

## Product lineup



Product image

●Black ●Gold ○White ●Silver



Mounting part

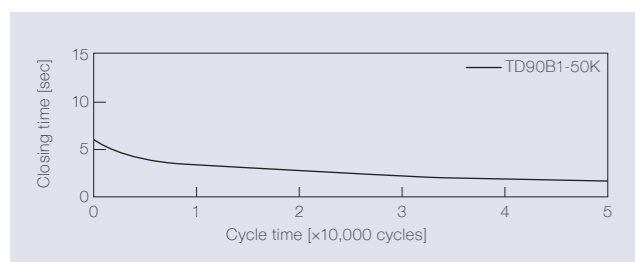
### Features

- This product has been developed for additional mounting on piano key lids without damping function
- Removing the load returns the arm to its default position automatically
- 4 color variations are available

Product name	Torque [N·m] (lbf·in)	Damping direction
TD90B1-35K	3.5 (30.98)	CCW
TD90B1-50K	5.0 (44.25)	

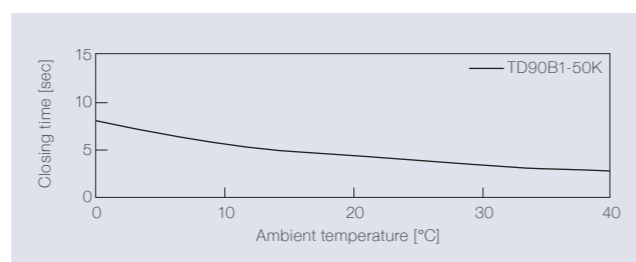
## Product specifications

### Durability



Torque	5.0 N·m (44.25 lbf·in)
Radial load	N/A
Angle range of closing time	70 to 0 deg.
Temperature	23 ± 2°C (73.4 ± 35.6°F)
Durability	50,000 cycles

### Temperature characteristics



Measured according to the performance management testing method shown below after leaving in each designated ambient temperature for over one hour.

### Performance management testing method

As the torque of partial rotation angle dampers is not consistent, the closing time measurement jig is used for the performance tests.

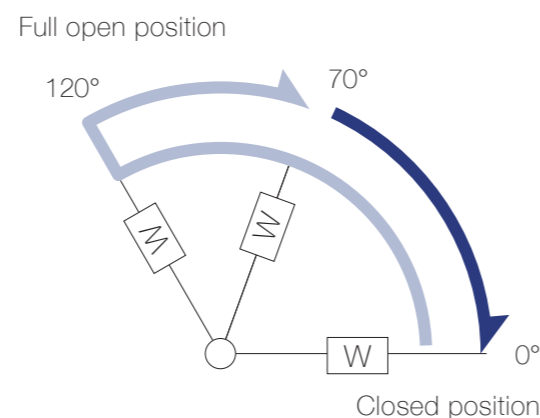
[Operation during measurement]

(Secures the housing of a rotary damper and moves its shaft)

All rotary dampers are managed by the following closing time test.

Test mode [120° → 70° (Pause) → (Free fall with damping) → 0°]

\* Horizontal plane: 0°

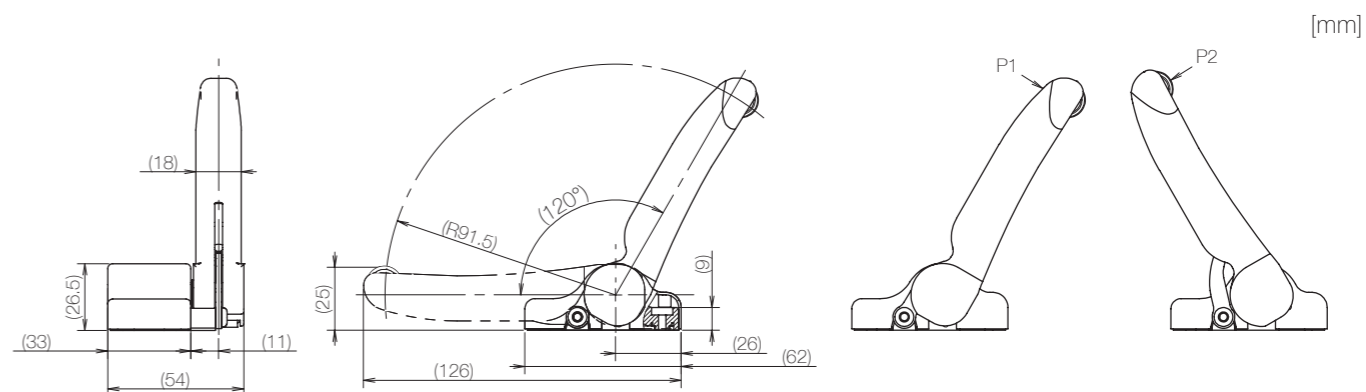


➔ Jig operation  
➔ Free fall with damping

### Inspection specification before shipping

Type	Preset torque [N·m] (lbf·in)	Closing time
35K	3.5 (30.98)	2 to 10 sec
50K	5.0 (44.25)	2 to 7 sec

## Product information

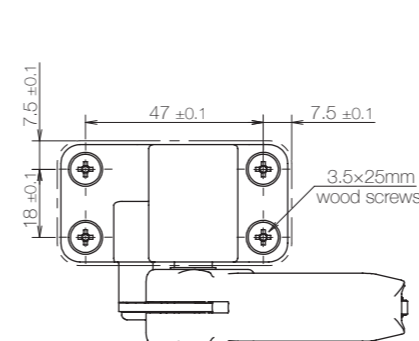


### Main materials

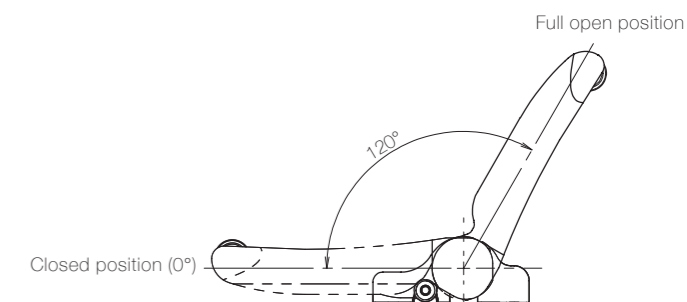
Rotary dampers	Plastic (POM)
Rotary dampers cover	Plastic (ABS)
Arm	Zinc alloy (ZDC)
Arm-cover	Plastic (ABS)

- Opening angle: 120°  
(The arm returns from the closed position to the 90° or larger position automatically)
  - Product weight: Approx. 124 g
  - Allowable radial load: (P1) 50 N, (P2) 45 N
- \* General tolerance: ±0.3

## Dimensions related to mounting

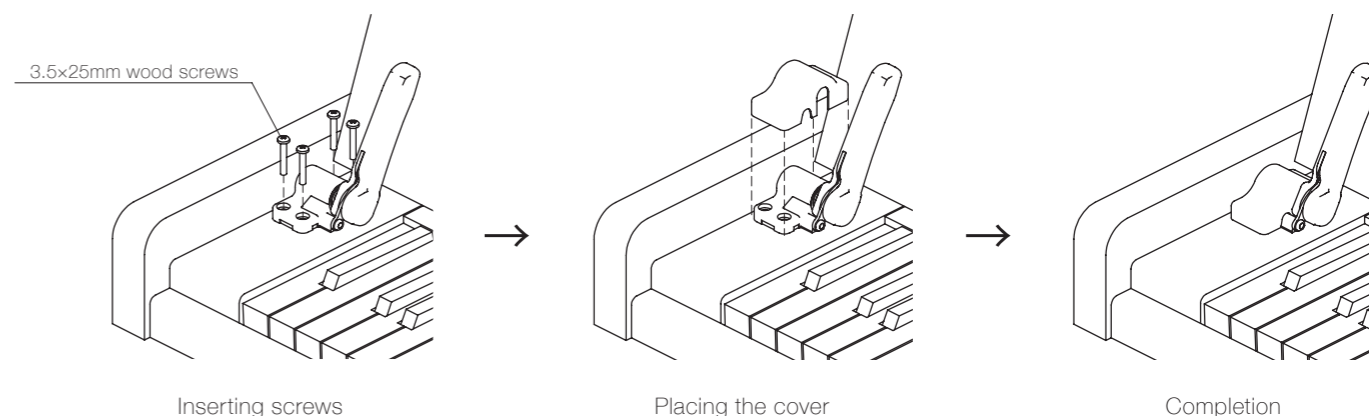


## Opening angle



\* Arm position at the time of shipping: Open position

## Mounting method with screws (Sold separately)



### Attention

- Install the damper (TD90) in the position where the key-block operates correctly.
- Be careful not to damage the damper (TD90) or the piano when installing the damper (TD90) on the piano.
- Secure the damper in the position where the arm-cover does not hit a fall board.
- By separating the installation position from the rotation axis of a fall board, the closing time of a fall board becomes longer.