
S P E C F I L E

Product Number : PT-**MZ670/MZ670L**

Product Name : LCD Projectors

Specifications

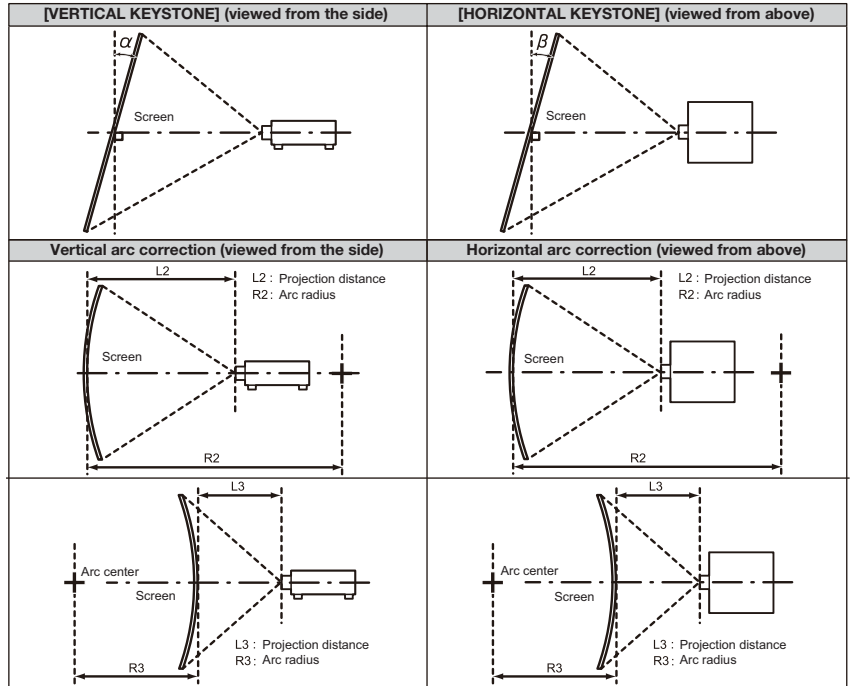
Main unit

| | | |
|-----------------------------|-------------------|--|
| Power supply | | AC 100-240 V, 50/60 Hz |
| Power consumption* | | 525W (during standby) Approx. 0.5 W (When [STANDBY MODE] is set to [ECO]) Approx. 22 W (When [STANDBY MODE] is set to [NORMAL]) Approx. 47 W(When [IN STANDBY MODE] in [AUDIO SETTING] is set to [ON], maximum audio is output, and USB memory is inserted in the <VIEWER/PAIRING> terminal) Approx. 115 W(When [QUICK STARTUP] is set to [ON], [IN STANDBY MODE] in [AUDIO SETTING] is set to [ON], maximum audio is output, and the power is supplied from the <DC OUT> terminal) |
| BTU value | | Max 1,792BTU |
| LCD panel | Panel size | 19.3 mm (0.76 inches) diagonal (16:10 aspect ratio) |
| | Display method | Transparent LCD panel (x 3, R/G/B) |
| | Drive method | Active matrix method |
| | Pixels | 2,304,000 (1920 x 1200) x 3, total of 6,912,000 pixels |
| Lens | PT-MZ670 | Powered zoom (1.6x), focus lenses, F 1.7–2.3, f 26.8–45.5 mm Throw ratio 1.6–2.8:1 |
| | PT-MZ670L | Optional powered zoom/focus lenses and fixed-focus lens |
| Light source | | Laser Diode Laser class 1(Class3R for US models) |
| Illumination life of set | | Varies depending on operation mode setting. 20,000 hours at half luminance * IEC62087: 2008 Broadcast contents, Dynamic contrast [2], Temperature: 30°C (86F), Under conditions of 0.15 mg/m ³ of particulate matter |
| Projection size | | 1.02–10.16 m (40–400 inches) diagonally, 16:10 aspect ratio |
| Colors | | Full color (16,777,216 colors) |
| Light output *1 | | 6,500 lumens (Input signals: PC, Operating mode: Normal, Dynamic mode) |
| Center-to-corner uniformity | | 90% |
| Contrast ratio*1 | | 3,000,000:1(all white/all black)(Dynamic Contrast 1 or 2) (Input signals: PC, Operating mode: Normal, Dynamic mode) |
| Resolution | | WUXGA 1920 x 1200 pixels |
| Scanning frequency | RGB | fH: 15- 91kHz, fV: 24 - 100Hz, dot clock: 162 MHz or less |
| | YPbPr (YCbCr) | 480i (525i): fH 15.73 kHz; fV 59.94 Hz, 576i (625i): fH 15.63 kHz; fV 50 Hz, 480p (525p): fH 31.47 kHz; fV 59.94 Hz, 576p (625p): fH 31.25 kHz; fV 50 Hz, 720 (750)/60p: fH 45.00 kHz; fV 60 Hz, 720 (750)/50p: fH 37.50 kHz; fV 50 Hz, 1080 (1125)/60i: fH 33.75 kHz; fV 60 Hz, 1080 (1125)/50i: fH 28.13 kHz; fV 50 Hz, 1080 (1125)/25p: fH 28.13 kHz; fV 25 Hz, 1080 (1125)/24p: fH 27.00 kHz; fV 24 Hz, 1080 (1125)/24sF: fH 27.00 kHz; fV 48 Hz, 1080 (1125)/30p: fH 33.75 kHz; fV 30 Hz, 1080 (1125)/60p: fH 67.50 kHz; fV 60 Hz, 1080 (1125)/50p: fH 56.25 kHz; fV 50 Hz |
| | Video | fH: 15.73 kHz / 15.63 kHz fV: 59.94 Hz / 50 Hz [NTSC/NTSC4.43/PAL/PAL60/PAL-N/PAL-M/SECAM] |
| | HDMI/DIGITAL LINK | •Moving image signal resolution: 480i (525i)*2, 576i (625i)*2, 480p (525p), 576p (625p), 720 (750)/60p, 720 (750)/50p, 1080 (1125)/60i, 1080 (1125)/50i, 1080 (1125)/25p, 1080 (1125)/24p, 1080 (1125)/24sF, 1080 (1125)/30p, 1080 (1125)/60p, 1080 (1125)/50p Still image signal resolution: 640 x 400 to 1920 x 1200 (non-interlace) •Dot clock frequency: 25 MHz to 162 MHz |

Keystone correction range

| Projection Lens Model No. | Throw ratio | Only [KEYSTONE] used*3 | | [KEYSTONE] and [CURVED] used together | | | | Only [CURVED] used | |
|------------------------------|-------------|---|--|---|--|---------------------|---------------------|---------------------|---------------------|
| | | Vertical keystone correction angle α (°) | Horizontal keystone correction angle β (°) | Vertical keystone correction angle α (°) | Horizontal keystone correction angle β (°) | Min. value of R2/L2 | Min. value of R3/L3 | Min. value of R2/L2 | Min. value of R3/L3 |
| Standard zoom lens/ET-ELS20* | 1.6-2.8 | ± 25 | ± 30 | ± 20 | ± 15 | 0.9 | 1.8 | 0.5 | 1.0 |
| ET-ELW21 | 0.8 | ± 22 | ± 15 | ± 8 | ± 8 | 1.7 | 4.3 | 1.0 | 2.6 |
| ET-ELW22 | 0.8-1.0 | ± 22 | ± 15 | ± 8 | ± 8 | 1.7 | 4.3 | 1.0 | 2.6 |
| ET-ELW20 | 1.2-1.7 | ± 25 | ± 30 | ± 20 | ± 15 | 1.2 | 3.1 | 0.7 | 1.8 |
| ET-ELT20 | 2.7-4.5 | ± 25 | ± 30 | ± 20 | ± 15 | 0.6 | 1.1 | 0.3 | 0.6 |
| ET-ELT21 | 4.4-7.1 | ± 25 | ± 30 | ± 20 | ± 15 | 0.4 | 0.7 | 0.2 | 0.4 |

* Available only in the US, Canada and Europe.



Optical axis shift

Vertical $\pm 67\%$, Horizontal $\pm 35\%$ (Supplied lens/ET-ELS20/ET-ELW20/ET-ELT20/ET-ELT21)

Vertical $\pm 60\%$, Horizontal $\pm 30\%$ (ET-ELW22)

NOTE: Optical axis shift function cannot be operated when used with the ET-ELW21.

Ceiling/desk/AUTO, front/rear, 360 degree free installation

4.0 cm round-type x 1

10 W (monaural)

Installation

Speaker

Maximum usable volume output

Terminals

HDMI 1 IN

HDMI 19 pin, HDCP and Deep color compatible

HDMI 2 IN

HDMI 19 pin, HDCP and Deep color compatible

RGB 1 IN

BNC (female) x 5, RGB/Y P_B/P_R (C_B/C_R)

RGB 2 IN

D-Sub 15 p (female) x 1, RGB/Y P_B/P_R (C_B/C_R)

MONITOR OUT

D-Sub 15 p (female) x 1, RGB/Y P_B/P_R (C_B/C_R)

VIDEO IN

Pin jack x 1

AUDIO IN 1

M3 stereo jack x 1(L-R)

AUDIO IN 2

M3 stereo jack x 1(L-R)

AUDIO IN 3

Pin jack x 2(L-R)

VARIABLE AUDIO OUT

M3 jack, 0 V[rms] to 2.0 V[rms] variable, output impedance 2.2 k ohms and less

SERIAL IN

D-sub 9 pin, RS-232C compliant, for computer control use

REMOTE 1

D-Sub 9 p (female) x 1, for external control (parallel)

REMOTE 2

M3 jack x 1(L-R) for link control (for wired remote control)

LAN

RJ-45 x 1 for network connection, 10/100Base-TX, compliant with PLink™(Class 2)

DIGITAL LINK / LAN

RJ-45 x 1 for network and DIGITAL LINK (video/network/serial control)

connection, 100Base-TX, compliant with PLink™(Class 2), Deep Color, HDCP

VIEWER / PAIRING

USB type-A x 1

DC OUT

USB type-A x 1(DC 5V, 2A(Max))

Power cord length

3.0m(9ft 10in)

Cabinet materials

Molded plastic

LCD Projectors

| | | |
|------------------------|-------------|--|
| Dimensions (W × H × D) | PT-MZ670 | 560 × 205*4× 443mm (22-1/16 × 8-1/16*4× 17-7/16inches) (with supplied lens) |
| | PT-MZ670L | 560 × 205*4× 428mm (22-1/16 × 8-1/16*4× 16-27/32inches) (without lens) |
| Weight*5 | PT-MZ670 | Approx. 16.9 kg (37.3 lbs) (with supplied lens) |
| | PT-MZ670L | Approx. 16.1 kg (35.5 lbs) (without lens) |
| Noise level*1 | | 32dB (Operating mode: NORMAL/ECO), 26dB (Operating mode: QUIET) |
| Operating environment | Temperature | 0°C (32°F) to 45°C (113°F) The projector cannot be used at an altitude of 2,700 m (8,858') or higher above sea level. The light output may decrease to protect the projector when the operating environment temperature exceeds 36 °C (96.8 °F). |
| | Humidity | 20% to 80% (no condensation) |

Remote control unit

| | |
|------------------------|---|
| Power supply | DC 3 V (AAA/R03/LR03 battery × 2) |
| Operation range | Approx. 30 m (98'5") (when operated directly in front of signal receiver) |
| Dimensions (W × H × D) | 48 x 145 x 27 mm (1-7/8" x 5-23/32" x 1/16") |
| Weight | Approx. 102g (3.60 ozs.) (including batteries) |

Wireless LAN*6

| | |
|--------------------------------|---|
| Compliance standards | IEEE802.11a/b/g/n |
| Transmission method | DSSS, OFDM |
| Modulation method | DBPSK, DQPSK, CCK, BPSK, QPSK, 16QAM, 64QAM, MIMO |
| Transmission speed | IEEE802.11b Maximum 11 Mbps IEEE802.11g/a Maximum 54 Mbps IEEE802.11n Maximum 300 Mbps |
| Communication distance | Approx. 30 m (98'5") (depending on the operating environment) |
| Frequency band (Channels used) | |
| for PT-MZ670, PT-MZ670L,; | IEEE802.11b/g/n: 2.412 GHz - 2.462 GHz (Channels 1 to 11) IEEE802.11a/n: 5.180 GHz - 5.240 GHz (W52), 5.260 GHz - 5.320 GHz, 5.660 GHz - 5.700 GHz (Channels 36/40/44/48 (W52) , Channels 52/56/60/64 (W53, Channels 132/136/140 (part of W56)) |
| for PT-MZ670A, PT-MZ670LA: | IEEE802.11b/g/n: 2.412 GHz - 2.462 GHz (Channels 1 to 11) IEEE802.11a/n: 5.745 GHz - 5.805 GHz (W58: excluding ch165) , 5.280 GHz - 5.320 GHz (W53: excluding ch 52), 5.745 GHz - 5.805 GHz (W58: excluding ch 165) (Channels 149/153/157/161 (W58: excluding ch 165)) |
| *for Taiwan | 5.280 GHz - 5.320 GHz (W53: excluding ch 52), 5.745 GHz - 5.805 GHz (W58: excluding ch 165)(Channels 56/60/64 (W53: excluding ch 52), Channels 149/153/157/161 (W58: excluding ch 165)) |
| for PT-MZ670D, PT-MW630D : | IEEE802.11b/g/n: 2.412 GHz - 2.472 GHz (Channels 1 to 13) IEEE802.11a/n: 5.180 GHz - 5.240 GHz (W52) , 5.745 GHz - 5.805 GHz (W58: excluding ch165), 5.745 GHz - 5.825 GHz (W58), 5.260 GHz - 5.320 GHz (W53) (Channels 36/40/44/48 (W52), Channels 149/153/157/161 (W58: excluding ch 165), Channels 149/153/157/161/165 (W58), Channels 52/56/60/64 (W53)) |
| Security | When connected in infrastructure mode 128 bits/64 bits WEP, WPA-PSK <TKIP/AES>, WPA2-PSK <TKIP/AES>, WPA-EAP/WPA2-EAP <PEAP (MS-CHAPv2)/PEAP (GTC)/EAP-TTLS (MD5) / EAP-TTLS (MS-CHAPv2)/EAP-FAST (MS-CHAPv2)/EAP-FAST (GTC)> |

Other Applications

Multi Monitoring and Control Software
Logo Transfer Software
Wireless PJ (for iOS/Android)
Smart Projector Control (for iOS/Android)

Supplied accessories

Wireless remote control unit (× 1)
Power cord (3.0m × 1) (× 2 for UK and Asia)
CD-ROM (Operating Instructions × 1)
Batteries for remote control (R03/AAA type × 2)
Power cord holder (× 1)
Instruction manual (Basic guide)
Application guide

Optional accessories

| | | |
|-------------------------|-------------------------|---|
| Ceiling Mount Bracket | for High ceilings | ET-PKD120H |
| Ceiling Mount Bracket | for Low ceilings | ET-PKD120S |
| Ceiling Mount Bracket | Projector Mount Bracket | ET-PKE301B*7 |
| Wireless Module Unit | | ET-WM300 |
| Replacement Filter Unit | | ET-RFM100 |
| Digital Interface Box | | ET-YFB100G |
| DIGITAL LINK switcher | | ET-YFB200G |
| Easy Wireless Stick | | ET-UW100 *The availability of ET-UW100 varies depending on the country. |
| Early Warning Software | | ET-SWA100 series*8 |
| Fixed-focus lens | | ET-ELW21 |
| Zoom lens | | ET-ELW22 |
| Zoom lens | | ET-ELW20 |
| Zoom lens | | ET-ELS20 *Available with US, Canada and Europe area only |
| Zoom lens | | ET-ELT20/ET-ELT22 |
| Zoom lens | | ET-ELT21/ET-ELT23 |

Weights and dimensions shown are approximate. Specifications subject to change without notice.

*1 Measurement, measuring conditions, and method of notation all comply with ISO 21118 international standards.

*2 Only compatible with dot clock frequency of 27 MHz (pixel repetition signal) for 480i(525i) and 576i(625i)

*3 When [VERTICAL KEYSTONE] and [HORIZONTAL KEYSTONE] are used simultaneously, correction cannot be made exceeding total of 55°.

*4 When adjustable feet shortened.

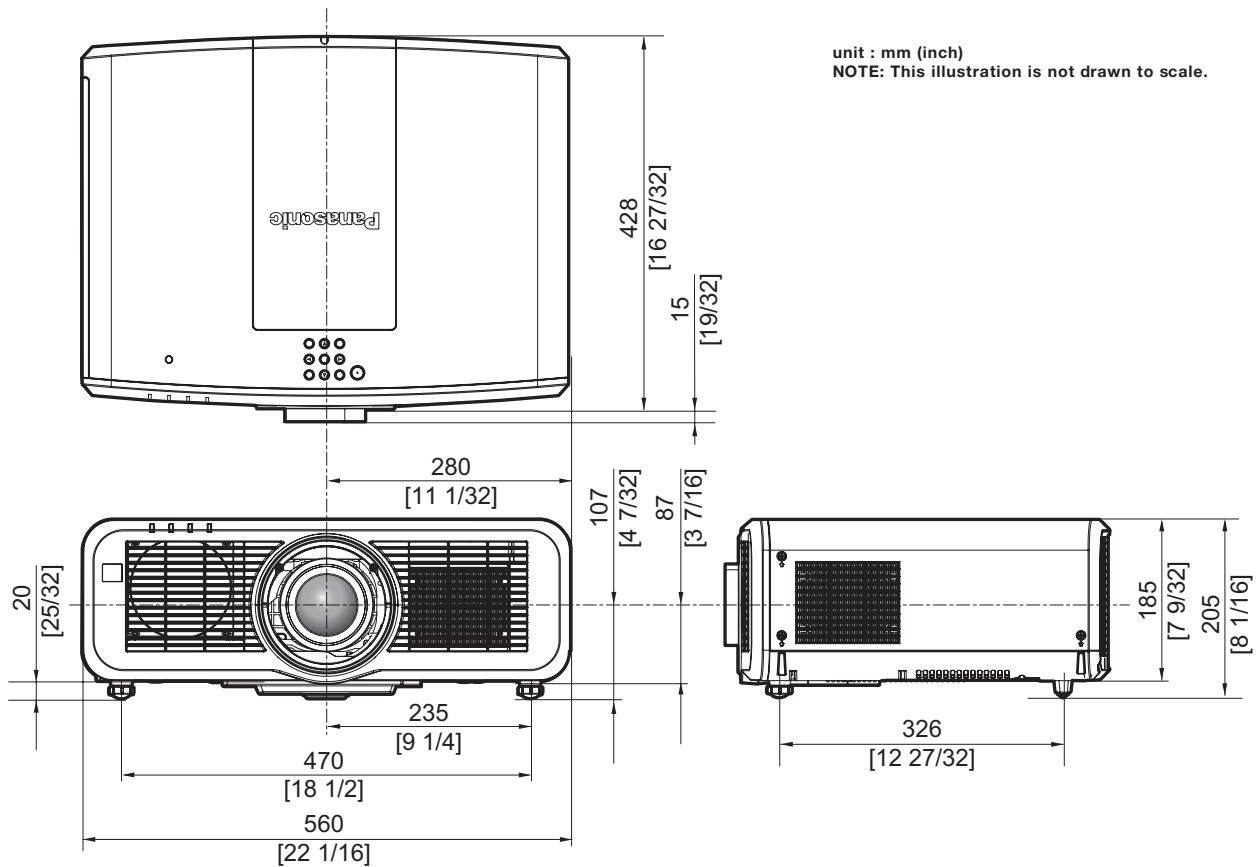
*5 Average value. May differ depending on models.

*6 Can be used when the ET-WM300 (option) is installed.

*7 When the projector is mounted to the existing Ceiling Mount Bracket (in combination with the Model No.: ET-PKD120H (for High Ceilings) or ET-PKD120S (for Low Ceilings), and the Model No.: ET-PKE300B (Projector Mount Bracket)), it is necessary to replace the drop-prevention wire rope with the one corresponding to this projector. Consult your dealer. Drop-prevention set (service model no.: DPPW1004ZA/X1)

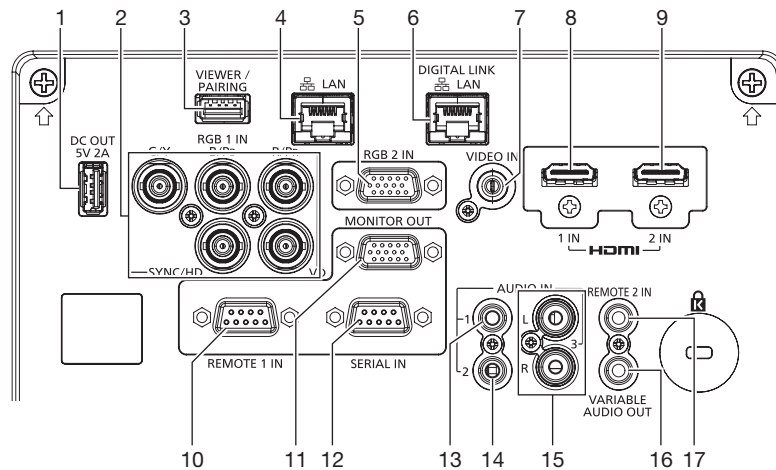
*8 The suffix of the Model No. differs according to the license type.

Dimensions



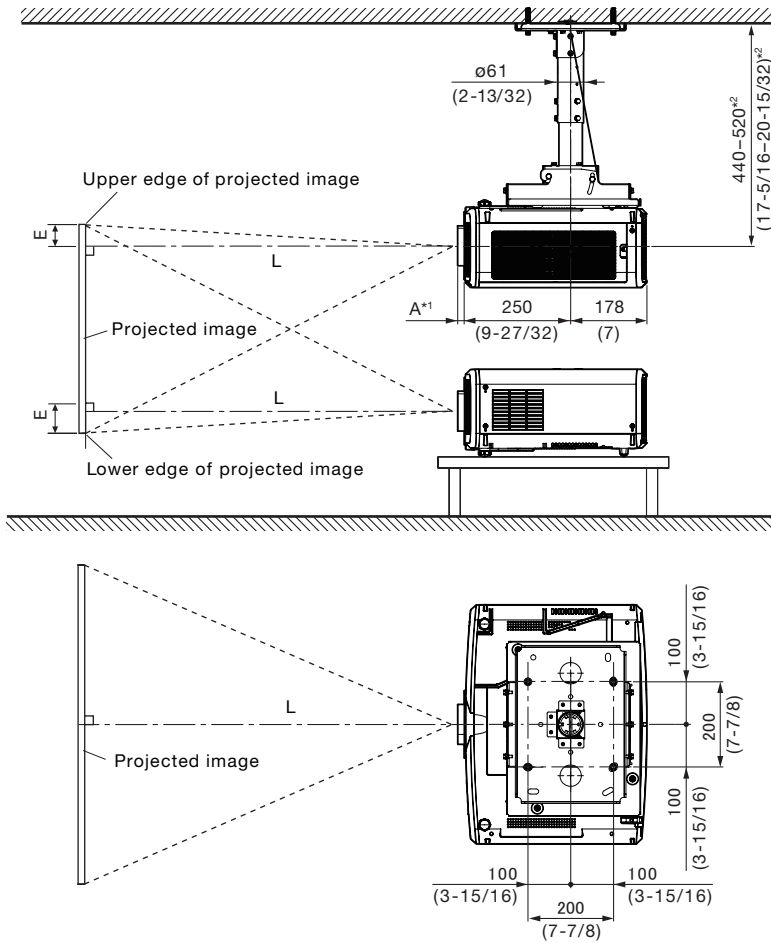
* The above dimensions are obtained when the standard zoom lens is attached.
 * Actual dimensions may differ depending on the product.

Terminals



- | | |
|--------------------------------|--------------------------|
| 1 DC output | 10 REMOTO 1 input |
| 2 RGB 1 input | 11 MONITOR output |
| 3 VIEWER/PAIRING connector | 12 SERIAL input |
| 4 LAN connector | 13 AUDIO input 1 |
| 5 RGB 2 input | 14 AUDIO input 2 |
| 6 DIGITAL LINK / LAN connector | 15 AUDIO input 3 |
| 7 VIDEO input | 16 VARIABLE AUDIO output |
| 8 HDMI 1 input | 17 REMOTO 2 input |
| 9 HDMI 2 input | |

Standard setting-up position



*1 When the lens protrudes to the maximum.

| | |
|---------------------|------|
| A: ELW21 | 5mm |
| ELW22 | 50mm |
| ELW20 | 35mm |
| ELS20/Standard lens | 15mm |
| ELT20/ELT22 | 36mm |
| ELT21/ELT23 | 32mm |

*2 Adjustable in 40 mm (1-9/16 in) steps.

NOTE:

Illustrations show the projector installed using optional ceiling mount bracket ET-PKD120H and bracket assembly ET-PKE301B.

This illustration is not drawn to scale.

unit : mm (inch)

Caution:

- All construction work should be done by a qualified technician.
- When mounting to the ceiling, use the special mounting bracket. To prevent the projector from dropping, attach the wire that is included with the projector between the mounting bracket and the ceiling.

Projection distance for 16:10 aspect ratio screen

Unit: meters

| Lens type | | | Fixed-focus lens | Zoom lens | | Zoom lens | Supplied lens | | Zoom lens | | Zoom lens | | Height from the edge of screen to center of lens (H)*1 | | | |
|---------------------------|---------------------|-------------------|------------------------|-----------|-----------|------------|----------------|----------------|--------------|-------|-----------|-------|--|-------------------------|---|--------------|
| Projection Lens Model No. | | | ET-ELW21 | ET-ELW22 | ET-ELW20 | ET-ELS20*2 | ET-ELT20/ELT22 | ET-ELT21/ELT23 | | | | | Fixed-focus lens ET-ELW21 | Zoom lenses ET-ELW22 | Zoom lenses (Other than ET-ELW22) | |
| Throw ratio*3 | | | 0.8:1 | 0.8-1.0:1 | 1.2-1.7:1 | 1.6-2.8:1 | 2.7-4.5:1 | 4.4-7.1:1 | | | | | | | | |
| Screen size | | | Distance to screen (L) | | | | | | | | | | | | | |
| Diagonal (SD) [m] | Height (SH) [in] | Width (SW) [m] | min. | | max. | | min. | | max. | | min. | | max. | | | |
| | | | | | | | | | | | | | | | | |
| 1.02/ 40 | 0.538 | 0.862 | 0.63 | — | — | 1.02 | 1.41 | 1.36 | 2.35 | 2.29 | 3.81 | 3.72 | 6.03 | 0.27 | — | -0.09 - 0.63 |
| 1.27/ 50 | 0.673 | 1.077 | 0.80 | — | — | 1.29 | 1.77 | 1.71 | 2.95 | 2.89 | 4.79 | 4.70 | 7.59 | 0.34 | — | -0.11 - 0.79 |
| 1.52/ 60 | 0.808 | 1.292 | 0.97 | 1.00 | 1.26 | 1.55 | 2.14 | 2.06 | 3.55 | 3.49 | 5.77 | 5.68 | 9.15 | 0.40 | -0.08 - 0.89 | -0.14 - 0.95 |
| 1.78/ 70 | 0.942 | 1.508 | 1.14 | 1.18 | 1.48 | 1.82 | 2.50 | 2.42 | 4.15 | 4.09 | 6.75 | 6.66 | 10.71 | 0.47 | -0.09 - 1.04 | -0.16 - 1.10 |
| 2.03/ 80 | 1.077 | 1.723 | 1.32 | 1.35 | 1.69 | 2.09 | 2.87 | 2.77 | 4.76 | 4.69 | 7.73 | 7.64 | 12.27 | 0.54 | -0.11 - 1.18 | -0.18 - 1.26 |
| 2.29/ 90 | 1.212 | 1.939 | 1.49 | 1.53 | 1.91 | 2.36 | 3.23 | 3.12 | 5.36 | 5.30 | 8.71 | 8.63 | 13.83 | 0.61 | -0.12 - 1.33 | -0.21 - 1.42 |
| 2.54/100 | 1.346 | 2.154 | 1.66 | 1.71 | 2.13 | 2.63 | 3.60 | 3.48 | 5.96 | 5.90 | 9.69 | 9.61 | 15.39 | 0.67 | -0.13 - 1.48 | -0.23 - 1.58 |
| 3.05/120 | 1.615 | 2.585 | 2.00 | 2.06 | 2.56 | 3.16 | 4.33 | 4.18 | 7.16 | 7.10 | 11.65 | 11.57 | 18.51 | 0.81 | -0.16 - 1.78 | -0.27 - 1.89 |
| 3.81/150 | 2.019 | 3.231 | 2.52 | 2.58 | 3.22 | 3.97 | 5.42 | 5.24 | 8.96 | 8.90 | 14.59 | 14.52 | 23.19 | 1.01 | -0.20 - 2.22 | -0.34 - 2.36 |
| 5.08/200 | 2.692 | 4.308 | 3.38 | 3.46 | 4.30 | 5.31 | 7.25 | 7.01 | 11.96 | 11.91 | 19.49 | 19.43 | 30.99 | 1.35 | -0.27 - 2.96 | -0.46 - 3.15 |
| 6.35/250 | 3.365 | 5.385 | 4.24 | 4.34 | 5.39 | 6.65 | 9.07 | 8.77 | 14.96 | 14.91 | 24.39 | 24.34 | 38.79 | 1.68 | -0.34 - 3.70 | -0.57 - 3.94 |
| 7.62/300 | 4.039 | 6.462 | 5.10 | 5.21 | 6.48 | 7.99 | 10.90 | 10.54 | 17.97 | 17.92 | 29.29 | 29.25 | 46.59 | 2.02 | -0.40 - 4.44 | -0.69 - 4.73 |
| 8.89/350 | 4.712 | 7.539 | 5.95 | 6.09 | 7.56 | 9.33 | 12.73 | 12.30 | 20.97 | 20.92 | 34.19 | 34.16 | 54.39 | 2.36 | -0.47 - 5.18 | -0.80 - 5.51 |
| 10.16/400 | 5.385 | 8.616 | 6.81 | 6.97 | 8.65 | 10.67 | 14.55 | 14.07 | 23.97 | 23.93 | 39.09 | 39.07 | 62.19 | 2.69 | -0.54 - 5.92 | -0.92 - 6.30 |

Unit: feet

| Lens type | | | Fixed-focus lens | Zoom lens | | Zoom lens | Supplied lens | | Zoom lens | | Zoom lens | | Height from the edge of screen to center of lens (H)*1 | | | |
|---------------------------|---------------------|-------------------|------------------------|-----------|-----------|------------|----------------|----------------|-------------|------|-----------|-------|--|-------------------------|---|-------------|
| Projection Lens Model No. | | | ET-ELW21 | ET-ELW22 | ET-ELW20 | ET-ELS20*2 | ET-ELT20/ELT22 | ET-ELT21/ELT23 | | | | | Fixed-focus lens ET-ELW21 | Zoom lenses ET-ELW22 | Zoom lenses (Other than ET-ELW22) | |
| Throw ratio*3 | | | 0.8:1 | 0.8-1.0:1 | 1.2-1.7:1 | 1.6-2.8:1 | 2.7-4.5:1 | 4.4-7.1:1 | | | | | | | | |
| Screen size | | | Distance to screen (L) | | | | | | | | | | | | | |
| Diagonal (SD) [m] | Height (SH) [in] | Width (SW) [m] | min. | | max. | | min. | | max. | | min. | | max. | | | |
| | | | | | | | | | | | | | | | | |
| 1.02/ 40 | 0.538 | 0.862 | 2.1 | — | — | 3.3 | 4.6 | 4.5 | 7.7 | 7.5 | 12.5 | 12.2 | 19.8 | 0.9 | — | -0.3 - 2.1 |
| 1.27/ 50 | 0.673 | 1.077 | 2.6 | — | — | 4.2 | 5.8 | 5.6 | 9.7 | 9.5 | 15.7 | 15.4 | 24.9 | 1.1 | — | -0.4 - 2.6 |
| 1.52/ 60 | 0.808 | 1.292 | 3.2 | 3.3 | 4.1 | 5.1 | 7.0 | 6.8 | 11.6 | 11.5 | 18.9 | 18.6 | 30.0 | 1.3 | -0.3 - 2.9 | -0.5 - 3.1 |
| 1.78/ 70 | 0.942 | 1.508 | 3.7 | 3.9 | 4.9 | 6.0 | 8.2 | 7.9 | 13.6 | 13.4 | 22.1 | 21.9 | 35.1 | 1.5 | -0.3 - 3.4 | -0.5 - 3.6 |
| 2.03/ 80 | 1.077 | 1.723 | 4.3 | 4.4 | 5.5 | 6.9 | 9.4 | 9.1 | 15.6 | 15.4 | 25.4 | 25.1 | 40.3 | 1.8 | -0.4 - 3.9 | -0.6 - 4.1 |
| 2.29/ 90 | 1.212 | 1.939 | 4.9 | 5.0 | 6.3 | 7.7 | 10.6 | 10.2 | 17.6 | 17.4 | 28.6 | 28.3 | 45.4 | 2.0 | -0.4 - 4.4 | -0.7 - 4.7 |
| 2.54/100 | 1.346 | 2.154 | 5.4 | 5.6 | 7.0 | 8.6 | 11.8 | 11.4 | 19.6 | 19.4 | 31.8 | 31.5 | 50.5 | 2.2 | -0.4 - 4.9 | -0.8 - 5.2 |
| 3.05/120 | 1.615 | 2.585 | 6.6 | 6.8 | 8.4 | 10.4 | 14.2 | 13.7 | 23.5 | 23.3 | 38.2 | 38.0 | 60.7 | 2.7 | -0.5 - 5.8 | -0.9 - 6.2 |
| 3.81/150 | 2.019 | 3.231 | 8.3 | 8.5 | 10.6 | 13.0 | 17.8 | 17.2 | 29.4 | 29.2 | 47.9 | 47.6 | 76.1 | 3.3 | -0.7 - 7.3 | -1.1 - 7.7 |
| 5.08/200 | 2.692 | 4.308 | 11.1 | 11.4 | 14.1 | 17.4 | 23.8 | 23.0 | 39.2 | 39.1 | 63.9 | 63.7 | 101.7 | 4.4 | -0.9 - 9.7 | -1.5 - 10.3 |
| 6.35/250 | 3.365 | 5.385 | 13.9 | 14.2 | 17.7 | 21.8 | 29.8 | 28.8 | 49.1 | 48.9 | 80.0 | 79.9 | 127.3 | 5.5 | -1.1 - 12.1 | -1.9 - 12.9 |
| 7.62/300 | 4.039 | 6.462 | 16.7 | 17.1 | 21.3 | 26.2 | 35.8 | 34.6 | 59.0 | 58.8 | 96.1 | 96.0 | 152.9 | 6.6 | -1.3 - 14.6 | -2.3 - 15.5 |
| 8.89/350 | 4.712 | 7.539 | 19.5 | 20.0 | 24.8 | 30.6 | 41.8 | 40.4 | 68.8 | 68.6 | 112.2 | 112.1 | 178.4 | 7.7 | -1.5 - 17.0 | -2.6 - 18.1 |
| 10.16/400 | 5.385 | 8.616 | 22.3 | 22.9 | 28.4 | 35.0 | 47.7 | 46.2 | 78.6 | 78.5 | 128.2 | 128.2 | 204.0 | 8.8 | -1.8 - 19.4 | -3.0 - 20.7 |

- The value for L (distance to screen) varies slightly within ±5% depending on the zoom lens characteristics.
- The zoom lens characteristics may cause slight image distortion.
- When vertical keystone correction is used, the image is corrected in the direction that reduces its projected size.
- The brightness varies depending on the zoom setting.

*1 When the fixed-focus lens (Model No.: ET-ELW21) is attached, the lens shift is not possible. The height position (H) becomes SH/2.
 *2 Available with US, Canada and Europe area only.
 *3 The throw ratio is based on the value during projection with the projected image size of 2.03 m (80").

Projection distance for 16:9 aspect ratio screen

Unit: meters

| Lens type | | | Fixed-focus lens | Zoom lens | | Zoom lens | Supplied lens | | Zoom lens | | Zoom lens | | Height from the edge of screen to center of lens (H)*1 | | | | | |
|---------------------------|---------------------|-------------------|------------------------|-----------|-------|-----------|---------------|--------------|----------------|-------|----------------|-------------|--|-------------------------|---|-------|-------|-------|
| Projection Lens Model No. | | | ET-ELW21 | ET-ELW22 | | ET-ELW20 | ET-ELS20*2 | | ET-ELT20/ELT22 | | ET-ELT21/ELT23 | | Fixed-focus lens ET-ELW21 | Zoom lenses ET-ELW22 | Zoom lenses (Other than ET-ELW22) | | | |
| Throw ratio*3 | | | 0.8:1 | 0.8-1.0:1 | | 1.2-1.7:1 | 1.6-2.8:1 | | 2.7-4.5:1 | | 4.4-7.1:1 | | | | | | | |
| Screen size | | | Distance to screen (L) | | | | | | | | | | | | | | | |
| Diagonal (SD) [m] | Height (SH) [in] | Width (SW) [m] | min. | | max. | | min. | | max. | | min. | | max. | | min. | | max. | |
| | | | 1.02/ 40 | 0.498 | 0.886 | 0.65 | — | — | 1.05 | 1.45 | 1.40 | 2.42 | 2.36 | 3.92 | 3.83 | 6.20 | 0.25 | — |
| 1.27/ 50 | 0.623 | 1.107 | 0.83 | — | — | 1.32 | 1.82 | 1.76 | 3.04 | 2.97 | 4.92 | 4.83 | 7.81 | 0.31 | — | -0.15 | -0.77 | |
| 1.52/ 60 | 0.747 | 1.328 | 1.00 | 1.03 | 1.30 | 1.60 | 2.20 | 2.12 | 3.65 | 3.59 | 5.93 | 5.84 | 9.41 | 0.37 | -0.12 | -0.87 | -0.18 | -0.93 |
| 1.78/ 70 | 0.872 | 1.550 | 1.18 | 1.21 | 1.52 | 1.87 | 2.57 | 2.49 | 4.27 | 4.21 | 6.94 | 6.85 | 11.01 | 0.44 | -0.15 | -1.02 | -0.21 | -1.08 |
| 2.03/ 80 | 0.996 | 1.771 | 1.35 | 1.39 | 1.74 | 2.15 | 2.95 | 2.85 | 4.89 | 4.83 | 7.95 | 7.86 | 12.62 | 0.50 | -0.17 | -1.16 | -0.24 | -1.24 |
| 2.29/ 90 | 1.121 | 1.992 | 1.53 | 1.57 | 1.97 | 2.43 | 3.32 | 3.21 | 5.51 | 5.45 | 8.95 | 8.87 | 14.22 | 0.56 | -0.19 | -1.31 | -0.27 | -1.39 |
| 2.54/100 | 1.245 | 2.214 | 1.71 | 1.75 | 2.19 | 2.70 | 3.70 | 3.57 | 6.12 | 6.06 | 9.96 | 9.88 | 15.82 | 0.62 | -0.21 | -1.45 | -0.30 | -1.55 |
| 3.05/120 | 1.494 | 2.657 | 2.06 | 2.11 | 2.64 | 3.25 | 4.45 | 4.30 | 7.36 | 7.30 | 11.97 | 11.90 | 19.03 | 0.75 | -0.25 | -1.74 | -0.37 | -1.86 |
| 3.81/150 | 1.868 | 3.321 | 2.59 | 2.66 | 3.31 | 4.08 | 5.58 | 5.39 | 9.21 | 9.15 | 15.00 | 14.93 | 23.84 | 0.93 | -0.31 | -2.18 | -0.46 | -2.32 |
| 5.08/200 | 2.491 | 4.428 | 3.47 | 3.56 | 4.42 | 5.46 | 7.45 | 7.20 | 12.29 | 12.24 | 20.03 | 19.98 | 31.86 | 1.25 | -0.42 | -2.91 | -0.61 | -3.10 |
| 6.35/250 | 3.113 | 5.535 | 4.36 | 4.46 | 5.54 | 6.83 | 9.33 | 9.02 | 15.38 | 15.33 | 25.07 | 25.02 | 39.87 | 1.56 | -0.52 | -3.63 | -0.76 | -3.87 |
| 7.62/300 | 3.736 | 6.641 | 5.24 | 5.36 | 6.66 | 8.21 | 11.20 | 10.83 | 18.47 | 18.42 | 30.10 | 30.07 | 47.89 | 1.87 | -0.62 | -4.36 | -0.91 | -4.65 |
| 8.89/350 | 4.358 | 7.748 | 6.12 | 6.26 | 7.77 | 9.59 | 13.08 | 12.65 | 21.55 | 21.51 | 35.14 | 35.12 | 55.91 | 2.18 | -0.73 | -5.08 | -1.07 | -5.42 |
| 10.16/400 | 4.981 | 8.855 | 7.00 | 7.16 | 8.89 | 10.97 | 14.96 | 14.46 | 24.64 | 24.60 | 40.18 | 40.17 | 63.92 | 2.49 | -0.83 | -5.81 | -1.22 | -6.20 |

Unit: feet

| Lens type | | | Fixed-focus lens | Zoom lens | | Zoom lens | Supplied lens | | Zoom lens | | Zoom lens | | Height from the edge of screen to center of lens (H)*1 | | | | | |
|---------------------------|---------------------|-------------------|------------------------|-----------|-------|-----------|---------------|-------------|----------------|------|----------------|------------|--|-------------------------|---|-------|------|-------|
| Projection Lens Model No. | | | ET-ELW21 | ET-ELW22 | | ET-ELW20 | ET-ELS20*2 | | ET-ELT20/ELT22 | | ET-ELT21/ELT23 | | Fixed-focus lens ET-ELW21 | Zoom lenses ET-ELW22 | Zoom lenses (Other than ET-ELW22) | | | |
| Throw ratio*3 | | | 0.8:1 | 0.8-1.0:1 | | 1.2-1.7:1 | 1.6-2.8:1 | | 2.7-4.5:1 | | 4.4-7.1:1 | | | | | | | |
| Screen size | | | Distance to screen (L) | | | | | | | | | | | | | | | |
| Diagonal (SD) [m] | Height (SH) [in] | Width (SW) [m] | min. | | max. | | min. | | max. | | min. | | max. | | min. | | max. | |
| | | | 1.02/ 40 | 0.498 | 0.886 | 2.1 | — | — | 3.4 | 4.8 | 4.6 | 7.9 | 7.7 | 12.9 | 12.6 | 20.3 | 0.8 | — |
| 1.27/ 50 | 0.623 | 1.107 | 2.7 | — | — | 4.3 | 6.0 | 5.8 | 10.0 | 9.7 | 16.1 | 15.8 | 25.6 | 1.0 | — | -0.5 | -2.5 | |
| 1.52/ 60 | 0.747 | 1.328 | 3.3 | 3.4 | 4.3 | 5.2 | 7.2 | 7.0 | 12.0 | 11.8 | 19.5 | 19.2 | 30.9 | 1.2 | -0.4 | -2.9 | -0.6 | -3.1 |
| 1.78/ 70 | 0.872 | 1.550 | 3.9 | 4.0 | 5.0 | 6.1 | 8.4 | 8.2 | 14.0 | 13.8 | 22.8 | 22.5 | 36.1 | 1.4 | -0.5 | -3.3 | -0.7 | -3.5 |
| 2.03/ 80 | 0.996 | 1.771 | 4.4 | 4.6 | 5.7 | 7.1 | 9.7 | 9.4 | 16.0 | 15.8 | 26.1 | 25.8 | 41.4 | 1.6 | -0.6 | -3.8 | -0.8 | -4.1 |
| 2.29/ 90 | 1.121 | 1.992 | 5.0 | 5.2 | 6.5 | 8.0 | 10.9 | 10.5 | 18.1 | 17.9 | 29.4 | 29.1 | 46.7 | 1.8 | -0.6 | -4.3 | -0.9 | -4.6 |
| 2.54/100 | 1.245 | 2.214 | 5.6 | 5.7 | 7.2 | 8.9 | 12.1 | 11.7 | 20.1 | 19.9 | 32.7 | 32.4 | 51.9 | 2.0 | -0.7 | -4.8 | -1.0 | -5.1 |
| 3.05/120 | 1.494 | 2.657 | 6.8 | 6.9 | 8.7 | 10.7 | 14.6 | 14.1 | 24.1 | 24.0 | 39.3 | 39.0 | 62.4 | 2.5 | -0.8 | -5.7 | -1.2 | -6.1 |
| 3.81/150 | 1.868 | 3.321 | 8.5 | 8.7 | 10.9 | 13.4 | 18.3 | 17.7 | 30.2 | 30.0 | 49.2 | 49.0 | 78.2 | 3.1 | -1.0 | -7.2 | -1.5 | -7.6 |
| 5.08/200 | 2.491 | 4.428 | 11.4 | 11.7 | 14.5 | 17.9 | 24.4 | 23.6 | 40.3 | 40.2 | 65.7 | 65.6 | 104.5 | 4.1 | -1.4 | -9.5 | -2.0 | -10.2 |
| 6.35/250 | 3.113 | 5.535 | 14.3 | 14.6 | 18.2 | 22.4 | 30.6 | 29.6 | 50.5 | 50.3 | 82.3 | 82.1 | 130.8 | 5.1 | -1.7 | -11.9 | -2.5 | -12.7 |
| 7.62/300 | 3.736 | 6.641 | 17.2 | 17.6 | 21.9 | 26.9 | 36.7 | 35.5 | 60.6 | 60.4 | 98.8 | 98.7 | 157.1 | 6.1 | -2.0 | -14.3 | -3.0 | -15.3 |
| 8.89/350 | 4.358 | 7.748 | 20.1 | 20.5 | 25.5 | 31.5 | 42.9 | 41.5 | 70.7 | 70.6 | 115.3 | 115.2 | 183.4 | 7.2 | -2.4 | -16.7 | -3.5 | -17.8 |
| 10.16/400 | 4.981 | 8.855 | 23.0 | 23.5 | 29.2 | 36.0 | 49.1 | 47.4 | 80.8 | 80.7 | 131.8 | 131.8 | 209.7 | 8.2 | -2.7 | -19.1 | -4.0 | -20.3 |

- The value for L (distance to screen) varies slightly within ±5% depending on the zoom lens characteristics.
- The zoom lens characteristics may cause slight image distortion.
- When vertical keystone correction is used, the image is corrected in the direction that reduces its projected size.
- The brightness varies depending on the zoom setting.

*1 When the fixed-focus lens (Model No.: ET-ELW21) is attached, the lens shift is not possible. The height position (H) becomes SH/2.
 *2 Available with US, Canada and Europe area only.
 *3 The throw ratio is based on the value during projection with the projected image size of 2.03 m (80").

Projection distance for 4:3 aspect ratio screen

Unit: meters

| Lens type | | | Fixed-focus lens | Zoom lens | | Zoom lens | | Supplied lens | | Zoom lens | | Zoom lens | | Height from the edge of screen to center of lens (H)*1 | | | | |
|---------------------------|---------------------|-------------------|------------------------|-----------|-------|-----------|-------|---------------|--------------|----------------|-------------|----------------|-------|--|-------------------------|---|------|---|
| Projection Lens Model No. | | | ET-ELW21 | ET-ELW22 | | ET-ELW20 | | ET-ELS20*2 | | ET-ELT20/ELT22 | | ET-ELT21/ELT23 | | Fixed-focus lens ET-ELW21 | Zoom lenses ET-ELW22 | Zoom lenses (Other than ET-ELW22) | | |
| Throw ratio*3 | | | 0.9:1 | 0.9-1.2:1 | | 1.5-2.0:1 | | 1.9-3.3:1 | | 3.3-5.4:1 | | 5.3-8.6:1 | | | | | | |
| Screen size | | | Distance to screen (L) | | | | | | | | | | | | | | | |
| Diagonal (SD) [m] | Height (SH) [in] | Width (SW) [m] | min. | | max. | | min. | | max. | | min. | | max. | | min. | | max. | |
| | | | 1.02/ 40 | 0.610 | 0.813 | 0.72 | — | — | 1.16 | 1.60 | 1.54 | 2.67 | 2.61 | 4.33 | 4.24 | 6.85 | 0.30 | — |
| 1.27/ 50 | 0.762 | 1.016 | 0.91 | — | — | 1.46 | 2.01 | 1.94 | 3.35 | 3.29 | 5.43 | 5.35 | 8.62 | 0.38 | — | -0.13 - 0.89 | | |
| 1.52/ 60 | 0.914 | 1.219 | 1.11 | 1.14 | 1.43 | 1.77 | 2.43 | 2.34 | 4.03 | 3.97 | 6.54 | 6.46 | 10.39 | 0.46 | -0.09 | -1.01 - 0.16 - 1.07 | | |
| 1.78/ 70 | 1.067 | 1.422 | 1.30 | 1.34 | 1.68 | 2.07 | 2.84 | 2.74 | 4.71 | 4.65 | 7.65 | 7.57 | 12.15 | 0.53 | -0.11 | -1.17 - 0.18 - 1.25 | | |
| 2.03/ 80 | 1.219 | 1.626 | 1.50 | 1.54 | 1.92 | 2.37 | 3.25 | 3.14 | 5.39 | 5.33 | 8.76 | 8.68 | 13.92 | 0.61 | -0.12 | -1.34 - 0.21 - 1.43 | | |
| 2.29/ 90 | 1.372 | 1.829 | 1.69 | 1.74 | 2.17 | 2.68 | 3.67 | 3.54 | 6.07 | 6.01 | 9.87 | 9.79 | 15.68 | 0.69 | -0.14 | -1.51 - 0.23 - 1.60 | | |
| 2.54/100 | 1.524 | 2.032 | 1.89 | 1.94 | 2.42 | 2.98 | 4.08 | 3.94 | 6.75 | 6.69 | 10.98 | 10.91 | 17.45 | 0.76 | -0.15 | -1.68 - 0.26 - 1.78 | | |
| 3.05/120 | 1.829 | 2.438 | 2.28 | 2.33 | 2.91 | 3.59 | 4.91 | 4.74 | 8.11 | 8.05 | 13.20 | 13.13 | 20.98 | 0.91 | -0.18 | -2.01 - 0.31 - 2.14 | | |
| 3.81/150 | 2.286 | 3.048 | 2.86 | 2.93 | 3.65 | 4.50 | 6.15 | 5.94 | 10.15 | 10.09 | 16.53 | 16.47 | 26.28 | 1.14 | -0.23 | -2.51 - 0.39 - 2.67 | | |
| 5.08/200 | 3.048 | 4.064 | 3.83 | 3.92 | 4.88 | 6.02 | 8.21 | 7.94 | 13.55 | 13.49 | 22.08 | 22.03 | 35.11 | 1.52 | -0.30 | -3.35 - 0.52 - 3.57 | | |
| 6.35/250 | 3.810 | 5.080 | 4.80 | 4.91 | 6.11 | 7.53 | 10.28 | 9.94 | 16.95 | 16.90 | 27.62 | 27.58 | 43.94 | 1.91 | -0.38 | -4.19 - 0.65 - 4.46 | | |
| 7.62/300 | 4.572 | 6.096 | 5.78 | 5.91 | 7.34 | 9.05 | 12.35 | 11.94 | 20.34 | 20.30 | 33.17 | 33.14 | 52.77 | 2.29 | -0.46 | -5.03 - 0.78 - 5.35 | | |
| 8.89/350 | 5.334 | 7.112 | 6.75 | 6.90 | 8.57 | 10.57 | 14.41 | 13.93 | 23.74 | 23.70 | 38.72 | 38.70 | 61.60 | 2.67 | -0.53 | -5.87 - 0.91 - 6.24 | | |
| 10.16/400 | 6.096 | 8.128 | 7.72 | 7.89 | 9.80 | 12.09 | 16.48 | 15.93 | 27.14 | 27.10 | 44.27 | 44.26 | 70.43 | 3.05 | -0.61 | -6.71 - 1.04 - 7.13 | | |

Unit: feet

| Lens type | | | Fixed-focus lens | Zoom lens | | Zoom lens | | Supplied lens | | Zoom lens | | Zoom lens | | Height from the edge of screen to center of lens (H)*1 | | | | |
|---------------------------|---------------------|-------------------|------------------------|-----------|-------|-----------|------|---------------|-------------|----------------|------------|----------------|-------|--|-------------------------|---|------|---|
| Projection Lens Model No. | | | ET-ELW21 | ET-ELW22 | | ET-ELW20 | | ET-ELS20*2 | | ET-ELT20/ELT22 | | ET-ELT21/ELT23 | | Fixed-focus lens ET-ELW21 | Zoom lenses ET-ELW22 | Zoom lenses (Other than ET-ELW22) | | |
| Throw ratio*3 | | | 0.9:1 | 0.9-1.2:1 | | 1.5-2.0:1 | | 1.9-3.3:1 | | 3.3-5.4:1 | | 5.3-8.6:1 | | | | | | |
| Screen size | | | Distance to screen (L) | | | | | | | | | | | | | | | |
| Diagonal (SD) [m] | Height (SH) [in] | Width (SW) [m] | min. | | max. | | min. | | max. | | min. | | max. | | min. | | max. | |
| | | | 1.02/ 40 | 0.610 | 0.813 | 2.4 | — | — | 3.8 | 5.2 | 5.1 | 8.8 | 8.6 | 14.2 | 13.9 | 22.5 | 1.0 | — |
| 1.27/ 50 | 0.762 | 1.016 | 3.0 | — | — | 4.8 | 6.6 | 6.4 | 11.0 | 10.8 | 17.8 | 17.6 | 28.3 | 1.2 | — | -0.4 - 2.9 | | |
| 1.52/ 60 | 0.914 | 1.219 | 3.6 | 3.7 | 4.7 | 5.8 | 8.0 | 7.7 | 13.2 | 13.0 | 21.5 | 21.2 | 34.1 | 1.5 | -0.3 | -3.3 - 0.5 - 3.5 | | |
| 1.78/ 70 | 1.067 | 1.422 | 4.3 | 4.4 | 5.5 | 6.8 | 9.3 | 9.0 | 15.5 | 15.3 | 25.1 | 24.8 | 39.9 | 1.7 | -0.4 | -3.8 - 0.6 - 4.1 | | |
| 2.03/ 80 | 1.219 | 1.626 | 4.9 | 5.1 | 6.3 | 7.8 | 10.7 | 10.3 | 17.7 | 17.5 | 28.7 | 28.5 | 45.7 | 2.0 | -0.4 | -4.4 - 0.7 - 4.7 | | |
| 2.29/ 90 | 1.372 | 1.829 | 5.5 | 5.7 | 7.1 | 8.8 | 12.0 | 11.6 | 19.9 | 19.7 | 32.4 | 32.1 | 51.4 | 2.3 | -0.5 | -5.0 - 0.8 - 5.2 | | |
| 2.54/100 | 1.524 | 2.032 | 6.2 | 6.4 | 7.9 | 9.8 | 13.4 | 12.9 | 22.1 | 21.9 | 36.0 | 35.8 | 57.3 | 2.5 | -0.5 | -5.5 - 0.9 - 5.8 | | |
| 3.05/120 | 1.829 | 2.438 | 7.5 | 7.6 | 9.5 | 11.8 | 16.1 | 15.6 | 26.6 | 26.4 | 43.3 | 43.1 | 68.8 | 3.0 | -0.6 | -6.6 - 1.0 - 7.0 | | |
| 3.81/150 | 2.286 | 3.048 | 9.4 | 9.6 | 12.0 | 14.8 | 20.2 | 19.5 | 33.3 | 33.1 | 54.2 | 54.0 | 86.2 | 3.7 | -0.8 | -8.2 - 1.3 - 8.8 | | |
| 5.08/200 | 3.048 | 4.064 | 12.6 | 12.9 | 16.0 | 19.8 | 26.9 | 26.0 | 44.5 | 44.3 | 72.4 | 72.3 | 115.2 | 5.0 | -1.0 | -11.0 - 1.7 - 11.7 | | |
| 6.35/250 | 3.810 | 5.080 | 15.7 | 16.1 | 20.0 | 24.7 | 33.7 | 32.6 | 55.6 | 55.4 | 90.6 | 90.5 | 144.2 | 6.3 | -1.2 | -13.7 - 2.1 - 14.6 | | |
| 7.62/300 | 4.572 | 6.096 | 19.0 | 19.4 | 24.1 | 29.7 | 40.5 | 39.2 | 66.7 | 66.6 | 108.8 | 108.7 | 173.1 | 7.5 | -1.5 | -16.5 - 2.6 - 17.6 | | |
| 8.89/350 | 5.334 | 7.112 | 22.1 | 22.6 | 28.1 | 34.7 | 47.3 | 45.7 | 77.9 | 77.8 | 127.0 | 127.0 | 202.1 | 8.8 | -1.7 | -19.3 - 3.0 - 20.5 | | |
| 10.16/400 | 6.096 | 8.128 | 25.3 | 25.9 | 32.2 | 39.7 | 54.1 | 52.3 | 89.0 | 88.9 | 145.2 | 145.2 | 231.1 | 10.0 | -2.0 | -22.0 - 3.4 - 23.4 | | |

- The value for L (distance to screen) varies slightly within ±5% depending on the zoom lens characteristics.
- The zoom lens characteristics may cause slight image distortion.
- When vertical keystone correction is used, the image is corrected in the direction that reduces its projected size.
- The brightness varies depending on the zoom setting.

*1 When the fixed-focus lens (Model No.: ET-ELW21) is attached, the lens shift is not possible. The height position (H) becomes SH/2.
 *2 Available with US, Canada and Europe area only.
 *3 The throw ratio is based on the value during projection with the projected image size of 2.03 m (80").

Formula to calculate projection distance per Projection Lens

To use a screen size not listed in this manual, check the screen size SD (m) and use the respective formula to calculate projection distance.

The unit of all the formulae is m. (Values obtained by the following calculation formulae 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

| Lens type | Projection Lens Model No. | Aspect ratio | Projection distance (L) formula |
|---------------------------------------|---|--------------|--------------------------------------|
| Fixed-focus lens | ET-ELW21 | 16:10 | $L = 0.6763 \times SD - 0.0577$ |
| | | 16:9 | $L = 0.6951 \times SD - 0.0577$ |
| | | 4:3 | $L = 0.7656 \times SD - 0.0577$ |
| Short focus zoom lens | ET-ELW22 | 16:10 | Min. $L = 0.6904 \times SD - 0.0485$ |
| | | | Max. $L = 0.8558 \times SD - 0.0455$ |
| | | 16:9 | Min. $L = 0.7096 \times SD - 0.0485$ |
| | | | Max. $L = 0.8796 \times SD - 0.0455$ |
| | | 4:3 | Min. $L = 0.7816 \times SD - 0.0485$ |
| | | | Max. $L = 0.9688 \times SD - 0.0455$ |
| | ET-ELW20 | 16:10 | Min. $L = 1.0557 \times SD - 0.0555$ |
| | | | Max. $L = 1.4374 \times SD - 0.0534$ |
| | | 16:9 | Min. $L = 1.0851 \times SD - 0.0555$ |
| | | | Max. $L = 1.4774 \times SD - 0.0534$ |
| | | 4:3 | Min. $L = 1.1952 \times SD - 0.0555$ |
| | | | Max. $L = 1.6273 \times SD - 0.0534$ |
| Standard zoom lens (Supplied lens) | ET-ELS20 *Available with US, Canada and Europe area only. | 16:10 | Min. $L = 1.3900 \times SD - 0.0549$ |
| | | | Max. $L = 2.3640 \times SD - 0.0482$ |
| | | 16:9 | Min. $L = 1.4286 \times SD - 0.0549$ |
| | | | Max. $L = 2.4297 \times SD - 0.0482$ |
| | | 4:3 | Min. $L = 1.5736 \times SD - 0.0549$ |
| | | | Max. $L = 2.6763 \times SD - 0.0482$ |
| Long focus zoom lens | ET-ELT20/ELT22 | 16:10 | Min. $L = 2.3662 \times SD - 0.1140$ |
| | | | Max. $L = 3.8583 \times SD - 0.1129$ |
| | | 16:9 | Min. $L = 2.4320 \times SD - 0.1140$ |
| | | | Max. $L = 3.9656 \times SD - 0.1129$ |
| | | 4:3 | Min. $L = 2.6788 \times SD - 0.1140$ |
| | | | Max. $L = 4.3680 \times SD - 0.1129$ |
| Ultra long focus zoom lens | ET-ELT21/ELT23 | 16:10 | Min. $L = 3.8667 \times SD - 0.2123$ |
| | | | Max. $L = 6.1416 \times SD - 0.2108$ |
| | | 16:9 | Min. $L = 3.9742 \times SD - 0.2123$ |
| | | | Max. $L = 6.3123 \times SD - 0.2108$ |
| | | 4:3 | Min. $L = 4.3775 \times SD - 0.2123$ |
| | | | Max. $L = 6.9529 \times SD - 0.2108$ |

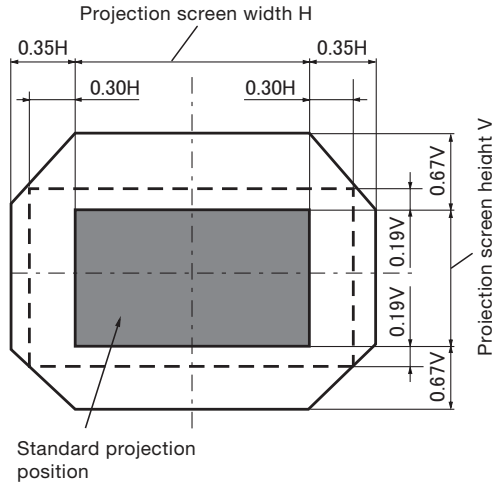
Shift range

Optical axis shift function allows to shift the position of a projected image as shown below.

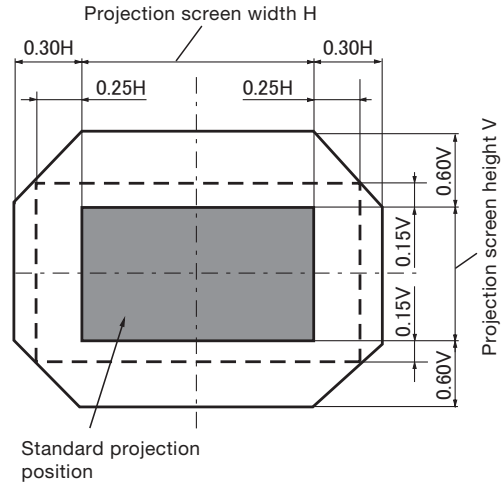
• **Floor mount / Ceiling mount**

**When the Standard zoom lens/ET-ELW20/
ET-ELT20/ET-ELT21/ET-ELS20* is mounted.**

* Available only in the US, Canada and Europe.



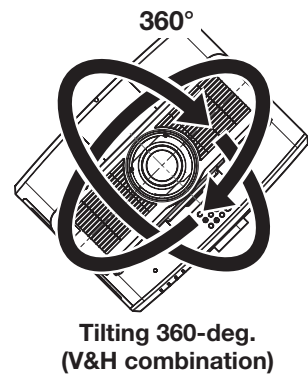
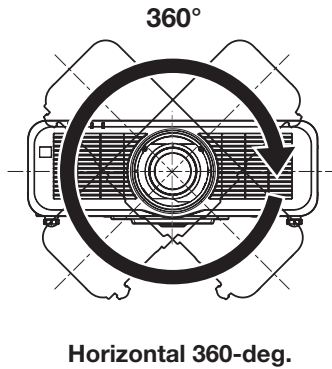
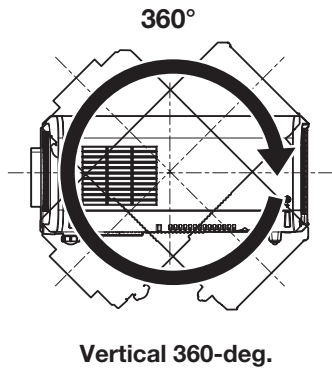
When the ET-ELW22 is mounted.



Installable angle

Install the projector at an angle within the range shown below.

FULL 360-degree projection



List of compatible signals

The following table specifies the video signals compatible with the projector.

This projector supports the signal with I in the compatible signal column.

- Symbols that indicate formats are as follows.

—V: VIDEO

—R: RGB

—Y: YCbCr/YPbPr

—H: HDMI (DIGITAL LINK)

- The compatible signals of the DIGITAL LINK input are the same as the compatible signals of the HDMI input.

- Input corresponding to each item in the plug and play column is as follows.

—RGB: RGB 1/RGB 2 input

—HDMI/DL: HDMI1 / HDMI2 input, DIGITAL LINK input

| Compatible signal | Resolution (Dots) | Scanning freq. | | Dot clock freq. (MHz) | Format | Plug and Play*1 | |
|---------------------------|----------------------|----------------|-----------|--------------------------|--------|-----------------|---------|
| | | H (KHz) | V (Hz) | | | RGB | HDMI/DL |
| NTSC/NTSC4.43/PAL-M/PAL60 | 720 x 480i | 15.7 | 59.9 | — | V | — | — |
| PAL/PAL-N/SECAM | 720 x 576i | 15.6 | 50.0 | — | V | — | — |
| 480/60i | 720 x 480i | 15.7 | 59.9 | 13.5 | R/Y | — | — |
| 576/50i | 720 x 576i | 15.6 | 50.0 | 13.5 | R/Y | — | — |
| 480/60i | 720(1440)x 480i*2 | 15.7 | 59.9 | 27.0 | H | — | — |
| 576/50i | 720(1440)x 576i*2 | 15.6 | 50.0 | 27.0 | H | — | — |
| 480/60p | 720 x 480 | 31.5 | 59.9 | 27.0 | R/Y/H | — | ✓ |
| 576/50p | 720 x 576 | 31.3 | 50.0 | 27.0 | R/Y/H | — | ✓ |
| 720/60p | 1280 x 720 | 45.0 | 60.0 | 74.3 | R/Y/H | — | ✓ |
| 720/50p | 1280 x 720 | 37.5 | 50.0 | 74.3 | R/Y/H | — | ✓ |
| 1080/60i | 1920 x 1080i | 33.8 | 60.0 | 74.3 | R/Y/H | — | ✓ |
| 1080/50i | 1920 x 1080i | 28.1 | 50.0 | 74.3 | R/Y/H | — | ✓ |
| 1080/24p | 1920 x 1080 | 27.0 | 24.0 | 74.3 | R/Y/H | — | ✓ |
| 1080/24sF | 1920 x 1080i | 27.0 | 48.0 | 74.3 | R/Y/H | — | — |
| 1080/25p | 1920 x 1080 | 28.1 | 25.0 | 74.3 | R/Y/H | — | — |
| 1080/30p | 1920 x 1080 | 33.8 | 30.0 | 74.3 | R/Y/H | — | — |
| 1080/60p | 1920 x 1080 | 67.5 | 60.0 | 148.5 | R/Y/H | — | ✓ |
| 1080/50p | 1920 x 1080 | 56.3 | 50.0 | 148.5 | R/Y/H | — | ✓ |
| 640 x 400/70 | 640 x 400 | 31.5 | 70.1 | 25.2 | R/H | — | — |
| 640 x 400/85 | 640 x 400 | 37.9 | 85.1 | 31.5 | R/H | — | — |
| 640 x 480/60 | 640 x 480 | 31.5 | 59.9 | 25.2 | R/H | ✓ | ✓ |
| 640 x 480/67 | 640 x 480 | 35.0 | 66.7 | 30.2 | R/H | — | — |
| 640 x 480/73 | 640 x 480 | 37.9 | 72.8 | 31.5 | R/H | ✓ | ✓ |
| 640 x 480/75 | 640 x 480 | 37.5 | 75.0 | 31.5 | R/H | ✓ | ✓ |
| 640 x 480/85 | 640 x 480 | 43.3 | 85.0 | 36.0 | R/H | — | — |
| 800 x 600/56 | 800 x 600 | 35.2 | 56.3 | 36.0 | R/H | ✓ | ✓ |
| 800 x 600/60 | 800 x 600 | 37.9 | 60.3 | 40.0 | R/H | ✓ | ✓ |
| 800 x 600/72 | 800 x 600 | 48.1 | 72.2 | 50.0 | R/H | ✓ | ✓ |
| 800 x 600/75 | 800 x 600 | 46.9 | 75.0 | 49.5 | R/H | ✓ | ✓ |
| 800 x 600/85 | 800 x 600 | 53.7 | 85.1 | 56.3 | R/H | — | — |
| 832 x 624/75 | 832 x 624 | 49.7 | 74.6 | 57.3 | R/H | ✓ | ✓ |
| 1024 x 768/50 | 1024 x 768 | 39.6 | 50.0 | 51.9 | R/H | — | — |
| 1024 x 768/60 | 1024 x 768 | 48.4 | 60.0 | 65.0 | R/H | ✓ | ✓ |
| 1024 x 768/70 | 1024 x 768 | 56.5 | 70.1 | 75.0 | R/H | ✓ | ✓ |
| 1024 x 768/75 | 1024 x 768 | 60.0 | 75.0 | 78.8 | R/H | ✓ | ✓ |
| 1024 x 768/82 | 1024 x 768 | 65.5 | 81.6 | 86.0 | R/H | — | — |
| 1024 x 768/85 | 1024 x 768 | 68.7 | 85.0 | 94.5 | R/H | — | — |
| 1024 x 768/100 | 1024 x 768 | 81.4 | 100.0 | 113.3 | R/H | — | — |
| 1152 x 864/60 | 1152 x 864 | 53.7 | 60.0 | 81.6 | R/H | — | — |
| 1152 x 864/75 | 1152 x 864 | 67.5 | 75.0 | 108.0 | R/H | — | — |
| 1152 x 864/85 | 1152 x 864 | 77.1 | 85.0 | 119.7 | R/H | — | — |
| 1152 x 870/75 | 1152 x 870 | 68.7 | 75.1 | 100.0 | R/H | ✓ | ✓ |
| 1280 x 720/50 | 1280 x 720 | 37.1 | 49.8 | 60.5 | R/H | — | — |
| 1280 x 720/60 | 1280 x 720 | 44.8 | 59.9 | 74.5 | R/H | — | — |

| Compatible signal | Resolution (Dots) | Scanning freq. | | Dot clock freq. (MHz) | Format | Plug and Play*1 | |
|-------------------|-------------------|----------------|--------|-----------------------|--------|-----------------|---------|
| | | H (KHz) | V (Hz) | | | RGB | HDMI/DL |
| 1280 x 768/60*3 | 1280 x 768 | 47.7 | 60.0 | 80.1 | R/H | — | — |
| 1280 x 768/60 | 1280 x 768 | 47.8 | 59.9 | 79.5 | R/H | — | — |
| 1280 x 768/75 | 1280 x 768 | 60.3 | 74.9 | 102.3 | R/H | — | — |
| 1280 x 768/85 | 1280 x 768 | 68.6 | 84.8 | 117.5 | R/H | — | — |
| 1280 x 800/50 | 1280 x 800 | 41.3 | 50.0 | 68.0 | R/H | — | — |
| 1280 x 800/60 | 1280 x 800 | 49.7 | 59.8 | 83.5 | R/H | — | — |
| 1280 x 800/75 | 1280 x 800 | 62.8 | 74.9 | 106.5 | R/H | — | — |
| 1280 x 800/85 | 1280 x 800 | 71.6 | 84.9 | 122.5 | R/H | — | — |
| 1280 x 960/60 | 1280 x 960 | 60.0 | 60.0 | 108.0 | R/H | — | — |
| 1280 x 1024/60 | 1280 x 1024 | 64.0 | 60.0 | 108.0 | R/H | — | — |
| 1280 x 1024/75 | 1280 x 1024 | 80.0 | 75.0 | 135.0 | R/H | ✓ | ✓ |
| 1280 x 1024/85 | 1280 x 1024 | 91.1 | 85.0 | 157.5 | R/H | — | — |
| 1366 x 768/50 | 1366 x 768 | 39.6 | 49.9 | 69.0 | R/H | — | — |
| 1366 x 768/60*3 | 1366 x 768 | 47.7 | 60.0 | 84.7 | R/H | — | — |
| 1366 x 768/60 | 1366 x 768 | 47.7 | 59.8 | 85.5 | R/H | — | — |
| 1400 x 1050/60*3 | 1400 x 1050 | 65.2 | 60.0 | 122.6 | R/H | — | — |
| 1400 x 1050/60 | 1400 x 1050 | 65.3 | 60.0 | 121.8 | R/H | — | — |
| 1400 x 1050/75 | 1400 x 1050 | 82.2 | 75.0 | 155.9 | R/H | — | — |
| 1440 x 900/50*3 | 1440 x 900 | 46.3 | 50.0 | 87.4 | R/H | — | — |
| 1440 x 900/60*3 | 1440 x 900 | 55.9 | 60.0 | 106.5 | R/H | — | — |
| 1440 x 900/60 | 1440 x 900 | 55.9 | 59.9 | 106.5 | R/H | — | — |
| 1600 x 900/50*3 | 1600 x 900 | 46.3 | 50.0 | 97.0 | R/H | — | — |
| 1600 x 900/60*3 | 1600 x 900 | 55.9 | 60.0 | 119.0 | R/H | — | — |
| 1600 x 1200/60 | 1600 x 1200 | 75.0 | 60.0 | 162.0 | R/H | ✓ | ✓ |
| 1680 x 1050/50 | 1680 x 1050 | 54.1 | 50.0 | 119.5 | R/H | — | — |
| 1680 x 1050/60*3 | 1680 x 1050 | 65.2 | 60.0 | 147.1 | R/H | — | — |
| 1680 x 1050/60 | 1680 x 1050 | 65.3 | 60.0 | 146.3 | R/H | — | — |
| 1920 x 1080/50 | 1920 x 1080 | 55.6 | 49.9 | 141.5 | R/H | — | — |
| 1920 x 1080/60*4 | 1920 x 1080 | 66.6 | 59.9 | 138.5 | R/H | — | — |
| 1920 x 1080/60*5 | 1920 x 1080 | 67.2 | 60.0 | 173.0 | R | — | — |
| 1920 x 1200/50 | 1920 x 1200 | 61.8 | 49.9 | 158.3 | R/H | — | — |
| 1920 x 1200/60*4 | 1920 x 1200 | 74.0 | 60.0 | 154.0 | R/H | ✓ | ✓ |
| 1920 x 1200/60*5 | 1920 x 1200 | 74.6 | 59.9 | 193.3 | R | — | — |

*1 Signal with I in the plug and play column is a signal described in the EDID (extended display identification data) of the projector. The signal that does not have I in the plug and play column can also be input if it is described in the format column. The resolution may not be selected in the computer even if the projector is compatible with the signal that does not have I in the plug and play column.

*2 Pixel-Repetition signal (dot clock frequency 27.0 MHz) only

*3 If pertinent analog signal is input, it can be displayed when the setting suitable for the signal is made on [PICTURE] menu → [RGB SYSTEM]. It is no need to setting when input the digital signal.

*4 VESA CVT-RB (Reduced Blanking)-compliant

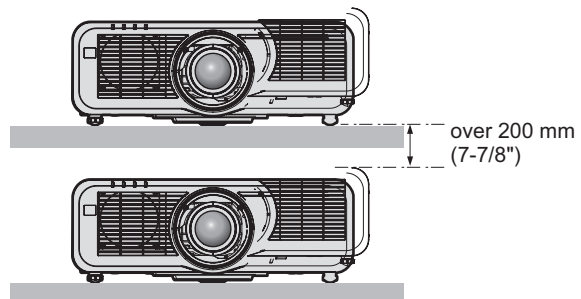
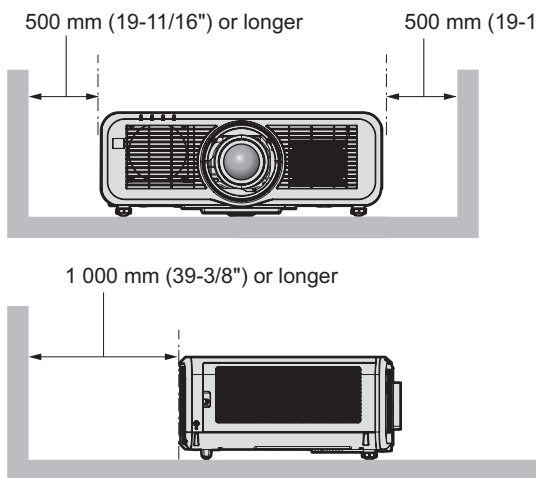
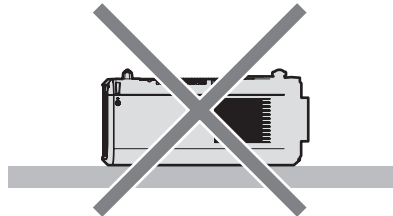
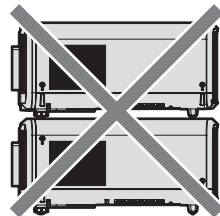
*5 Samples the pixels in the image processing circuit and displays the image.

NOTE:

- A signal with a different resolution is converted to the number of display dots. The number of display dots is as follows.
1920 x 1200
- The "i" at the end of the resolution indicates an interlaced signal.
- When interlaced signals are connected, flickering may occur on the projected image.
- DIGITAL LINK input compatible signal is the same as HDMI input compatible signal.
- Even the above signals exist, some image signals recorded in special method may not be displayed.

Notes on projector placement and operation

1. Never place objects on top of the projector while it is operating.
2. Make sure there is the unobstructed space as shown below or more around the projector's exhaust openings. In addition to this space, also ensure that there is a sufficient work space for removing and installing filter and other parts.
3. Make sure that nothing blocks the projector's air intake and exhaust openings. Also, install the projector so that cool or hot air from other air conditioning equipment does not flow directly toward the projector's air intake or exhaust openings.
4. Do not install the projector in an enclosed space. If it is necessary to install it in an enclosed space, add a separate ventilation system. If ventilation is insufficient, hot air will accumulate at the intake opening. This may cause the projector's protective circuit to interrupt projector operation.



Dimensions shown are approximate. Specifications and appearance are subject to change without notice.
 Product availability differs depending on region and country. This product may be subject to export control regulations.

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