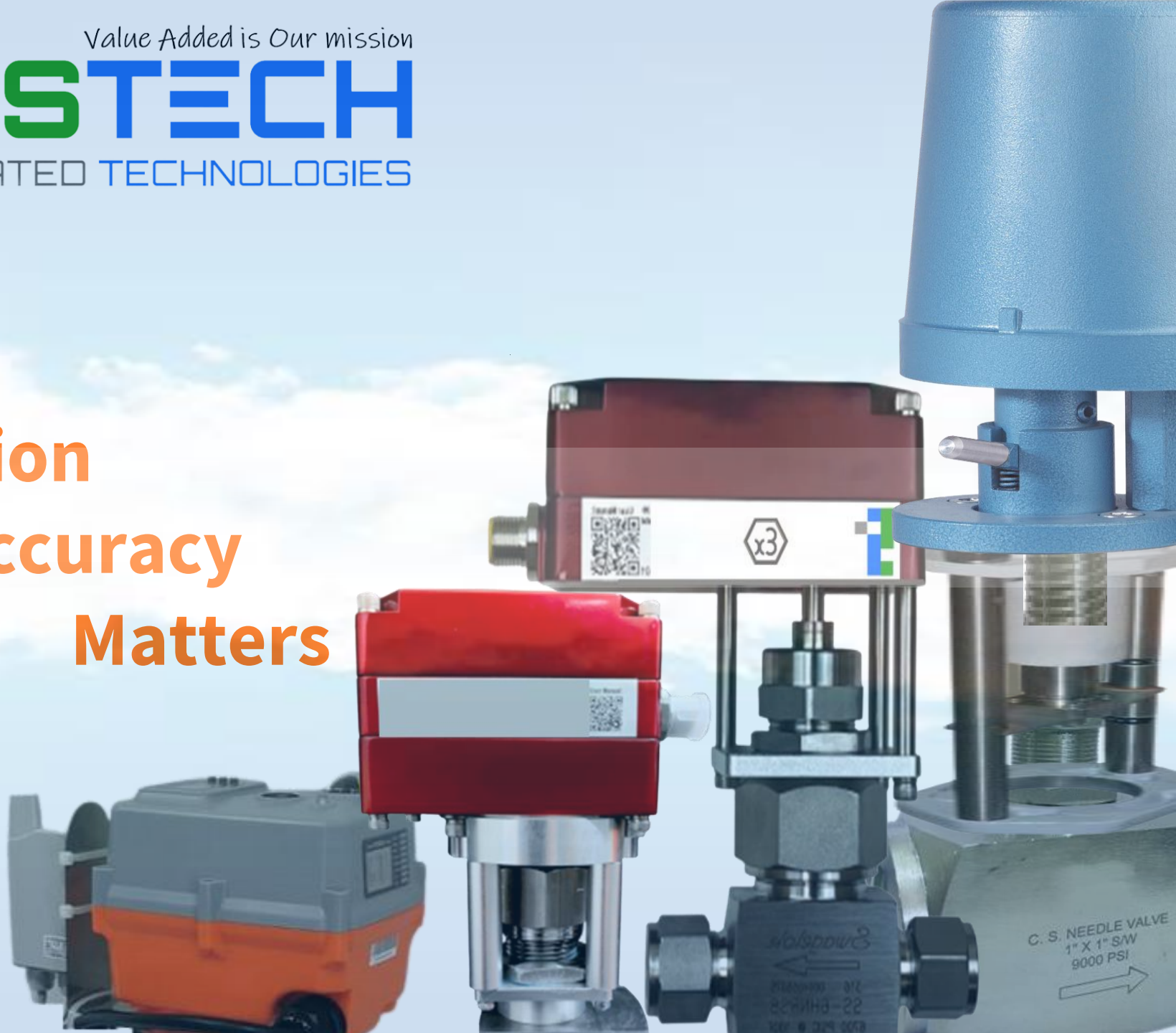


Value Added is Our mission



# When Precision & Accuracy Matters



## FCV Package Fit For Purpose

The electric Control valve offers several advantages including extreme accuracy, high turndown ratios and repeatability. Our solution includes a switch-selectable power supply, a hand drive mechanism for manual operation and a 4-20mA current input signal. Upon loss of input (not loss of power), the motor is designed to either lock in place or fail to minimum input signal position.

Our smart Control Valve solution assembled by valve and actuator and a doubting with brackets fit for deferent needle valve which allow micro flow regulation even at high pressure ,the valve made of 316 stainless steel body .

It is extremely compact motorized valve , whether in the chemical injection system , or in any other application, is reducing the space required for installation due to the reduced dimensions of the assembly



Such Control Valve have limitation for some critical application to adopt micro-flow a small Cv to provide accurate and sensitivity dosing

Our MOV backage solution is with RS 485 & 4-20mA this help for skid control as well remote monitoring Via LoRaWAN

## Micro Flow Control Valve

# THE F- SERIES ACTUATOR



Actuator	TA 70.2	TA 70.3	TA 70.4	TA 70.5
Toque	17 Nm	20 Nm	25 Nm	32 Nm
Operation time 90°	ca. 2 Sek.	ca. 3 Sek.	ca. 6 Sek.	ca. 11 Sek.
Wight	4,6 kg	4,6 kg	4,6 kg	4,6 kg
Motor	24 V/DC	24 V/DC	24 V/DC	24 V/DC
ratend current <i>max.</i>	3,5 A	3,5 A	3,5 A	3,5 A
power <i>max</i>	84 W	84 W	84 W	84 W
Heigth	285 mm	285 mm	285 mm	285 mm
Width	127 mm	127 mm	127 mm	127 mm

## ACTUATOR 70



EC Directive ATEX  
 Ex II 2G EEx d IIC T6

### Advantages:

- ▶ suitable for Zone 1 and Zone 2 equipment category 2G and 3G
- ▶ flameproof enclosure “d“
- ▶ suitable for gases with strongest ignition penetration “C“
- ▶ temperature Class T6 for gases with ignition temperature > 85° C
- ▶ failsafe function on request

The actuator 70 Ex may be installed in areas with potentially explosive atmospheres consisting of gases and vapours with low ignition temperature and strong ignition penetration. The approval for operation in these areas is confirmed by the European ATEX Directive and for the international market by the IECEx Scheme. Every possible electrical spark source is enclosed by a flameproof casing. For maximum corrosion resistance the 70 Ex is available in a stainless steel version. As an option the actuator can be made failsafe by mounting the spring return system TA-FM which opens or shuts the valve in an emergency without power supply.

# Micro Flow Control Valve

# F- SERIES ACTUATOR 70 EX

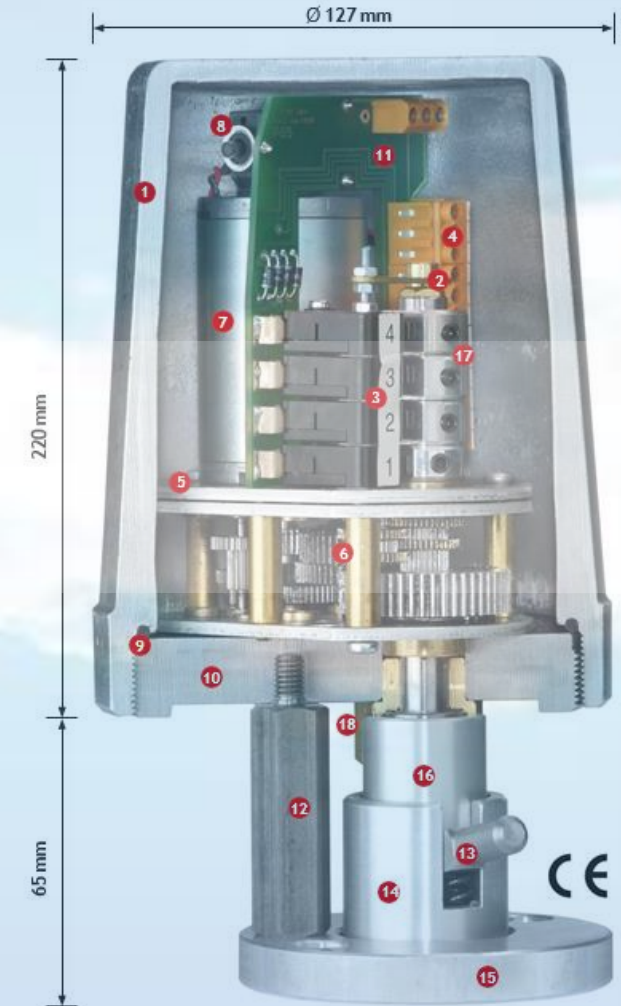
Value Added is Our mission



## ACTUATOR 70

Parameter	Standard	Options
operating mode	open/shut 90°-180° rotation angle	- wiring E 40 for multi-way valves - N x 360° rotation angle for poppet valves - step-control unit E 18 - follow up control unit E 21 - data-bus signal
flange connection	bolt circle according to DIN ISO 5211	mounting fittings according to customer's valve
power supply	24 V DC	- 230 V / 50 Hz - other AC-voltages - other DC-voltages
cable inlet	flying leads	
position indication	cam switches	- potentiometer - transmitter 0-(4)-20 mA

Casing	Standard	Options
material	aluminium	stainless steel
surface finish	TA-blue-finish	- RAL-finish - coated - eloxal coating
protection classification	- IP 65 - Ex II 2G EE x d II C T6	- casing modifications up to IP 68 - Ex d II C T6 (IECEX)



## ACTUATOR 70

 / parts list

- |                                 |                                  |                                 |
|---------------------------------|----------------------------------|---------------------------------|
| <b>1</b> Covering hood          | <b>7</b> E-motor                 | <b>13</b> Hand-lever receptacle |
| <b>2</b> Clamp screw            | <b>8</b> Automatic fuse          | <b>14</b> Casing of coupling    |
| <b>3</b> Microswitches          | <b>9</b> Gasket of covering hood | <b>15</b> Mounting flange       |
| <b>4</b> Connection terminal    | <b>10</b> Lower part of casing   | <b>16</b> Driving bush          |
| <b>5</b> Mounting plate e-motor | <b>11</b> Control PCB            | <b>17</b> Cams                  |
| <b>6</b> Gear                   | <b>12</b> Spacer bolt            | <b>18</b> Cable gland           |

# Micro Flow Control Valve



Value Added is Our mission

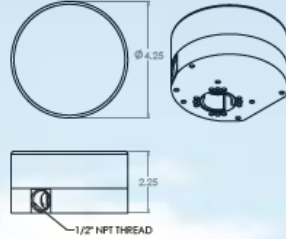
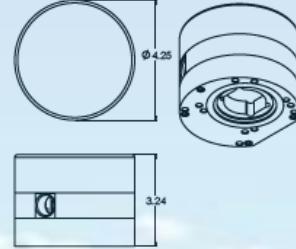
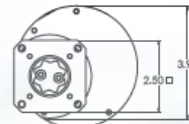
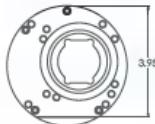
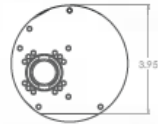
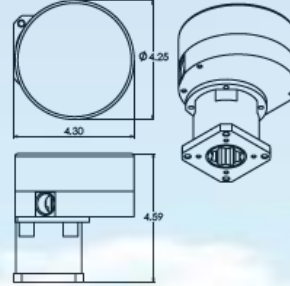


# H-SERIES ACTUATOR

Micro Flow Control Valve

# H-SERIES ACTUATOR

## DIMENSIONS & SPECIFICATION'S

**RxJ / RxL / RxM****RxH****RxF****Description and Specifications:****Enclosure:**

Aluminum die cast anodized or stainless  
 Class I, Div 1 Groups B, C, D/ T6  
 Class II Groups E, F, G/ T6 (85°C)

**Temperature range:**

0 .. 65 °C internal  
 (derate duty cycle at high temp.)

**Ext. temp. range:**

-40 .. 60 °C ( w. Heater option)

**Stall protection:**

Electronic position and motion detection

**Feedback:**

TTL, 4 - 20 mA, Modbus

**Manual Override:**

Optional

**Gears & Bearings:**

Metal and bronze, oiled/greased for life

**External Fasteners:**

Stainless Steel

**Life Expectance:**

250,000 cycles in specified conditions

**Motor:**

Brushless DC motor, computer control

**Voltages/Current:**

12-24 VDC/Max3A  
 110/220 VAC/Max1.5A @ 50/60 Hz

**Positioning precision:** +/- 3 deg for 1/4 & 1/2 turn  
 +/- 0.25 deg for multi turn

**Positioning resolution:** +/- 0.15 deg max.

**Range/ Speed setting:** Dip switches inside enclosure

**Control options:** Analog (4 - 20 mA, 1 - 5 V, 1 - 10 V),  
 Modbus, TTL (on/off)

**End travel detection:** For needle valve, by motion detection

**Power setting:** Adjustable

**Mechanical shock:** Repeated ≤ 130 g - force no effect,  
 occasional ≤ 150 g - force no effect  
 > 150 g - force not tolerated

**Mechanical vibration:** Random SAE J1211, Chassis, Exterior

**Thermal Shock:** -20 °C to + 60 °C 10 min

**Failsafe battery:** LiPo rechargeable battery

**Failsafe spring return:** For specific selected applications

**Weight:** RxJ, RxL, RxM: 980 g  
 RxH, RxF: 1700 g

**RCx Multi-turn models**

Model	Torque range [in-lbs]	Speed range [1 turn in sec]
RCJ	4 .. 16	1 .. 7 *
RCL	12 .. 48	1 .. 7
RCM	35 .. 145	4 .. 23
RCH	120 .. 497	18 .. 90
RCF	230 .. 915	38 .. 186

**RDx ¼ and ½ turn models**

[1/4 turn in sec]

Model	Torque range [in-lbs]	Speed range [1 turn in sec]
RDM	212 .. 247	1 .. 3
RDH	430 .. 532	3 .. 9
RDF	710 .. 1050	5 .. 15

\* De-rate the duty cycle to 25% for the highest torque values

**Note:** speed and torque depend on settings by dip switch of actuator  
 Consult user manuals of individual units. Actuators are set for optimum speed.

**Other Specifications Multi-turn Models:**

**Isolated Signals:** Optical isolation 1000V min  
 [AI and AF models only]

**Feedback 4..20mA:** For sensing resistor of max. 250 ohms.  
 [AF model only]  
 Floats +6VDC / -2VDC from power  
 Gnd

**Position power loss:** Standard: "remembers" position before  
 shut down, will reset valve based on  
 torque setting when the signal is be-  
 tween 3 and 4 mA

**Other Specifications ¼ and ½ turn Models:****RDx-xxxDx5**

TTL Signal in (Control): Float at 5 V, < 1 mA to pull down  
 TTL Signal out (Feedback): 5 V at 2.5 mA max.

**RDx-xxxDx24**

TTL Signal in (Control): Float at 0 V, < 1 mA to pull to 24 V  
 TTL Signal out (Feedback): 24 V at 0.5 A max.

**Certifications:**

IP 68 (60529:2013)

CSA & IECEx Certified Enclosure

ICES-001 ISSUE 5 July 2020

IEC 61000-6-2:2016, IEC 61000-6-4:2018

FCC 47 CFR PART 15 SUBPART B

EN 61326-1:2013 (GROUP 1, CLASS A; Industrial electromagnetic environment)

# Micro Flow Control Valve

# Selected Valve for Micro Control

## Micro Control Metering Valves

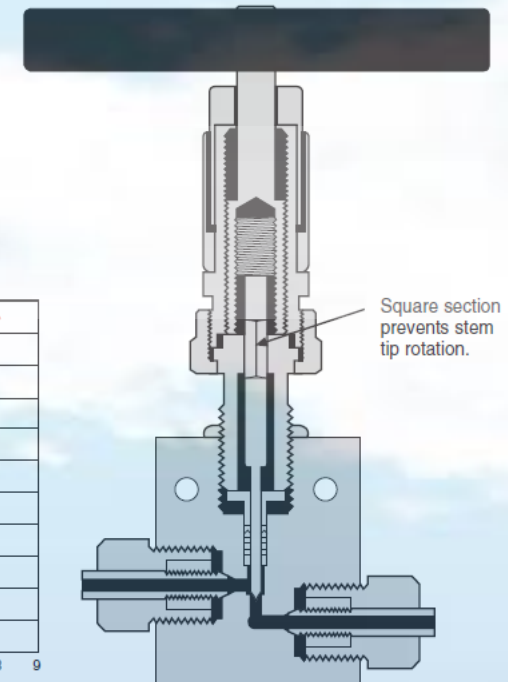
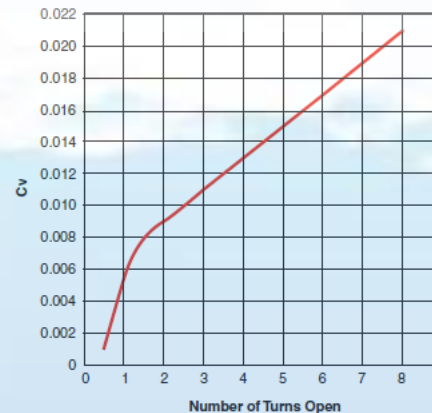
The Micro Control Metering Valve assembly is available for  $\frac{1}{4}$ " ,  $\frac{3}{8}$ " valves in this section. This unique stem design operates on the principle of a right-hand threaded component operating in an opposite direction of motion to a left-hand threaded component.

As the pitch sizes of these threads are different from each other, a very fine and precise stem travel is made possible. This provides exceptional control that is not possible with ordinary fine pitched stem designs.

Each complete revolution of the stem provides 0.005" stem travel. The vernier indicator allows readings in increments of one-tenth of a revolution (0.0005" stem travel).

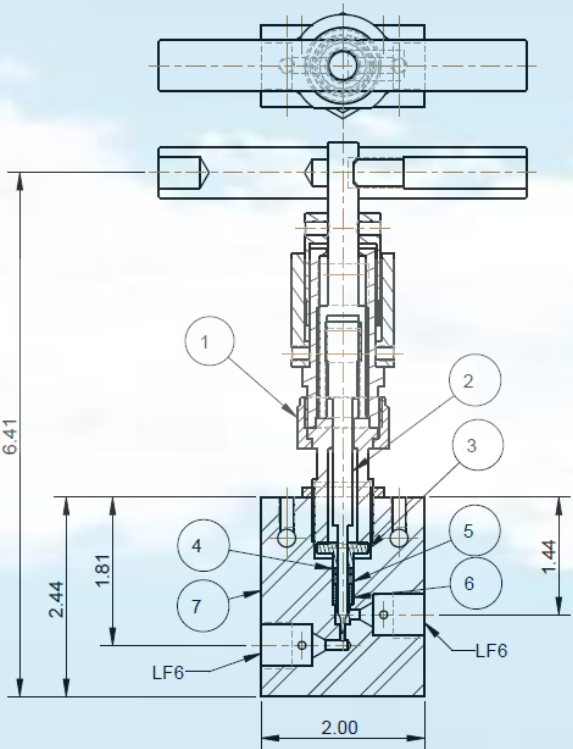
**The non-rotating lower section stem is ground to a 9 degree included angle to insure maximum control. While this valve may be turned to the fully off (closed) position, it is always preferable to provide a separate on-off valve in the system to protect the precise control of the metering valve.**

**When ordering, simply specify the valve catalog number from the valve series and add the suffix "-V" (example: 20-11LF4-V)**



## Micro Flow Control Valve

# Detailed Drawing



BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	PART NO.	MATERIAL
1	1	MICRO CONTROL METERING ASY	400177	
2	1	LOWER STEM	207228	17-4_PH_H900
3	1	TOP PACKING WASHER	200717	416
4	1	PACKING	B00195	TEFLON
5	1	BOTTOM WASHER	200716	316
6	1	SPACER	200718	316
7	1	VALVE BODY	403610	316
8	2	COLLAR	20-2L6	316
9	2	GLAND	20-2LM6	316

PACKING GLAND TORQUE 15 FT LB

20-11LF6-V  
316SS  
20,000 PSI

				DISTRIBUTION OR REPRODUCTION OF THIS DOCUMENT IS PROHIBITED WITHOUT WRITTEN PERMISSION FROM HIGH PRESSURE EQUIPMENT COMPANY	HIGH PRESSURE EQUIPMENT COMPANY ERIE, PENNSYLVANIA USA		
					MICRO CONTROL VALVE		
					DF	2004-10-28	403611
NO.	REVISION	DATE	BY				

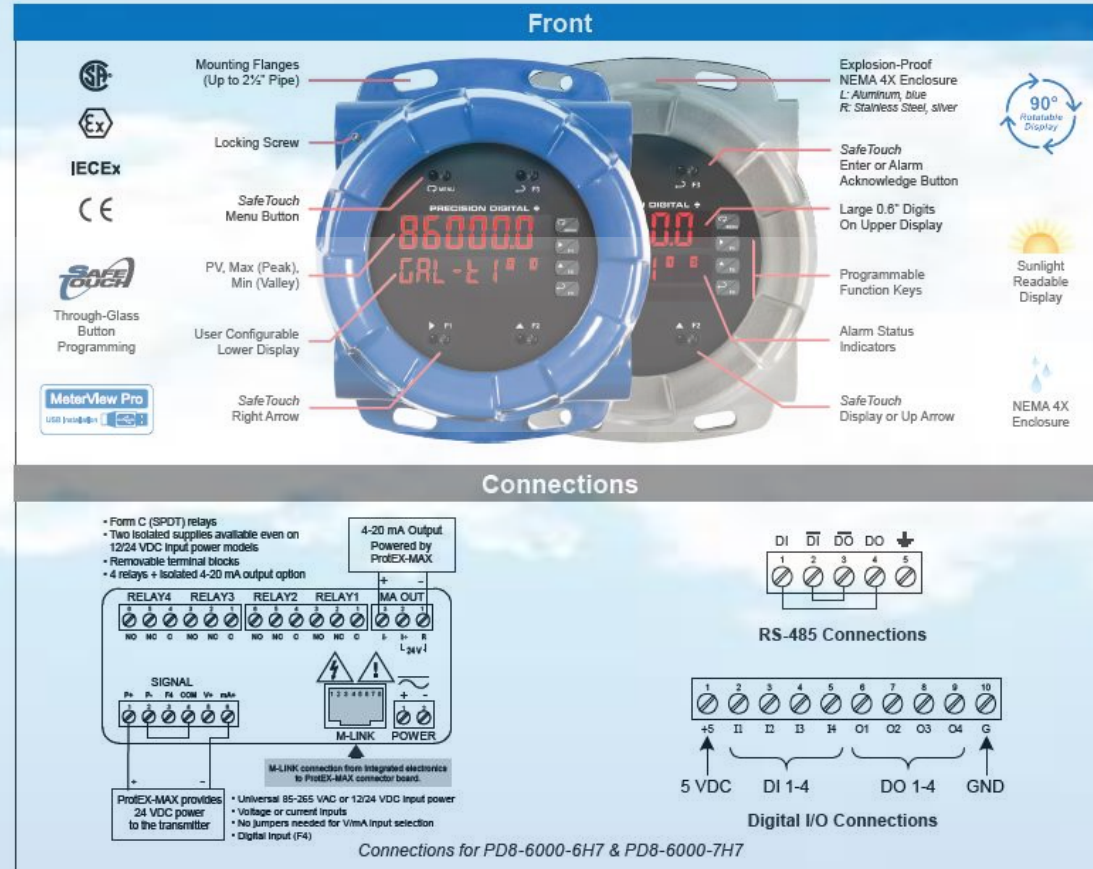
## Micro Flow Control Valve



# The Only Explosion-Proof Process Meter You Will Ever Need

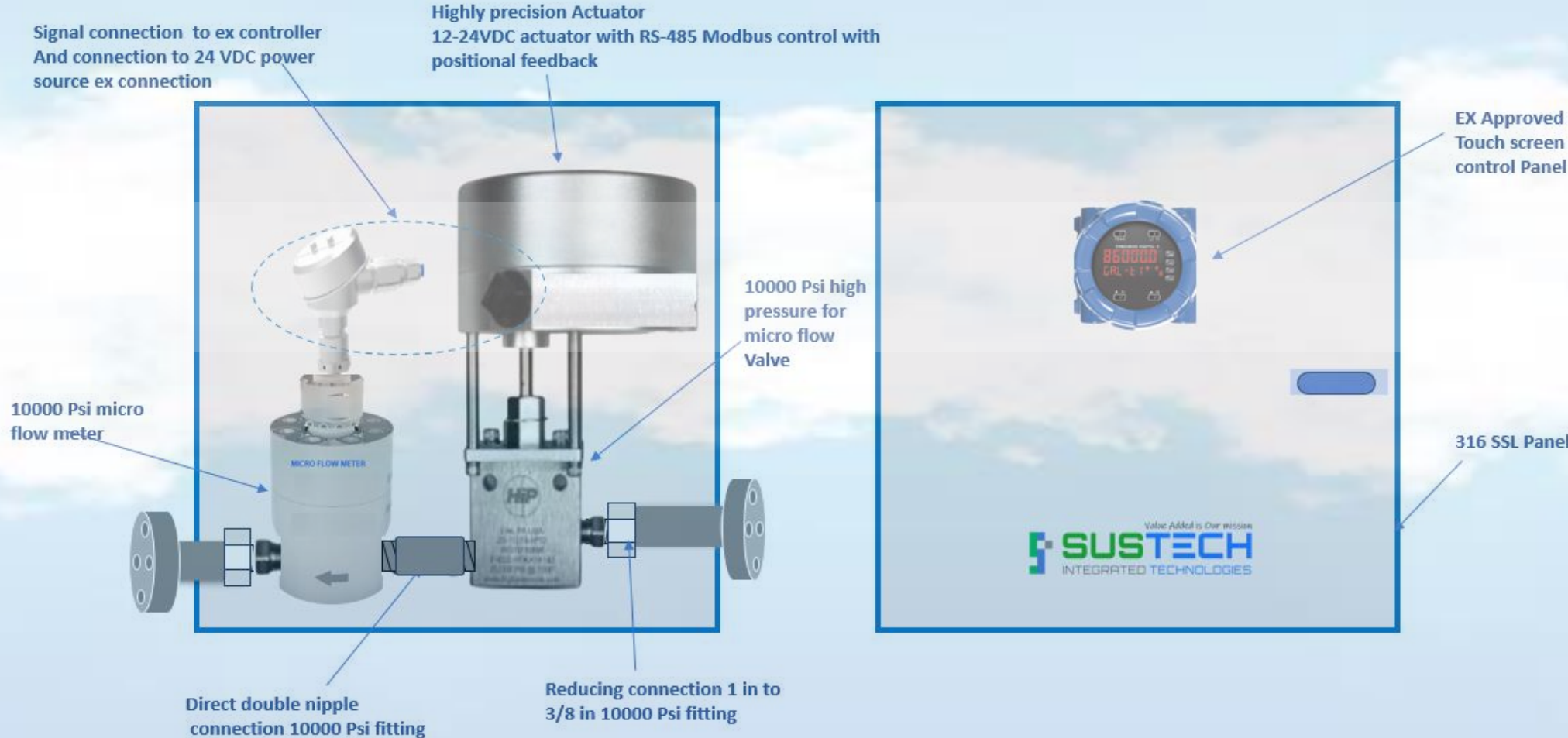


- Fully Approved Explosion-Proof Meter
- 0-20 mA, 4-20 mA, 0-5 V, 1-5 V, and  $\pm 10$  V Field Selectable Inputs with  $\pm 0.03\%$  Accuracy
- Dual-Line 6-Digit Display, 0.6" (15 mm) & 0.46" (12 mm)
- SafeTouch Through-Glass Button Programming
- Display Mountable at 0°, 90°, 180°, & 270°
- Isolated 24 VDC @ 25 mA Transmitter Power Supply
- Easy Field Scaling in Engineering Units without Applying an Input
- 4 Relays with Interlocking Capability + Isolated 4-20 mA Output Option
- Free PC-Based, On-Board, MeterView Pro USB Programming Software
- SunBright Display Standard Feature; Great for Outdoor Applications
- Operating Temperature Range: -55 to 65°C (-67 to 149°F)
- CSA Certified as Explosion-Proof / Dust-Ignition-Proof / Flame-Proof
- ATEX and IECEx Certified as Dust-Ignition-Proof / Flame-Proof
- Input Power Options: 85-265 VAC / 90-265 VDC or 12-24 VDC / 12-24 VAC
- Display Input in Two Different Scales Simultaneously - Great for Level Applications
- Multi-Pump Alternation Control
- Round Horizontal Tank Function; Just Enter Diameter & Length
- 32-Point Linearization, Square Root Extraction and Programmable Exponent Function
- Password Protection
- Programmable Display, Function Keys & Digital Inputs
- Flanges for Wall or Pipe Mounting
- Explosion-Proof Aluminum or Stainless Steel NEMA 4X / IP68 Enclosures
- On-Board RS-485 Serial Communications
- Modbus® RTU Communication Protocol Standard
- Four 3/4" NPT Threaded Conduit Openings
- Pipe Mounting Kits
- Stainless Steel Tag Available
- 3-Year Warranty



# Micro Flow Control Valve

# Complete Package Assembling



## Micro Flow Control Valve

*Value Added is Our mission*



Abu Dhabi Office | Office 101, gate 3, Rabdan Mall, Abu Dhabi

Masdar Office | Accelerator Building, Masdar, Abu Dhabi

P.O Box 7123 | Tel +971 2 626 8774 | E-mail [info@sustechme.com](mailto:info@sustechme.com)

United Arab Emirates