

General Specifications

FluidCom™ Model-S2 Chemical Injection Flow Controller

GS 23C01B01-01EN

■ GENERAL

FluidCom Model-S2 (hereafter referred to as FluidCom S2) is a fully automatic chemical injection solution. It can be used for Scale Inhibitor, Corrosion Inhibitor, Emulsion Breaker, Antifoam and a variety of other chemicals. Its primary installation is for Offshore Platforms but can also be used Onshore chemical injection applications. FluidCom S2 solution includes the following four functions: control valve, actuator, flowmeter and controller in one compact enclosure.

This unique patented technology enables FluidCom S2 to autonomous control the injection rate irrespective of the change of chemical properties and fluctuation of reservoir pressure.

FluidCom S2 has minimal moving parts, a simple configuration and self-cleaning capabilities that allow it to be a maintenance free device during operation.

Note: FluidCom S2 must be used with caution in the location and environment and must not be used in any other applications than intended.

■ FEATURES

● Stable Chemical Injection Rate

FluidCom S2 regulates chemical injection by the expansion and contraction of the process tubing which in turn adjusts the control valve movement to adjust the injection rate of the chemical. This process or expansion and contraction is accomplished by controlling the power of an integrated heater which surrounds the process piping. This precise regulation of thermal throttling enables FluidCom S2 to inject a stable volume of chemical which helps to eliminate over/under dosing. This in turn helps users to reduce chemical consumption.

● Maintenance Free Configuration

FluidCom S2 uses minimal mechanical moving parts, therefore, users do not require to keep spare parts for maintenance. Also, FluidCom S2 has a self-cleaning mechanism built in to ensure stable and reliable chemical injection rates.

Note: Make sure particles above 50 µm do not enter FluidCom S2.

● Enhancing Health Safety Environment

FluidCom S2 is a fully autonomous chemical injection solution. Personnel are not required to go out to the chemical injection skid to make adjustments. Thus, personnel will not be exposed to hazardous environments.

■ STANDARD SPECIFICATIONS

■ FUNCTIONAL SPECIFICATIONS

Flow Range

Standard 0.6 – 30.0 L/hr (0.16 – 7.93 gal/hr)

Note: Depending on the thermal property of chemicals, flow range can be expanded to 0.3 – 59.9 L/hr (0.08 – 15.82 gal/hr).



Design Pressure

345 bar (5000 psi)

Operating Temperature

–20°C to +55°C (–4°F to +131°F)

Material Enclosure

AISI 316L SS

Material Wetted Parts

AISI 316 SS/PEEK/FFKM/Ceramic

Power Supply

230 VAC-240 VAC 50/60 Hz

Dimensions and Weight

Ø219 mm x 353 mm, (Ø8.6" x 13.9") 17.5 kg (38.6 lbs)

CE Conformity

EMC Directive:

EN 60945

ATEX Directive:

See "OPTIONAL SPECIFICATIONS (FluidCom S2)"

RoHS Directive:

Directive 2011/65/EU does not apply to this product and is not part of the CE marking.

Note: FluidCom S2 is a product that is specifically designed to be installed and operate within large-scale fixed installations.

RCM Conformity

IEC 60945

Ingress Protection

IP66

Valve Failure Mode

Closed

Interface Pipe Connection

1/4" NPT Female

Communication

Local Display with Push Button

4-20 mA DC output, two-wire transmission with HART (HART7 compliant)

Individual 4-20 mA DC input for set-point

MODEL AND SUFFIX CODES (FluidCom S2)

Model	Suffix Code	Option Code	Description
FLUIDCOM		Chemical Injection Flow Controller
Style	-S2		topside version
Output Singal	-J		4-20 mA DC output with HART7
Analog Input for Flow Setting	1		4-20 mA DC input (for set-point) *1
Flow Range	S		Standard (0.6 - 30.0 L/hr (0.16 - 7.93 gal/hr)) *2
Design Pressure	S		345 bar (5000 psi)
Material Wetted Parts(metal)	-0		AISI 316 SS
Material Wetted Parts(O ring)	0		FFKM
	1		NBR
	2		EPDM
Power Supply	-0		230-240VAC
Process Connections	0		1/4" NPT female
Cable Entry Power	0		M25
Cable Entry Signal	0		M25
Optional Codes		<input type="checkbox"/>	Explosion protedted type*3, Certificate issuance (see optional specifications(FluidCom S2))

Example of MS code: FLUIDCOM-S2-J1SS-02-0000/KE21/HC/MC

*1: For 4-20 mA DC input, DCS I/O card must have isolated channel(s) or isolator(s) must be installed.

*2: Each chemical must be tested to confirm flow range. Refer to "Flow Range" part of the Standard Specifications section for details.

*3: At least one code must be selected.

OPTIONAL SPECIFICATIONS (FluidCom S2)

Explosion Protected Type

Item	Description	Code
ATEX	ATEX Increased safety Applicable Standard: EN 60079-0:2011 +A11:2013, EN 60079-1:2014, EN 60079-7:2015, EN 60079-18:2015 Certificate: Presafe 16ATEX7817 Ex II 2G Ex db eb mb IIB T3 Gb Electrical Data: 230 V AC 50/60 Hz, 1 A, 100 W Degree of protection: IP66 Amb. Temp.: -20 to 55°C (-4 to 131°F)	KE21
IECEX	IECEX Increased safety *4 Applicable Standard: IEC 60079-0:2011, IEC60079-1:2014-06, IEC 60079-7:2014, IEC 60079-18:2015 Certificate: IECEX PRE 17.0029 Ex db eb mb IIB T3 Gb Electrical Data: 230 V AC 50/60 Hz, 1 A, 100 W Enclosure: IP66 Amb. Temp.: -20 to 55°C (-4 to 131°F)	SE21
INMETRO	INMETRO Increased safety Applicable Standard: ABNT NBR IEC 60079-0:2013, ABNT NBR IEC60079-1:2016, ABNT NBR IEC 60079-7:2018, ABNT NBR IEC 60079-18:2016 Certificate: DNV 19.0065 X Ex db eb mb IIB T3 Gb Electrical Data: 230 V AC 50/60 Hz, 1 A, 100 W Amb. Temp.: -20 to 55°C (-4 to 131°F)	UE11
EAC	EAC Increased safety Applicable Standard: GOCT 31610.0-2014 (IEC 60079-0:2011), GOCT IEC 60079-1-2013, GOCT P MЭК 60079-7-2012, GOCT P MЭК 60079-18-2012 Certificate: EAЭC RU C-NO.AA87.B.00409/20 1Ex db e mb IIB T3 Gb Electrical Data: 230 V AC 50/60 Hz, 1 A, 100 W Enclosure: IP66 Amb. Temp.: -20 to 55°C (-4 to 131°F)	GE11
PESO	PESO Increased safety Applicable Standard: IEC 60079-0:2011, IEC 60079-1:2014, IEC 60079-18:2014, IEC 60079-7:2015 Ex eb mb IIB T3 Gb, Ex db eb mb IIB T3 Gb Electrical Data: 230 V AC 50/60 Hz, 1 A, 100 W Enclosure: IP66 Amb. Temp.: -20 to 55°C (-4 to 131°F)	QE11

*4: SE21 is including UAE explosion protection.

● **Certificate Issuance**

Item	Description	Code
Certificate	Hydrostatic pressure test certificate	HC
	Material certificate for wetted parts	MC

■ **MODEL AND SUFFIX CODES (Engineering)**

● **Basic Settings**

FluidCom S2 is required to be calibrated with the chemical which a customer uses in the process. 25 liters of sample chemical must be supplied to our factory by the customer for calibration of FluidCom S2. After conducting calibration, the calibration data will be uploaded to the FluidCom S2, and our factory keeps the calibration data in the database of the factory.

When the customer requires the second unit of FluidCom S2 to be calibrated with the same chemical, factory uploads the calibration data to the second unit from factory database without conducting chemical calibration again.

Model	Suffix Code	Option Code	Description
FC1S2		FluidCom S2 Engineering
Chemical calibration	-C.....		Factory calibration 1 type (Calibrated with chemical supplied by customer)
	-U.....		Calibration data upload 1 type (Calibration data copy service)
Frequency		-0	50 Hz
		-1	60 Hz
Auxiliary		-000	Auxiliary
Optional Codes		/□	Other Special Engineering

Example of MS code:

In case two units of FluidCom are required to be calibrated with the same chemical, following MS codes should be ordered.

1st unit: FluidCom-S2 + FC1S2-C-1-000/MD

2nd unit: FluidCom-S2 + FC1S2-U-1-000/MD

Note:

Maximum eight calibration data can be stored in the FluidCom.

When FluidCom keeps 8 chemical calibration data, the base data will not remain.

In case two or more calibration data are required to be uploaded on a FluidCom, "/Z" must be selected in the end of MS code. And contact our sales representative for details.

Input and output settings are set as follows by default.

- Output Signal: Multidrop disabled (4-20 mA enabled)

- Analog Input: Disabled

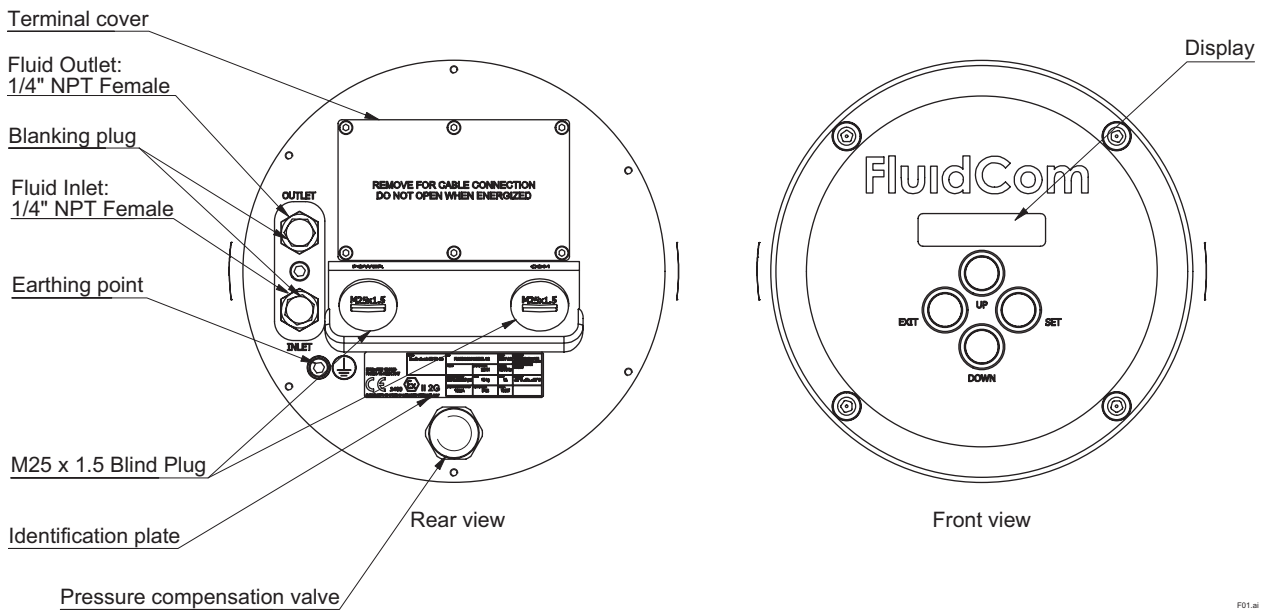
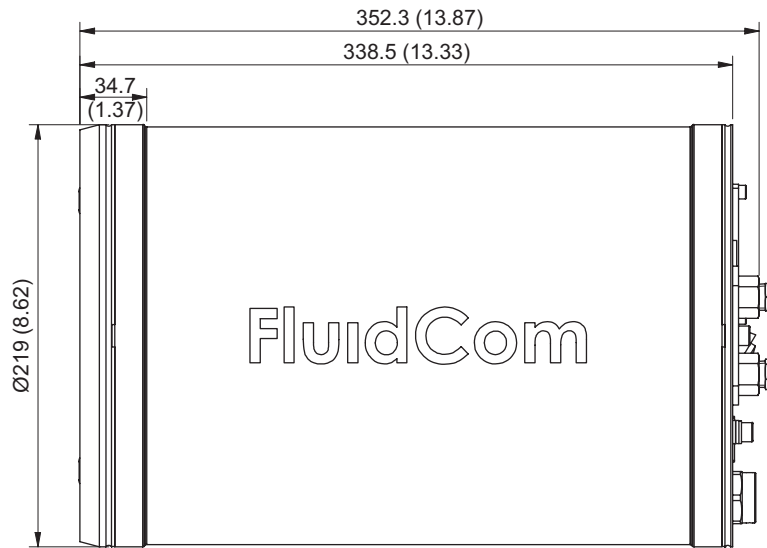
If you want other settings, please specify the option code with MS codes of Basic Settings.

● **Software Settings**

Item	Description	Code
Software Settings	Multidrop enabled (4 mA fixed)	MD
	Analog input enabled	AI

■ DIMENSIONS

Unit: mm (in)



<Information on EU WEEE Directive>

EU WEEE (Waste Electrical and Electronic Equipment) Directive is only valid in the EU.

This instrument is intended to be sold and used only as a part of equipment which is excluded from WEEE Directive, such as large-scale stationary industrial tools, a large-scale fixed installation and so on, and, therefore, subjected to the exclusion from the scope of the WEEE Directive. The instrument should be disposed of in accordance with local and national legislation/regulations.

<Ordering Information >

Specify model, suffix code, and option code when ordering.

<Trademark>

All brand or product names of Yokogawa Electric Corporation in this document are trademarks or registered trademarks of Yokogawa Electric Corporation.

All other company brand or product names in this document are trademarks or registered trademarks of their respective holders.

In this document, trademarks or registered trademarks are not marked with "™" or "®".