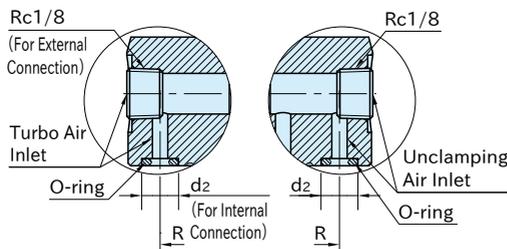
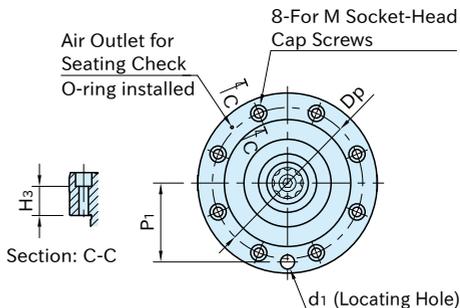


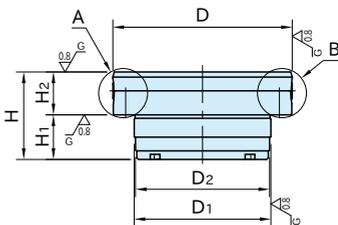
# AMWFH-WP

# PNEUMATIC CLAMPING MODULES



Detail: A

Detail: B



**★ Key Point**  
Work as quick change & form holding system.

| Body   | Ball                       | Spring                         |
|--|----------------------------|--------------------------------|
| S55C steel<br>Black oxide finish<br>HRC50-60 | SUS440C<br>stainless steel | Equivalent to<br>SWOSC-V steel |

| Part Number        | D (h7) | D <sub>1</sub> (h6) | D <sub>2</sub> | H  | H <sub>1</sub> | H <sub>2</sub> (±0.005) | M  | H <sub>3</sub> | D <sub>p</sub> | P <sub>1</sub> (±0.02) | R  | d <sub>1</sub> (G6) | d <sub>2</sub> | O-ring |
|--------------------|--------|---------------------|----------------|----|----------------|-------------------------|----|----------------|----------------|------------------------|----|---------------------|----------------|--------|
| <b>AMWFH105-WP</b> | 105    | 80                  | 79.5           | 51 | 26             | 25                      | M5 | 17             | 88             | 46                     | 46 | 8                   | 7.2            | P4     |
| <b>AMWFH140-WP</b> | 140    | 110                 | 109.5          | 65 | 33             | 32                      | M6 | 23             | 120            | 62                     | 62 | 10                  | 8.2            | P5     |

| Part Number        | Clamping Force (kN) |          | Operating Air Pressure (MPa) | Weight (kg) |
|--------------------|---------------------|----------|------------------------------|-------------|
|                    | w/o Turbo           | w/ Turbo |                              |             |
| <b>AMWFH105-WP</b> | 4                   | 9-12     | 0.6-1.0                      | 2.2         |
| <b>AMWFH140-WP</b> | 8.5                 | 19-26    |                              | 4.8         |

## Note

- Do not plug the turbo port as it functions as an air vent even when not using turbo function. Mounting a filter prevents contamination.
- If seating confirmation by monitoring air flow is required, internal air supply must be provided. The detection switch and related components should be prepared by the customer.
- Use clean air by removing moisture and debris with an air dryer and air filter.
- Impurities in the compressed air can cause malfunction.

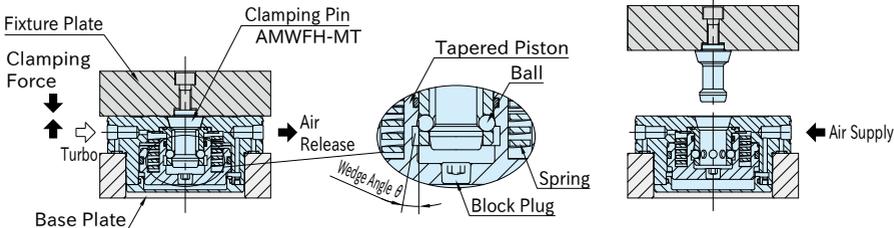
## Supplied With

- AMWFH105-WP**: 1 of diamond pin BJ722-08001
- AMWFH140-WP**: 1 of diamond pin BJ722-10001
- 1 of locating pin
- 1 of orifice plug
- 8 of plastic mounting hole caps
- 1 of plastic locating hole cap

## Feature

### ■ Clamping Mechanism

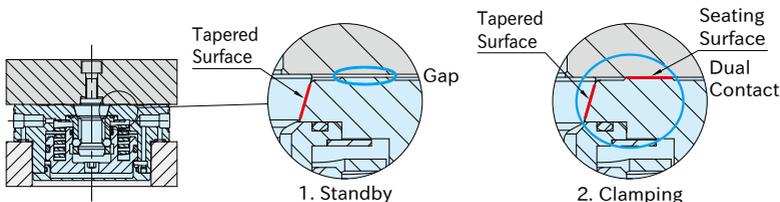
- This module clamps the plate with spring force, and can be boosted by supplying air to the turbo port. Supplying air to the unclamping port opens the module, and releasing air allows the spring to hold the clamping pin for clamping.
- Available with either external threaded connection or internal connection.



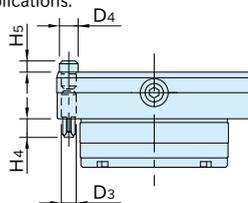
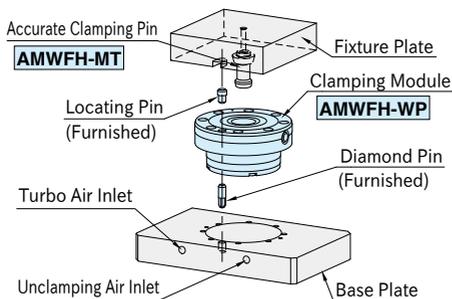
Releasing air allows the spring to push the tapered piston downward, which presses the balls and retracts the clamping pin. The clamping force can be boosted by supplying air to the turbo port.

Supplying air raises the tapered piston, releasing the pressure on the balls and unclamping the clamping pin.

- Precise dual contact provides excellent locating repeatability at 5µm.

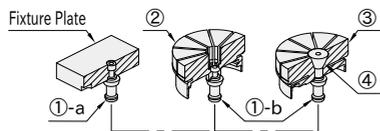


- Use the furnished diamond pin and the locating pin for single module applications.

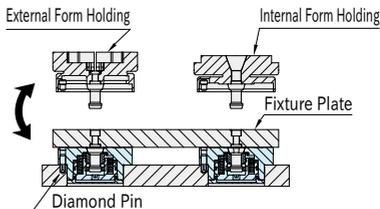


| Part Number | D <sub>3</sub> (h6) | H <sub>4</sub> | D <sub>4</sub> (h6) | H <sub>5</sub> |
|-------------|---------------------|----------------|---------------------|----------------|
| AMWFH105-WP | 8                   | 10             | 10                  | 6              |
| AMWFH140-WP | 10                  | 12             | 12                  | 7              |

- This module works as a form holding clamp for O.D. clamping or I.D. clamping by mounting optional jaws.



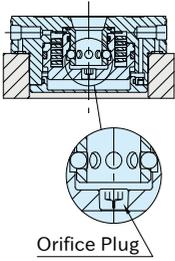
- ① Clamping Pin  
 ①-a : AMWFH-MT  
 ①-b : AMWFH-MS
- ② Jaw (External Holding)  
 AMWFH-O
- ③ Jaw (Internal Holding)  
 AMWFH-I
- ④ Tapered Screw (Internal Holding)  
 AMWFH-IB



Diamond pins are not required for rotational positioning when using multiple modules. If the modules are also used for O.D. clamping or I.D. clamping, install diamond pins beforehand.

Continuing on Next Page

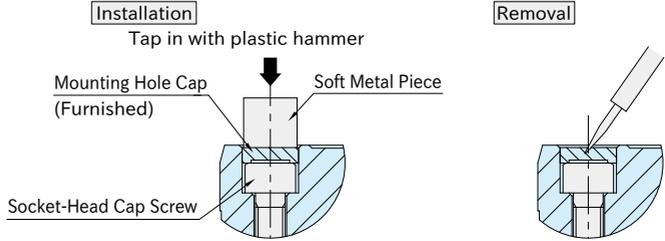
## Blow-out Function



Replace the installed plug with the supplied orifice plug to enable air blow at the clamp pin insertion hole.

## Mounting Hole Cap

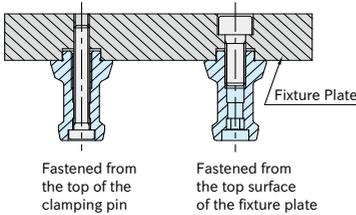
Keep the top surface of the module clean by inserting the plastic into the mounting hole.



Place the mounting hole cap over the socket-head cap screw hole and tap it in using a plastic hammer. When tapping, always place a piece of soft metal between the hammer and the plastic cap.

Insert a pointed tool into the cap to remove it.

## Technical Information

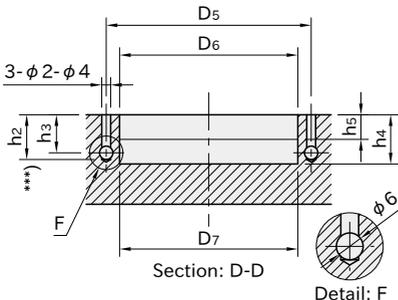
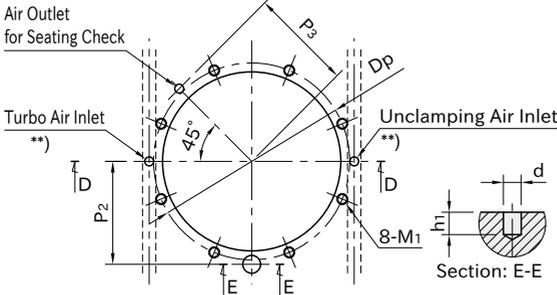


| Clamping Modules | Clamping Pin Size | Holding Force (kN)*                                  |  |
|------------------|-------------------|--|--|
|                  |                   | Fastened From the Clamping Pin Top (Class 8.8 Screw) | Fastened From the Fixture Plate Top (Class 12.9 Screw) |
| AMWFH105-WP      | AMWFH105-M8       | 17   | 21   |
|                  | AMWFH140-M12      | 47   | 100  |
| AMWFH140-WP      | AMWFH140-M16      | 74   | 140  |

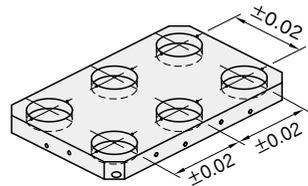
\*) Exceeding the holding force will result in product or screw failure. This value does not include a safety factor. Measured at 0.6 MPa.

## How To Use

### Mounting Hole Dimensions



### Machining Accuracy



Spacing tolerance between mounting holes should be  $\pm 0.02$ .

| Part Number | P <sub>2</sub><br>( $\pm 0.02$ ) | P <sub>3</sub> | D <sub>p</sub> | M <sub>1</sub>                  |
|-------------|----------------------------------|----------------|----------------|---------------------------------|
| AMWFH105-WP | 46                               | 46             | 88             | M5×0.8 Depth 10 (Hole Depth 14) |
| AMWFH140-WP | 62                               | 62             | 120            | M6×1.0 Depth 13 (Hole Depth 18) |

| Part Number | d<br>(G7) | h <sub>1</sub> | D <sub>5</sub> | D <sub>6</sub><br>(H7) | D <sub>7</sub> | h <sub>4</sub> | h <sub>5</sub> |
|-------------|-----------|----------------|----------------|------------------------|----------------|----------------|----------------|
| AMWFH105-WP | 8         | 10             | 92             | 80                     | 79.8           | 27             | 14             |
| AMWFH140-WP | 10        | 12             | 124            | 110                    | 109.8          | 34             | 19             |

\*\* ) Not required for external connection with Rc1/8 ports.

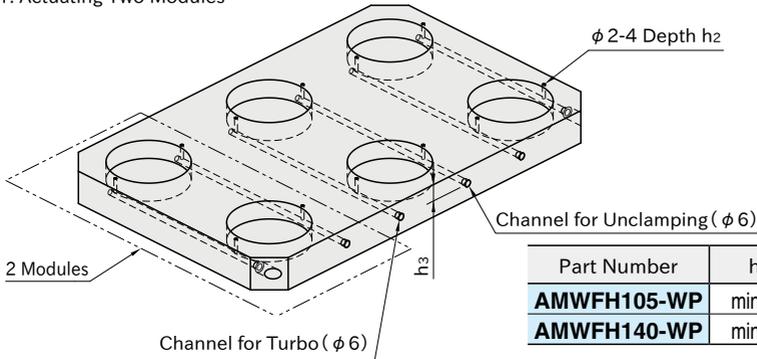
\*\*\* ) Refer to Internal Pneumatic Connection for the details of h<sub>2</sub> and h<sub>3</sub>.

## How To Use

### Internal Pneumatic Connection

Prepare channel holes for turbo, unclamping, and (if needed) seating check in the base plate. Each channel should connect to a vertical hole with a diameter of  $\phi 2-4$ .

#### 1. Actuating Two Modules

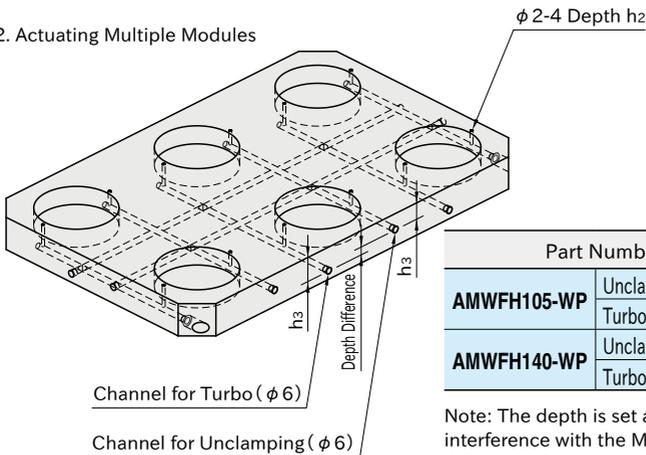


| Part Number        | $h_2$  | $h_3$  |
|--------------------|--------|--------|
| <b>AMWFH105-WP</b> | min.21 | min.18 |
| <b>AMWFH140-WP</b> | min.23 | min.20 |

Note: The depth is set as the minimum to avoid interference with the  $M_1$  tapped holes. Make sure the channel is placed at this depth or deeper.

The depth of vertical holes ( $\phi 2-4$ ) should be  $h_2$ .

#### 2. Actuating Multiple Modules



| Part Number        |                    | $h_2$  | $h_3$  |
|--------------------|--------------------|--------|--------|
| <b>AMWFH105-WP</b> | Unclamping Channel | min.21 | min.18 |
|                    | Turbo Channel      | min.31 | min.28 |
| <b>AMWFH140-WP</b> | Unclamping Channel | min.23 | min.20 |
|                    | Turbo Channel      | min.33 | min.30 |

Note: The depth is set as the minimum to avoid interference with the  $M_1$  tapped holes. Make sure the channel is placed at this depth or deeper. The hole depths for the unclamping and turbo sides can be reversed if needed.

- The depth of vertical holes ( $\phi 2-4$ ) should be  $h_2$ .
- Make sure to set different depths for the turbo and unclamping channels to avoid interference.
- Use one air supply port each for turbo and unclamping, and plug the unused ports. Screw plugs should be prepared by the customer.

## Related Products

- [AMWFH-M](#) CLAMPING PINS
- [BJ722](#) DIAMOND LOCATING PINS
- [AMWFH-O](#) JAWS FOR EXTERNAL FORM HOLDING
- [AMWFH-I](#) JAWS FOR INTERNAL FORM HOLDING