

Flow Switch



Model CM-G & CM-S

Switzer data sheet FS-CM-00

Applications

- Fire Sprinkler Alarm System
- Building Maintenance System
- Pumps, Valves, Heat Exchangers
- Assure Flow or leak detection
- Protect pressure pumps from cavitation

Special Features

- General Purpose Application 25 mm to 300 mm Lines
- Water Sprinkler Application 50 mm to 150 mm Lines

Description

The SWITZER Style CM paddle operated flow switches are versatile instruments meant to monitor a wide range of water flow. Simple design and rugged mechanical parts ensure high reliability.

The deflection of the paddle assembly due to velocity of flowing liquid against the restoring force of the range spring through a sealed lever operates the microswitch at a pre-determined flow rate. Total isolation exists between the process medium and the switch mechanism.

The enclosure is protected against ingress of solid particles and from dripping water.

Style CM-G Flow switches are for general purpose use. These are available for line sizes from 25 to 300 mm NB and can be used in a variety of applications to monitor no flow or loss of flow of water.



MODEL CM-G

For style CM-G, 1" screwed process connection is standard.

Style CM-S switches are specifically designed with large diameter flexible paddle for sprinkler applications in fire safety systems and suitable for use in water pipes from 50 mm(2") to 150 mm(6") NB. The actuation can be set as specified in the Range table-2 as per international fire safety practice.

Style CM-S is fixed to the pipe line using a Cast Aluminium saddle and 'U' bolts and nuts (MS Plated).

Other types of flow switches such as BM, HM, HR, FM, PM are available for applications involving aggressive media, Chemical solutions, lube oil, etc., Consult Switzer Sales for details or visit our web-site www.switzerprocess.co.in.

General Specifications

	CM-G — General Purpose	CM-S — Sprinkler Application
Enclosure	Engineering Plastic Cover Weatherproof to IP:33	Engineering Plastic Cover Weatherproof to IP:33
Wetted Parts	Body : Brass Seal : Ph. Bronze Bellows Paddle : 304 SS	Body : Brass Seal : Ph. Bronze Bellows Paddle : LDPE
Process Connection	Screwed 1" BSPTM	Saddle (Aluminium); 'U' Bolts & Nuts (MS)
Line Sizes	25 mm to 300 mm NB	2" (50 mm) to 6" (150 mm) Sch.10 to 40 water pipes
Setting Range	Refer table-1	Refer table – 2
Deadband	10% of max. flow	Refer table – 2
Repeatability	±2% of FSR	±2% of FSR
Max. Line Pressure	10 bar	10 bar
Max. Process Temp.	100°C	100°C
Pressure Loss	Less than 80 mbar at max. flow	Less than 100 mbar at max. flow
Switching	Snap acting SPDT microswitch, 15A, 250 / 125V AC (Res) 0.5A, 125V DC (Res) 0.25A, 250V DC (Res) 1.4A, 24V DC	Snap acting SPDT microswitch, 15A, 250 / 125V AC (Res) 0.5A 125V DC (Res) 0.25A 250V DC (Res) 1.4A, 24V DC
Electrical Connection	22 mm clear entry via grommet	22 mm clear entry via grommet
Orientation (<i>For vertical pipes, flow should be from bottom to top only</i>)	Horizontal / Vertical pipe	Horizontal / Vertical

Ordering Matrix

BASIC CATALOG NO.	_____	CM	_____	_____	_____	_____
APPLICATION						
General Purpose	_____	G	_____	_____	_____	_____
Sprinkler (Fire-Fighting)	_____	S	_____	_____	_____	_____
LINE SIZE						
CM-G Range Table – 1	_____			<input type="checkbox"/>	_____	_____
CM-S Range Table – 2	_____			<input type="checkbox"/>	_____	_____
PROCESS CONNECTION						
CM-G Threaded to 1" BSPTM	_____					TH
CM-S With Cast Al. Saddle, MS 'U' Bolts & Nuts	_____					SD
SWITCHING						
15A 250V AC microswitch (SPDT)	_____					3

Range Table – 1 : General Purpose Application

LINE SIZE NB mm	Paddle Length 'L' mm	Switching Range LPM + 10% FSR				Max. Flow (LPM Water) at Velocity 2M / Sec
		'ON' Falling Flow		'ON' Rising Flow		
		MIN.	MAX.	MIN.	MAX.	
025	35	10	30	16	32	60
032	35	12	50	22	52	100
040	35, 40	14	54	28	58	150
050	35, 50	20	72	40	76	250
065	35, 50, 65	30	110	60	120	400
080	35, 65, 80	55	165	100	170	600
100	35, 65, 80	140	380	220	400	1000
	35, 65, 100	75	265	165	285	
125	35, 65, 80	300	730	420	750	1500
	35, 65, 100	130	390	260	420	
150	35, 65, 80	440	1000	620	1120	2000
	35, 65, 100	150	460	350	500	
200	35, 65, 80	1000	2200	1300	2300	3700
	35, 65, 100	500	1300	900	1500	
250	35, 65, 80	1500	3160	2000	3400	6000
	35, 65, 100	1000	2200	1600	2500	
300	35, 65, 80	2000	4000	2650	4250	8000
	35, 65, 100	1600	2600	2500	3200	

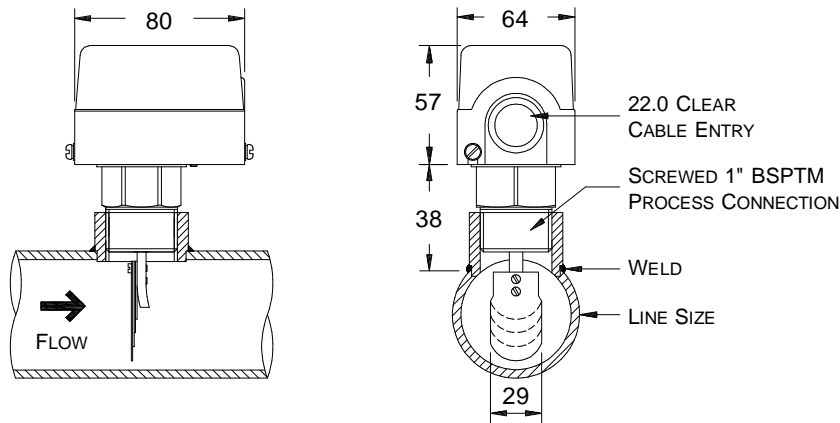
Range Table – 2 : Sprinkler Application *

LINE SIZE in mm (inch)	Switching Range LPM				Deadband
	'ON' Falling Flow		'ON' Rising Flow		
	MIN.	MAX.	MIN.	MAX.	
050, 065, 080 (mm) 2, 2½, 3 (inch)	8	36	15	40	10 to 15
100, 150 (mm) 4, 6 (inch)	15	40	25	50	15 to 20

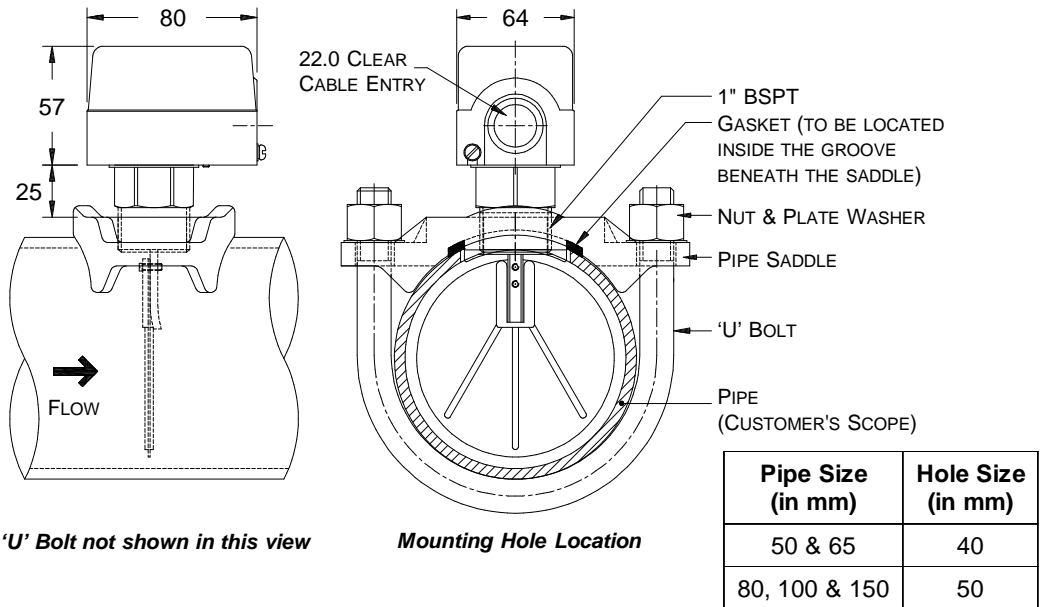
* **Important** : Only one hole of dia 40 mm for 2 & 2½ inch and dia 50 mm for 3, 4 & 6 inch dia pipes need to be drilled on top of the pipe. **No welding or threading required.**

Mounting Dimensions

General Application (Screwed Mounting) – CM-G



Sprinkler Application (Saddle Mounting) – CM-S



All dimensions are in mm

The specifications given in this document represent the state of engineering at the time of publishing. We reserve the right to make modifications to the specifications and materials.



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