

To: Distributers  
Attn: To Whom It May Concern  
Date: October 2022  
Dear All,

## **Information on model change of Angular Gripper HC series**

We would like to express our sincere gratitude for your continued patronage.

We have received a notice from the manufacturer of Angular Gripper (manufactured by HARMO) that Angular Gripper HC series will be redesigned.

We apologize for any inconvenience this may cause our customers, and thank you for your understanding.

Best regards,

1. Subject model: Angular Gripper HC series

2. Changes

- Model code and additional specifications
- Price
- Color
- Dimensions and markings
- Box design
- Material description

\*1. Please refer to the appendix 1,2,3 for details.

\*2. Details of new optional parts will be announced separately.

1. Model Change Schedule

- Current model: To be shipped until the end of December, 2022
- New model: Orders will be accepted from December 2022, and shipment will start in January 2023.

2. The schedule is subject to change depending on the availability of current products.

Please make inquires to following sales office.

Overseas Sales Department

TEL : +81 -(0)265 76 7751 FAX :+81 -(0)265 76 3305

E-mail: intl@pisco.co.jp

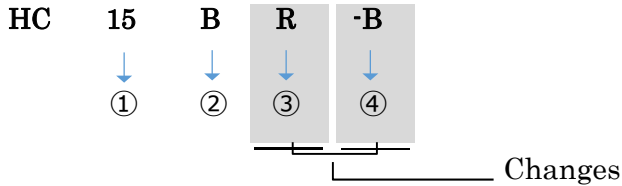
URL: <https://www.pisco.co.jp/en/>

## Appendix 1: Details of Changes

### (1) Change of model type (③ Change of body material symbol)

#### Addition of specifications (④ Addition of options)

- \*1. HC15X type with sensor -WS will be added.
- \*2. The HC20BPX with sensor -S will be discontinued and the new version with sensor -WS will be added.
- \*3. Bracket specification will be added to HC20 die-cast type



#### ① Cylinder area

15: 2.1 cm<sup>2</sup> 20: 4.3cm<sup>2</sup> 30: 8.8 cm<sup>2</sup>

\*Only (15: 2.1cm<sup>2</sup>) and (20: 4.3cm<sup>2</sup>) are available with finger tool.

#### ② Gripper action

**A:** Double-acting **B:** Single-acting, normally open **C:** Single-acting, normally closed

\*Only (B: single acting always open) can be selected for models with finger tool.

### ③ Body material 《 Code: Plastic: P → R Die-cast aluminum: D → M 》

**R:** Plastic **M:** Die-cast aluminum **RX:** Plastic (with finger tool)

**MX:** Die-cast aluminum (with finger tool)

Old	P	D	PX	DX
	Plastic	Die-cast aluminum	Plastic (with finger tool)	Die-cast aluminum (with finger tool)
New	R	M	RX	MX
HC15	○	-	○	-
HC20	○	○	○	○
HC30	-	○	-	-

### ④ Option

**-S:** Sensor **-B:** Bracket **-WS:** Jaw sensor **-BS:** Jaw sensor + bracket

□R·□M type

	-S	-B	-WS	-BS
HC15□R	○	○	-	-
HC20□(R·M)	○	Added ○ *3	-	-
HC30□M	○	-	-	-

BRX·BMX (with finer tools) type

	-S	-B	-WS	-BS
HC15BRX	-	○	Added ○ *1	Added ○ *1
HC20(BRX·BMX)	- *2 Discontinued	○	○ *2 Added	○ *2 Added

\*If you purchase a without jaw sensor model, the jaw sensor cannot be installed afterward.

Change of sensors of the with finger tool type

Subject models

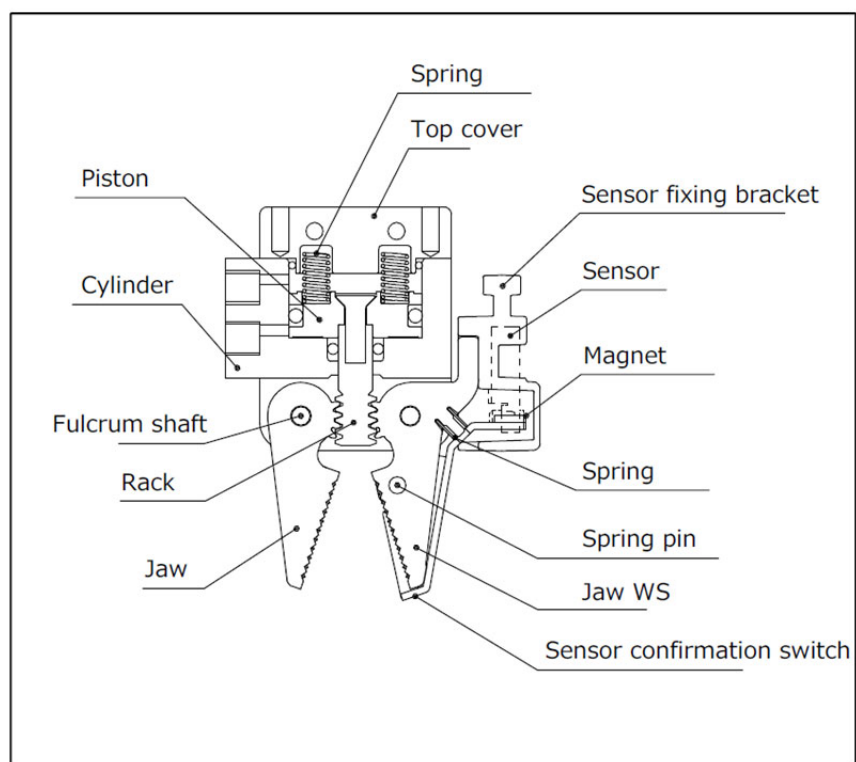
HC15BRX-WS, -BS (Added)

HC20BPX-S ➔ HC20BRX-WS, -BS (Change)

HC20BDX-S ➔ HC20BMX-WS, -BS (Change)

New model makes it easier to adjust the sensor, because the sensor reacts to the movement of the finger tool as the sensor confirmation switch moves in accordance with the movement of the finger tool.

Sensor confirmation switches moves when the product is chucked, and the sensor reacts to the magnet that moves with it to confirm the product. Even thin products can be detected by the movement of the sensor confirmation switch.







Sectional drawing of HC-WS type

Products that are not in contact with the sensor confirmation switches when they are chucked may not be detected because the sensor is activated by the movement of the sensor confirmation switches on both sides of the jaws.

- (e.g. Products whose chucking area is too bulky to be in contact with the sensor confirmation switches, or products whose material is extremely soft and deformed.)

(2) Price

Type	Old model code	List price		New model code	New list price	Changes	Price difference	
HC15	HC15AP	¥16,000		HC15AR	¥16,000	Color	¥0	
	HC15BP	¥16,000		HC15BR	¥16,000		¥0	
	HC15CP	¥16,000		HC15CR	¥16,000		¥0	
	HC15AP-S	¥24,000		HC15AR-S	¥24,000		¥0	
	HC15BP-S	¥24,000		HC15BR-S	¥24,000		¥0	
	HC15CP-S	¥24,000		HC15CR-S	¥24,000		¥0	
	HC15AP-B	¥17,250		HC15AR-B	¥17,250		¥0	
	HC15BP-B	¥17,250		HC15BR-B	¥17,250		¥0	
	HC15CP-B	¥17,250		HC15CR-B	¥17,250		¥0	
	HC15BPX	¥19,000		HC15BRX	¥13,000		Color, jaw width	¥-6,000
				HC15BRX-WS	¥20,000		Newly added ※1	
	HC15BPX-B	¥20,250		HC15BRX-B	¥14,500		Color, jaw width	¥-5,750
			HC15BRX-BS	¥21,000	Newly added ※1			
HC20 (Plastic)	HC20AP	¥16,000		HC20AR	¥16,000	Color	¥0	
	HC20BP	¥16,000		HC20BR	¥16,000		¥0	
	HC20CP	¥16,000		HC20CR	¥16,000		¥0	
	HC20AP-S	¥24,000		HC20AR-S	¥24,000		¥0	
	HC20BP-S	¥24,000		HC20BR-S	¥24,000		¥0	
	HC20CP-S	¥24,000		HC20CR-S	¥24,000		¥0	
	HC20AP-B	¥17,250		HC20AR-B	¥17,250		¥0	
	HC20BP-B	¥17,250		HC20BR-B	¥17,250		¥0	
	HC20CP-B	¥17,250		HC20CR-B	¥17,250		¥0	
	HC20BPX	¥19,000		HC20BRX	¥17,000		Color, jaw width	¥-2,000
	HC20BPX-S	¥27,000		HC20BRX-WS	¥25,000		Specification ※2	¥-2,000
	HC20BPX-B	¥20,250		HC20BRX-B	¥18,700		Color, jaw width	¥-1,550
			HC20BRX-BS	¥26,500	Newly added ※2			
HC20 (Die-cast aluminum)	HC20AD	¥17,000		HC20AM	¥17,000	Color	¥0	
	HC20BD	¥17,000		HC20BM	¥17,000		¥0	
	HC20CD	¥17,000		HC20CM	¥17,000		¥0	
	HC20AD-S	¥25,000		HC20AM-S	¥25,000		¥0	
	HC20BD-S	¥25,000		HC20BM-S	¥25,000		¥0	
	HC20CD-S	¥25,000		HC20CM-S	¥25,000		¥0	
				HC20AM-B	¥18,250		Newly added ※3	
				HC20BM-B	¥18,250			
				HC20CM-B	¥18,250			
	HC20BDX	¥20,000		HC20BMX	¥20,000		Color, jaw width	¥0
	HC20BDX-S	¥28,000		HC20BMX-WS	¥28,000		Specification ※2	¥0
	HC20BDX-B	¥21,250		HC20BMX-B	¥21,250		Color, jaw width	¥0
			HC20BMX-BS	¥29,250	Newly added ※2			
HC30	HC30AD	¥28,000		HC30AM	¥28,000	Color	¥0	
	HC30BD	¥28,000		HC30BM	¥28,000		¥0	
	HC30CD	¥28,000		HC30CM	¥28,000		¥0	
	HC30AD-S	¥36,000		HC30AM-S	¥36,000		¥0	
	HC30BD-S	¥36,000		HC30BM-S	¥36,000		¥0	
	HC30CD-S	¥36,000		HC30CM-S	¥36,000		¥0	

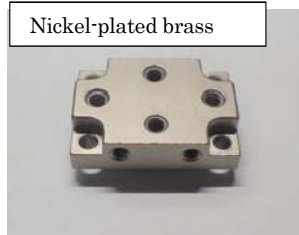
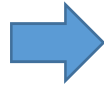
\*1. HC15X type with sensor -WS will be added.

\*2. The HC20BPX with sensor -S will be discontinued and the new version with sensor -WS will be added.

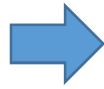
\*3. Bracket specification will be added to HC20 die-cast type

(3) Color

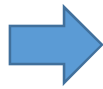
Top cover



Plastic type cylinder



Die-cast aluminum cylinder

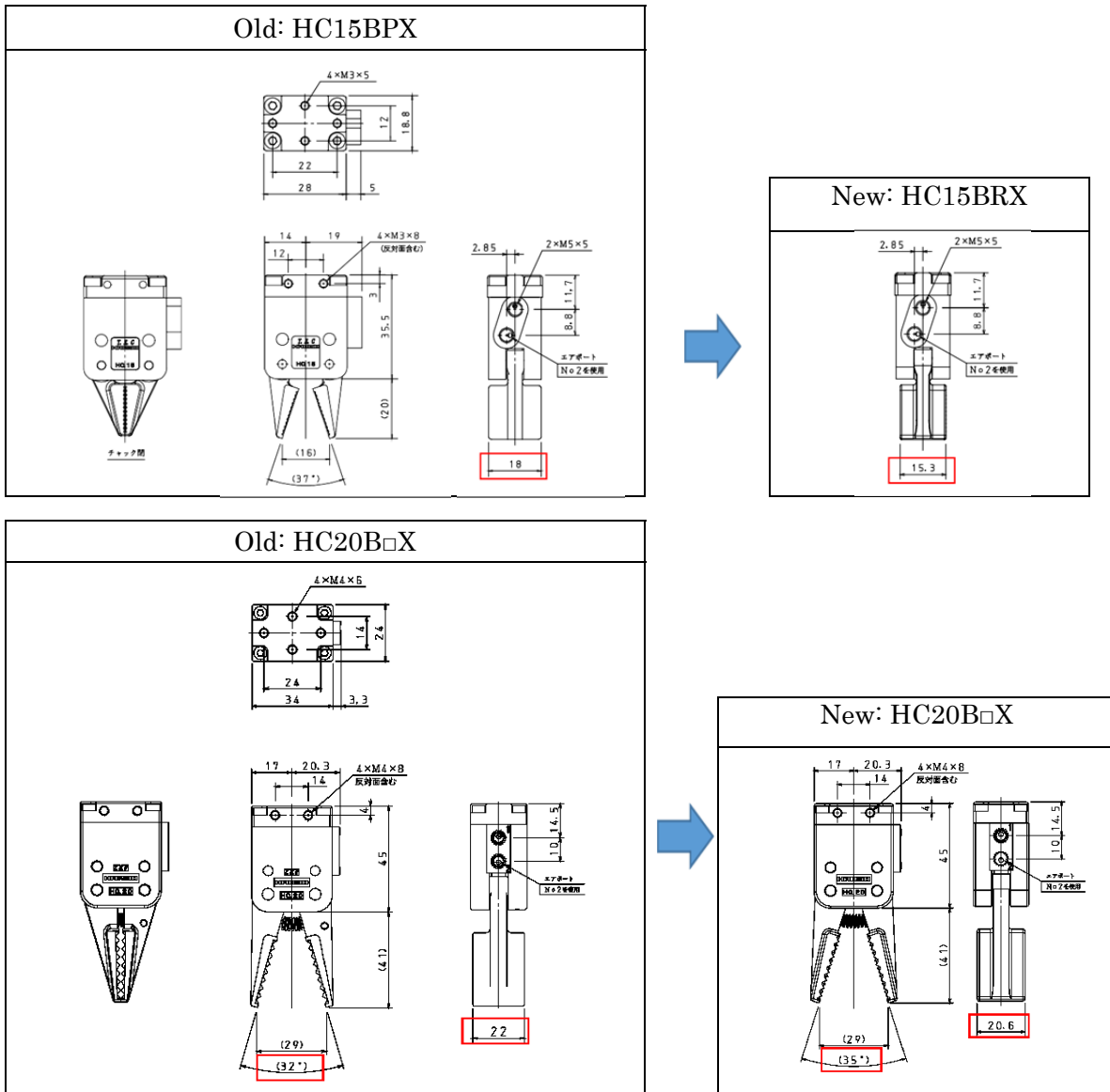


Bracket

All types Paint (Brown) → Trivalent unichromate plating

(4) External dimensions and markings

[Change of external dimensions] With finger tool type



[Change of marking] All types

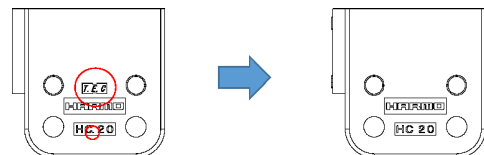
The markings on the cylinder part will be changed by modifying the current metal mold.

We plan to keep the current product in stock until the end of sales. However, if orders exceed the expected quantity, we may ship cylinders with the changed markings in the same color as the current product.

●HC15



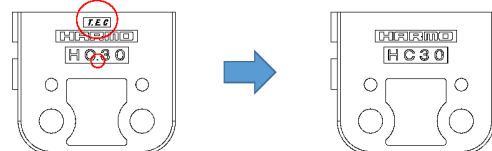
●HC20 (Die-cast aluminum)



●HC20 (Plastic)






●HC30



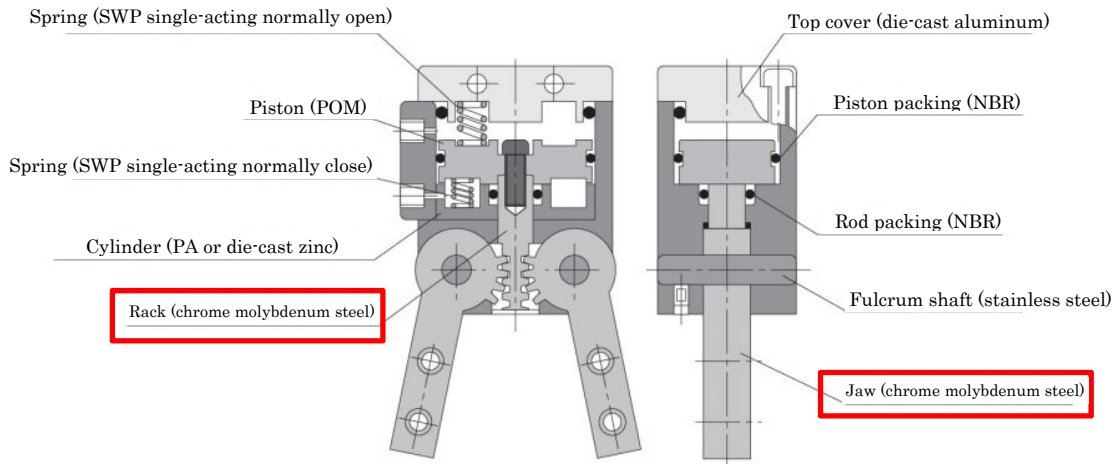
(5) Box design

The box design will be changed to the one shown below.

	Front	Back
Old	 The old box front view shows a white box with a blue and black graphic design. The text "Air Chuck" is printed on the top flap, and "HARMO" is printed on the side panel.	 The old box back view shows the reverse side of the box, featuring the same "Air Chuck" and "HARMO" branding and graphic design.
New	 The new box front view shows a plain white box with the "HARMO" logo printed in blue on the side panel.	 The new box back view shows the reverse side of the box, with the "HARMO" logo printed in blue on the side panel.

## (6) Material Description

In the course of the renewal, we found an omission in the description because different Materials were used for certain models. We have been manufacturing with the material described below.



- Jaw (chrome molybdenum steel)  
Other than X type: Carbon steel  
X type: Chrome molybdenum steel (as described)
- Rack (chrome molybdenum steel)  
HC15-30: Carbon steel  
HC20: Chrome molybdenum steel (as described)



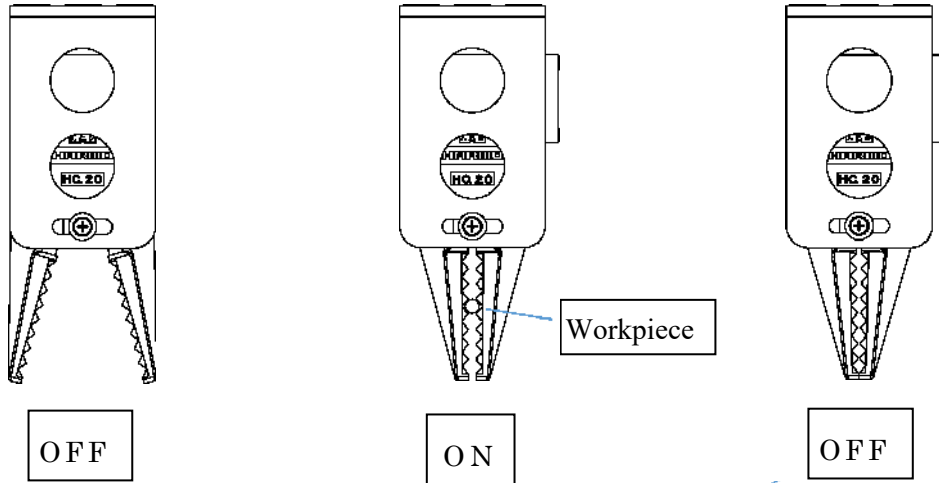
## Appendix 2

### Angular Gripper HC series sensor type Comparison of previous model and new model

#### Sensor

- Disadvantage of the previous model

> Confirmation (OFF-ON-OFF) may be impossible if OFF and ON positions are too close to each other.

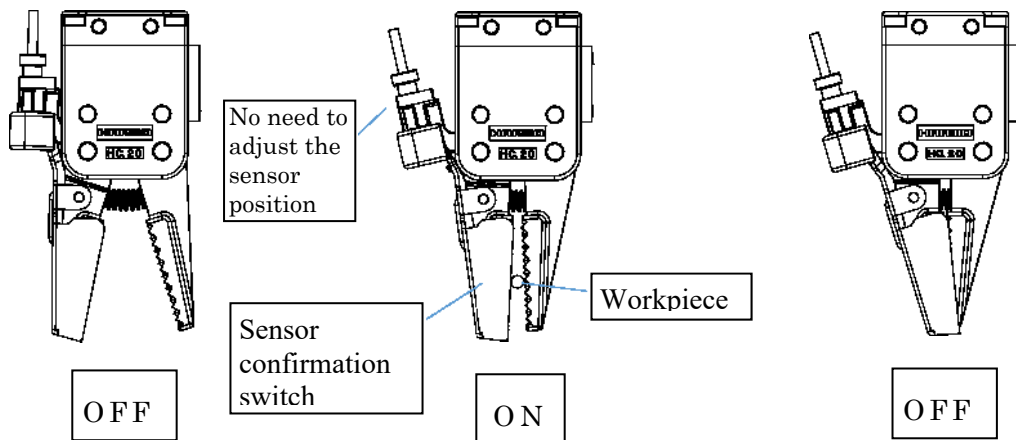


If the workpiece is too thin, the sensor may not turn ON even though the workpiece is chucked. Also, by adjusting the sensor so that it turns ON with thin workpieces, the sensor may remain ON instead of OFF even though the workpiece is not chucked.

- Advantage of the new model

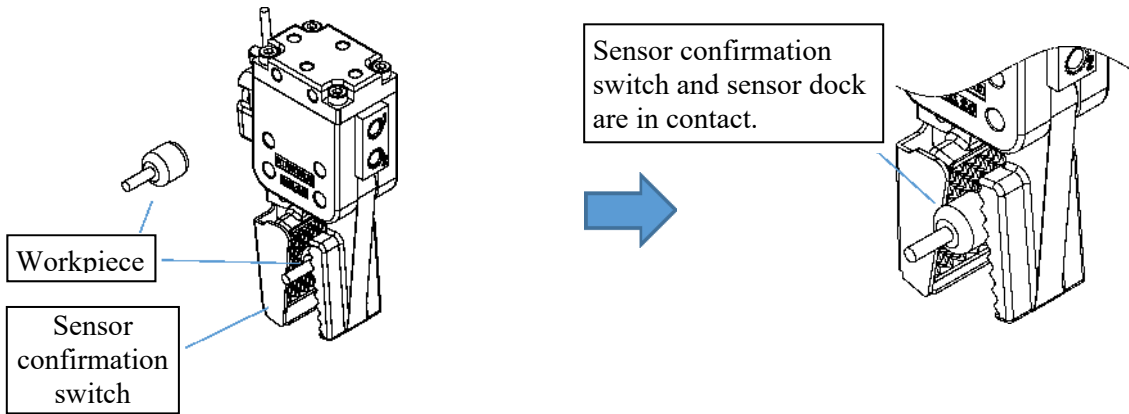
> Any workpiece can be detected (OFF-ON-OFF) by the sensor as long as the sensor confirmation switch moves when the workpiece is chucked.

> No need to adjust the sensor position even when the workpiece is thin.



Disadvantage of the new model

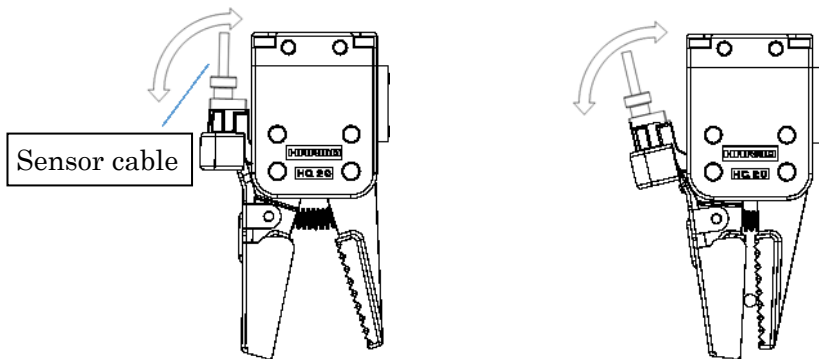
> If the part of the workpiece to be chucked is shaped like a bulge or made of soft material, sensor confirmation switch remains still and such workpieces cannot be detected.



As the part of the workpiece to be chucked is shaped like a bulge, sensor confirmation switch remains still and the workpiece cannot be detected.

The workpiece can be detected by placing it in a position where the sensor confirmation switch moves when it is chucked.

> Since the sensor cable moves with the claws, measures such as fixing the cable are necessary to avoid the risk of wire breakage in case of accident.



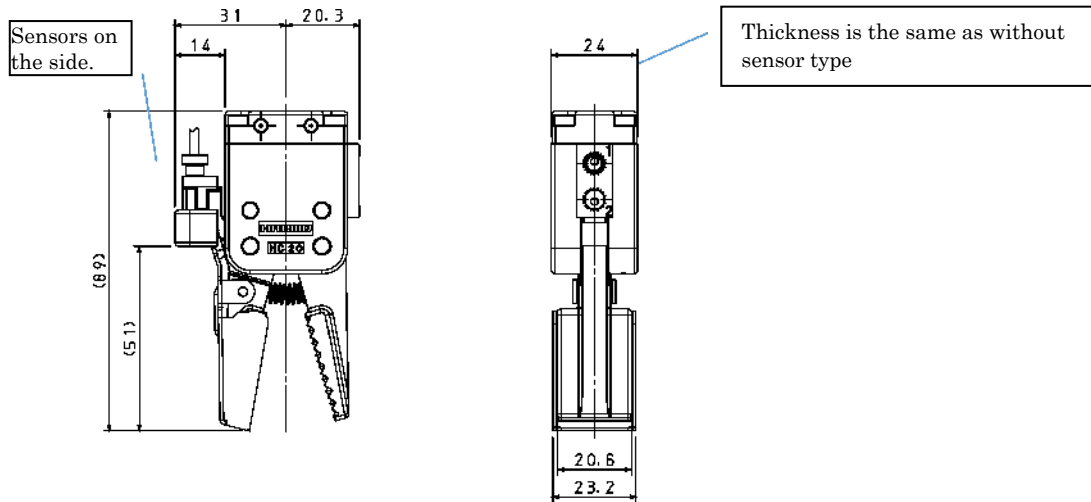
## External Dimensions (HC20)

- New model

> The sensor is attached on the side, so the width is increased, but there is no change in thickness.

Distance from the center: New model: 31 mm, old model: 17 mm. Difference: 14 mm

> Installation can be done in the same way as for the without-sensor type.



- Previous model

> Thicker on both sides.

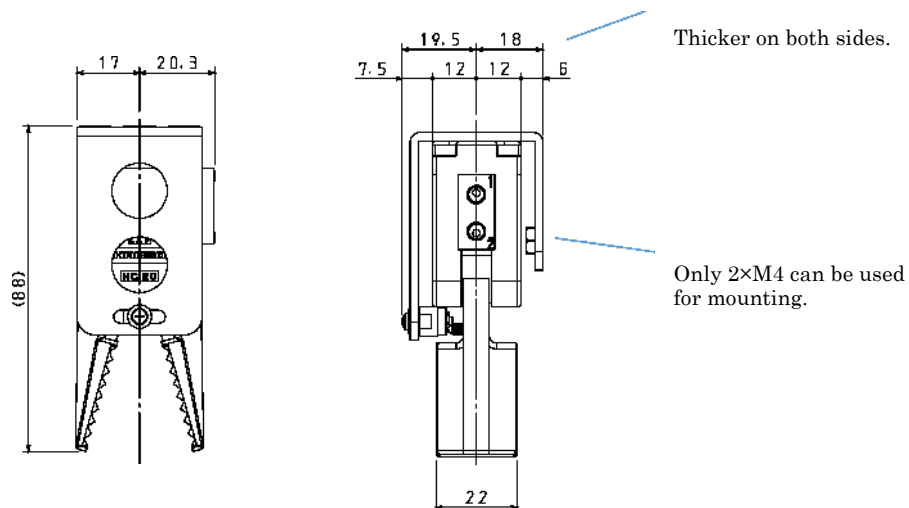
Distance from the center (sensor side): New model 12mm Old model 19.5mm

Difference 7.5mm

Distance from the center (mounting side): New model 12 mm Old model 18 mm

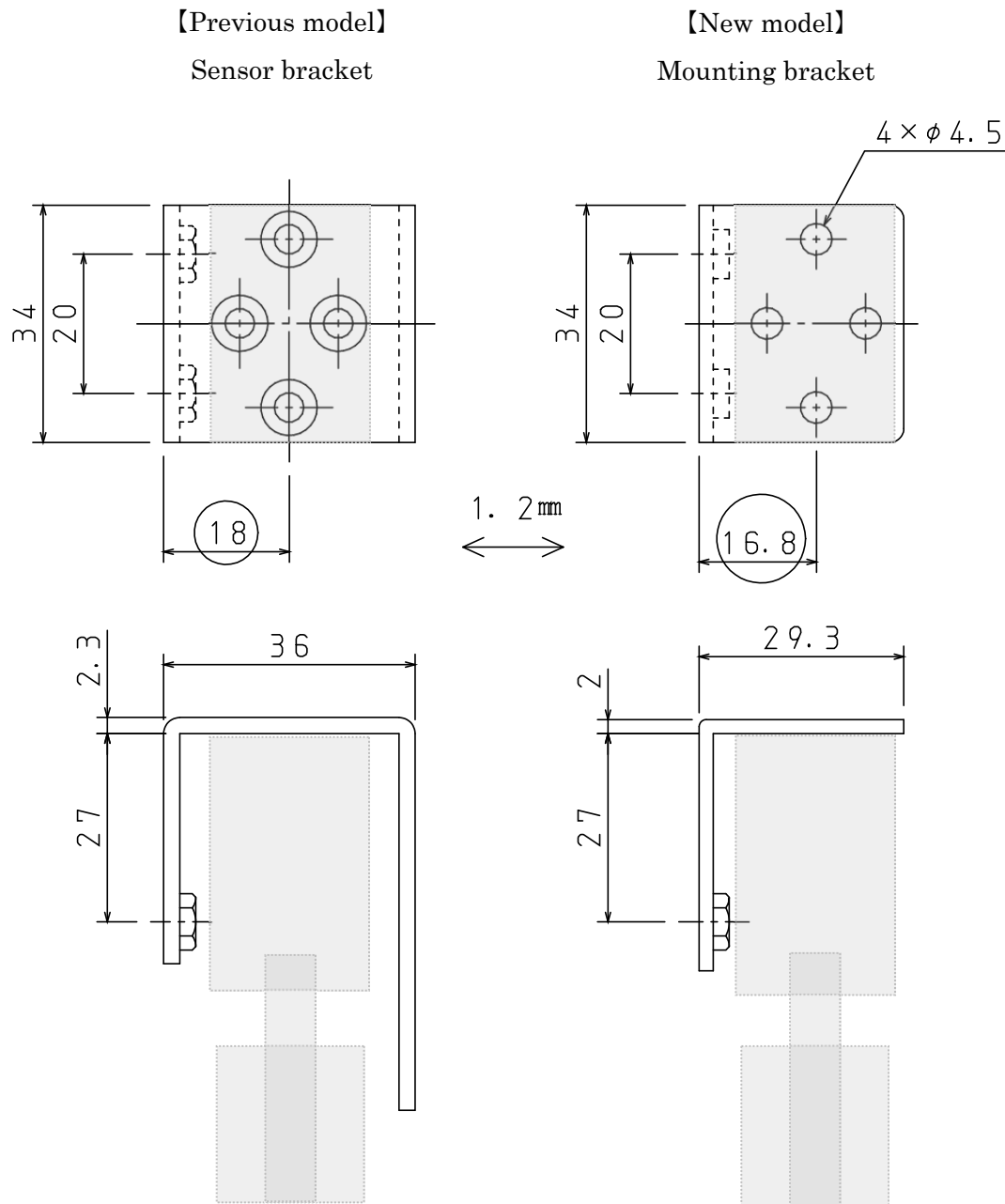
Difference 6 mm

> Only 2×M4 on the side surface can be used for mounting.



## Appendix 3

### HC20B□X-S (with finger tools) Bracket Dimensions Comparison





With the elimination of the sensor bracket, the dimension from the surface where the mounting bracket is attached to the lever chuck to the nut is 27 mm, the same as previous models. However, the following two points are different.

- ① ① The distance between the mounting surface of the bracket and the chuck center is 1.2 mm shorter.
- ② ② The sensor bracket is secured with countersunk screws, but the mounting bracket has holes for M4 so that it can be fixed in either orientation.

## Sensor Specification Comparison

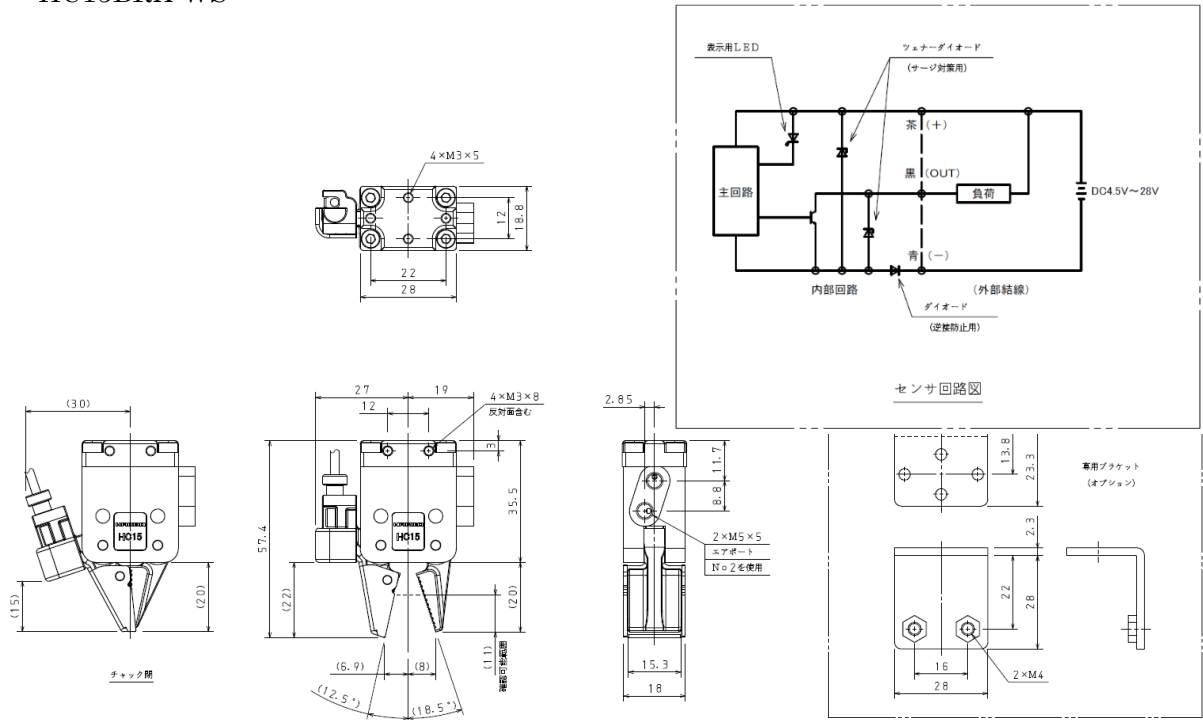
	Previous model	New model
Rated voltage	12~24V DC +10%/-15% Ripple P-P10% or less	DC4.5~28V
Current consumption	15mA or less	8mA Max.(DC24V)
Output	NPN output Max. inflow current:100mA、 Applicable voltage:30V DC or less	NPN output
Operation indicator	Red LED (Lights up when output is ON)	Red LED indicator Lights up when output is ON)
Operating ambient temp.	-25~70°C	0~60°C
Cable	0.08SQ 3-core 1m	PCCV0.15SQ x3-core (brown, blue, black) x1m

## Appearance

	
<p>HC15BRX-WS</p>	<p>HC20BRX-WS</p>

## External Dimensions

### ● HC15BRX-WS



### ● HC20B□X-WS

