

**KDP SERIES
MINIATURE ARMORED FLOWMETER & SWITCH**



Flow
Pressure
Level
Temperature
measurement
monitoring
control

S1



- **Maximum Pressure 1885 PSIG**
- **Water Ranges 0.08-0.8 to 2.5-25 GPH**
- **Air Ranges 0.2-2.0 to 13-130 SCFH**
- **Accuracy $\pm 4\%$ of Full Scale**
- **Wetted Parts of Stainless Steel and PTFE**
- **Direct Reading Scale for Other Liquids and Gases Available**
- **Needle Valve Standard**



www.cstc.tw
台灣冠瑄: TEL: +886 7 7532980
Taiwan: E-Mail: TW@CSTC.TW

冠瑄科技有限公司

Creation Service Technology Co., Ltd.
上海可翔国际贸易有限公司
Shanghai Creation International Trading Co., Ltd.
上海可翔: TEL: +86 21 57558972
Shanghai: E-Mail: SH@CSTC.TW

Model:
KDP

Features

- Maximum Pressure 1885 PSIG
- Water Ranges 0.08-0.8 to 2.5-25 GPH
- Air Ranges 0.2-2.0 to 13-130 SCFH
- Accuracy $\pm 4\%$ of Full Scale
- Wetted Parts of Stainless Steel and PTFE
- Direct Reading Scale for Other Liquids and Gases Available
- Needle Valve Standard

The KDP series armored flowmeter is an ideal choice for measuring and controlling low flows of liquids or gases in industrial applications where a rugged reliable design is required. The standard design has an all stainless steel body rated to 1885 PSIG and 300°F. The mechanical indicator is actuated by a magnetic float so that no penetrations exist in the measuring tube, thus making the KDP series suitable for high pressure installations. The KDP series is available as a meter only or with up to two adjustable solid state proximity switches. An integral needle valve for precise flow control is standard. The KDP can be fitted with a flow regulator for precise automatic flow control under varying pressure conditions. The KDP is available with the standard air or water scales or a direct reading scale calibrated to the user's flow medium and operating conditions.



Specifications

Measuring Principle: Variable Area
Measuring Ranges

- Water:** 0.08-0.8 to 2.5-25 GPH
- Air:** 0.2-2.0 to 13-130 SCFH
- Other liquids and gases:**

Based on operating conditions

- Accuracy:** $\pm 4\%$ of Full Scale
- Connection:** 1/4" NPT
- Maximum Pressure:** 1885 PSIG

Process Temperature Range
Standard: -112 to 302°F

Maximum Process Temperature for KDP with Switches

- Ambient Temp. <100°F:**
Max. Temp. = 293°F
- Ambient Temp. <120°F:**
Max. Temp. = 275°F
- Ambient Temp. <140°F:**
Max. Temp. = 257°F

Wetted Materials

- Fittings:** 316 C Stainless Steel
- Measuring Tube:** 316 Stainless Steel
- Valve:** 316 Stainless Steel
- Valve Seal:** PTFE

Differential Pressure Regulators

Constant differential pressure regulators are available as accessories for the KDP series flowmeters. These regulators maintain a constant flow rate under varying upstream or downstream pressure conditions. Type RE and NRE are inlet pressure regulators which maintain a constant flowrate for gases and liquids with variable flowmeter inlet pressure and constant outlet pressure. Type RA and NRA are outlet pressure regulators which maintain a constant flow rate with variable flowmeter outlet pressure and constant inlet pressure.

Electrical Specifications

- Switches:** 1 or 2 with field adjustable setpoint
- Switch Type:** Solid state bistable proximity
- Switch Output:** NAMUR Per DIN19234, Intrinsically safe (use EX-3001 or EX-3002 relay sold separately)
- Electrical Conditions:** Cable gland PG 9
- Electrical Protection:** NEMA 4/IP 65





KDP Ordering Information					
KDP	= Armored Flowmeter				
	Options -42 = Flowmeter Only -52 = Flowmeter with 1 Switch -62 = Flowmeter with 2 Switches				
	Range Codes Liquids (GPH Water) -01G = 0.08-0.8 GPH -02G = 0.13-1.3 GPH -03G = 0.25-2.5 GPH -04G = 0.65-6.5 GPH -05G = 1.1-11 GPH -06G = 1.6-16 GPH -07G = 2.5-25 GPH Gases (SCFH Air) -01S = 0.02-2.0 SCFH -02S = 0.55-5.5 SCFH -03S = 1.5-15 SCFH -04S = 3.0-30 SCFH -05S = 5.0-50 SCFH -06S = 8.0-80 SCFH -07S = 13-130 SCFH	Max. Pressure Drop (PSI) 0.96 0.28 0.39 0.80 0.61 1.23 2.41			
	Fitting Size -N2 = 1/4" NPT				
	Options -0 = No options -H = Cleaned for oxygen service -Y = Calibrated scale for other liquids or compressed gases				
KDP	-52	-03G	-N2	-0	Sample KDP Ordering Code

S1

Constant Flow Regulators				
Model Number	Material	Max. flow rate		Min. required upstream pressure p ₁ p ₁ in PSI
		Water** l/h	Air** l/h	
RE-1000-R	Stainless Steel	40	1000	0.5
RE-1000-N	brass	40	1000	0.5
RE-4000-R	Stainless Steel	100	3400	1
RE-4000-N	brass	100	3400	1
NRE-800-R	Stainless Steel		800	0.2
NRE-800-N	brass		800	0.2
Downstream pressure controller		Air** l/h	Min. differential pressure * p in PSI	
RA-1000-R	Stainless Steel	1000	0.4	
RA-1000-N	brass	1000	0.4	
RA-4000-R	Stainless Steel	3400	0.8	
RA-4000-N	brass	3400	0.8	
NRA-800-R	Stainless Steel	800	0.15	
NRA-800-N	brass	800	0.15	

*Pressure difference between upstream and downstream pressure

**Reference conditions 68°F, 14.7 PSIA



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KDP Series Miniature Armored Flowmeter & Switch Application Guide Form # KDP-001 Rev. 08/18/01	Customer Name: _____
	Company Name: _____
	Phone: _____
	Fax: _____

Quote #: _____ Date: _____ Price: _____ Each

Part Number: _____

* To ensure fast order processing, please retain the completed quote form and send it along with your purchase order.

Calibrated Measuring Range: _____

Design Conditions

Accurate design pressure and temperature are essential to ensure the flowmeter will be built to operate without damage. Please fill out accurately and completely.

List Design Conditions

- 1. Pressure: Maximum _____ PSIG
- 2. Temperature: Maximum _____ °F

Calibration Conditions: Accurate calibration conditions are required to ensure that the flowmeter will be factory calibrated to give accurate readings at the user's normal operating conditions. Please fill out accurately and completely.

Calibration Conditions for Liquid Flow Applications

- 1. Type of Liquid: _____
- 2. Normal Operating Temperature: _____ °F
- 3. Viscosity at Normal Operating Temp: _____
- 4. Specific Gravity at Normal Operating Temp: _____
- 5. Desired Measuring Range and Units: _____

Note: Items 3 & 4 not required for water flow

Calibration Conditions for Gas Flow Applications

- 1. Type of Gas: _____
- 2. Normal Operating Temperature: _____ °F
- 3. Normal Pressure at Outlet Fitting: _____ PSIG
- 4. Specific Gravity (required for gas mixes only): _____
- 5. Desired Measuring Range and Units: _____

Note: The calibration pressure required is the pressure that the meter sees at its outlet fitting

Flowmeter Options

- 1. Measuring Tube Material: 316 SS Other: _____
- 2. Desired Fitting: 1/4" (standard) Other: _____
- 3. Fitting Type: NPT thread (standard) Other: _____

Other Options

- 1. 1 NAMUR Flow Switch 3. Oxygen Cleaning
- 2. 2 NAMUR Flow Switches 4. Other Options: _____

FAX to
 KOBOLD Instruments Inc.
 412-788-4890 (USA)
 514-428-8899 (Canada)

Visit KOBOLD Online at
www.kobold.com

Quoted By: _____ Phone: _____ Fax: _____