

Auto Backup Pin

Model WDC

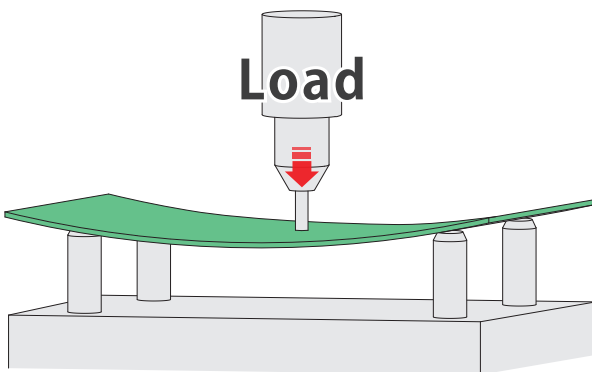


Prevents Chattering and Distortion Counter to the Load

Pin Touches Workpiece Softly and Stops to Provide Support

Before

With No Backup

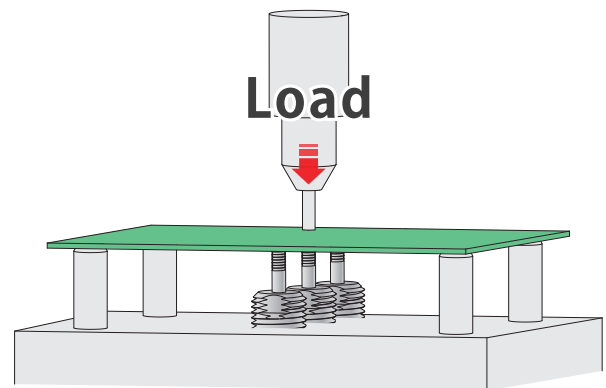


Chattering

Chattering on base plate, molding and workpiece due to the work load.

After

With Backup



Prevents Chattering

Prevention of chattering from the load enables high-quality implementation and processing. (The pin touches workpiece softly and holds it instantly.)

Productivity Improvement • Cost Reduction : From Manual to Automatic

After

Automatic Following of the Height

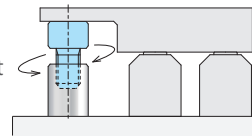
The pin (plunger) descends and reaches the reference surface by the workpiece weight (slight force). Since the pin descends according to workpiece, it can absorb the height tolerance of workpiece and instantly complete the height adjustment. Time reduction in setup improves machine availability.

Before

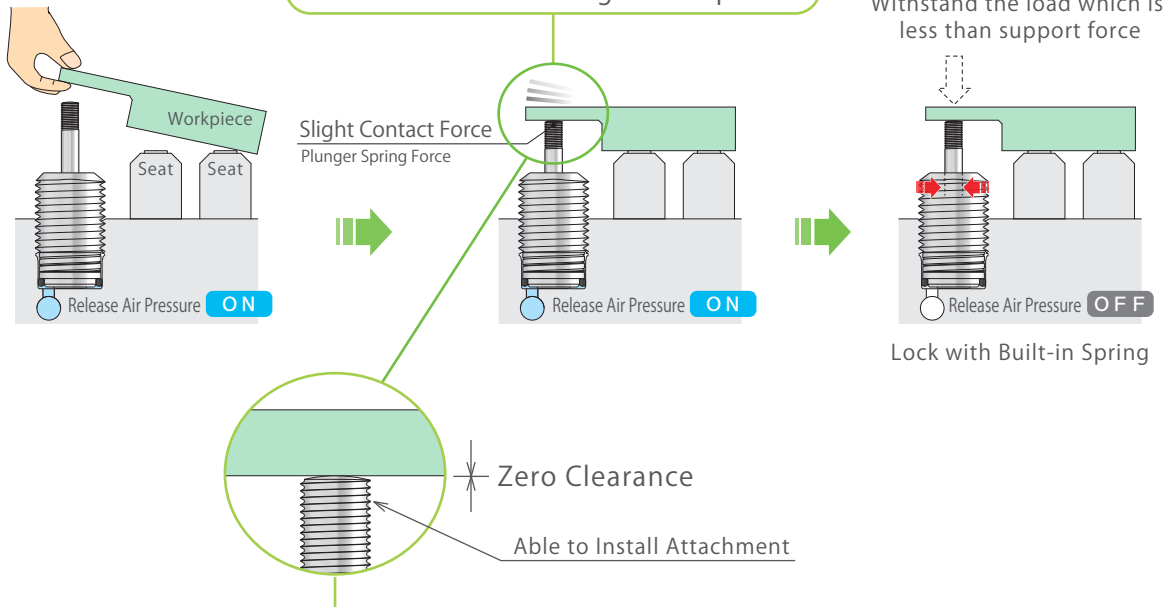
No Time Saving (Manual Type)

Minute adjustment in unreachable or non-visible places is difficult and takes time.

Manual Adjustment with a Screw



Pin descends according to workpiece.



Withstand the load which is less than support force

Lock with Built-in Spring

Quality Improvement • Yield Rate Reduction : Suitable for the Work Required of Accuracy

After

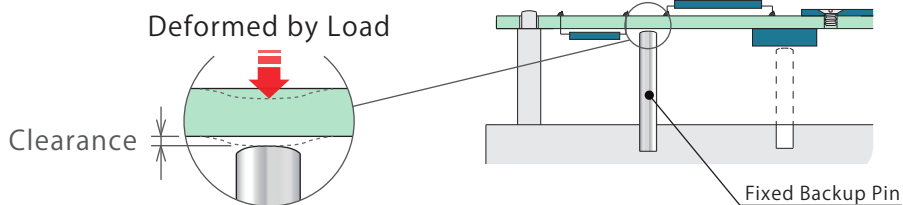
Zero Clearance

It enables high-accuracy implementation and yield rate reduction, since there is no clearance regardless of the variation in height caused by workpiece distortion, the gap between seat surface and tip of the pin, or solid difference.

Before

Chattering

General fixed backup pin tends to have chattering due to the variation in height caused by workpiece distortion, the gap between seat surface and tip of the pin, or individual differences in pin height. Chattering causes low accuracy and assembling failure. Moreover, every time component changes, the backup pin has to be changed.



Locating + Clamp

Locating

Hand • Clamp

Support

Valve • Coupler

Cautions • Others

Auto Backup Pin

WDC

High-Power Pneumatic Work Support

WNC

Pneumatic Work Support Rodless Hollow

WNA

Manifold Block/Nut

DZ-R

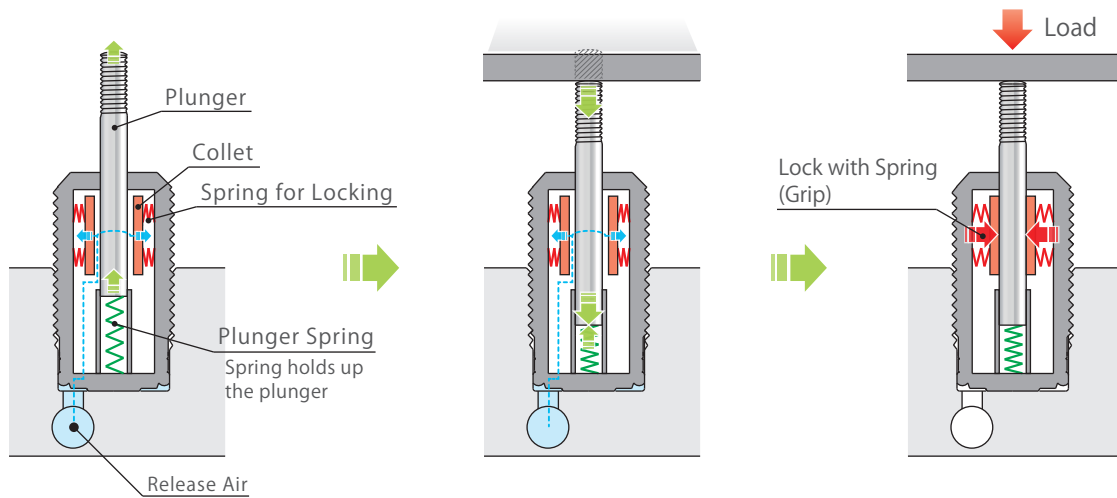
DZ-C

LZ-S

WNZ-SQ

● Action Description

※ The internal structure is a simplified figure. Actual components are different.



Before setting (When releasing)

Release Air Pressure **ON**

Supply release air pressure to unlock the plunger. The plunger lifts up to the stroke-end by plunger spring.

When setting workpiece

Release Air Pressure **ON**

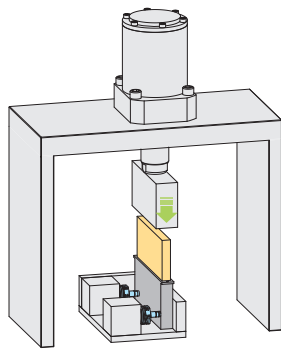
Set a workpiece. The plunger goes down due to the weight of the workpiece.
 ※The plunger does not go down when plunger spring force is stronger than the workpiece weight.

When supporting

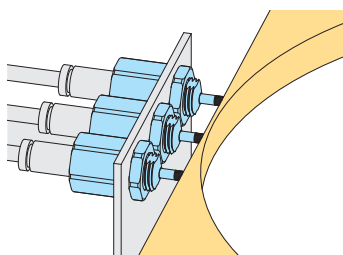
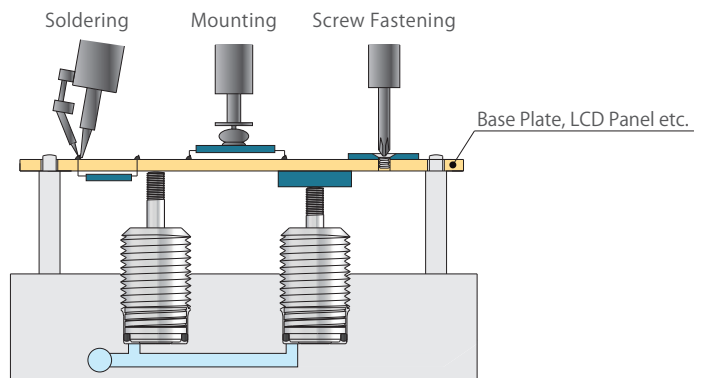
Release Air Pressure **OFF**

When release air pressure is OFF, the collet locks the plunger securely with the spring for locking. It withstands the load which is lower than support force.

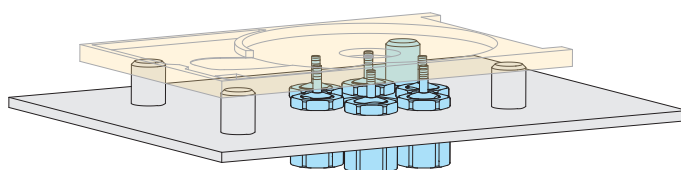
● Application Examples



Press-Fit Machine



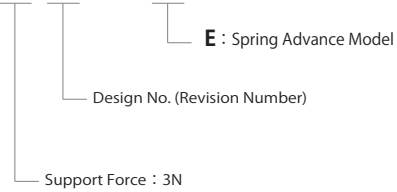
Thin-walled Section



HDD Installation • Press Fit

Model No. Indication

WDC00 3 0 - E

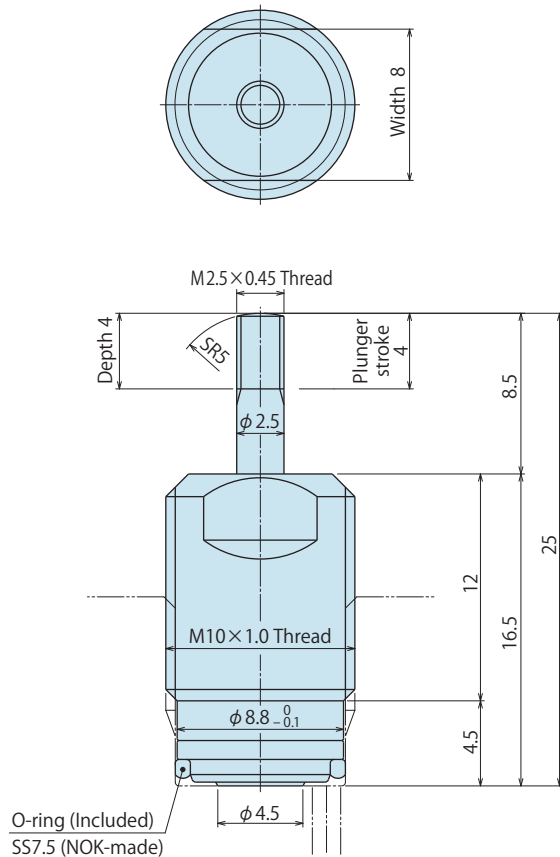


Specifications

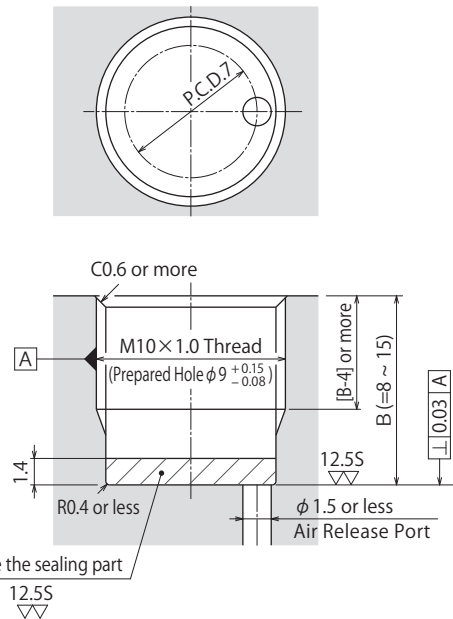
Model No.	WDC0030-E	
Support Force ※1	N	3
Plunger Stroke	mm	4
Cylinder Capacity	mm ³	19
Plunger Spring Force※2	N	0.1 ~ 0.3
Max. Operating Pressure	MPa	0.7
Min. Operating Pressure	MPa	0.35
Withstanding Pressure	MPa	1.0
Operating Temperature	°C	0 ~ 70
Usable Fluid	Dry Air	
Recommended Tightening Torque for Main Body N•m	2	
Weight	g	7

External Dimensions

※The drawing shows the released state of WDC0030-E.



Machining Dimension for Recommended Mounting Hole



Make sure not to damage the sealing part

Hatched Area 12.55

Accessories : Manifold Block for Mounting

Please contact us for further information.



Cautions

- ※1. This product performs lock action with spring and release action with air pressure; therefore, support force is constant.
- ※2. Prepare the stopper for a thin and light workpiece if necessary.

When using multiple backup pins, a workpiece may be pushed up by plunger spring force.

1. When mounting an attachment on the tip of plunger, the load ratio to the plunger spring force has to be 30% or less. (Plunger direction either vertical or horizontal: the load ratio has to be 30% or less.)

Ex.) Plunger spring force=0.1-0.3N

Attachment maximum weight = $0.1 \times 0.3 / 0.009807 = 3g$

However, the calculated value may differ due to the plunger sliding friction and spring specific etc., so the load ratio should be low as much as possible.

Locating + Clamp

Locating

Hand + Clamp

Support

Valve + Coupler

Cautions + Others

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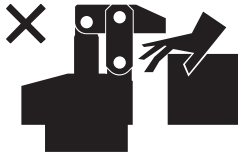
LZ-S

WNZ-SQ

● Cautions

● Notes on Handling

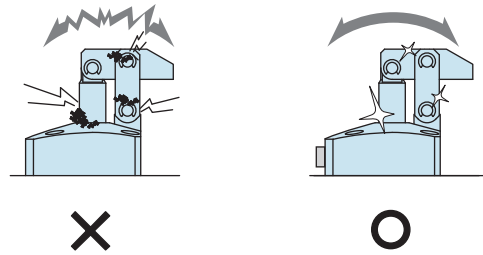
- 1) It should be operated by qualified personnel.
 - The hydraulic machine and air compressor should be operated and maintained by qualified personnel.
- 2) Do not operate or remove the product unless the safety protocols are ensured.
 - ① The machine and equipment can only be inspected or prepared when it is confirmed that the safety devices are in place.
 - ② Before the product is removed, make sure that the above-mentioned safety devices are in place. Shut off the pressure and power source, and make sure no pressure exists in the air and hydraulic circuits.
 - ③ After stopping the product, do not remove until the temperature drops.
 - ④ Make sure there is no trouble/issue in the bolts and respective parts before restarting the machine or equipment.
- 3) Do not touch a clamp (cylinder) while it is working. Otherwise, your hands may be injured.



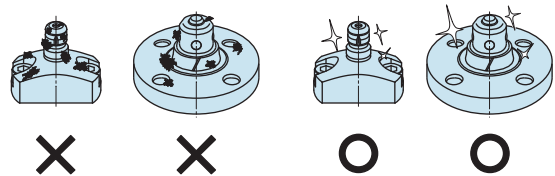
- 4) Do not disassemble or modify.
 - If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.

● Maintenance and Inspection

- 1) Removal of the Machine and Shut-off of Pressure Source
 - Before removing the product, make sure that the safety devices are in place. Shut off the pressure and power source and make sure no pressure exists in the air and hydraulic circuits.
 - Make sure there is no trouble/issue in the bolts and respective parts before restarting.
- 2) Regularly clean the area around the piston rod and plunger.
 - If it is used when the surface is contaminated with dirt, it may lead to packing seal damage, malfunctioning, fluid leakage.



- 3) Regularly clean the reference surfaces (taper reference surface and seating surface) of locating products (SWT/SWQ/SWP/VRA/VRC/VX/VXE/VXF/WVS/VWH/VWM/VWK).
 - Locating products (except VRA/VRC/VX/VXE/VXF and SWR without air blow port) can remove contaminants with the cleaning function. When installing a workpiece or a pallet, make sure there are no contaminants such as thick sludge.
 - Continuous use with dirt on components will lead to locating failure, fluid leakage and malfunction.



- 4) Regularly tighten pipe, mounting bolt, nut, snap ring, cylinder and others to ensure proper use.
- 5) Make sure the hydraulic fluid has not deteriorated.
- 6) Make sure there is a smooth action without an irregular noise.
 - Especially when it is restarted after left unused for a long period, make sure it can be operated correctly.
- 7) The products should be stored in the cool and dark place without direct sunshine or moisture.
- 8) Please contact us for overhaul and repair.

[Locating
+
Clamp](#)
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● Warranty

1) Warranty Period

- The product warranty period is 18 months from shipment from our factory or 12 months from initial use, whichever is earlier.

2) Warranty Scope

- If the product is damaged or malfunctions during the warranty period due to faulty design, materials or workmanship, we will replace or repair the defective part at our expense.

Defects or failures caused by the following are not covered.

- ① If the stipulated maintenance and inspection are not carried out.
- ② Failure caused by the use of the non-confirming state at the user's discretion.
- ③ If it is used or operated in an inappropriate way by the operator. (Including damage caused by the misconduct of the third party.)
- ④ If the defect is caused by reasons other than our responsibility.
- ⑤ If repair or modifications are carried out by anyone other than Kosmek, or without our approval and confirmation, it will void warranty.
- ⑥ Other caused by natural disasters or calamities not attributable to our company.
- ⑦ Parts or replacement expenses due to parts consumption and deterioration. (Such as rubber, plastic, seal material and some electric components.)

Damages excluding from direct result of a product defect shall be excluded from the warranty.



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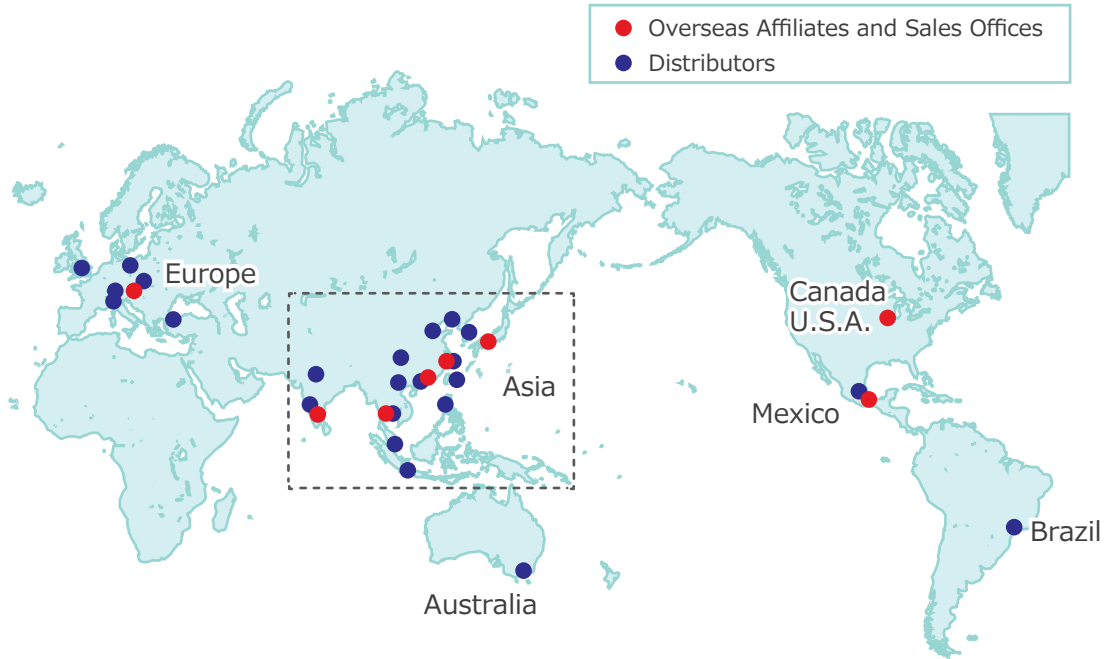
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Global Network



Asia Detailed Map



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