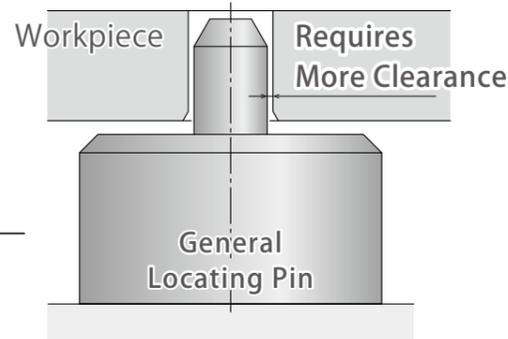
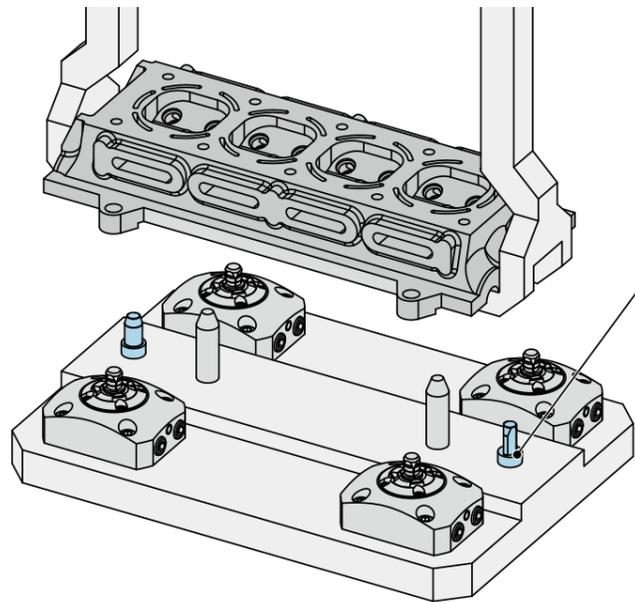


Automation and High Accuracy

Eliminate backlash of robot/loader for high-accuracy machining



Locating Accuracy : Low

Clearance to load/unload a workpiece smoothly leads to low locating accuracy.

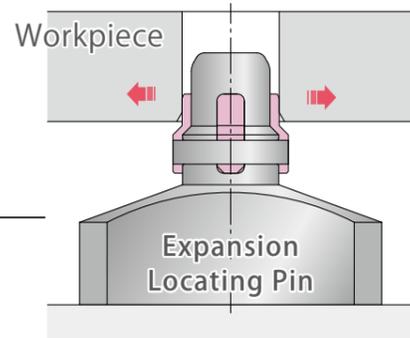
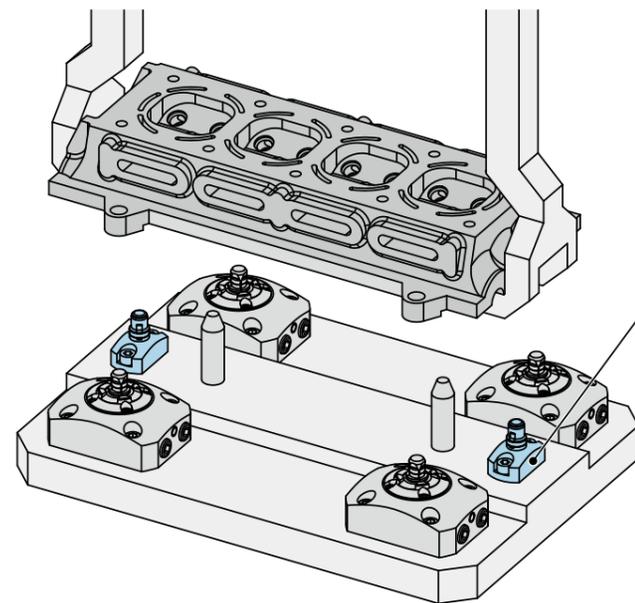
Loading Difficulty : High

A robotic hand, or a loader can reduce its speed due to a workpiece getting stuck during loading...

with Large Expansion Locating Pin



**Expansion Stroke
1.1mm**



Locating Accuracy : High

Locating Repeatability : 10 μm

Loading Difficulty : Low

Large expansion stroke enables both smooth loading/unloading and high-accuracy locating.



Pneumatic/Hydraulic
Large Expansion Locating Pin
Multi-Purpose Model

model **VWH/VFH**

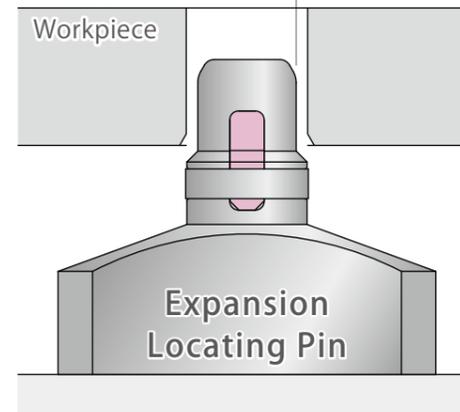
High-accuracy locating pin with 1mm larger expansion stroke than current models enables automatic loading/unloading with a robot.

Applicable Workpiece Hole Diameter : φ9 ~ φ15,
Locating Repeatability : 10 μm

Expansion Locating Pin Improves Workpiece Loadability and Product Accuracy

Large Clearance

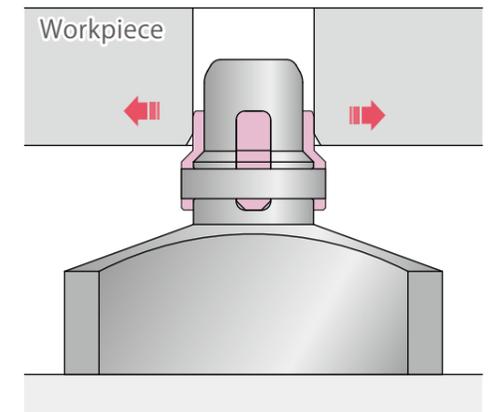
Allows for Usage in Robot Application



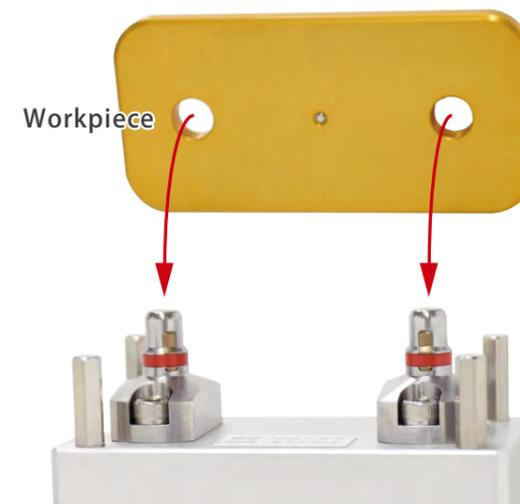
When Loading/Unloading (Retracted)

Zero Clearance

High Accuracy without backlash



When Locating (Expanded)



Equivalent to Round Pin

Equivalent to Diamond Pin



Large Clearance
when loading a workpiece

When locating

Defect Rate and Locating

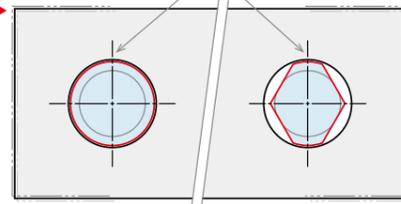


When loading/unloading a workpiece

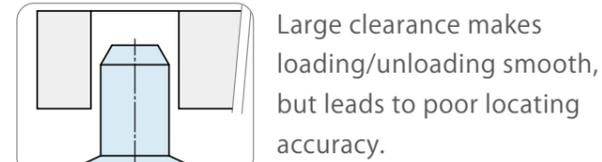


Small clearance improves locating accuracy, but makes loading/unloading very hard.

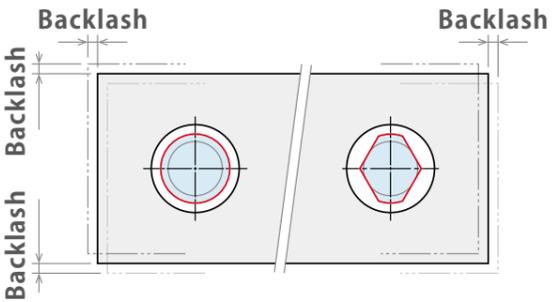
Small Clearance



When locating a workpiece



Large clearance makes loading/unloading smooth, but leads to poor locating accuracy.



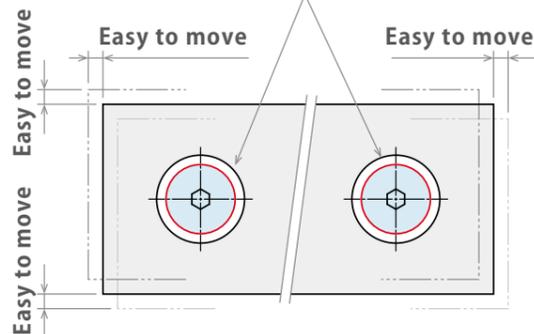
Expansion Locating Pin allows for Zero Clearance and High Accuracy

When loading/unloading a workpiece



The clearance between a workpiece hole and the pin is large so that it is easy to load/unload.

Large Clearance



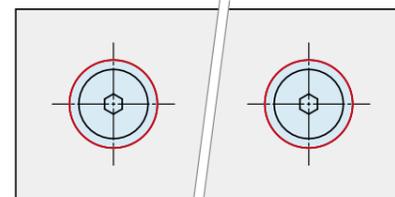
When locating a workpiece



The pin expands for locating. This enables zero clearance and high-accuracy locating.

Zero Clearance

Locating Repeatability : 3 μm
(model VWM/VFL/VFM)



Pneumatic/Hydraulic Expansion Locating Pin
High-Accuracy/Casting-Material Model

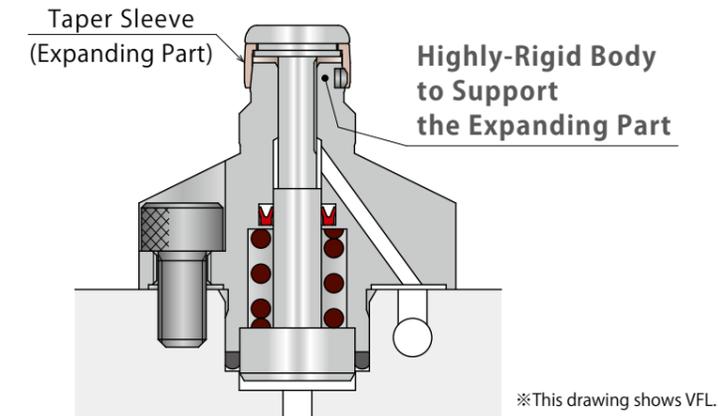
Pneumatic model **VWM/VWK**
Hydraulic model **VFL/VFM/VFJ/VFK**

Compact body enables flexible fixture design.
New options and sizes added to the lineup.

【High-Accuracy model】 Locating Repeatability : 3 μm
Applicable Workpiece Hole Diameter : φ8 ~ φ30

【Casting-Material model】 Locating Repeatability : 10 μm
Applicable Workpiece Hole Diameter : φ7.6 ~ φ16.2

Endures Severe Machining Environment



※This drawing shows VFL.

Thrust load/displacement curve is in the catalog.
Ensures reliable designing. ※ The following shows in case of VFL6000.

