UB

Lock unit

ø8/ø16

With brake/position locking

Overview

In order to support transfer functions copying the shape of the cylinder piston rod or the workpiece, this lock unit enables rod positioning.

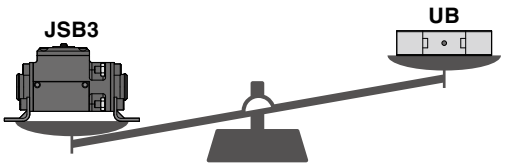
CONTENTS

Lightweight. Slim profile. That's why we have new jobs in mind for the position

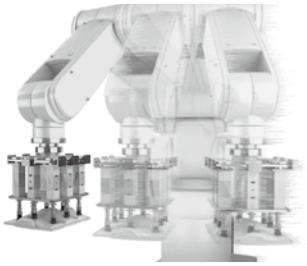
Fixing mechanism which locks and unlocks linearly, using air.
Simple air control means remote operation is possible, enabling “fixing,” “improved safety,” and “position locking.”
Light and compact, it also handles “tracking transport.” Allow us to present new ideas for the position locking unit.

Lightweight and slim

Weight comparison (image) with the CKD brake unit



Faster transfer via robot

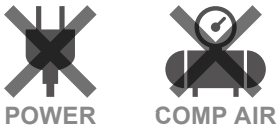


Manual release available

Insert a flathead screwdriver into the manual release hole and slide the piston to enable manual release. Manual release is possible even without air when embedding or during maintenance. (Pay attention to the screwdriver insertion position.)

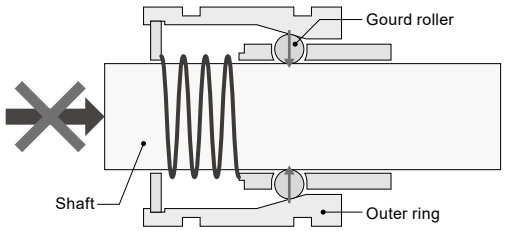
Energy saving

While locked, neither electrical nor pneumatic power is needed.



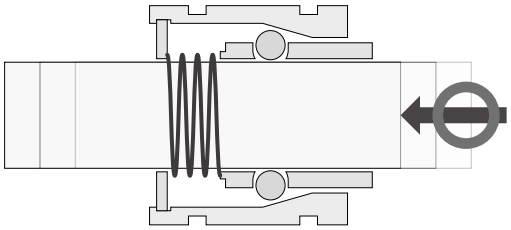
Locking mechanism

Lock direction



Locks when the gourd roller rolls into the wedge-shaped space formed by the shaft and outer ring.

Free direction

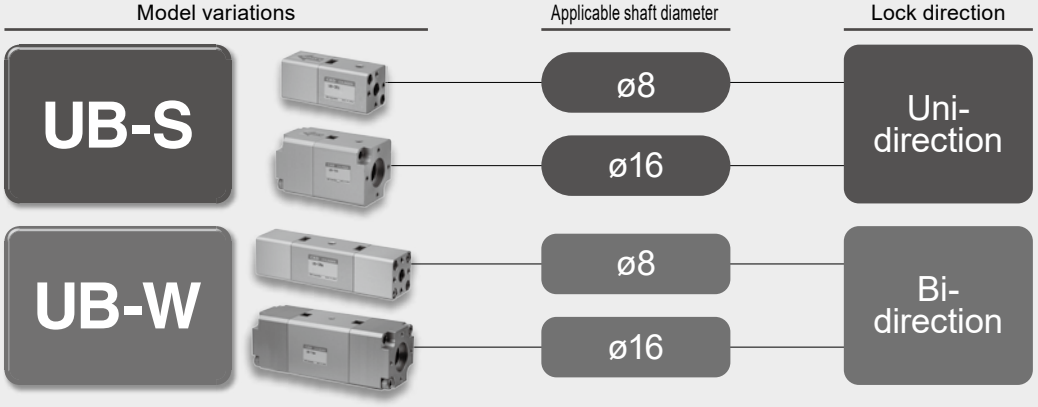


The mechanism does not lock in the reverse direction.

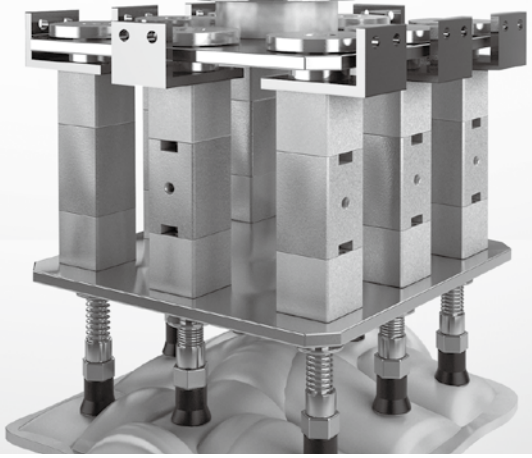
Lock unit

UB Series

Lock unit UB Series



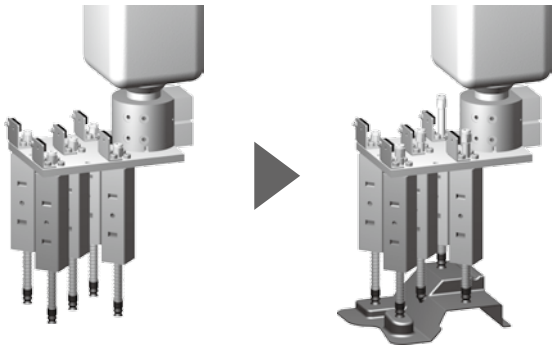
locking unit.



Applications

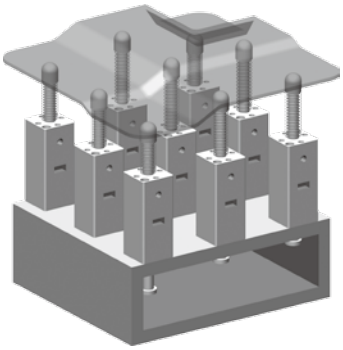
New ways of use made possible by this light, compact position locking unit.

Robot hand



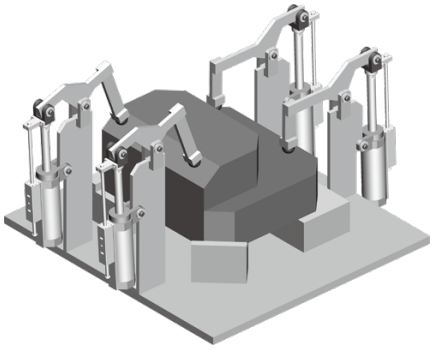
Tracks the workpiece shape simply by pressing the workpiece onto the shaft.

Tracking unit supporting from below



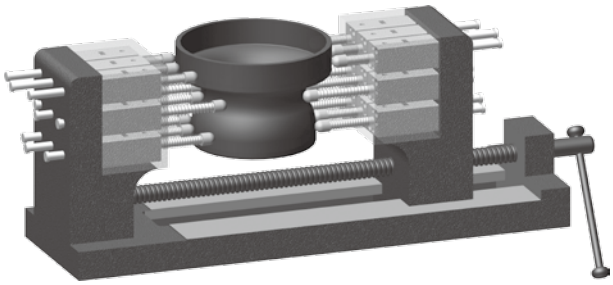
Tracks the workpiece shape simply by placing the workpiece on the shaft.

Clamp cylinder fixing and retention



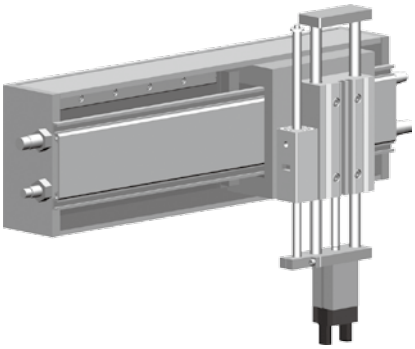
Saves energy because air is not required while locked.
(Note that no clamp force operates on the workpiece)

3D vise



Tracks the workpiece shape simply by retaining the workpiece with the shafts at both sides.

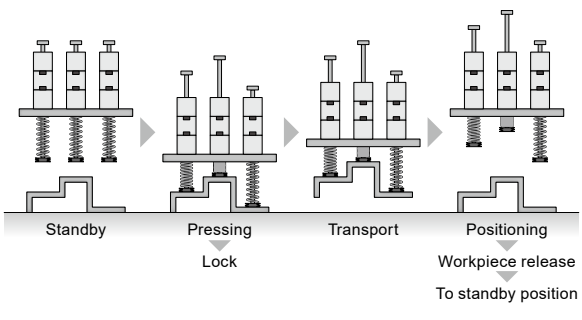
Fixing and retention for pick & place stoppages (failsafe)

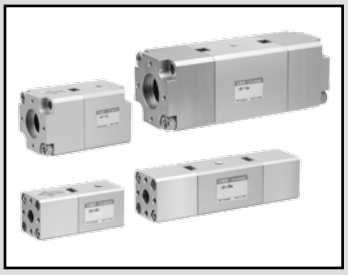


Cylinder position can be retained with a low-priced mechanism, providing position locking just in case it is needed. Protects valuable components from fall damage if the power goes out or the air runs out.

Tracking principle

When the workpiece is pressed against the shaft, the shaft transfers (tracks) its shape and is then fixed in the adjusted position by the position locking unit.





Lock unit

UB Series

● Applicable shaft diameter: ø8, ø16

RoHS

Specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		UB-08S	UB-16S	UB-08W	UB-16W
Working fluid		Compressed air			
Max. working pressure	MPa	1.0 (≈145 psi, 10 bar)			
Min. working pressure	MPa	0.3 (≈44 psi, 3 bar)			
Proof pressure	MPa	1.6 (≈232 psi, 16 bar)			
Ambient temperature	°C	-5 (23°F) to 60 (140°F) (no freezing)			
Holding force	N	180	450	180	450
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)			
Lock direction		Uni-direction		Bi-direction	
Applicable shaft diameter and tolerance	mm	ø8 $^{+0.05}_{-0.10}$	ø16 $^{+0.10}_{-0.15}$	ø8 $^{+0.05}_{-0.10}$	ø16 $^{+0.10}_{-0.15}$
Weight	g	99	367	160	578

How to order

UB - 08 S

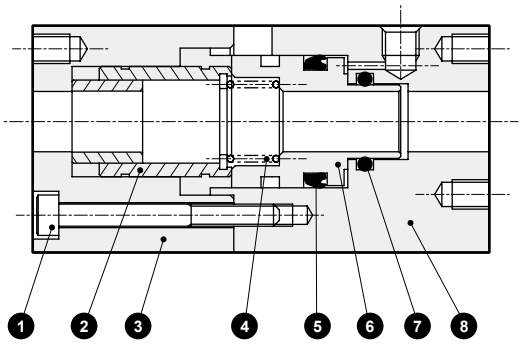
Ⓐ Applicable shaft diameter

Ⓑ Lock direction

Code	Description
Ⓐ Applicable shaft diameter	
08	ø8
16	ø16
Ⓑ Lock direction	
S	Uni-direction
W	Bi-direction

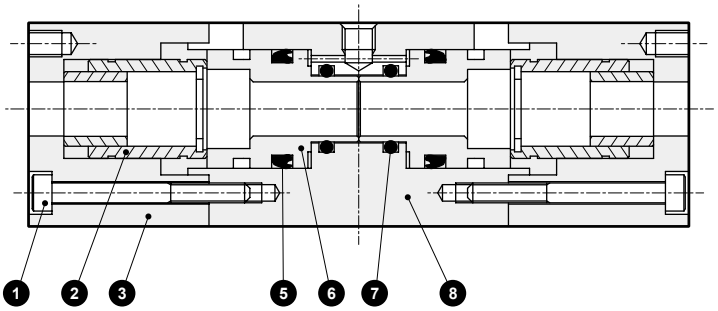
Internal structure diagram and parts list

● UB-08/16S



Cannot be disassembled

● UB-08/16W

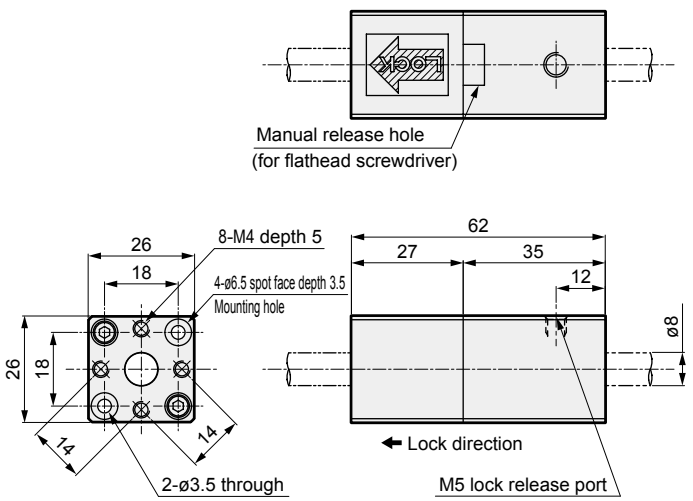


Cannot be disassembled

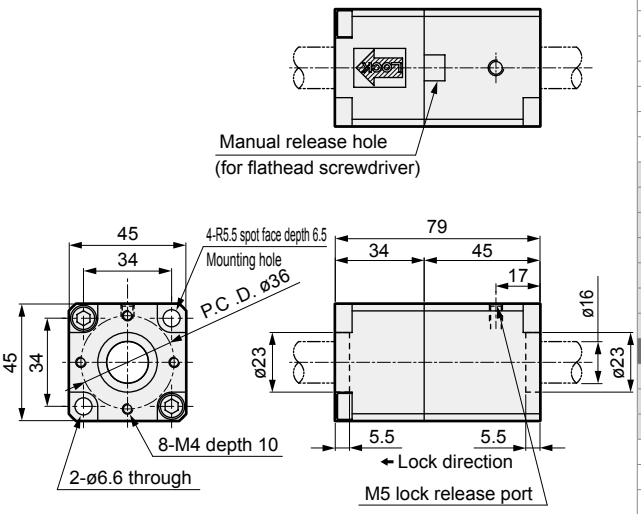
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Hexagon socket head cap screw	Stainless steel		5	Piston packing	Nitrile rubber	
2	Clamper	−		6	Piston	Aluminum alloy	Alumite
3	Clamper case	Aluminum alloy	Hard alumite	7	O-ring	Nitrile rubber	
4	Spring	Steel	Electrodeposition	8	Body	Aluminum alloy	Hard alumite

Dimensions

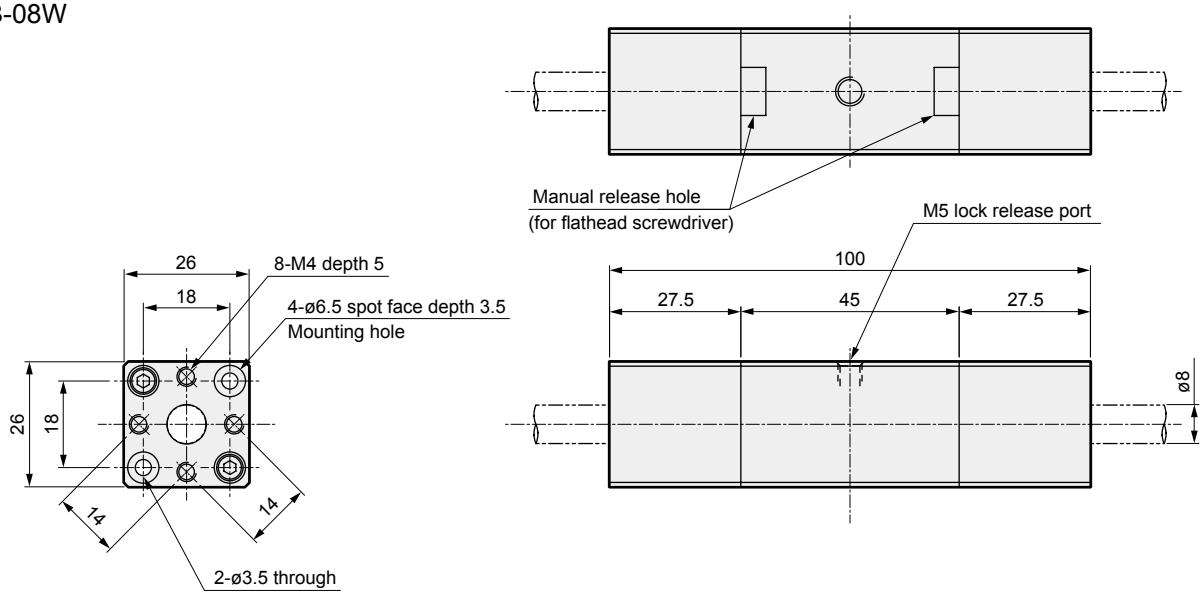
● UB-08S



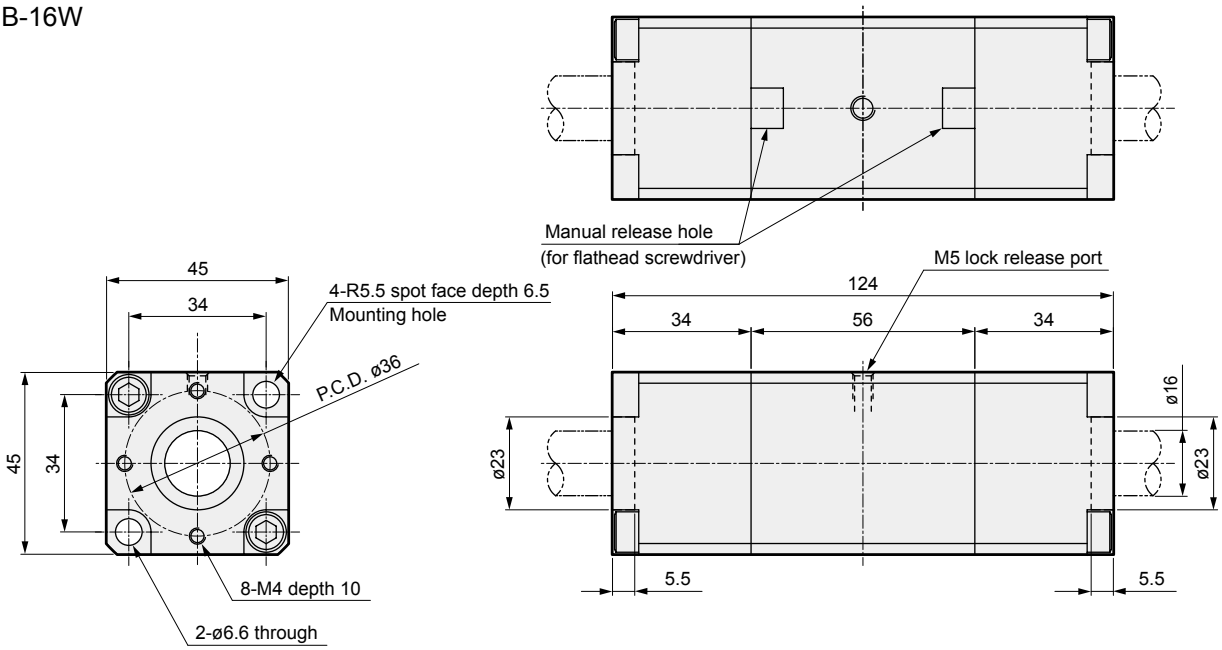
● UB-16S



● UB-08W



● UB-16W



Safety Precautions

Be sure to read this section before use.

* Refer to Intro Page 73 for cylinders in general.

Product-specific cautions: Lock unit UB Series

Design/selection

⚠ CAUTION

■ The catalog shows static load. This product cannot be used as an emergency brake.

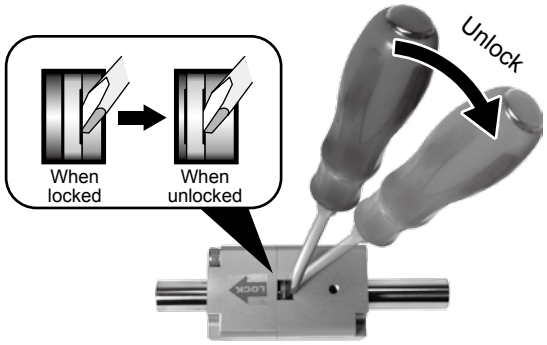
■ The shafts may not lock when there is residual air pressure.

Mounting, installation and adjustment

⚠ CAUTION

■ How to unlock manually

Insert a flathead screwdriver into the manual release hole and slide the piston to enable manual release. Manual release is possible even without air when embedding or during maintenance.
(Pay attention to the screwdriver insertion position.)



Design/selection

⚠ CAUTION

■ Disassembly of the parts may lead to the ingress of debris or the deterioration of component assembly precision.

■ Prevent the ingress of foreign matter, as contamination by foreign matter such as debris or cutting powder may lead to damage or functional deterioration of the rollers and other circulatory parts.

■ In usage environments where corrosive solvents, coolant, etc., may splash onto and enter the product, prevent adherence or entrance to the lock unit body with the use of a bellows, cover, etc.