

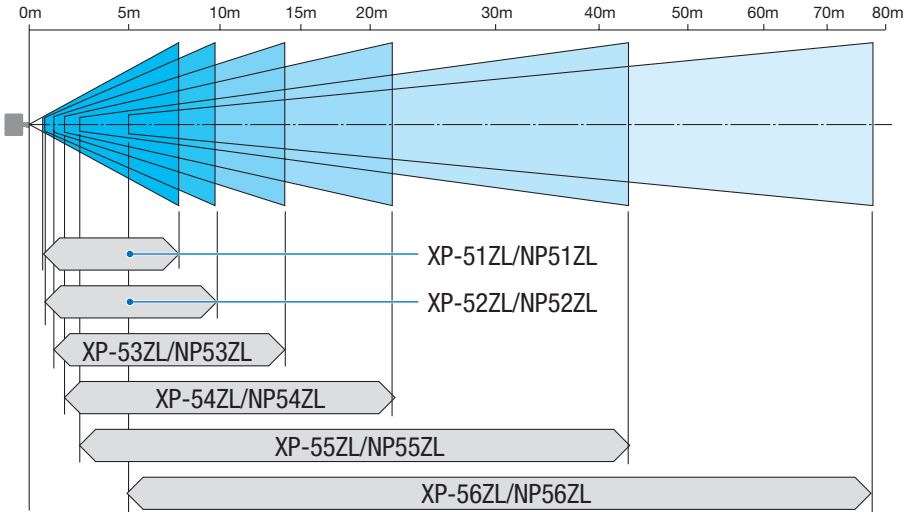
# 9. Appendix

## 9-1. Throw distance and screen size

Six separate bayonet style lenses can be used on this projector. Refer to the information on this page and use a lens suited for the installation environment (screen size and throw distance).

### Projection range for the different lenses

(Recommended distance from projector to screen)



**Lens types and throw distance (Aspect ratio 16:10)**

(Unit: inch)

Screen size	Width × Height (inches)	Lens model name and throw distance					
		XP-51ZL/ NP51ZL	XP-52ZL/ NP52ZL	XP-53ZL/ NP53ZL	XP-54ZL/ NP54ZL	XP-55ZL/ NP55ZL	XP-56ZL/ NP56ZL
60	51 × 32	26 – 32	32 – 43	43 – 63	62 – 101	99 – 199	206 – 388
80	68 × 42	36 – 44	43 – 58	58 – 85	84 – 136	133 – 267	271 – 513
100	85 × 53	45 – 55	55 – 73	73 – 107	105 – 171	167 – 335	336 – 638
120	102 × 64	54 – 67	66 – 89	87 – 128	127 – 205	202 – 402	400 – 763
150	127 × 79	69 – 84	83 – 111	110 – 161	159 – 257	254 – 504	497 – 951
200	170 × 106	92 – 113	112 – 149	147 – 215	214 – 344	340 – 674	659 – 1264
240	204 × 127	111 – 136	134 – 179	177 – 258	257 – 413	409 – 809	788 – 1515
300	254 × 159	140 – 170	169 – 224	221 – 323	322 – 517	512 – 1013	982 – 1890
400	339 × 212	187 – 228	225 – 300	296 – 432	430 – 691	684 – 1352	1305 – 2516
500	424 × 265	235 – 286	282 – 375	370 – 540	539 – 864	856 – 1691	1629 – 3142

(Unit: m)

Screen size	Width × Height (cm)	Lens model name and throw distance					
		XP-51ZL/ NP51ZL	XP-52ZL/ NP52ZL	XP-53ZL/ NP53ZL	XP-54ZL/ NP54ZL	XP-55ZL/ NP55ZL	XP-56ZL/ NP56ZL
60	129.2 × 80.8	0.7 – 0.8	0.8 – 1.1	1.1 – 1.6	1.6 – 2.6	2.5 – 5.0	5.2 – 9.8
80	172.3 × 107.7	0.9 – 1.1	1.1 – 1.5	1.5 – 2.2	2.1 – 3.4	3.4 – 6.8	6.9 – 13.0
100	215.4 × 134.6	1.1 – 1.4	1.4 – 1.9	1.8 – 2.7	2.7 – 4.3	4.3 – 8.5	8.5 – 16.2
120	258.5 × 161.5	1.4 – 1.7	1.7 – 2.3	2.2 – 3.3	3.2 – 5.2	5.1 – 10.2	10.2 – 19.4
150	323.1 × 201.9	1.7 – 2.1	2.1 – 2.8	2.8 – 4.1	4.0 – 6.5	6.4 – 12.8	12.6 – 24.2
200	430.8 × 269.2	2.3 – 2.9	2.8 – 3.8	3.7 – 5.5	5.4 – 8.7	8.6 – 17.1	16.7 – 32.1
240	516.9 × 323.1	2.8 – 3.5	3.4 – 4.5	4.5 – 6.6	6.5 – 10.5	10.4 – 20.6	20.0 – 38.5
300	646.2 × 403.9	3.6 – 4.3	4.3 – 5.7	5.6 – 8.2	8.2 – 13.1	13.0 – 25.7	24.9 – 48.0
400	861.6 × 538.5	4.8 – 5.8	5.7 – 7.6	7.5 – 11.0	10.9 – 17.5	17.4 – 34.3	33.2 – 63.9
500	1077.0 × 673.1	6.0 – 7.3	7.2 – 9.5	9.4 – 13.7	13.7 – 21.9	21.7 – 43.0	41.4 – 79.8

**Lens types and throw distance (Aspect ratio 16:9)**

(Unit: inch)

Screen size	Width × Height (inches)	Lens model name and throw distance					
		XP-51ZL/ NP51ZL	XP-52ZL/ NP52ZL	XP-53ZL/ NP53ZL	XP-54ZL/ NP54ZL	XP-55ZL/ NP55ZL	XP-56ZL/ NP56ZL
60	52 × 29	27 - 33	33 - 45	44 - 65	64 - 104	101 - 204	212 - 398
80	70 × 39	37 - 45	45 - 60	59 - 87	86 - 140	137 - 274	278 - 527
100	87 × 49	46 - 57	56 - 76	75 - 110	108 - 175	172 - 344	345 - 656
120	105 × 59	56 - 69	68 - 91	90 - 132	131 - 211	208 - 414	411 - 784
150	131 × 74	71 - 87	86 - 114	113 - 165	164 - 264	261 - 518	511 - 977
200	174 × 98	95 - 116	115 - 153	151 - 221	220 - 354	349 - 693	677 - 1299
240	209 × 118	115 - 140	138 - 184	182 - 266	264 - 425	420 - 832	810 - 1556
300	261 × 147	144 - 175	173 - 231	227 - 332	331 - 532	526 - 1041	1009 - 1943
400	349 × 196	193 - 234	232 - 308	304 - 444	443 - 710	703 - 1390	1341 - 2586
500	436 × 245	241 - 294	290 - 386	380 - 555	554 - 888	880 - 1739	1674 - 3229

(Unit: m)

Screen size	Width × Height (cm)	Lens model name and throw distance					
		XP-51ZL/ NP51ZL	XP-52ZL/ NP52ZL	XP-53ZL/ NP53ZL	XP-54ZL/ NP54ZL	XP-55ZL/ NP55ZL	XP-56ZL/ NP56ZL
60	132.8 × 74.7	0.7 - 0.8	0.8 - 1.1	1.1 - 1.6	1.6 - 2.6	2.6 - 5.2	5.4 - 10.1
80	177.1 × 99.6	0.9 - 1.1	1.1 - 1.5	1.5 - 2.2	2.2 - 3.5	3.5 - 7.0	7.1 - 13.4
100	221.4 × 124.5	1.2 - 1.4	1.4 - 1.9	1.9 - 2.8	2.7 - 4.5	4.4 - 8.7	8.8 - 16.7
120	265.7 × 149.4	1.4 - 1.7	1.7 - 2.3	2.3 - 3.3	3.3 - 5.4	5.3 - 10.5	10.4 - 19.9
150	332.1 × 186.8	1.8 - 2.2	2.2 - 2.9	2.9 - 4.2	4.2 - 6.7	6.6 - 13.2	13.0 - 24.8
200	442.8 × 249.1	2.4 - 2.9	2.9 - 3.9	3.8 - 5.6	5.6 - 9.0	8.9 - 17.6	17.2 - 33.0
240	531.3 × 298.9	2.9 - 3.5	3.5 - 4.7	4.6 - 6.7	6.7 - 10.8	10.7 - 21.1	20.6 - 39.5
300	664.1 × 373.6	3.7 - 4.5	4.4 - 5.9	5.8 - 8.4	8.4 - 13.5	13.4 - 26.4	25.6 - 49.3
400	885.5 × 498.1	4.9 - 6.0	5.9 - 7.8	7.7 - 11.3	11.2 - 18.0	17.9 - 35.3	34.1 - 65.7
500	1106.9 × 622.6	6.1 - 7.5	7.4 - 9.8	9.7 - 14.1	14.1 - 22.6	22.4 - 44.2	42.5 - 82.0

## Calculation of the throw distance from the screen size

L: Throw distance W: Screen width

Lens model name	Calculation formula (Zoom min to max)
XP-51ZL/NP51ZL	$L = W \times 0.5$ to $W \times 0.7$
XP-52ZL/NP52ZL	$L = W \times 0.6$ to $W \times 0.9$
XP-53ZL/NP53ZL	$L = W \times 0.9$ to $W \times 1.3$
XP-54ZL/NP54ZL	$L = W \times 1.2$ to $W \times 2.0$
XP-55ZL/NP55ZL	$L = W \times 2.0$ to $W \times 3.9$
XP-56ZL/NP56ZL	$L = W \times 3.9$ to $W \times 7.5$

**Example:** Throw distance when projecting on a 16:10 150" screen using the XP-54ZL lens:

According to the "Lens types and throw distance (Aspect ratio 16:10)" table (→ page 163), W (screen width) = 127"/323.1 cm.

The throw distance is  $127"/323.1 \text{ cm} \times 1.2$  to  $127"/323.1 \text{ cm} \times 2.0 = 152"/387.7 \text{ cm}$  to  $254"/646.2 \text{ cm}$  (because of the zoom lens).

\* Your calculated figure has a few percent margin of error because the calculation formula is approximate.

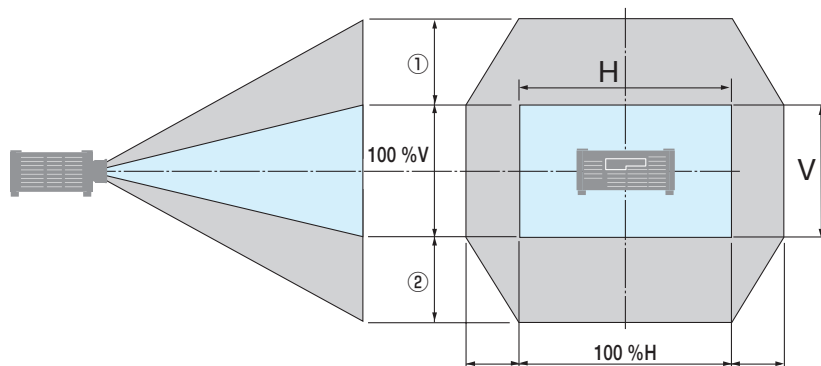
## Lens shifting range

This projector is equipped with a lens shift function for adjusting the position of the projected image by buttons. The lens can be shifted within the range shown below.

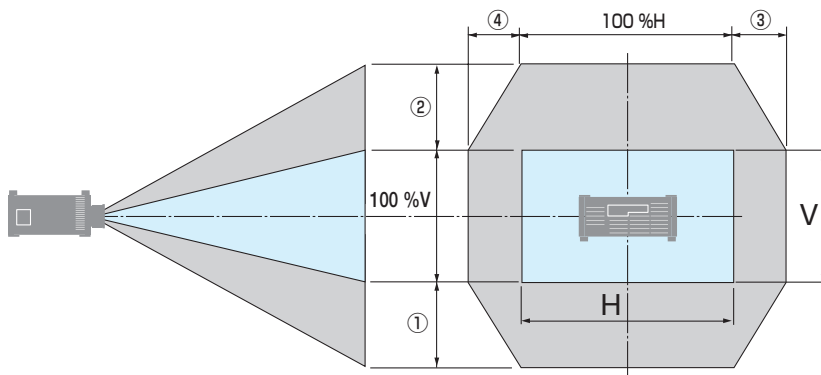
- See page 27 for lens shift operations and precautions.

Description of symbols: V indicates vertical (height of the projected image), H indicates horizontal (width of the projected image).

### Desk/front projection



### Ceiling/front projector



Number in the figure	Lens Unit					
	XP-51ZL/ NP51ZL	XP-52ZL/ NP52ZL	XP-53ZL/ NP53ZL	XP-54ZL/ NP54ZL	XP-55ZL/ NP55ZL	XP-56ZL/ NP56ZL
① ②	50%V	55%V	65%V			
③ ④	20%H			25%H		

**Example:** When projecting on a 16:10 150" screen using the XP-54ZL lens:

According to the "Lens types and throw distance (Aspect ratio 16:10)" (→ page 163), H (screen width) = 323.1 cm and V (screen height) = 201.9 cm

Adjustment range in the vertical direction: Upper and lower directions of  $0.65 \times 201.9 \text{ cm} \approx 131 \text{ cm}$  possible movement of the projected screen (when the lens is at the center position).

Adjustment range in the horizontal direction: Right and left directions of  $0.25 \times 323.1 \text{ cm} \approx 81 \text{ cm}$  possible movement of the projected screen.

\* Your calculated figure has a few percent margin of error because the calculation formula is approximate.