



Direct Operated

2-Port Solenoid Valve



*1
CE marking compliance depends on the voltage and electrical entry. (Refer to page 3 for details.) This product is not compliant with EU drinking water directive 2020/2184 nor regulation (EC) No. 1935/2004 safety requirements for materials and articles intended to come into contact with food.

* IP65 for models with a DIN terminal

Building tomorrow
with peace of mind
and safety



WATER QUALITY

NSF/ANSI 61 certification

NSF/ANSI 61-2016

Drinking Water System Components - Health Effects



Caution Please use the product in accordance with the specifications provided in the catalogs/operation manuals. It is your responsibility to check the suitability for your workpiece and equipment.

HF3-JSX Series



NSF/ANSI 61 certification



Variations

Model	Port size	Orifice diameter [mm]	Flow rate* ¹ [L/min]				Fluid	Body material	Valve type	Seal material	Electrical entry	Standards		
			5	10	20	30								
HF3-JSX10 Series	1/8	1.6, 2.4	5				Water	Stainless steel	N.C.	NBR	Grommet DIN terminal Conduit M12 connector	NSF/ANSI 61		
HF3-JSX20 Series	1/8	3.2										15	(For orifice diameter ø5.6)	c US LISTED
	1/4, 3/8	3.2, 4.0, 5.6, 7.1												
HF3-JSX30 Series	1/4, 3/8	4.0, 5.6, 7.1					25	(For orifice diameters ø4.0 and ø5.6)	c US LISTED					

*1 At the max. operating pressure differential (Fluid: Water)

* Refer to pages 3, 5, and 6 for details.

Space saving

Compact

Valve volume:
25% reduction*1

Lightweight

Weight:
30% reduction*1

*1 Compared with the existing model

Energy saving

- Coil force: **10% increase**
(Compared with the existing model)
 - Power consumption: **14% reduction**
(Compared with the existing model)
- The coil attraction force has been improved by 10% and the power consumption has been reduced by 14% for optimal magnetic efficiency.

Stopper construction

Metal noise reduced by the resin stopper
Longer service life

IP67 enclosure

* IP65 for models with a DIN terminal

Improved armature durability

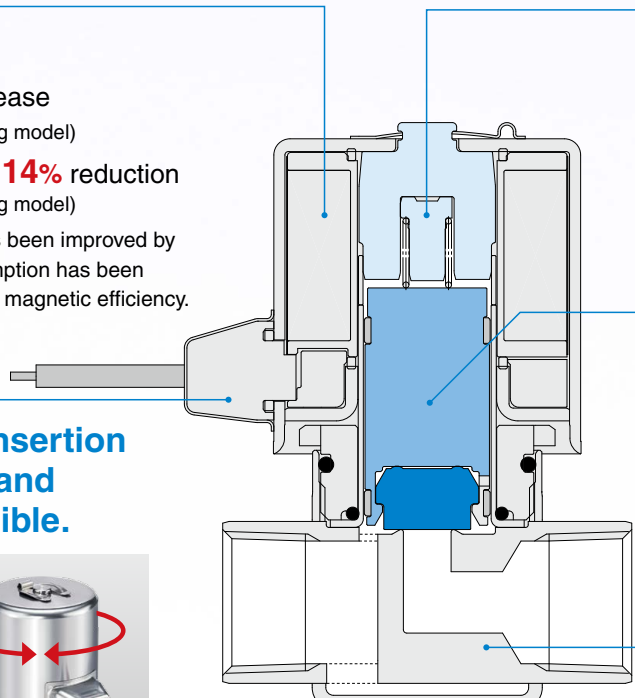
Power consumption

* For DC voltages

Size	10	20	30
Power consumption [W]	4	6	8

Body material

- Stainless steel



360° lead wire insertion IP67 enclosure and removal is possible.

As the coil rotates 360°, the lead wire is easy to handle.



Full-wave rectifier type

(AC specification: Insulation type Class B)

Improved durability

Extended service life due to the special construction
(Compared with the existing shading coil)

Reduced buzzing noise

Due to being rectified to DC by the full-wave rectifier

Reduced apparent power

* Class B, N.C. valve (Compared with the existing model)

9.5 VA → **8 VA** (HF3-JSX20 Series)

12 VA → **9.5 VA** (HF3-JSX30 Series)

Low-noise construction

Specially constructed to reduce metal noise during operation

Electrical entry variations



Grommet



Conduit



DIN terminal



M12 connector

NSF/ANSI 61 certification

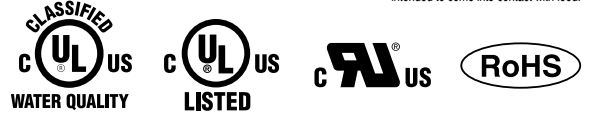
Direct Operated 2-Port Solenoid Valve

HF3-JSX Series

Body Material Stainless Steel



Differs depending on the voltage and electrical entry.
For details, refer to the **Web Catalog**.
*1 This product is not compliant with EU drinking water directive 2020/2184 nor regulation (EC) No. 1935/2004 safety requirements for materials and articles intended to come into contact with food.



For details, refer to pages 5 and 6.

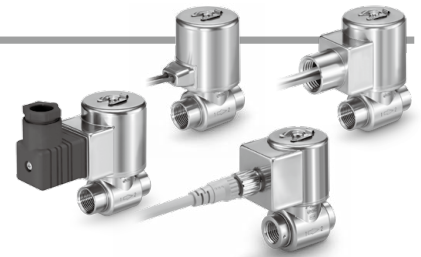
For **Water**

How to Order

HF3-JSX 2 1 - S N 302 R - 5 G - D - B

1
2
3
4
5
6
7
8
9

● Oil-free



1 Size

Symbol	Size
1	10
2	20
3	30

2 Valve type

Symbol	Valve type
1	N.C.

3 Body material

Symbol	Body material
S	Stainless steel

8 Electrical entry

Symbol	Electrical entry	Image	Size			CE/UKCA-compliant	UL Standards
			10	20	30		
G	Grommet*1		●	●	●	24 VDC 12 VDC	For details, refer to page 6.
GS	Grommet with PCB (With surge voltage suppressor)*2		●	●	●	100 VAC 24 VDC 12 VDC 48 VAC 24 VAC	
CS	Conduit (With surge voltage suppressor)		—	●	●	All voltages	
DS	DIN terminal (With surge voltage suppressor)		●	●	●	All voltages	
DZ	DIN terminal with light (With surge voltage suppressor)		●	●	●	All voltages	
DN	DIN terminal without connector (With surge voltage suppressor)		●	●	●	All voltages	
WN	M12 connector/Without connector cable (With surge voltage suppressor)*3		●	●	●	All voltages	

4 Seal material

Symbol	Seal material
N	NBR

5 Orifice diameter and port size

Symbol	Orifice diameter [mmø]	Port size	Size		
			10	20	30
101	1.6	1/8	●	—	—
201	2.4	1/8	●	—	—
301	3.2	1/8	—	●	—
302		1/4	—	●	—
303	3/8	—	●	—	
402	4.0	1/4	—	●	●
403		3/8	—	●	●
502	5.6	1/4	—	●	●
503		3/8	—	●	●
702	7.1	1/4	—	●	●
703		3/8	—	●	●

6 Thread type

Symbol	Thread type
R	Rc
N	NPT
F	G

7 Rated voltage

AC				DC			
Symbol	Rated voltage	Symbol	Rated voltage	Symbol	Rated voltage	Symbol	Rated voltage
1	100 VAC	7	240 VAC	5	24 VDC		
2	200 VAC	8	48 VAC	6	12 VDC		
3	120 (110) VAC	B	24 VAC				
4	220 VAC	J	230 VAC				

9 Option

Symbol	Option
Nil	None
B	With bracket*1 (Stainless steel)

*1 Bracket assembly part nos. (Refer to the **Web Catalog**.)

*1 DC voltage only

*2 Any voltage can be selected, but only the voltages listed in the table are compliant with CE/UKCA.

*3 A cable for the M12 connector is not included with the product. Refer to "Option" on the **Web Catalog** to order it separately.

Specifications

Size	10	20	30
Fluid and fluid temperature	Water: 1 to 60°C (No freezing)		
Fluid temperature for NSF/ANSI 61 certification compliance	23°C		
Standards	NSF/ANSI 61, CE, UKCA, UL Recognized, UL Listed		
Body material	Stainless steel		
Seal material	NBR		

* Specifications not listed are the same as those of the standard product.



More information can be viewed here.

Dimensions

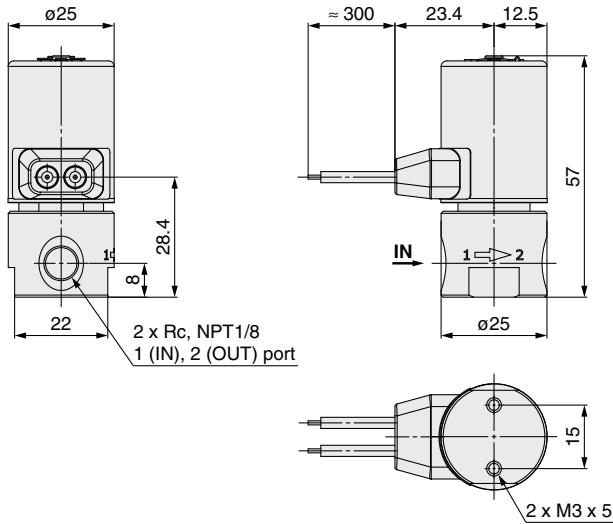
HF3-JSX10

Port Size 1/8

Stainless Steel

Body Material

G: Grommet



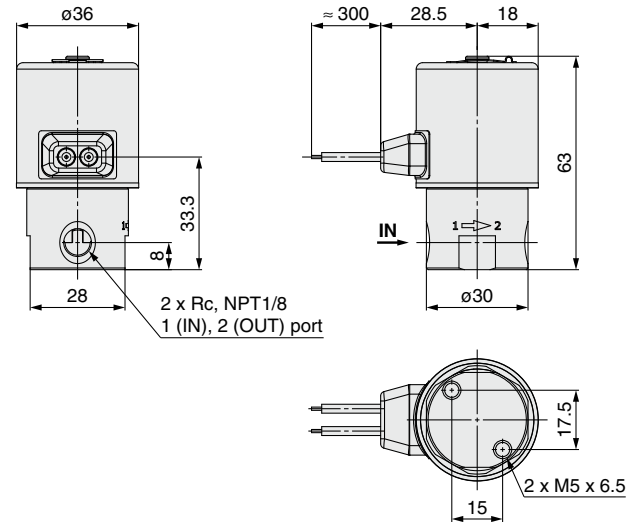
HF3-JSX20

Port Size 1/8

Stainless Steel

Body Material

G: Grommet



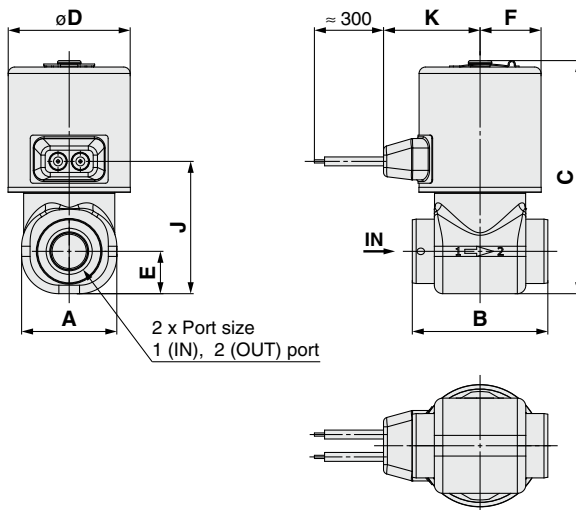
HF3-JSX20, 30

Port Size 1/4, 3/8

Stainless Steel

Body Material

G: Grommet



Size	Port size	A	B	C	D	E	F	Grommet [mm]	
								J	K
20	1/4	28.1	40	69	36	12.5	18	39	28.5
	3/8		48					42	
	G3/8		72	14					
30	1/4	28.1	40	78	42	12.5	21	40	31.1
	3/8		48					43	
	G3/8		81	14					

* Specifications not listed are the same as those of the standard product.



More information can be viewed here.

HF3-JSX Series

NSF/ANSI 61 certification

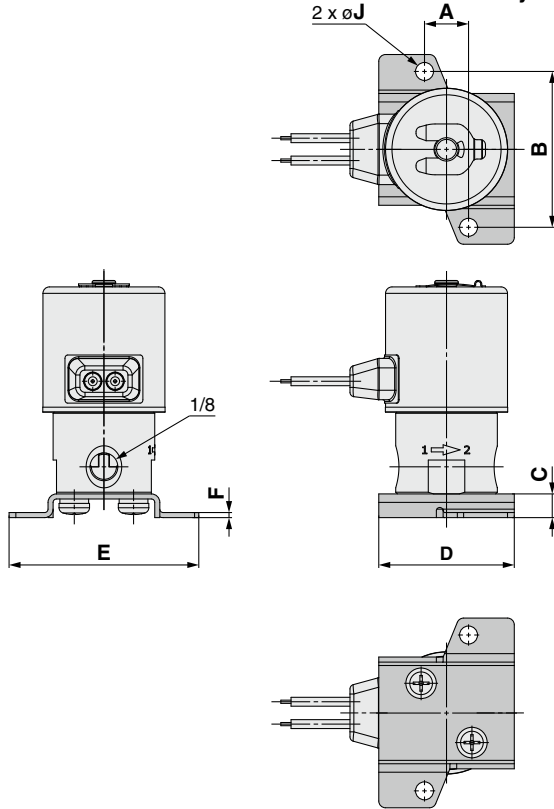
Dimensions: Bracket Options

HF3-JSX20, 30

Port Size 1/8

Stainless Steel

Body Material

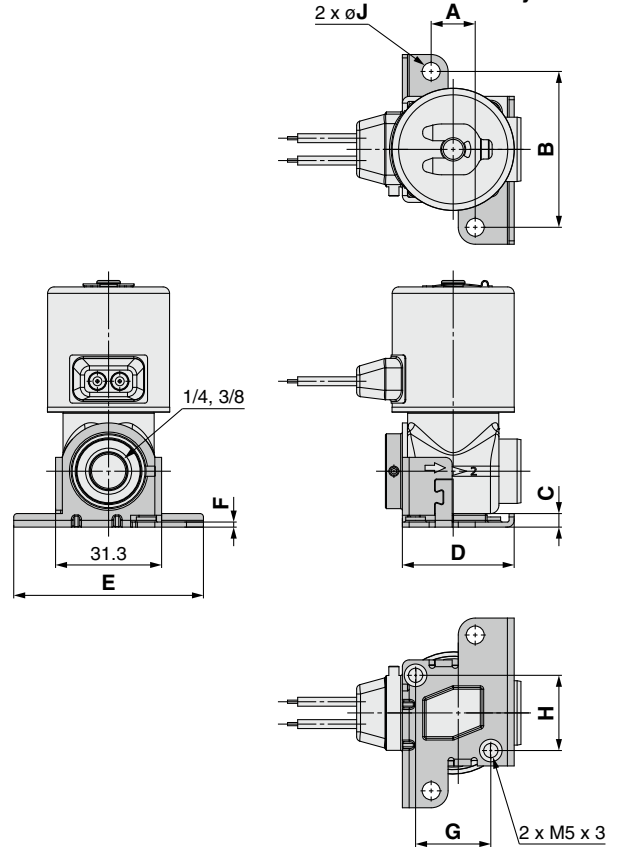


HF3-JSX20, 30

Port Size 1/4, 3/8

Stainless Steel

Body Material



[mm]										
Size	Port size	A	B	C	D	E	F	G	H	øJ
20	1/8	13	46	7	40	56	1.5	—	—	5.3
20, 30	1/4, 3/8	13	46	4	33	56	1.5	22.2	22.2	5.3
	G3/8							19	20.6	

* Specifications not listed are the same as those of the standard product.



More information can be viewed here.

NSF/ANSI 61 certification HF3-JSX Series/Specific Product Precautions

Be sure to read this before handling the products. For safety instructions and 2-port solenoid valves for fluid control precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website:

⚠ Caution

1. Quality control relating to hygiene is not implemented for this product.
2. This product is NSF/ANSI 61-2016 (Drinking Water System Components-Health Effects) certified by UL. Be sure to use the product in accordance with the laws and regulations of the country and region in which it is to be used.
3. Please use the product in accordance with the specifications provided in the catalogs/operation manuals. It is your responsibility to check the suitability for your workpiece and equipment.
4. Install filters suitable for the application on the downstream side of the solenoid valve.



HF3-JSX10, 20, 30 Series

Table of UL-compliant Products

* Refer to the table below for UL-compliant products.



Recognized

G
Grommet



GS
Grommet
with PCB



DN
DIN terminal
without connector



WN
M12 connector/
Without connector cable



JSX11	Series/Valve type	Body material	Seal material	Orifice diameter/Port size	Thread type	Rated voltage	Electrical entry	Option
	HF3-JSX11	S	N	101	R	1	G*1	*
		F	201	N	2	GS		
		E		F	3	DN		
					4	WN		
					5			
					6			
					7			
					8			
					B			
					J			

JSX21	Series/Valve type	Body material	Seal material	Orifice diameter/Port size	Thread type	Rated voltage	Electrical entry	Option
	HF3-JSX21	S	N	301	R	1	G*1	*
		F	302	N	2	GS		
		E	303	F	3	DN		
			402		4	WN		
			403		5			
			502		6			
			503		7			
			702		8			
			703		B			
					J			

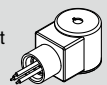
JSX31	Series/Valve type	Body material	Seal material	Orifice diameter/Port size	Thread type	Rated voltage	Electrical entry	Option
	HF3-JSX31	S	N	402	R	1	G*1	*
		F	403	N	2	GS		
		E	502	F	3	DN		
			503		4	WN		
			702		5			
			703		6			
					7			
					8			
					B			
					J			

*1 Only applicable to rated voltage symbols "5" and "6"



Listed

CS
Conduit





JSX21	Series/Valve type	Body material	Seal material	Orifice diameter/Port size	Thread type	Rated voltage	Electrical entry	Option
	HF3-JSX21	S	N	301	R	1	CS	*
		F	302	N	2			
		E	303	F	3			
			402		4			
			403		5			
			502		6			
			503		7			
			702		8			
			703		B			
					J			


JSX31	Series/Valve type	Body material	Seal material	Orifice diameter/Port size	Thread type	Rated voltage	Electrical entry	Option
	HF3-JSX31	S	N	402	R	1	CS	*
		F	403	N	2			
		E	502	F	3			
			503		4			
			702		5			
			703		6			
					7			
					8			
					B			
					J			

Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of “**Caution**,” “**Warning**” or “**Danger**.” They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

 **Danger** : **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

 **Warning**: **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

 **Caution**: **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

*1) ISO 4414: Pneumatic fluid power - General rules and safety requirements for systems and their components
ISO 4413: Hydraulic fluid power - General rules and safety requirements for systems and their components
IEC 60204-1: Safety of machinery - Electrical equipment of machines - Part 1: General requirements
ISO 10218-1: Robots and robotic devices - Safety requirements for industrial robots - Part 1: Robots etc.

Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Our products cannot be used beyond their specifications. Our products are not developed, designed, and manufactured to be used under the following conditions or environments. Use under such conditions or environments is not covered.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Use for nuclear power, railways, aviation, space equipment, ships, vehicles, military application, equipment affecting human life, body, and property, fuel equipment, entertainment equipment, emergency shut-off circuits, press clutches, brake circuits, safety equipment, etc., and use for applications that do not conform to standard specifications such as catalogs and operation manuals.
3. Use for interlock circuits, except for use with double interlock such as installing a mechanical protection function in case of failure. Please periodically inspect the product to confirm that the product is operating properly.

Caution

We develop, design, and manufacture our products to be used for automatic control equipment, and provide them for peaceful use in manufacturing business.

Use in non-manufacturing business is not covered.

Products we manufacture and sell cannot be used for the purpose of transactions or certification specified in the Measurement Act.

The new Measurement Act prohibits use of any unit other than SI units in Japan.

Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”.

Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)
Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

*2) **Vacuum pads are excluded from this 1 year warranty.**

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.

Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

Safety Instructions

Be sure to read the “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” before use.

SMC Corporation

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