

# Integrated Gas Systems



Integrated Systems

Other Products

Technical Information

Tubing  
FiltersRegulators  
Valves

Fittings

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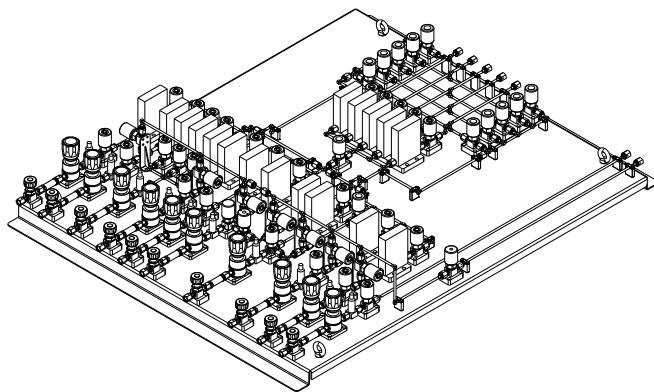
# Features

FITOK Integrated Gas System is used to control gas in the semiconductor industry, integrating valves, fittings, and other piping components, as well as other necessary measuring and control instruments. FITOK Integrated Gas System uses SEMI compliant surface-mounted components and is modularly designed. While reducing the size of the device, installation and maintenance become easier.

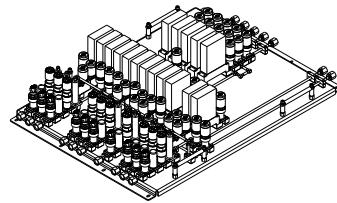
## Miniaturization

The size is about 1/3 the traditional panel, and the corresponding flow path size is also reduced for better contamination control.

Traditional Panel

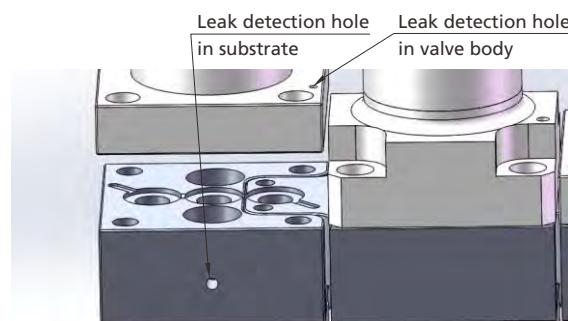
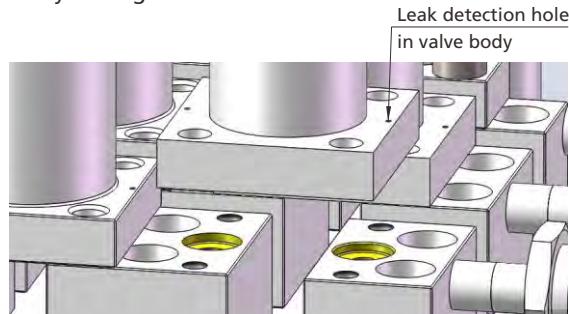


IGS Panel



## Leak Detection Hole

Every sealing face has a leak detection hole.



## Silver-Plated Bolts

IGS uses silver-plated bolts to prevent galling.

Silver-plated bolts can be ordered individually. Part number:

BL-M4x10 (10 mm long)

BL-M4x30 (30 mm long)

For other sizes, please contact FITOK Group.



## Bolts with Falling Prevention Design

Silver-plated bolt is gripped by the valve and will not fall even when the valve is upside down during installation and maintenance.

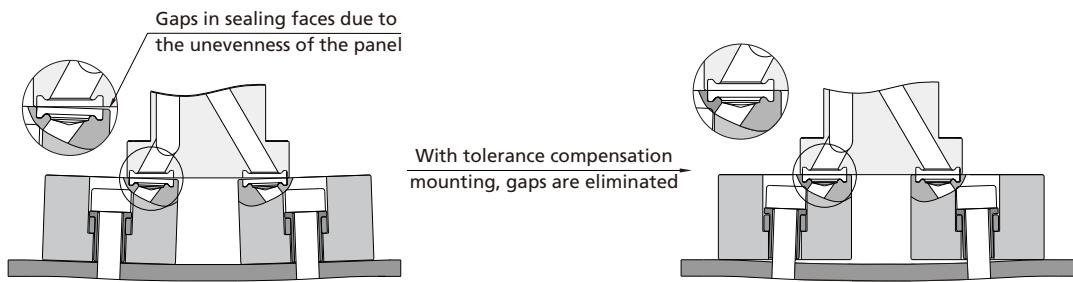


## Tolerance Compensation Structure (W-Seal Only)

W-seal substrates are designed with a tolerance compensation construction, allowing for less assembly tolerance and ensuring the system sealing performance to the greatest extent.

The substrate is locked to the panel through the bolt pressing the sleeve, while the substrate is variable.

1. Horizontally variable: Used to compensate for the machining tolerances in panel threaded holes to ensure that substrates are mounted in a straight line.
2. Vertically variable: Used to compensate for dimensional tolerances of panels and substrates to ensure sealing performance.



### W/C-Seal

W-seal and C-seal are functionally the same but differ in size due to different SEMI standards applied. Users can choose W-seal or C-seal based on customs and accessories selection. The leak rate (helium) of the sealing face  $\leq 1 \times 10^{-9}$  std cm<sup>3</sup>/s.

**W-Seal Body/Substrate/Gasket**



W-Seal Body Base

W-Seal Substrate

W-Seal Gasket

**C-Seal Body/Substrate/Gasket**

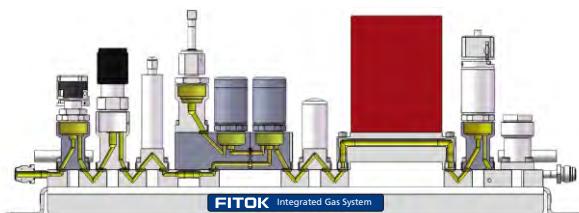


C-Seal Body Base

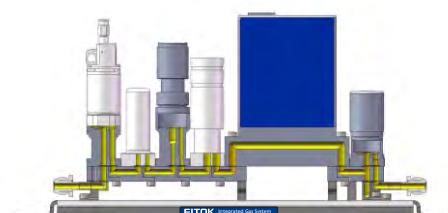
C-Seal Substrate

C-Seal Gasket

**Typical W-Seal System**



**Typical C-Seal System**



## Special Tool Kit



FITOK provides special tool kits for users to perform assembly and maintenance in an efficient way. Part number: SC-IGS-11.

Special tool kit content:

Name	Function	Qty.
Substrate locator fixture	W-seal substrate locator	3 pcs.
MFC (92 mm) locator fixture	W-seal substrate locator	1 pc.
Torque screwdriver	1~6 N.m, used to secure substrates and valves	1 pc.
Torque screwdriver bits	For M4 screws	2 pcs.
Extra-long T type hex key	For M4 screws	1 pc.
Gasket tweezer	For 1.125" W-seal gaskets	1 pc.

## Heat Trace Cable

Heat trace cables are optional for gas path in need of heat trace.



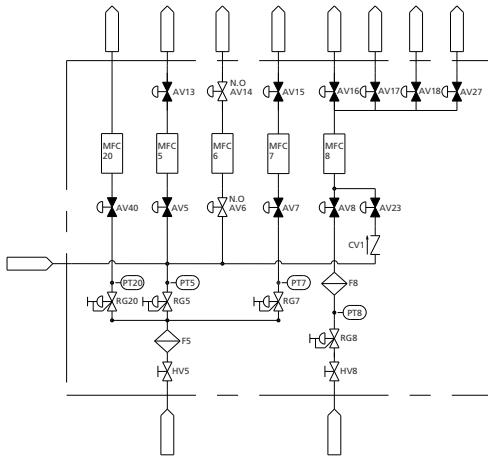
## Process Specification

Item \ Process Specification	Ultra High Purity Process (FC-03)
Material	316L SS, 316L SS VAR
Wetted Surface Roughness	Ra 5 µin. (0.13 µm)
Polishing Process	Electropolished
Cleaning	Ultra high purity cleaning in continuously monitored ultrasonic cleaning system with deionized water
Assembly Environment	ISO 4 / Federal 10 Clean Room
Packaging	Double bagged in cleanroom

# Modular System Design Processes

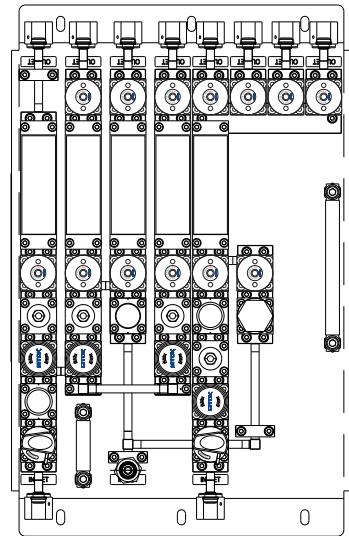
## Step 1: System design

Determine basic component selections based on the schematic diagram provided by the customer.



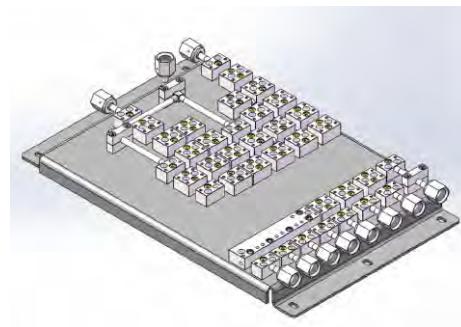
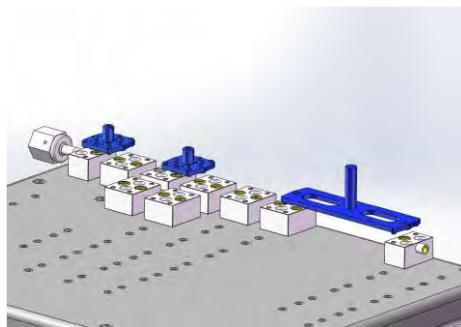
## Step 2: Component Manufacturing

Manufacture components to the drawings after the customer finalizes the configuration.



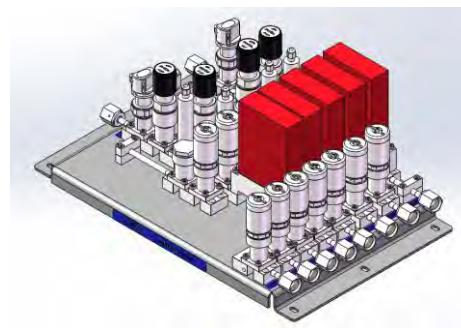
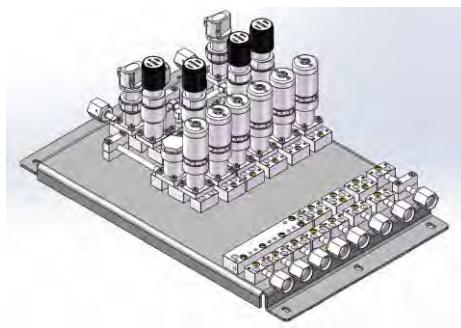
## Step 3: Component Assembly

Assemble components properly using the special tool kit. Substrate locator is needed for the assembly of W-seal system but is not required for that of C-seal system.



## Step 4: Testing

Standard test items include helium testing and pressure testing, and particle testing is optional.



# Parts

## Substrates ISW Series

### Features

- ◎ Tolerance compensation structure to facilitate less assembly tolerance and ensure system sealing performance to the greatest extent
- ◎ Final assembly and packaging performed in ISO 4 cleanroom



### Technical Data

- ◎ 1.125" W-Seal
- ◎ Leak Rate (Helium):  $\leq 1 \times 10^{-9}$  std cm<sup>3</sup>/s
- ◎ FC-03 Ultra-high Purity Process Specification
- ◎ Wetted surface roughness less than Ra 5 µin. (0.13µm)  
For Pores with an L/D Greater than 10, the Roughness Less than Ra 32 µin. (0.8 µm)

### Process Specification

Item	Process Specification
	Ultra High Purity Process (FC-03)
Material	316L SS, 316L SS VAR
Wetted Surface Roughness	Ra 5 µin. (0.13 µm)
Polishing Process	Electropolished

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**Standard Substrates -IVB**

I-24



**1-Path Bypass Substrates -ISB**

I-24



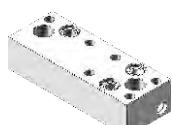
**Plugs -IEC**

I-27



**Transition Substrates -ITC**

I-28



**2-Path Bypass Substrates -IDB**

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**End Substrates -IEB**

I-30

## Ordering Number Description

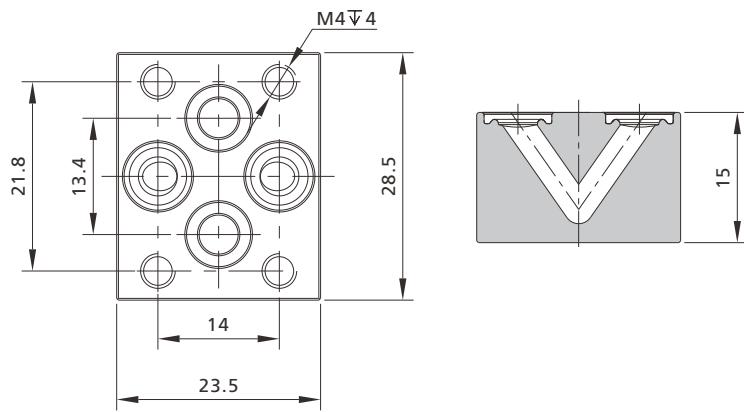
I-31

## Dimensions and Ordering Information

### Standard Substrates

Basic Ordering Number: -IVB-WS11-V014-F3

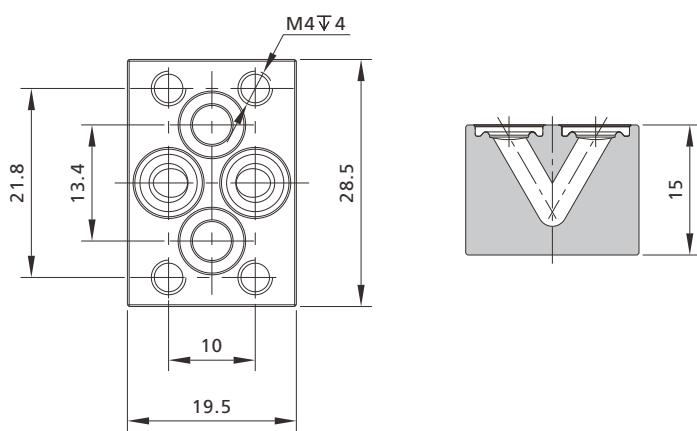
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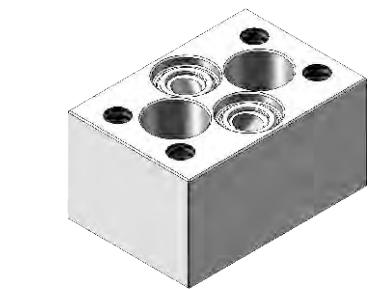
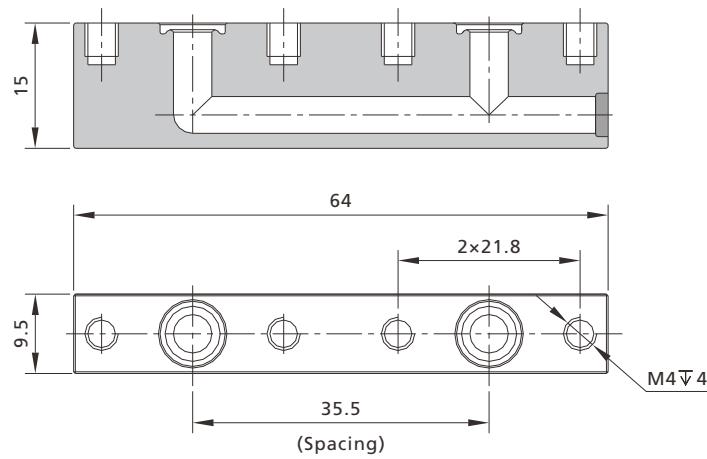


### 1-Path Bypass Substrates

Spacing 35.5 mm Basic Ordering Number: -ISB-WS11-M200-F3

Spacing 30 mm Basic Ordering Number: -ISB-WS11-M201-F3

Unit: mm



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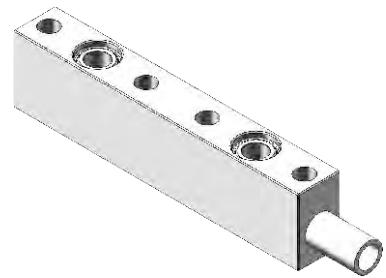
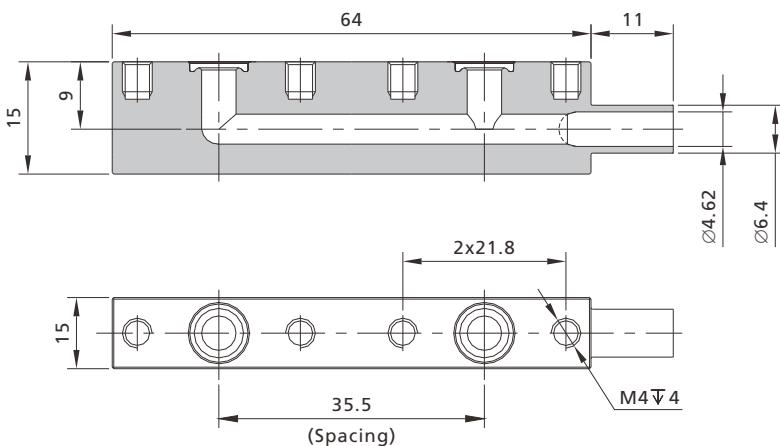
Technical Information

**1-Path Bypass Substrates**

Spacing 35.5 mm Basic Ordering Number: -ISB-WS11-M210-F3

Spacing 30 mm Basic Ordering Number: -ISB-WS11-M211-F3

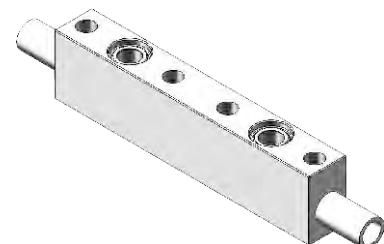
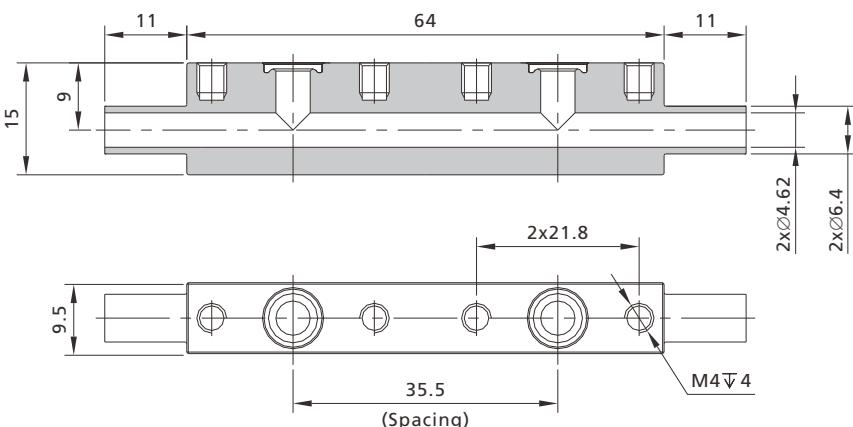
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**1-Path Bypass Substrates**

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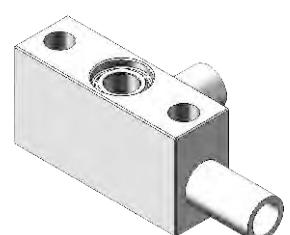
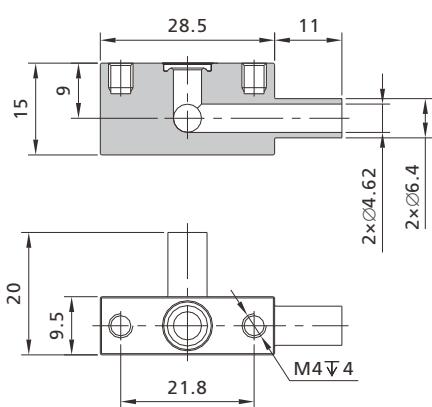
Spacing 30 mm Basic Ordering Number: -ISB-WS11-M221-F3

Unit: mm

**1-Path Bypass Substrates**

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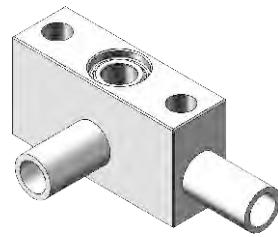
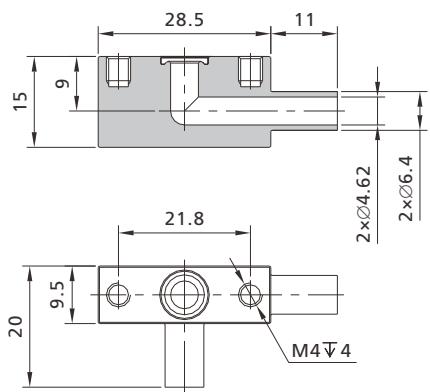
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**1-Path Bypass Substrates**

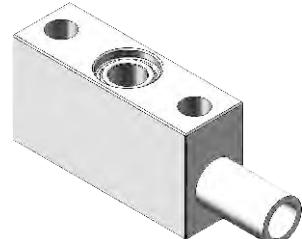
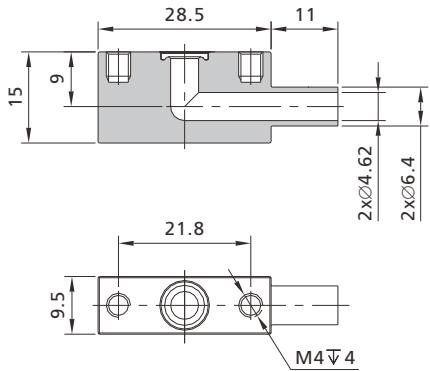
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Unit: mm

**1-Path Bypass Substrates**

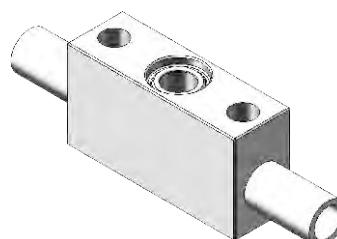
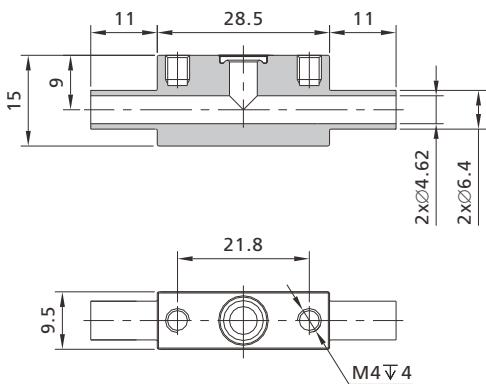
Basic Ordering Number: -ISB-WS11-S110-F3

Unit: mm

**1-Path Bypass Substrates**

Basic Ordering Number: -ISB-WS11-S120-F3

Unit: mm



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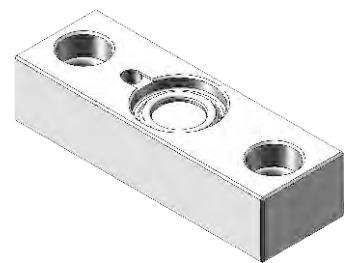
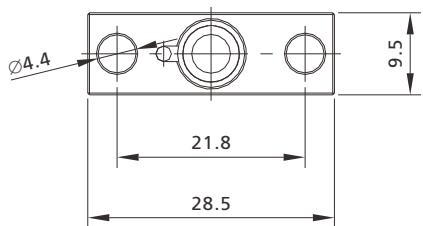
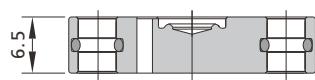
Valves

Fittings

**Plugs**

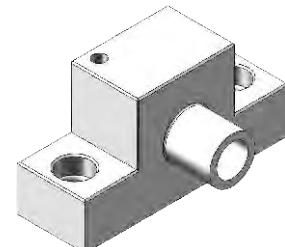
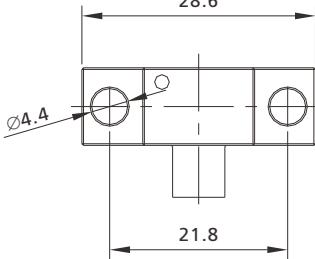
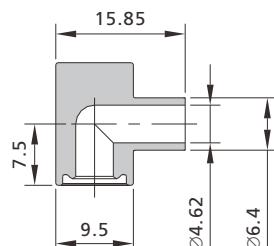
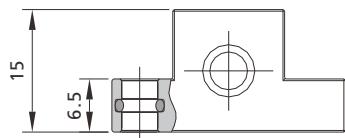
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Unit: mm

**Plugs**

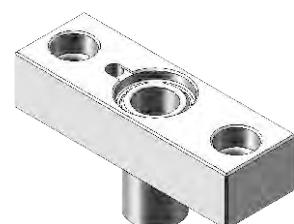
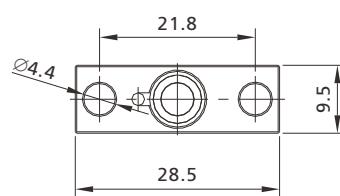
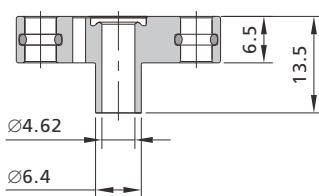
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Unit: mm

**Plugs**

Basic Ordering Number: -IEC-WS11-S110-F3

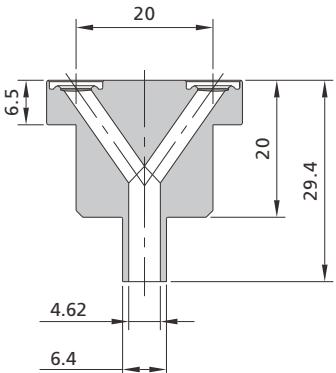
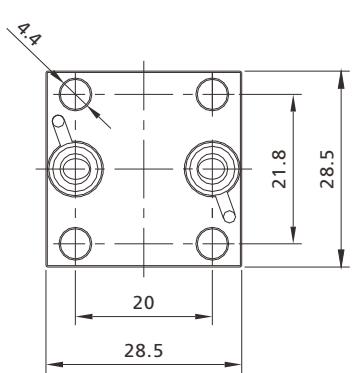
Unit: mm



## Transition Substrates

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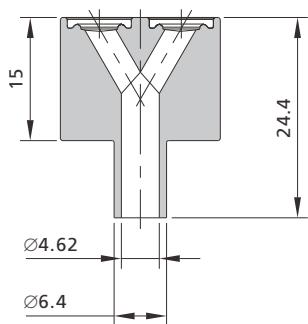
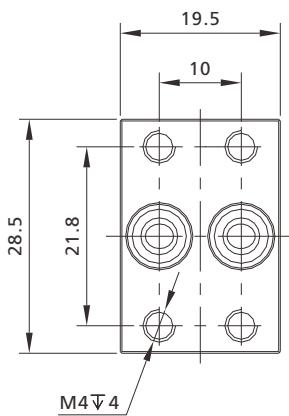
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## Transition Substrates

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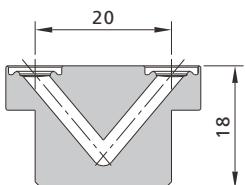
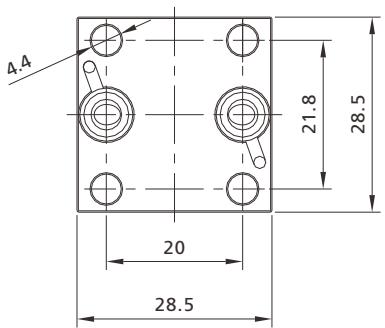
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## Transition Substrates

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Unit: mm

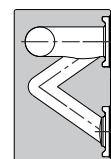
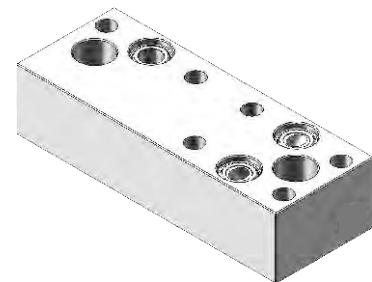
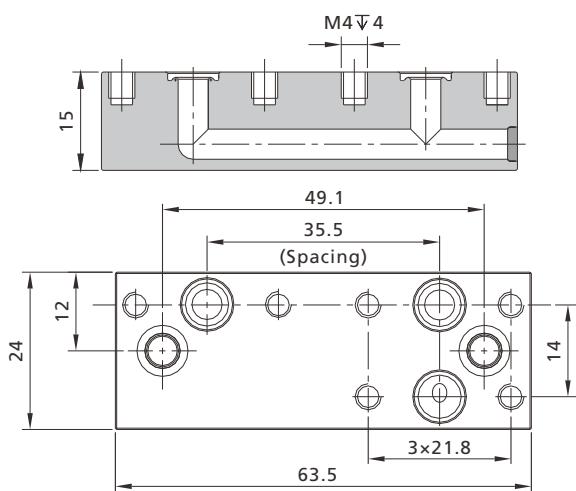


**2-Path Bypass Substrates**

Spacing 35.5 mm Basic Ordering Number: -IDB-WS11-M210-F3

Spacing 30 mm Basic Ordering Number: -IDB-WS11-M211-F3

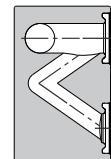
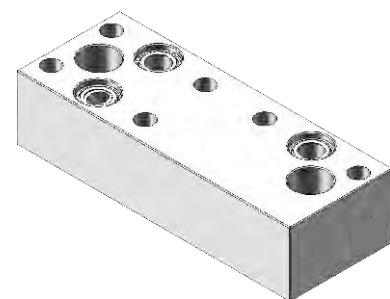
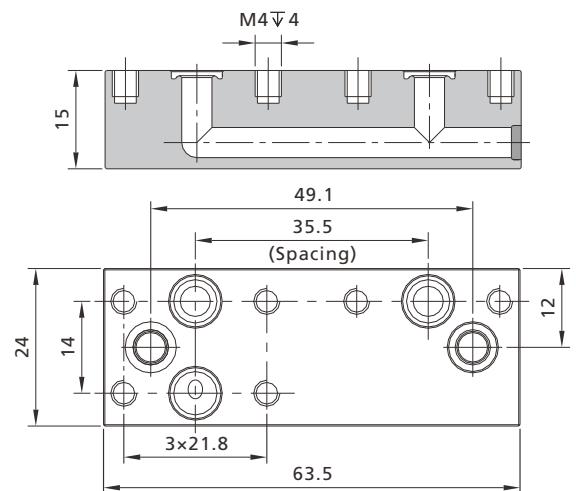
Unit: mm

**2-Path Bypass Substrates**

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Spacing 30 mm Basic Ordering Number: -IDB-WS11-M221-F3

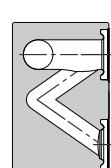
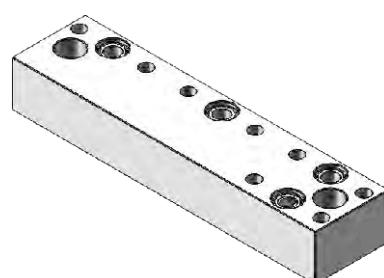
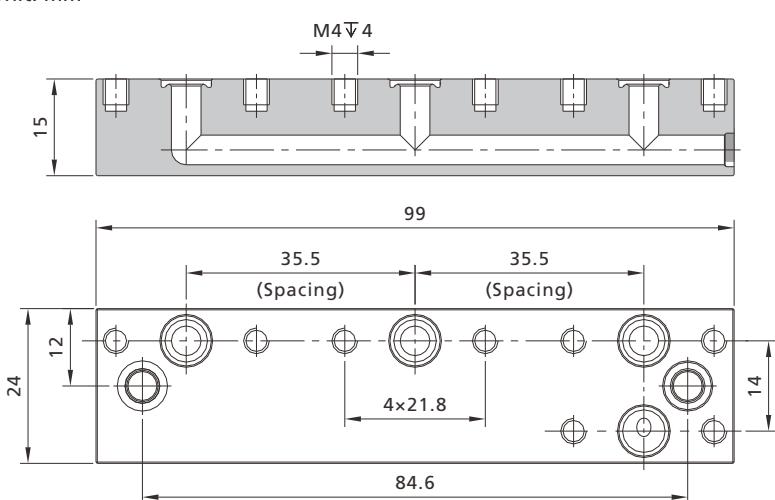
Unit: mm

**2-Path Bypass Substrates**

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Spacing 30 mm Basic Ordering Number: -IDB-WS11-M311-F3

Unit: mm

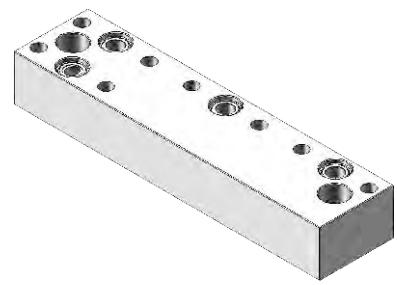
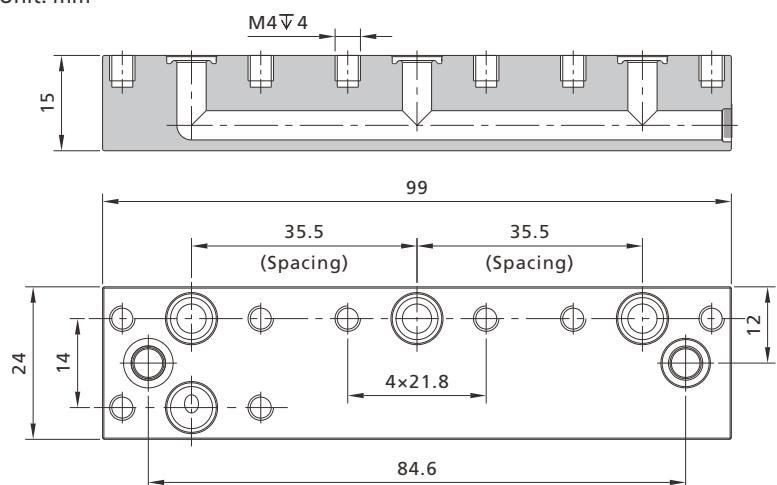


## 2-Path Bypass Substrates

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Spacing 30 mm Basic Ordering Number: -IDB-WS11-M321-F3

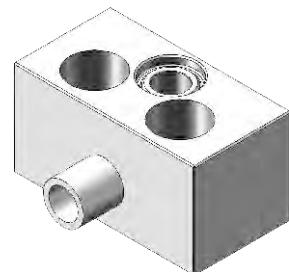
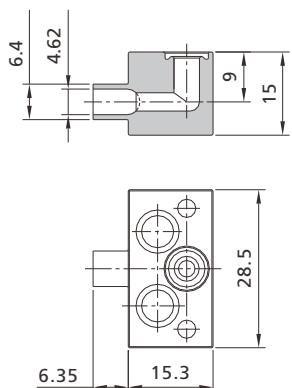
Unit: mm



## End Substrates

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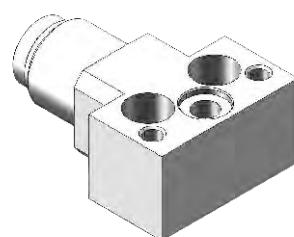
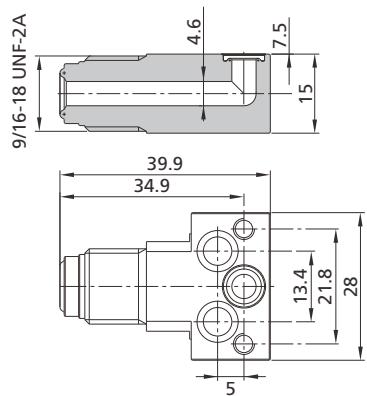
Unit: mm



## End Substrates

Basic Ordering Number: -IEB-WS11-FR4-34.9-F3

Unit: mm



Integrated Systems

Other Products

Technical Information

Filters

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Valves

Fittings

## Ordering Number Description

**6L - IVB - WS11 - V014 - F3**

Fittings	Body Material	Substrate Type	Port Type	Substrate Designator	Process Specification
Valves	<b>6L</b> 316L SS	<b>IVB</b> Standard Substrates	<b>WS11</b> 1.125" W-Seal	V014	N201
	<b>6LV</b> 316L SS VAR	<b>ISB</b> 1-Path Bypass Substrates		V010	E102
Regulators		<b>IEC</b> Plugs		M200	S100
Filters		<b>ITC</b> Transition Substrates		M201	S200
Tubing		<b>IDB</b> 2-Path Bypass Substrates		M210	S201
Integrated Systems		<b>IEB</b> End Substrates		M211	S122
Other Products				M220	S121
Technical Information				M221	S110
				M310	S120
				M311	
				M320	
				M321	
					<b>F3</b> FC-03

Notes:

"Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available. Please contact FITOK Group or our authorized distributors if you have any requests.

# Parts

## Substrates ISC Series

### Features

- Multiple types of flow path applicable to various integrated systems
- Final assembly and packaging performed in ISO 4 cleanroom



### Technical Data

- 1.125" C-Seal
- Leak Rate (Helium):  $\leq 1 \times 10^{-9}$  std cm<sup>3</sup>/s
- FC-03 Ultra-high Purity Process Specification,
- Wetted surface roughness less than Ra 5 µin. (0.13µm)

### Process Specification

Item	Process Specification	Ultra High Purity (FC-03)
Material	316L SS, 316L SS VAR	
Wetted Surface Roughness	Ra 5 µin. (0.13 µm)	
Polishing Process	Electropolished	

Fittings

Valves

Regulators

Filters

Tubing

Integrated Systems

Other Products

Technical Information

**Contents****Standard Substrates -IVB**

I-34

**1-Path Bypass Substrates -ISB**

I-37

**Plugs -IEC**

I-39

**Transition Substrates -ITC**

I-41

**Mount Block -IDK**

I-42

**Brackets -IZJ**

I-44

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**Ordering Number Description**

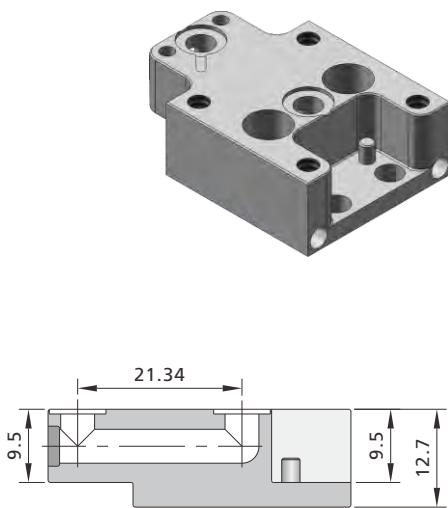
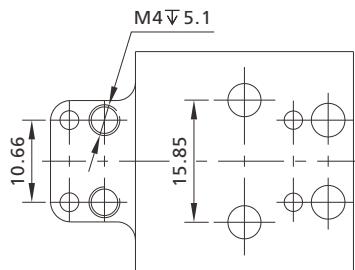
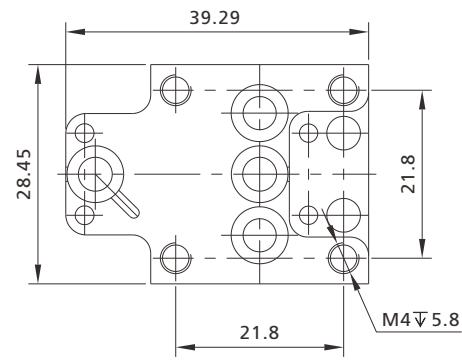
I-42

## Dimensions and Ordering Information

### Standard Substrates

Basic Ordering Number: -IVB-CS11-D200-F3

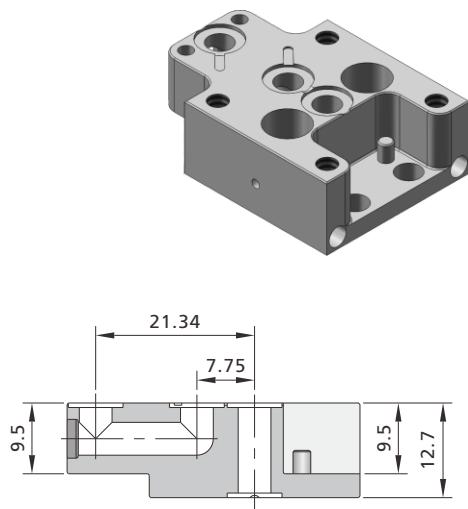
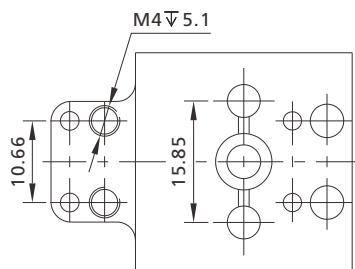
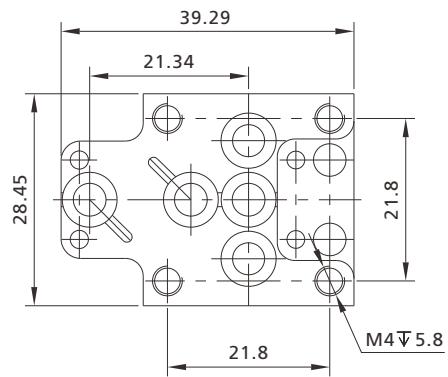
Unit: mm



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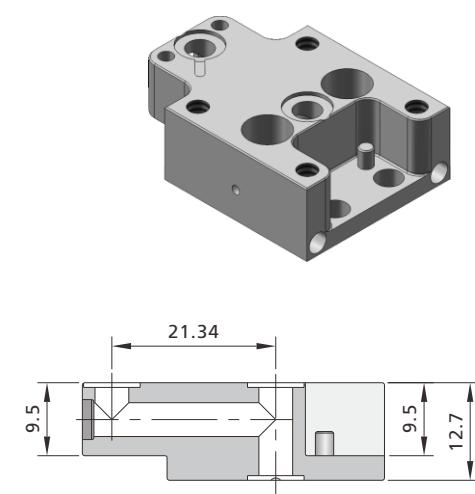
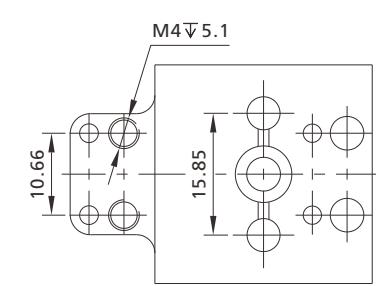
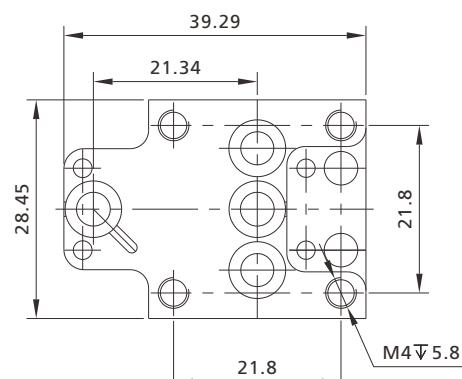
Unit: mm



### Standard Substrates

Basic Ordering Number: -IVB-CS11-D210-F3

Unit: mm



Fittings

Valves

Regulators

Filters

Tubing

Integrated Systems

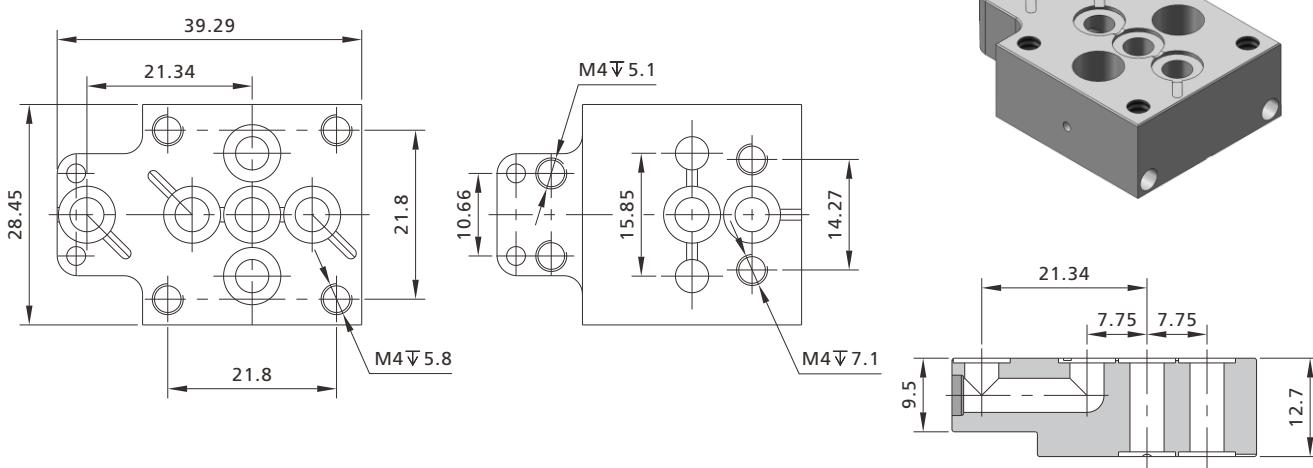
Other Products

Technical Information

**Standard Substrates**

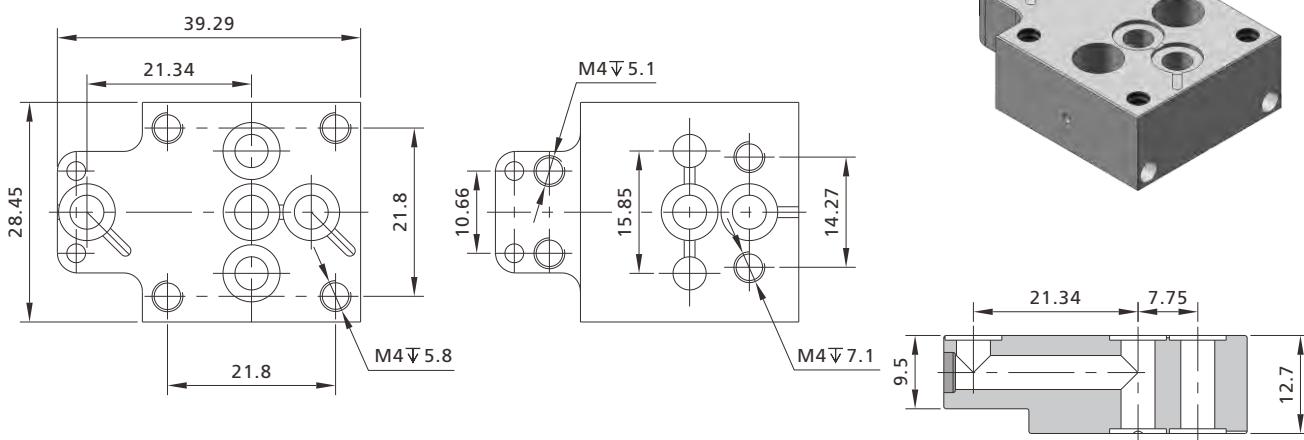
Basic Ordering Number: -IVB-CS11-M420-F3

Unit: mm

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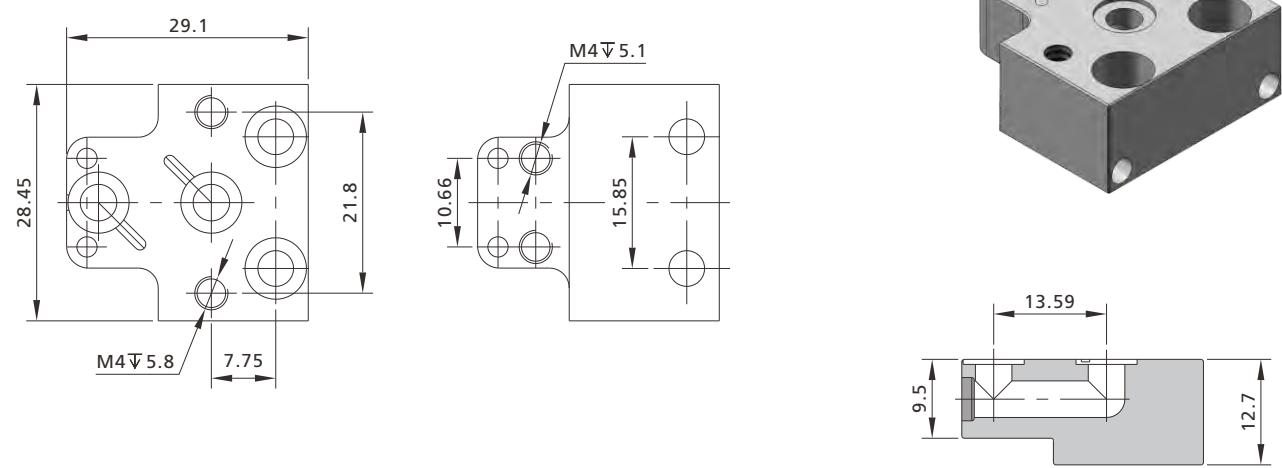
Basic Ordering Number: -IVB-CS11-M320-F3

Unit: mm

**Standard Substrates**

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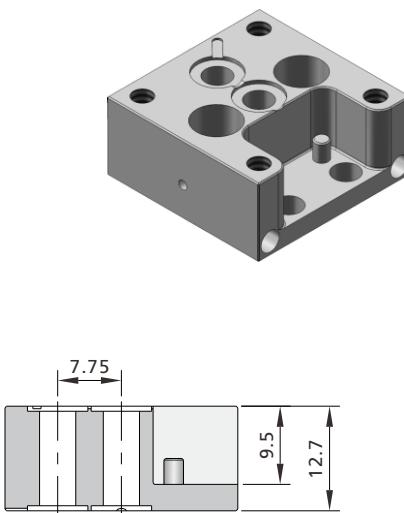
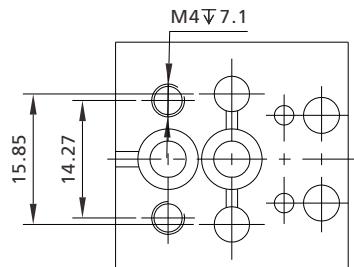
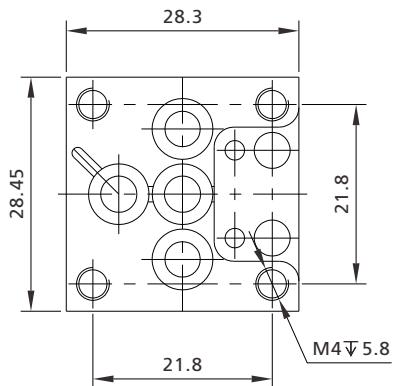
Unit: mm



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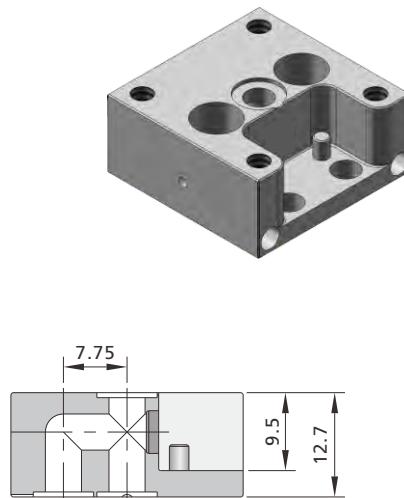
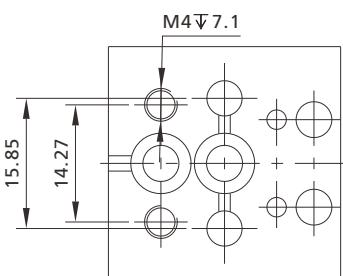
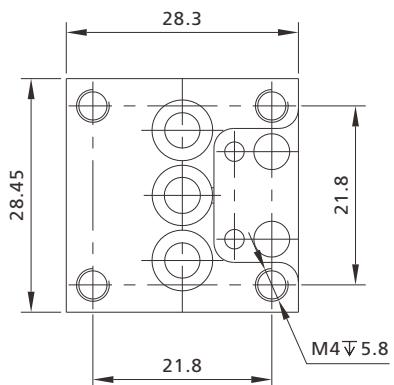
Unit: mm



## Standard Substrates

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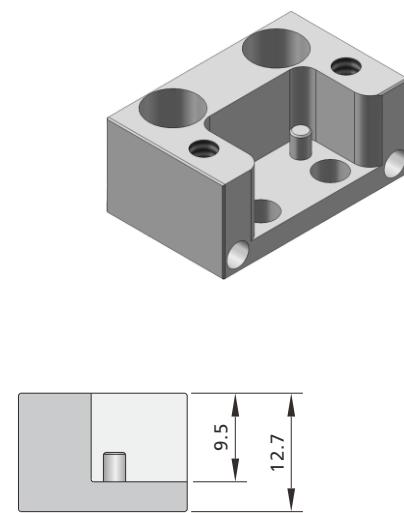
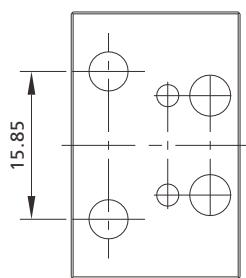
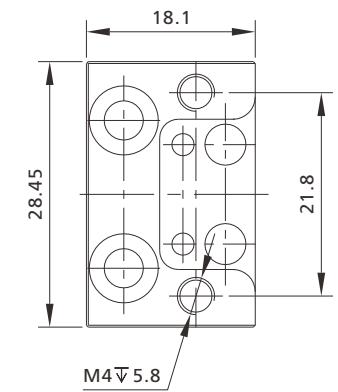
Unit: mm



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Basic Ordering Number: -IVB-CS11-F002-F3

Unit: mm

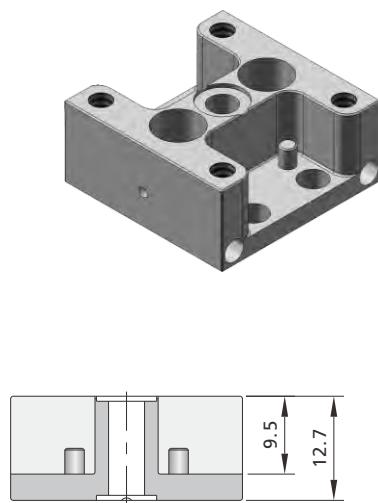
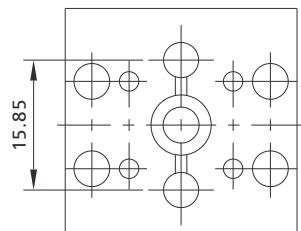
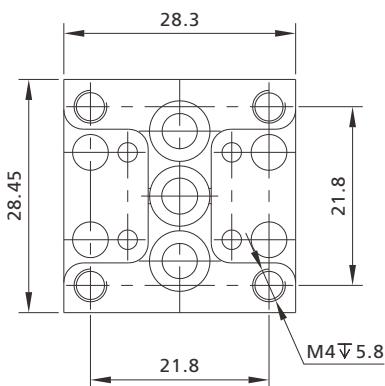


Fittings	Valves	Regulators	Filters	Tubing	Integrated Systems	Other Products	Technical Information
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## Standard Substrates

Basic Ordering Number: -IVB-CS11-B110-F3

Unit: mm

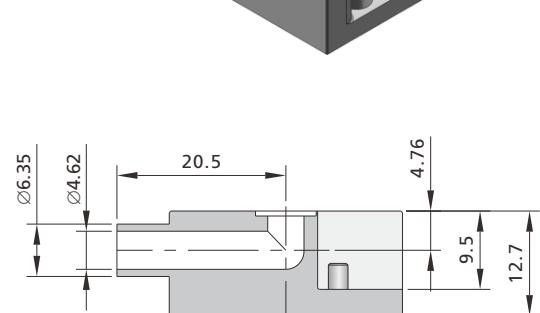
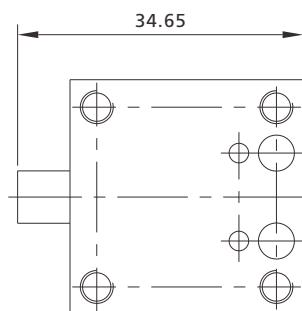
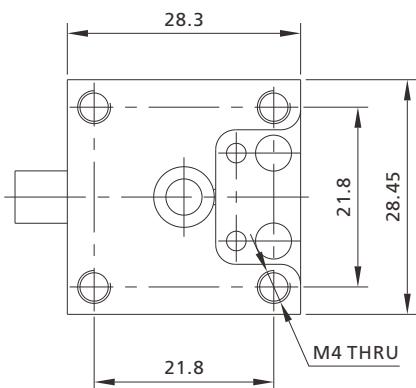


## Standard Substrates

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Basic Ordering Number: -IVB-CS11-F100-F3

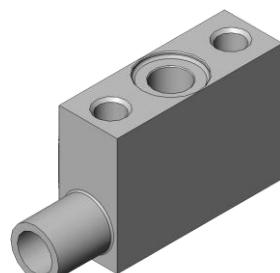
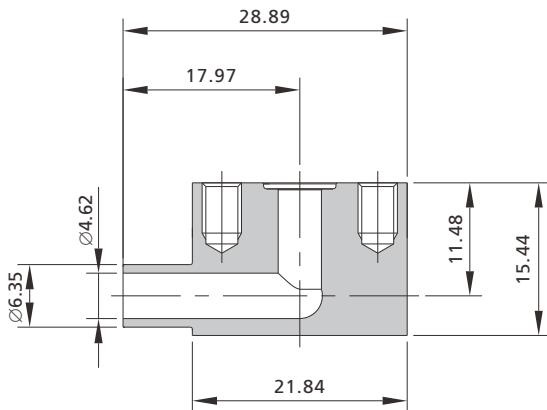
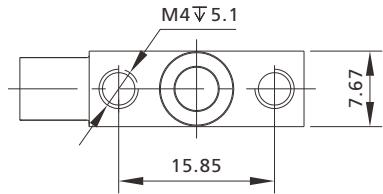
Unit: mm



## 1-Path Bypass Substrates

Basic Ordering Number: -ISB-CS11-S110-F3

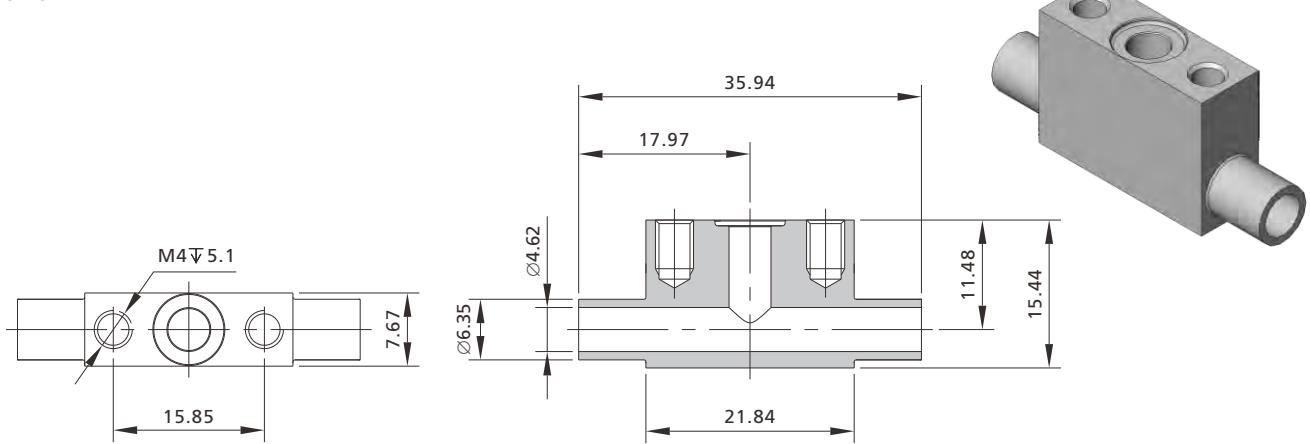
Unit: mm



**1-Path Bypass Substrates**

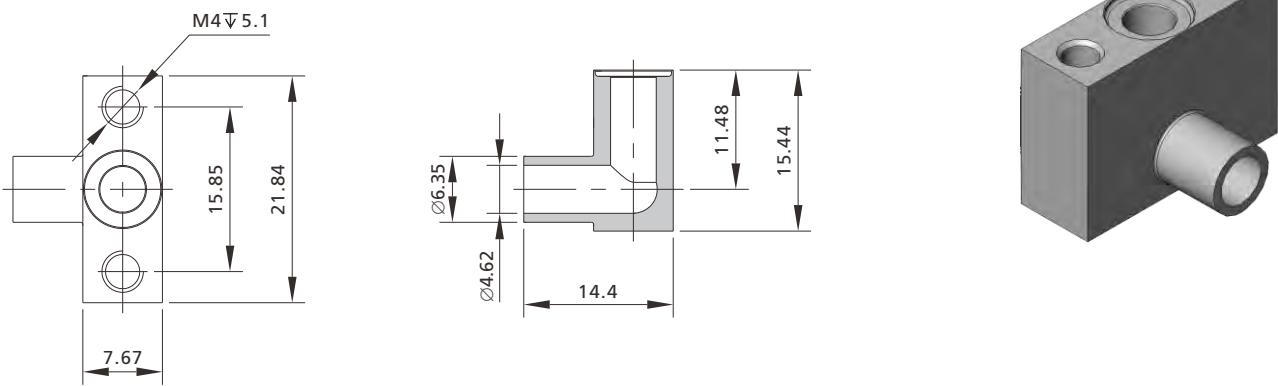
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Unit: mm

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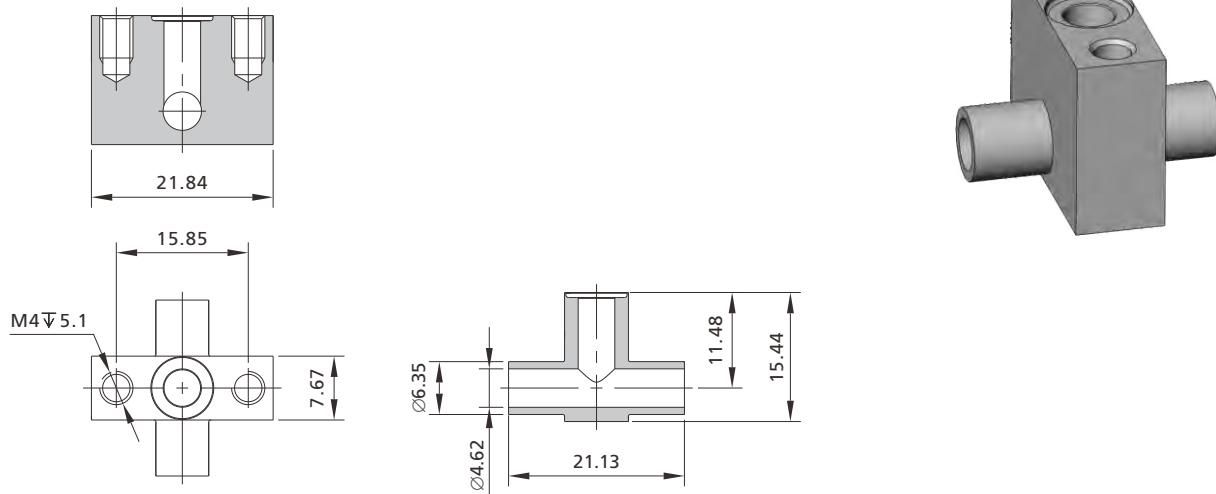
Basic Ordering Number: -ISB-CS11-S111-F3

Unit: mm

**1-Path Bypass Substrates**

Basic Ordering Number: -ISB-CS11-S126-F3

Unit: mm



Fittings

Valves

Regulators

Filters

Tubing

Integrated Systems

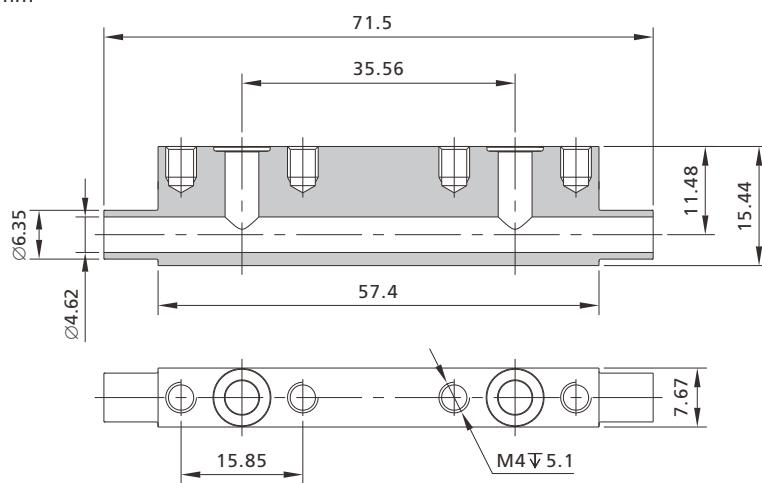
Other Products

Technical Information

**1-Path Bypass Substrates**

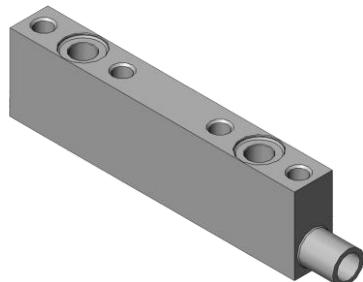
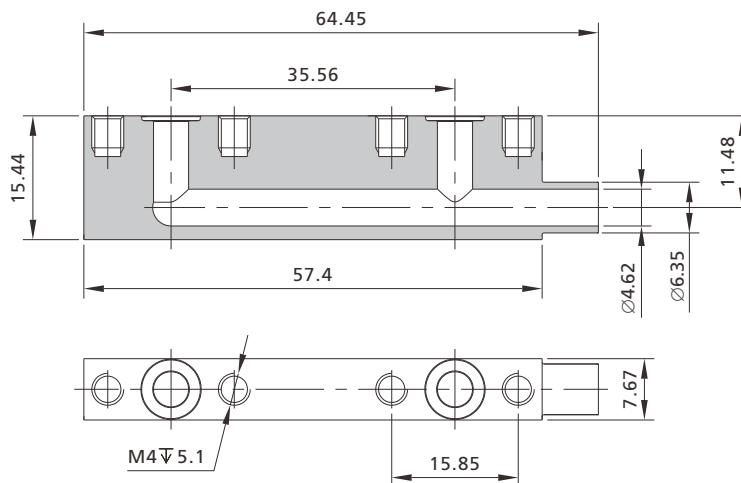
Basic Ordering Number: -ISB-CS11-M220-F3

Unit: mm

**1-Path Bypass Substrates**

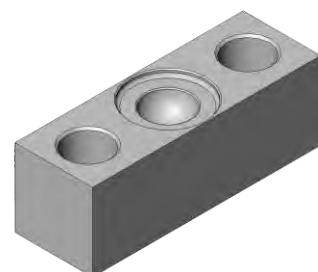
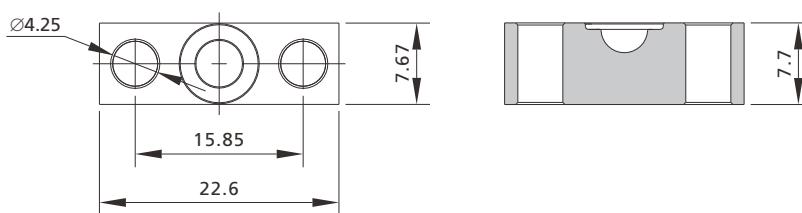
Basic Ordering Number: -ISB-CS11-M210-F3

Unit: mm

**Plugs**

Basic Ordering Number: -IEC-CS11-S102-F3

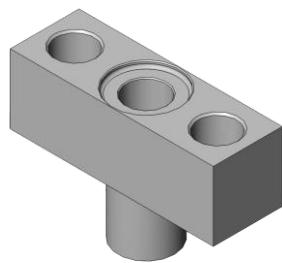
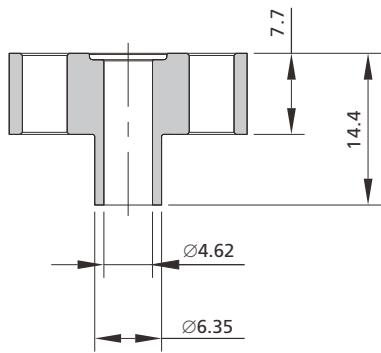
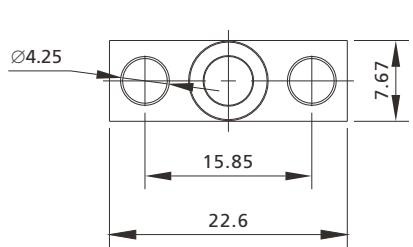
Unit: mm



**Plugs**

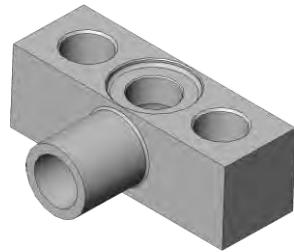
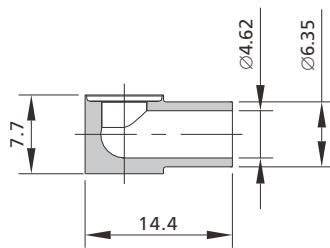
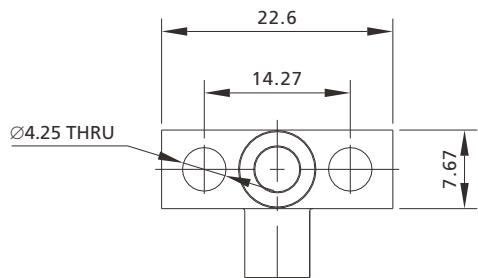
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Unit: mm

**Plugs**

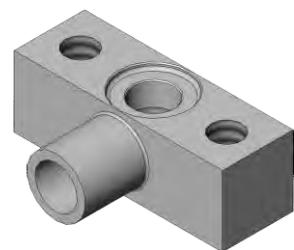
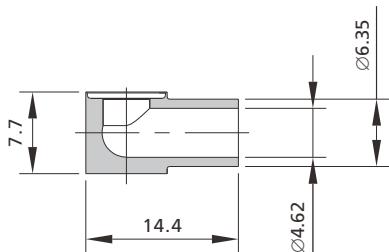
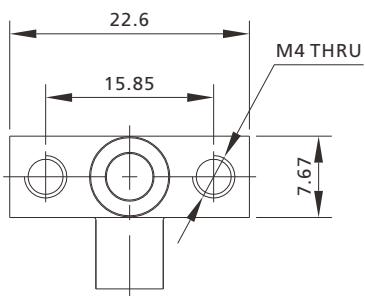
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Unit: mm

**Plugs**

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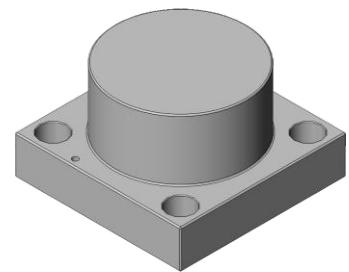
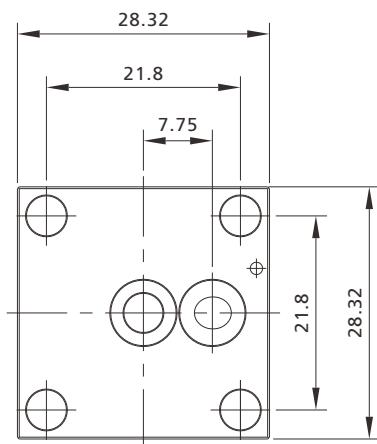
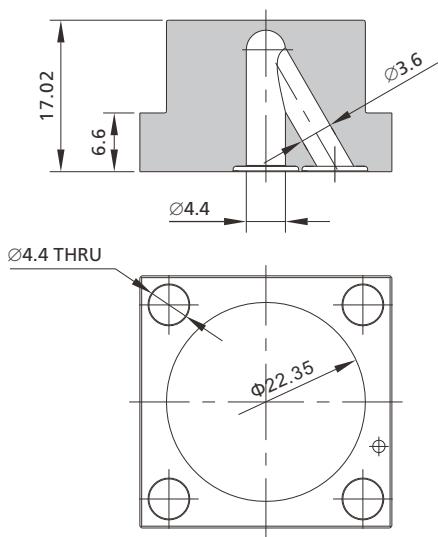
Unit: mm



**Transition Substrates**

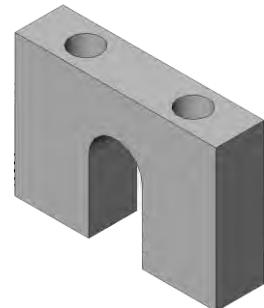
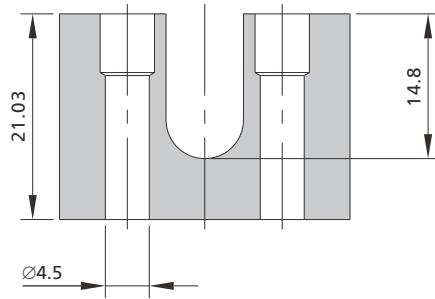
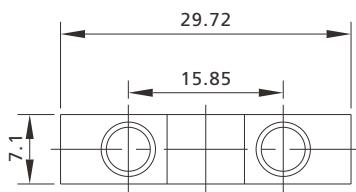
Basic Ordering Number: -ITC-CS11-S200-F3

Unit: mm

**Mount Blocks**

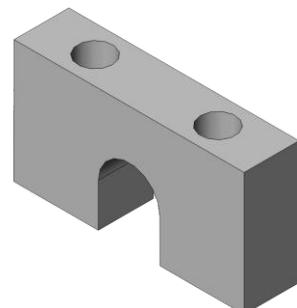
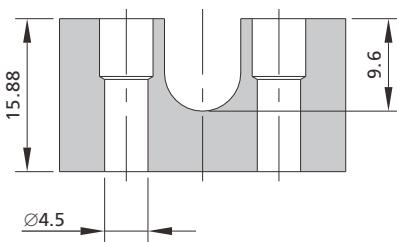
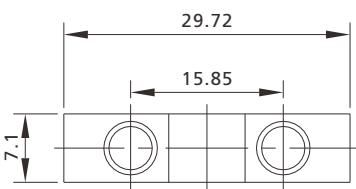
Ordering Number: AL-IDK-S418-F3

Unit: mm

**Mount Blocks**

Ordering Number: AL-IDK-S416-F3

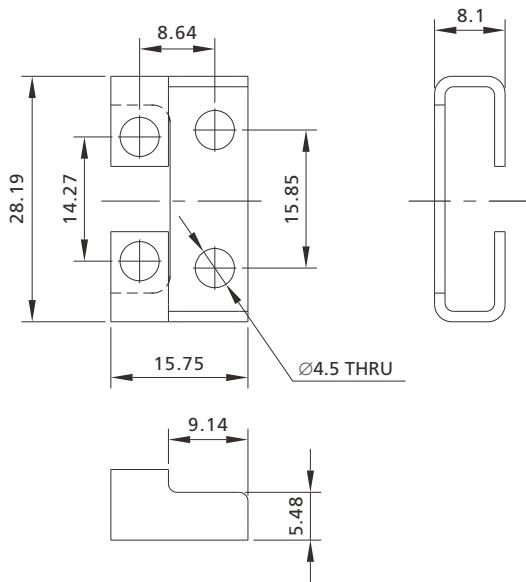
Unit: mm



**Brackets**

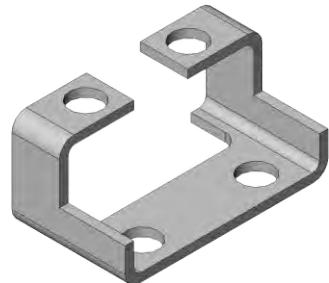
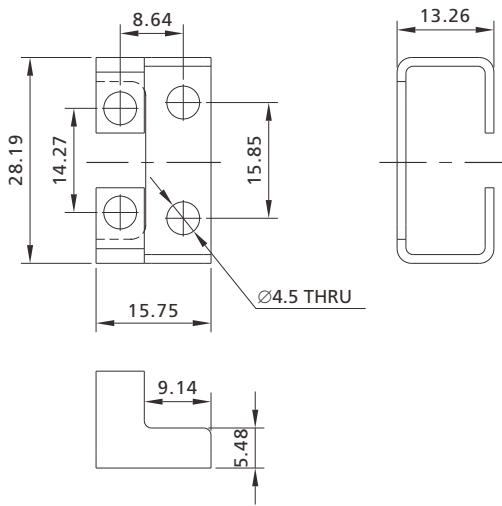
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Unit: mm

**Brackets**

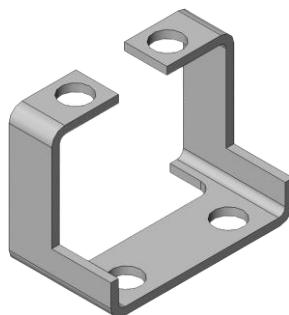
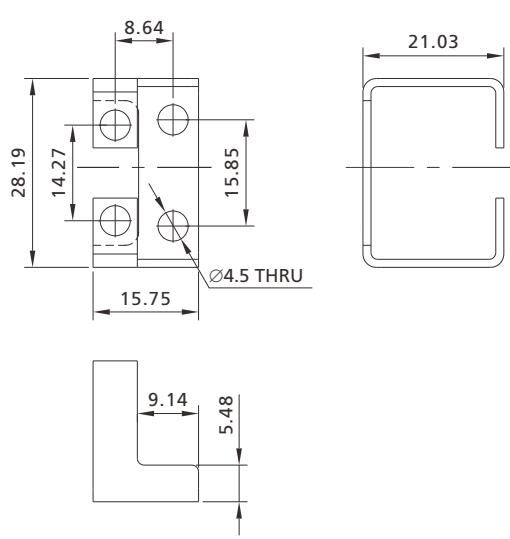
Ordering Number: S4-IZJ-C415-F3

Unit: mm

**Brackets**

Ordering Number: S4-IZJ-C418-F3

Unit: mm



Integrated Systems

Other Products

Technical Information

Tubing

Fittings

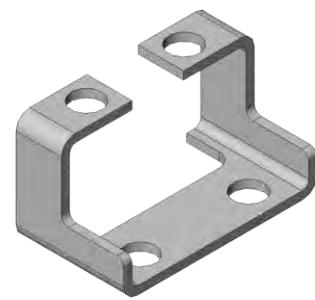
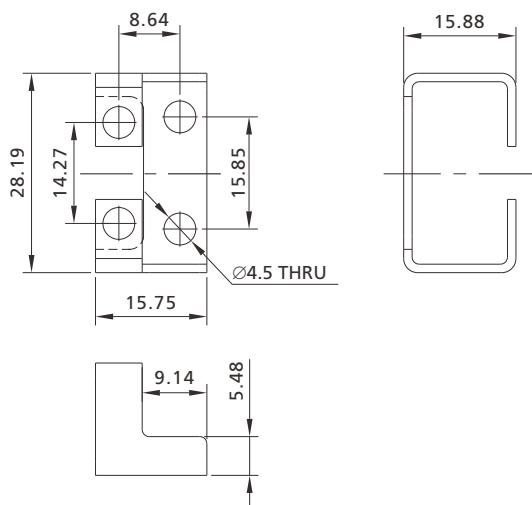
Valves

Regulators

**Brackets**

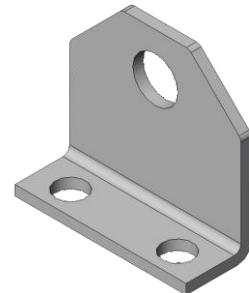
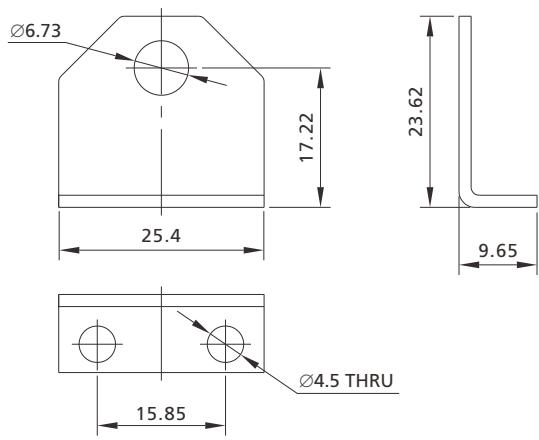
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Unit: mm

**Brackets**

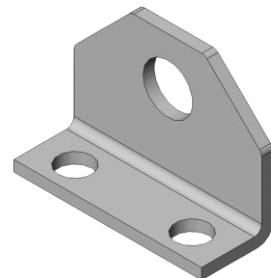
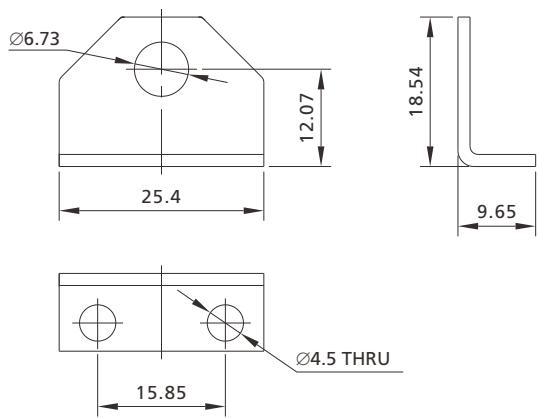
Ordering Number: S4-IZJ-L417-F3

Unit: mm

**Brackets**

Ordering Number: S4-IZJ-L415-F3

Unit: mm



## Ordering Number Description

6L - IVB - CS11 - M202 - F3				
Body Material	Substrate Type	Port Type	Substrate Designator	Process Specification
6L 316L SS	IVB Standard Substrate	CS11 1.125" C-Seal	D200 S126	F3 FC-03
6LV 316L SS VAR	ISB 1-Path Bypass Substrate	Mount Block	D310 S102	
AL Aluminum Alloy for Mount Block Only	IEC Plug	Bracket	D210 S112	
S4 304 SS for Bracket Only	ITC Transition Substrate		M420 S120	
	IDK Mount Block		M320 S121	
	IZJ Bracket		M202 S200	
			M220 S418	
			M210 S416	
			F220 C413	
			F120 C415	
			F002 C418	
			B110 C416	
			F100 L417	
			S110 L415	
			S111	

Notes:

- "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number.
- Not all combinations are available. Please contact FITOK Group or our authorized distributors if you have any requests.
- Brackets and mount blocks are only cleaned and packaged in accordance with FC-03.

# Parts

## Sealing Gaskets IWG Series

### Features

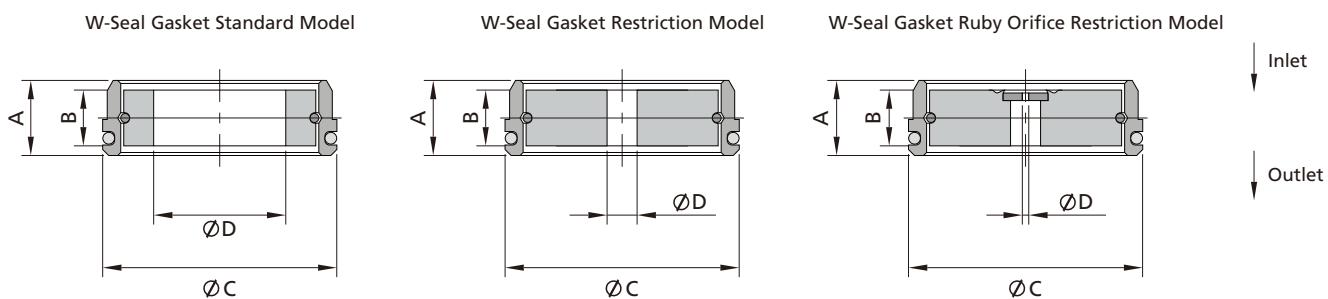
- ◎ 1.125" and 1.5"
- ◎ Sealing faces independent of components receiving external forces
- ◎ Electropolished to a surface finish of Ra 5 µin. (0.13 µm) max.
- ◎ Leak Rate (Helium):  $\leq 1 \times 10^{-9}$  std cm<sup>3</sup>/s



### Process Specification

Item	Process Specification
	Ultra High Purity (FC-03)
Material	316L SS, 316L SS VAR
Wetted Surface Roughness	Ra 5 µin. (0.13 µm)
Polishing Process	Electropolished

### Dimensions and Ordering Information



Basic Ordering Number	Port Type and Size	Dimensions, in. (mm)			
		A	B	C	D
-IWG-WS11-F3	1.125" W-Seal (Standard Model)	0.1 (2.5)	0.07 (1.86)	0.31 (7.8)	0.17 (4.4)
-IWG-WS11-ID***-F3 <sup>①</sup>	1.125" W-Seal (Restriction Model)	0.1 (2.5)	0.07 (1.86)	0.31 (7.8)	***
-IWG-WS11-R***-F3 <sup>②</sup>	1.125" W-Seal (Ruby Restriction Model)	0.1 (2.5)	0.07 (1.86)	0.31 (7.8)	***
-IWG-WS15-F3	1.5" W-Seal (Standard Model)	0.15 (3.8)	0.07 (1.9)	0.39 (10)	0.17 (4.4)

① ID\*\*\* indicates restriction orifice sizes, such as 0.3, which means an orifice size of Ø0.3 mm (only in mm).

Example: 6L-IWG-WS11-ID0.3-F3. For more size options, please contact FITOK.

② a. R\*\*\* indicates ruby orifice sizes, such as 012, which means an orifice size of Ø0.012" (012/1000", only in inch).

Example: 6L-IWG-WS11-R012-F3. For more size options, please contact FITOK.

b. When using the ruby orifice restriction gasket, it is recommended that the ruby side faces the gas inlet to enable more stable and uniform flow.

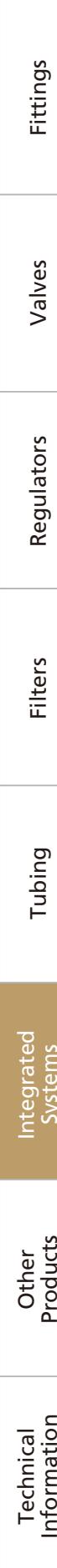
c. The maximum working pressure of the ruby orifice restriction gasket is 145 psig (10 bar). For use in working conditions with higher pressure requirements, please contact FITOK.

## Ordering Number Description

6L - IWG - WS11 - R012 - F3			
Body Material	Port Size	Flow Requirement	Process Specification
6L 316L SS	11 1.125"	Standard Model	F3 FC-03
6LV 316L SS VAR	15 1.5"	ID*** Restriction Model, Orifice *** mm R*** Ruby Orifice Restriction Model, Orifice ***/1000 in.	

Note: "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number.

Not all combinations are available. Please contact FITOK Group or our authorized distributors if you have any requests.

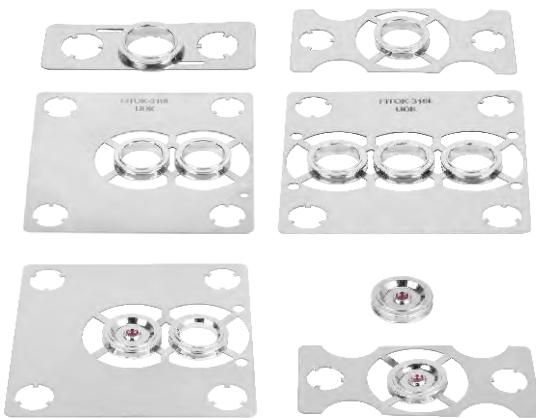


# Parts

## Sealing Gaskets ICG Series

### Features

- 1.125" and 1.5"
- Electropolished to a surface finish of Ra 5  $\mu$ in. (0.13  $\mu$ m) max.
- Leak Rate (Helium):  $\leq 1 \times 10^{-9}$  std cm<sup>3</sup>/s

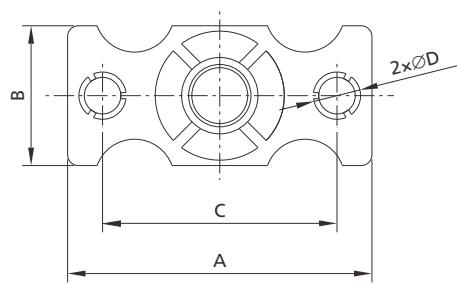


### Process Specification

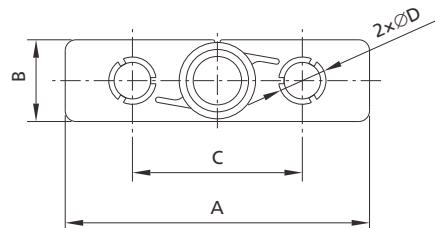
Item	Process Specification
	Ultra High Purity (FC-03)
Material	316L SS, 316L SS VAR
Wetted Surface Roughness	Ra 5 $\mu$ in. (0.13 $\mu$ m)
Polishing Process	Electropolished

### Dimensions and Ordering Information

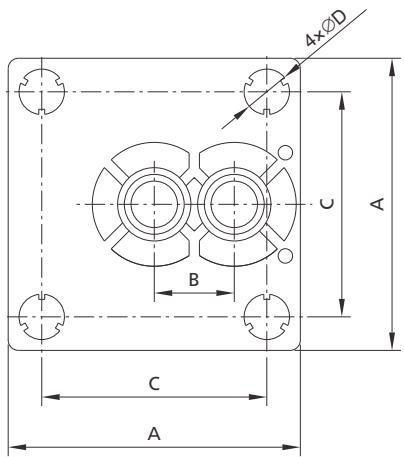
C-Seal Gasket Bracket 1P Standard Model



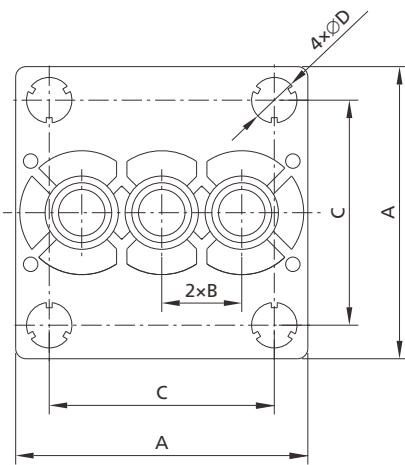
C-Seal Gasket Bracket 1P Special Size Model  
"-M-" "-F-" "-M86-"



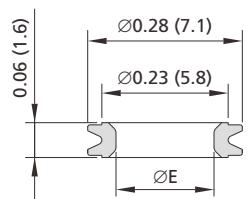
C-Seal Gasket Bracket 2P Standard Model



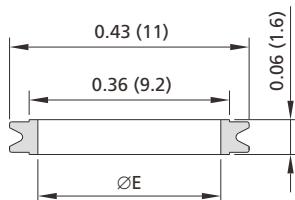
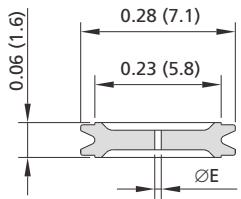
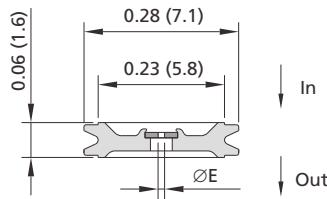
C-Seal Gasket Bracket 3P Standard Model



C-Seal Gasket Standard Model



C-Seal Gasket High Flow Model

C-Seal Gasket Restriction Model  
(Only for CS11)C-Seal Gasket Ruby Orifice Restriction Model  
(Only for CS11)

Fittings

Valves

Regulators

Filters

Tubing

Integrated Systems

Other Products

Technical Information

Fittings	Basic Ordering Number	Port Type and Size	Dimensions, in. (mm)				
			A	B	C	D	E
-ICG-CS11-1P-F3	1.125" C-Seal (Standard Model)	1.11 (28.3)	0.51 (13)	0.86 (21.80)	0.17 (4.4)	0.18 (4.5)	
-ICG-CS11-1P-M-F3	1.125" C-Seal (Special Size Model)	1.11 (28.3)	0.30 (7.6)	0.62 (15.85)	0.17 (4.4)	0.18 (4.5)	
-ICG-CS11-1P-F-F3	1.125" C-Seal (Special Size Model)	1.11 (28.3)	0.30 (7.6)	0.56 (14.27)	0.17 (4.4)	0.18 (4.5)	
-ICG-CS11-1P-M86-F3	1.125" C-Seal (Special Size Model)	0.85 (21.6)	0.30 (7.6)	0.62 (15.85)	0.17 (4.4)	0.18 (4.5)	
-ICG-CS11-1P-ID※※※-F3 <sup>①</sup>	1.125" C-Seal (Restriction Model)	1.11 (28.3)	0.51 (13)	0.86 (21.8)	0.17 (4.4)	※※※	
-ICG-CS11-1P-R※※※-F3 <sup>②</sup>	1.125" C-Seal (Ruby Restriction Model)	1.11 (28.3)	0.51 (13)	0.86 (21.8)	0.17 (4.4)	※※※	
-ICG-CS11-2P-F3	1.125" C-Seal (Standard Model)	1.11 (28.3)	0.31 (7.75)	0.86 (21.8)	0.17 (4.4)	0.18 (4.5)	
-ICG-CS11-2P-CID※※※-F3 <sup>①</sup>	1.125" C-Seal (Restriction Model)	1.11 (28.3)	0.31 (7.75)	0.86 (21.8)	0.17 (4.4)	※※※	
-ICG-CS11-2P-SR※※※-F3 <sup>②</sup>	1.125" C-Seal (Ruby Restriction Model)	1.11 (28.3)	0.31 (7.75)	0.86 (21.8)	0.17 (4.4)	※※※	
-ICG-CS11-3P-F3	1.125" C-Seal (Standard Model)	1.11 (28.3)	0.31 (7.75)	0.86 (21.8)	0.17 (4.4)	0.18 (4.5)	
-ICG-CS11-3P-SID※※※-F3 <sup>①</sup>	1.125" C-Seal (Restriction Model)	1.11 (28.3)	0.31 (7.75)	0.86 (21.8)	0.17 (4.4)	※※※	
-ICG-CS11-3P-CR※※※-F3 <sup>②</sup>	1.125" C-Seal (Ruby Restriction Model)	1.11 (28.3)	0.31 (7.75)	0.86 (21.8)	0.17 (4.4)	※※※	
-ICG-CS15-1P-F3	1.5" C-Seal (Standard Model)	1.48 (37.6)	0.51 (13)	1.18 (30.2)	0.2 (5.2)	0.18 (4.5)	
-ICG-CS15-2P-F3	1.5" C-Seal (Standard Model)	1.48 (37.6)	0.31 (7.75)	1.18 (30.2)	0.2 (5.2)	0.18 (4.5)	
-ICG-CS15-3P-F3	1.5" C-Seal (Standard Model)	1.48 (37.6)	0.31 (7.75)	1.18 (30.2)	0.2 (5.2)	0.18 (4.5)	
-ICG-CS15-1P-HF-F3	1.5" C-Seal (High Flow Model)	1.48 (37.6)	0.52 (13.2)	1.18 (30.2)	0.2 (5.2)	0.33 (8.4)	
-ICG-CS15-2P-HF-F3	1.5" C-Seal (High Flow Model)	1.48 (37.6)	0.46 (11.6)	1.18 (30.2)	0.2 (5.2)	0.33 (8.4)	
-ICG-CS15-3P-HF-F3	1.5" C-Seal (High Flow Model)	1.48 (37.6)	0.46 (11.6)	1.18 (30.2)	0.2 (5.2)	0.33 (8.4)	

① ID※※※ indicates restriction orifice sizes, such as 0.3, which means an orifice size of Ø0.3 mm (only in mm).

Example: 6L-ICG-CS11-1P-ID0.3-F3. For more size options, please contact FITOK.

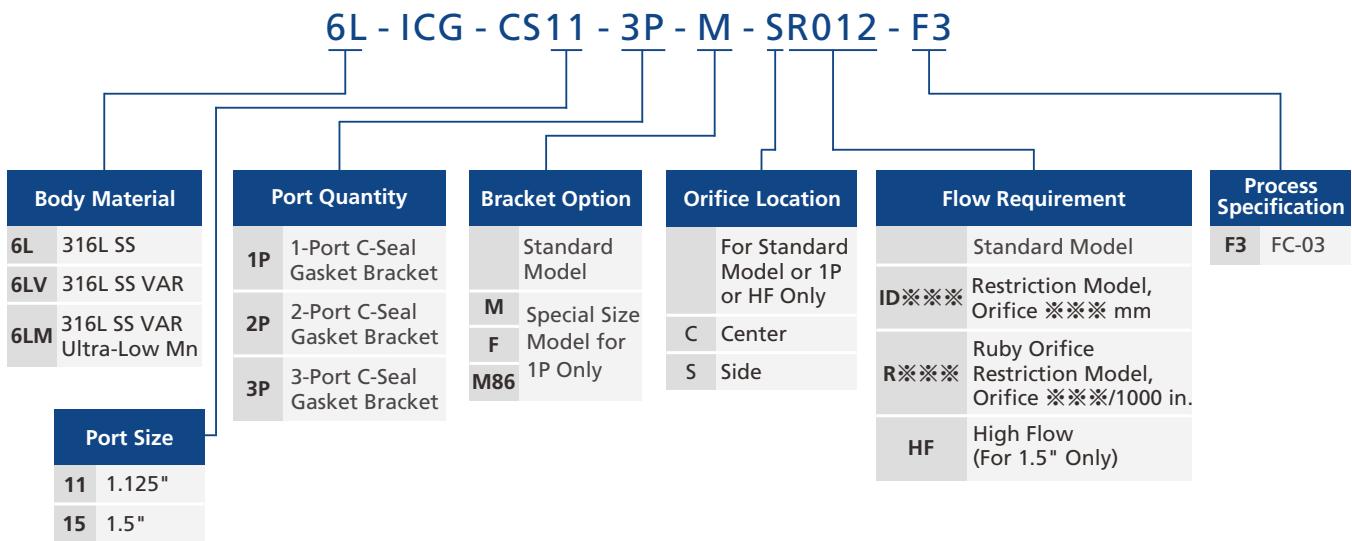
② a. R※※※ indicates ruby orifice sizes, such as 012, which means an orifice size of Ø0.012" (012/1000", only in inch).

Example: 6L-ICG-CS11-1P-R012-F3. For more size options, please contact FITOK.

b. When using the ruby orifice restriction gasket, it is recommended that the ruby side faces the gas inlet to enable more stable and uniform flow.

c. The maximum working pressure of the ruby orifice restriction gasket is 145 psig (10 bar). For use in working conditions with higher pressure requirements, please contact FITOK.

## Ordering Number Description



Note: "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number.

Not all combinations are available. Please contact FITOK Group or our authorized distributors if you have any requests.

Technical Information	Other Products	Integrated Systems	Tubing	Filters	Regulators	Valves	Fittings
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