

**Zoom Lens**

This zoom lens is designed for use with Panasonic’s applicable projectors. The lens makes it possible to vary the projection distance by changing the focal distance.

**NOTE:** Please use the lens only on the specified Panasonic projector.

**Specifications**

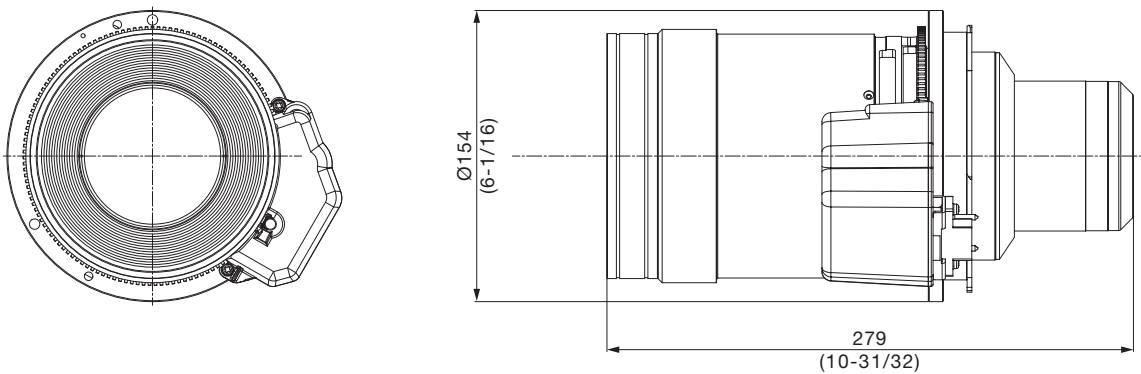
|                                   |   |
|-----------------------------------|---|
| F value:                          | 2.5   |
| Focal distance (f):               | 96.6– 154.9 mm  |
| Throw ratio:                      | 4.94-7.94:1 for PT-RQ32K/RQ22K (16:10 aspect ratio)<br>4.61-7.41:1 for PT-RZ31K/RZ21K (16:10 aspect ratio)<br>4.99-8.02:1 for PT-RS30K/RS20K (4:3 aspect ratio) |
| Auto Lens Identification Function | Compatible models : PT-RQ32K/RZ31K/RS30K/RQ22K/RZ21K/RS20K  |
| Dimensions (W × H × D):           | 154 × 154 × 279mm (6-1/16 × 6-1/16 × 10-31/32 inches) (without protrusion parts)  |
| Weight:                           | Approximately 5.0 kg* (11.0 lbs*)   |
| Applicable projector              | [Group A] PT-RZ21K/RS20K<br>PT-RQ22K<br>[Group B] PT-RZ31K/RS30K<br>PT-RQ32K  |

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PT-RQ35K/RZ34K/RQ25K/RZ24K/RQ18K/RZ17K/RZ16K  
For these projectors see the individual spec files of the projectors

\*Average value. May differ depending on the actual unit.  
The throw ratio is an approximate value calculated by dividing the screen width by the projection distance.

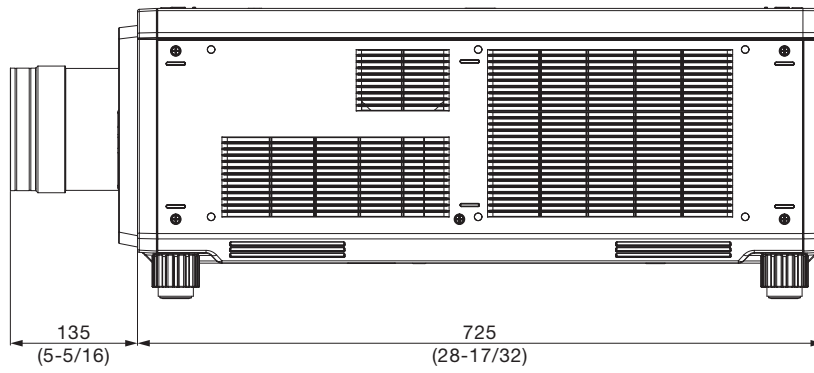
**Dimensions**



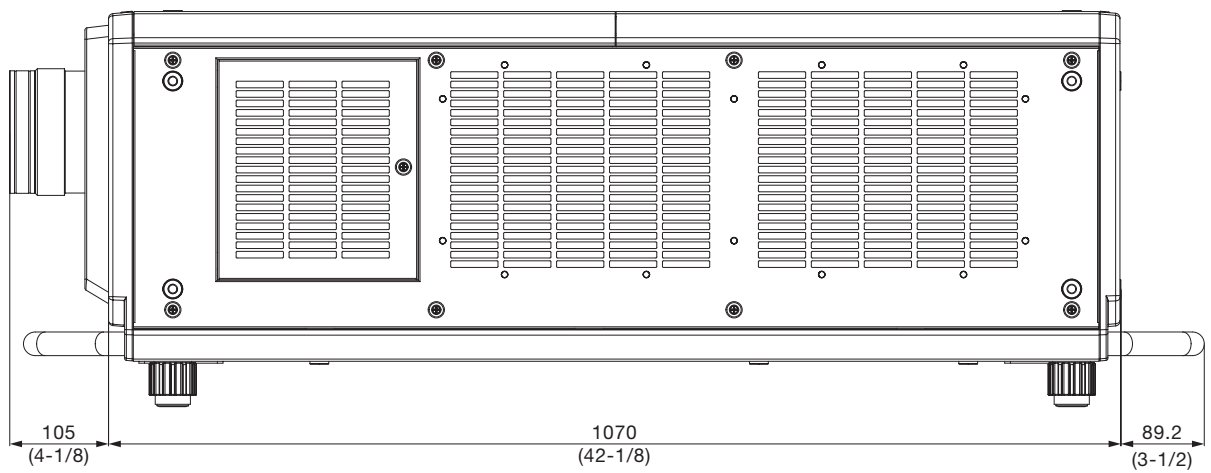
unit : mm (inch)  
**NOTE:** This illustration is not drawn to scale.

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

[Group A]



[Group B]

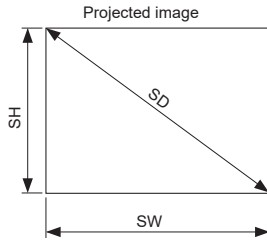


unit : mm (inch)  
NOTE: This illustration is not drawn to scale.

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

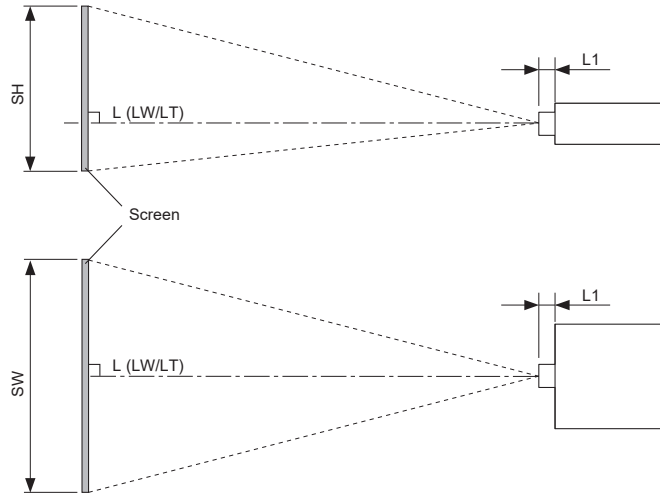
## Zoom Lens

### Projection relationships



**NOTE**

- This diagram assumes that the size and position of the projected image will be adjusted so that the image fills the entire screen.
- This illustration is not drawn to scale.



|    |                           |
|----|---------------------------|
| L  | Projection distance       |
|    | LW Minimum distance       |
|    | LT Maximum distance       |
| L1 | Lens protrusion dimension |
| SH | Projected image height    |
| SW | Projected image width     |
| SD | Projected image size      |

(Unit: m)

| Projector model      | Dimension for L1 (approximate value) |
|----------------------|--------------------------------------|
| PT-RQ22K/RZ21K/RS20K | 0.135                                |
| PT-RQ32K/RZ31K/RS30K | 0.105                                |

### Projection distance

PT-RQ32K/R22K/RZ31K/RZ21K  
Aspect ratio 16:10

unit: meters (feet)

| Projection size (Diagonal) [SD] | Projection size (Height) [SH] | Projection size (Width) [SW] | PT-RQ32K/RQ22K (2560×1600) |                | PT-RZ31K/RZ21K (WUXGA; 1920×1200) |                |
|---------------------------------|-------------------------------|------------------------------|----------------------------|----------------|-----------------------------------|----------------|
|                                 |                               |                              | Throw ratio[4.94-7.94:1]   |                | Throw ratio[4.61-7.41:1]          |                |
|                                 |                               |                              | Min [LW]                   | Max [LT]       | Min [LW]                          | Max [LT]       |
| 1.778 m / 70"                   | 0.942 (3.09)                  | 1.508 (4.95)                 | 7.36 (24.2)                | 11.88 (39.0)   | 6.86 (22.5)                       | 11.08 (36.4)   |
| 2.032 m / 80"                   | 1.077 (3.53)                  | 1.723 (5.65)                 | 8.43 (27.7)                | 13.60 (44.6)   | 7.86 (25.8)                       | 12.68 (41.6)   |
| 2.286 m / 90"                   | 1.212 (3.98)                  | 1.939 (6.36)                 | 9.51 (31.2)                | 15.33 (50.3)   | 8.86 (29.1)                       | 14.29 (46.9)   |
| 2.540 m / 100"                  | 1.346 (4.42)                  | 2.154 (7.07)                 | 10.58 (34.7)               | 17.05 (55.9)   | 9.87 (32.4)                       | 15.90 (52.2)   |
| 3.048 m / 120"                  | 1.615 (5.30)                  | 2.585 (8.48)                 | 12.73 (41.8)               | 20.50 (67.3)   | 11.87 (38.9)                      | 19.12 (62.7)   |
| 3.810 m / 150"                  | 2.019 (6.62)                  | 3.231 (10.60)                | 15.96 (52.4)               | 25.67 (84.2)   | 14.88 (48.8)                      | 23.94 (78.5)   |
| 5.080 m / 200"                  | 2.692 (8.83)                  | 4.308 (14.13)                | 21.33 (70.0)               | 34.28 (112.5)  | 19.90 (65.3)                      | 31.99 (105.0)  |
| 6.350 m / 250"                  | 3.365 (11.04)                 | 5.385 (17.67)                | 26.71 (87.6)               | 42.90 (140.8)  | 24.92 (81.8)                      | 40.03 (131.3)  |
| 7.620 m / 300"                  | 4.039 (13.25)                 | 6.462 (21.20)                | 32.08(105.3)               | 51.52 (169.0)  | 29.93 (98.2)                      | 48.07 (157.7)  |
| 8.890 m / 350"                  | 4.712 (15.46)                 | 7.539 (24.73)                | 37.46(122.9)               | 60.14 (197.3)  | 34.95(114.7)                      | 56.12 (184.1)  |
| 10.160 m / 400"                 | 5.385 (17.67)                 | 8.616 (28.27)                | 42.83(140.5)               | 68.75 (225.6)  | 39.97(131.1)                      | 64.16 (210.5)  |
| 12.700 m / 500"                 | 6.731 (22.08)                 | 10.770 (35.33)               | 53.58(175.8)               | 85.99 (282.1)  | 50.00(164.0)                      | 80.24 (263.3)  |
| 15.240 m / 600"                 | 8.077 (26.50)                 | 12.923 (42.40)               | 64.34(211.1)               | 103.22 (338.7) | 60.03(197.0)                      | 96.33 (316.0)  |
| 17.780 m / 700"                 | 9.423 (30.92)                 | 15.077 (49.47)               | 75.09(246.4)               | 120.46 (395.2) | 70.07(229.9)                      | 112.42 (368.8) |
| 20.320 m / 800"                 | 10.770 (35.33)                | 17.231 (56.53)               | 85.84(281.6)               | 137.69 (451.7) | 80.10(262.8)                      | 128.50 (421.6) |
| 22.860 m / 900"                 | 12.116 (39.75)                | 19.385 (63.60)               | 96.59(316.9)               | 154.93 (508.3) | 90.14(295.7)                      | 144.59 (474.4) |
| 25.400 m /1000"                 | 13.462 (44.17)                | 21.539 (70.67)               | 107.34(352.2)              | 172.16 (564.8) | 100.17(328.6)                     | 160.67 (527.1) |

## Zoom Lens

PT-RQ32K/RQ22K/RZ31K/RZ21K/RS30K/RS20K  
Aspect ratio 16:9

unit: meters (feet)

| Projection size (Diagonal) [SD] | Projection size (Height) [SH] | Projection size (Width) [SW] | PT-RQ32K/RQ22K (2560×1440) |                | PT-RZ31K/RZ21K (1920×1080) |                | PT-RS30K/RS20K (1440×788) |                |
|---------------------------------|-------------------------------|------------------------------|----------------------------|----------------|----------------------------|----------------|---------------------------|----------------|
|                                 |                               |                              | Throw ratio[4.95-7.94:1]   |                | Throw ratio[4.61-7.41:1]   |                | Throw ratio[5.00-8.02:1]  |                |
|                                 |                               |                              | Min [LW]                   | Max [LT]       | Min [LW]                   | Max [LT]       | Min [LW]                  | Max [LT]       |
| 1.778 m / 70°                   | 0.872 (2.86)                  | 1.550 (5.09)                 | 7.57 (24.8)                | 11.88 (39.0)   | 7.05 (23.1)                | 11.39 (37.4)   | 7.65 (25.1)               | 12.34 (40.5)   |
| 2.032 m / 80°                   | 0.996 (3.27)                  | 1.771 (5.81)                 | 8.67 (28.4)                | 13.60 (44.6)   | 8.08 (26.5)                | 13.04 (42.8)   | 8.76 (28.7)               | 14.13 (46.4)   |
| 2.286 m / 90°                   | 1.121 (3.68)                  | 1.992 (6.54)                 | 9.78 (32.1)                | 15.33 (50.3)   | 9.11 (29.9)                | 14.70 (48.2)   | 9.88 (32.4)               | 15.92 (52.2)   |
| 2.540 m / 100°                  | 1.245 (4.08)                  | 2.214 (7.26)                 | 10.88 (35.7)               | 17.05 (55.9)   | 10.15 (33.3)               | 16.35 (53.6)   | 11.00 (36.1)              | 17.71 (58.1)   |
| 3.048 m / 120°                  | 1.494 (4.90)                  | 2.657 (8.72)                 | 13.09 (43.0)               | 20.50 (67.3)   | 12.21 (40.1)               | 19.66 (64.5)   | 13.23 (43.4)              | 21.29 (69.9)   |
| 3.810 m / 150°                  | 1.868 (6.13)                  | 3.321 (10.90)                | 16.41 (53.8)               | 25.67 (84.2)   | 15.30 (50.2)               | 24.61 (80.7)   | 16.58 (54.4)              | 26.66 (87.5)   |
| 5.080 m / 200°                  | 2.491 (8.17)                  | 4.428 (14.53)                | 21.93 (72.0)               | 34.28 (112.5)  | 20.46 (67.1)               | 32.88 (107.9)  | 22.16 (72.7)              | 35.61 (116.8)  |
| 6.350 m / 250°                  | 3.113 (10.21)                 | 5.535 (18.16)                | 27.46 (90.1)               | 42.90 (140.8)  | 25.61 (84.0)               | 41.15 (135.0)  | 27.74 (91.0)              | 44.56 (146.2)  |
| 7.620 m / 300°                  | 3.736 (12.26)                 | 6.641 (21.79)                | 32.98(108.2)               | 51.52 (169.0)  | 30.77(101.0)               | 49.41 (162.1)  | 33.32(109.3)              | 55.51 (175.6)  |
| 8.890 m / 350°                  | 4.358 (14.30)                 | 7.748 (25.42)                | 38.51(126.4)               | 60.14 (197.3)  | 35.93(117.9)               | 57.68 (189.2)  | 38.91(127.7)              | 62.46 (204.9)  |
| 10.160 m / 400°                 | 4.981 (16.34)                 | 8.855 (29.05)                | 44.03(144.5)               | 68.75 (225.6)  | 41.08(134.8)               | 65.95 (216.4)  | 44.49(146.0)              | 71.41 (234.3)  |
| 12.700 m / 500°                 | 6.226 (20.43)                 | 11.069 (36.32)               | 55.08(180.7)               | 85.99 (282.1)  | 51.40(168.6)               | 82.48 (270.6)  | 55.65(182.6)              | 89.30 (293.0)  |
| 15.240 m / 600°                 | 7.472 (24.51)                 | 13.283 (43.58)               | 66.13(217.0)               | 103.22 (338.7) | 61.71(202.5)               | 99.01 (324.8)  | 66.82(219.2)              | 107.20 (351.7) |
| 17.780 m / 700°                 | 8.717 (28.60)                 | 15.497 (50.84)               | 77.18(253.2)               | 120.46 (395.2) | 72.02(236.3)               | 115.55 (379.1) | 77.98(255.8)              | 125.10 (410.4) |
| 20.320 m / 800°                 | 9.962 (32.68)                 | 17.710 (58.10)               | 88.23(289.5)               | 137.69 (451.7) | 82.33(270.1)               | 132.08 (433.3) | 89.14(292.5)              | 143.00 (469.2) |
| 22.860 m / 900°                 | 11.207 (36.77)                | 19.924 (65.37)               | 99.28(325.7)               | 154.93 (508.3) | 92.65(304.0)               | 148.61 (487.6) | 100.31(329.1)             | 160.89 (527.9) |
| 25.400 m / 1000°                | 12.453 (40.86)                | 22.138 (72.63)               | 110.33(362.0)              | 172.16 (564.8) | 102.96(337.8)              | 165.15 (541.8) | 111.47(365.7)             | 178.79 (586.6) |

PT-RQ32K/RQ22K/RZ31K/RZ21K/RS30K/RS20K  
Aspect ratio 4:3

unit: meters (feet)

| Projection size (Diagonal) [SD] | Projection size (Height) [SH] | Projection size (Width) [SW] | PT-RQ32K/RQ22K (2133×1600) |                | PT-RZ31K/RZ21K (1600×1200) |                | PT-RS30K/RS20K (SXGA+; 1400×1050) |                |
|---------------------------------|-------------------------------|------------------------------|----------------------------|----------------|----------------------------|----------------|-----------------------------------|----------------|
|                                 |                               |                              | Throw ratio[5.94-9.54:1]   |                | Throw ratio[5.54-8.90:1]   |                | Throw ratio[4.99-8.02:1]          |                |
|                                 |                               |                              | Min [LW]                   | Max [LT]       | Min [LW]                   | Max [LT]       | Min [LW]                          | Max [LT]       |
| 1.778 m / 70°                   | 1.067 (3.50)                  | 1.422 (4.67)                 | 8.35 (27.4)                | 13.47 (44.2)   | 7.78 (25.5)                | 12.56 (41.2)   | 7.01 (23.0)                       | 11.32 (37.1)   |
| 2.032 m / 80°                   | 1.219 (4.00)                  | 1.626 (5.33)                 | 9.57 (31.4)                | 15.43 (50.6)   | 8.92 (29.3)                | 14.38 (47.2)   | 8.03 (26.4)                       | 12.96 (42.5)   |
| 2.286 m / 90°                   | 1.372 (4.50)                  | 1.829 (6.00)                 | 10.79 (35.4)               | 17.38 (57.0)   | 10.06 (33.0)               | 16.20 (53.2)   | 9.06 (29.7)                       | 14.60 (47.9)   |
| 2.540 m / 100°                  | 1.524 (5.00)                  | 2.032 (6.67)                 | 12.00 (39.4)               | 19.33 (63.4)   | 11.19 (36.7)               | 18.03 (59.2)   | 10.08 (33.1)                      | 16.25 (53.3)   |
| 3.048 m / 120°                  | 1.829 (6.00)                  | 2.438 (8.00)                 | 14.44 (47.4)               | 23.23 (76.2)   | 13.46 (44.2)               | 21.67 (71.1)   | 12.13 (39.8)                      | 19.53 (64.1)   |
| 3.810 m / 150°                  | 2.286 (7.50)                  | 3.048 (10.00)                | 18.09 (59.4)               | 29.08 (95.4)   | 16.87 (55.4)               | 27.13 (89.0)   | 15.21 (49.9)                      | 24.46 (80.3)   |
| 5.080 m / 200°                  | 3.048 (10.00)                 | 4.064 (13.33)                | 24.18 (79.3)               | 38.84 (127.4)  | 22.55 (74.0)               | 36.24 (118.9)  | 20.33 (66.7)                      | 32.68 (107.2)  |
| 6.350 m / 250°                  | 3.810 (12.50)                 | 5.080 (16.67)                | 30.26 (99.3)               | 48.60 (159.5)  | 28.23 (92.6)               | 45.34 (148.8)  | 25.45 (83.5)                      | 40.89 (134.2)  |
| 7.620 m / 300°                  | 4.572 (15.00)                 | 6.096 (20.00)                | 36.35(119.3)               | 58.35 (191.4)  | 33.91(111.3)               | 54.45 (178.6)  | 30.58(100.3)                      | 49.11 (161.1)  |
| 8.890 m / 350°                  | 5.334 (17.50)                 | 7.112 (23.33)                | 42.43(139.2)               | 68.11 (223.5)  | 39.59(129.9)               | 63.55 (208.5)  | 35.70(117.1)                      | 57.32 (188.1)  |
| 10.160 m / 400°                 | 6.096 (20.00)                 | 8.128 (26.67)                | 48.52(159.2)               | 77.87 (255.5)  | 45.27(148.5)               | 72.66 (238.4)  | 40.83(134.0)                      | 65.54 (215.0)  |
| 12.700 m / 500°                 | 7.620 (25.00)                 | 10.160 (33.33)               | 60.69(199.1)               | 97.38 (319.5)  | 56.63(185.8)               | 90.87 (298.1)  | 51.08(167.6)                      | 81.97 (268.9)  |
| 15.240 m / 600°                 | 9.144 (30.00)                 | 12.192 (40.00)               | 72.86(239.0)               | 116.89 (383.5) | 67.99(223.1)               | 109.08 (357.9) | 61.32(201.2)                      | 98.40 (322.8)  |
| 17.780 m / 700°                 | 10.668 (35.00)                | 14.224 (46.67)               | 85.03(279.0)               | 136.41 (447.5) | 79.35(260.3)               | 127.29 (417.6) | 71.57(234.8)                      | 114.83 (376.7) |
| 20.320 m / 800°                 | 12.192 (40.00)                | 16.256 (53.33)               | 97.20(318.9)               | 155.92 (511.6) | 90.70(297.6)               | 145.50 (477.4) | 81.82(268.4)                      | 131.26 (430.6) |
| 22.860 m / 900°                 | 13.716 (45.00)                | 18.288 (60.00)               | 109.38(358.9)              | 175.43 (575.6) | 102.06(334.8)              | 163.71 (537.1) | 92.07(302.1)                      | 147.69 (484.6) |
| 25.400 m / 1000°                | 15.240 (50.00)                | 20.320 (66.67)               | 121.55(398.8)              | 194.95 (639.6) | 113.42(372.1)              | 181.92 (596.9) | 102.32(335.7)                     | 164.12 (538.5) |

## Zoom Lens

### Calculation of the projection distance

Aspect ratio 16:10

unit: meters

|                |         |   |
|----------------|---------|---|
| PT-RQ32K/RQ22K | minimum | $LW (m) = (\text{diagonal screen size in inches}) \times 0.1075 - 0.1673$ |
|                | maximum | $LT (m) = (\text{diagonal screen size in inches}) \times 0.1723 - 0.1846$ |
| PT-RZ31K/RZ21K | minimum | $LW (m) = (\text{diagonal screen size in inches}) \times 0.1003 - 0.1673$ |
|                | maximum | $LT (m) = (\text{diagonal screen size in inches}) \times 0.1609 - 0.1846$ |

Aspect ratio 16:9

unit: meters

|                |         |   |
|----------------|---------|---|
| PT-RQ32K/RQ22K | minimum | $LW (m) = (\text{diagonal screen size in inches}) \times 0.1105 - 0.1673$ |
|                | maximum | $LT (m) = (\text{diagonal screen size in inches}) \times 0.1771 - 0.1846$ |
| PT-RZ31K/RZ21K | minimum | $LW (m) = (\text{diagonal screen size in inches}) \times 0.1031 - 0.1673$ |
|                | maximum | $LT (m) = (\text{diagonal screen size in inches}) \times 0.1653 - 0.1846$ |
| PT-RS30K/RS20K | minimum | $LW (m) = (\text{diagonal screen size in inches}) \times 0.1116 - 0.1673$ |
|                | maximum | $LT (m) = (\text{diagonal screen size in inches}) \times 0.1790 - 0.1846$ |

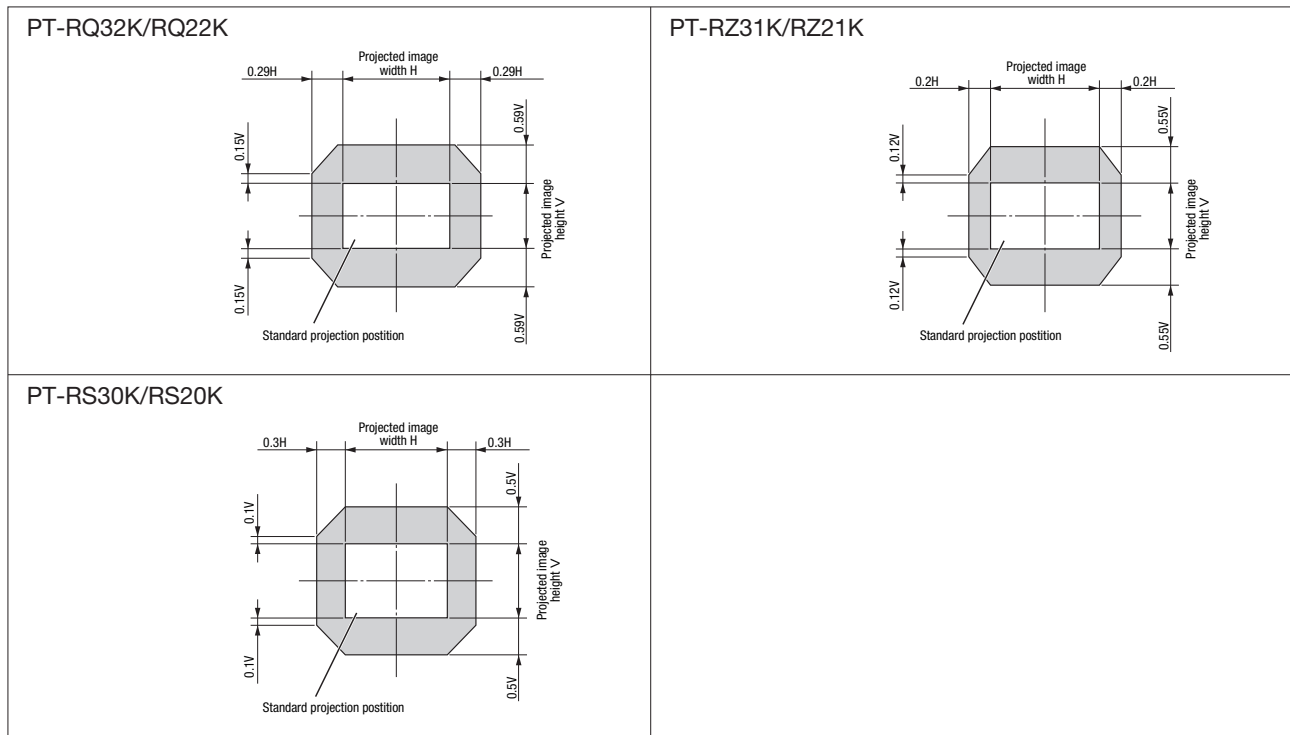
Aspect ratio 4:3

unit: meters

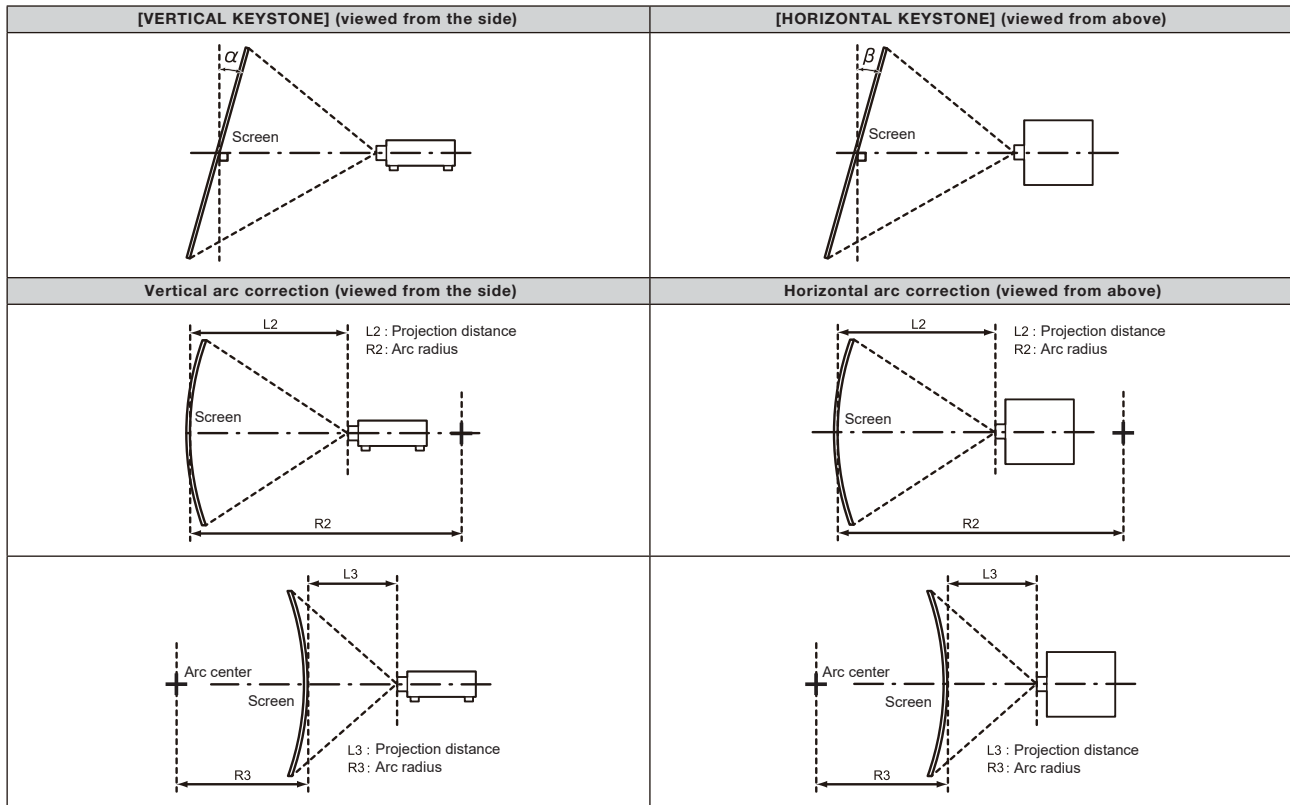
|                |         |   |
|----------------|---------|---|
| PT-RQ32K/RQ22K | minimum | $LW (m) = (\text{diagonal screen size in inches}) \times 0.1217 - 0.1673$ |
|                | maximum | $LT (m) = (\text{diagonal screen size in inches}) \times 0.1951 - 0.1846$ |
| PT-RZ31K/RZ21K | minimum | $LW (m) = (\text{diagonal screen size in inches}) \times 0.1136 - 0.1673$ |
|                | maximum | $LT (m) = (\text{diagonal screen size in inches}) \times 0.1821 - 0.1846$ |
| PT-RS30K/RS20K | minimum | $LW (m) = (\text{diagonal screen size in inches}) \times 0.1025 - 0.1673$ |
|                | maximum | $LT (m) = (\text{diagonal screen size in inches}) \times 0.1643 - 0.1846$ |

### Shift range

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



Keystone correction range



Standard status

| Projector Model No.           | Only [KEYSTONE] used                            |  | [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 3/L3 | Min. value of R2/L2           | Min. value of R3/L3 |
| PT-RQ32K/RQ22K                | ± 40  | ± 15   | ± 20   | ± 15   | 0.4                 | 0.7                | 0.2                           | 0.4                 |
| PT-RZ31K/RZ21K<br>RS30K/RS20K | ± 40  | ± 15   | ± 20   | ± 15   | 0.4                 | 0.7                | 0.2                           | 0.4                 |

When using the optional upgrade kit (ET-UK20)

| Projector Model No.           | Only [KEYSTONE] used                            |  | [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 3/L3 | Min. value of R2/L2           | Min. value of R3/L3 |
| PT-RQ32K/RQ22K                | ± 45  | ± 30   | ± 20   | ± 15   | 0.3                 | 0.5                | 0.2                           | 0.3                 |
| PT-RZ31K/RZ21K<br>RS30K/RS20K | ± 45  | ± 40   | ± 20   | ± 15   | 0.3                 | 0.5                | 0.2                           | 0.3                 |