

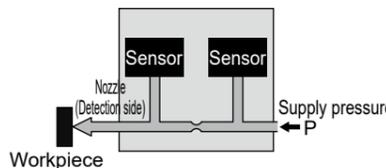
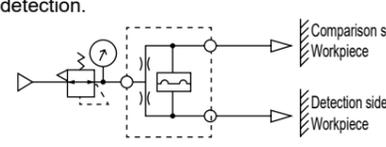
Air sensor category and usage

The air sensor consists of a detection nozzle and an air-electricity converter (air-air converter). In principle, the detection air is blown onto the workpiece and the generated back pressure is converted to an electrical signal by the air-electricity converter. Since the detection nozzle is an air blowout hole, the nozzle can be formed by hole drilling, allowing for compactness. Various air sensors are available to match your application.

Air sensor category

Series	Detection	Detection mechanism output method	Nozzle	Major Applications	Page
Contact confirmation switches (digital gap switch) GPS3 Series	Pressure detection	Pressure sensor	ø1.5 Standard	Contact confirmation of 0.02 to 0.4 mm	100
Contact confirmation switch (gap switch) GPS2 Series	Bridge detection	Diaphragm + proximity switch Proximity (NPN, PNP)	ø1.5 Standard	Contact confirmation of 0.03 to 0.4 mm	125
Close contact confirmation switch HPS Series	Bridge detection	Diaphragm + proximity switch Proximity (NPN, PNP)	ø1.5 Standard (ø1 to ø2) Back pressure nozzle	0.01 to 0.7mm seating confirmation tool changer close contact confirmation detection distance expansion (3mm)	152
Cutting tool breakage detection switch TLPS Series	Bridge detection	Diaphragm + proximity switch Proximity (NPN, PNP)	Detecting nozzle	Drill tip breakage detection (ø0.3 to ø30)	180

●Detection

Pressure detection	Bridge detection
<p>Pressure sensors around orifices are used to convert to gap values (reference values) for output.</p> 	<p>Supply air is branched into two circuits, each with a sensor nozzle, and the back pressure difference between the two is compared, so that even if supply pressure fluctuates, the relationship between the two back pressures does not change. This is extremely stable detection.</p> 

Using the contact confirmation switch GPS3/GPS2 Series and close contact confirmation switch HPS Series

Model	Model No.	Detection distance (mm)											Features
		0.01	0.02	0.03	0.05	0.20	0.25	0.30	0.40	0.70	3.0		
Contact confirmation switch (Digital gap switch)	GPS3-E	0.02 to 0.15											<ul style="list-style-type: none"> Digital display High precision 2-point output High maintainability IO-Link communication compatible (option)
	GPS3	0.03 to 0.40											
Contact confirmation switch (Gap switch)	GPS2-05	0.03 to 0.25											<ul style="list-style-type: none"> Push-in adjustment by dial (Stepped setting) (Master gauge not required)
	GPS2-07	0.03 to 0.40											
Close contact confirmation switch	HPS-05	0.01 to 0.20											<ul style="list-style-type: none"> Variable adjustment with high-precision needle Extended detection distance in combination with with back-pressure nozzles
	HPS-07	0.02 to 0.30											
	HPS-10	0.05 to 0.70											
	HPS-05+ Back pressure nozzle	0.10 to 3.0											