



SMC'S SOLUTIONS FOR FOOD
SAFETY AND COMPLIANCE

Add food **safety** to your recipe

Expertise
Passion
Automation



Ensuring food safety and compliance

Ensuring compliance to the latest food safety legislation / benchmarks is vital to the success of any food manufacturing business. With an increasing focus on food safety and hygienic design food manufacturing site auditors are paying close attention to these aspects.

Responding to this need, SMC has developed a range of products known as the **HF1, HF2 and HF3 series** which can help food manufacturers and OEMs satisfy the requirement to **meet their mandatory HACCP** (Hazard Awareness Critical Control Point) requirements for food safety.

HF Series

The use of HF1 / HF2 filtration products is particularly suitable for compressed air systems that blow either directly or indirectly on to food products or their associated packaging. With filtration to ISO 8573-1 and a HF2 antibacterial filtration option, these products can help support a food manufacturing business's prerequisite and HACCP requirements.



STEVE ARNOLD
Food Standard Manager

Product categories

HF1

When used, lubricants and rust proof agents for food machinery are used

HF1 Series

No lubricants or rust proof agents are used on the fluid contact parts.

HF1A Series

No lubricants or rust proof agents are used on the external parts.

HF1B Series

No lubricants or rust proof agents are used on the external parts or fluid contact parts.

HF2

When used, lubricants and rust proof agents for food machinery are used. In addition, U.S. FDA compliant materials are used.

HF2 Series

No lubricants or rust proof agents are used on the fluid contact parts.

HF2A Series

No lubricants or rust proof agents are used on the external parts.

HF2B Series

No lubricants or rust proof agents are used on the external parts or fluid contact parts.

HF3

Certified by a third-party organisation

HF3 Series

Products certified by a third-party organisation.¹⁾

1) Refer to each product catalogue for certification standards.

HF3A Series

Uses materials that comply with food contact surface laws and regulations and does not use lubricants or rust proof agents.

Food application

Find our products suitable for the requirements of diverse food manufacturing processes:

Transfer



Box making



Stirring and mixing



Filling



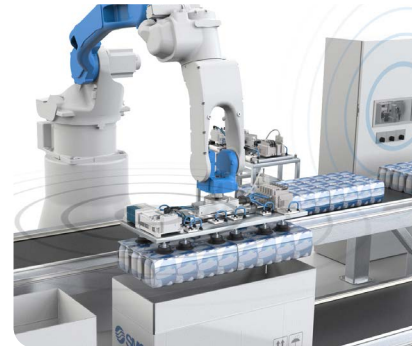
Cleaning



Sorting



Packaging



Drying and cooling



HF1

When used, lubricants and rust proof agents for food machinery are used

HF1 Series

No lubricants or rust proof agents are used on the fluid contact parts.

Combination units



Air combination units
HF1-AC-D-X7000 Series ⊕

Pressure regulators



• Precision regulator
HF1-IR1000/2000/3000-A
Series

• Electro-pneumatic regulator
HF1-ITV2000/3000 Series

Directional control valves



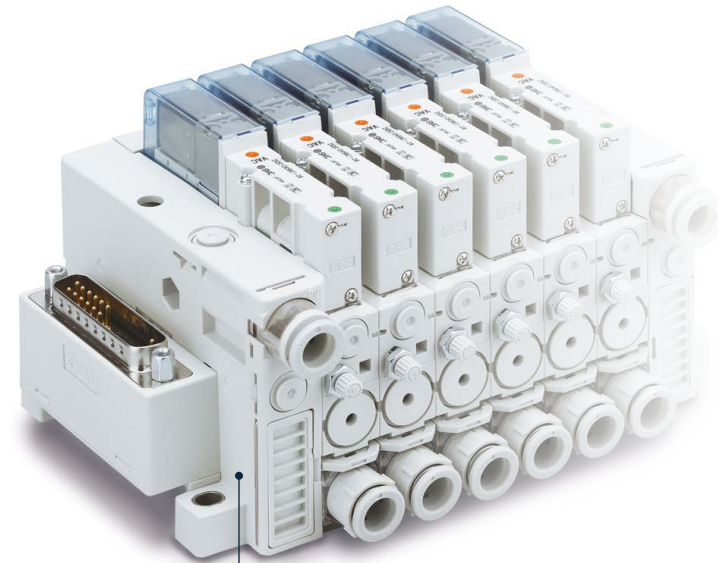
5-port solenoid valve plug-in type
HF1-SY3000/5000/7000 Series

• 5-port solenoid valve body
ported/single unit
HF1-SY3000/5000/7000 Series

3-port solenoid valve
HF1-VP300/500/700 Series



Vacuum equipment



Vacuum unit
HF1-ZK2□A Series

HF1A Series

No lubricants or rust proof agents are used on the external parts.

Electric actuators

- **High rigidity and high precision slider type**
HF1A-LEKFS Series
- **Rod type**
HF1A-LEY Series
- **Guide rod type**
HF1A-LEYG Series

Slider type
HF1A-LEFS Series



Actuators



Compact guide cylinder
HF1A-MGP Series

Linear actuators

- **Air cylinder**
HF1A-CJ2 Series
- **Air cylinder**
HF1A-CM2 Series
- **Air cylinder**
HF1A-CG1 Series
- **Free mount cylinder**
HF1A-CU Series
- **Compact cylinder/Compact type**
HF1A-CQS Series
- **Compact cylinder**
HF1A-CQ2 Series
- **Compact cylinder with end lock**
HF1A-CBQ2 Series

Guided actuators

- **Dual rod cylinder/Compact type**
HF1A-CXSJ Series
- **Dual rod cylinder**
HF1A-CXS2 Series

ISO cylinders

- **ISO cylinder**
HF1A-C96 Series
- **ISO cylinder**
HF1A-CP96 Series

HF1B Series

No lubricants or rust proof agents are used on the external parts or fluid contact parts.

Pressure regulators

- **Regulator**
HF1B-AR-D Series ⊕



Filter regulator
HF1B-AW-D Series ⊕

Filters

- **Filter**
HF1B-AF-D Series ⊕
- **Mist separator**
HF1B-AFM-D Series ⊕
- **Micro mist separator**
HF1B-AFD-D Series ⊕

ISO 8573 compliant

- **Filter**
HF1B-AFF-D Series ⊕
- **Micro mist separator**
HF1B-AMD-D Series ⊕
- **Activated carbon filter**
HF1B-AMK-D Series ⊕

Mist separator
HF1B-AM-D Series ⊕



Pressure relief 3-port valve

- **OSHA standard compliant, pressure relief 3-port valve**
HF1B-VHS-D Series ⊕



Speed controllers

Speed controller with one-touch fitting (Throttle valve)
HF1B-AS-F (-X214) Series



Sensors & Switches



Pressure switch,
reed switch type
HF1B-IS10 Series

Process valves

2-port solenoid valve
HF1B-JSX/JSXD Series ⊕



- Pulse valve
HF1B-JSXF/JSXFA Series ⊕
- Modular mounting type 2-port solenoid valve
HF1B-JSXM Series
- Mechanical valve
HF1B-VM Series

Vacuum equipment

- Vacuum ejector
HF1B-ZH Series
- In-line type vacuum ejector
HF1B-ZU□A Series



Multistage ejector
HF1B-ZL1/ZL3/ZL6 Series

HF1 compatible

The specifications are the same as those of the products from each series without the “HF-” part number prefix.

Pressure regulators



Electro-pneumatic regulator
ITV1000 Series ⊕

Sensors & Switches

- 3-screen display high-precision digital pressure switch
ZSE20(F)/ISE20-X2 Series
- 3-screen display high-precision digital pressure switch, grease-free
ISE70/71-X2 Series
- Digital pressure switch, grease-free
ISE35-X528 Series

3-screen display high-precision digital pressure switch
ZSE20C(F)/ISE20C(H) Series ⊕



Pressure gauges

- Pressure gauge for clean regulator
G46-SRA, B Series ⊕

- Oil-free/external parts
copper-free pressure gauge
G46E Series ⊕



Filters

- Clean air filter
SFD Series ⊕



HF1A compatible

Pneumatic actuators

- Hygienic design cylinder
HY□ Series ⊕

- Stainless steel cylinder
CJ5-S/CG5-S/CG5W-S
Series ⊕



Floating joints

- Floating joint /
stainless steel type
JS Series ⊕



HF1B compatible

Tubing

- Nylon standard tubing, standard T/TIA Series ⊕
- Soft nylon general use tubing TS/TISA Series ⊕
- Polyurethane standard tubing TU/TIUB Series ⊕
- Soft polyurethane tubing TUS Series ⊕
- Polyurethane standard tubing, hard polyurethane TUH Series ⊕
- Wear resistant tubing, multi-core flat TUZ/TIUZB Series ⊕
- Polyurethane coil tubing, standard TCU Series ⊕
- Polyurethane general use tubing, multi-core flat TFU Series ⊕



Speed controller

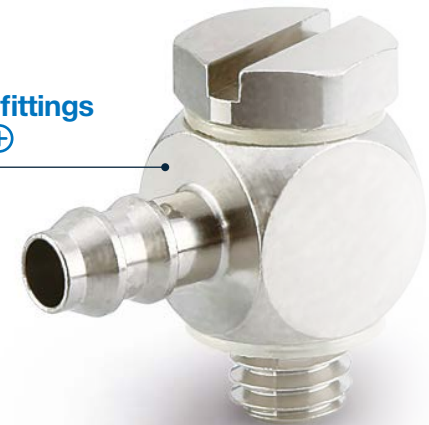
Stainless steel speed controller
ASG Series ⊕



Fitting

- Insert fittings KF Series ⊕
- Self-align fittings H/DL/L/LL Series ⊕
- 316 stainless steel, one-touch fittings KQG2 Series ⊕
- 316 stainless steel, insert fittings KFG2 Series ⊕
- Clean one-touch fittings KP Series ⊕
- S couplers stainless steel type KKA Series ⊕

Miniature fittings
M Series ⊕



Directional control valves

Clean design manifold valve
lead wire type
JSY5000-H Series ⊕



Membrane air dryers

• Membrane air dryer
IDG Series ⊕



Membrane air
dryer
IDG-D Series ⊕

Nitrogen generator

Membrane nitrogen generator
NMG Series ⊕



Pressure regulators

Clean regulator
SRH3000/4000 Series ⊕



Pressure gauges

- Pressure gauge for general purpose (O.D. 42 mm)
G46 Series ⊕
- Pressure gauge for general purpose, oil free (O.D. 37 mm)
G36-X4 Series ⊕

Pressure gauge for general purpose (O.D. 37 mm)
G36 Series ⊕



Process valves



2-port high speed valve
SX10 Series ⊕

Sensors & Switches

- 2-colour display digital flow switch
PF2M7 Series ⊕
- 2-colour display digital flow switch
PFMB7 Series ⊕
- Flow sensor
PFMV5 Series ⊕
- Flow controller for air
PFCQ Series ⊕

Flow controller for air
PFCQ Series ⊕



HF2

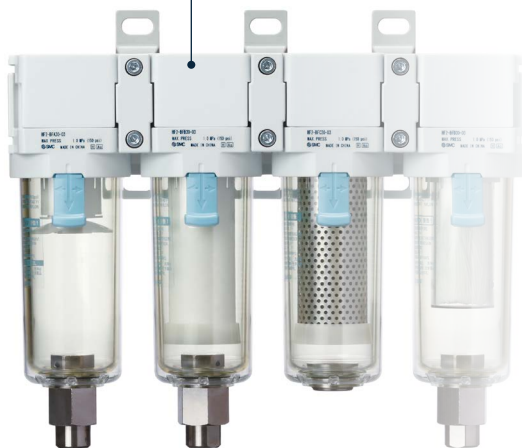
When used, lubricants and rust proof agents for food machinery are used. In addition, U.S. FDA compliant materials are used.

HF2 Series

No lubricants or rust proof agents are used on the fluid contact parts.

Combination units

Antibacterial air combination unit
HF2-BAC Series ⊕



HF2A Series

No lubricants or rust proof agents are used on the external parts.

Actuator

· Stainless steel cylinder
HF2A-CG5 Series ⊕



Rod type dust-tight/water-jet-proof
(IP69K equivalent)
HF2A-LEY Series ⊕

Speed controllers

Speed controllers, stainless steel,
simple handle, metal body, water
resistant, elbow
HF2A-ASG-V Series ⊕



HF2B Series

No lubricants or rust proof agents are used on the external parts or fluid contact parts.

Filters

Bacteria removal filter
HF2B-SFDA Series ⊕



- **Antibacterial filter, 5 µm**
HF2B-BFA Series ⊕
- **Antibacterial filter, 0.1 µm**
HF2B-BFB Series ⊕
- **Bacteria removal filter**
HF2B-BFD Series ⊕
- **Odour removal filter**
HF2B-BFC Series ⊕

Speed controllers

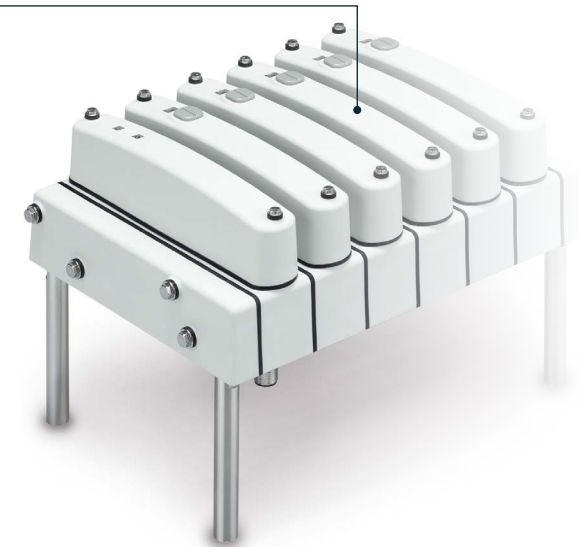
Stainless steel throttle valve with one-touch fittings, in-line type, food compatible
HF2B-ASG-TV Series ⊕



HF2A compatible

Directional control valves

Clean design manifold valve fieldbus type
JSY5000-H Series ⊕



HF2B compatible

Fittings



FDA compliant

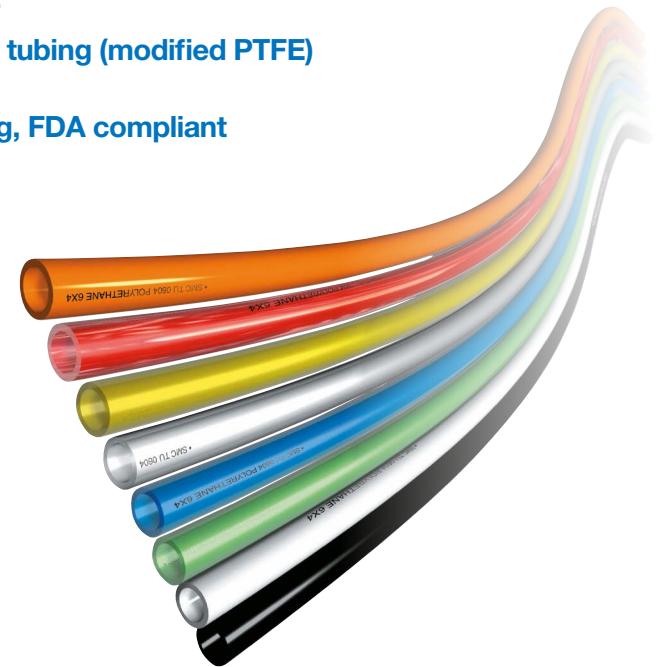
- **Insert fitting, clean design**
KFG2H-C Series ⊕
- **One-touch fitting, 316 stainless steel**
KQG2-F Series ⊕
- **One-touch fitting, metal**
KQB2-F Series ⊕
- **Insert fitting, 316 stainless steel**
KFG2-F Series ⊕



**EHEDG compliant, FDA compliant
male connector insert fitting**
KFG2H-E Series ⊕

Tubing

- **Clean and chemical resistant tubing, polyurethane, FDA compliant**
TU-X214 Series ⊕
- **Chemical and heat resistant FEP tubing**
TPH Series ⊕
- **Soft polyolefin tubing**
TPS Series ⊕
- **Fluoropolymer tubing**
TL/TIL Series ⊕
- **Fluoropolymer tubing (PFA)**
TLM/TILM Series ⊕
- **Soft fluoropolymer tubing (modified PTFE)**
TD/TID Series ⊕
- **Polyethylene tubing, FDA compliant**
TX/TIX Series ⊕



HF3 Series

Products certified by a third-party organisation.¹⁾

1) Refer to each product catalogue for certification standards.

Process valves

2-port solenoid valve
HF3-JSX Series



HF3A Series

Uses materials that comply with food contact surface laws and regulations and does not use lubricants or rust proof agents.

Vacuum pads

Suction cup, compatible with metal detectors
HF3A-ZP3F Series ⊕



HF3A compatible

Vacuum pads

Bernoulli gripper with coanda grip
ZNC-C Series ⊕



- Bernoulli gripper
ZNC Series ⊕
- Suction cup, compatible with metal detectors, oval shape
ZP3F-WJT Series ⊕

SMC Business Continuity Plan

Sustainable growth also means ensuring uninterrupted operations

We are committed to ensuring that SMC is prepared for any emergency and that our business activities will not stop in the event of such circumstances. SMC aims to fulfil our product supply responsibilities and maintain our customers' trust by contributing to both sustainable growth and the expansion of technological innovations.

SMC, as a comprehensive manufacturer of automatic control equipment that supports automation, is able to promptly provide products that meet our customers' needs anywhere in the world.

Production BCP

Ensure customer order fulfilment

Reliable delivery for you thanks to our 9 global logistic centres and 38 production sites worldwide. Moreover, flexibility to rapidly respond to any sudden change in the manufacturing environment.

Finance BCP

Safe & Solid financial base

In the event of an emergency, SMC can provide a safe and solid financial base (with cash, deposits, and equity capital) that will sufficiently cover the working capital and funds needed to rebuild buildings and the equipment required for business continuity. This is done to provide peace of mind to our customers and workers alike.

Information security BCP

Vital data kept safe

Strengthen information security for protection against computer viruses and cyberattacks, plus the installation of data centres to establish a disaster recovery system. Your information is safe with us.

Engineering BCP

Consistent technical support

2,000 engineers at our 5 technical centres around the globe.

Sales BCP

Consistent sales support

7,000 sales engineers worldwide ready to recommend the best solution for you. Over 80 global locations to make sure that wherever you are, we are there too.

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Release EP
FOOD-B EN

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE AND ANY OBLIGATION ON THE PART OF THE MANUFACTURER