Equipment for the Food Manufacturing Industry

HF1- Series	HF2- Series	HF1/HF2 Compatible Products
Fluid contact parts ● No grease or NSF H1 grade grease	Fluid contact parts ● No grease or NSF H1 grade grease ● FDA compliant materials	Available without prefix

Applicable for a diverse range of food manufacturing processes / Possible to blow directly onto food / Designed for hygiene management in accordance with HACCP and other standards

Packaging · Transfer · Cleaning · Box making · Stirring/ Mixing · Filling · Drying · Cooling

HF□ Series

SMC

HF1- Series/HF1 Compatible Products

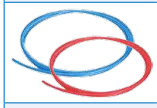
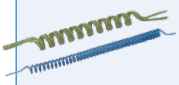
Air Preparation Equipment/Pressure Control Equipment/Others

	Compressed Air Purity Class: ISO 8573 Line Filter HF1-AFF20/30/40-D		p. 5
	Compressed Air Purity Class: ISO 8573 Mist Separator HF1-AM20/30/40-D		p. 5
	Compressed Air Purity Class: ISO 8573 Micro Mist Separator HF1-AMD20/30/40-D		p. 5
	Activated Carbon Filter HF1-AMK20/30/40-D	HF1	p. 6
	Air Filter HF1-AF20/30/40/50/60-D		p. 7
	Mist Separator HF1-AFM20/30/40-D		p. 8
	Micro Mist Separator HF1-AFD20/30/40-D		p. 8
	Membrane Air Dryer IDG	HF1 compatible	p. 9
	Regulator HF1-AR20/30/40/50/60(K)-D		p. 11
	Filter Regulator HF1-AW20/30/40/60(K)-D	HF1	p. 13
	Precision Regulator HF1-IR1000/2000/3000-A		p. 15
	Clean Regulator SRH3000/4000	HF1 compatible	p. 16
	Electro-Pneumatic Regulator ITV1000		p. 16-1
	Electro-Pneumatic Regulator HF1-ITV2000/3000	HF1	p. 16-1
	OSHA Standard Compliant/ Pressure Relief 3-Port Valve with Locking Holes HF1-VHS20/30/40/50-D		p. 17

Fittings and Tubing

	Insert Fittings KF		p. 18
	Miniature Fittings M, MS	HF1 compatible	p. 18 p. 19
	Self-align Fittings H/DL/L/LL		p. 18

Fittings and Tubing

	Stainless Steel 316 One-touch Fittings KQG2		p. 18
	Stainless Steel 316 Insert Fittings KFG2		p. 19
	Clean One-touch Fittings KPG		p. 19
	Clean One-touch Fittings KPQ		p. 19
	Nylon Tubing T/TIA		p. 20
	Soft Nylon Tubing TS/TISA	HF1 compatible	p. 20
	Polyurethane Tubing TU/TIUB		p. 21 p. 24
	Soft Polyurethane Tubing TUS		p. 27 p. 28
	Hard Polyurethane Tubing TUH		p. 29
	Wear Resistant Tubing TUZ/TIUZB		p. 30
	Polyurethane Coil Tubing TCU		p. 31
	Polyurethane Flat Tubing TFU		p. 32

Flow Control Equipment

	Speed Controller with One-touch Fitting HF1-AS-F	HF1	p. 39
	Stainless Steel Speed Controller ASG	HF1 compatible	p. 42

Pressure Gauges

	Pressure Gauge for General Purposes G36/G46		p. 43 p. 44
	Pressure Gauge for General Purposes G36-X4/GA36-X4		p. 45
	Oil-free/External Parts Copper-free Pressure Gauge G46E	HF1 compatible	p. 46
	Pressure Gauge for Clean Regulator G46-SRA, B		p. 47

HF1- Series/HF1 Compatible Products

Switches/Sensors

	3-Screen Display High-Precision Digital Pressure Switch ZSE20□(F)/ISE20□-X2	HF1 compatible	p. 48
	3-Screen Display High-Precision Digital Pressure Switch ZSE20C(F)/ISE20C(H)		p. 50
	3-Screen Display High-Precision Digital Pressure Switch ISE70/71-X2		p. 51
	Digital Pressure Switch ISE35-X528		p. 52
	Pressure Switch/ Reed Switch Type HF1-IS10	HF1	p. 53
	2-Color Display Digital Flow Switch PF2M7	HF1 compatible	p. 54
	2-Color Display Digital Flow Switch PFMB7		p. 55
	Flow Sensor PFMV5		p. 56

Process Valves

	2-Port Solenoid Valve HF1-JSX/JSXD	HF1	p. 57 p. 59
	Pulse Valve (Valve for Dust Collector) HF1-JSXFAE/F		p. 60
	High Speed 2-Port Valve SX10	HF1 compatible	p. 61

Directional Control Valves

	3-Port Solenoid Valve HF1-VP300/500/700	HF1	p. 62
	Mechanical Valve HF1-VM		p. 65

HF2- Series/HF2 Compatible Products

Air Preparation Equipment

	Bacteria Removal Filter/ Hollow Fiber Element SFDA	HF2 compatible	p. 4

Fittings and Tubing

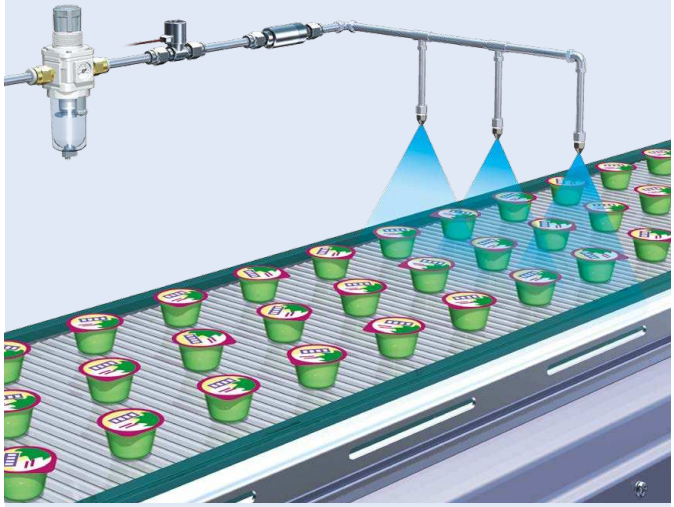
	EHEDG Compliant Fittings KFG2H□-E	HF2 compatible	p. 19
	Clean Design Fittings KFG2H□-C		p. 19
	FDA Compliant Fittings KQG2-F/KQB2-F/KFG2-F		p. 19
	FDA (U.S. Food and Drug Administration) and (EU) No 10/2011 Compliant Polyurethane Tubing TU-X214		p. 23
	Fluoropolymer Tubing TL/TIL		p. 33

Fittings and Tubing

	Fluoropolymer Tubing (PFA) TLM/TILM	HF2 compatible	p. 34
	FEP Tubing (Fluoropolymer) TH/TIH		p. 36
	Soft Fluoropolymer Tubing (Modified PTFE) TD/TID		p. 37
	Polyolefin Tubing TPH		p. 38
	Soft Polyolefin Tubing TPS		p. 38

Application Examples

Removal of particles on the container

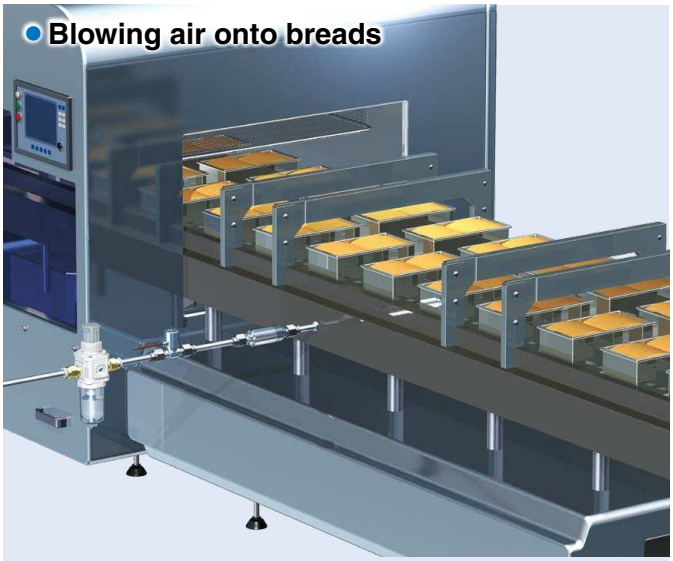


Air Preparation Equipment
HF1-AFF/AM□ Series
p. 5

Direct Operated
2-Port Solenoid Valve
HF1-JSX Series
p. 57

Bacteria
Removal Filter
SFDA Series
p. 4

Blowing air onto breads



Air Preparation Equipment
HF1-AFF/AM□ Series
p. 5

Direct Operated
2-Port Solenoid Valve
HF1-JSX Series
p. 57

Bacteria
Removal Filter
SFDA Series
p. 4

Nitrogen filling of packing machine

2-Color Display
Digital Flow Switch
PF2M7 Series
p. 54

Direct Operated
2-Port Solenoid Valve
HF1-JSX Series
p. 57

Bacteria
Removal Filter
SFDA Series
p. 4

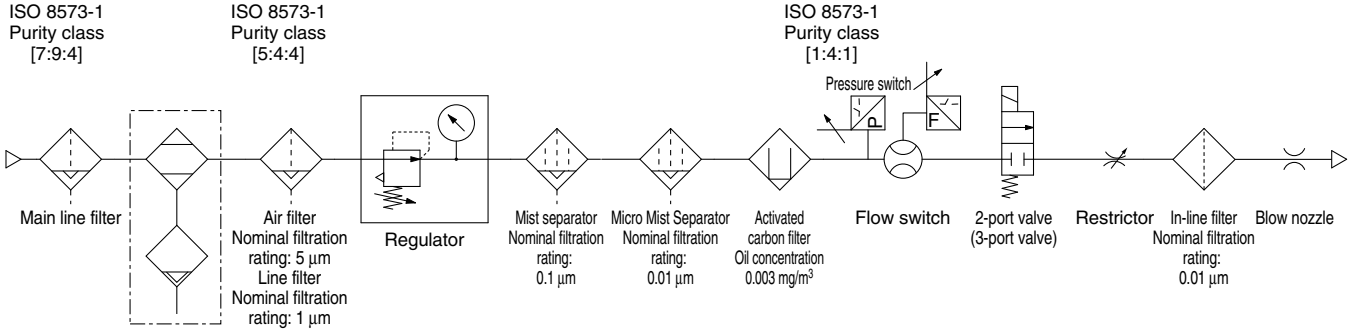
Stirring

Restrictor In-line Type
HF1-AS-X214
p. 40

Direct Operated
2-Port Solenoid Valve
HF1-JSX Series
p. 57

Bacteria
Removal Filter
SFDA Series
p. 4

Pneumatic equipment circuit of air blower for food application (example)



∗ Please use HF□ Series or HF□ compatible products on the downstream side refrigerated air dryer.

HF1 | HF2

*1 HF1 compatible | HF2 compatible

Electro-Pneumatic Regulator

ITV1000 Series
HF1-ITV2000/3000 Series

*1 Only the standard product of the ITV1000 series complies with HF1.

Click here for details on the specifications and dimensions.

How to Order

1000 type ITV 1 0 1 0 – 0 1 □ 1 □ S □

2000/3000 type HF1 – ITV 2 0 1 0 – 0 1 □ 2 □ S □

* Since the ITV1000 series features a grease-free structure, the standard product complies with HF1. Therefore, the ITV1000 series product does not require the "HF1-" part number prefix.

Model

2	2000 type
3	3000 type

Pressure range

1	0.1 MPa
3	0.5 MPa
5	0.9 MPa

Power supply voltage

0	24 VDC
1	12 to 15 VDC

Input signal

0	Current type 4 to 20 mADC (Sink type)
1	Current type 0 to 20 mADC (Sink type)
2	Voltage type 0 to 5 VDC
3	Voltage type 0 to 10 VDC
40	4 points preset input

Monitor output

1	Analog output 1 to 5 VDC
2	Switch output/NPN output
3	Switch output/PNP output
4	Analog output 4 to 20 mADC (Sink type)
Nil	None (For 4 points preset input)

Thread type

Nil	Rc
N	NPT
T	NPTF
F	G

Port size

1	1/8 (1000 type)
2	1/4 (1000, 2000, 3000 type)
3	3/8 (2000, 3000 type)
4	1/2 (3000 type)

Bracket

Nil	Without bracket
B	Flat bracket
C	L-bracket

Cable connector type

S	Straight type 3 m
L	Right angle type 3 m
N	Without cable connector

Pressure display unit

Nil	MPa
2*2	kgf/cm²
3	bar
4*2	psi
5	kPa

*2 This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)

* This product uses grease for food processing equipment (certified by NSF-H1) for fluid contact parts.
* The grease used for the built-in solenoid valve is not grease for food processing equipment. The solenoid valve exhaust may be discharged from EXH to the outside of the unit. If required, connect a pipe outside the area.
* Due to the structure of this product, wear debris and lubricant may flow to the OUT side of the product, so be sure to connect the required air preparation equipment, such as an air filter. Decide the specifications of the devices according to the equipment on the OUT side of this product.

HF□ Series
Precautions

Be sure to read this before handling the products.

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

⚠Caution

1. **When selecting equipment, carefully consider the application, required specifications, and operating conditions (fluid, pressure, flow rate, filtration, and environment), making sure not to exceed the specification range.**
2. **This product is provided for normally typical forms of use in the manufacturing industry. As such, to use the product for applications that may affect the human body directly or indirectly, such as caisson shield, breathing, food, and the medical treatment, be sure to consult SMC in advance.**
   It is not necessary to consult SMC when the product is used as an air blower for food.
3. **When the product is used as an air blower, install an appropriate filter to eliminate foreign matter in compressed air for air blowing. (Refer to the example of pneumatic circuit on page 3).**
4. **The solenoid valve generates particles from the wear of sliding parts inside. When the solenoid valve is used as an air blower, install an appropriate filter (filtration of 0.01 μm) on the outlet of the solenoid valve to prevent foreign matter from flowing to the downstream. Filters require regular inspection, replacement of the element, and maintenance referring to the operation manual for standard products.**
5. **Quality management relating to hygiene for food and medical treatment is not implemented for this product.**
6. **Compressed air hygiene should be managed in accordance with national and regional rules and regulations.**
7. **Grease**
   - Fluid contact parts: NSF H1 grade grease
   - Part other than fluid contact parts:
     NSF H1 grade grease or grease which is not NSF H1 grade

Pressure Gauge Specific Product Precautions

Selection

⚠Caution

1. **Make sure that no direct impact or vibrations are applied to the body.**
2. **If operating under pressure pulsations or in high frequency operations, please contact SMC.**

Equipment for the Food Manufacturing Industry

HF1- Series | HF2- Series | HF1/HF2 Compatible Products