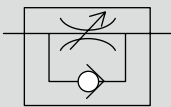


Speed controller Stainless steel corrosion-resistant

# SC3P Series

● Port size: M5, R1/8 to R1/2

JIS symbol



## Features

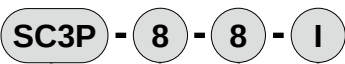
- The speed control valve uses highly anti-corrosive stainless steel equivalent to SUS303 (Cr 20% and Mo 2%). As copper alloy material is not used, this product is suitable for atmospheres where copper ions should be avoided.
- Standard ozone-resistant materials  
Ozone-proof materials for degradation prevention are used as standard for the check packing.
- Ecological products  
As a RoHS Directive compatible product, all substances which adversely affect the global environment have been eliminated from the materials.

## Specifications

| Model No.                    |     | SC3P                                 |     |            |    |    |            |    |     |         |    |     |     |         |     |     |  |  |
|------------------------------|-----|--------------------------------------|-----|------------|----|----|------------|----|-----|---------|----|-----|-----|---------|-----|-----|--|--|
| Item                         |     | SC3P-M5                              |     | SC3P-6     |    |    | SC3P-8     |    |     | SC3P-10 |    |     |     | SC3P-15 |     |     |  |  |
| Compatible tube O.D.         | mm  | ø4                                   | ø6  | ø4         | ø6 | ø8 | ø6         | ø8 | ø10 | ø6      | ø8 | ø10 | ø12 | ø8      | ø10 | ø12 |  |  |
| Working fluid                |     | Compressed air                       |     |            |    |    |            |    |     |         |    |     |     |         |     |     |  |  |
| Max. working pressure        | MPa | 0.9 (≈130 psi, 9 bar)                |     |            |    |    |            |    |     |         |    |     |     |         |     |     |  |  |
| Min. working pressure        | MPa | 0.1 (≈15 psi, 1 bar)                 |     |            |    |    |            |    |     |         |    |     |     |         |     |     |  |  |
| Proof pressure               | MPa | 1.35 (≈200 psi, 13.5 bar)            |     |            |    |    |            |    |     |         |    |     |     |         |     |     |  |  |
| Ambient temperature          | °C  | 0 (32°F) to 60 (140°F) (no freezing) |     |            |    |    |            |    |     |         |    |     |     |         |     |     |  |  |
| Port size                    | Rc  | M5                                   |     | R1/8       |    |    | R1/4       |    |     | R3/8    |    |     |     | R1/2    |     |     |  |  |
| Weight                       | g   | 7                                    | 7.6 | 17         | 17 | 20 | 33         | 36 | 39  | 63      | 63 | 66  | 69  | 95      | 98  | 101 |  |  |
| Dial value (needle position) |     | 7 or more                            |     | 12 or more |    |    | 13 or more |    |     |         |    |     |     |         |     |     |  |  |

\*1: Freezing may occur by adiabatic expansion depending on the air quality (dew point).

## How to order



Model No.

● A Port size

● B Compatible tube O.D.

● C Option

| Code                   | Description       |             |   |   |    |    |
|------------------------|-------------------|-------------|---|---|----|----|
| A Port size            |                   |             |   |   |    |    |
| M5                     | M5×0.8            |             |   |   |    |    |
| 6                      | R1/8              |             |   |   |    |    |
| 8                      | R1/4              |             |   |   |    |    |
| 10                     | R3/8              |             |   |   |    |    |
| 15                     | R1/2              |             |   |   |    |    |
| B Compatible tube O.D. |                   |             |   |   |    |    |
|                        |                   | Piping size |   |   |    |    |
|                        |                   | M5          | 6 | 8 | 10 | 15 |
| 4                      | ø4                | ●           | ● |   |    |    |
| 6                      | ø6                | ●           | ● | ● | ●  |    |
| 8                      | ø8                |             | ● | ● | ●  | ●  |
| 10                     | ø10               |             |   | ● | ●  | ●  |
| 12                     | ø12               |             |   |   | ●  | ●  |
| C Option               |                   |             |   |   |    |    |
| Blank                  | Meter-out control |             |   |   |    |    |
| I                      | Meter-in control  |             |   |   |    |    |
| Not available          |                   |             |   |   |    |    |

### Flow rate and effective cross-sectional area

| Model No.            |                                    | SC3P    |  |        |    |     |        |    |     |         |      |     |     |         |      |      |  |
|----------------------|------------------------------------|---------|--|--------|----|-----|--------|----|-----|---------|------|-----|-----|---------|------|------|--|
| Item                 |                                    | SC3P-M5 |  | SC3P-6 |    |     | SC3P-8 |    |     | SC3P-10 |      |     |     | SC3P-15 |      |      |  |
| Compatible tube O.D. |                                    | mm      |  | ø4     | ø6 | ø8  | ø6     | ø8 | ø10 | ø6      | ø8   | ø10 | ø12 | ø8      | ø10  | ø12  |  |
| Free flow            | Flow rate ℓ/min(ANR)               | 55      |  | 200    |    | 230 | 390    |    | 400 |         | 600  | 800 |     | 840     | 1140 | 1380 |  |
|                      | Effective cross-sectional area mm² | 0.9     |  | 3      |    | 3.5 | 5.9    |    | 6   |         | 9    | 12  |     | 12.5    | 17   | 21   |  |
| Controlled flow      | Flow rate ℓ/min(ANR)               | 70      |  | 150    |    |     | 270    |    |     | 550     | 850  | 920 |     | 1100    | 1450 | 1600 |  |
|                      | Effective cross-sectional area mm² | 1.1     |  | 2.3    |    |     | 4      |    |     | 8       | 12.8 | 14  |     | 16.5    | 22   | 24   |  |

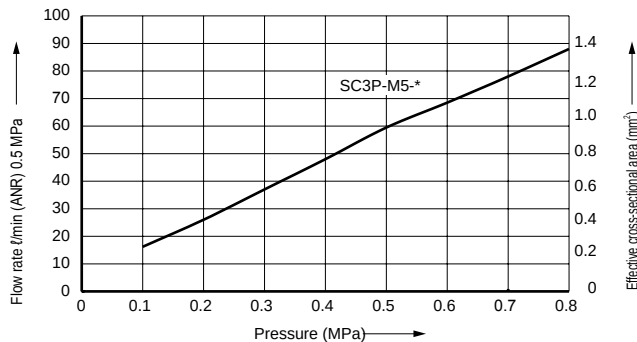
\*1: Flow rate is the atmospheric pressure conversion value at pressure 0.5 MPa.

\*2: The effective cross-sectional area lists the value converted from the flow rate.

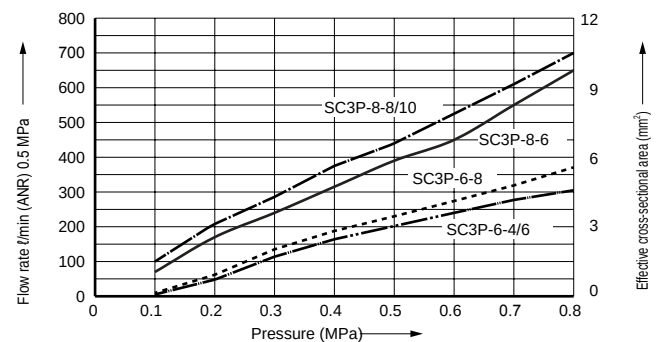
### Flow characteristics

#### [Free flow]

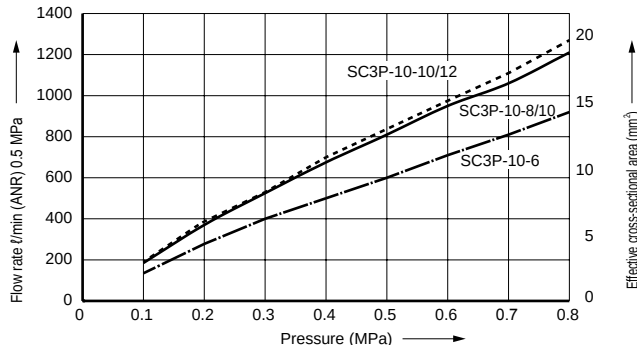
##### ● SC3P-M5-\*



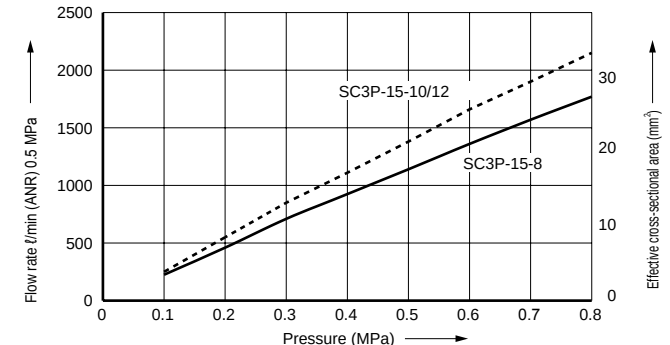
##### ● SC3P-6-\*,SC3P-8-\*



##### ● SC3P-10-\*

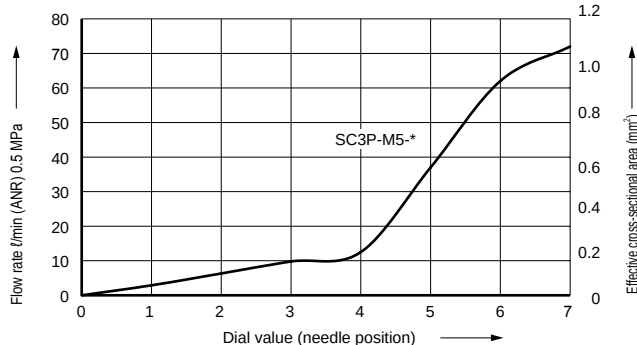


##### ● SC3P-15-\*

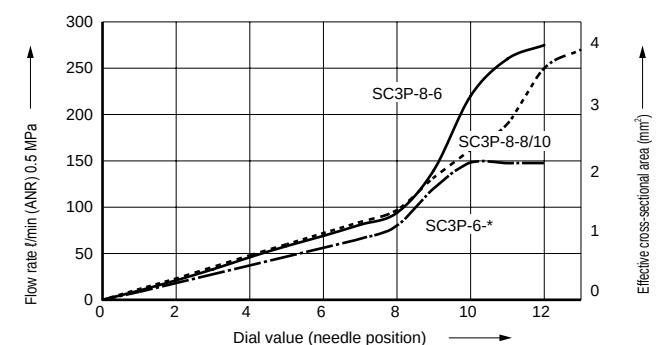


#### [Controlled flow]

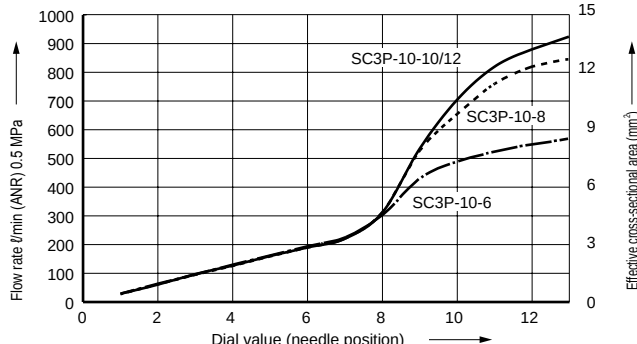
##### ● SC3P-M5-\*



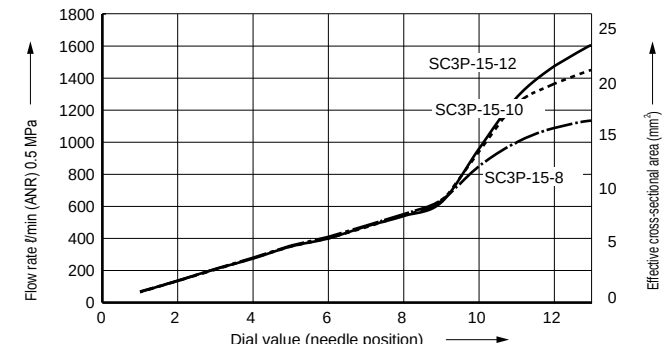
##### ● SC3P-6-\*,SC3P-8-\*



##### ● SC3P-10-\*



##### ● SC3P-15-\*



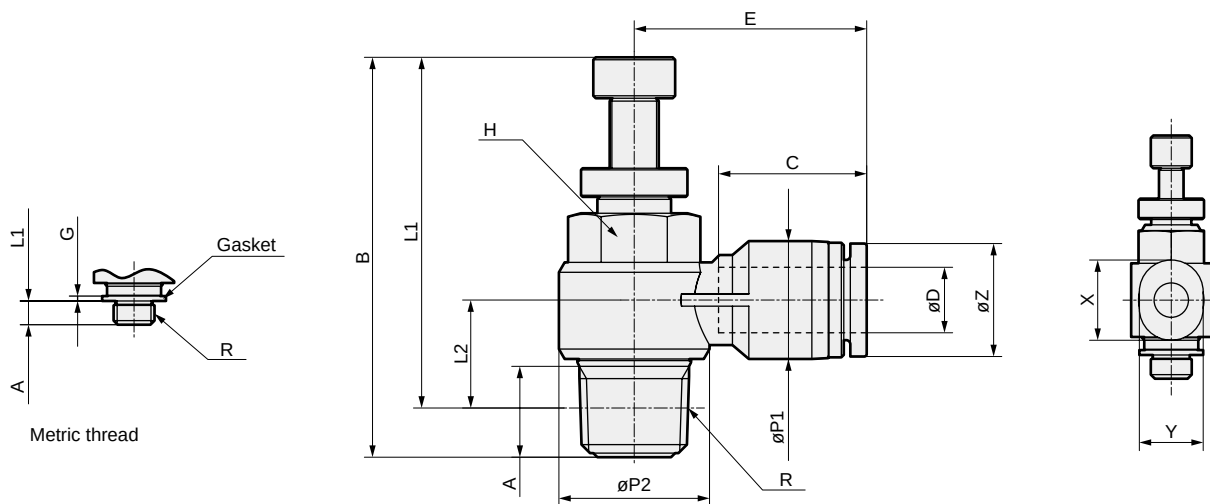
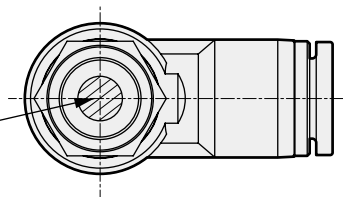
F.R.L.  
F.R.  
F (Filtr)  
R (Reg)  
L (Lub)  
Drain  
Separ  
Mech  
Press SW  
Res press  
exh valve  
SlowStart  
Anti-bac/Bac-  
remove Filt  
Film  
Resist FR  
Oil-ProhR  
Med  
Press FR  
No Cu/  
PTFE FRL  
Outdrs FRL  
Adapter  
Joiner  
Press  
Gauge  
CompFRL  
LgFRL  
PrecsR  
VacF/R  
Clean FR  
ElecPneur  
AirBoost  
Speed Ctrl  
Silncr  
CheckV/  
other  
Fit/Tube  
Nozzle  
Air Unit  
PrecsCompn  
Electro  
Press SW  
ContactSW  
AirSens  
PresSW  
Cool  
Air Flo  
Sens/Ctrl  
WaterRtSens  
TotAirSys  
(Total Air)  
TotAirSys  
(Gamma)  
Gas  
generator  
RefrDry  
DesicDry  
HiPolymDry  
MainFiltr  
Dischrg  
etc  
Ending

## Dimensions



Identification

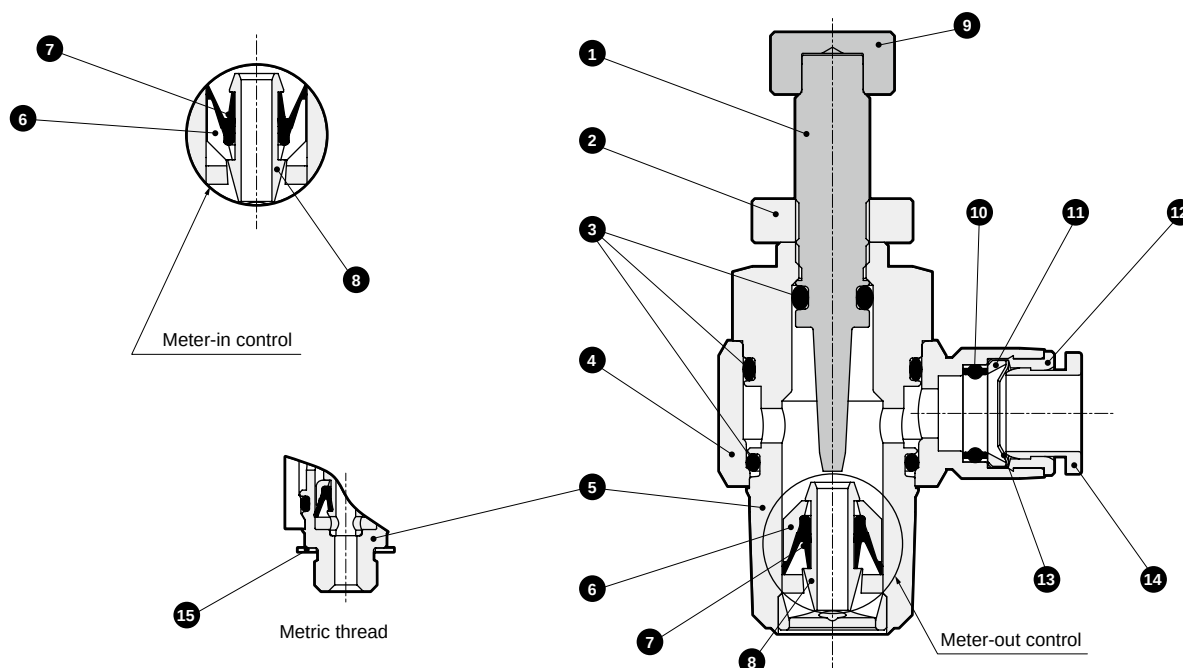
| Stamp | Control method    |
|-------|-------------------|
| A     | Meter-out control |
| B     | Meter-in control  |



| Code       | ØD tube O.D. | R        | A    | B    |      | L1   |      | L2   | ØP1  | ØP2  | C Tube end | E    | H opposite side | ØZ   | X    | Y   |
|------------|--------------|----------|------|------|------|------|------|------|------|------|------------|------|-----------------|------|------|-----|
| Model No.  |              |          |      | MAX  | MIN  | MAX  | MIN  |      |      |      |            |      |                 |      |      |     |
| SC3P-M5-4  | Ø4           | M5 X 0.8 | 3.2  | 29.7 | 27.0 | 26.5 | 23.8 | 6.4  | 8    | 9.8  | 11.3       | 15.7 | 8               | -    | 9.8  | 7.8 |
| SC3P-M5-6  | Ø6           |          |      |      |      |      |      | 7.2  | 10.5 |      | 11.8       | 17.7 |                 | -    | 11.8 | 9.8 |
| SC3P-6-4   | Ø4           | R1/8     | 8    | 41.5 | 34.9 | 37.5 | 30.9 | 10.7 | 8    | 14.4 | 11.3       | 18   | 10              | -    | 9.8  | 7.8 |
| SC3P-6-6   | Ø6           |          |      |      |      |      |      | 10.7 | 10.5 |      | 11.8       | 18.5 |                 | -    | 11.8 | 9.8 |
| SC3P-6-8   | Ø8           |          |      |      |      |      |      | 11.9 | 14.4 |      | 18.1       | 26.9 |                 | 13.8 | -    | -   |
| SC3P-8-6   | Ø6           | R1/4     | 11.1 | 48.9 | 42.2 | 42.8 | 36.1 | 11.9 | 10.5 | 18.4 | 11.8       | 20.4 | 14              | -    | 11.8 | 9.8 |
| SC3P-8-8   | Ø8           |          |      |      |      |      |      | 13.2 | 14.4 |      | 18.1       | 28.4 |                 | 13.8 | -    | -   |
| SC3P-8-10  | Ø10          |          |      |      |      |      |      | 14.8 | 17.6 |      | 20.2       | 30.9 |                 | 16.8 | -    | -   |
| SC3P-10-6  | Ø6           | R3/8     | 13.2 | 54.4 | 46.9 | 48   | 40.5 | 15.4 | 14.4 | 22   | 17         | 29   | 19              | 11.8 | -    | -   |
| SC3P-10-8  | Ø8           |          |      |      |      |      |      | 15.4 | 14.4 |      | 18.1       | 28.9 |                 | 13.8 | -    | -   |
| SC3P-10-10 | Ø10          |          |      |      |      |      |      | 16.7 | 17.6 |      | 20.2       | 31.2 |                 | 16.8 | -    | -   |
| SC3P-10-12 | Ø12          |          |      |      |      |      |      | 18.4 | 21   |      | 23.4       | 36.9 |                 | 19.8 | -    | -   |
| SC3P-15-8  | Ø8           | R1/2     | 16   | 59.7 | 52.4 | 51.5 | 44.2 | 18   | 14.4 | 28   | 18.1       | 31   | 24              | 13.8 | -    | -   |
| SC3P-15-10 | Ø10          |          |      |      |      |      |      | 18   | 17.6 |      | 20.2       | 33.6 |                 | 16.8 | -    | -   |
| SC3P-15-12 | Ø12          |          |      |      |      |      |      | 19.7 | 21   |      | 23.4       | 36.4 |                 | 19.8 | -    | -   |

\* The taper female thread L1 and L2 dimensions are the reference dimensions after tightening.

### Internal structure and parts list



| No. | Part name     | Material                               | No. | Part name      | Material                               |
|-----|---------------|----------------------------------------|-----|----------------|----------------------------------------|
| 1   | Needle        | Stainless steel (SUS303 or equivalent) | 9   | Knob           | Stainless steel (SUS303 or equivalent) |
| 2   | Lock nut      | Stainless steel (SUS303 or equivalent) | 10  | Elastic sleeve | Hydrogenated nitrile rubber            |
| 3   | O-ring        | Hydrogenated nitrile rubber            | 11  | Lock ring      | Stainless steel (SUS303 or equivalent) |
| 4   | Resin body    | Polybutylene terephthalate             | 12  | Guide ring     | Stainless steel (SUS303 or equivalent) |
| 5   | Metal body    | Stainless steel (SUS303 or equivalent) | 13  | Lock claw      | Stainless steel (SUS301)               |
| 6   | Basket        | Polybutylene terephthalate             | 14  | Release ring   | Polyacetal                             |
| 7   | Check packing | Hydrogenated nitrile rubber            | 15  | Gasket         | Polyphenylene sulfide                  |
| 8   | Core guide    | Stainless steel (SUS303 or equivalent) |     |                |                                        |

### Safety precautions

- Always use within the product specifications.
- This product is used for compressed air. Do not use this unit for other fluids.
- Securely insert the tube to the tube end and make sure that the tube cannot be pulled off.
- Cut the tube with a dedicated cutter and always at a right angle.
- Remove all cutting chips and foreign matter generated during piping and tube insertion before starting use.
- Provide sufficient allowance in the tube so that it does not bend sharply.
- Avoid using this product in a hot humid place, outdoors or where it is subject to direct sunlight.
- Avoid using this product in places with high levels of vibration or impact.
- The needle tolerates a slight leak even when fully closed, so do not use it as a stop valve.
- Stop air flow and confirm that there is no residual pressure before replacing the tube.
- The chemical resistance level is equivalent to SUS440. This product cannot be used when a higher chemical resistance is required.
- Be sure to contact CKD when using in a corrosive atmosphere. The fitting body could be damaged under some conditions.

### Precautions for piping

- Always use within the recommended tightening torque range.
- Do not tighten while pressure is applied.
- Stop air flow and confirm that there is no residual pressure before replacing the tube.
- Mounting is possible by rotating in an arbitrary direction, but do not use this product in applications involving constant rotation or oscillation.

### [Recommended tightening torque]

| Port thread | Tightening torque N·m |
|-------------|-----------------------|
| M5          | 1.0 to 1.5            |
| R1/8        | 7 to 9                |
| R1/4        | 12 to 14              |
| R3/8        | 22 to 24              |
| R1/2        | 28 to 30              |

|               |
|---------------|
| F.R.L.        |
| F.R.          |
| F (Filtr)     |
| R (Reg)       |
| L (Lub)       |
| Drain         |
| Separ         |
| Mech          |
| Press SW      |
| Res press     |
| exh valve     |
| SlowStart     |
| Anti-bac/Bac- |
| remove Filtr  |
| Film          |
| Resist FR     |
| Oil-ProhR     |
| Med           |
| Press FR      |
| No Cu/        |
| PTFE FRL      |
| Outdrs FRL    |
| Adapter       |
| Joiner        |
| Press         |
| Gauge         |
| CompFRL       |
| LgFRL         |
| PrecsR        |
| VacF/R        |
| Clean FR      |
| ElecPneuR     |
| AirBoost      |
| Speed Ctrl    |
| Silncr        |
| CheckV/       |
| other         |
| Fit/Tube      |
| Nozzle        |
| Air Unit      |
| PrecsCompn    |
| Electro       |
| Press SW      |
| ContactSW     |
| AirSens       |
| PresSW        |
| Cool          |
| Air Flo       |
| Sens/Ctrl     |
| WaterRISens   |
| TotAirSys     |
| (Total Air)   |
| TotAirSys     |
| (Gamma)       |
| Gas           |
| generator     |
| RefrDry       |
| DesicDry      |
| HiPolymDry    |
| MainFiltr     |
| Dischrg       |
| etc           |
| Ending        |