

## Specifications

### Main unit

Power supply		AC 100V-240V, 50Hz/60Hz	
Power consumption*1	Maximum power consumption		360 W (4.2-2.0A) (395VA) (The power consumption is 345 W at 200-240V)
	On-mode power consumption (Light power)	[Normal]	330 W (100-120V), 315 W (200-240V)
		[Eco]	240 W (100-120V), 230 W (200-240V)
		[QUIET]	238 W (100-120V), 228 W (200-240V)
Standby mode power consumption	[Normal]	15 W When [IN STANDBY MODE] in [AUDIO SETTING] is set to [OFF], [QUICK STARTUP] is set to [OFF], and <DC OUT> terminal is not in use.	
	[Eco]	0.5 W	
BTU value		Max 1,230 BTU	
LCD panel	Size		19.3 mm (0.76 in) diagonal (16:10 aspect ratio)
	Display system		Transparent LCD panel (x 3, R/G/B)
	Number of pixels		2,304,000 (1920 x 1200)
Refresh rate		24-60 Hz Refresh rate varies depending on scanning frequency.	
Light source		Laser Diode	
Light output*1*8	Light Power	[Normal]	6,000 lm
		[Eco/Quiet]	4,200 lm
Time until light output declines to 50%*2	Light Power	[Normal/Quiet]	20,000 hours
		[ECO]	24,000 hours
Resolution		1920 x 1200 pixels	
Contrast ratio*1		3,000,000:1 (all white/all black) ([Picture Mode]: [Dynamic], [Dynamic Contrast]: [1/2], [Input signal]: [HDMI])	
Screen size		1.02-10.16 m (40-400 in), 16:10 aspect ratio 1.52-10.16 m (60-400 in) (with ET-ELW22), 2.54-10.16m (100-400 in) (with ET-ELU20)	
Center to corner zone ratio*1		85%	
Lens		Powered zoom (throw ratio 1.61-2.76:1), powered focus F = 1.7-2.3, f = 26.8-45.5 mm (for supplied lens; optional lenses also available)	
Lens shift (from the origin point of the lens mounter)		Vertical ±67%, Horizontal ±35% Vertical ±60%, Horizontal ±30% (with ET-ELW22) Vertical ±50%, Horizontal ±24% (with ET-ELU20) NOTE: Lens shift function cannot be operated when used with the ET-ELW21.	
Installation		Ceiling/floor, front/rear, free 360-degree installation	
Compatible Signal	RGB signal input	Resolution: 640 x 480 to 1920 x1 200 Dot clock frequency: 162 MHz or less PIAS (Panasonic Intelligent Auto Scanning) system	
	YCbCr/YPbPr signal input	Resolution: 480/60p, 576/50p to 1920 x 1080 Dot clock frequency: 148.5 MHz or less The HD/SYNC and VD terminals do not support 3 value SYNC.	
	HDMI signal input	Moving image signal resolution: 480/60p, 576/50p to 4096 x 2160 Still image signal resolution: 640 x 480 to 1920 x 1200 (non-interlace) Dot clock frequency: 25 MHz to 594 MHz	
	DIGITAL LINK signal input	Moving image signal resolution: 480/60p, 576/50p to 4096 x 2160 Still image signal resolution: 640 x 480 to 1920 x 1200 (non-interlace) Dot clock frequency: 25 MHz to 297 MHz	
Terminals	HDMI IN	HDMI-19pin x 3	Deep Color, compatible with HDCP2.3, 4K/60p*3 signal input, CEC supported
	COMPUTER IN	D-sub 15pin (female) x 1	RGB/YPbPr
	MONITOR OUT	D-sub 15pin (female) x 1	RGB/YPbPr
	SERIAL/MULTI SYNC IN	D-sub 9-pin (female) x 1	for external/link control (RS-232C compliant)
	MULTI SYNC OUT	D-sub 9-pin (male) x 1	for link control
	REMOTE 1 IN	M3 stereo mini-jack	for link control (for wired remote control)
	REMOTE 2 IN	D-sub 9-pin (female) x 1	for external control (parallel)
	AUDIO IN	M3 stereo mini-jack x 1, 0.5 V [rms], input Impedance 22 k ohms and more	
	AUDIO OUT	M3 stereo mini-jack x 1, 0 V [rms] to 2.0 V [rms] variable, output Impedance 2.2 k ohms and less	
DIGITAL LINK/LAN	RJ-45 x 1	for network and DIGITAL LINK connection (video/network/serial control) (HDBaseT™ compliant), 100 Base-TX (Compatible with PjLINK [Class 2], Art-Net, Deep Color compatible, HDCP2.3 compatible, 4K/60p*3 signal input)	

Terminals	LAN	RJ-45 x 1 for network connection, 10Base-T, 100Base-TX (Compatible with PLink™ [Class 2], Art-Net)
	DC OUT	USB type-A x 1 (Output 5V/2A)
Power cord length	3.0 m (9 ft 10 in), 2.0 m (6 ft 7 in) (for Taiwan)	
Cabinet materials	Molded plastic	
Dimensions (W x H x D)*9	561 x 224 x 439 mm (22-3/32 x 8-13/16 x 17-9/32 in) (with supplied lens)	
Weight*4	Approx. 17.6 kg (38.8 lbs) (with supplied lens)	
Operating noise*1	32 dB (NORMAL/ECO) 26 dB (QUIET)	
Laser Classification	Laser Class	USA and Canada: Class 3R (IEC60825-1:2007) Other countries or regions: Class 1 (IEC/EN 60825-1:2014)
	Risk Group	Risk Group 2 (IEC 62471-5:2015) Risk Group 3 (IEC 62471-5:2015) (with ET-ELT23)
Operating environment	Operating environment temperature	0 °C (32 °F) to 45 °C (113 °F)*5
	Operating environment humidity	20% to 80% (no condensation)

Remote control unit

Power supply	3V DC (AAA/R03/LR03 battery x 2)
Operation range	Approx. 30 m (98 ft 5 in) (when operated directly in front of signal receptor)
Dimensions (W x H x D)	48 x 145 x 27 mm (1-7/8 x 5-23/32 x 1-1/16 in)
Weight*4	Approx. 102 g (3.60 ozs.) including batteries

Supplied accessories

- Wireless remote control unit (x 1)
- Power cord (3.0m x 1) (x 2 for Europe and Asia model)
- Batteries for remote control (R03/AAA type x 2)
- Lens Cover (x 1)

Other Applications

- Multi Monitoring and Control Software (for Windows)
- Logo Transfer Software (for Windows)
- Smart Projector Control (for iOS/Android)
- Geometry Manager Pro (for Windows)

Optional accessories

Lens	Fixed-focus lens	ET-ELW21
	Zoom lens	ET-ELU20 *Optional ultra short throw zoom lens scheduled for release Sept. 2021 Details such as the projection distance will be announced in a separate sheet.
		ET-ELW22
		ET-ELW20
		ET-ELS20 *US/Canada/Latin America/Europe/Oceania only. ET-ELS20 is equivalent of supplied lens
		ET-ELT22
ET-ELT23		
Ceiling Mount Bracket	ET-PKD120H (for high ceilings)	
Ceiling Mount Bracket	ET-PKD120S (for low ceilings)	
Attachment for ceiling mount bracket	ET-PKE301B*6	
Replacement Filter Unit	ET-RFM100	
Digital Interface Box	ET-YFB100G *ET-YFB100G is not compatible with 4K signals.	
DIGITAL LINK switcher	ET-YFB200G *ET-YFB200G is not compatible with 4K signals.	
Wireless Presentation System (PressIT)	TY-WPS1 (Basic set)	
Early Warning Software	ET-SWA100 series*7	

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

\*1 Measurement, measuring conditions, and method of notation all comply with ISO/IEC 21118: 2020 international standards. Value is average of all products when shipped.

\*2 Around this time, light output will have decreased by approximately 50 %. IEC62087: 2008 Broadcast contents, Dynamic Contrast [2], under conditions with 30 °C (86 °F), 700 m (2,297 ft) above sea level, and 0.15 mg/m<sup>3</sup> of particulate matter. Panasonic recommends cleaning or checkup at point of purchase after about 20,000 hours. Light-source lifetime may be reduced depending on environmental conditions. Replacement of parts other than the light source may be required in a shorter period. Estimated maintenance time varies depending on environment.

\*3 4K/60p input signal is converted to projector's resolution (1920 x 1200), YPbPr 4:2:0 format only for signals input via DIGITAL LINK.

\*4 Average value. May differ depending on models.

\*5 Note that projector cannot be used at altitudes 2,700 m (8,858 ft) or higher above sea level. In the following operating environments, light output may be reduced to protect the projector; when the projector is used at altitudes below 700 m (2,297 ft) and ambient temperature is 36 °C (97 °F) or higher; when the projector is used at altitudes between 700 m (2,297 ft) and 1,400 m (4,593 ft) exclusive and ambient temperature is 34 °C (93 °F) or higher; when the projector is used at altitudes between 1,400 m (4,593 ft) and 2,100m (6,890 ft) exclusive and ambient temperature is 32 °C (90 °F) or higher; and when the projector is used at altitudes between 2,100 m (6,890 ft) and 2,700 m (8,858 ft) exclusive and ambient temperature is 30 °C (86 °F) or higher.

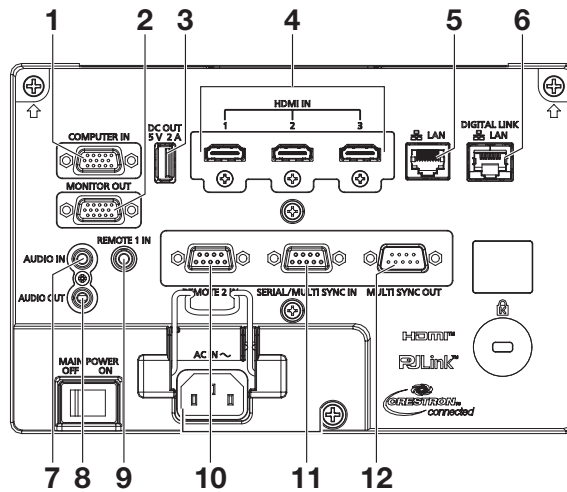
\*6 When the projector is mounted to the existing Ceiling Mount Bracket (in combination with the Model No.: ET-PKD120H (for High Ceilings) or - ET-PKD120S (for Low Ceilings), and the Model No.: ET-PKE300B (Projector Mount Bracket)), it is necessary to replace the drop-prevention - wire rope with the one corresponding to this projector. Consult your dealer. Drop-prevention set (service model no.: DPPW1004ZAX1)

\*7 The suffix of the Model No. differs according to the license type.

\*8 Value is for the supplied standard zoom lens. The value varies depending on the lens.

\*9 With legs at shortest position.

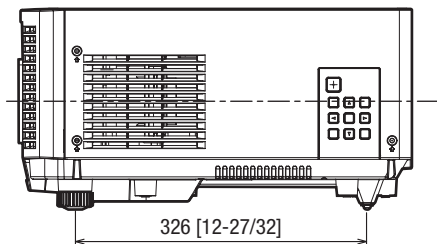
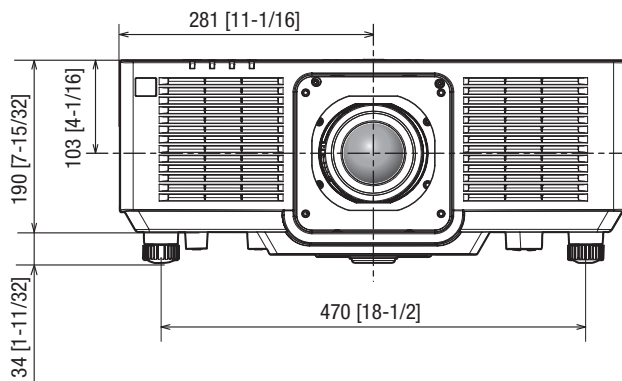
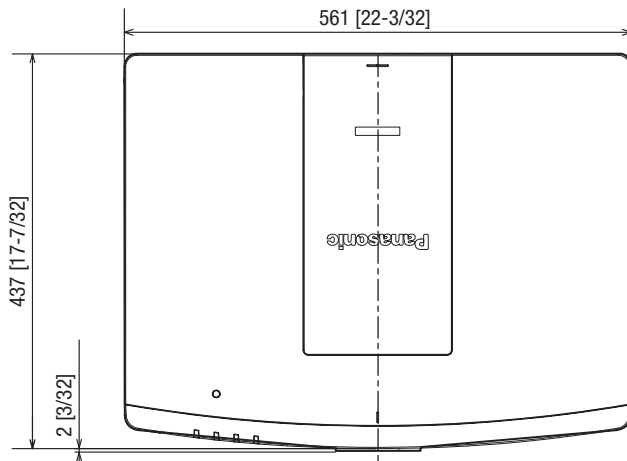
Terminals



1	COMPUTER IN	7	AUDIO IN
2	MONITOR OUT	8	AUDIO OUT
3	DC OUT	9	REMOTE 1 IN
4	HDMI IN 1/2/3	10	REMOTE 2 IN
5	LAN	11	SERIAL/MULTI SYNC IN
6	DIGITAL LINK/LAN	12	MULTI SYNC OUT

Dimensions

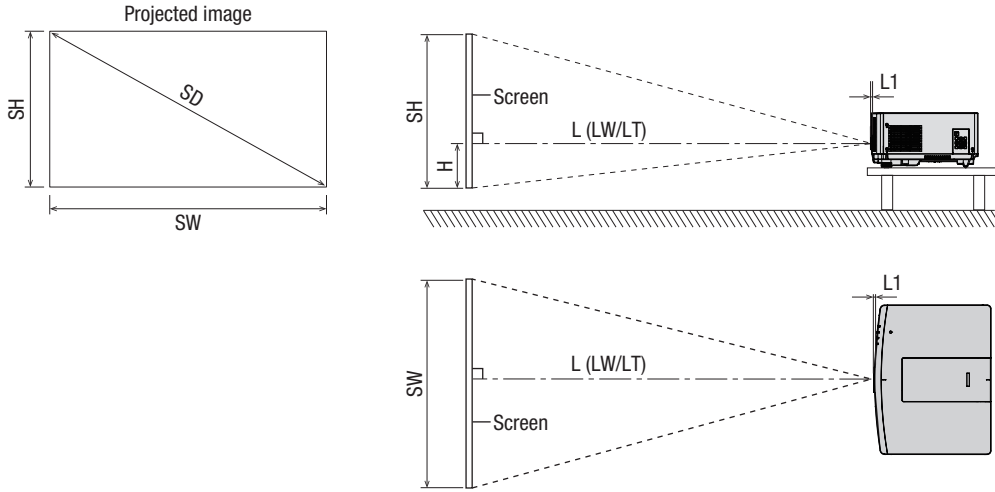
unit : mm [inch]  
NOTE: This illustration is not drawn to scale.



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

**Projected image and throw distance**

Install the projector referring to the projected image size and projection distance. Image size and image position can be adjusted in accordance with the screen size and screen position.



**Note**

- This illustration is prepared on the assumption that the projected image size and position have been aligned to fit full in the screen.
- This illustration is not drawn to scale.
- The values are approximate.

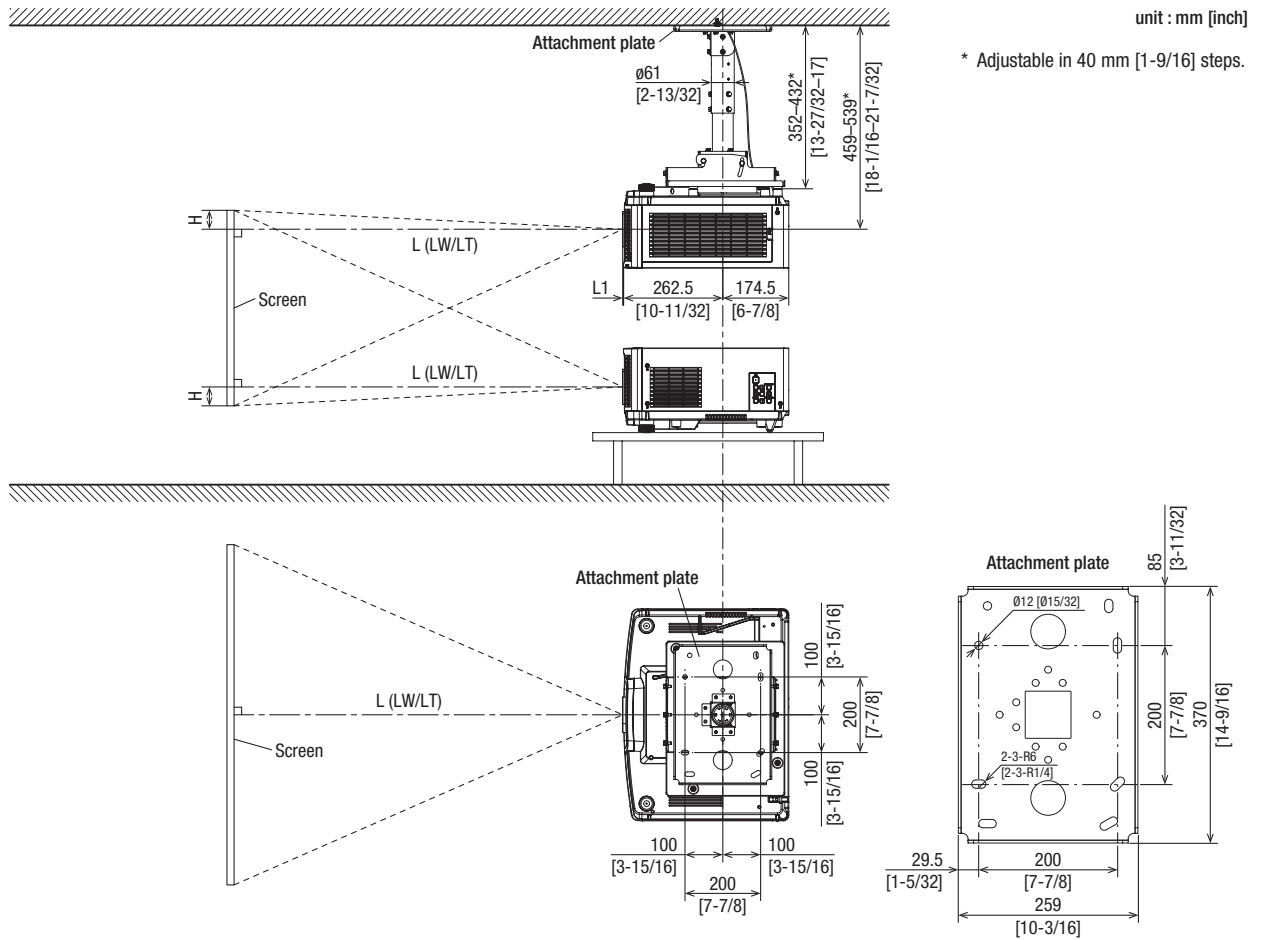
L	Projection distance	
	LW	Minimum projection distance when the Zoom Lens is used
	LT	Maximum projection distance when the Zoom Lens is used
L1	Lens protrusion dimension	
SH	Projected image height	
SW	Projected image width	
H	Distance from the lens center to the bottom edge of the projected image	
SD	Projected image size	

unit : m

Projection lens Model No.	Dimension for L1 (approximate value)
Standard zoom lens / ET-ELS20	0.002
ET-ELW21	-0.008
ET-ELW22	0.037
ET-ELW20	0.022
ET-ELT22	0.023
ET-ELT23	0.019

**Standard setting position**

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



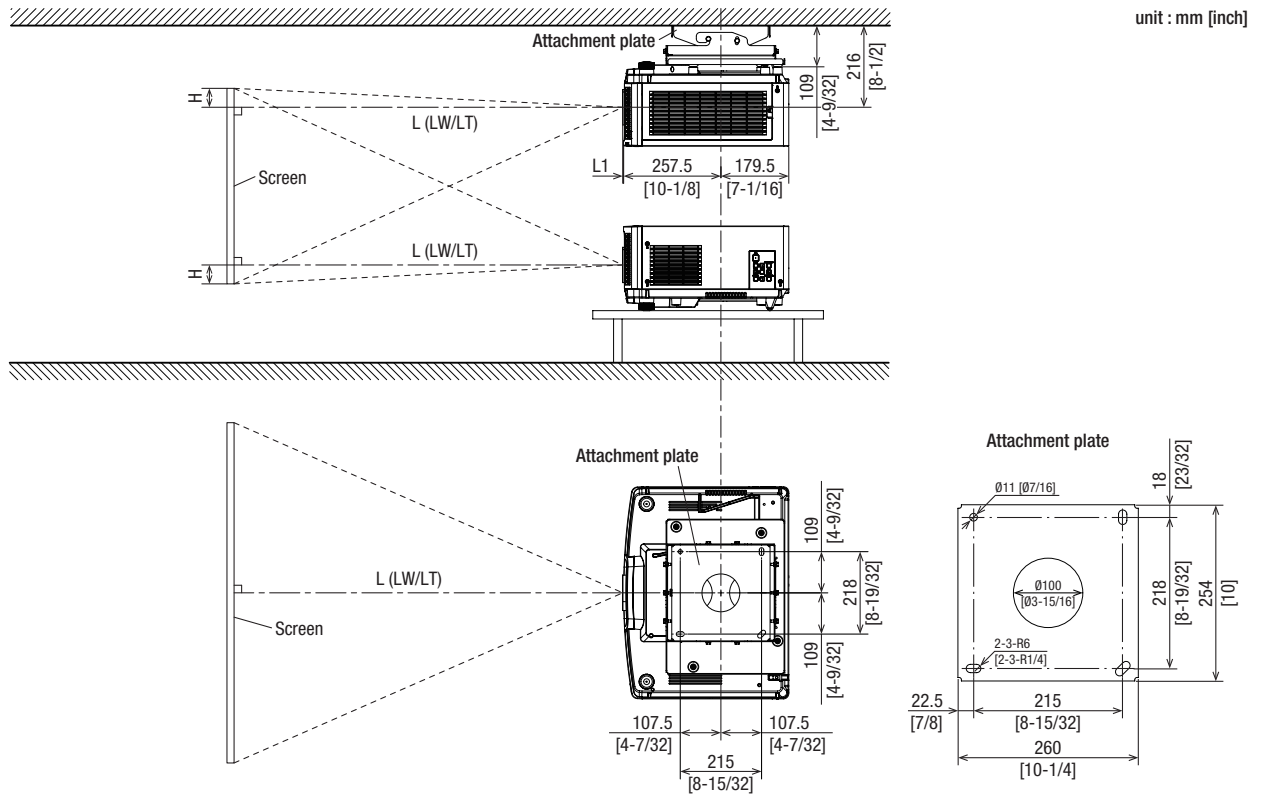
**Caution**

- All construction work should be done by a qualified technician.
- When mounting to the ceiling, use the special mounting bracket. Furthermore, in order to prevent it from falling down from the ceiling, use the supplied wire on the mounting bracket.

**Note**

- This illustration is prepared on the assumption that the projected image size and position have been aligned to fit full in the screen.
- This illustration is not drawn to scale.
- The values are approximate.

Illustrations show the projector installed using optional ceiling mount bracket ET-PKD120S and bracket assembly ET-PKE301B.



**Caution**

- All construction work should be done by a qualified technician.
- When mounting to the ceiling, use the special mounting bracket. Furthermore, in order to prevent it from falling down from the ceiling, use the supplied wire on the mounting bracket.

**Note**

- This illustration is prepared on the assumption that the projected image size and position have been aligned to fit full in the screen.
- This illustration is not drawn to scale.
- The values are approximate.

**Projection distance of each projection lens**

A ±5 % error in listed projection distances may occur.

When [SCREEN ADJUSTMENT] is used, distance is corrected to become smaller than the specified image size.

Screen aspect ratio 16:10

Unit: meters

Lens type			Zoom Lens										Fixed-focus Lens	Standard zoom lens/ ET-ELS20 ET-ELW20 ET-ELT22 ET-ELT23	ET-ELW22	ET-ELW21 (Fixed)
Projection lens Model No.			Standard zoom lens/ ET-ELS20	ET-ELW22		ET-ELW20		ET-ELT22		ET-ELT23		ET-ELW21				
Throw ratio*1			1.61-2.76:1	0.786-0.983:1		1.21-1.66:1		2.72-4.48:1		4.44-7.12:1		0.764:1				
Projected image size			Projection distance (L)											Height position (H)*2		
Diagonal (SD) m / inches	Height (SH)	Width (SW)	Min. (LW)	Max. (LT)	Min. (LW)	Max. (LT)	Min. (LW)	Max. (LT)	Min. (LW)	Max. (LT)	Min. (LW)	Max. (LT)	Fixed			
1.016 / 40	0.538	0.862	1.36	2.35	-	-	1.02	1.41	2.29	3.81	3.72	6.03	0.63	-0.09 - 0.63	-	0.27
1.270 / 50	0.673	1.077	1.71	2.95	-	-	1.29	1.77	2.89	4.79	4.70	7.59	0.80	-0.11 - 0.79	-	0.34
1.524 / 60	0.808	1.292	2.06	3.55	1.00	1.26	1.55	2.14	3.49	5.77	5.68	9.15	0.97	-0.14 - 0.95	-0.08 - 0.89	0.40
1.778 / 70	0.942	1.508	2.42	4.15	1.18	1.48	1.82	2.50	4.09	6.75	6.66	10.71	1.14	-0.16 - 1.10	-0.09 - 1.04	0.47
2.032 / 80	1.077	1.723	2.77	4.76	1.35	1.69	2.09	2.87	4.69	7.73	7.64	12.27	1.32	-0.18 - 1.26	-0.11 - 1.18	0.54
2.286 / 90	1.212	1.939	3.12	5.36	1.53	1.91	2.36	3.23	5.30	8.71	8.63	13.83	1.49	-0.21 - 1.42	-0.12 - 1.33	0.61
2.540 / 100	1.346	2.154	3.48	5.96	1.71	2.13	2.63	3.60	5.90	9.69	9.61	15.39	1.66	-0.23 - 1.58	-0.13 - 1.48	0.67
3.048 / 120	1.615	2.585	4.18	7.16	2.06	2.56	3.16	4.33	7.10	11.65	11.57	18.51	2.00	-0.27 - 1.89	-0.16 - 1.78	0.81
3.810 / 150	2.019	3.231	5.24	8.96	2.58	3.22	3.97	5.42	8.90	14.59	14.52	23.19	2.52	-0.34 - 2.36	-0.20 - 2.22	1.01
5.080 / 200	2.692	4.308	7.01	11.96	3.46	4.30	5.31	7.25	11.91	19.49	19.43	30.99	3.38	-0.46 - 3.15	-0.27 - 2.96	1.35
6.350 / 250	3.365	5.385	8.77	14.96	4.34	5.39	6.65	9.07	14.91	24.39	24.34	38.79	4.24	-0.57 - 3.94	-0.34 - 3.70	1.68
7.620 / 300	4.039	6.462	10.54	17.97	5.21	6.48	7.99	10.90	17.92	29.29	29.25	46.59	5.10	-0.69 - 4.73	-0.40 - 4.44	2.02
8.890 / 350	4.712	7.539	12.30	20.97	6.09	7.56	9.33	12.73	20.92	34.19	34.16	54.39	5.95	-0.80 - 5.51	-0.47 - 5.18	2.36
10.160 / 400	5.385	8.616	14.07	23.97	6.97	8.65	10.67	14.55	23.93	39.09	39.07	62.19	6.81	-0.92 - 6.30	-0.54 - 5.92	2.69

Unit: feet

Lens type			Zoom Lens										Fixed-focus Lens	Standard zoom lens/ ET-ELS20 ET-ELW20 ET-ELT22 ET-ELT23	ET-ELW22	ET-ELW21 (Fixed)
Projection lens Model No.			Standard zoom lens/ ET-ELS20	ET-ELW22		ET-ELW20		ET-ELT22		ET-ELT23		ET-ELW21				
Throw ratio*1			1.61-2.76:1	0.786-0.983:1		1.21-1.66:1		2.72-4.48:1		4.44-7.12:1		0.764:1				
Projected image size			Projection distance (L)											Height position (H)*2		
Diagonal (SD) m / inches	Height (SH)	Width (SW)	Min. (LW)	Max. (LT)	Min. (LW)	Max. (LT)	Min. (LW)	Max. (LT)	Min. (LW)	Max. (LT)	Min. (LW)	Max. (LT)	Fixed			
1.016 / 40	1.77	2.83	4.46	7.71	-	-	3.35	4.63	7.51	12.50	12.20	19.78	2.07	-0.30 - 2.07	-	0.89
1.270 / 50	2.21	3.53	5.61	9.68	-	-	4.23	5.81	9.48	15.72	15.42	24.90	2.62	-0.36 - 2.59	-	1.12
1.524 / 60	2.65	4.24	6.76	11.65	3.28	4.13	5.09	7.02	11.45	18.93	18.63	30.02	3.18	-0.46 - 3.12	-0.26 - 2.92	1.31
1.778 / 70	3.09	4.95	7.94	13.62	3.87	4.86	5.97	8.20	13.42	22.15	21.85	35.14	3.74	-0.52 - 3.61	-0.30 - 3.41	1.54
2.032 / 80	3.53	5.65	9.09	15.62	4.43	5.54	6.86	9.42	15.39	25.36	25.07	40.26	4.33	-0.59 - 4.13	-0.36 - 3.87	1.77
2.286 / 90	3.98	6.36	10.24	17.59	5.02	6.27	7.74	10.60	17.39	28.58	28.31	45.37	4.89	-0.69 - 4.66	-0.39 - 4.36	2.00
2.540 / 100	4.42	7.07	11.42	19.55	5.61	6.99	8.63	11.81	19.36	31.79	31.53	50.49	5.45	-0.75 - 5.18	-0.43 - 4.86	2.20
3.048 / 120	5.30	8.48	13.71	23.49	6.76	8.40	10.37	14.21	23.29	38.22	37.96	60.73	6.56	-0.89 - 6.20	-0.52 - 5.84	2.66
3.810 / 150	6.62	10.60	17.19	29.40	8.46	10.56	13.02	17.78	29.20	47.87	47.64	76.08	8.27	-1.12 - 7.74	-0.66 - 7.28	3.31
5.080 / 200	8.83	14.13	23.00	39.24	11.35	14.11	17.42	23.79	39.07	63.94	63.75	101.67	11.09	-1.51 - 10.33	-0.89 - 9.71	4.43
6.350 / 250	11.04	17.67	28.77	49.08	14.24	17.68	21.82	29.76	48.92	80.02	79.85	127.26	13.91	-1.87 - 12.93	-1.12 - 12.14	5.51
7.620 / 300	13.25	21.20	34.58	58.96	17.09	21.26	26.21	35.76	58.79	96.09	95.96	152.85	16.73	-2.26 - 15.52	-1.31 - 14.57	6.63
8.890 / 350	15.46	24.73	40.35	68.80	19.98	24.80	30.61	41.76	68.63	112.17	112.07	178.44	19.52	-2.62 - 18.08	-1.54 - 16.99	7.74
10.160 / 400	17.67	28.27	46.16	78.64	22.87	28.38	35.01	47.74	78.51	128.25	128.18	204.03	22.34	-3.02 - 20.67	-1.77 - 19.42	8.83

\*1 The throw ratio is based on the value during projection of 2.03 m (80 in) projected image size.

\*2 When the Fixed-focus Lens (Model No.: ET-ELW21) is attached, the lens shift is not possible, therefore the height position (H) becomes SH/2.

LCD Projector

Screen aspect ratio 16:9

Unit: meters

Lens type		Zoom Lens											Fixed-focus Lens	Standard zoom lens/ ET-ELS20 ET-ELW20 ET-ELT22 ET-ELT23	ET-ELW22	ET-ELW21 (Fixed)
Projection lens Model No.		Standard zoom lens/ ET-ELS20		ET-ELW22		ET-ELW20		ET-ELT22		ET-ELT23		ET-ELW21				
Throw ratio*1		1.61-2.76:1		0.787-0.984:1		1.21-1.66:1		2.73-4.49:1		4.44-7.12:1		0.765:1				
Projected image size			Projection distance (L)											Height position (H)*2		
Diagonal (SD) m / inches	Height (SH)	Width (SW)	Min. (LW)	Max. (LT)	Min. (LW)	Max. (LT)	Min. (LW)	Max. (LT)	Min. (LW)	Max. (LT)	Min. (LW)	Max. (LT)	Fixed			
1.016 / 40	0.498	0.886	1.40	2.42	-	-	1.05	1.45	2.36	3.92	3.83	6.20	0.65	-0.12 - 0.62	-	0.25
1.270 / 50	0.623	1.107	1.76	3.04	-	-	1.32	1.82	2.97	4.92	4.83	7.81	0.83	-0.15 - 0.77	-	0.31
1.524 / 60	0.747	1.328	2.12	3.65	1.03	1.30	1.60	2.20	3.59	5.93	5.84	9.41	1.00	-0.18 - 0.93	-0.12 - 0.87	0.37
1.778 / 70	0.872	1.550	2.49	4.27	1.21	1.52	1.87	2.57	4.21	6.94	6.85	11.01	1.18	-0.21 - 1.08	-0.15 - 1.02	0.44
2.032 / 80	0.996	1.771	2.85	4.89	1.39	1.74	2.15	2.95	4.83	7.95	7.86	12.62	1.35	-0.24 - 1.24	-0.17 - 1.16	0.50
2.286 / 90	1.121	1.992	3.21	5.51	1.57	1.97	2.43	3.32	5.45	8.95	8.87	14.22	1.53	-0.27 - 1.39	-0.19 - 1.31	0.56
2.540 / 100	1.245	2.214	3.57	6.12	1.75	2.19	2.70	3.70	6.06	9.96	9.88	15.82	1.71	-0.30 - 1.55	-0.21 - 1.45	0.62
3.048 / 120	1.494	2.657	4.30	7.36	2.11	2.64	3.25	4.45	7.30	11.97	11.90	19.03	2.06	-0.37 - 1.86	-0.25 - 1.74	0.75
3.810 / 150	1.868	3.321	5.39	9.21	2.66	3.31	4.08	5.58	9.15	15.00	14.93	23.84	2.59	-0.46 - 2.32	-0.31 - 2.18	0.93
5.080 / 200	2.491	4.428	7.20	12.29	3.56	4.42	5.46	7.45	12.24	20.03	19.98	31.86	3.47	-0.61 - 3.10	-0.42 - 2.91	1.25
6.350 / 250	3.113	5.535	9.02	15.38	4.46	5.54	6.83	9.33	15.33	25.07	25.02	39.87	4.36	-0.76 - 3.87	-0.52 - 3.63	1.56
7.620 / 300	3.736	6.641	10.83	18.47	5.36	6.66	8.21	11.20	18.42	30.10	30.07	47.89	5.24	-0.91 - 4.65	-0.62 - 4.36	1.87
8.890 / 350	4.358	7.748	12.65	21.55	6.26	7.77	9.59	13.08	21.51	35.14	35.12	55.91	6.12	-1.07 - 5.42	-0.73 - 5.08	2.18
10.160 / 400	4.981	8.855	14.46	24.64	7.16	8.89	10.97	14.96	24.60	40.18	40.17	63.92	7.00	-1.22 - 6.20	-0.83 - 5.81	2.49

Unit: feet

Lens type		Zoom Lens											Fixed-focus Lens	Standard zoom lens/ ET-ELS20 ET-ELW20 ET-ELT22 ET-ELT23	ET-ELW22	ET-ELW21 (Fixed)
Projection lens Model No.		Standard zoom lens/ ET-ELS20		ET-ELW22		ET-ELW20		ET-ELT22		ET-ELT23		ET-ELW21				
Throw ratio*1		1.61-2.76:1		0.787-0.984:1		1.21-1.66:1		2.73-4.49:1		4.44-7.12:1		0.765:1				
Projected image size			Projection distance (L)											Height position (H)*2		
Diagonal (SD) m / inches	Height (SH)	Width (SW)	Min. (LW)	Max. (LT)	Min. (LW)	Max. (LT)	Min. (LW)	Max. (LT)	Min. (LW)	Max. (LT)	Min. (LW)	Max. (LT)	Fixed			
1.016 / 40	1.63	2.91	4.59	7.94	-	-	3.44	4.76	7.74	12.86	12.57	20.34	2.13	-0.39 - 2.03	-	0.82
1.270 / 50	2.04	3.63	5.77	9.97	-	-	4.33	5.97	9.74	16.14	15.85	25.62	2.72	-0.49 - 2.53	-	1.02
1.524 / 60	2.45	4.36	6.96	11.97	3.38	4.27	5.25	7.22	11.78	19.46	19.16	30.87	3.28	-0.59 - 3.05	-0.39 - 2.85	1.21
1.778 / 70	2.86	5.09	8.17	14.01	3.97	4.99	6.14	8.43	13.81	22.77	22.47	36.12	3.87	-0.69 - 3.54	-0.49 - 3.35	1.44
2.032 / 80	3.27	5.81	9.35	16.04	4.56	5.71	7.05	9.68	15.85	26.08	25.79	41.40	4.43	-0.79 - 4.07	-0.56 - 3.81	1.64
2.286 / 90	3.68	6.54	10.53	18.08	5.15	6.46	7.97	10.89	17.88	29.36	29.10	46.65	5.02	-0.89 - 4.56	-0.62 - 4.30	1.84
2.540 / 100	4.08	7.26	11.71	20.08	5.74	7.18	8.86	12.14	19.88	32.68	32.41	51.90	5.61	-0.98 - 5.09	-0.69 - 4.76	2.03
3.048 / 120	4.90	8.72	14.11	24.15	6.92	8.66	10.66	14.60	23.95	39.27	39.04	62.43	6.76	-1.21 - 6.10	-0.82 - 5.71	2.46
3.810 / 150	6.13	10.90	17.68	30.22	8.73	10.86	13.39	18.31	30.02	49.21	48.98	78.21	8.50	-1.51 - 7.61	-1.02 - 7.15	3.05
5.080 / 200	8.17	14.53	23.62	40.32	11.68	14.50	17.91	24.44	40.16	65.71	65.55	104.53	11.38	-2.00 - 10.17	-1.38 - 9.55	4.10
6.350 / 250	10.21	18.16	29.59	50.46	14.63	18.18	22.41	30.61	50.29	82.25	82.09	130.81	14.30	-2.49 - 12.70	-1.71 - 11.91	5.12
7.620 / 300	12.26	21.79	35.53	60.60	17.59	21.85	26.94	36.74	60.43	98.75	98.65	157.12	17.19	-2.99 - 15.26	-2.03 - 14.30	6.14
8.890 / 350	14.30	25.42	41.50	70.70	20.54	25.49	31.46	42.91	70.57	115.29	115.22	183.43	20.08	-3.51 - 17.78	-2.39 - 16.67	7.15
10.160 / 400	16.34	29.05	47.44	80.84	23.49	29.17	35.99	49.08	80.71	131.82	131.79	209.71	22.97	-4.00 - 20.34	-2.72 - 19.06	8.17

\*1 The throw ratio is based on the value during projection of 2.03 m (80 in) projected image size.

\*2 When the Fixed-focus Lens (Model No.: ET-ELW21) is attached, the lens shift is not possible, therefore the height position (H) becomes SH/2.



Screen aspect ratio 4:3

Unit: meters

Lens type			Zoom Lens										Fixed-focus Lens	Standard zoom lens/ ET-ELS20 ET-ELW20 ET-ELT22 ET-ELT23	ET-ELW22	ET-ELW21 (Fixed)
Projection lens Model No.			Standard zoom lens/ ET-ELS20		ET-ELW22		ET-ELW20		ET-ELT22		ET-ELT23		ET-ELW21			
Throw ratio*1			1.93-3.32:1		0.947-1.18:1		1.46-2.00:1		3.28-5.39:1		5.34-8.56:1		0.922:1			
Projected image size			Projection distance (L)										Height position (H)*2			
Diagonal (SD) m / inches	Height (SH)	Width (SW)	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Fixed			
			(LW)	(LT)	(LW)	(LT)	(LW)	(LT)	(LW)	(LT)	(LW)	(LT)	(LW)	(LT)		
1.016 / 40	0.610	0.813	1.54	2.67	-	-	1.16	1.60	2.61	4.33	4.24	6.85	0.72	-0.10 - 0.71	-	0.30
1.270 / 50	0.762	1.016	1.94	3.35	-	-	1.46	2.01	3.29	5.43	5.35	8.62	0.91	-0.13 - 0.89	-	0.38
1.524 / 60	0.914	1.219	2.34	4.03	1.14	1.43	1.77	2.43	3.97	6.54	6.46	10.39	1.11	-0.16 - 1.07	-0.09 - 1.01	0.46
1.778 / 70	1.067	1.422	2.74	4.71	1.34	1.68	2.07	2.84	4.65	7.65	7.57	12.15	1.30	-0.18 - 1.25	-0.11 - 1.17	0.53
2.032 / 80	1.219	1.626	3.14	5.39	1.54	1.92	2.37	3.25	5.33	8.76	8.68	13.92	1.50	-0.21 - 1.43	-0.12 - 1.34	0.61
2.286 / 90	1.372	1.829	3.54	6.07	1.74	2.17	2.68	3.67	6.01	9.87	9.79	15.68	1.69	-0.23 - 1.60	-0.14 - 1.51	0.69
2.540 / 100	1.524	2.032	3.94	6.75	1.94	2.42	2.98	4.08	6.69	10.98	10.91	17.45	1.89	-0.26 - 1.78	-0.15 - 1.68	0.76
3.048 / 120	1.829	2.438	4.74	8.11	2.33	2.91	3.59	4.91	8.05	13.20	13.13	20.98	2.28	-0.31 - 2.14	-0.18 - 2.01	0.91
3.810 / 150	2.286	3.048	5.94	10.15	2.93	3.65	4.50	6.15	10.09	16.53	16.47	26.28	2.86	-0.39 - 2.67	-0.23 - 2.51	1.14
5.080 / 200	3.048	4.064	7.94	13.55	3.92	4.88	6.02	8.21	13.49	22.08	22.03	35.11	3.83	-0.52 - 3.57	-0.30 - 3.35	1.52
6.350 / 250	3.810	5.080	9.94	16.95	4.91	6.11	7.53	10.28	16.90	27.62	27.58	43.94	4.80	-0.65 - 4.46	-0.38 - 4.19	1.91
7.620 / 300	4.572	6.096	11.94	20.34	5.91	7.34	9.05	12.35	20.30	33.17	33.14	52.77	5.78	-0.78 - 5.35	-0.46 - 5.03	2.29
8.890 / 350	5.334	7.112	13.93	23.74	6.90	8.57	10.57	14.41	23.70	38.72	38.70	61.60	6.75	-0.91 - 6.24	-0.53 - 5.87	2.67
10.160 / 400	6.096	8.128	15.93	27.14	7.89	9.80	12.09	16.48	27.10	44.27	44.26	70.43	7.72	-1.04 - 7.13	-0.61 - 6.71	3.05

Unit: feet

Lens type			Zoom Lens										Fixed-focus Lens	Standard zoom lens/ ET-ELS20 ET-ELW20 ET-ELT22 ET-ELT23	ET-ELW22	ET-ELW21 (Fixed)
Projection lens Model No.			Standard zoom lens/ ET-ELS20		ET-ELW22		ET-ELW20		ET-ELT22		ET-ELT23		ET-ELW21			
Throw ratio*1			1.93-3.32:1		0.947-1.18:1		1.46-2.00:1		3.28-5.39:1		5.34-8.56:1		0.922:1			
Projected image size			Projection distance (L)										Height position (H)*2			
Diagonal (SD) m / inches	Height (SH)	Width (SW)	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Fixed			
			(LW)	(LT)	(LW)	(LT)	(LW)	(LT)	(LW)	(LT)	(LW)	(LT)	(LW)	(LT)		
1.016 / 40	2.00	2.67	5.05	8.76	-	-	3.81	5.25	8.56	14.21	13.91	22.47	2.36	-0.33 - 2.33	-	0.98
1.270 / 50	2.50	3.33	6.36	10.99	-	-	4.79	6.59	10.79	17.81	17.55	28.28	2.99	-0.43 - 2.92	-	1.25
1.524 / 60	3.00	4.00	7.68	13.22	3.74	4.69	5.81	7.97	13.02	21.46	21.19	34.09	3.64	-0.52 - 3.51	-0.30 - 3.31	1.51
1.778 / 70	3.50	4.67	8.99	15.45	4.40	5.51	6.79	9.32	15.26	25.10	24.84	39.86	4.27	-0.59 - 4.10	-0.36 - 3.84	1.74
2.032 / 80	4.00	5.33	10.30	17.68	5.05	6.30	7.78	10.66	17.49	28.74	28.48	45.67	4.92	-0.69 - 4.69	-0.39 - 4.40	2.00
2.286 / 90	4.50	6.00	11.61	19.91	5.71	7.12	8.79	12.04	19.72	32.38	32.12	51.44	5.54	-0.75 - 5.25	-0.46 - 4.95	2.26
2.540 / 100	5.00	6.67	12.93	22.15	6.36	7.94	9.78	13.39	21.95	36.02	35.79	57.25	6.20	-0.85 - 5.84	-0.49 - 5.51	2.49
3.048 / 120	6.00	8.00	15.55	26.61	7.64	9.55	11.78	16.11	26.41	43.31	43.08	68.83	7.48	-1.02 - 7.02	-0.59 - 6.59	2.99
3.810 / 150	7.50	10.00	19.49	33.30	9.61	11.97	14.76	20.18	33.10	54.23	54.03	86.22	9.38	-1.28 - 8.76	-0.75 - 8.23	3.74
5.080 / 200	10.00	13.33	26.05	44.45	12.86	16.01	19.75	26.94	44.26	72.44	72.28	115.19	12.57	-1.71 - 11.71	-0.98 - 10.99	4.99
6.350 / 250	12.50	16.67	32.61	55.61	16.11	20.05	24.70	33.73	55.45	90.62	90.48	144.16	15.75	-2.13 - 14.63	-1.25 - 13.75	6.27
7.620 / 300	15.00	20.00	39.17	66.73	19.39	24.08	29.69	40.52	66.60	108.82	108.73	173.13	18.96	-2.56 - 17.55	-1.51 - 16.50	7.51
8.890 / 350	17.50	23.33	45.70	77.89	22.64	28.12	34.68	47.28	77.75	127.03	126.97	202.10	22.15	-2.99 - 20.47	-1.74 - 19.26	8.76
10.160 / 400	20.00	26.67	52.26	89.04	25.89	32.15	39.66	54.07	88.91	145.24	145.21	231.07	25.33	-3.41 - 23.39	-2.00 - 22.01	10.01

\*1 The throw ratio is based on the value during projection of 2.03 m (80 in) projected image size.

\*2 When the Fixed-focus Lens (Model No.: ET-ELW21) is attached, the lens shift is not possible, therefore the height position (H) becomes SH/2.

**Formula for calculating the projection distance per projection lens**

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

All the units for the formula are m. (Value obtained by the following calculation formula contains 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.

Zoom lens

Unit: m

Projection lens Model No.	Throw ratio	Aspect ratio	Projection distance (L) formula	
			Min. (LW)	Max. (LT)
Standard zoom lens/ ET-ELS20	1.61 - 2.76:1	16:10	= 1.389961 x SD - 0.054882	= 2.363976 x SD - 0.048228
	1.61 - 2.76:1	16:9	= 1.428602 x SD - 0.054882	= 2.429695 x SD - 0.048228
	1.93 - 3.32:1	4:3	= 1.573583 x SD - 0.054882	= 2.676260 x SD - 0.048228
ET-ELW22	0.786 - 0.983:1	16:10	= 0.690394 x SD - 0.048460	= 0.855787 x SD - 0.045477
	0.787 - 0.984:1	16:9	= 0.709587 x SD - 0.048460	= 0.879578 x SD - 0.045477
	0.947 - 1.18:1	4:3	= 0.781595 x SD - 0.048460	= 0.968837 x SD - 0.045477
ET-ELW20	1.21 - 1.66:1	16:10	= 1.055748 x SD - 0.055497	= 1.437441 x SD - 0.053400
	1.21 - 1.66:1	16:9	= 1.085098 x SD - 0.055497	= 1.477402 x SD - 0.053400
	1.46 - 2.00:1	4:3	= 1.195197 x SD - 0.055497	= 1.627323 x SD - 0.053400
ET-ELT22	2.72 - 4.48:1	16:10	= 2.366220 x SD - 0.114022	= 3.858307 x SD - 0.112874
	2.73 - 4.49:1	16:9	= 2.432001 x SD - 0.114022	= 3.965568 x SD - 0.112874
	3.28 - 5.39:1	4:3	= 2.678780 x SD - 0.114022	= 4.367992 x SD - 0.112874
ET-ELT23	4.44 - 7.12:1	16:10	= 3.866693 x SD - 0.212284	= 6.141575 x SD - 0.210772
	4.44 - 7.12:1	16:9	= 3.974187 x SD - 0.212284	= 6.312311 x SD - 0.210772
	5.34 - 8.56:1	4:3	= 4.377480 x SD - 0.212284	= 6.952874 x SD - 0.210772

Fixed-focus Lens (Model No.: ET-ELW21)

Unit: m

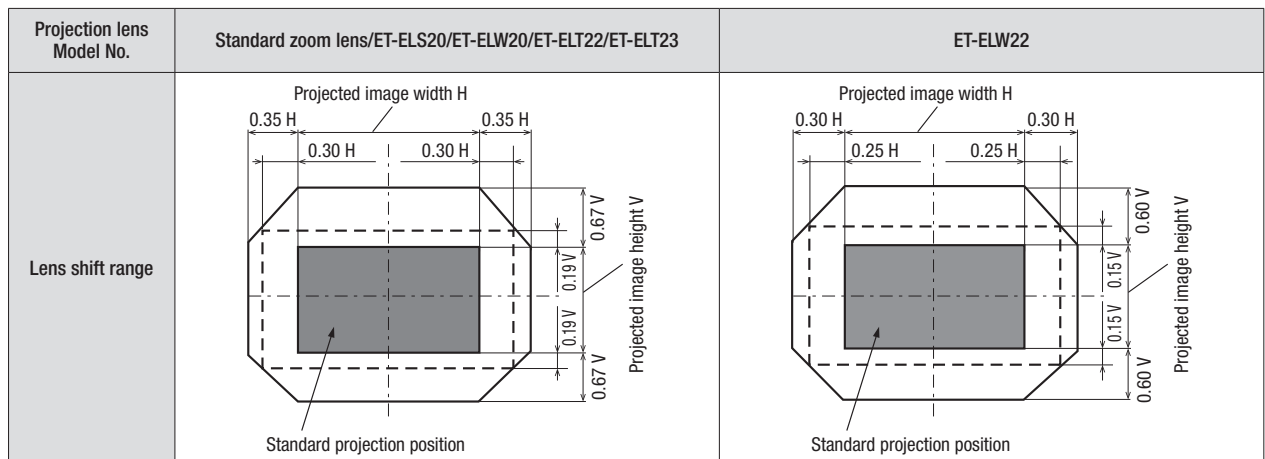
Projection lens Model No.	Throw ratio	Aspect ratio	Projection distance (L) formula
ET-ELW21	0.764:1	16:10	= 0.676299 x SD - 0.057678
	0.765:1	16:9	= 0.695100 x SD - 0.057678
	0.922:1	4:3	= 0.765630 x SD - 0.057678

**Lens shift range**

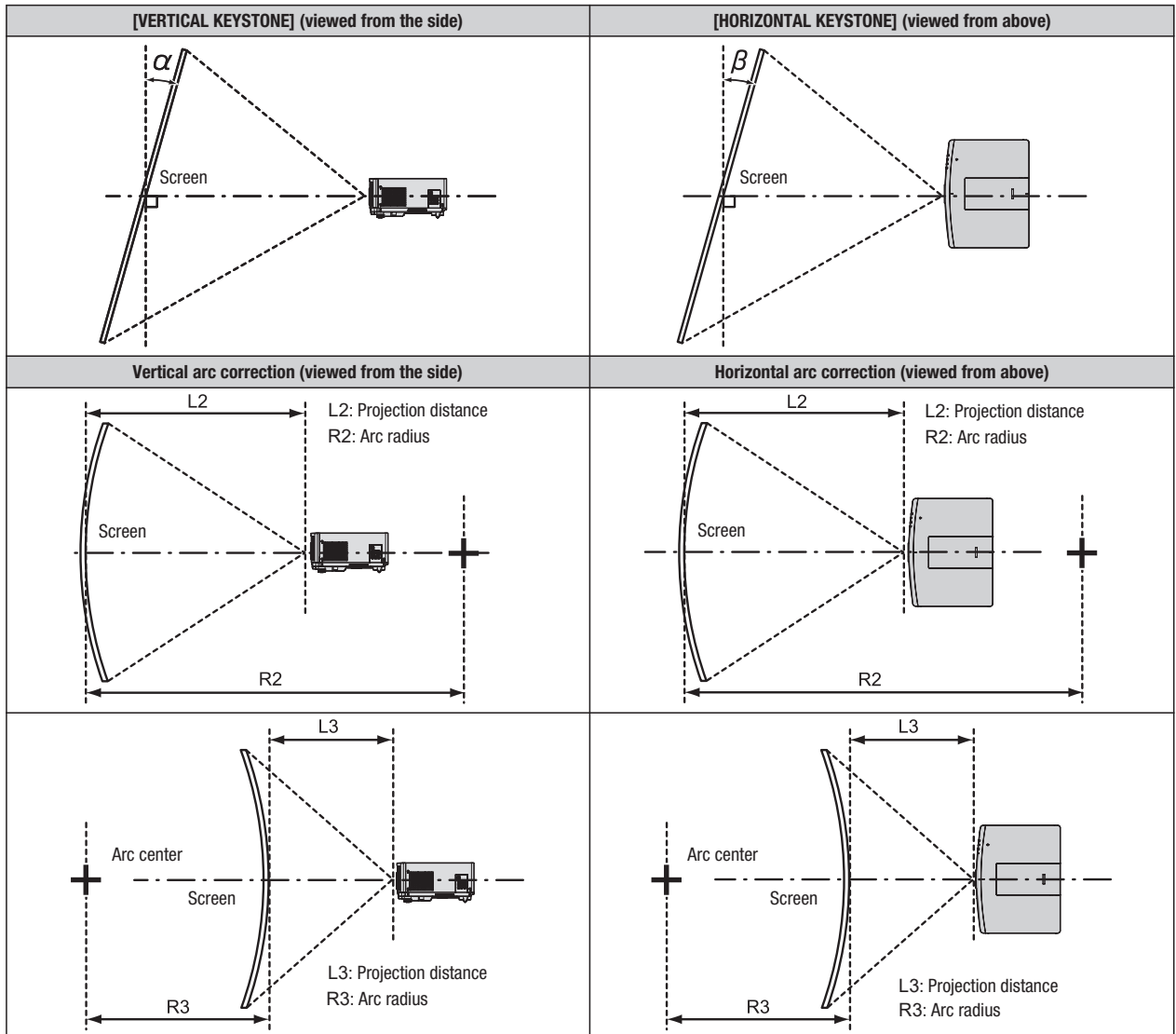
Based on the standard projection position using the optical axis shift function, the projection position can be adjusted in the range shown in the following figure.

Following figure shows the adjustment range when the projector is installed on the floor.

\*Use the projection lens in the standard projection position without adjusting the lens shift when the optional fixed focus lens (ET-ELW21) is attached.



[SCREEN ADJUSTMENT] projection range



Projection lens Model No.	Only [KEYSTONE] used*1		[KEYSTONE] and [CURVED CORRECTION] used together				Only [CURVED CORRECTION] used	
	Vertical keystone correction angle $\alpha$ (°)	Horizontal keystone correction angle $\beta$ (°)	Vertical keystone correction angle $\alpha$ (°)	Horizontal keystone correction angle $\beta$ (°)	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	±25	±30	±20	±15	0.9	1.8	0.5	1.0
ET-ELW21	±22	±15	±8	±8	1.7	4.3	1.0	2.6
ET-ELW22	±22	±15	±8	±8	1.7	4.3	1.0	2.6
ET-ELW20	±25	±30	±20	±15	1.2	3.1	0.7	1.8
ET-ELT22	±25	±30	±20	±15	0.6	1.1	0.3	0.6
ET-ELT23	±25	±30	±20	±15	0.4	0.7	0.2	0.4

\*1 When [VERTICAL KEYSTONE] and [HORIZONTAL KEYSTONE] are used simultaneously, correction cannot be made exceeding total of 55°.

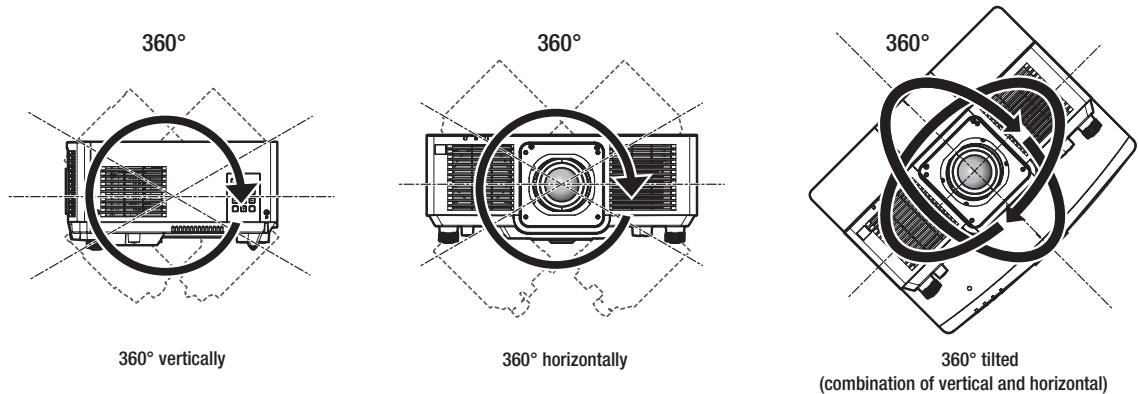
**Note**

- When [SCREEN ADJUSTMENT] is used, the focus of the entire screen may be lost as correction increases.
- Make the curved screen a circular arc shape with one part of a perfect circle removed.

**Installable angle**

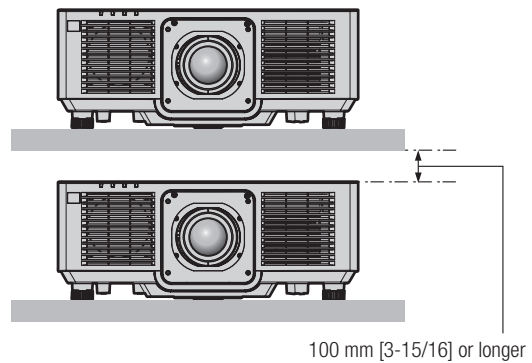
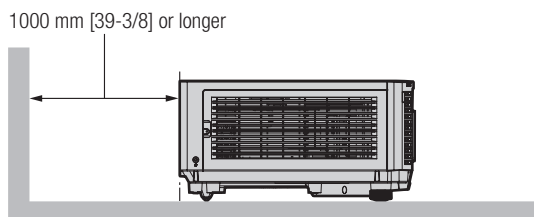
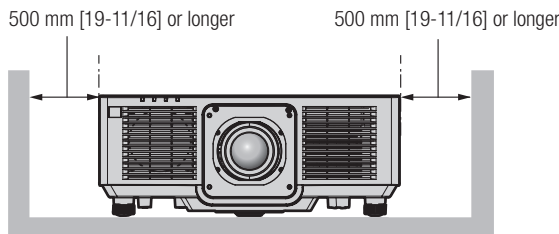
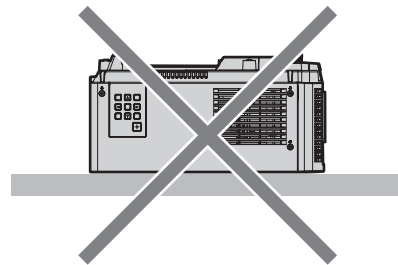
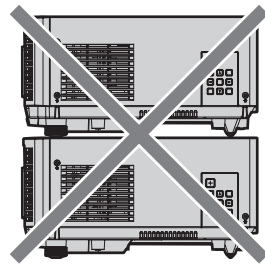
Install the projector at an angle within the range shown below.

**FULL 360-degree projection**



**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.



**List of compatible signals**

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

This signal with ✓ in the supported signal column is supported.

- Symbols that indicate formats are as follows.
  - R: RGB
  - Y: YCbCr/YPbPr
  - H: HDMI
  - DL: DIGITAL LINK
- Input corresponding to each item in the plug and play column is as follows.
  - COMPUTER: COMPUTER input
  - HDMI: HDMI1/HDMI2/HDMI3 input
  - DIGITAL LINK: DIGITAL LINK input

Compatible signal	Resolution (Dots)	Scanning freq.		Dot clock freq. (MHz)	Format	Plug and play*1						
		Horizontal (kHz)	Vertical (Hz)			COMPUTER	HDMI			DIGITAL LINK		
							4K/60P	4K/30P	2K	4K/60P	4K/30P	2K
480/60p	720 x 480	31.5	59.9	27.0	R/Y/H/DL	-	✓	✓	✓	✓	✓	✓
576/50p	720 x 576	31.3	50.0	27.0	R/Y/H/DL	-	✓	✓	✓	✓	✓	✓
720/60p	1280 x 720	45.0	60.0*3	74.3	R/Y/H/DL	-	✓	✓	✓	✓	✓	✓
720/50p	1280 x 720	37.5	50.0	74.3	R/Y/H/DL	-	✓	✓	✓	✓	✓	✓
1080/60i	1920 x 1080i	33.8	60.0*3	74.3	R/Y/H/DL	-	✓	✓	✓	✓	✓	✓
1080/50i	1920 x 1080i	28.1	50.0	74.3	R/Y/H/DL	-	✓	✓	✓	✓	✓	✓
1080/24p	1920 x 1080	27.0	24.0*3	74.3	R/Y/H/DL	-	✓	✓	✓	✓	✓	✓
1080/24sF	1920 x 1080i	27.0	48.0*3	74.3	R/Y/H/DL	-	-	-	-	-	-	-
1080/25p	1920 x 1080	28.1	25.0	74.3	R/Y/H/DL	-	✓	✓	✓	✓	✓	✓
1080/30p	1920 x 1080	33.8	30.0*3	74.3	R/Y/H/DL	-	✓	✓	✓	✓	✓	✓
1080/60p	1920 x 1080	67.5	60.0*3	148.5	R/Y/H/DL	-	✓	✓	✓	✓	✓	✓
1080/50p	1920 x 1080	56.3	50.0	148.5	R/Y/H/DL	-	✓	✓	✓	✓	✓	✓
3840 x 2160/24p	3840 x 2160	54.0	24.0*3	297.0	H/DL	-	✓	✓	-	✓	✓	-
3840 x 2160/25p	3840 x 2160	56.3	25.0	297.0	H/DL	-	✓	✓	-	✓	✓	-
3840 x 2160/30p	3840 x 2160	67.5	30.0*3	297.0	H/DL	-	✓	✓	-	✓	✓	-
3840 x 2160/60p	3840 x 2160*4	135.0	60.0*3	297.0	H/DL	-	✓	-	-	✓	-	-
	3840 x 2160	135.0	60.0*3	594.0	H	-	✓	-	-	-	-	-
3840 x 2160/50p	3840 x 2160*4	112.5	50.0	297.0	H/DL	-	✓	-	-	✓	-	-
	3840 x 2160	112.5	50.0	594.0	H	-	✓	-	-	-	-	-
4096 x 2160/24p	4096 x 2160	54.0	24.0*3	297.0	H/DL	-	✓	✓	-	✓	✓	-
4096 x 2160/25p	4096 x 2160	56.3	25.0	297.0	H/DL	-	✓	✓	-	✓	✓	-
4096 x 2160/30p	4096 x 2160	67.5	30.0*3	297.0	H/DL	-	✓	✓	-	✓	✓	-
4096 x 2160/60p	4096 x 2160*4	135.0	60.0*3	297.0	H/DL	-	✓	-	-	✓	-	-
	4096 x 2160	135.0	60.0*3	594.0	H	-	✓	-	-	-	-	-
4096 x 2160/50p	4096 x 2160*4	112.5	50.0	297.0	H/DL	-	✓	-	-	✓	-	-
	4096 x 2160	112.5	50.0	594.0	H	-	✓	-	-	-	-	-
640 x 480/60	640 x 480	31.5	59.9	25.2	R/H/DL	✓	✓	✓	✓	✓	✓	✓
1024 x 768/50	1024 x 768	39.6	50.0	51.9	R/H/DL	-	-	-	-	-	-	-
1024 x 768/60	1024 x 768	48.4	60.0	65.0	R/H/DL	✓	✓	✓	✓	✓	✓	✓
1280 x 800/50	1280 x 800	41.3	50.0	68.0	R/H/DL	-	-	-	-	-	-	-
1280 x 800/60	1280 x 800	49.7	59.8	83.5	R/H/DL	-	-	-	-	-	-	-
1280 x 1024/50	1280 x 1024	52.4	50.0	88.0	R/H/DL	-	-	-	-	-	-	-
1280 x 1024/60	1280 x 1024	64.0	60.0	108.0	R/H/DL	-	-	-	-	-	-	-
1366 x 768/50	1366 x 768	39.6	49.9	69.0	R/H/DL	-	-	-	-	-	-	-
1366 x 768/60	1366 x 768	47.7	59.8	85.5	R/H/DL	-	-	-	-	-	-	-
1400 x 1050/50	1400 x 1050	54.1	50.0	99.9	R/H/DL	-	-	-	-	-	-	-
1400 x 1050/60	1400 x 1050	65.2	60.0	122.6	R/H/DL	✓	✓	✓	✓	✓	✓	✓
1440 x 900/50	1440 x 900	46.3	49.9	86.8	R/H/DL	-	-	-	-	-	-	-
1440 x 900/60	1440 x 900	55.9	59.9	106.5	R/H/DL	-	-	-	-	-	-	-
1600 x 900/50	1600 x 900	46.4	49.9	96.5	R/H/DL	-	-	-	-	-	-	-
1600 x 900/60	1600 x 900	55.9	60.0	119.0	R/H/DL	✓	✓	✓	✓	✓	✓	✓
1600 x 1200/50	1600 x 1200	61.8	49.9	131.5	R/H/DL	-	-	-	-	-	-	-
1600 x 1200/60	1600 x 1200	75.0	60.0	162.0	R/H/DL	✓	✓	✓	✓	✓	✓	✓
1680 x 1050/50	1680 x 1050	54.1	50.0	119.5	R/H/DL	-	-	-	-	-	-	-
1680 x 1050/60	1680 x 1050	65.3	60.0	146.3	R/H/DL	-	-	-	-	-	-	-
1920 x 1200/50	1920 x 1200	61.8	49.9	158.3	R/H/DL	-	-	-	-	-	-	-
1920 x 1200/60RB	1920 x 1200*2	74.0	60.0	154.0	R/H/DL	✓	✓	✓	✓	✓	✓	✓

\*1 Signal with ✓ 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 ✓ 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 for the signal that does not have ✓ in the plug and play column.

\*2 VESA CVT-RB (Reduced Blanking)-compliant

\*3 The signal with 1/1.001x vertical scanning frequency is also supported.

\*4 YPbPr 4:2:0 format only

**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.
- When the DIGITAL LINK connection is made with the long-reach communication method, the signal that the projector can receive is up to 1080/60p (1920 x 1080 dots, dot clock frequency 148.5 MHz).
- Even if it is the signal listed in the list of compatible signals, it may not be displayed by the projector if the video signal is recorded in a special format.