quiet and low-vibration operation. Suitable for measuring high-viscosity fluids. Offers high accuracy up to ±0.3%(F.S) and a wide turndown ratio of up to 100:1.
- 标准型**：适用于多种洁净液体之微小流量测量。  
Standard Model: Designed for precise measurement of small flow rates of clean liquids.
- 无需直管段**：安装弹性高，适用于空间受限环境。  
No Straight Pipe Required: Flexible installation in limited spaces.
- 支援脉动流体**：可应对不稳定或间歇式流体输送。  
Suitable for Pulsating Flow: Handles unsteady or intermittent fluid flows effectively.
- 短时间定量添加**：适用于微量液体的定时/定量添加需求。  
Supports Micro-Dosing: Ideal for short-duration, small-quantity dosing or filling.

### 产品规格 Specifications

型号 Type	ESPL50	ESPL500	ESPL1700	ESPL4600
量测范围 Flow Range	15-900 mL/min	150-9000 mL/min	500-30000 mL/min	1300-83000 mL/min
脉冲频率 Pulse Frequency	0.25 mL/p	2.5 mL/p	8.5 mL/p	23 mL/p
口径 Port Size	G1/4"	G1/4"	G1/2"	G1"
工作压力 Work Pressure	200 bar	200 bar	50 bar	50 bar
精度 Accuracy(F.S.)	*0.5%			
工作温度 Temp.	-40~80°C (可特殊订制-40~120°C) available on request from -40°C up to 120°C			
介质 Medium	水、油品、食品级润滑油、化学药剂、化妆品、肥料、墨水、制药原料、涂料、石油产品、汽车用液体、胶合剂、聚氨酯、电解液与多种添加剂...等高黏度(800,000 cP)介质。 Water, oil products, food-grade lubricants, chemical agents, cosmetics, fertilizers, ink, pharmaceutical ingredients, coatings, petroleum products, automotive fluids, adhesives, polyurethane, electrolytes, and various additives and other types of high-viscosity(800,000 cP) media.			
输出讯号 Output Signal	4-20mA			
供应电源 Supply	5-24VDC			
本体材质 Body Material	不锈钢 Stainless Steel			
齿轮材质 Gear Material	PPS			
*以 ESPL1700 为例：介质:水 / 量程比: 1:10 / 读取精度：1% / 全程：0.5% F.S. · 在量程比以内 (3000-30000) · 精度是读取数据的 1% · 在量程比以外(500-3000)的精度是全程的 0.5%。 For ESPL1700: Water fluid Accuracy: 1% of reading within turndown ratio of 1: 10 (3000-30000) 0.5% F.S outside turndown ratio (500-3000).				



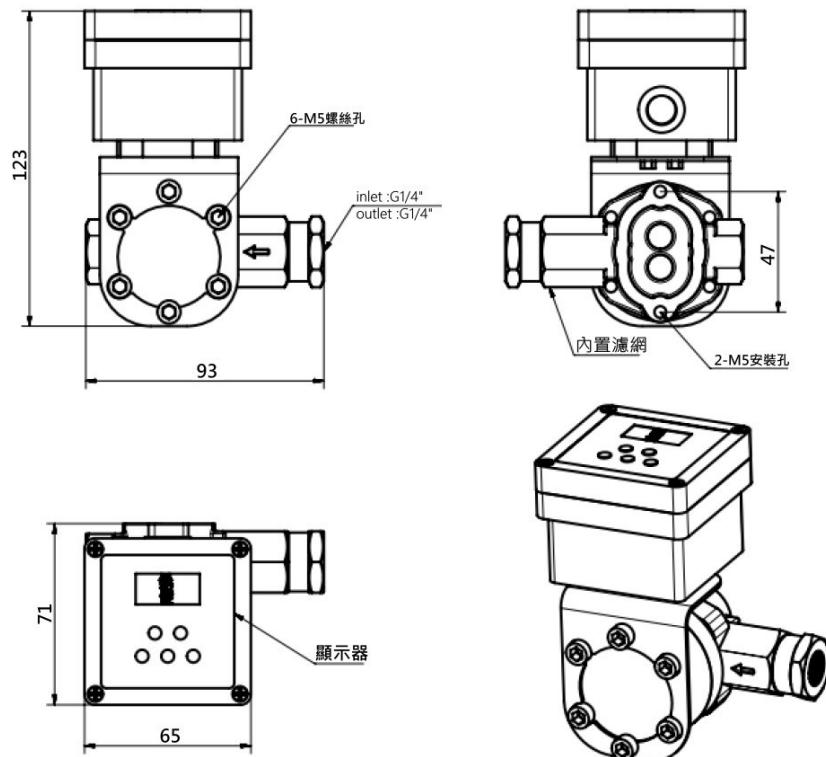
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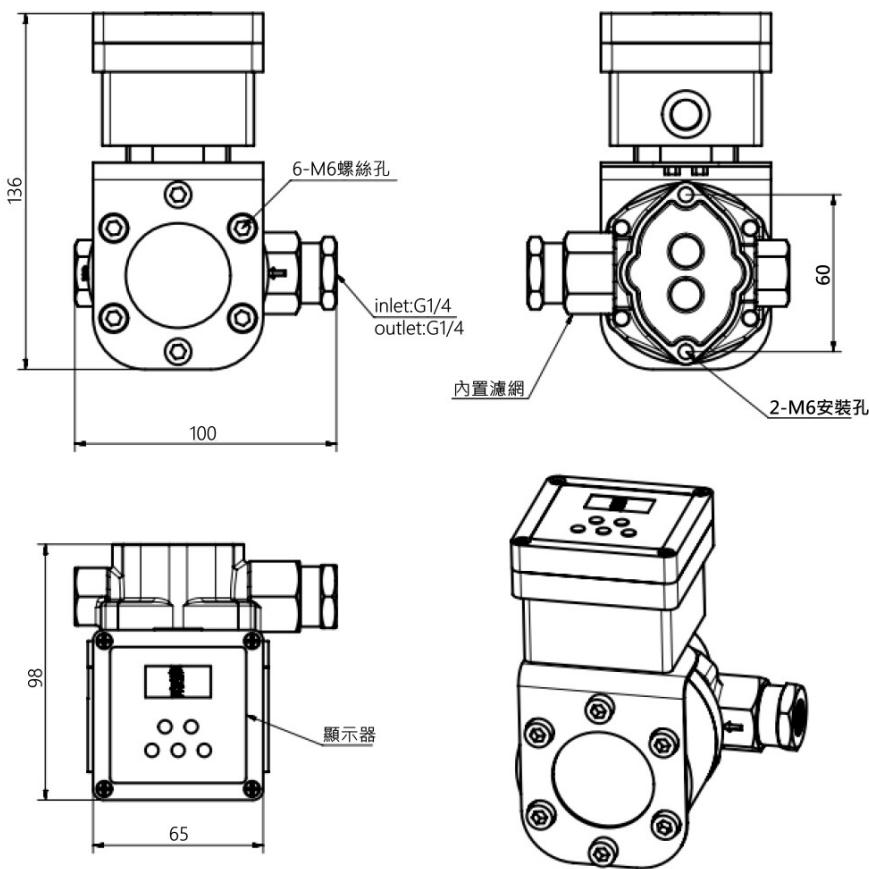
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外观尺寸 Dimensions

ESPL50



ESPL500





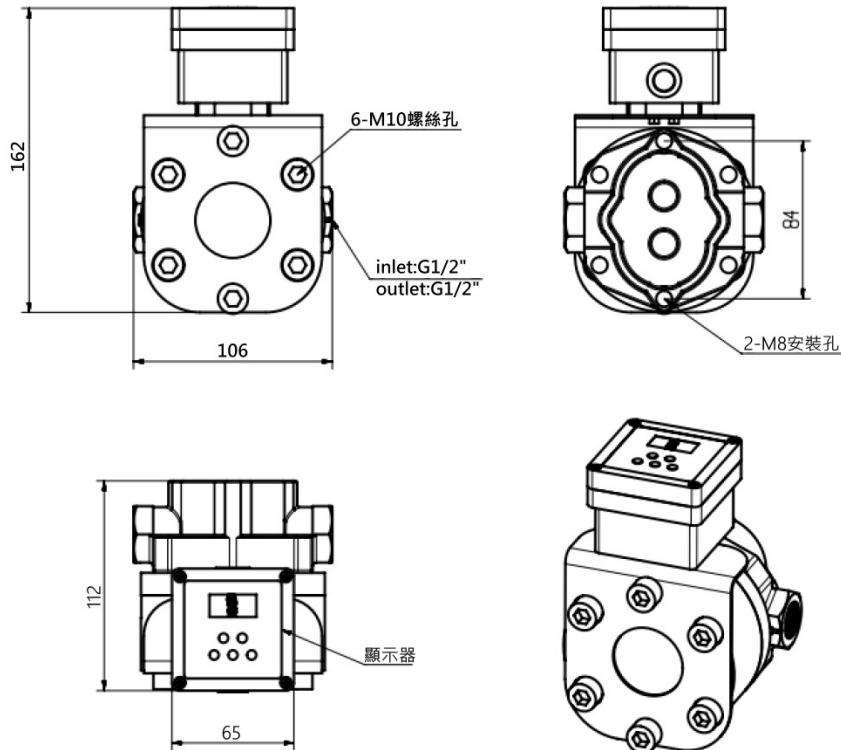
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外观尺寸 Dimensions

ESPL1700



ESPL4600

