

FINE series PURE
IGS
Integrated Gas System



Excellent, Ultimate, Fine, Clean & Safe Technology

Creating the Future



BLOCK VALVE



MEGA - ONE

MEGA - MINI

BLOCK VALVE

CHECK VALVE

BASE BLOCK

Excellent, Ultimate, Fine, Clean & Safe Technology

Fujikin's IGS (**Integrated Gas System**)
defines cutting-edge flow control technology.





INDEX

IGS

Six Basic Concepts

Six Basic Concepts 3

Assembly of an IGS Panel

Step-By-Step Assembly Procedure 7

IGS Components

MEGA-MINI 9

MEGA-ONE® 10

Block Valves 11

Check Valves 12

Flow Control Valves 13

Flow Control System FCS® 14

Baseblocks 18

Miscellaneous Components

Gaskets 18

Silver-Plated Cap Bolts 18

Special Tools 18

Dimensions

Dimensions 19

Options and Configurations

Options 21

Sample IGS Configurations 22

Six Basic Concepts

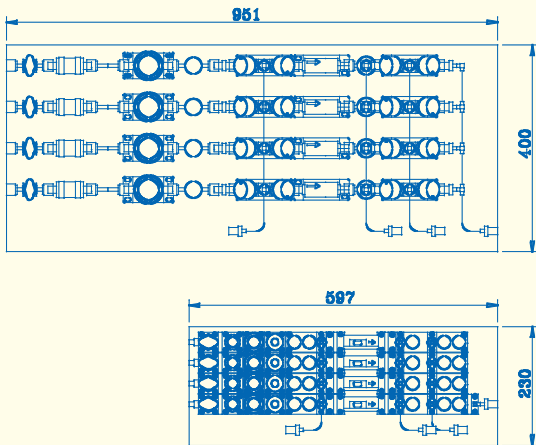
High Performance

■ Safety and Clean Technology

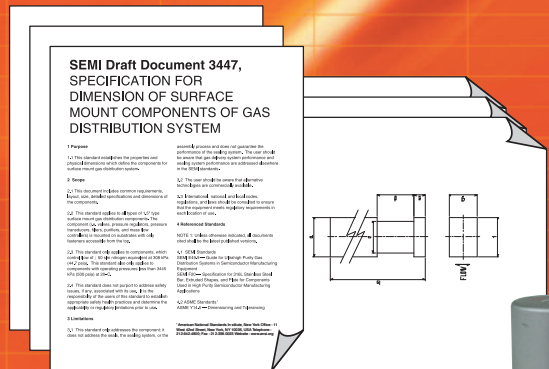
Miniaturization

■ Conventional System vs IGS

- One third the size of conventional gas panels
- Allows for vast reduction in overall equipment size



SEMI Compliant Design



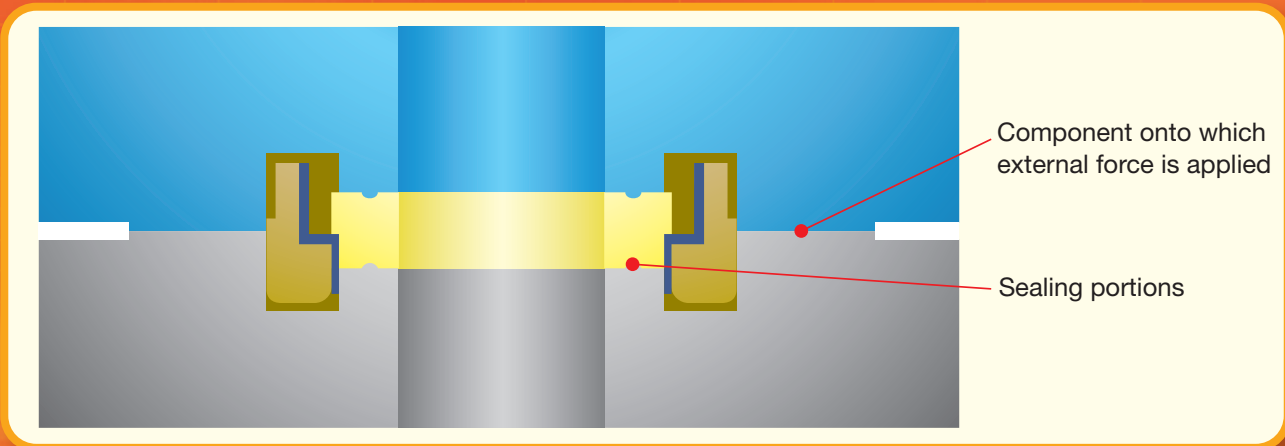
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3

Superior Reliability

■ W-Seal

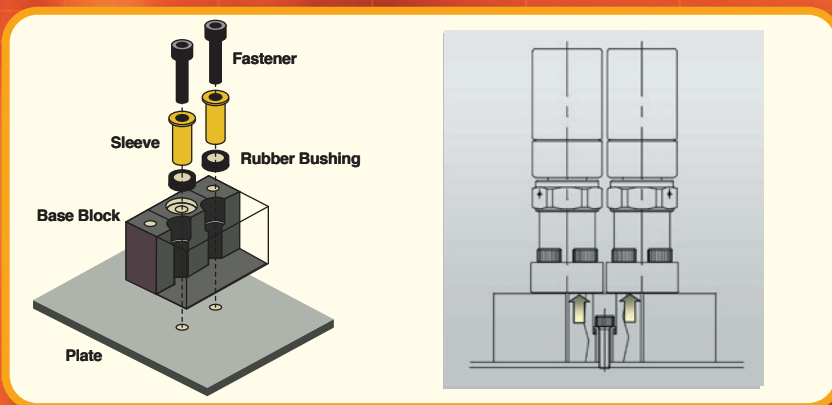
Sealing Faces Independent of Component(s) Receiving External Forces



- Exceedingly reliable against vibration or shock
- Highly dependable sealing integrity with low tightening torque
- Used for SEMI standard F82~F95
- No dead space

■ Leveling System

Unique Mounting Technology Isolates Seal



- IGS baseblocks are completely isolated from the baseplate by means of sleeves and rubber bushings, so the sealing surfaces between the components and the baseblocks are not affected by plate flatness, and a tight seal is therefore always maintained.

■ Silver-Plated Cap Bolts

SUSxM7 bolt material ensures corrosion resistance
Able to endure 100 or more connect/disconnect cycles



- Threads and bearing surfaces of each bolt are silver-plated to prevent galling.

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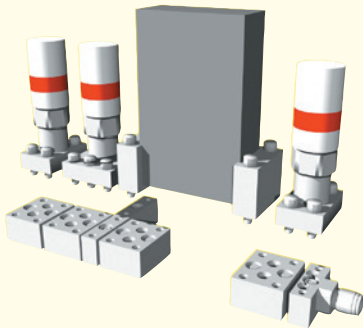
Six Basic Concepts

4

Easy Installation and Maintenance

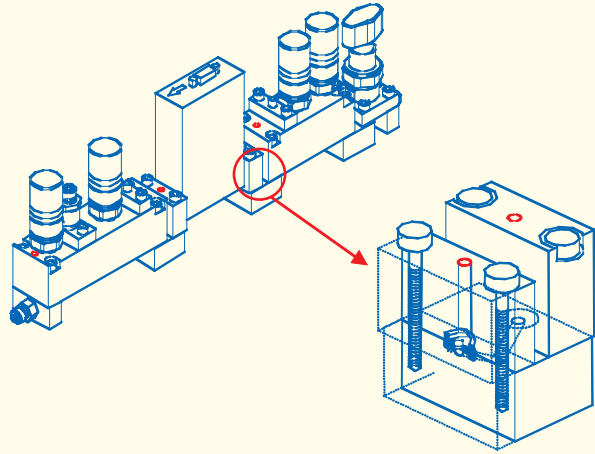
■ Unidirectional Access

Allows for assembly and removal of components in one direction



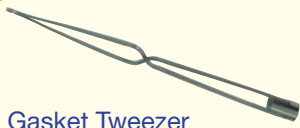
■ Leak Detection Port

All leak detection ports are vertical, enabling leak detection with pinpoint accuracy

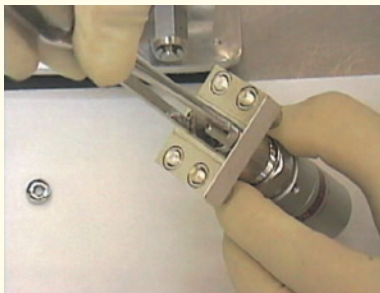


■ Special Tools

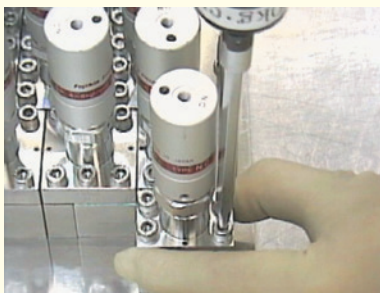
IGS tools are ergonomic, clean, and speed installation while increasing consistency and accuracy



Gasket Tweezer

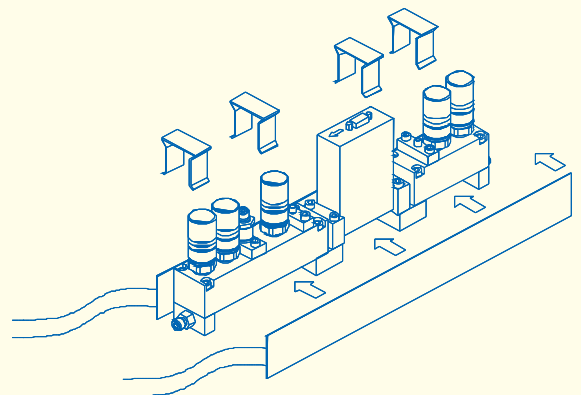
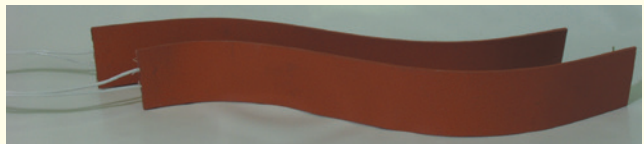


Torque Driver



■ Tape Heater

Simple installation, and allows for uniform fluid temperature control



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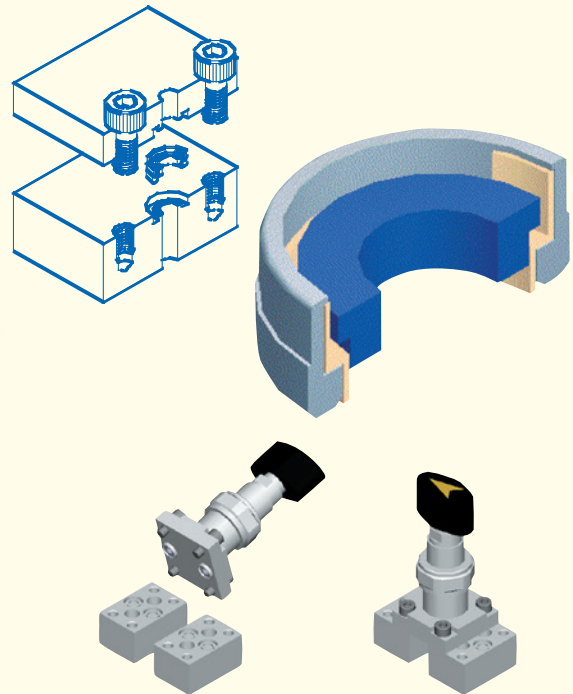
■ Bolt Clenching System

Exclusive clenching system prevents bolts from dropping out during installation or maintenance



■ Gaskets with Guide Rings

Assures precise alignment during installation
Prevents scratching of the seal surfaces



5

Standardization

■ Standardization and consolidation of common components enable intuitive and highly flexible designs

6

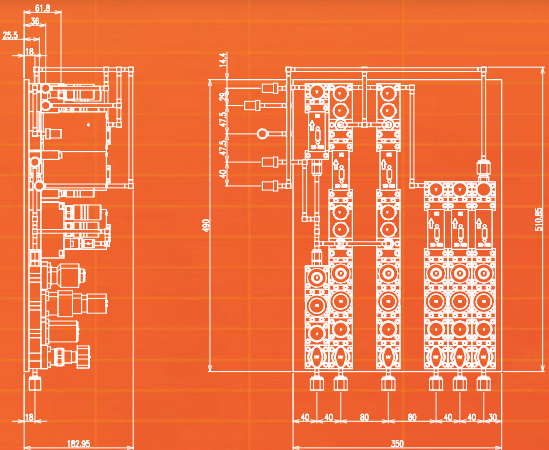
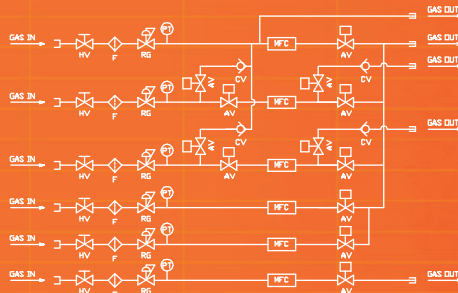
Cost Reduction

■ Cost savings are realized through inventory reduction, standardization, and speedy assembly

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STEP 1 Design Phase

Starting with a flow schematic, an arrangement drawing and substrate layout are created.



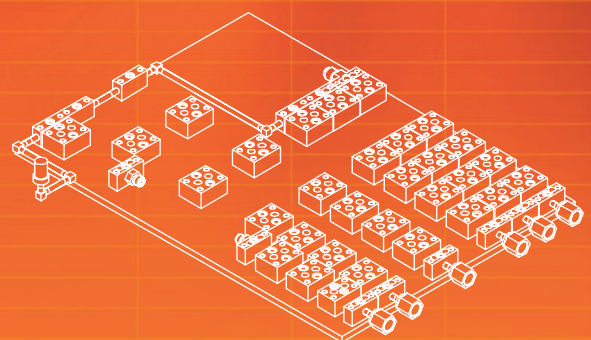
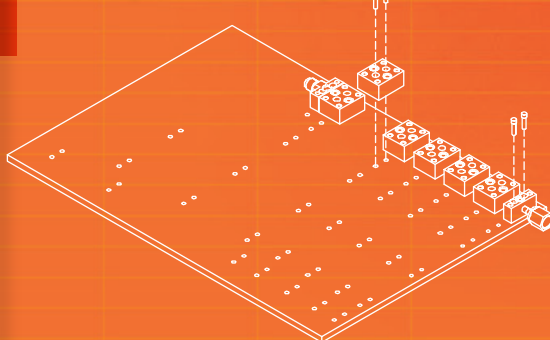
Assembly of an IGS Panel

STEP 2 Procurement

Component manufacturer(s) are selected; components are procured. Sheet metal for base is concurrently procured.

STEP 3 Substrate Assembly

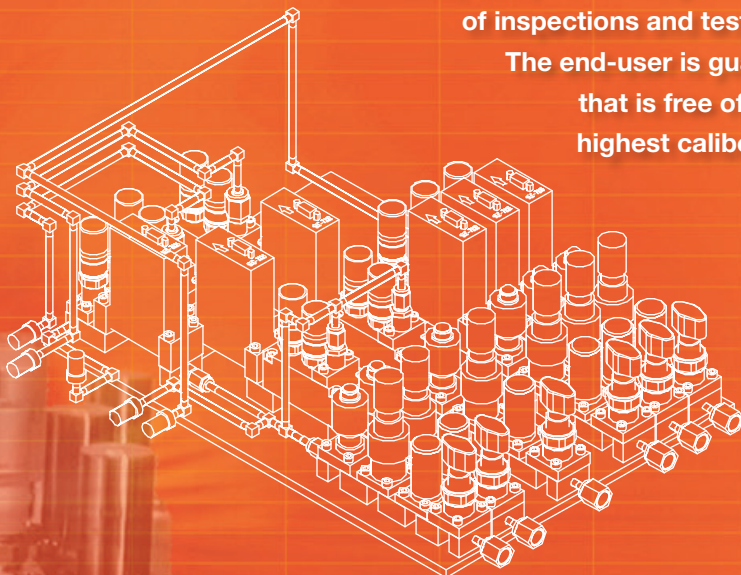
Substrate alignment jigs perfectly locate baseblocks; complicated installation techniques are not required.



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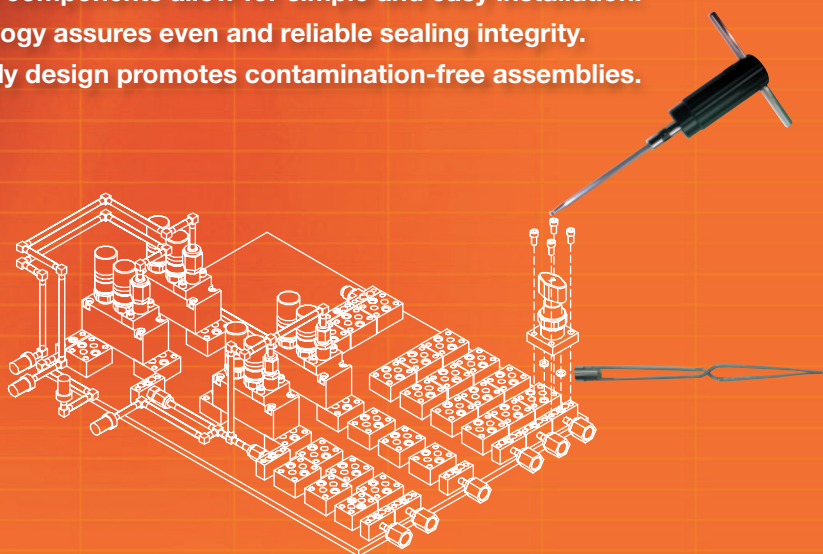
STEP 5 Inspection and Test

Every IGS panel undergoes a rigorous regimen of inspections and test prior to shipment. The end-user is guaranteed a product that is free of defects and of the highest caliber of workmanship.



STEP 4 Component Assembly

Surface-mount components allow for simple and easy installation. W-Seal technology assures even and reliable sealing integrity. Neat and orderly design promotes contamination-free assemblies.



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IGS Valves-MEGA-MINI

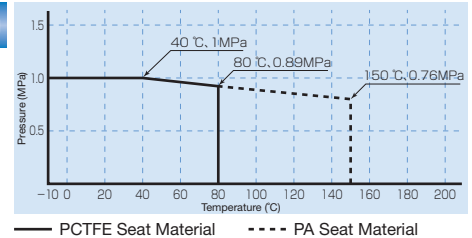
Specification	Maximum Operating Pressure	Fluid Temperature	Actuation Details		
			Supply Pressure	Supply Air Connection	Actuator Mode
	1 MPa 145 psi	-10~+80 °C -14~+176 °F	0.39~0.59 MPa 56~85 psi	M5	Normally Closed Normally Open

● All valves are helium leak-tested (vacuum method, actual value). Inboard Leakage: 5×10^{-12} Pa·m³/sec, Seat Leakage: 5×10^{-12} Pa·m³/sec


Materials	Parts	Materials
	Body	SUS 316L (Double-Melt)
	Diaphragm	Ni-Co Alloy
	Seat	PCTFE *


*PA (FPA) optionally available

Temperature/Pressure Rating



Surface Finish ■ UP treatment is applied to all wetted components.
Surface finish to exceed 0.7 μm Ry / 0.1 μm Ra.

Manually-Operated Valves	Seal Size	Cv	Ports	Model Numbers
	6.35	0.1	2-Ports	FUSDAL-21-6.35UGF-APD
			3-Ports	FUSDALT-21-6.35UGF-APD

Pneumatic Valves	Seal Size	Cv	Actuator	Ports	Model Numbers
	6.35	0.1	NC	2-Ports	FPR-SDA-21-6.35UGF-APD#B
				3-Ports	FPR-SDAT-21-6.35UGF-APD#B
			NO	2-Ports	FP-SDA-21-6.35UGF-APD#B
				3-Ports	FP-SDAT-21-6.35UGF-APD#B

IGS Valves-MEGA-ONE®

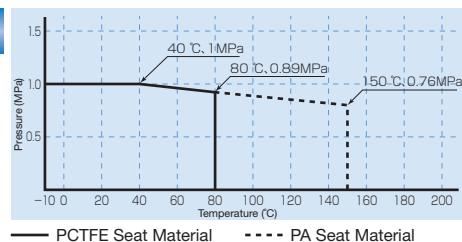
Specification	Maximum Operating Pressure	Fluid Temperature	Actuation Details		
			Supply Pressure	Supply Air Connection	Actuator Mode
	1 MPa 145 psi	-10~+80 °C -14~+176 °F	0.39~0.59 MPa 56~85 psi	Rc1/8	Normally Closed Normally Open

● All valves are helium leak-tested (vacuum method, actual value). Inboard Leakage: 5×10^{-12} Pa·m³/sec, Seat Leakage: 5×10^{-12} Pa·m³/sec


Materials	Parts	Materials
	Body	SUS 316L (Double-Melt)
	Diaphragm	Ni-Co Alloy
	Seat	PCTFE *


*PA (FPA) optionally available

Temperature/Pressure Rating



Surface Finish ■ UP treatment is applied to all wetted components.
Surface roughness is Ra 0.1 µm or less.

Manually-Operated Valves	Seal Size	Cv	Ports	Model Numbers
	6.35	0.2	2-Ports	FUDDFL-21-6.35UGF-APD
			3-Ports	FUDDFLT-21-6.35UGF-APD
	9.52	0.25	2-Ports	FUDDFL-21-9.52UGF-DRZ
			3-Ports	FUDDFLT-21-9.52UGF-DRZ

Pneumatic Valves	Seal Size	Cv	Actuator	Ports	Model Numbers
	6.35	0.2	NC	2-Ports	FPR-UDDFA-21-6.35UGF-APD#B
				3-Ports	FPR-UDDFAT-21-6.35UGF-APD#B
			NO	2-Ports	FP-UDDFA-21-6.35UGF-APD#B
				3-Ports	FP-UDDFAT-21-6.35UGF-APD#B
	9.52	0.25	NC	2-Ports	FPR-UDDFA-21-9.52UGF-DRZ#B
				3-Ports	FPR-UDDFAT-21-9.52UGF-DRZ#B
			NO	2-Ports	FP-UDDFA-21-9.52UGF-DRZ#B
				3-Ports	FP-UDDFAT-21-9.52UGF-DRZ#B

IGS Valves-Block Valves

Specification	Maximum Operating Pressure	Fluid Temperature	Actuation Details		
			Supply Pressure	Supply Air Connection	Actuator Mode
	1 MPa 145 psi	-10~+80 °C -14~+176 °F	0.39~0.59 MPa 56~85 psi	M5 Rc1/8	Normally Closed Normally Open

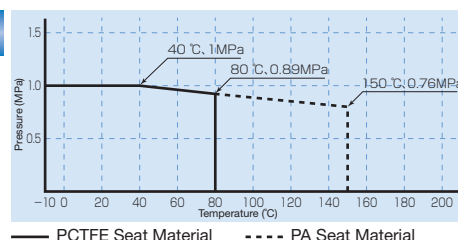
● All valves are helium leak-tested (vacuum method, actual value). Inboard Leakage: 5×10^{-12} Pa·m³/sec, Seat Leakage: 5×10^{-12} Pa·m³/sec

Materials	Parts	Materials
	Body *	SUS 316L (Double-Melt)
	Diaphragm *	Ni-Co Alloy
	Seat *1*	PCTFE

*1: PA (FPA) optionally available

*: Wetted parts

Temperature/Pressure Rating



Surface Finish ■ UP treatment is applied to all wetted components.
Surface roughness is Ra 0.1 μm or less.

MEGA-MINI	Seal Size	Cv	Flow Path	Actuator			Model Numbers
				A	B	C	
	6.35	0.1		NC	NC		FBSDAL-6.35UGF-2B3-DTP#B
				NC	NO		FBSDAL-6.35UGF-2B3-DTW#B
				NO	NC		FBSDAL-6.35UGF-2B3-DTX#B
				NO	NO		FBSDAL-6.35UGF-2B3-DWR#B
	6.35	0.1		NC	NC	NC	FBSDAL-6.35UGF-3B4-DTP#B
				NC	NC	NO	FBSDAL-6.35UGF-3B4-DTR#B
				NC	NO	NC	FBSDAL-6.35UGF-3B4-DTS#B
				NO	NO	NC	FBSDAL-6.35UGF-3B4-DWU#B
				NO	NO	NO	FBSDAL-6.35UGF-3B4-DWR#B

MEGA-ONE®	Seal Size	Cv	Flow Path	Actuator			Model Numbers
				A	B	C	
	6.35	0.2		NC	NC		FBDAL-6.35UGF-2B3-DTP#B
				NC	NO		FBDAL-6.35UGF-2B3-DTW#B
				NO	NC		FBDAL-6.35UGF-2B3-DTX#B
				NO	NO		FBDAL-6.35UGF-2B3-DWR#B

IGS Valves-Check Valves

Diaphragm Check Valves for Process Lines

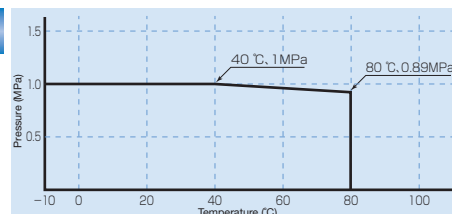
Specification	Diameter	Maximum Operating Pressure	Fluid Temperature	Maximum Cv	Crack Pressure	Close Pressure
	6.35	1 MPa 145 psi	-10~+80 °C -14~+176 °F	0.2	2.26 KPa	0.01 MPa Minimum

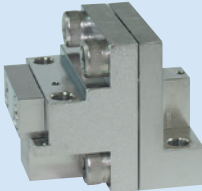
● All valves are helium leak-tested (vacuum method, actual value). Inboard Leakage: 5×10^{-12} Pa·m³/sec, Seat Leakage: 5×10^{-12} Pa·m³/sec

Materials	Parts	Materials
	Body *	SUS 316L (Double-Melt)
	Diaphragm *	SUS316L
	Seat* ¹ *	FPM

*1: Chloroprene rubber, silicon rubber, ethylene-propylene, Kalrez® optionally available
*: Wetted parts

Temperature/Pressure Rating



Diaphragm Check Valves	Seal Size	Cv	Model Number
	6.35	0.2	FUCDF-21-6.35UGF- *-AKH

If a seat material other than FPM is required, insert one of the following designations where indicated by “*”, otherwise leave blank:
CR (chloroprene rubber), SI (silicon rubber), ER (ethylene-propylene rubber), KA (Kalrez®).

Spring-Loaded Check Valves for Purge Lines

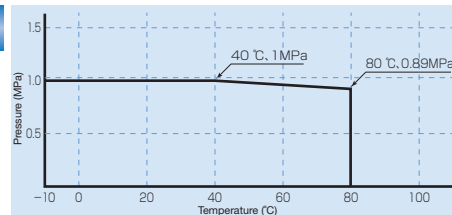
Specification	Nom.Dia.	Maximum Operating Pressure	Fluid Temperature	Maximum Cv	Crack Pressure	Close Pressure
	6.35	1 MPa 145 psi	-10~+ 80 °C -14~+176 °F	0.35	2.26 KPa	0.0294 MPa Minimum




● All valves are helium leak-tested (vacuum method, actual value). Inboard Leakage: 5×10^{-12} Pa·m³/sec Seat Leakage: 5×10^{-12} Pa·m³/sec

Materials	Parts	Materials
	Body	SUS316L (Double-Melt)
	Disk	SUS316
	Seat	FPM *
	Spring	SUS316WPA
	Gasket	SUS316

*: Chloroprene rubber, silicon rubber, ethylene-propylene, Kalrez® optionally available

Temperature/Pressure Rating



Spring Check Valves	Seal Size	Flow Direction	Model Numbers
	6.35	 UPG® Fitting Side	FUCL-71-6.35UGX6.35UGF-0.023- *-DTP
		 Block Side	FUCL-21-6.35UGFX6.35UG-0.023- *-DTP

If a seat material other than FPM is required, insert one of the following designations where indicated by “*”, otherwise leave blank:
CR (chloroprene rubber), SI (silicon rubber), ER (ethylene-propylene rubber), KA (Kalrez®).
Kalrez® is a registered trademark of Dupont Dow Elastomers.

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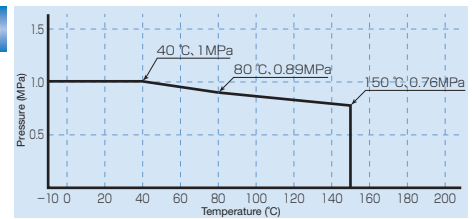
IGS Valves-Metering Valves

Specification	Nom.Dia.	Maximum Operating Pressure	Fluid Temperature	Maximum Cv	Orifice Diameter
	6.35	1 MPa 145 psi	-10~+80 °C -14~+176 °F	0.065	2.5
				0.03	1.0


● All valves are helium leak-tested (vacuum method, actual value). Inboard Leakage: 5×10^{-12} Pa·m³/sec, Seat Leakage: 5×10^{-12} Pa·m³/sec

Materials	Parts	Materials
	Body	SUS 316L (Double-Melt)
	Diaphragm	Ni-Co Alloy
	Seat	A6063B

Temperature/Pressure Rating



Surface Finish ■ UP treatment is applied to all wetted components.
Surface finish to exceed 0.7 μm Ry / 0.1 μm Ra.

Metering Valves	Seal Size	Cv	Ports	Model Numbers
	6.35	0.065	2-Ports	FUSDM-21M *-6.35UGF-APD
			3-Ports	FUSDMT-21M *-6.35UGF-APD
		0.03	2-Ports	FUSDM-21M *-6.35UGF-S-APD
			3-Ports	FUSDMT-21M *-6.35UGF-S-APD

If a cap is required, insert "C" where indicated by "*", otherwise leave blank

Flow Control System FCS®

Model with PI function FCS-T1000 MP Series



Main Functions • Specifications

Metal	F.S.	PI	MGMR	Analog Control	Digital Control	EP	Meters
Rubber	S.P.			±15 V drive, 0-5 VDC +24 V drive, 0-5 VDC +24 V drive, 4-20 mA	RS485 DeviceNet™ EtherCAT® PROFIBUS	(optional)	

Note: Not correspond to the specification of the mark. XXX

Features

● Pressure Insensitive (PI)

The pressure sensor integrated into the main unit incorporates its own control algorithm to eliminate the effects of sudden primary pressure fluctuation on actual flow.

● Multi Gas/Multi Range (MGMR)

Users may change gas and full-scale flow rate easily with 8 flow rates ranging from 10 SCCM to 50 SLM.

● Hastelloy Sensor

Improved corrosion resistance against halogen gas.

● High Flow Rate Accuracy

±1.0% S.P. (25-100%)

Specifications

Model Numbers	FCST1005MPF(C)	FCST1030MPF(C)	FCST1050MPF(C)
Flow Rate Range (N2 equivalent)	Bin1: 10 - 30 SCCM Bin2: 31 - 100 SCCM Bin3: 101 - 300 SCCM Bin4: 301 - 1,000 SCCM Bin5: 1,001 - 3,000 SCCM	Bin6: 3,001 - 10,000 SCCM Bin7: 10,001 - 30,000 SCCM	Bin8: 30,001 - 50,000 SCCM
Seal	Metal Seal		
Valve Type	N/O: Normally Open, N/C: Normally Closed		
Controlled Volume Range	2 - 100 % F.S.		
Flow Accuracy	±1.0 % S.P. (25-100 %), ±0.25 % F.S. (2-25 %) (Accuracy guaranteed between 15-35 °C)		
Repeatability	±0.2% F.S.		
Response Time *	≤1 sec		
Required Differential Pressure	50 - 300 kPa (Ar: 100 - 300 kPa)	N/O 100 - 300 kPa (Bin6) 150 - 300 kPa (Bin7) N/C 100 - 300 kPa (Bin6, 7) (Ar: 200 - 350 kPa)	200 - 300 kPa (Ar: 250 - 450 kPa)
MAX. Operating Pressure	400 kPaG (Ar: 500 kPaG)		
Guaranteed Operating Temperature Range	5 - 50°C		
Communication	Analog: 0-5 VDC (Supply Power Voltage: ±15 VDC) Digital: RS485, DeviceNet™, EtherCAT®		

*: Response time refers to the time to reach from minimum flow rate to ±2% F.S. of setting flow rate.

Note 1: At Fujikin, flow rates (SCCM, SLM) are converted to values at 0 °C and 101.3kPa abs. (1 atm) for calibration.

The latest catalog can be downloaded from
URL: http://www.fujikin.co.jp/support/pdf/732-01_pure_igs_eng.pdf.

Flow Control System FCS®

MGMR Model FCS-T1000Z Series



Main Functions · Specifications

Metal	F.S.	PI	MGMR	Analog Control	Digital Control	EP	Meters
Rubber	S.P.			±15 V drive, 0-5 VDC	RS485	(Metal only)	Optional
				+24 V drive, 0-5 VDC	DeviceNet™		
				+24 V drive, 4-20 mA	EtherCAT®		
					PROFIBUS		

Note: Not correspond to the specification of the mark. XXX

Features

- **Multi Gas/Multi Range (MGMR)**
Users may change gas and full scale flow rate easily with 8 flow rate ranging from 10 SCCM to 50 SLM.
- **Hastelloy Sensor**
Improved corrosion resistance against halogen gas.
- **High Flow Rate Accuracy**
±1.0 % S.P. (25-100%)

Specifications

Model Numbers	FCST1005(M)ZF(C)	FCST1030(M)ZF(C)	FCST1050(M)ZF(C)
Flow Rate Range (N2 equivalent)	Bin1: 10 - 30 SCCM Bin2: 31 - 100 SCCM Bin3: 101 - 300 SCCM Bin4: 301 - 1,000 SCCM Bin5: 1,001 - 3,000 SCCM	Bin6: 3,001 - 10,000 SCCM Bin7: 10,001 - 30,000 SCCM	Bin8: 30,001 - 50,000 SCCM
Seal	Metal Seal, Rubber Seal		
Valve Type	N/O: Normally Open, N/C: Normally Closed		
Controlled Volume Range	2 - 100 % F.S.		
Flow Accuracy	±1.0 % S.P. (25-100 %), ±0.25 % F.S. (2-25 %) (Accuracy guaranteed between 15-35°C)		
Repeatability	±0.2 % F.S.		
Response Time *	≤1 sec		
Required Pressure Difference	50 - 300 kPa (Ar: 100 - 300 kPa)	N/O 100 - 300 kPa (Bin6) 150 - 300 kPa (Bin7) N/C 100 - 300 kPa (Bin6, 7) (Ar: 200 - 350 kPa)	200 - 300 kPa (Ar: 250 - 450 kPa)
MAX. Operating Pressure	400 kPaG (Ar: 500 kPaG)		
Guaranteed Operating Temperature Range	5 - 50°C		
Communication	Analog: 0-5 VDC (Supply Power Voltage: ±15 VDC), 0-5 VDC (Supply Power Voltage: +24 VDC), 4-20 mA (Supply Power Voltage: +24 VDC) Digital: RS485, DeviceNet™, EtherCAT® (Metal Seal only)		

*: Response time refers to the time to reach from minimum flow rate to ±2% F.S. of setting flow rate.

Note 1: Specifications are for MFC. Please inquire for the specifications of the Mass Flow Meter.

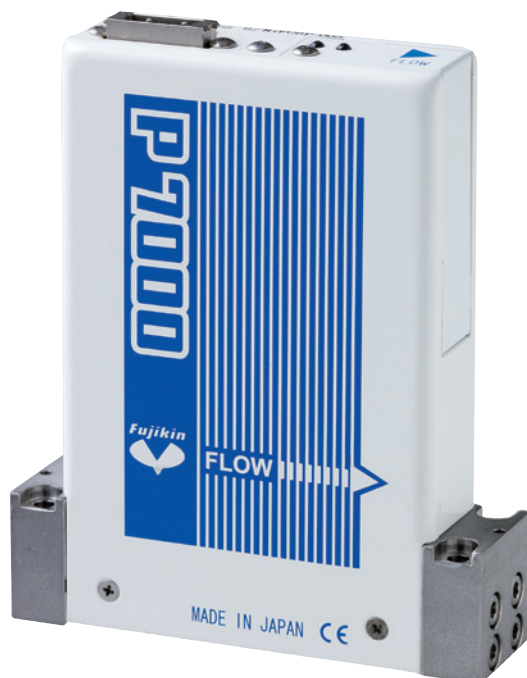
Note 2: At **Fujikin**, flow rates (SCCM, SLM) are converted to values at 0 °C and 101.3kPa abs. (1 atm) for calibration.

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URL: http://www.fujikin.co.jp/support/pdf/732-01_pure_igs_eng.pdf.

Flow Control System FCS®

High Performance Standard Model FCSP7000 Series

RoHS



Features

- **Operating Principle**
Critical Expansion Conditions
[P_1 (Supply Pressure) \geq approx. $2P_2$ (Output Pressure),
 $Q=K_1P_1$ ($K_1=\text{const.}$)]
- **Quick Response**
Within 0.5 seconds of flow rate response time
(Rising response time)
- **No Regulator Required**
Since the flow rate is controlled by pressure, no regulator is required.
- **High Performance and High Reliability**
Flow rate accuracy: ± 1.0 % S.P. (10 to 100%)
- **Seal Materials**
Metal seal
- **Input/Output Signals**
Analog, DeviceNet™, RS-485

Specifications

Model Numbers	FCSP7000 / FCSP7000D		
Types	Standard Type	Low Pressure (AS) Type	Low Pressure (B) Type
Supply Pressure Range	250 to 898.7 kPaG	20 to 898.7 kPaG	50 to 898.7 kPaG
Flow Rate Accuracy	$\leq \pm 1.0$ % S.P. (Setting signal: 10 to 100%) $\leq \pm 0.1$ % F.S. (Setting signal: 1 to 10%)	$\leq \pm 1.0$ % S.P. (Setting signal: 30 to 100 %) $\leq \pm 0.3$ % F.S. (Setting signal: 1 to 30 %)	$\leq \pm 1.0$ % S.P. (Setting signal: 20 to 100 %) $\leq \pm 0.2$ % F.S. (Setting signal: 1 to 20 %)
Flow Rate Control Range (N2 gas conversion)	10 SCCM – 10 SLM	27 SCCM – 1 SLM	39 SCCM – 2 SLM
Response Time	Within 0.5 seconds reach to ± 2 % of set value (starting characteristic)		
Downstream Pressure	$\leq P_1$		
Maximum Pressure	1 MPaG (However, the pressure for guaranteed accuracy is 0.89 MPaG or less.)		
External Leakage	1×10^{-10} Pa·m ³ /sec or less.		
Seat Leakage	2×10^{-5} Pa·m ³ /sec or less (at supply pressure of F2400(F850B) or less) 5×10^{-4} Pa·m ³ /sec or less (at supply pressure of F3L(F1300B) or more)		
Temperature for Guaranteed Accuracy	0 to 50 °C (Guaranteed Accuracy: 15 to 35 °C. ★HT50: 15 to 50 °C)		
Supply Voltage Power Consumption	Analog Input/Output Specifications +15 VDC: 120 mA, -15 VDC: 120 mA		DeviceNet™ Communication Specification +11 to +25 VDC: 4.5 VA (4.5 W)
Input/Output Signals	0~5 VDC		DeviceNet™ (as per SEMI E54 and ODVA SEMI SIG Profile-compliant), RS-485
Mounting Attitude	Can be installed any attitude		
Material of Wetted Area	SUS 316L Stainless Steel, Super Ferrite Alloy (Cr ₂ O ₃ treated), Ni-Co Alloy		
Connections / Dimensions	1.125 Wseal (92 mm), 1.5 Wseal (79.8 mm), 1/4" UJR (124 mm), 1.125 C-Seal (92 mm)		

Wide Range model FCSP7000W

RoHS



Features

● Operating Principle

This model controls the differential pressure within and partly outside the Critical Expansion Condition range.

[P_1 (Supply Pressure \geq approx. $2P_2$ (Output Pressure), $Q=K_1P_1$ ($K_1=Const.$)] range

● Quick Response

Within 0.5 seconds of flow rate response time
(Rising Response Time)

● No Regulator Required

Since the flow rate is controlled by pressure, no regulator is required.

● High Performance and High Reliability

Flow rate accuracy: ± 1.0 % S.P. (10 to 100 %)

● Seal Materials

Metal seal

● Input/Output Signals

Analog, DeviceNet™, RS-485

Specifications

Model Numbers	FCSP7000W / FCSP7000DW		
Types	Standard Type	Low Pressure (AS) Type	Low Pressure (B) Type
Supply Pressure Range	250 to 898.7 kPaG	20 to 898.7 kPaG	50 to 898.7 kPaG
Flow Rate Accuracy	$\leq \pm 1.0$ % S.P. (Setting Signal: 10 to 100 %) $\leq \pm 0.1$ % F.S. (Setting Signal: 1 to 10 % [For controlling differential pressure 4 to 10 %])	$\leq \pm 1.0$ % S.P. (Setting Signal: 30 to 100 %) $\leq \pm 0.3$ % F.S. (Setting Signal: 1 to 30 % [For controlling differential pressure 10 to 30 %])	$\leq \pm 1.0$ % S.P. (Setting Signal: 20 to 100 %) $\leq \pm 0.2$ % F.S. (Setting Signal: 1 to 20 % [For controlling differential pressure 8 to 20 %])
Flow Rate Control Range (N ₂ gas conversion)	20 SCCM – 10 SLM	27 SCCM – 1 SLM	39 SCCM – 2 SLM
Response Time	Within 0.5 seconds reach to ± 2 % of setting value (starting characteristic)		
Downstream Pressure	$\leq P_1$		
Maximum Pressure	1 MPaG (However, the pressure for guaranteed accuracy is 0.89 MPaG or less.)		
External Leakage	1×10^{-10} Pa·m ³ /sec or less.		
Seat Leakage	2×10^{-5} Pa·m ³ /sec or less (at supply pressure of F2400(F850B) or less) 5×10^{-4} Pa·m ³ /sec or less (at supply pressure of F3L(F1300B) or more)		
Temperature for Guaranteed Accuracy	0 to 50 °C (Guaranteed Accuracy: 15 to 35 °C. ★HT50: 15 to 50 °C)		
Supply Voltage Power Consumption	Analog Input/Output Specifications +15 VDC: 120 mA, -15 VDC: 120 mA		DeviceNet™ Communication Specifications +11 to +25 VDC: 4.5 VA (4.5 W)
Input/Output Signals	0 to 5 VDC		DeviceNet™ (as per SEMI E54 and ODVA SEMI SIG Profile-compliant), RS485
Mounting Attitude	Can be installed any attitude		
Material of wetted Areas	SUS 316L Stainless steel, Super Ferrite Alloy (Cr ₂ O ₃ treated), Ni-Co Alloy		
Connections / Dimensions	1.125 Wseal (92 mm), 1.5 Wseal (79.8 mm), 1/4" UJR (124 mm), 1.125 C-Seal (92 mm)		

IGS Components-Baseblocks

Material	Part	Material
	Body	SUS 316L (Double-Melt)

Surface Finish ■ UP treatment is applied to all wetted components.
Surface finish to exceed 0.7 µm Ry / 0.1 µm Ra.

(Example)



WL-4x4JR



WL-4x4BW-S



WL-4x4BW-1-S



WV-4-20.6

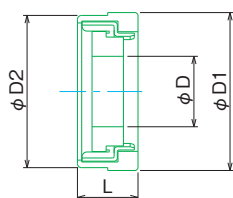


WLU-4-2-14-R-FAJ

Miscellaneous Components

Gasket (with Guide Ring)

(Unit: mm)

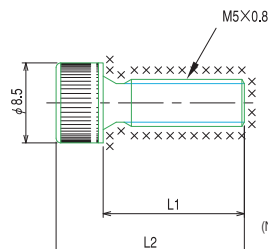
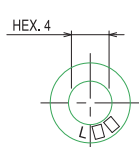


Nom.Dia.	D	D1	D2	L	Material	Model Number
6.35	4.4	10	9.75	3.8	SUS 316L (Double-Melt)	UGF-6.35GR

Silver-Plated Cap Bolts

(Unit: mm)

Silver-plated bolts should always be used when mounting components to prevent galling. Silver plating is applied to the threads and shoulder of the stainless steel bolt.



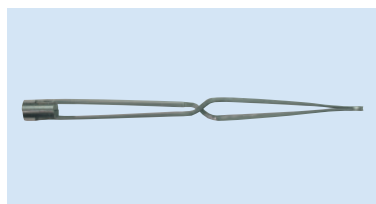
(Note: Area indicated above with "x x x" is where silver plating is applied.)

Model Numbers	L1	L2
CB-M5x12	12	17
CB-M5x18	18	23
CB-M5x30	30	35
CB-M5x33	33	38
CB-M5x35	35	40
CB-M5x40	40	45
CB-M5x43	43	48

Specialized Tools (Tools to Facilitate Assembly)

Gasket Tool

The gasket tool is a tweezer-like mechanism that aids in the handling of the gaskets, and assists in the alignment and proper depth insertion of the gaskets during installation.



Nom.Dia.	Model Number
for 6.35	UGF Tool 6.35 GR

Torque Driver

Torque driver is engineered to deliver the precise tightening torque during component assembly, ensuring consistent and uniform results throughout.



Nom.Dia.	Bit Model Number	Driver Model Number
for 6.35	UGF Bit EA64 4x130	UGF Wrench-RNTD500CN4.9

The latest catalog can be downloaded from
URL: http://www.fujikin.co.jp/support/pdf/732-01_pure_igs_eng.pdf.

Dimensions

Figure 1

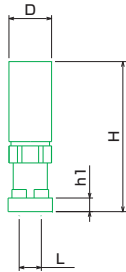
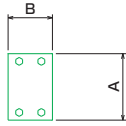


Figure 2

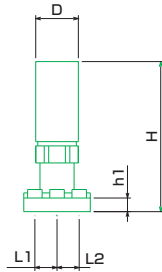
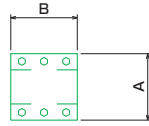


Figure 3

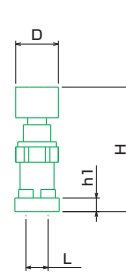
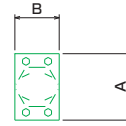
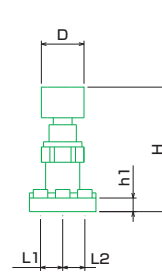
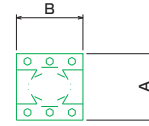


Figure 4



Pneumatic Valves

Manual Valves

Figure 5

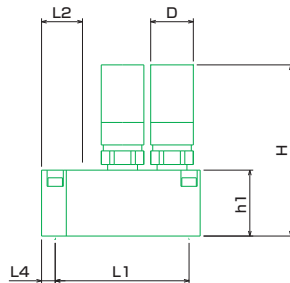
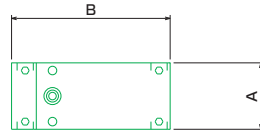
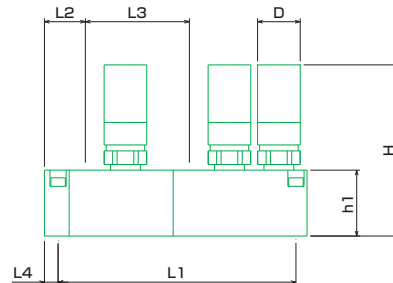
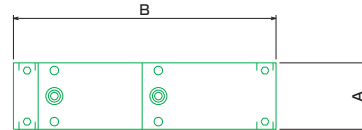


Figure 6



Block Valves

Figure 7

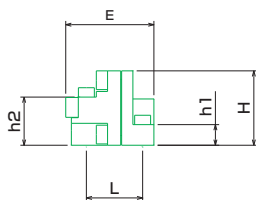
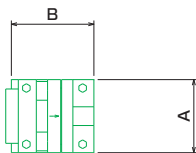
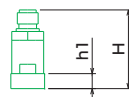
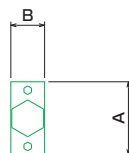


Figure 8



Check Valves

Figure 9

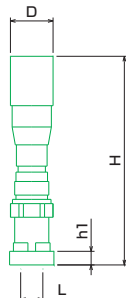
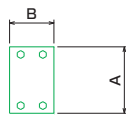
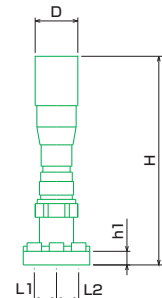
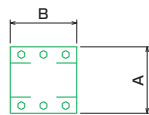


Figure 10



Metering Valves

(Unit: mm)

Pneumatic Valves

Part Numbers	Figure	D	L	L1	L2	H	h1	A	B
FP(R)-SDA-21-6.35UGF-APD#B	1	25	13			86.4(88.1)	8	39	26
FP(R)-SDAT-21-6.35UGF-APD#B	2	25		13	13	86.4(88.1)	8	39	39
FP(R)-UDDFA-21-6.35UGF-APD#B	1	35	26			98	8	39	39
FP(R)-UDDFAT-21-6.35UGF-APD#B	2	35		13	13	102	8	39	39
FP(R)-UDDFA-21-9.52UGF-DRZ#B	1	35	18			98	15	55	37
FP(R)-UDDFAT-21-9.52UGF-DRZ#B	2	35		18	18	98	15	55	55

Dimensions in brackets are for normally-closed configurations.

Manual Valves

Part Numbers	Figure	D	L	L1	L2	H	h1	A	B
FUSDAL-21-6.35UGF-APD	3	25	13			73.1	8	39	26
FUSDALT-21-6.35UGF-APD	4	25		13	13	73.1	8	39	39
FUDDFL-21-6.35UGF-APD	3	37	26			81	8	39	39
FUDDFLT-21-6.35UGF-APD	4	37		13	13	85.5	8	39	39
FUDDFL-21-9.52UGF-DRZ	3	37	18			81	15	55	37
FUDDFLT-21-9.52UGF-DRZ	4	37		18	18	81	15	55	55

Block Valves

Part Numbers	Figure	D	L1	L2	L3	L4	H	h1	A	B
FBSDAL-6.35UGF-2B3-DTP#B	5	25	78.5	24		8	100.5	38.7	39	93
FBSDAL-6.35UGF-2B3-DTW#B	5	25	78.5	24		8	100.5	38.7	39	93
FBSDAL-6.35UGF-2B3-DTX#B	5	25	78.5	24		8	97	38.7	39	93
FBSDAL-6.35UGF-2B3-DWR#B	5	25	78.5	24		8	97	38.7	39	93
FBSDAL-6.35UGF-3B4-DTP#B	6	25	139.5	24	61	8	100.5	38.7	39	154
FBSDAL-6.35UGF-3B4-DTR#B	6	25	139.5	24	61	8	100.5	38.7	39	154
FBSDAL-6.35UGF-3B4-DTS#B	6	25	139.5	24	61	8	100.5	38.7	39	154
FBSDAL-6.35UGF-3B4-DWU#B	6	25	139.5	24	61	8	97	38.7	39	154
FBSDAL-6.35UGF-3B4-DWR#B	6	25	139.5	24	61	8	97	38.7	39	154
FBDAL-6.35UGF-2B3-DTP#B	5	35	100	24		8	115	38.7	39	114.5
FBDAL-6.35UGF-2B3-DTW#B	5	35	100	24		8	115	38.7	39	114.5
FBDAL-6.35UGF-2B3-DTX#B	5	35	100	24		8	115	38.7	39	114.5
FBDAL-6.35UGF-2B3-DWR#B	5	35	100	24		8	115	38.7	39	114.5

Check Valves

Part Numbers	Figure	E	L	H	h1	h2	A	B
FUCDF-21-6.35UGF-AKH	7	47	30	39.7	11	25.7	39	44
FUCL-71-6.35UGX6.35UGF-0.023-APD	8			42	8		39	18
FUCL-21-6.35UGFX6.35UG-0.023-APD	8			42	8		39	18

Metering Valves

Part Numbers	Figure	D	L	L1	L2	H	h1	A	B
FUSDM-21M-6.35UGF-APD	9	25	13			122.5	8	39	26
FUSDMT-21M-6.35UGF-APD	10	25		13	13	122.5	8	39	39

The latest catalog can be downloaded from
URL: http://www.fujikin.co.jp/support/pdf/732-01_pure_igs_eng.pdf.

OPTION

Multi-Colored Handles

A variety of handle colors are available permitting easily-identifiable fluid lines.

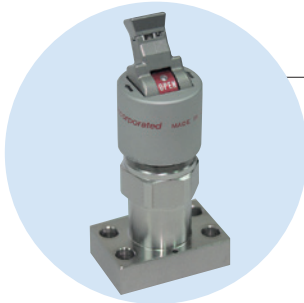


LOTO Device for IGS Valves

A lock-out / tag-out device available for manually-operated valves. Unique design allows installation on existing valves without any modifications to the LOTO device nor to the valve.

Proximity Sensors

The proximity sensor outputs an electrical signal when the valve is in the open or closed position. It is a non-contact type, and therefore extremely safe.

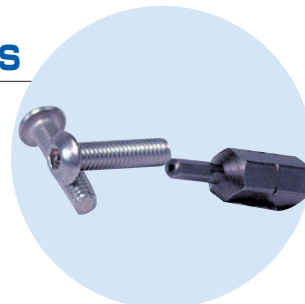


Toggle Valves

An open / closed indicator and locking mechanism is built-in to the toggle switch.

Special Bolts for Mounting Baseblocks

Tamper-resistant drive style bolts operable only with matching driver help prevent installation errors.



Sample IGS Configurations

IGS Panel with FCS®

FCS® (Flow Control System) is a high-performance pre-filter, regulator, pressure transducer, and MFC in one compact package that reduces the size of assemblies by one third. Available in analog and digital versions.



Ultra-Compact IGS (1.125")

Next generation ultra-compact IGS based upon the 1.125" footprint. Gas panels are smaller and lighter without sacrificing flow capacity.



Fujikin Carp Group



The Year 2013 Prime Minister's Prize
The 5th Monodzukuri Nippon Grand Award
Overseas Operation "Excellence Prize"

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CAT: No.732-01E-D