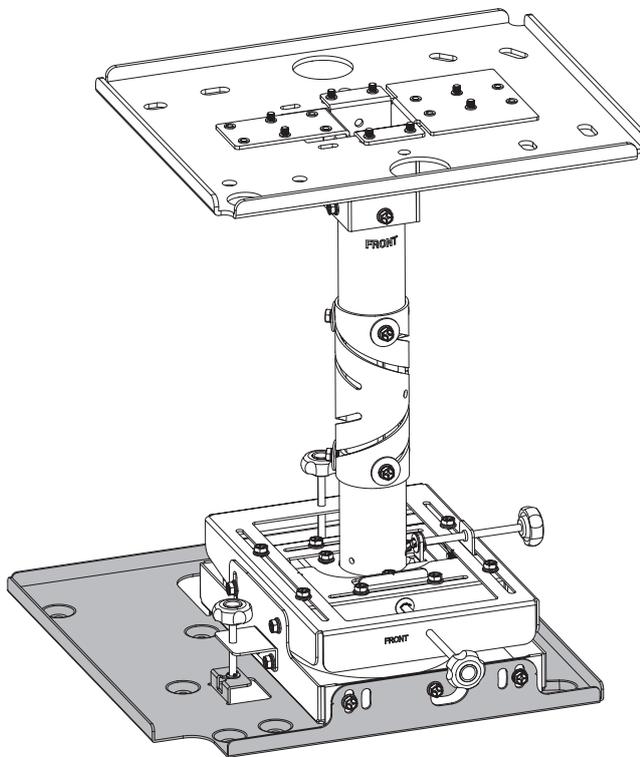


Installation Instructions

Projector Mount Bracket

Model No. **ET-PKD130B**



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* The figure above shows this product combined with the separately sold ET-PKD130H Ceiling Mount Bracket (for High Ceilings, 6-axis Adjustment).

Thank you for purchasing this Panasonic product.

■ To customers

The "Installation Instructions" is intended for use by installation personnel. Be sure to employ certified personnel to perform the installation.

After installation, have the installation personnel return these "Installation Instructions" to you, and save it for future use.

When moving or removing the projector, give this manual to the certified personnel and have them perform the procedure.

■ To installation personnel

Read the "Installation Instructions" thoroughly and then perform the operation correctly and safely.

Be sure to read through the section entitled "Read this first!" (page 3) before proceeding with the installation.

If the separately sold ET-DLE030 / ET-DLE035 Fixed-focus lens will be used with the projector, obtain the "Operating Instructions" for the lens from the customer and refer to this manual and the "Installation Instructions" during installation.

After installation, return these "Installation Instructions" to the customer.



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WARNING:

Installation work should only be carried out by the certified personnel.

- If this product is not installed correctly, serious accidents may result.
- Follow the instructions specified in "Installation" of this manual, and perform secure installation.

Install the ceiling mount bracket in accordance with the structure and materials of the installation location.

- If a mistake is made in the installation procedure, the ceiling mount bracket may fall down and an injury may result.

Mounting must be carried out by two or more persons.

- When installing the projector in an overhead location, for example, in a high ceiling, at least two persons will be required to handle the installation.

Make sure that your footing is safe and secure during installation.

- If your footing is not secure, you may trip or fall down, and an injury may result.

Do not loosen or remove the unit screws and bolts unnecessarily.

- The projector may fall down and an injury may result.

Do not install in a location that is not strong enough.

- If the installation location is not strong enough, the unit may fall down and damage to the projector or an injury may result.

Do not install the ceiling mount bracket in humid or dusty locations or in locations where the ceiling mount bracket may be exposed to oily smoke, steam, or excessive heat.

- Failure to obey may result in fire or electric shock. In addition, oil will cause the plastic to deteriorate, which may result in a drop hazard.

Do not allow children to reach the supplied screws and metal fittings.

- These items can cause personal injury if swallowed.
- If swallowed, seek medical help immediately.

Do not disassemble or modify the projector mount bracket.

- The projector may be damaged or fall down, and an injury may result.

CAUTION:

Install only the designated projector.

Install only using the designated method.

- Failure to obey may result in dropping, damage to the projector, or injury.

Do not install the ceiling mount bracket in a place which may impede projector ventilation.

- If this is not observed, fire may result.

Do not hang from or hang objects on the projector or ceiling mount bracket.

- The projector may fall and cause injury.

Use only the specified ceiling mount bracket (for high ceilings or for low ceilings).

- Failure to obey may result in dropping, damage to the projector, or injury.

Always use the supplied parts when performing installation.

- Otherwise, this may cause damaged projector to fall and cause injury.

Install the mounting screws and power cable in such a way that they will not make contact with the inside metals of the ceiling.

- Electric shocks may result from contact with any metal objects inside the ceiling.

■ **Panasonic Connect Co., Ltd. disclaims all liability for any accidents or any damage caused by the installation of the ceiling mount bracket using methods that are not described in these Installation Instructions or methods that do not use the parts specified in these Instructions.**

■ **If products are no longer being used, they should be dismantled and removed by the certified personnel as soon as possible.**

Product components

This is a projector mount bracket for installing projectors.

Use this together with the ceiling mount bracket for high ceilings or low ceilings (sold separately).

■ Supported ceiling mount brackets and projectors

Unless a specific model is specified, this manual describes the projector models classified into six groups: A to F.

● Ceiling Mount Bracket

ET-PKD130H / ET-PKD120H / ET-PKD120S / ET-PKD310H / ET-PKD310S / ET-PKD56H / ET-PKD55S / ET-PKD100H / ET-PKD100S / ET-PKD77H / ET-PKD75S

● Projectors with interchangeable lens

Group A: PT-REQ12 / PT-REQ10 / PT-REQ80 / PT-REZ12 / PT-REZ10 / PT-REZ80

Group B: PT-RCQ10 / PT-RCQ80 / PT-RZ120 / PT-RZ990 / PT-RZ890 / PT-RZ790 / PT-RZ690 / PT-RZ770 / PT-RW730 / PT-RZ660 / PT-RW620 / PT-RZ970 / PT-RZ870 / PT-RW930 / PT-RX110 / PT-RZ670 / PT-RW630

Group C: PT-DZ870 / PT-DW830 / PT-DX100

Group D: PT-DZ770 / PT-DW740 / PT-DX810 / PT-DZ680 / PT-DW640 / PT-DX610 / PT-DW730 / PT-DX800 / PT-DZ6710 / PT-DZ6700 / PT-DW6300 / PT-D6000 / PT-D5000

Group E: PT-DZ780 / PT-DW750 / PT-DX820

● Projectors with built-in lens

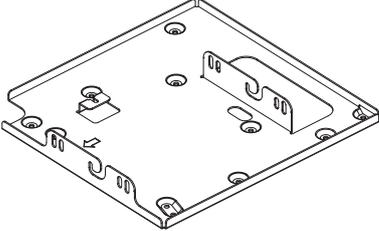
Group F: PT-FRQ60 / PT-FRQ50 / PT-FRZ60 / PT-FRZ50 / PT-FRZ55 / PT-RZ570 / PT-RZ575

Note

- Installation of the ET-PKD130H ceiling mount bracket (for high ceilings, 6-axis adjustment) is recommended if the projector will be used with the optional ET-DLE030 / ET-DLE035 Fixed-focus lens. When installed using the ET-PKD130H you can more accurately adjust horizontal tilt of the projector.
- Products not listed above may be supported in some cases. For details, refer to the operating instructions of your ceiling mount bracket (for high ceilings or for low ceilings) and projector.
- In this document, the letters at the end of the projector part numbers are omitted.

■ Structural components

Check that the package contains the following parts. The number enclosed in < > is the quantity.

<p>Projector mount bracket < 1 ></p> 	<p>This is used to install the projector itself. The bracket has a function for adjusting horizontal tilt.</p>
<p>Hex head bolt, captive washer < 6 > (M6×16)</p> 	<p>These are used to mount the bracket onto the projector.</p>
<p>Flat washer < 2 > (M8)</p> 	
<p>Wire rope < 1 > (Approx. 2.5 mm (3/32") wire diameter, 800 mm (31-1/2") length)</p> 	<p>Prevents the projector from falling.</p>

- Tightening torque for the screws are M6: 4±0.5 N•m, M8: 10±1 N•m.
- When tightening up the screws, use a tool such as a torque screwdriver or torque wrench. Do not use electric screwdrivers or impact screwdrivers.

Product components (continued)

Note

- The number of captive washer hex head bolts (M6 × 16) to use differs depending on the projector to be installed. For a group C model, use all six of the supplied bolts. For a model other than that, use five of the six supplied bolts.

Attention

- Dispose of the packaging materials properly after taking the product out of it.
- Store small parts in an appropriate manner, and keep them away from small children.

Standard installation dimensions

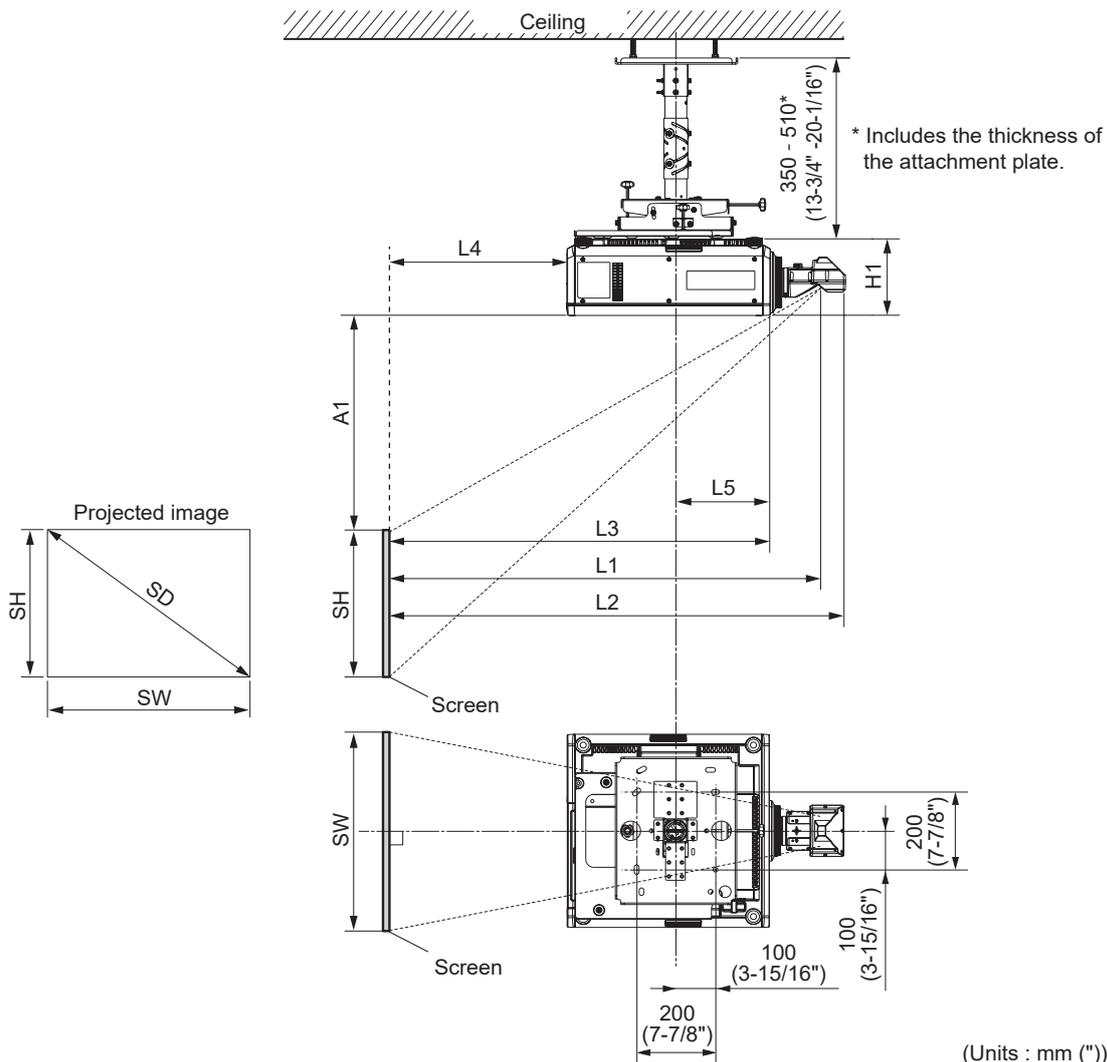
<When using the ET-DLE030 / ET-DLE035 Fixed-focus lens>

The dimensional relationship between the screen and the projector is shown below. Establish the dimensions after assessing the area possible for installation.

- Use of the ET-PKD130H ceiling mount bracket is recommended.

■ Dimensional relationship diagram

- Also refer to the "Operating Instructions" for the ET-DLE030 / ET-DLE035 Fixed-focus lens.
- When using the ET-PKD130H, the L1, L2, L3, L4 and L5 values assume that the projector is positioned at the center longitudinal side position. For details on how to do this, refer to "Before Installation" in the ET-PKD130H Installation Instructions.



Standard installation dimensions (continued)

Note

- This illustration assumes that the projector will be installed so that the projected image fills the screen and is properly aligned with it.
- This drawing is not in exact scale.

SH	Image height	L4	From screen to rear of projector
SW	Image width	L5	From center of attachment plate to front of projector
SD	Projected image size	A1	From top edge of screen to top of projector
L1	Projection distance (from screen to mirror reflective surface*)	H1	From bottom of set (the surface in contact with this product) to top of projector
L2	From screen to tip of lens		
L3	From screen to front of projector		

* The mirror reflective surface is inside the fixed-focus lens, and is not visible from the outside.

Attention

- Install the projector a sufficient distance away from surrounding walls and objects to ensure that the intake and exhaust vents will not be blocked. For the necessary distance from the projector to surrounding walls and objects, refer to the Operating Instructions of the projector to be used.
- Avoid setting up in places which are subject to sudden temperature changes, such as near an air conditioner or lighting equipment (studio lamps, etc.).
- Regardless of the projector model, set up the projector so that the projected image is rectangular and the back of the projector and the screen are parallel. Depending on your projector, however, keystone distortion correction via the [GEOMETRY (2D)] or [GEOMETRY] function may be possible, even after setup. Refer to the Operating Instructions of ET-DLE030 / ET-DLE035 for details.

Note

- Dimension L4 is not the distance from the projector rear panel to the wall, but the distance from the projector rear panel to the screen.
- When [GEOMETRY (2D)], [GEOMETRY] and [KEystone] are used, distance is corrected to become smaller than the specified image size.
- The illustrations of projectors in this manual are for informational purposes only and do not represent a specific model. Configurations may vary with the model.

■ Dimensional relationship

- H1 and L5 values (Unit: m)

	Group B and group C projectors	Group D projectors	Group E projectors
H1	0.196	0.155	0.175
L5	0.239	0.147	0.167

- L1, A1 calculation formula (Unit: m)

Check the projected image size SD (m) and use each formula to determine projection distance (L1) and top of set to top edge of screen (A1).

By determining L1 and A1, you can calculate all other dimensions.

(Values obtained by the calculation formulas contain a slight error.)

When calculating a projection distance using image size designation (value in inches), multiply the value in inches by 0.0254 and substitute it into SD in the formula for calculating the projection distance.

In the case of PT-RCQ10 / PT-RCQ80 / PT-RZ120 / PT-RZ990 / PT-RZ890 / PT-RZ790 / PT-RZ690 / PT-RZ770 / PT-RZ660 / PT-RZ970 / PT-RZ870 / PT-RZ670 / PT-DZ870

	For 16:10 aspect ratio	For 16:9 aspect ratio	For 4:3 aspect ratio
L1	= 0.3205 × SD + 0.0047	= 0.3294 × SD + 0.0047	= 0.3628 × SD + 0.0047
A1	= 0.1977 × SD - 0.0721	= 0.2304 × SD - 0.0721	= 0.2238 × SD - 0.0721

In the case of PT-RW730 / PT-RW620 / PT-RW930 / PT-RW630 / PT-DW830

	For 16:10 aspect ratio	For 16:9 aspect ratio	For 4:3 aspect ratio
L1	= 0.3365 × SD + 0.0047	= 0.3459 × SD + 0.0047	= 0.3809 × SD + 0.0047
A1	= 0.2597 × SD - 0.0740	= 0.2942 × SD - 0.0740	= 0.2941 × SD - 0.0740

Standard installation dimensions (continued)

In the case of PT-RX110 / PT-DX100

	For 4:3 aspect ratio	For 16:9 aspect ratio
L1	= $0.3133 \times SD + 0.0047$	= $0.3413 \times SD + 0.0047$
A1	= $0.1881 \times SD - 0.0715$	= $0.2866 \times SD - 0.0715$

In the case of PT-DZ780 / DZ770 / DZ680 / DZ6710 / DZ6700

	For 16:10 aspect ratio	For 16:9 aspect ratio	For 4:3 aspect ratio
L1	= $0.3205 \times SD + 0.0047$	= $0.3294 \times SD + 0.0047$	= $0.3628 \times SD + 0.0047$
A1	= $0.1977 \times SD - 0.0671$	= $0.2304 \times SD - 0.0671$	= $0.2238 \times SD - 0.0671$

In the case of PT-DW750 / DW740 / DW730 / DW640 / DW6300

	For 16:10 aspect ratio	For 16:9 aspect ratio	For 4:3 aspect ratio
L1	= $0.3365 \times SD + 0.0047$	= $0.3459 \times SD + 0.0047$	= $0.3809 \times SD + 0.0047$
A1	= $0.2597 \times SD - 0.0690$	= $0.2942 \times SD - 0.0690$	= $0.2941 \times SD - 0.0690$

In the case of PT-DX820 / DX810 / DX800 / DX610 / D6000 / D5000

	For 4:3 aspect ratio	For 16:9 aspect ratio
L1	= $0.3133 \times SD + 0.0047$	= $0.3413 \times SD + 0.0047$
A1	= $0.1881 \times SD - 0.0665$	= $0.2866 \times SD - 0.0665$

● L2, L3 and L4 calculation formulas

(Unit: m)

	Group B projectors	Group C projectors	Group D projectors	Group E projectors
L2	L1 + 0.023			
L3	L1 - 0.166		L1 - 0.146	
L4	L1 - 0.704	L1 - 0.679	L1 - 0.589	L1 - 0.644

Standard installation dimensions (continued)

<When using a lens other than the ET-DLE030 / ET-DLE035 fixed-focus lens or a projector with a built-in lens>

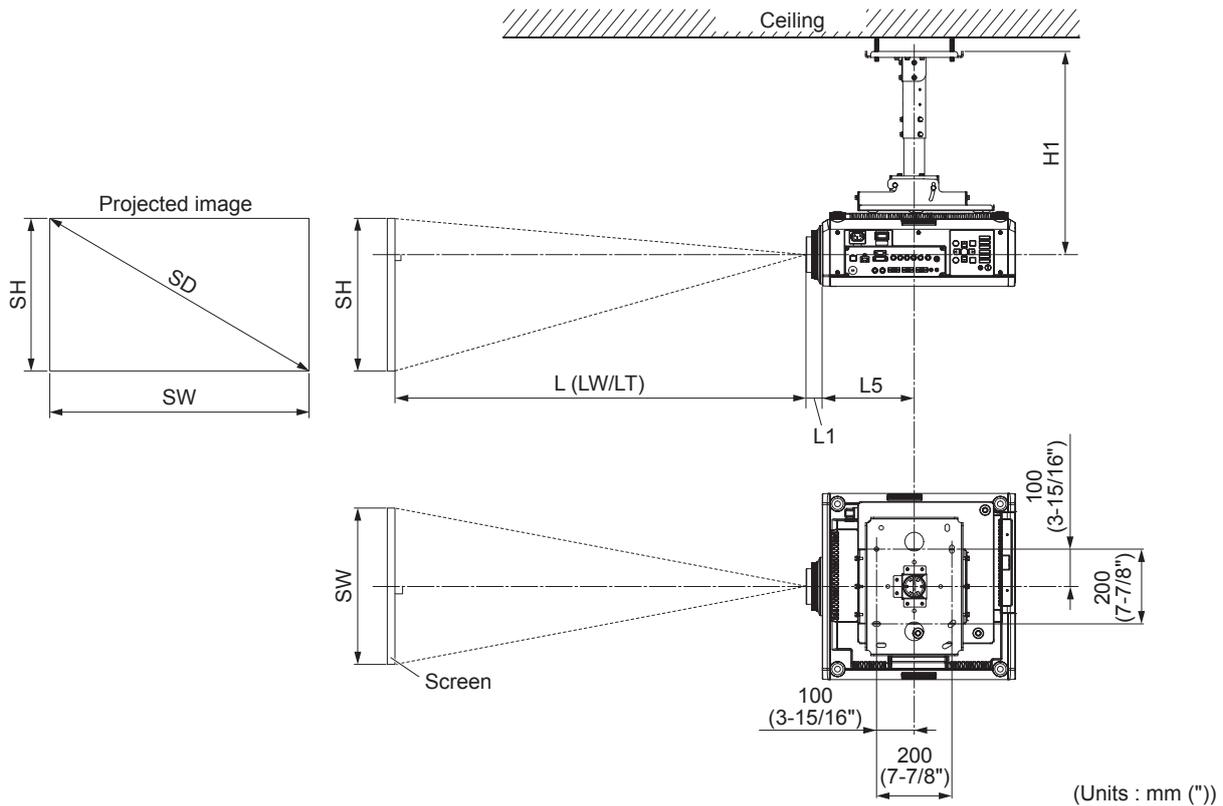
The dimensional relationship between the screen and the projector is shown below.

Establish the dimensions after assessing the area possible for installation.

The zoom function of the lens allows you to adjust the projection distance (excluding the ET-DLE055). Fine adjust while checking the projected image.

■ Dimensional relationship diagram

- The illustration shows the ET-PKD120H ceiling mount bracket mounted on a projector.



Note

- This illustration assumes that the projector will be installed so that the projected image fills the screen and is properly aligned with it.
- This drawing is not in exact scale.

SH	Image height	L1	Lens protrusion dimension (from front of set to tip of lens)
SW	Image width	L5	From front center of the attachment plate to front of projector
SD	Projected image size	H1	From lens center to attachment plate (includes the thickness of the attachment plate)
L	Projection distance		

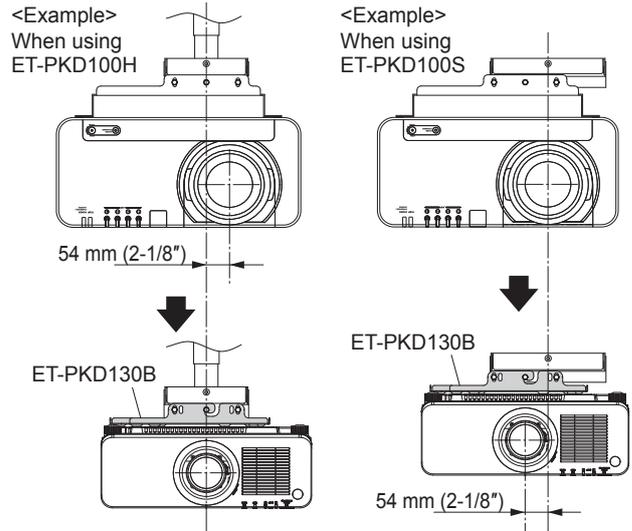
Attention

- Install the projector a sufficient distance away from surrounding walls and objects to ensure that the intake and exhaust vents will not be blocked. For the necessary distance from the projector to surrounding walls and objects, refer to the Operating Instructions of the projector to be used.
- Avoid setting up in places which are subject to sudden temperature changes, such as near an air conditioner or lighting equipment (studio lamps, etc.).

Standard installation dimensions (continued)

Note

- The illustrations of projectors in this manual are for informational purposes only and do not represent a specific model. Configurations may vary with the model.
- When using the existing ET-PKD100H and ET-PKD77H ceiling mount brackets for high ceilings, the center position of the projection lens of the currently installed projector shifts by 54 mm (2-1/8") based on the central axis of the adjustment pole. However, when replaced with PT-DZ870, for example, the center position will shift to the left by 54 mm (2-1/8") as shown in the figure on the right.
- When using the existing ET-PKD100S and ET-PKD75S ceiling mount brackets for low ceilings, the center position of the projection lens of the currently installed projector is aligned with the horizontal center of the attachment plate. However, when replaced with PT-DZ870, for example, the center position will shift to the left by 54 mm (2-1/8") as shown in the figure on the right.



■ Dimensional relationship

- H1 and L5 values

(Unit: m)

		Group A projectors	Group B and group C projectors	Group D projectors	Group E projectors	Group F projectors
ET-PKD120H	H1	0.459 - 0.539	0.464 - 0.544	0.428 - 0.508	0.443 - 0.523	0.442 - 0.522
	L5	0.226	0.244	0.152	0.172	0.175
ET-PKD310H / PKD56H / PKD77H	H1	0.447 - 0.527	0.452 - 0.532	0.416 - 0.496	0.431 - 0.511	0.430 - 0.510
	L5	0.226	0.244	0.152	0.172	0.175
ET-PKD100H	H1	0.521 - 0.641	0.526 - 0.646	0.491 - 0.611	0.506 - 0.626	0.505 - 0.625
	L5	0.226	0.244	0.152	0.172	0.175
ET-PKD120S / PKD310S / PKD55S / PKD100S / PKD75S	H1	0.216	0.221	0.185	0.200	0.199
	L5	0.221	0.239	0.147	0.167	0.170

- L1 values

(Unit: m)

	PT-RZ770 / RW730 / RZ660 / RW620 / RZ970 / RW930 / RX110 / RZ670 / RW630 / DZ870 / DW830 / DX100 / DZ770 / DW740 / DX810 / DW730 / DX800	PT-DZ680 / DW640 / DX610 / DZ6710 / DZ6700 / DW6300 / D6000 / D5000	PT-DZ780 / DW750 / DX820
Standard zoom lens	0.043	0.017	0.023
ET-DLE055		0.027	0.007
ET-DLE080 / DLE085		0.084	0.064
ET-DLE150		0.044	0.024
ET-DLE250		0.045	0.025
ET-DLE350		0.051	0.031
ET-DLE450		0.095	0.075

PT-RZ570	PT-RZ575
0.032	0.021

Note

- For the lens protrusion dimension of the following projectors, refer to the Operating Instructions of the corresponding projector.

PT-REQ12 / PT-REQ10 / PT-REQ80 / PT-REZ12 / PT-REZ10 / PT-REZ80 / PT-RCQ10 / PT-RCQ80 / PT-RZ120 / PT-RZ990 / PT-RZ890 / PT-RZ790 / PT-RZ690 / PT-RZ870 / PT-FRQ60 / PT-FRQ50 / PT-FRZ60 / PT-FRZ50 / PT-FRZ55

Standard installation dimensions (continued)

- Formulas for calculating projection distance by projection lens

Check the projected image size SD (m) and use the following formula to determine projection distance.

(Values obtained by the calculation formulas in the tables below contain a slight error.)

When calculating a projection distance using image size designation (value in inches), multiply the value in inches by 0.0254 and substitute it into SD in the formula for calculating the projection distance.

In the case of PT-RZ770 / RZ660 / RZ970 / DZ780 / RZ670 / DZ870 / DZ770 / DZ680 / DZ6710 / DZ6700 (Unit: m)

Projection Lens	Aspect ratio	Projection distance (L) formula	
		Minimum (LW)	Maximum (LT)
Standard zoom lens (supplied with the PT-RZ770 / RZ660 / RZ970 / DZ780 / RZ670 / DZ870 / DZ770)	16 : 10	= 1.4906 × SD – 0.0746	= 2.0814 × SD – 0.0725
	16 : 9	= 1.5320 × SD – 0.0746	= 2.1393 × SD – 0.0725
	4 : 3	= 1.6874 × SD – 0.0746	= 2.3563 × SD – 0.0725
Standard zoom lens (supplied with the PT-DZ680 / DZ6710 / DZ6700)	16 : 10	= 1.5551 × SD – 0.0745	= 2.0787 × SD – 0.0734
	16 : 9	= 1.5984 × SD – 0.0745	= 2.1378 × SD – 0.0734
	4 : 3	= 1.7598 × SD – 0.0745	= 2.3583 × SD – 0.0734
Fixed-focus lens (ET-DLE055)	16 : 10	= 0.6893 × SD – 0.0476	
	16 : 9	= 0.7084 × SD – 0.0476	
	4 : 3	= 0.7803 × SD – 0.0476	
Ultra short focus zoom lens (ET-DLE085, ET-DLE080)	16 : 10	= 0.6865 × SD – 0.0471	= 0.8498 × SD – 0.0442
	16 : 9	= 0.7056 × SD – 0.0471	= 0.8735 × SD – 0.0442
	4 : 3	= 0.7772 × SD – 0.0471	= 0.9621 × SD – 0.0442
Short focus zoom lens (ET-DLE150)	16 : 10	= 1.1259 × SD – 0.0540	= 1.6243 × SD – 0.0498
	16 : 9	= 1.1572 × SD – 0.0540	= 1.6695 × SD – 0.0498
	4 : 3	= 1.2747 × SD – 0.0540	= 1.8388 × SD – 0.0498
Intermediate focus zoom lens (ET-DLE250)	16 : 10	= 1.9665 × SD – 0.0800	= 3.1059 × SD – 0.0792
	16 : 9	= 2.0212 × SD – 0.0800	= 3.1923 × SD – 0.0792
	4 : 3	= 2.2263 × SD – 0.0800	= 3.5161 × SD – 0.0792
Long focus zoom lens (ET-DLE350)	16 : 10	= 3.1000 × SD – 0.1351	= 4.6843 × SD – 0.1346
	16 : 9	= 3.1862 × SD – 0.1351	= 4.8146 × SD – 0.1346
	4 : 3	= 3.5094 × SD – 0.1351	= 5.3030 × SD – 0.1346
Ultra long focus zoom lens (ET-DLE450)	16 : 10	= 4.6931 × SD – 0.3017	= 7.4193 × SD – 0.2991
	16 : 9	= 4.8236 × SD – 0.3017	= 7.6256 × SD – 0.2991
	4 : 3	= 5.3129 × SD – 0.3017	= 8.3992 × SD – 0.2991

Note

- Use the ET-DLE085 ultra short focus zoom lens for the PT-RZ770, PT-RZ660, PT-RZ970, PT-DZ780, PT-RZ670 and PT-DZ870 projectors.
- When [GEOMETRY (2D)], [KEYSTONE (3D)], [GEOMETRY] and [KEYSTONE] are used, distance is corrected to become smaller than the specified image size.

Standard installation dimensions (continued)

In the case of PT-RW730 / RW620 / RW930 / DW750 / RW630 / DW830 / DW740 / DW730 / DW640 / DW6300 (Unit: m)

Projection Lens	Aspect ratio	Projection distance (L) formula	
		Minimum (LW)	Maximum (LT)
Standard zoom lens (supplied with the PT-RW730 / RW620 / RW930 / DW750 / RW630 / DW830 / DW740 / DW730)	16 : 10	= 1.5651 × SD – 0.0746	= 2.1855 × SD – 0.0725
	16 : 9	= 1.6086 × SD – 0.0746	= 2.2462 × SD – 0.0725
	4 : 3	= 1.7715 × SD – 0.0746	= 2.4736 × SD – 0.0725
Standard zoom lens (supplied with the PT-DW640 / DW6300)	16 : 10	= 1.5630 × SD – 0.0650	= 2.0630 × SD – 0.0638
	16 : 9	= 1.6063 × SD – 0.0650	= 2.1220 × SD – 0.0638
	4 : 3	= 1.7717 × SD – 0.0650	= 2.3346 × SD – 0.0638
Fixed-focus lens (ET-DLE055)	16 : 10	= 0.7237 × SD – 0.0476	
	16 : 9	= 0.7438 × SD – 0.0476	
	4 : 3	= 0.8191 × SD – 0.0476	
Ultra short focus zoom lens (ET-DLE085, ET-DLE080)	16 : 10	= 0.7209 × SD – 0.0471	= 0.8923 × SD – 0.0442
	16 : 9	= 0.7409 × SD – 0.0471	= 0.9171 × SD – 0.0442
	4 : 3	= 0.8159 × SD – 0.0471	= 1.0100 × SD – 0.0442
Short focus zoom lens (ET-DLE150)	16 : 10	= 1.1822 × SD – 0.0540	= 1.7055 × SD – 0.0498
	16 : 9	= 1.2151 × SD – 0.0540	= 1.7529 × SD – 0.0498
	4 : 3	= 1.3381 × SD – 0.0540	= 1.9304 × SD – 0.0498
Intermediate focus zoom lens (ET-DLE250)	16 : 10	= 2.0649 × SD – 0.0800	= 3.2612 × SD – 0.0792
	16 : 9	= 2.1223 × SD – 0.0800	= 3.3519 × SD – 0.0792
	4 : 3	= 2.3371 × SD – 0.0800	= 3.6912 × SD – 0.0792
Long focus zoom lens (ET-DLE350)	16 : 10	= 3.2550 × SD – 0.1351	= 4.9185 × SD – 0.1346
	16 : 9	= 3.3455 × SD – 0.1351	= 5.0553 × SD – 0.1346
	4 : 3	= 3.6842 × SD – 0.1351	= 5.5671 × SD – 0.1346
Ultra long focus zoom lens (ET-DLE450)	16 : 10	= 4.9277 × SD – 0.3017	= 7.7903 × SD – 0.2991
	16 : 9	= 5.0647 × SD – 0.3017	= 8.0069 × SD – 0.2991
	4 : 3	= 5.5775 × SD – 0.3017	= 8.8174 × SD – 0.2991

Note

- Use the ET-DLE085 ultra short focus zoom lens for the PT-RW730, PT-RW620, PT-RW930, PT-DW750, PT-RW630 and PT-DW830 projectors.
- When [KEYSTONE] is used, distance is corrected to become smaller than the specified screen size.

Standard installation dimensions (continued)

In the case of PT-RX110 / DX820 / DX100 / DX810 / DX800 / DX610 / D6000 / D5000

(Unit: m)

Projection Lens	Aspect ratio	Projection distance (L) formula	
		Minimum (LW)	Maximum (LT)
Standard zoom lens (supplied with the PT-RX110 / DX820 / DX100 / DX810 / DX800)	4 : 3	$= 1.4571 \times SD - 0.0746$	$= 2.0346 \times SD - 0.0725$
	16 : 9	$= 1.5875 \times SD - 0.0746$	$= 2.2167 \times SD - 0.0725$
Standard zoom lens (supplied with the PT-DX610 / D6000 / D5000)	4 : 3	$= 1.4567 \times SD - 0.0650$	$= 1.9213 \times SD - 0.0638$
	16 : 9	$= 1.5866 \times SD - 0.0650$	$= 2.0945 \times SD - 0.0638$
Fixed-focus lens (ET-DLE055)	4 : 3	$= 0.6738 \times SD - 0.0476$	
	16 : 9	$= 0.7340 \times SD - 0.0476$	
Ultra short focus zoom lens (ET-DLE085, ET-DLE080)	4 : 3	$= 0.6711 \times SD - 0.0471$	$= 0.8307 \times SD - 0.0442$
	16 : 9	$= 0.7311 \times SD - 0.0471$	$= 0.9051 \times SD - 0.0442$
Short focus zoom lens (ET-DLE150)	4 : 3	$= 1.1006 \times SD - 0.0540$	$= 1.5878 \times SD - 0.0498$
	16 : 9	$= 1.1991 \times SD - 0.0540$	$= 1.7299 \times SD - 0.0498$
Intermediate focus zoom lens (ET-DLE250)	4 : 3	$= 1.9224 \times SD - 0.0800$	$= 3.0361 \times SD - 0.0792$
	16 : 9	$= 2.0943 \times SD - 0.0800$	$= 3.3078 \times SD - 0.0792$
Long focus zoom lens (ET-DLE350)	4 : 3	$= 3.0304 \times SD - 0.1351$	$= 4.5791 \times SD - 0.1346$
	16 : 9	$= 3.3015 \times SD - 0.1351$	$= 4.9888 \times SD - 0.1346$
Ultra long focus zoom lens (ET-DLE450)	4 : 3	$= 4.5876 \times SD - 0.3017$	$= 7.2526 \times SD - 0.2991$
	16 : 9	$= 4.9981 \times SD - 0.3017$	$= 7.9015 \times SD - 0.2991$

Note

- Use the ET-DLE085 ultra short focus zoom lens for the PT-RX110, PT-DX820 and PT-DX100 projectors.
- When [KEYSTONE] is used, distance is corrected to become smaller than the specified screen size.

In the case of PT-RZ570

(Unit: m)

Aspect ratio	Projection distance (L) formula	
	Minimum (LW)	Maximum (LT)
16:10	$= 1.2598 \times SD - 0.0526$	$= 2.5118 \times SD - 0.0390$
16:9	$= 1.2949 \times SD - 0.0526$	$= 2.5816 \times SD - 0.0390$
4:3	$= 1.4262 \times SD - 0.0526$	$= 2.8436 \times SD - 0.0390$

In the case of PT-RZ575

(Unit: m)

Aspect ratio	Projection distance (L) formula
16:10	$= 0.6893 \times SD - 0.0476$
16:9	$= 0.7084 \times SD - 0.0476$
4:3	$= 0.7803 \times SD - 0.0476$

Note

- For the projected image size and projection distance of the following projectors, refer to the Operating Instructions of the corresponding projector.

PT-REQ12 / PT-REQ10 / PT-REQ80 / PT-REZ12 / PT-REZ10 / PT-REZ80 / PT-RCQ10 / PT-RCQ80 /
PT-RZ120 / PT-RZ990 / PT-RZ890 / PT-RZ790 / PT-RZ690 / PT-RZ870 / PT-FRQ60 / PT-FRQ50 / PT-FRZ60 /
PT-FRZ50 / PT-FRZ55

Installation

After checking the height, width, and structure of the installation location while referring to "Standard installation dimensions" on pages 5 to 11, determine the appropriate positions for setting up the screen and installing the projector.

To mount this product on an already installed ceiling mount bracket, refer to "Using an existing bracket" on pages 16 to 18.

Setting up the screen

Set up the screen according to the specified method in a position which takes into account the projection distance and angle and the type of screen being used.

Screws tightening torques

M6..... 4±0.5 N•m

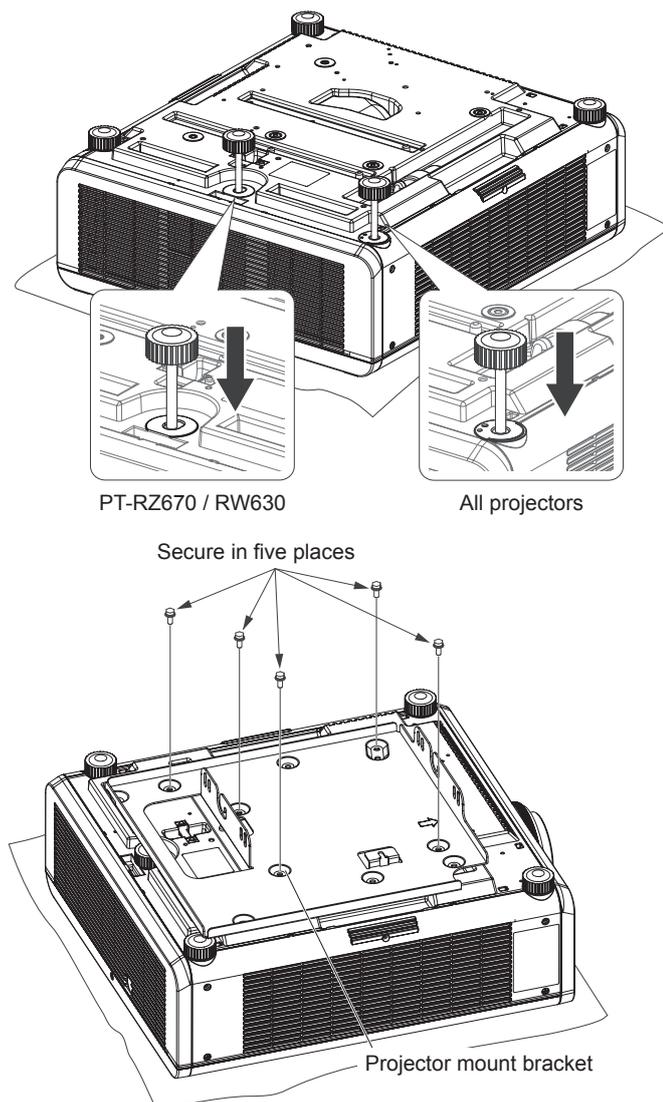
M8..... 10±1 N•m

M10..... 20±1 N•m

- Use a torque screwdriver or torque wrench to tighten screws and bolts to their specified tightening torques. Do not use electric screwdrivers or impact screwdrivers.

Installing the bracket to the projector

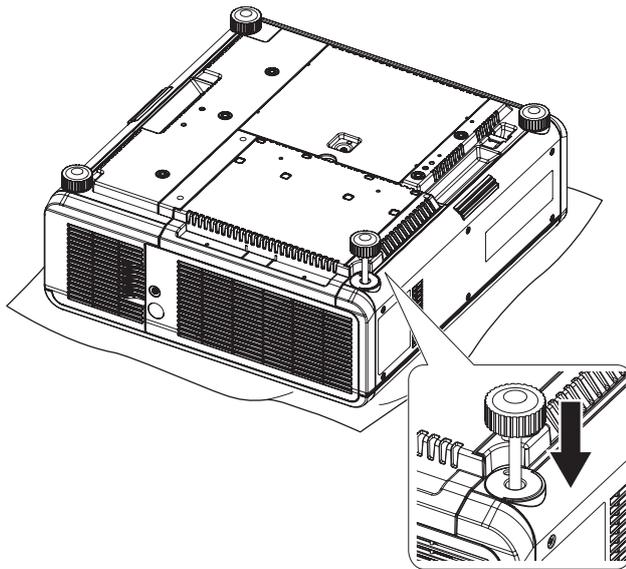
Attach the projector mount bracket to the projector (sold separately).



<For group A and group B projectors>

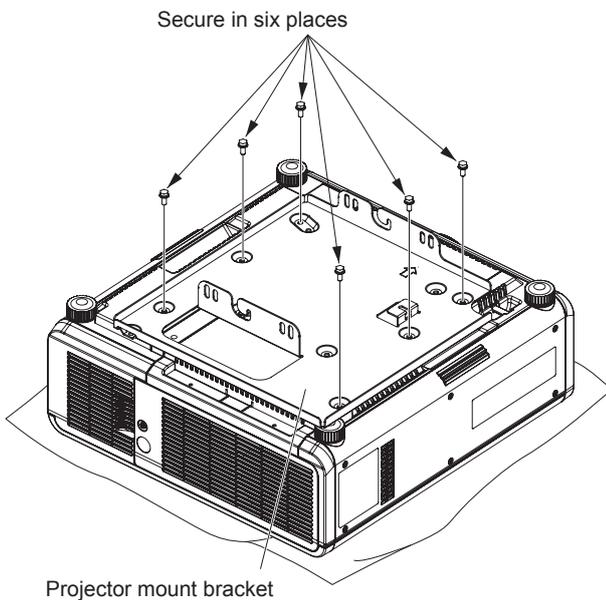
- 1) Place the projector upside-down onto a piece of soft material.
- 2) Turn the adjustment leg(s) (see the two points for PT-RZ670 / RW630 or the one point for a projector other than that in the figure on the left) clockwise to minimize the length of the legs.
 - If the adjustment legs (see the two points in the figure on the left) are too long, the projector mount bracket will come into contact with the legs, and mounting it onto the projector will not be possible.
- 3) Firmly secure the projector mount bracket to the bottom of the projector using the five supplied captive washer hex head bolts (M6 × 16) as shown in the figure on the left.
 - Use five of the six captive washer head bolts supplied with the unit.

Installation (continued)

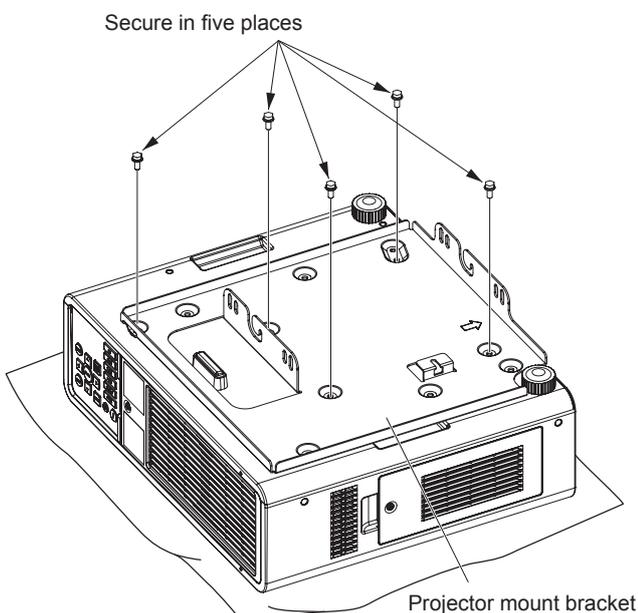


<For group C projectors>

- 1) Place the projector upside-down onto a piece of soft material.
- 2) Turn the adjustment leg (see the figure on the left) clockwise to minimize the length of the leg.
 - If the adjustment leg (see the figure on the left) is long, the projector mount bracket comes in contact with the leg and cannot be mounted onto the projector.



- 3) Firmly secure the projector mount bracket to the bottom of the projector using the six supplied captive washer hex head bolts (M6 × 16) as shown in the figure on the left.



<For group D, group E, and group F projectors>

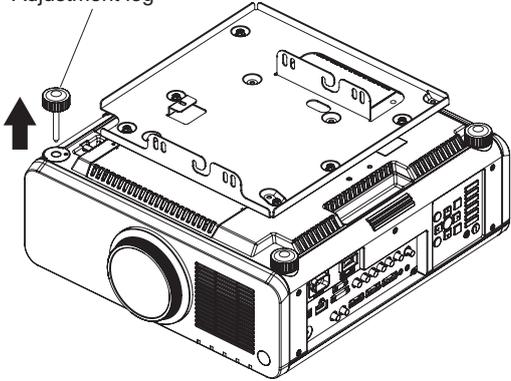
- 1) Place the projector upside-down onto a piece of soft material.
- 2) Firmly secure the projector mount bracket to the bottom of the projector using the five supplied captive washer hex head bolts (M6 × 16) as shown in the figure on the left.
 - Use five of the six captive washer head bolts supplied with the unit.

Installation (continued)

Attaching the drop prevention kit to the projector

Attach the drop-prevention wire rope to the projector (sold separately).

Adjustment leg

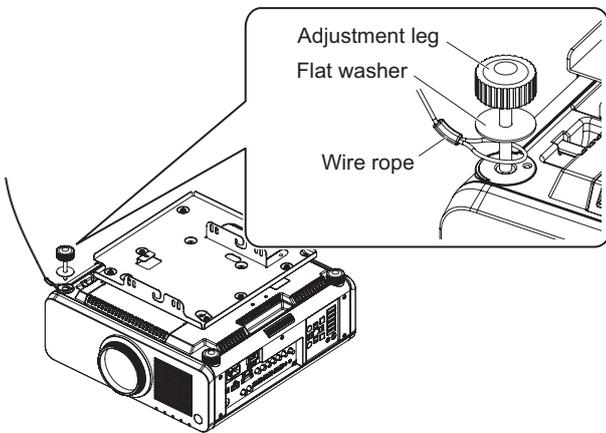


- 1) Turn the adjustment leg (one) counterclockwise to remove it from the projector.

Adjustment leg

Flat washer

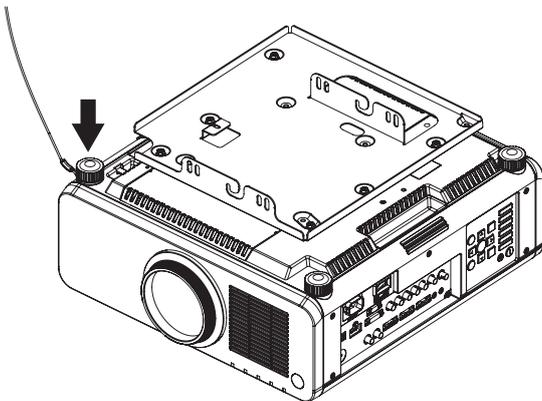
Wire rope



- 2) Pass the supplied flat washer (one) and wire rope through the adjustment leg (one) as illustrated on the left.

Attention

- Be sure to use the supplied flat washers and wire rope.



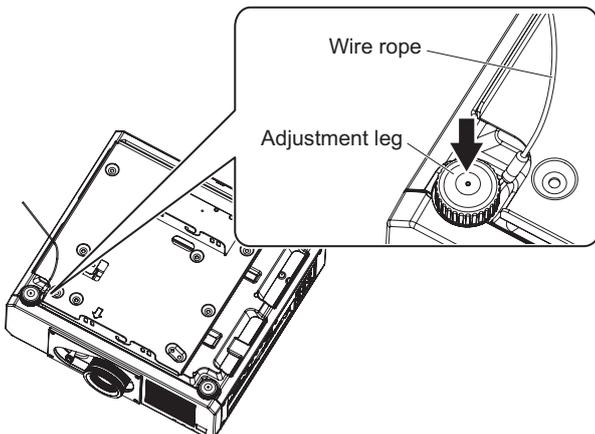
- 3) Turn the adjustment leg clockwise to secure it to the projector.

Attention

- For information on how to join this product to the ceiling mount bracket (ceiling mount bracket for low or high ceilings) (separately sold) and how to attach the wire rope in the ceiling, refer to the installation instructions or other instructions supplied with the ceiling mount bracket (ceiling mount bracket for low or high ceilings).

Wire rope

Adjustment leg



- When attaching the wire rope to a group F projector, pull out the wire rope as illustrated on the left, and tighten the adjustment leg.

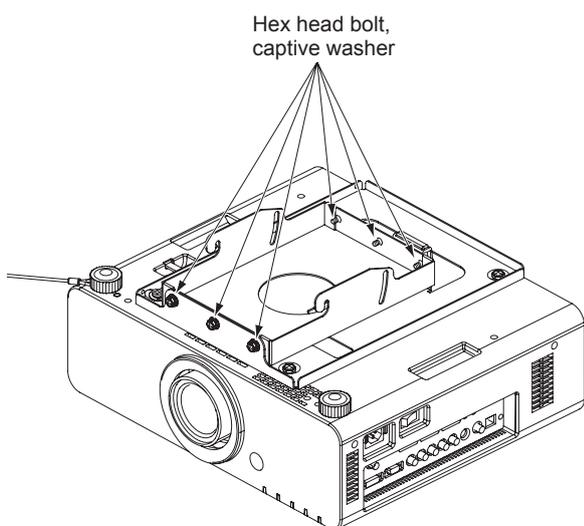
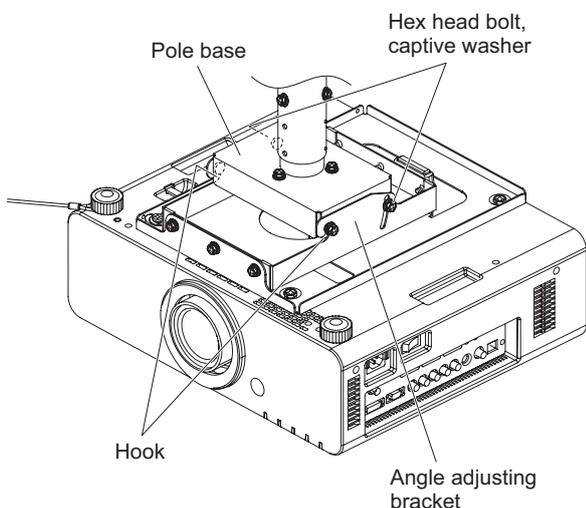
Using an existing bracket

Removing the projector from the existing bracket

When combining an existing ET-PKD120H, ET-PKD120S, ET-PKD310H, ET-PKD310S, ET-PKD56H, ET-PKD55S, ET-PKD100H, ET-PKD100S, ET-PKD77H and ET-PKD75S ceiling mount brackets with this product, you will need to first remove the projector from these ceiling mount brackets.

Note

- The illustration shows an installation using the ET-PKD56H ceiling bracket for high ceilings. Other ceiling mount brackets for low or high ceilings can be removed according to the same procedure.
- The illustrations of projectors are for informational purposes only and do not represent a specific model. Configurations may vary with the model.



- 1) Remove the wire rope from the ceiling.
- 2) Remove the two captive washer hex head bolts.
 - Make sure the projector is properly supported from below while doing this.
- 3) Slightly loosen the captive washer hex head bolts in the hooks and remove the angle adjusting bracket from the pole base (the attachment plate if a ceiling mount bracket for low ceilings is used) as shown in the figure on the left.

Attention

- Do not over-loosen the captive washer hex head bolts in the hooks. If the bolts become too loose, the projector could fall down.

WARNING:

Removal must be carried out by two or more persons.

- 4) Loosen and remove the six captive washer hex head bolts that secure the angle adjusting bracket and remove it.

Attention

- The removed angle adjusting bracket and the captive washer hex head bolts that secured it will be used later.
- When the projector and the projector mount bracket are no longer needed, be sure to dispose of them appropriately.

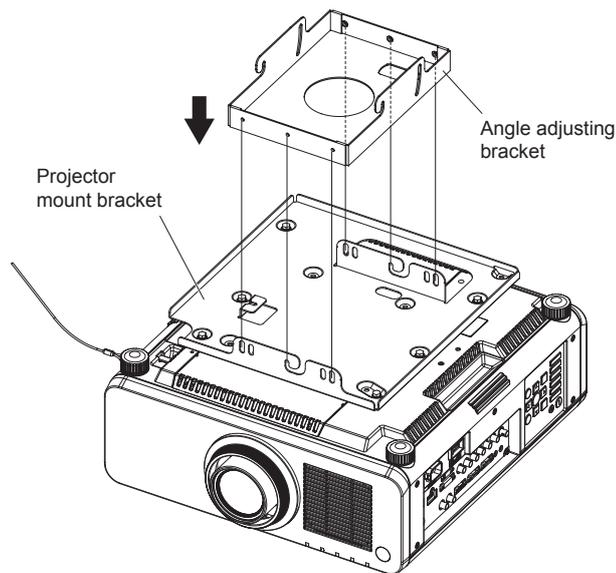
Using an existing bracket (continued)

Mounting the projector on an existing bracket

To combine this product with an existing ET-PKD120H, ET-PKD120S, ET-PKD310H, ET-PKD310S, ET-PKD56H, ET-PKD55S, ET-PKD100H, ET-PKD100S, ET-PKD77H and ET-PKD75S, use the steps on pages 13 to 15 to install this product and the drop prevention kit supplied with the product on the projector. Then install the projector on the existing ceiling mount bracket according to the following instructions.

Note

- The illustration shows an installation using the ET-PKD56H ceiling bracket for high ceilings. Other ceiling mount brackets for low or high ceilings can be installed according to the same procedure.
- The illustrations of projectors are for informational purposes only and do not represent a specific model. Configurations may vary with the model.



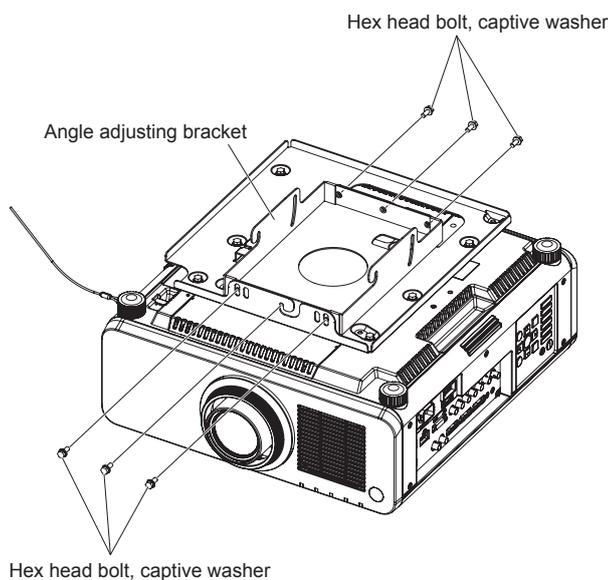
- 1) Align the screw holes on the angle adjusting bracket with the holes on the projector mount bracket and secure the bracket with the six captive washer hex head bolts removed in the section "Removing the projector from the existing bracket", as shown in the figure on the left.

Attention

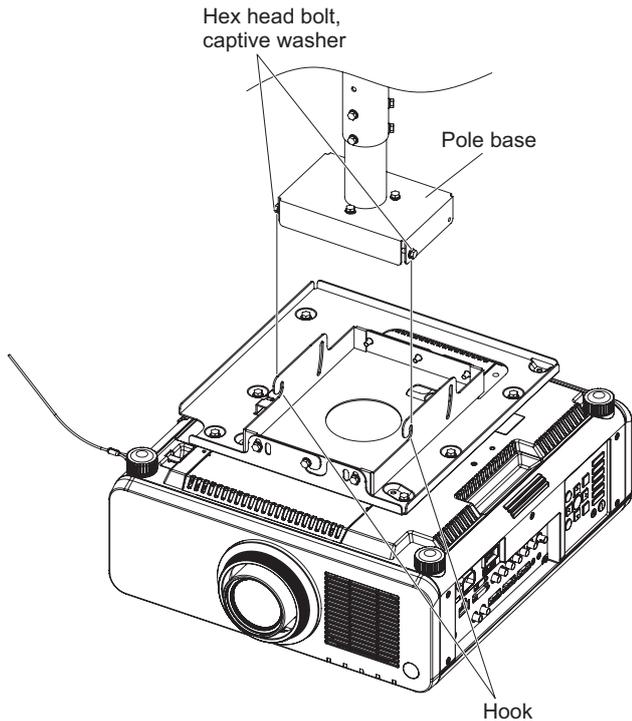
- After adjusting the installation angle, tighten the six captive washer hex head bolts firmly. For information on how to adjust the installation angle, refer to the installation instructions or other instructions supplied with the ceiling mount bracket (for low or high ceilings).

Note

- The illustration of the angle adjusting bracket is for informational purpose only and does not represent a specific product. Tightening positions of the captive washer hex head bolts may vary depending on the shape of the angle adjusting bracket.



Using an existing bracket (continued)



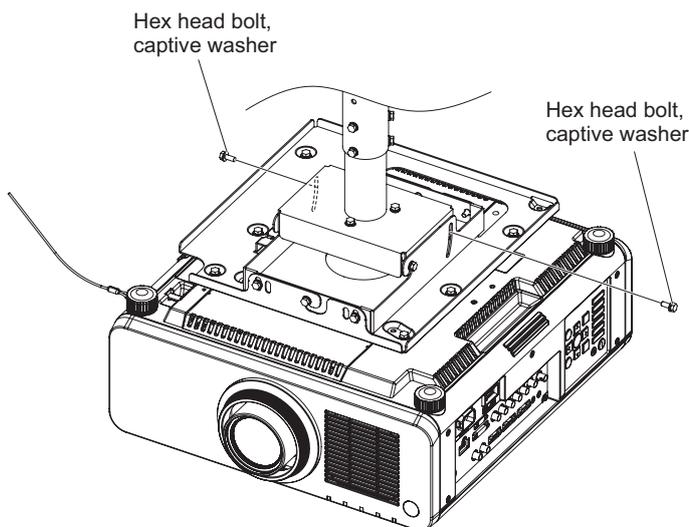
- 2) Fit the finger tightened captive washer hex head bolts in the pole base (the attachment plate for a ceiling mount bracket for low ceilings) in the hooks on the angle adjusting bracket.

Attention

- Make sure that the finger tightened captive washer hex head bolts are firmly engaged with the thread ridges of the pole base (the attachment plate if a ceiling mount bracket for low ceilings is used).
- Hold the projector firmly until the captive washer hex head bolts are securely placed in the hooks on the angle adjusting bracket.

WARNING:

Mounting and installation must be carried out by two or more persons.



- 3) Use the two captive washer hex head bolts removed in the section "Removing the projector from the existing bracket" to secure the pole base (the attachment plate for a ceiling bracket for low ceilings) and the angle adjusting bracket as shown in the figure on the left.

Attention

- After mounting the projector on the ceiling mount bracket, adjust the installation angle. For information on how to adjust the installation angle, refer to the installation instructions or other instructions supplied with the ceiling mount bracket (for low or high ceilings).

Specifications

External dimensions	Width: 378 mm (14-7/8") Height: 56 mm (2-7/32") Depth: 400 mm (15-3/4")
Weight	Approx. 3 kg (6.61 lbs.)

Panasonic Connect Co., Ltd.

Web Site : <https://panasonic.net/cns/projector/>
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