

CB14 Pressure Switch for Semiconductor Industry

Outline

The CB14 is a small, lightweight pressure switch of simple design, developed specifically for all types of gases essential to semiconductor manufacturing. It is attached directly to the apparatus.

During the manufacturing process, the CB14 went through strict quality controls and performance testing, with special attention paid to cleanliness and air-tightness. This makes it suitable for semiconductor process gas.

Features

- Small and lightweight, the pressure switch is convenient where space is limited.
- Pressure settings are easy to adjust.
- The structure that the microswitch is free from extra stress realizes stable control of process.
- Cleanliness is guaranteed, as the switch was cleaned and assembled in a clean bench (Class 100) or clean room. It is also degreased enough, and use no oil and water *1 are processed. When the product is complete, it is hermetically sealed in dust-free polyethylene bag.
- The gas contact parts of the diaphragm-type is electropolished.

*1 It is not labeled on this product.



Specifications 1

Proof pressure/Deadband:

Pressure range, MPa	Proof pressure, MPa	Deadband, MPa
0.02 to 0.35	0.53	0.021 and under
0.035 to 0.7	1	0.021 and under
0.1 to 2.1 * CB14-563 is not available (Diaphragm type)	2.5	0.042 and under
-0.1 to 0.2	0.3	0.021 and under

Recommended switch set point range

Upper limit: (Lowest pressure value + Deadband) to 90%max.P.

Lower limit: Lowest pressure value to (90%max.P. - Deadband)

However, when using compound gauge, the pressure setting range are follows;

Upper limit: (10%F.S. + Deadband) to 90%F.S.

Lower limit: 10%F.S. to (90%F.S. - Deadband)

* To maintain high accuracy and long life, switch set point should be adjusted within 30 to 65% of full scale range of pressure. Ensure that wetted parts are compatible with process gasses to be measured.

Specifications 2

Item	Description
Fluid	Various kinds of process gases
Pressure element	Bellows type or diaphragm type (Electrolytic polishing)
Wetted parts material	SUS316, SUS316L (Element)
Pressure inlet	1/8NPT, 1/4VCR (9/16-18UNF Male/Female)
Pressure range	-0.1 to 0.2 → 0.1 to 2.1MPa
Operating temperature	-5 to 40°C
Storage temperature	-5 to 40°C
Accuracy	Within ±1%max.P. (Compound gauge: Within ±1%F.S.)
Electrical characteristics	Rating Rated: 125, 250V AC 15A Withstand voltage: 1500V AC 1 minute (Between terminals and case) Insulation resistance: 500V DC by megger 100MΩ or greater
Switch	Micro switch
Number of contacts	1-contact
Setting system	Externally adjustable
Wire attachment method	Attached directly to the micro switch terminal (M4 terminal)
Leakage (Helium leak rate)	1.01×10^{-9} Pa·m ³ /s and under
Enclosure	Indoor open type
Outer	Nickel plate (Switch mounting clamp and body)
Weight	Approx. 160 to 270 g

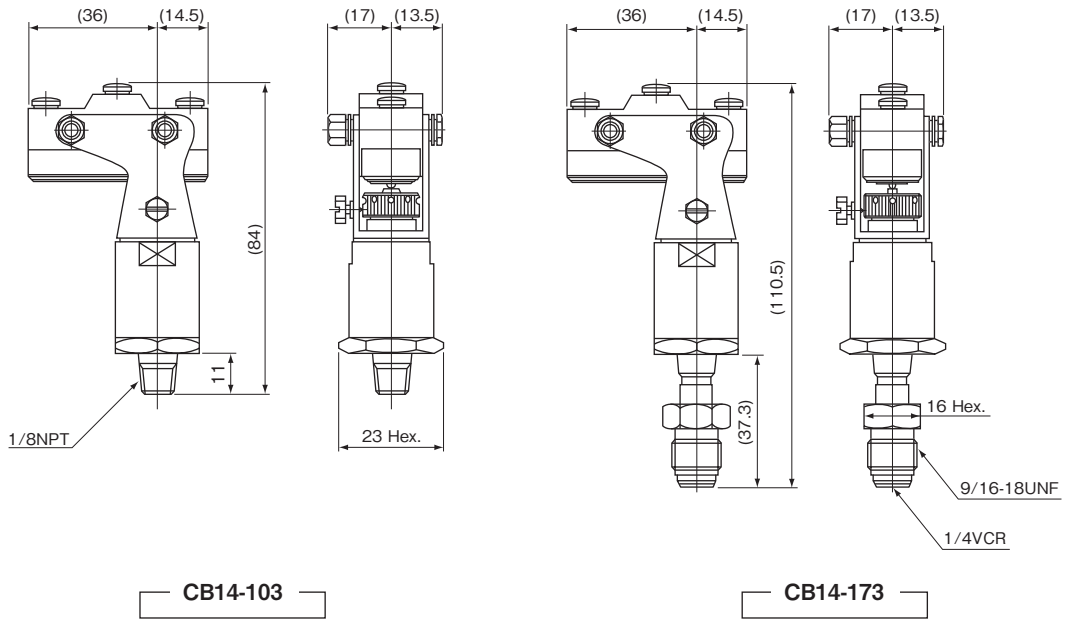
CB14

Pressure Switch for Semiconductor Industry

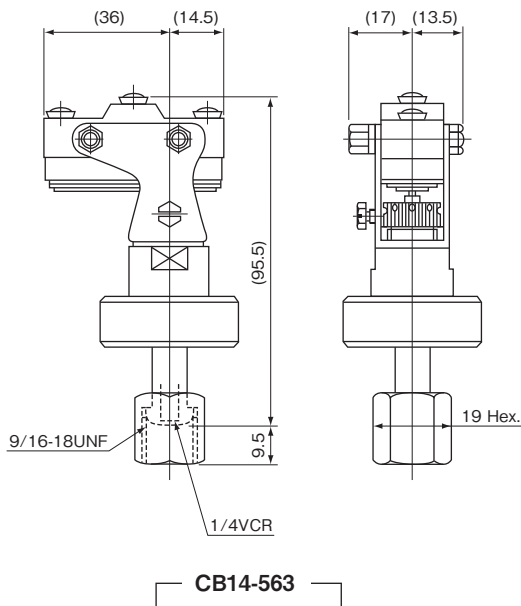
Dimensions

Unit: mm

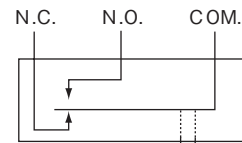
Bellows type



Diaphragm type



Wiring



Caution

Avoid installing in location where apparatus or atmosphere (excluding process media) could be cause of initiation of ignition or explosion under normal operating condition.

Model number configuration

Please specify the model number, each specs and the range for ordering.

Model

C B 1 4 — — **0 0**

Pressure Switch ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮

Model number		Selective spec.		Additional spec. (Option)	
①②③	103	Bellows type	Connection: 1/8NPT		
	173	Bellows type	Connection: 1/4VCR Male (9/16-18UNF)		
	563	Diaphragm type	Connection: 1/4VCR Female (9/16-18UNF)		
④	1	Pressure range	0.02 to 0.35MPa		
	2		0.035 to 0.7MPa		
	3		0.1 to 2.1MPa Bellows type only can be manufactured		
	4		-0.1 to 0.2MPa		
⑤	A	Contact type	H: Upper limit 1-contact		
	B		L: Lower limit 1-contact		
	F		HR: Reverse upper limit 1-contact		
	G		LR: Reverse lower limit 1-contact		
⑥	0	Switch	Standard type Micro switch		
⑦	0	Wire connection	Standard (M4 terminal)		
⑧	0	Other additional specifications	Nil		
	1		With cover		
⑮	0	Document	Nil		
	1		Required (Please specify the desired documents separately.) Submission drawings, instruction manual, inspection procedure, mill test report, test report (1 pc 1 copy), inspection / traceability certificate, strength calculation, attended inspection		

Please specify the pressure range and units separately besides selection of range code.

* Standard comes with "Use no oil and water" without indication by label on the product.

*Specify "X" if there is no applicable specification.