

## VKM - All-Metal Viscosity Compensating Flowmeter and Switch



### Benefits and Features

- ±5% Full Scale Accuracy
- Viscosity-Compensated up to  $\Delta v=540$  cSt (No Scale Recalibration Necessary)
- **Optional 4-20 MA output with digital scale**
- Direct Reading Scales for Oil
- Installable in any Position
- Vertical Connections for Easy Installation
- Max. Pressure 3600/5000 PSI
- All Media Contacted Parts available in Brass or Stainless Steel

### General Description

The VKM flowmeters and switches fill an important gap in the high viscosity media measurement regime. Using patented viscosity compensation system, these instruments are insensitive to viscosity and density changes during operation. This development in flow and measurement control technology has resulted in an extremely versatile instrument usable in almost all imaginable applications.

### Specifications

**Accuracy:** ±5% full scale

**Flow Media:** e.g. mineral oil, water and other liquids

**Mounting:** universal, without recalibration

**Measuring Principle:** with float, spring-loaded

**Max. Temperature:** 240°F

**Max. Pressure:** 3600 PSIG for Brass units 5000 PSIG for SS units

**Viscosity-compensated:** up to  $\Delta v=540$  cSt with same scale

**Density-compensated:** up to  $\Delta p=30$  lb/ft<sup>3</sup> with same scale

**Housing:** Nickel-plated Brass or SS 304

**Fittings:** Nickel-plated Brass or SS 304

**Float:** Brass or SS 304

**Orifice:** SS 301

**Spring:** SS 301

**Seals:** Buna-N for Brass units, Viton for SS units

**Electr. Switch Housing:** Plastic

**Magnetically Operated Pointer Indicator:** Nickelplated Brass, Polycarbonate

**Mode of Electr. Protection:** NEMA 4

**Reed Contact:**

**N/O:** AC: 1.5 A, 240 VAC, 50 VA

**DC:** 1.0 A, 200 VDC, 50 W

**SPDT:** AC: 0.8 A, 240 VAC, 30 VA

**Compact Electronic Option C34P**

**Power Requirement:** 24VDC ±20%

**Display:** 3 digit LED

**Output:** 4-20mA, 3-wire RLoop<500 ohms

**Switch:** PNP, 300 mA Max.

**Electrical Connection:** Micro-DC plug, 4-Pin male

**Electrical Protection:** NEMA 4X/IP65

## VKM - All-Metal Viscosity Compensating Flowmeter and Switch

### Ordering Information

Order Numbers for standard types									
Range oil	Stand. conn.	Press. drop max.	Flow Switch 1 N/O contact, oil scale		Flowmeter oil scale		Flowmeter and scale 1 N/O contact, oil scale		
			Material		Material		Material		
			Brass	SS	Brass	SS	Brass	SS	
GPM	NPT	PSI							
0.03 - 0.12	1/4"	11.6	VKM 5102	VKM 5202	VKM 6102	VKM 6202	VKM 7102	VKM 7202	
0.05 - 0.3	1/4"	16.0	VKM 5103	VKM 5203	VKM 6103	VKM 6203	VKM 7103	VKM 7203	
0.15 - 0.5	1/4"	17.4	VKM 5104	VKM 5204	VKM 6104	VKM 6204	VKM 7104	VKM 7204	
0.2 - 0.9	1/4"	13.1	VKM 5105	VKM 5205	VKM 6105	VKM 6205	VKM 7105	VKM 7205	
0.5 - 2.5	1/4"	11.6	VKM 5106	VKM 5206	VKM 6106	VKM 6206	VKM 7106	VKM 7206	
1 - 3.5	1/4"	16.0	VKM 5107	VKM 5207	VKM 6107	VKM 6207	VKM 7107	VKM 7207	
1.5 - 5.0	1/2"	16.0	VKM 5108	VKM 5208	VKM 6108	VKM 6208	VKM 7108	VKM 7208	
1 -11	1/4"	5.8	VKM 5109	VKM 5209	VKM 6109	VKM 6209	VKM 7109	VKM 7209	
1 -14	1/2"	16.0	VKM 5110	VKM 5210	VKM 6110	VKM 6210	VKM 7110	VKM 7210	
2 -18	3/4"	16.0	VKM 5111	VKM 5211	VKM 6111	VKM 6211	VKM 7111	VKM 7211	
2 -20	1"	16.0	VKM 5112	VKM 5212	VKM 6112	VKM 6212	VKM 7112	VKM 7212	

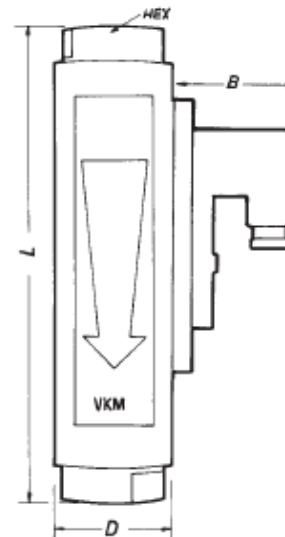
Part Number: 807.007 Mating 5-Pin Micro-DC Plug w/ 6 Ft. Cable for Option C34P

Options (add suffix to Order Number)	
Special connection NPT Suffix "B"	Special contact
-	
1/2"	Suffix "U" = SPDT Contact
1/2"	
1/2"	
1/2"	Suffix "R" = Additional Contact C34P
3/4"	
1"	
1"	= Compact Electronic Display
1"	
-	

### Dimensions

VISCOSITY COMPENSATED ALL-METAL FLOW SWITCH WITH 1 N/O CONTACT									
Order Number (Brass)	Order Number (SS)	HEXAGONAL		Dimensions			B	E	Weight approx. lbs
		Stand.	Suffix "B"	D	Stand.	L			
VKM 5102 to VKM 5107	VKM 5202 to VKM 5207	1.42"	-	1.57"	6.38"	6.38"	2.09"	-	3.75
VKM 5108	VKM 5208	1.42"	-	1.57"	6.38"	7.34"	2.09"	-	3.50
VKM 5109	VKM 5209	1.42"	1.61"	1.57"	6.38"	7.34"	2.09"	-	3.50
VKM 5110 to VKM 5111	VKM 5210 to VKM 5211	1.42"	1.61"	1.57"	6.38"	7.34"	2.09"	-	3.70
VKM 5112	VKM 5212	1.61"	-	1.57"	7.34"	-	2.09"	-	3.75

U.S. Patent Number 4,573,361



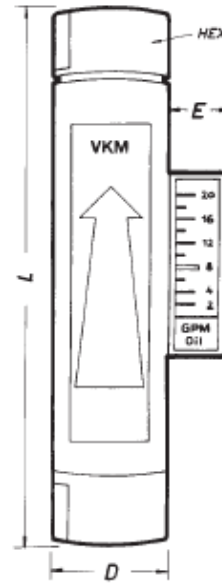
VKM-5...

## VKM - All-Metal Viscosity Compensating Flowmeter and Switch

### ↔ Dimensions

VISCOSITY COMPENSATED ALL-METAL FLOWMETER									
Order Number (Brass)	Order Number (SS)	HEXAGONAL		D	Dimensions L		B	E	Weight approx. lbs
		Stand.	Suffix "B"		Stand.	Suffix "B"			
VKM 6102 to VKM 6107	VKM 6202 to VKM 6207	1.42"	-	1.57"	6.38"	6.38"	-	0.87"	3.75
VKM 6108	VKM 6208	1.42"	-	1.57"	6.38"	7.34"	-	0.87"	3.50
VKM 6109	VKM 6209	1.42"	1.61"	1.57"	6.38"	7.34"	-	0.87"	3.50
VKM 6110 to VKM 6111	VKM 6210 to VKM 6211	1.42"	1.61"	1.57"	6.38"	7.34"	-	0.87"	3.70
VKM 6112	VKM 6212	1.61"	-	1.57"	7.34"	-	-	0.87"	3.75

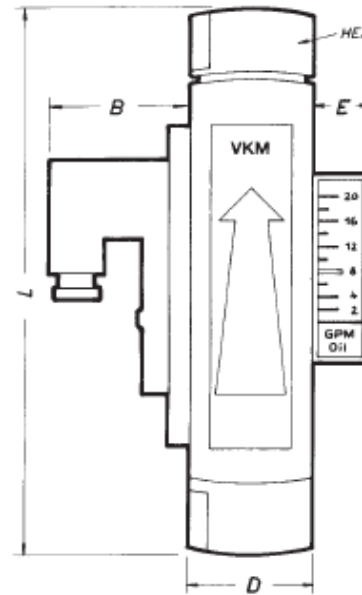
U.S. Patent Number 4,573,361



VKM-6...

VISCOSITY COMPENSATED ALL-METAL FLOWMETER AND SWITCH WITH 1 N/O CONTACT									
Order Number (Brass)	Order Number (SS)	HEXAGONAL		D	Dimensions L		B	E	Weight approx. lbs
		Stand.	Suffix "B"		Stand.	Suffix "B"			
VKM 7102 to VKM 7107	VKM 7202 to VKM 7207	1.42"	-	1.57"	6.38"	6.38"	2.09"	0.87"	3.75
VKM 7108	VKM 7208	1.42"	-	1.57"	6.38"	7.34"	2.09"	0.87"	3.50
VKM 7109	VKM 7209	1.42"	1.61"	1.57"	6.38"	7.34"	2.09"	0.87"	3.50
VKM 7110 to VKM 7111	VKM 7210 to VKM 7211	1.42"	1.61"	1.57"	6.38"	7.34"	2.09"	0.87"	3.70
VKM 7112	VKM 7212	1.61"	-	1.57"	7.34"	-	2.09"	0.87"	3.75

U.S. Patent Number 4,573,361

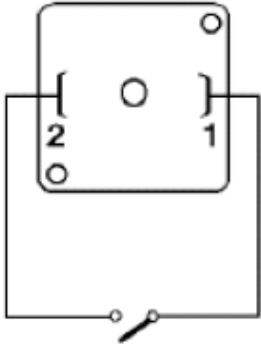


VKM-7...

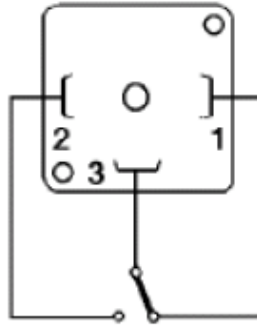
## Electrical Connection

### Wiring of Reed Switch

#### N/O Contact



#### SPDT Contact



### Electrical Data and Operational Limits

**Maximum Voltage:** 240 VAC

**Maximum Current:** N/O: 1.5 A

**SPDT:** 0.8 A

**Maximum Power Dissipation:** N/O: 50 VA

**SPDT:** 30 VA

**Environmental Protection:** IP 65 (IEC 259) (Equal to NEMA 4)

UL recognized, CSA approved