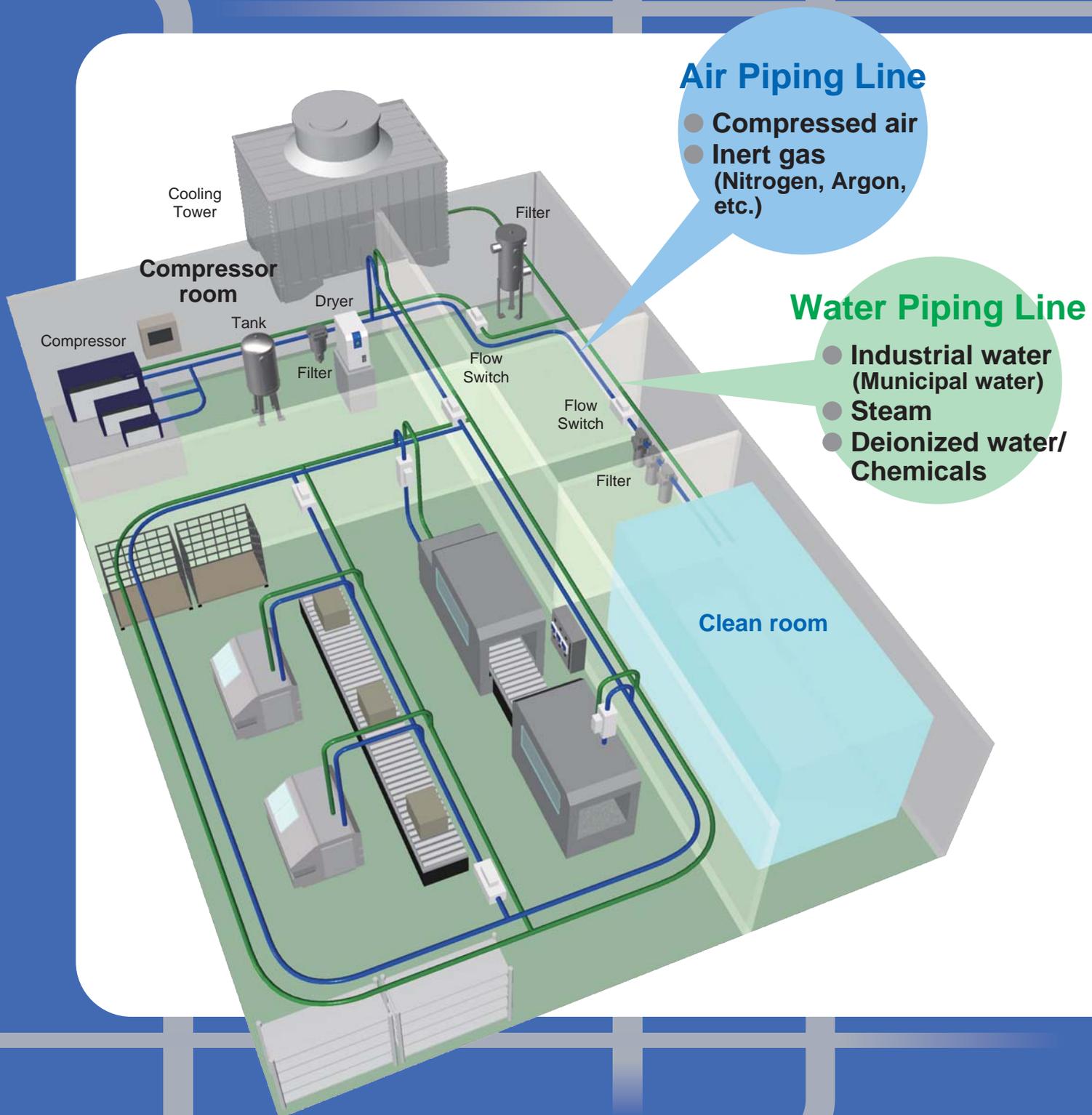
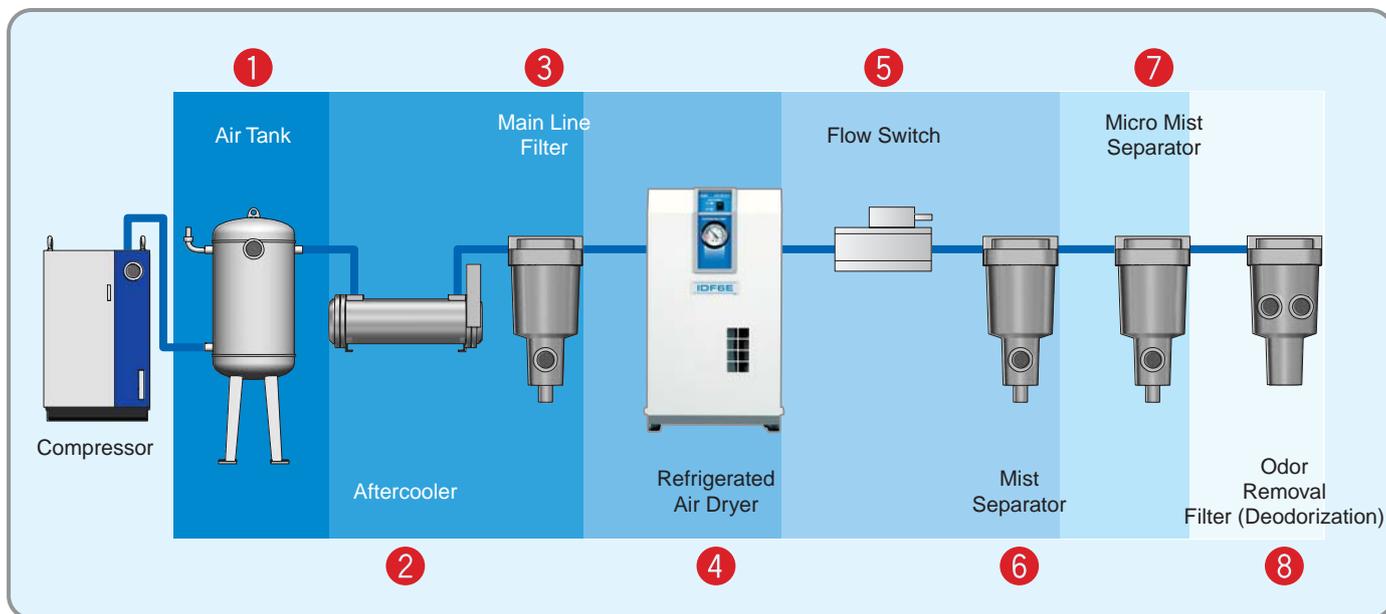


# Production Facility

## Piping Equipment for Facilities



# "Compressed Air" Line



Pressure accumulation,  
Removing water roughly

## 1 Air Tank

### Series AT

- Tank capacity 100 to 3000 ℓ
- Port size 15A (1/2) to 4B flange



Cooling,  
Removing water roughly

## 2 Aftercooler

### Air-cooled Series HAA

- Applicable compressor 7.5 to 37 kW
- Air flow capacity 1000 to 5700 ℓ/min (ANR)

### Water-cooled Series HAW

- Applicable compressor 2.2 to 110 kW
- Air flow capacity 300 to 18000 ℓ/min (ANR)



Particle separation/  
filtration

## 3 Main Line Filter

### Series AFF

- Nominal filtration rating 3 μm (95% filtered particle size)
- Rated flow 300 to 42000 ℓ/min (ANR)
- Port size 6A (1/8) to 4B flange



Dehumidification

## 4 Air Dryer

### Series IDF 1E to 370BE

- Applicable compressor 0.75 to 370 kW
- Air flow capacity 0.10 to 65.0 m³/min (ANR)

### Series IDU 3E to 75E

- Applicable compressor 2.2 to 37 kW
- Air flow capacity 0.32 to 12.4 m³/min (ANR)

Refrigerant: R134a (HFC) R407C (HFC) Ozone destruction coefficient "0"



Flow rate detection

## 5 Flow Switch

### Series PF2A

- Measurement flow rate 1 to 12000 ℓ/min
- Port size 6A to 50A (1/8 to 2)



Oil separation/  
filtration

## 6 Mist Separator

### Series AM

- Nominal filtration rating 0.3 μm (95% filtered particle size)
- Rated flow 300 to 42000 ℓ/min (ANR)
- Port size 6A to 50A (1/8 to 2)



Oil separation/  
filtration

## 7 Micro Mist Separator

### Series AMD

- Nominal filtration rating 0.01 μm (95% filtered particle size)
- Rated flow 200 to 40000 ℓ/min (ANR)
- Port size 6A (1/8) to 6B flange



Deodorization

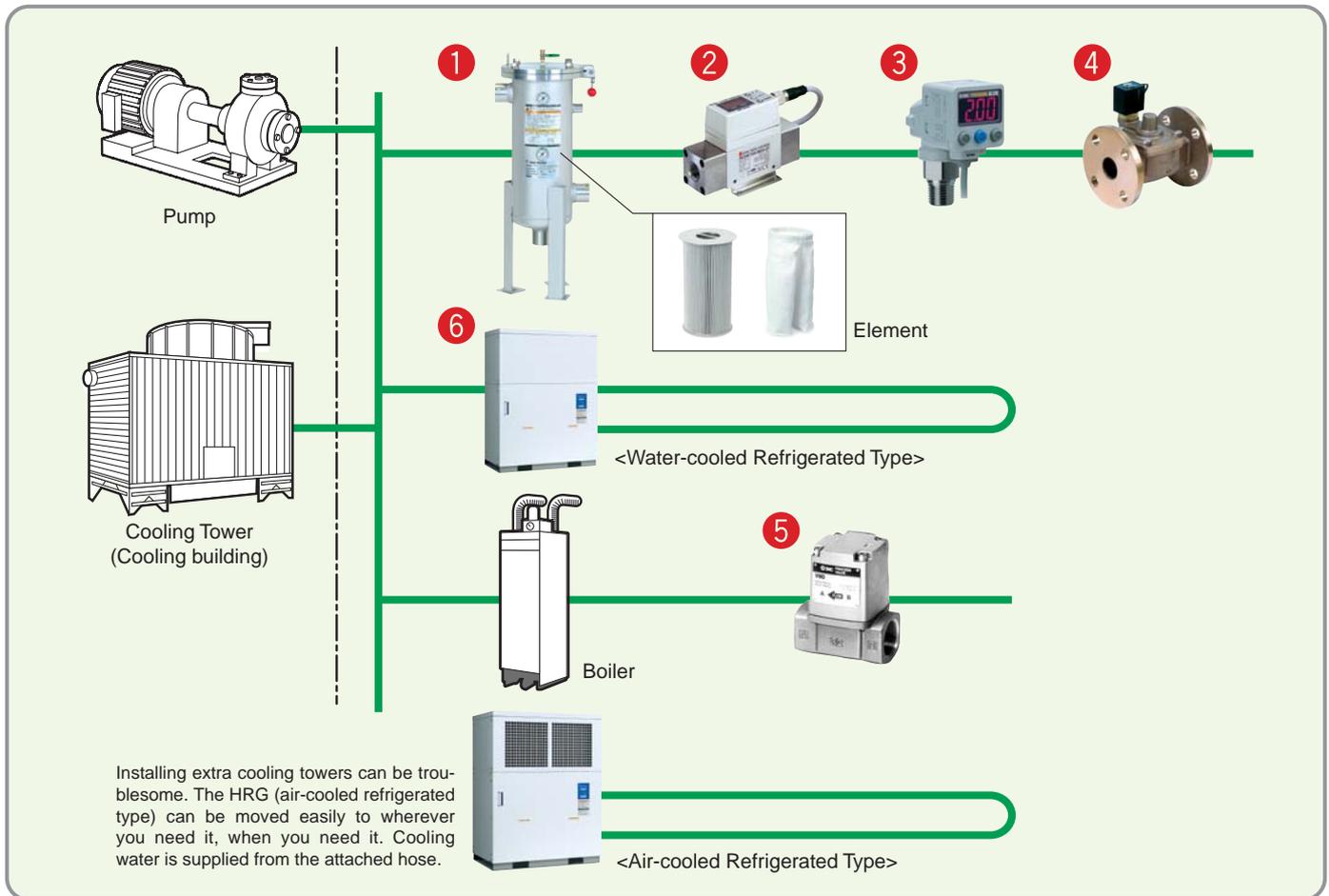
## 8 Odor Removal Filter

### Series AMF

- Nominal filtration rating 0.01 μm (95% filtered particle size)
- Rated flow 200 to 40000 ℓ/min (ANR)
- Port size 6A (1/8) to 6B flange



# “Industrial Water (Municipal Water)” Line



Installing extra cooling towers can be troublesome. The HRG (air-cooled refrigerated type) can be moved easily to wherever you need it, when you need it. Cooling water is supplied from the attached hose.



## 1 Industrial Filter

### Series FG/FQ/FN

- Nominal filtration rating **0.5 to 120 μm**
- Port size  
Thread: 10A to 50A (3/8 to 2)  
Flange: 25A to 150A (1B to 6B)



## 2 Flow Switch

### Series PF2W

- Measurement flow rate **0.5 to 100 ℓ/min**
- Port size  
10A to 25A (3/8 to 1)



## 3 Pressure Switch

### Series ISE

- Rated pressure range **-0.100 to 2.000 MPa**
- Port size  
M5, 6A (1/8), 8A (1/4)



## 4 2 Port Valve

### Series VX

- Orifice diameter **ø2 to ø50**
- Port size  
Thread: 6A to 50A (1/8 to 2)  
Flange: 32A to 50A



## 5 2 Port Valve (for Steam)

### Series VND

- Orifice diameter **ø7 to ø50**
- Port size  
Thread: 6A to 50A (1/8 to 2)  
Flange: 32A to 50A



## 6 Circulating Fluid Temperature Controller Thermo-cooler

### Series HRG

- This equipment supplies temperature-controlled water to the heat source in a circular manner.
- Set temperature **5 to 35°C**
  - Port size **15A, 25A (1/2, 3/4)**
  - Cooling capacity (60 Hz) **1.1 to 16.5 kW** (air-cooled, water-cooled)



# "Inert Gas" Line



## 1 Regulator

### Series SRH

- Set pressure range  
0.05 to 0.7 MPa
- Port size  
6A to 15A (1/8 to 1/2)



## 2 2 Port Valve

### Series VX/VCA

- Orifice diameter  
ø2 to ø50
- Port size  
Thread: 6A to 50A (1/8 to 2)  
Flange: 32A to 50A



## 3 Flow Switch

### Series PF2A

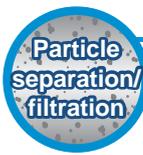
- Measurement flow rate  
1 to 12000  $\text{d}/\text{min}$
- Port size  
6A to 50A (1/8 to 2)



## 4 Pressure Switch

### Series ISE

- Rated pressure range  
-0.100 to 1.000 MPa
- Port size  
M5, 6A (1/8), 8A (1/4)



## 5 Clean Gas Filter

### Series SF

- Nominal filtration rating  
0.01  $\mu\text{m}$
- Port size  
8A to 15A (1/4 to 1/2)



## 6 Clean Air Module

### Series LLB

A flow switch, regulator, 2 port valve, restrictor, and filter have been combined into a single unit. Easily obtains clean air.

- Nominal filtration rating 0.01  $\mu\text{m}$
- Port size 8A to 15A (1/4 to 1/2)



## Piping Equipment

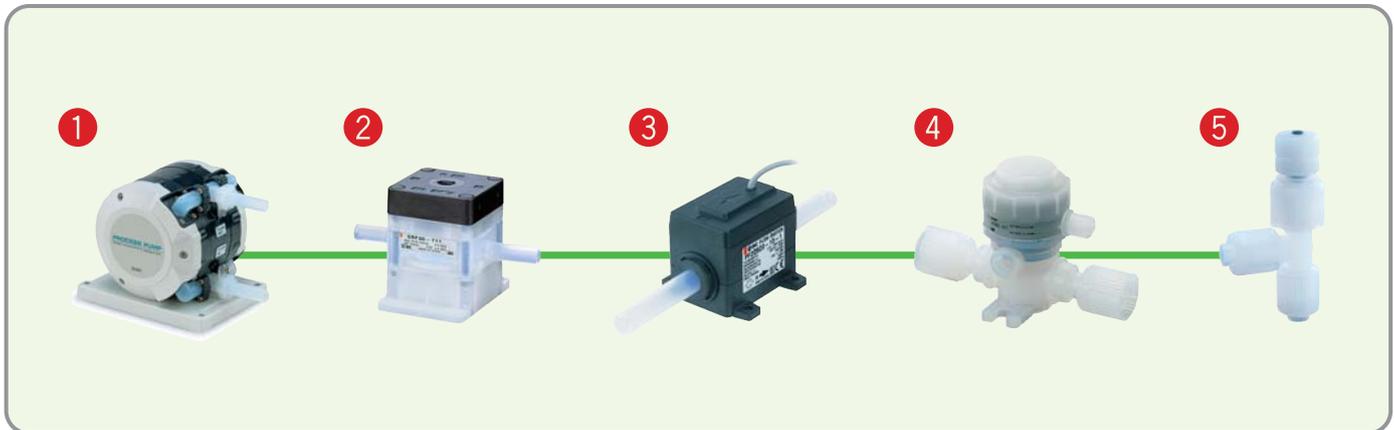
Stainless Steel Fittings: Series KQG/KFG

Clean One-touch Fittings: Series KP

Fluororesin Tubing: Series TH/TL/TD/TPH/TPS



# "Deionized Water/Chemicals" Line



## 1 Pump

### Process Pump: Series PA

- Discharge flow rate  
1 to 45 l/min
- Port size  
Thread: (3/8, 3/4)/  
10A, 20A  
Tube extension:  
1/2", 3/4"



## 2 Regulator

### Series SRF

- Port size  
Integral fitting: Applicable tube O.D.  
ø4 to ø19  
Tube extension: 1/4" to 3/4"
- Set pressure range  
0.02 to 0.4 MPa



## 3 Flow Switch

### Series PF2D

- Measurement flow rate  
0.4 to 40 l/min
- Port size  
Tube extension:  
3/8" to 3/4"



## 4 2 Port Valve

### Series LV

- Port size  
Thread: (1/8 to 1), 6A to 25A  
Integral fitting: Applicable tube O.D.  
ø3 to ø25  
Tube extension:  
ø3 to ø25
- Orifice diameter  
ø2 to ø22



## 5 Restrictor

### Needle Valve: Series LVN

- Port size  
Integral fitting: Applicable tube O.D.  
ø4 to ø12
- Orifice diameter  
ø4.4 to ø10



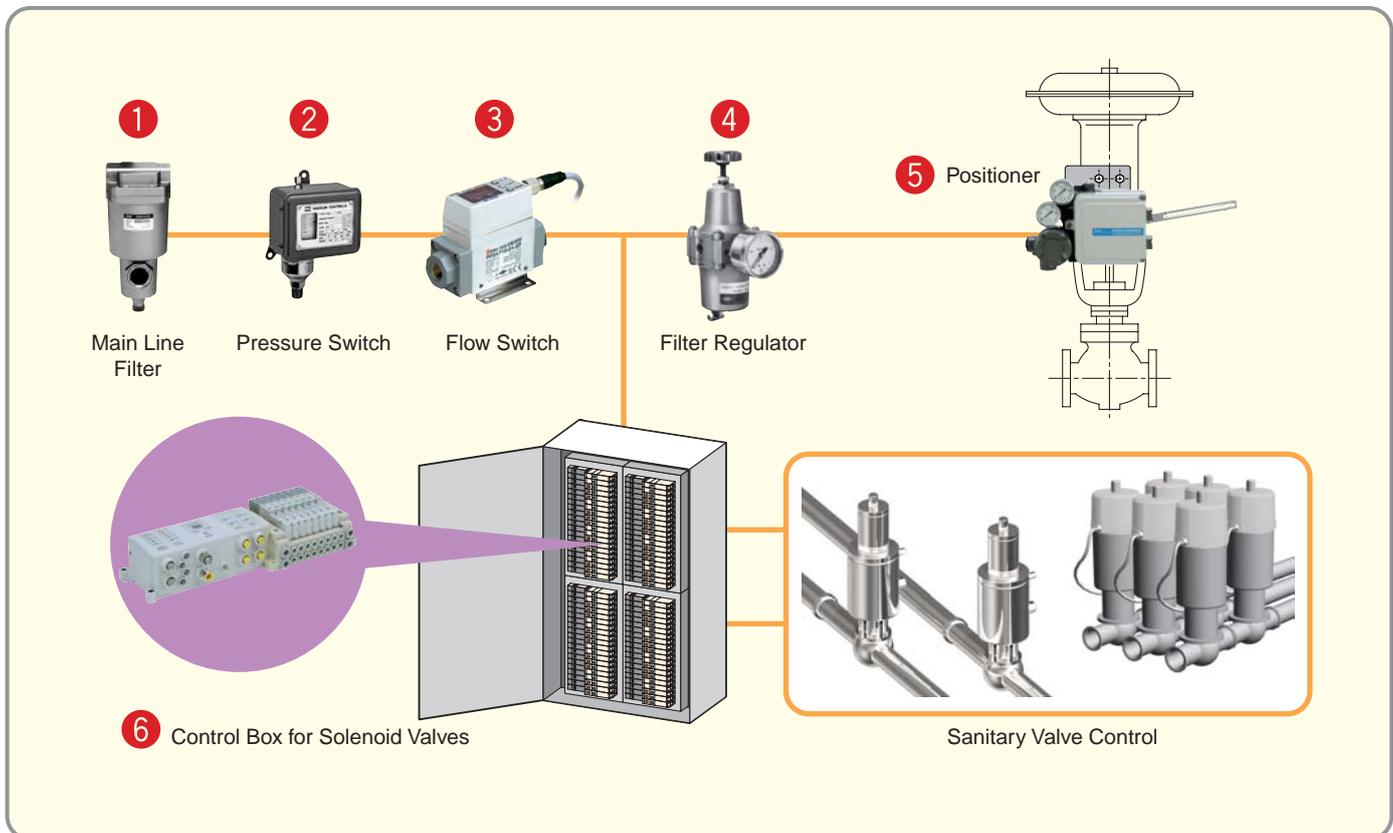
## Piping Equipment

### Fluoro resin Fittings: Series LQ

### Fluoro resin Tubing: Series TH/TL/TD



# Instrumentation Equipment



**1 Main Line Filter**

**Particle separation/filtration**

**Series AFF**

- Nominal filtration rating  
3  $\mu\text{m}$  (95% filtered particle size)
- Rated flow  
300 to 42000  $\text{l}/\text{min}$  (ANR)
- Port size  
6A (1/8) to 4B flange



**2 Pressure Switch**

**Pressure detection**

**Series ISG**

- Set pressure range  
0.1 to 1.0 MPa
- Port size  
10A (3/8)



**3 Flow Switch**

**Flow rate detection**

**Series PF2A**

- Measurement flow rate  
1 to 12000  $\text{l}/\text{min}$
- Port size  
6A to 50A (1/8 to 2)



**4 Filter Regulator**

**Pressure adjustment**

**Series 1301/IW**

- Nominal filtration rating  
5  $\mu\text{m}$
- Set pressure range  
0.02 to 0.5 MPa
- Port size  
8A (1/4)

**Particle separation/filtration**



**5 Positioner**

**Actuator control**

**Series IP**

- Input current  
4 to 20 mADC
- Port size  
8A (1/4)



**6 Serial Communication Valve**

**Reduced wiring**

**Series SV/VQC**

- DeviceNet™
- CC-Link
- As-i
- PROFIBUS DP



# Piping Equipment (Fittings and Tubing)

## S Couplers

### Series KK

- Fluid **Air, Water**
- Applicable tube O.D. **ø3.2 to ø16**
- Applicable hose I.D./ O.D. **5/8 to 11/16**
- Port size **M5 to 25A (3/4)**



## S Couplers/Stainless Steel 304

### Series KKA

- Fluid **Air, Water**
- Port size **6A to 50A (1/8 to 11/2)**



## One-touch Fittings

### Series KQ2

- Fluid **Air**
- Applicable tube O.D. **ø4 to ø16**



## Brass One-touch Fittings

### Series KQB

- Fluid **Air, Water**
- Applicable tube O.D. **ø4 to ø12**



## Insert Fittings

### Series KF

- Fluid **Air, Steam (Brass sleeve)**  
**Air (Resin sleeve)**
- Applicable tube O.D. **ø4 to ø12**



Brass sleeve

Resin sleeve

## Self-align Fittings

### Series H/DL/L/LL

- Fluid **Air**
- Applicable tube O.D. **ø4 to ø12**



## Stainless Steel 316 One-touch Fittings

### Series KQG

- Fluid **Air, Water, Steam**
- Applicable tube O.D. **ø4 to ø12**



## Stainless Steel 316 Insert Fittings

### Series KFG

- Fluid **Air, Water, Steam**
- Applicable tube O.D. **ø4 to ø12**



## Fluoresin Fittings

### Series LQ

- Fluid **Deionized water, Chemicals, etc.**  
(Please contact SMC for details.)
- Applicable tube O.D. **ø3 to ø25**



## Clean One-touch Fittings

### Series KP

- Fluid **Air, N<sub>2</sub>, Water (Deionized water)**  
(Please contact SMC for details.)
- Applicable tube O.D. **ø4 to ø12**



## Tubing

### Series T□

Series	Material	Fluid	O.D.
T	Nylon	Air, Water	ø4 to ø16
TS	Soft Nylon	Air	ø4 to ø16
TU	Polyurethane	Air, Water	ø4 to ø16
TUS	Soft Polyurethane	Air	ø4 to ø12
TUH	Hard Polyurethane	Air	ø4 to ø12
TPH, TPS	Polyolefin-based resin	Air, N <sub>2</sub> , Water (Deionized water) <small>Note)</small>	ø4 to ø12
TH	FEP (Fluoropolymer)	Air, Water, Inert gas	ø4 to ø12
TD	Modified PTFE (Soft Fluoropolymer)	Air, Water, Inert gas	ø4 to ø12
TL	Super PFA	<small>Note)</small> Deionized water, Chemicals, etc.	ø4 to ø19

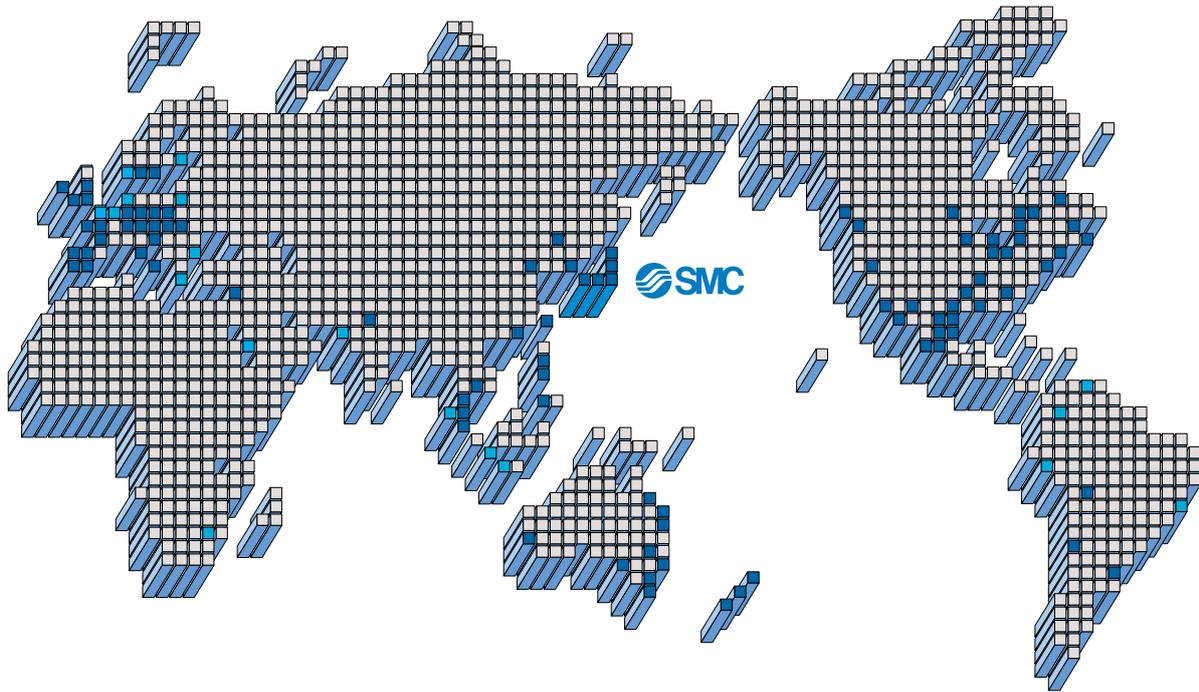
Length: Up to 500-meter rolls can be used, but the maximum roll length depends on tube materials and external diameter. Please consult SMC for details. (Made to Order)

Note) Please contact SMC for details.





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