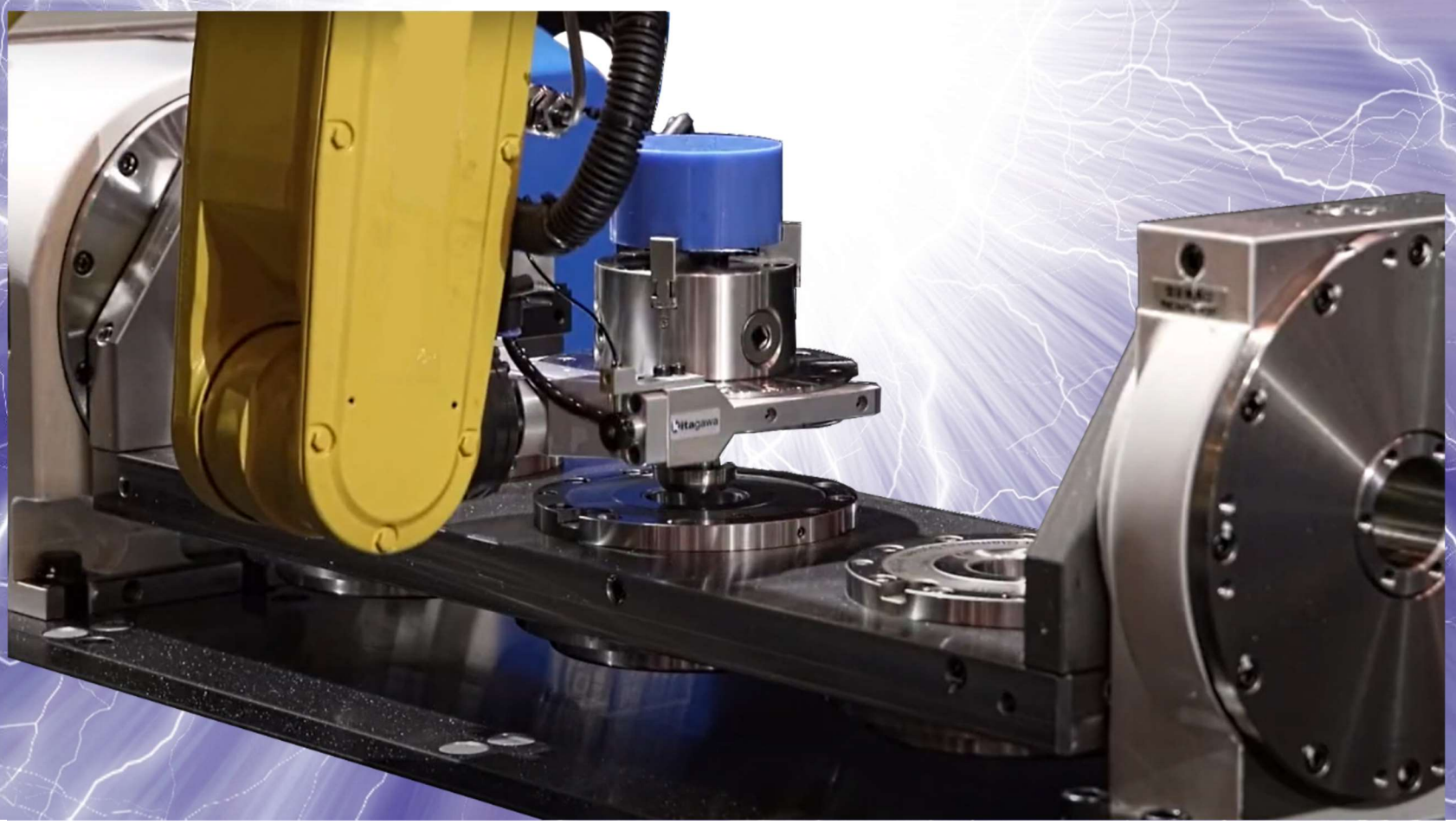
kitagawa

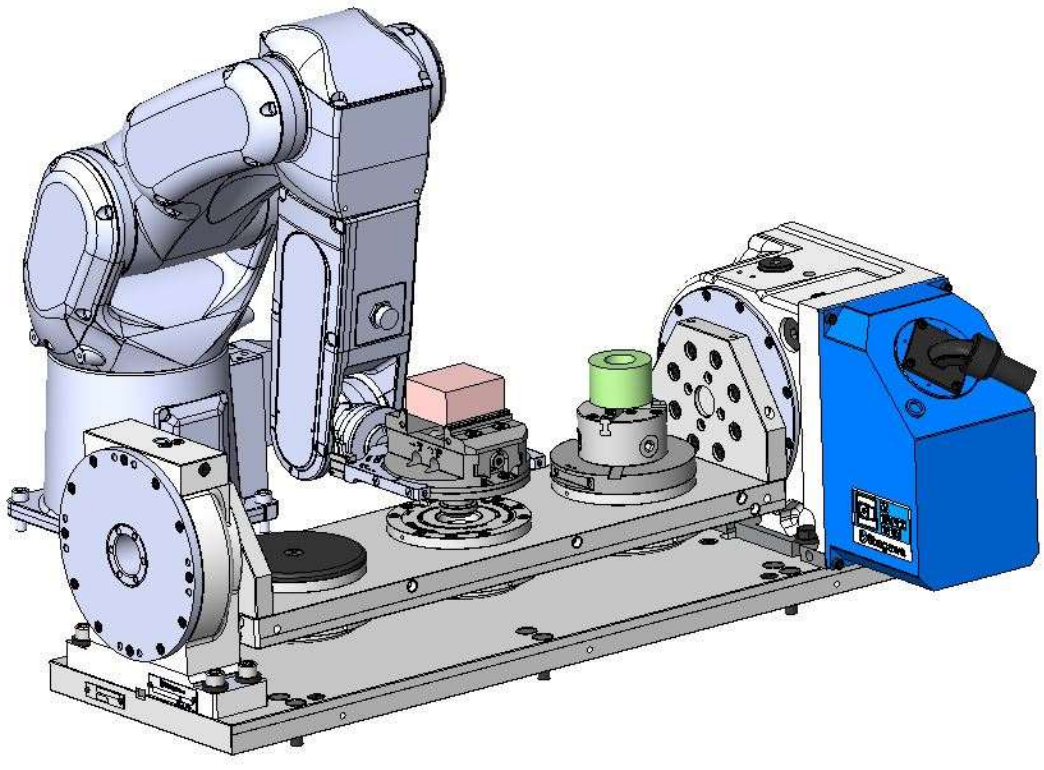
WHS WORKHOLDING SOLUTIONS

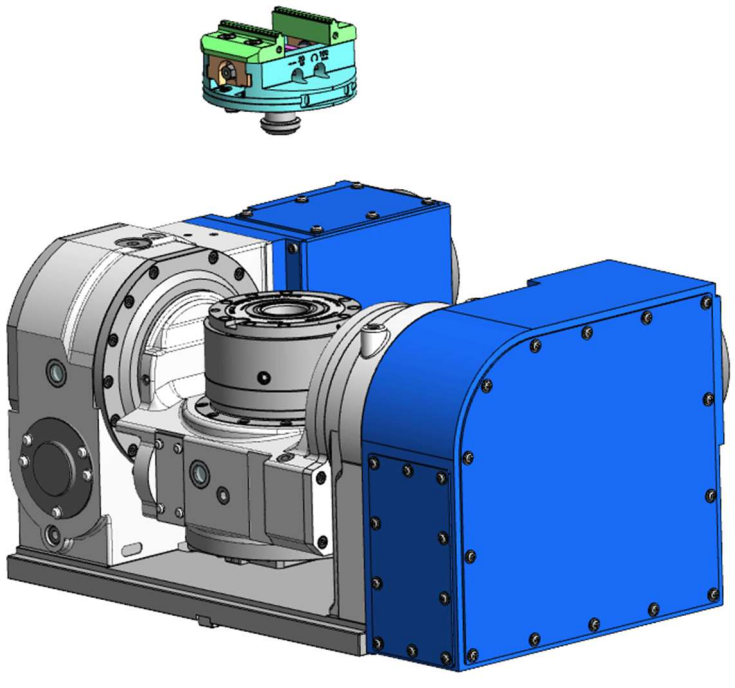
Pallet Clamping System

PCX138



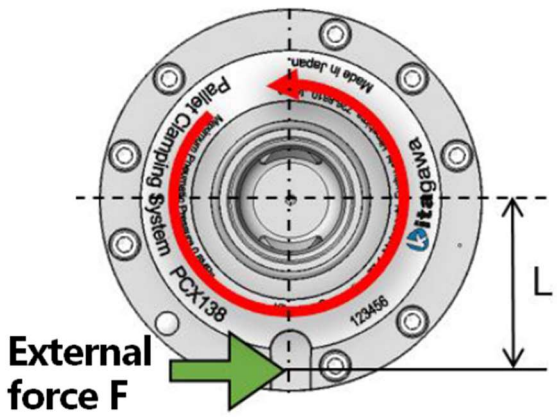
- **Significant reduction in pallet changeover time**
- **Factory automation and unmanned operation**
- **High-precision positioning**
- **Best match with NC rotary tables**



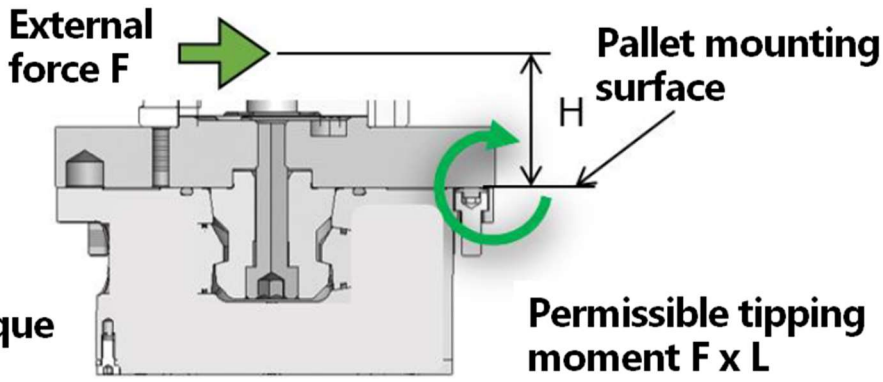


Specification

Engaging force (Spring grip)	7kN
Engaging force (Air pressure 0.6MPa)	24kN
Maximum operationg pressure	0.6MPa
Permissible torque F x L	130N・m
Permissible tipping moment F x H	440N・m
Repeatability	5μm
Mass	3.9kg



Permissible torque F x L



Permissible tipping moment F x L

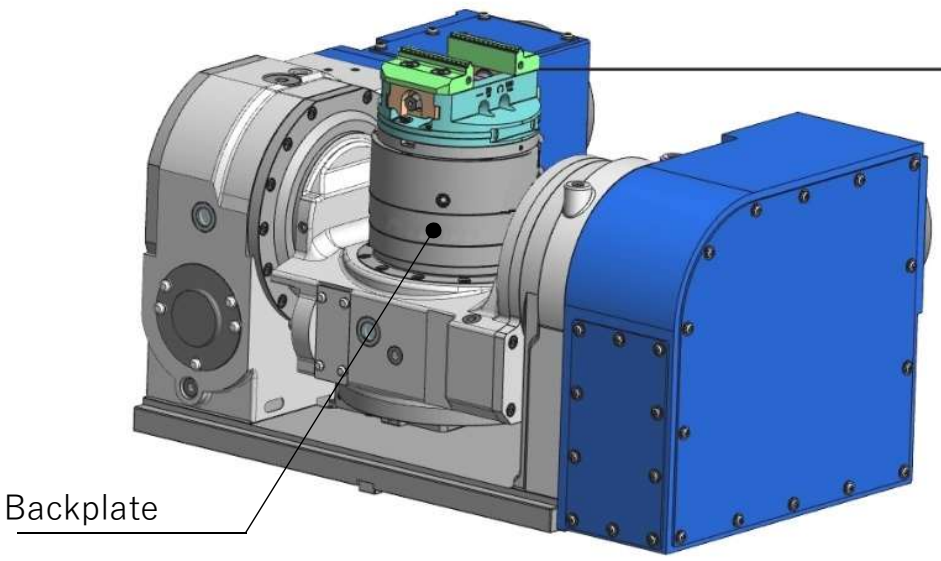
・High repeatability positioning accuracy of 5μm or less due to the two-surface location.
・It can be gripped using only the built-in spring, and when the machining load is high, it can be gripped using air clamping.
・No lubrication and low maintenance.
・All stainless steel
・4 systems: unclamp, turbo clamp , air blow or taper hole seating confirmation, end face seating confirmation.

Note 1: During unclamping, the pallet mounting surface and the pallet do not come into close contact but remain slightly apart.

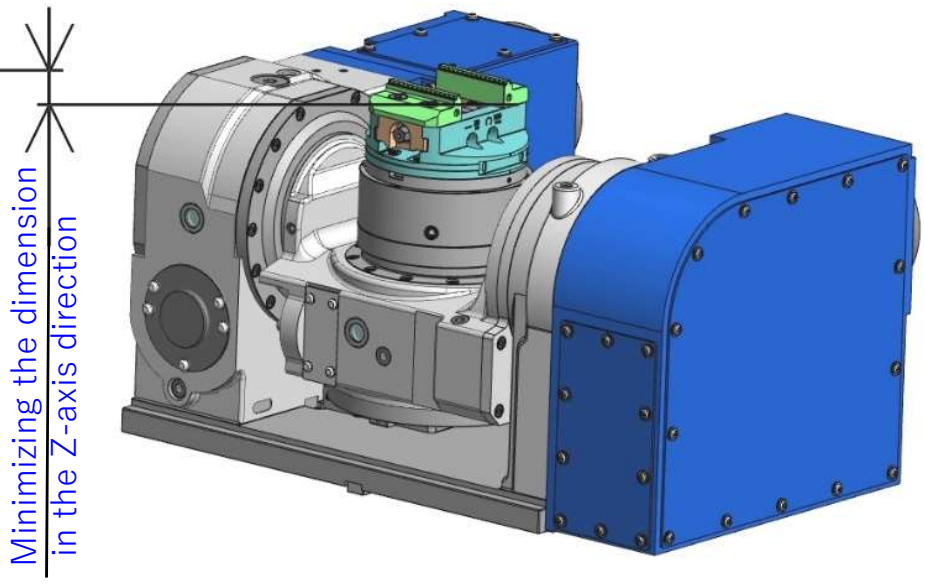
Note 2: The repeatability accuracy is based on our measurement method using the same pallet.

Best match with NC rotary tables

Kitagawa is also the NC rotary table manufacturer. Therefore, the interface on the rotary table side is dedicatedly designed for the pallet clamp mounting. Eliminating the backplate minimizes the Z-axis dimension and expands the machining area.

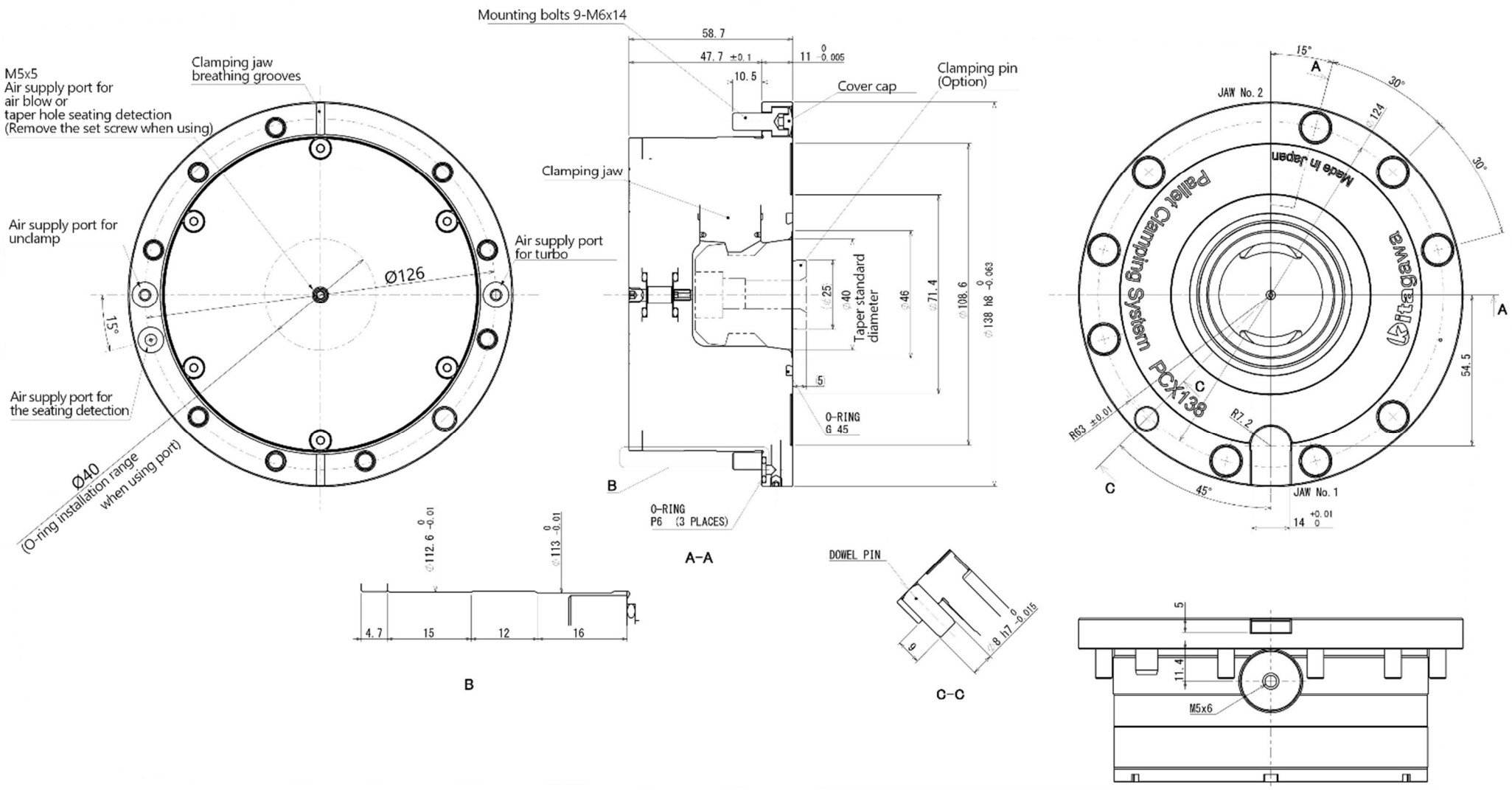


Installation on the standard NC rotary table



Installation on the NC rotary table designed with a dedicated interface

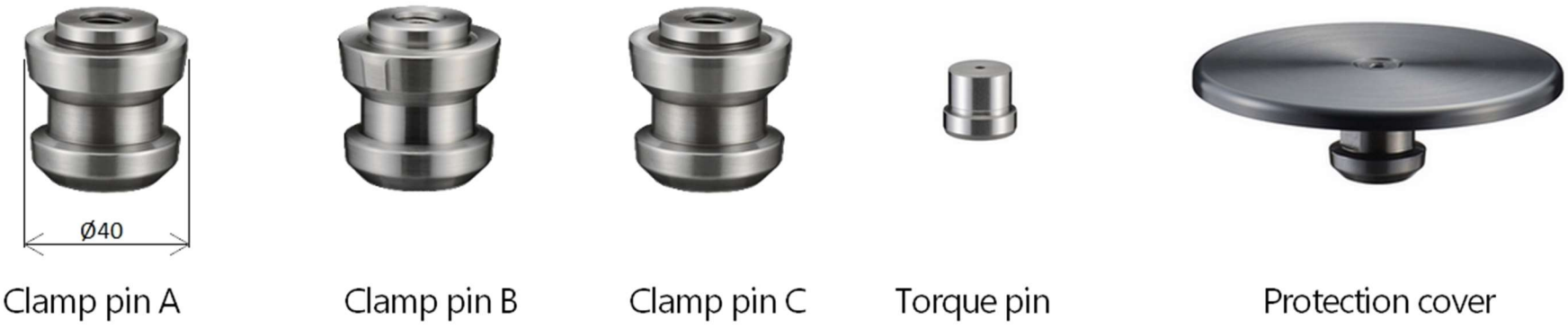
Dimensions



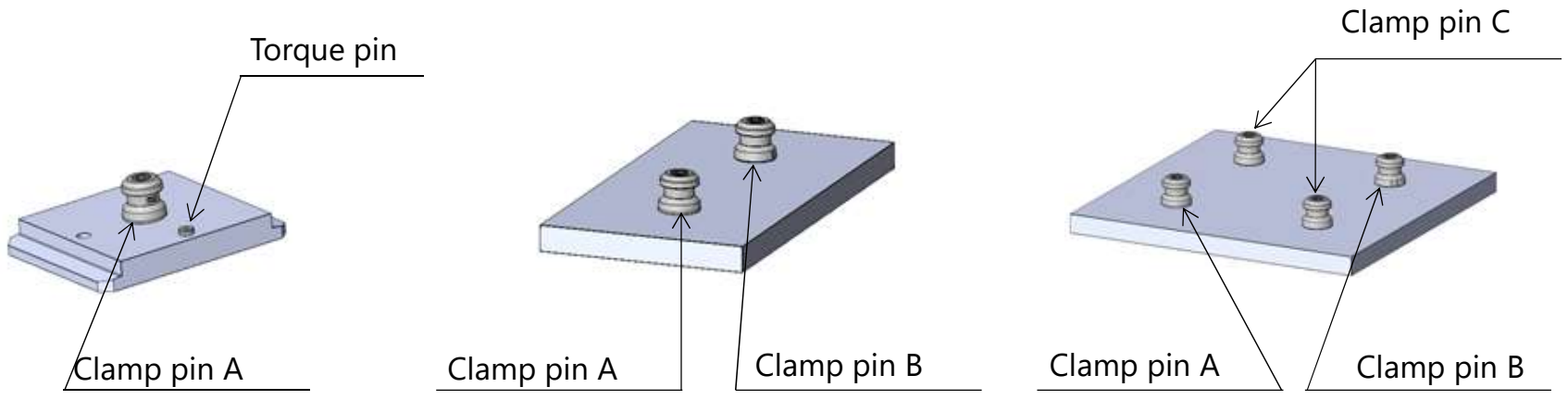
Options

Pin

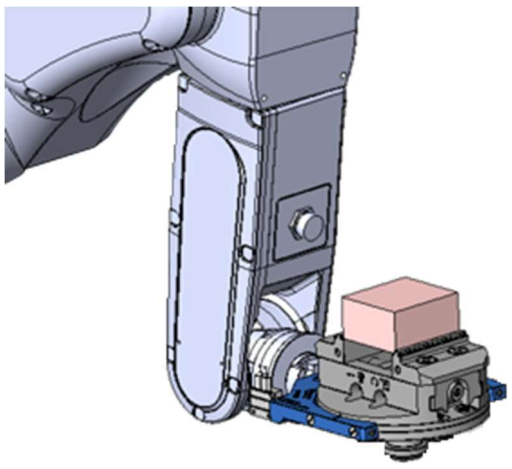
Clamp Pin A	PCX40A	Centring pin (Omnidirectional positioning)
Clamp Pin B	PCX40B	Reference pin (One direction positioning)
Clamp Pin C	PCX40C	Clamp Pin (No positioning function)
Torque Pin	PCX14T	Phase alignment and torque reception
Protection Cover	PCX138-PC	Protective Cover



Example of clamp pin usage



Pallet Conveying End Effector HP-9939



Designed specifically for automatic compatible pallet, it is suitable for narrow spaces and short pitch pallet clamps.
(Only in horizontal position during pallet conveying)
Permissible pallet mass: 10kg
Body mass: 0.5kg

Various types of Pallets

Model	Description	Suitability for automation	Mass (including fixture)	Remarks
PCXP-FRD	Pallet (Free circular type)	○	2.6kg	For additional machining, Thickness 20, S45C
PCXP-FRDAL	Pallet (Free circular type aluminium)	○	1.3kg	For additional machining, Thickness 25, A2017
PCXP-FSQ	Pallet (Free square type)	×	4.7kg	For additional machining, 199x159x20, S45C
PCXP-FSQAL	Pallet (Free square type aluminium)	×	2.2kg	For additional machining, 199x159x25, A2017
V75V13C-P	Centering vice	○	3.7kg	Pallet clamp dedicated
PCXP-SC3	Pallet (for SC-3-106 mounting)	○	4.3kg	3-inch scroll chuck
PCXP-SC4	Pallet (for SC-4-105 mounting)	○	5.6kg	4-inch scroll chuck
PCXP-SC5	Pallet (for SC-5-107 mounting)	○	7.0kg	5-inch scroll chuck
PCXP-ID08	Pallet (for Imao MBID08 mounting)	○	2.8kg	Inner diameter gripping, Range Ø13.5～20
PCXP-ID10	Pallet (for Imao MBID10 mounting)	○	2.9kg	Inner diameter gripping, Range Ø18～27
PCXP-ID12	Pallet (for Imao MBID12 mounting)	○	3.1kg	Inner diameter gripping, Range Ø23～35.5
PCXP-ID16B	Pallet (for Imao MBID16B mounting)	○	4.7kg	Inner diameter gripping, Range Ø29.3～51.5
PCXP-ID16D	Pallet (for Imao MBID16D mounting)	○	6.6kg	Inner diameter gripping, Range Ø29.3～103

Note 1) The scroll chuck and Imao inner diameter collet are not included with the pallet. Please arrange them separately.
Note 2) The Imao ID collet chuck MBID is not available from our company
Note 3) The free pallets may have a thickness tolerance of approximately 0.05mm. If a better tolerance is required, please make additional machining.
Note 4) The specifications of the centring vice are in accordance with the standard V75V13C

Free pallet round type
(Automation compatible)

Free pallet square

Centering vice pallet

Scroll chuck pallet

Inner diameter collet pallet

Kitagawa product technical information is available on the Kitagawa Web Showroom.
https://prod.kiw.co.jp/exhibition/mtools/en/

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https://www.kiw.co.jp https://www.kitagawa.com https://www.kitagawa.com.cn
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・Product specifications and appearance are subject to change without notice due to ongoing research and development.
・The color of the actual product may be different from the catalogue's due to printing matters.
・Catalog information is current as of May 2026
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