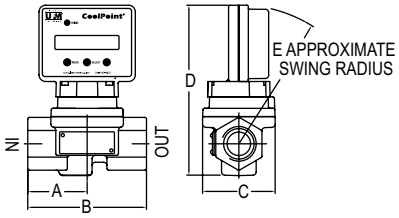
Dwyer

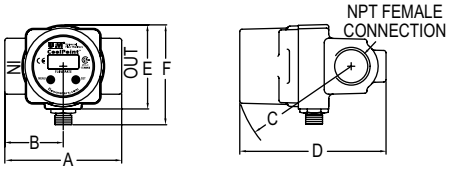
SERIES CP/CN/CT/CX | U·M

COOLPOINT® VORTEX SHEDDING FLOWMETER

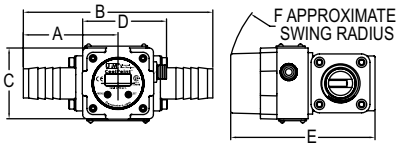
No Moving Parts, Low Maintenance, Low Pressure Drop, Temperature Sensing Option



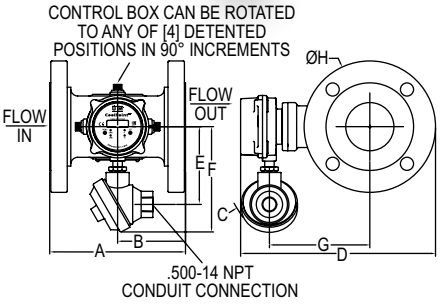
CPX-V8



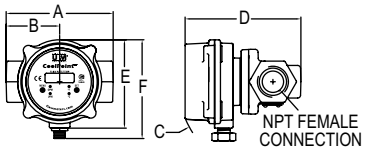
CP2, CP3, CP4



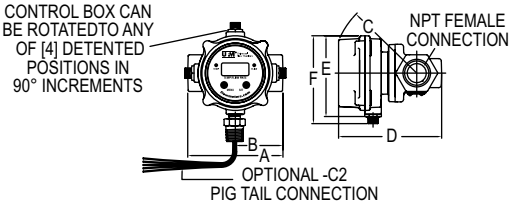
CX8-M7



CP24, 32 (shown with -C3/-C14 conduit box)



CP/CN6, CP/CN8, CN12, CN16



CTx (shown with -C2 pig tail connection)

Model	Option	A in [mm]	B in [mm]	C in [mm]	D in [mm]	E in [mm]	F in [mm]	G in [mm]	H in [mm]
CT2-CT8	Standard	4-1/2 [114.3]	2-1/4 [57.15]	4-3/64 [102.62]	4-59/64 [124.97]	3-3/4 [95.25]	4-3/16 [106.43]	-	-
CT12, CT16		6-3/4 [171.45]	3-3/8 [85.72]	4-23/32 [119.85]	6-9/64 [155.96]	3-3/4 [95.25]	4-3/16 [106.43]	-	-
CP2-V8 CP3-V8 CP4-V8		1-53/64 [46.48]	3-21/32 [92.71]	2-3/8 [60.32]	5-29/32 [50.11]	4-61/64 [125.73]	-	-	-
CP6-V8 CP8-V8		2-1/4 [57.15]	4-1/2 [114.3]	2-3/4 [69.85]	6-7/16 [163.51]	5-17/64 [133.6]	-	-	-
CP12-V8 CP16-V8		3-3/8 [85.72]	6-3/4 [171.45]	2-7/8 [73.02]	7-11/16 [195.33]	6 [152.4]	-	-	-
CP2, CP3, CP4	C1 and C2 options	3-1/4 [82.55]	1-11/64 [41.15]	3-1/4 [82.55]	4-5/64 [103.38]	2-15/64 [59.44]	2-49/64 [70.36]	-	-
CN6, CN8		4-1/2 [114.3]	2-1/4 [57.15]	3-35/64 [90.17]	4-39/64 [116.84]	2-3/4 [69.85]	3-3/16 [80.96]	-	-
CP6, CP8		4-1/2 [114.3]	2-1/4 [57.15]	4-3/64 [102.62]	4-59/64 [124.97]	3-3/4 [95.25]	4-3/16 [106.43]	-	-
CN12, CN16		6-3/4 [171.45]	3-3/8 [85.72]	4-1/4 [107.7]	5-55/64 [148.59]	2-7/8 [73.02]	3-1/4 [82.55]	-	-
CP24 CT24		7-3/4 [196.85]	3-7/8 [98.55]	8-29/32 [226]	11-1/8 [282.57]	11-1/8 [282.57]	7-1/2 [190.5]	5-47/64 [146]	7-1/2 [190.5]
CP32 CT32		10-3/4 [273.05]	5-3/5 [136.65]	9-15/32 [240]	12-37/64 [319.48]	12-37/64 [319.48]	9 [228.6]	6-7/16 [163.51]	9 [228.6]
CP2, CP3, CP4	C3 = Conduit box	3-1/4 [82.55]	1-11/64 [41.15]	5-13/32 [137.16]	4-5/64 [103.38]	2-15/64 [59.44]	6-13/32 [162.81]	-	-
CN6, CN8		4-1/2 [114.3]	2-1/4 [57.15]	5-11/16 [144.53]	4-39/64 [116.84]	2-3/4 [69.85]	6-51/64 [172.47]	-	-
CP6, CP8		4-1/2 [114.3]	2-1/4 [57.15]	6-33/64 [165.61]	4-59/64 [124.97]	3-3/4 [95.25]	7-51/64 [198.04]	-	-
CN12, CN16		6-3/4 [171.45]	3-3/8 [85.72]	6 [152.4]	5-55/64 [148.59]	2-7/8 [73.02]	6-55/64 [173.99]	-	-
CP12, CP16		6-3/4 [171.45]	3-3/5 [91.44]	6-7/8 [174.5]	6-9/64 [155.96]	3-3/4 [95.25]	7-51/64 [198.04]	-	-
CT2-CT8		4-1/2 [114.3]	2-1/4 [57.15]	6-3/64 [165.61]	4-59/64 [124.97]	3-3/4 [95.25]	7-51/64 [198.04]	-	-
CT12, CT16		6-3/4 [171.45]	3-3/8 [85.72]	6-23/32 [174.5]	6-9/64 [155.96]	3-3/4 [95.25]	7-51/64 [198.04]	-	-
CP24 CT24		7-3/4 [196.85]	3-7/8 [98.55]	8-29/32 [226]	11-1/8 [282.57]	11-1/8 [282.57]	7-1/2 [190.5]	5-47/64 [146]	7-1/2 [190.5]
CP32 CT32		10-3/4 [273.05]	5-3/5 [136.65]	9-15/32 [240]	12-37/64 [319.48]	12-37/64 [319.48]	9 [228.6]	6-7/16 [163.51]	9 [228.6]
CX8	M7 = Hose barb	3-3/16 [80.77]	6-23/64 [161.54]	2-1/2 [63.5]	2-27/32 [72.14]	4-21/32 [118.27]	3-39/64 [91.69]	-	-
CX2, CX3, CX4	T1 = NPT female thread	1-63/64 [50.29]	3-31/32 [100.84]	2-13/32 [60.96]	4-13/16 [122.17]	4-9/32 [108.71]	3-39/64 [91.69]	-	-
CX6, CX8	T1 = NPT female thread	2-3/8 [60.32]	4-3/4 [120.65]	2-13/32 [60.96]	2-13/16 [71.37]	4-55/64 [123.19]	3-13/16 [96.52]	-	-

USA: California Proposition 65
⚠**WARNING:** This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Dwyer

SERIES CP/CN/CT/CX | U·M·

COOLPOINT® VORTEX SHEDDING FLOWMETER

No Moving Parts, Low Maintenance, Low Pressure Drop, Temperature Sensing Option

The **Series CP/CN/CT/CX CoolPoint® Vortex Shedding Flowmeter** is made for water, water/glycol mixtures, or low viscosity fluids. These units contain no moving parts to clog or wear, allowing for minimal maintenance in the field. This series has two versions: a 3-wire version, where power is supplied separate from the 4-20 mA output, and a 2-wire loop-powered version. The 3-wire version is equipped with a solid state relay that can be configured in the field to be either an alarm or a pulse output, an LED display which allows the user to choose between selectable engineering units (GPM or LPM), and a high temperature option. The alarm on this version is selectable between a high or low alarm (NO or NC) and the pulse output option is set at a frequency at a specific pulses per gallon. The 2-wire option allows for operation in an intrinsically safe mode only when used in conjunction with an approved intrinsic safety barrier meeting required entity parameters. This version does not come with a display or relay contacts to allow for this operation mode.

BENEFITS/FEATURES

- No moving parts to clog or wear
- Easy to set up and read, with menu buttons and bright LED display
- Lower pressure drop compared to other primary flow elements
- Selectable alarm states for increased application flexibility
- Reading unaffected by conductivity, pressure, density, temperature, and viscosity of the fluid
- Long-term stability with no zero-point shift, increasing application longevity
- Selectable engineering units
- Integrated temperature sensing option for additional sensing parameter

APPLICATIONS

- Mining
- Concrete - Fleet management water batching
- Manufacturing
- Steel making
- Power generation
- District heating water and temperature sensing
- Water treatment
- Pulp and paper
- Semiconductor

SPECIFICATIONS

Service: Compatible liquids.
Range: See flow rate chart.
Display: 3-digit or 4-digit LED (pipe sizes > 3″), 0.3″ (7.6 mm) digit height; CP-V8: 3-digit LCD (6-digit LCD totalizer mode), 0.3″ (7.6 mm) digit height.
Wetted Materials: Flow body: 316 SS or brass; Sensor: PEEK; Seals: FKM.
Accuracy: Flow: ±2% FS; Temperature: ±2°F (±0.1°C) (model selectable).
Repeatability: ±0.25% of reading.
Turndown: 10:1 (20:1 optional).
Temperature Limits: 35 to 210°F (2 to 99°C).
Pressure Limits: 10 to 300 psig (0.7 to 20.7 bar); CP flange and CX: 200 psig (20.7 bar) max.
Response Time: 450 ms.
Power Requirements: 10-30 VDC @ 80 mA standard; 25 mA for 2 wire option; CP-V8: 2 AA alkaline batteries, not included (45 day battery life).
Output: 4-20 mA; 100 pulses per gallon (3-wire models only); 2″, 3″, and 4″: 25 pulses per gallon.
Deadband: Alarm output: 2.5% FS for up to 1/2″; 5% FS for larger than 1/2″.
Viscosity: 15 cP max.
Enclosure Rating: NEMA 4X (IP65).
Process Connection: Female NPT, BSPT, or BSPP (model selectable).
Electrical Connection: Male DC micro 5 pin connector; Pigtails or junction box with terminal strip (model selectable).
Weight: CX: 1.5 lb (0.7 kg); CP: 3.3 lb (1.5 kg); CP-V8:4 lb (1.8 kg); CN, CT: 7 lb (3.2 kg).
Compliance: CE, ETL.

MODEL CHART

Example	CP	2		-M1	T1	C1			-W1	CP2-M1T1C1-W1		
Series	CP CN CT									Metal body vortex shedding flowmeter with rotatable display Metal body vortex shedding flowmeter Metal body vortex shedding flowmeter with temperature sensor and rotatable display		
Pipe Size										**GPM**	**LPM**	**Port Size**
		2 3 4 6 8 12 16 24 32								3 6 12 25 50 100 200 300 600	11 23 45 95 190 380 750 1136 2271	1/4″ (8 mm) 3/8″ (10 mm) 1/2″ (15 mm) 3/4″ (20 mm) 1″ (25 mm) 1-1/2″ (40 mm) 2″ (50 mm) 3″ (80 mm) 4″ (100 mm)
Battery Option			- V8							No battery Battery operated		
Material				M1 M2						Brass 316 SS		
Process Connection					T1 T2 T3					NPT female BSPT BSPP		
Electrical Connection						C1 C2 C3 C7 C14				Male 5 pin 3-wire pig tail leads 3.3 ft (1 m) Aluminum conduit box 3-wire pig tail leads with PG7 connector 3.3 ft (1 m) 316 SS conduit box		
Output and Display							-			4-20 mA output with high and low solid state relays		
Orientation								-		Standard display orientation		
Special Options									E14 NIST W1	4-20 mA 2 wire, intrinsically safe NIST traceable calibration certificate 20:1 extended turndown		

RESPONSE TIME VS. FILTER VALUE

Filter Value	Response Time (S)
2	0.9
4	1.4
8	2.3
16	4
32	7.5

MODEL CHART

Model	Description
8140R-ASSY	Intrinsically safe barriers
6241-1M	5 pin female cable 3 ft (1 m)
6241-3M	5 pin female cable 9 ft (3 m)
6241-10M	5 pin female cable 30 ft (10 m)
MDCM-3FP-1M	3 pin female cable 3 ft (1 m)
MDCM-3FP-3M	3 pin female cable 9 ft (3 m)
MDCM-3FP-10M	3 pin female cable 30 ft (10 m)
6242-2M	8 pin female cable 6 ft (2 m)
6242-5M	8 pin female cable 15 ft (5 m)
6242-10M	8 pin female cable 30 ft (10 m)

FLOWRATE

Size	Port Size	Flow Rate GPM	Flow Rate LPM
2	1/4″	3	11
3	3/8″	6	23
4	1/2″	12	45
6	3/4″	25	95
8	1″	50	190
12	1-1/2″	100	380
16	2″	200	750
24	3″	300	1136
32	4″	600	2271

TEMPERATURE SET POINT RANGES

Meter Size	Setpoint Min. °F	Setpoint Min. °C	Setpoint Max. °F	Setpoint Max. °C	Hysteresis °F	Hysteresis °C
All CT models	35	1	200	93	4	2

FLOW SET POINT RANGES

Meter Size	Setpoint Min. GPM	Setpoint Min. LPM	Setpoint Max. GPM	Setpoint Max. LPM	Hysteresis GPM	Hysteresis LPM
1/4″	0.4	1.5	3	12	0.1	0.4
3/8″	0.6	2.3	6	23	-	-
1/2″	1.2	4.5	12	45	-	-
3/4″	3	11	22.5	85	1.2	5
1″	7.5	30	45	170	2.5	9
1 1/2″	15	56	90	341	5	18
2″	30	113	180	682	10	37
3″	40	151	280	1059	15	57
4″	80	302	560	2119	30	114

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⚠ **WARNING:** This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.