

# M Series Lens Throw Ratios

The following table details the information required to calculate the lens throw ratios for the M Series projectors.

HD lens information	Throw distance formula		Vertical and horizontal offset (%)	Min/max screen widths	
	Imperial (in)	Metric (cm)		Imperial (in)	Metric (cm)
0.40:1 SX+/0.37:1 HD (118-131106-XX)	TD = 0.3808 x W -1.012	TD = 0.3808 x W -0.026	+/- 30% V +/-5%	186.7	474.2
0.73:1 SX+/0.67:1 HD fixed (118-100110-XX)	TD = 0.67 x W + 7.01	TD = 0.67 x W + 17.80	+/- 35% V +/- 12% H	54 to 577	137.2 to 1405.6
0.8-1.16:1 HD (118-130105-XX)	TD = 0.8626 x W + 8.11	TD = 0.8626 x W + 0.20594	+114%/-110% V +38% / -32% H	82.6 to 170.9	210 to 434
	TD = 1.2438 x W + 8.09	TD = 1.2438 x W + 0.20559	+123%/-111% V +66%/-39% H	58.3 to 154.3	148 to 392
1.2:1 SX+/1.1:1 HD fixed (118-100117-XX)	TD = 1.1 x W + 8.03	TD = 1.1 x W + 20.40	+/- 120% V +/- 54% H	100 to 530	254 to 1346.2
1.25-1.6:1 SX+/1.16-1.49:1 HD zoom (118-100111-XX)	TD = 1.16 x W + 7.95	TD = 1.16 x W + 20.19	+/- 102% V	95 to 502	241.3 to 1275.1
	TD = 1.49 x W + 8.07	TD = 1.49 x W + 20.50	+/- 40% H	74 to 391	187.9 to 993.1
1.5-2.0:1 SX+/1.4-1.8:1 HD zoom (118-100112-XX)	TD = 1.4 x W + 4.37	TD = 1.4 x W + 11.10	+/- 120% V	109 to 672	276.9 to 1706.9
	TD = 1.8 x W + 4.53	TD = 1.8 x W + 11.51	+/- 54% H	85 to 522	215.9 to 1325.9
2.0-2.8:1 SX+/1.8-2.6:1 HD zoom	TD = 1.8 x W + 4.61	TD = 1.8 x W + 11.71	+/- 120% V	85 to 522	215.9 to 1325.9

HD lens information	Throw distance formula		Vertical and horizontal offset (%)	Min/max screen widths	
	Imperial (in)	Metric (cm)		Imperial (in)	Metric (cm)
(118-100113-XX)	TD = 2.6 x W + 3.43	TD = 2.6 x W + 8.71	+/- 54% H	59 to 362	149.9 to 919.5
2.8-4.5:1 SX+/2.6-4.1:1 HD zoom (118-100114-XX)	TD = 2.6 x W + 16.18	TD = 2.6 x W + 41.10	+/- 120% V	132 to 675	335.2 to 1714.5
	TD = 4.1 x W + 15.67	TD = 4.1 x W + 39.80	+/- 54% H	84 to 428	213.4 to 1087.1
4.5-7.1:1 SX+/4.1-6.9:1 HD zoom (118-100115-XX)	TD = 4.1 x W + 17.28	TD = 4.1 x W + 43.89	+/- 120% V	111 to 764	281.9 to 1940.6
	TD = 6.9 x W + 17.13	TD = 6.9 x W + 43.51	+/- 54% H	66 to 454	167.6 to 1153.2
7.5-11.2:1 SX+/6.9-10.4:1 HD zoom (118-100116-XX)	TD = 6.9 x W + 24.09	TD = 6.9 x W + 61.19	+/- 120% V	65 to 453	165.1 to 1150.6
	TD = 10.4 x W + 23.66	TD = 10.4 x W + 60.09	+/- 54% H	43 to 301	109.2 to 764.5

SXGA+ lens information	Throw distance formula		Vertical and horizontal offset (%)	Min/max screen widths	
	Imperial (in)	Metric (cm)		Imperial (in)	Metric (cm)
0.40:1 SX+/0.37:1 HD (118-131106-XX)	TD = 0.4125 x W - 0.929	TD = 0.4125 x W - 0.024	+/- 18% V +/-5%	172.6	438.5
0.73:1 SX+/0.67:1 HD fixed (118-100110-XX)	TD = 0.73 x W + 7.09	TD = 0.73 x W + 18.01	+/- 23% V +/- 13% H	50 to 530	127 to 1346.2
0.8-1.16:1 HD (118-130105-XX)	TD = 0.9342 x W + 8.07	TD = 0.9342 x W + 0.205	+79%/-83% V +44%/+52% H	74.4 to 200.4	189 to 509
	TD = 1.3473 x W + 8.10	TD = 1.3473 x W + 0.2058	+78%/-101% V +64%/-60% H	52.8 to 140.6	134 to 357
1.2:1 SX+/1.1:1 HD fixed (118-100117-XX)	TD = 1.2 x W + 8.03	TD = 1.2 x W + 20.40	+/- 100% V +/- 50% H	92 to 485	233.7 to 1231.9
1.25-1.6:1 SX+/1.16-1.49:1 HD zoom	TD = 1.25 x W + 7.99	TD = 1.25 x W + 20.29	+/- 73% V	88 to 466	223.5 to 1183.6

SXGA+ lens information	Throw distance formula		Vertical and horizontal offset (%)	Min/max screen widths	
	Imperial (in)	Metric (cm)		Imperial (in)	Metric (cm)
(118-100111-XX)	TD = 1.6 x W + 8.07	TD = 1.6 x W + 20.50	+/- 45% H	69 to 364	175.3 to 924.6
1.5-2.0:1 SX+/1.4-1.8:1 HD zoom (118-100112-XX)	TD = 1.5 x W + 4.33	TD = 1.5 x W + 11.00	+/- 100% V	102 to 627	259.1 to 1592.6
	TD = 2.0 x W + 4.49	TD = 2.0 x W + 11.40	+/- 50% H	76 to 470	193 to 1193.8
2.0-2.8:1 SX+/1.8-2.6:1 HD zoom (118-100113-XX)	TD = 2.0 x W + 4.57	TD = 2.0 x W + 11.61	+/- 100% V	76 to 470	193 to 1193.8
	TD = 2.8 x W + 3.39	TD = 2.8 x W + 8.61	+/- 50% H	55 to 336	39.7 to 853.4
2.8-4.5:1 SX+/2.6-4.1:1 HD zoom (118-100114-XX)	TD = 2.8 x W + 16.14	TD = 2.8 x W + 40.99	+/- 100% V	122 to 627	309.9 to 1592.6
	TD = 4.5 x W + 15.63	TD = 4.5 x W + 39.70	+/- 50% H	76 to 390	193 to 990.6
4.5-7.1:1 SX+/4.1-6.9:1 HD zoom (118-100115-XX)	TD = 4.5 x W + 17.28	TD = 4.5 x W + 43.89	+/- 100% V	101 to 696	256.5 to 1767.8
	TD = 7.5 x W + 17.09	TD = 7.5 x W + 43.41	+/- 50% H	61 to 418	154.9 to 1061.7
7.5-11.2:1 SX+/6.9-10.4:1 HD zoom (118-100116-XX)	TD = 7.5 x W + 24.06	TD = 7.5 x W + 61.11	+/- 100% V	60 to 417	152.4 to 1059.2
	TD = 11.2 x W + 23.66	TD = 11.2 x W + 60.10	+/- 50% H	40 to 279	101.6 to 708.7

  

WUXGA lens information	Throw distance formula		Vertical and horizontal offset (%)	Min/max screen widths	
	Imperial (in)	Metric (cm)		Imperial (in)	Metric (cm)
0.40:1 SX+/0.37:1 HD (118-131106-XX)	TD = 0.3808 x W -1.012	TD = 0.3808 x W -0.026	+/- 30% V +/-5%	191.9	487.5
0.73:1 SX+/0.67:1 HD fixed (118-100110-XX)	TD = 0.67 x W + 7.01	TD = 0.67 x W + 17.80	+/- 22% V +/- 6% H	54 to 577	137.2 to 1405.6
0.8-1.16:1 HD (118-130105-XX)	TD = 0.8626 x W + 8.11	TD = 0.8626 x W + 0.20594	+82%/-81% V +27%/-38% H	80.7 to 214.9	205 to 546

WUXGA lens information	Throw distance formula		Vertical and horizontal offset (%)	Min/max screen widths	
	Imperial (in)	Metric (cm)		Imperial (in)	Metric (cm)
	TD = 1.2438 x W + 8.09	TD = 1.2438 x W + 0.20559	+82%/-81% V +64%/-69% H	57.1 to 151.9	145 to 386
1.2:1 SX+/1.1:1 HD fixed (118-100117-XX)	TD = 1.1 x W + 8.03	TD = 1.1 x W + 20.40	+/- 112% V +/- 54% H	100 to 530	254 to 1346.20
1.25-1.6:1 SX+/1.16-1.49:1 HD zoom (118-100111-XX)	TD = 1.16 x W + 7.95	TD = 1.16 x W + 20.19	+/- 82% V +/- 38% H	95 to 502	241.3 to 1275.1
	TD = 1.49 x W + 8.07	TD = 1.49 x W + 20.50		74 to 391	187.9 to 993.1
1.5-2.0:1 SX+/1.4-1.8:1 HD zoom (118-100112-XX)	TD = 1.4 x W + 4.37	TD = 1.4 x W + 11.10	+/- 112% V +/- 54% H	109 to 672	276.9 to 1706.9
	TD = 1.8 x W + 4.53	TD = 1.8 x W + 11.51		85 to 522	215.9 to 1325.9
2.0-2.8:1 SX+/1.8-2.6:1 HD zoom (118-100113-XX)	TD = 1.8 x W + 4.61	TD = 1.8 x W + 11.71	+/- 112% V +/- 54% H	85 to 522	215.9 to 1325.9
	TD = 2.6 x W + 3.43	TD = 2.6 x W + 8.71		59 to 362	149.9 to 919.5
2.8-4.5:1 SX+/2.6-4.1:1 HD zoom (118-100114-XX)	TD = 2.6 x W + 16.18	TD = 2.6 x W + 41.10	+/- 112% V +/- 54% H	132 to 675	335.3 to 1714.5
	TD = 4.1 x W + 15.67	TD = 4.1 x W + 39.80		84 to 428	213.4 to 1087.1
4.5-7.1:1 SX+/4.1-6.9:1 HD zoom (118-100115-XX)	TD = 4.1 x W + 17.28	TD = 4.1 x W + 43.89	+/- 112% V +/- 54% H	111 to 764	281.9 to 1940.6
	TD = 6.9 x W + 17.13	TD = 6.9 x W + 43.51		66 to 454	167.6 to 1153.2
7.5-11.2:1 SX+/6.9-10.4:1 HD zoom (118-100116-XX)	TD = 6.9 x W + 24.09	TD = 6.9 x W + 61.19	+/- 112% V +/- 54% H	65 to 453	165.1 to 1150.6
	TD = 10.4 x W + 23.66	TD = 10.4 x W + 60.09		43 to 301	109.2 to 764.5
WXGA lens information	Throw distance formula		Vertical and horizontal offset (%)	Min/max screen widths	
	Imperial (in)	Metric (cm)		Imperial (in)	Metric (cm)
0.73:1 SX+/0.67:1 HD fixed	TD = 0.78 x W + 7.07	TD = 0.78 x W + 18.00	+/- 50% V	60 to 509	152 to 1294

WXGA lens information	Throw distance formula		Vertical and horizontal offset (%)	Min/max screen widths	
	Imperial (in)	Metric (cm)		Imperial (in)	Metric (cm)
(118-100110-XX)			+/- 18% H		
1.2:1 SX+/1.1:1 HD fixed (118-100117-XX)	TD = 1.26 x W + 8.05	TD = 1.26 x W + 20.40	+/- 150% V +/- 76% H	97 to 471	247 to 1197
1.25-1.6:1 SX+/1.16-1.49:1 HD zoom (118-100111-XX)	TD = 1.29 x W + 7.99	TD = 1.29 x W + 20.30	+/- 120% V	94 to 462	239 to 1173
	TD = 1.66 x W + 8.09	TD = 1.66 x W + 20.50	+/- 58% H	73 to 358	186 to 909
1.5-2.0:1 SX+/1.4-1.8:1 HD zoom (118-100112-XX)	TD = 1.55 x W + 4.34	TD = 1.55 x W + 11.00	+/- 150% V	105 to 615	268 to 1562
	TD = 2.09 x W + 4.48	TD = 2.09 x W + 11.40	+/- 76% H	78 to 455	198 to 1155
2.0-2.8:1 SX+/1.8-2.6:1 HD zoom (118-100113-XX)	TD = 2.08 x W + 4.58	TD = 2.08 x W + 11.60	+/- 150% V	77 to 455	197 to 1157
	TD = 2.86 x W + 3.38	TD = 2.86 x W + 8.60	+/- 76% H	57 to 332	144 to 843
2.8-4.5:1 SX+/2.6-4.1:1 HD zoom (118-100114-XX)	TD = 2.79 x W + 16.13	TD = 2.79 x W + 41.00	+/- 150% V	125 to 631	318 to 1603
	TD = 4.57 x W + 15.63	TD = 4.57 x W + 39.70	+/- 76% H	77 to 386	195 to 981
4.5-7.1:1 SX+/4.1-6.9:1 HD zoom (118-100115-XX)	TD = 4.53 x W + 17.28	TD = 4.53 x W + 43.90	+/- 150% V	102 to 693	259 to 1760
	TD = 7.62 x W + 17.09	TD = 7.62 x W + 43.40	+/- 76% H	61 to 412	154 to 1047
7.5-11.2:1 SX+/6.9-10.4:1 HD zoom (118-100116-XX)	TD = 7.48 x W + 24.04	TD = 7.48 x W + 61.10	+/- 150% V	61 to 419	156 to 1065
	TD = 11.2 x W + 23.67	TD = 11.2 x W + 60.10	+/- 76% H	41 to 280	104 to 710

- Throw distance measured from the center of the front foot of the projector.
- All lenses are made of glass.
- Calculated throw distance (TD) values are subject to a +/- 5% tolerance for individual lens variation.
- Calculated offset values are subject to a +/- 7% centering tolerance.