



# Certificate of Compliance

This certificate is issued for the following:

## Seismic Sway Brace Components

(see listing attached)

### Prepared for:

ERICO International Corp  
34600 Solon Rd  
Solon, OH 44139  
United States

### Manufactured at:

ERICO International Corp  
31700 Solon Rd  
Solon, OH 44139  
United States

FM Approvals Class: 1950

Approval Identification: PR449669

Approval Granted: March 4, 2019

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

Said Approval is subject to satisfactory field performance, continuing Surveillance Audits, and strict conformity to the constructions as shown in the Approval Guide, an online resource of FM Approvals.

A handwritten signature in dark ink, appearing to read "D.B. Fuller", is written over a horizontal line.

David Fuller  
VP - Manager of Fire Protection  
FM Approvals  
1151 Boston-Providence Turnpike  
Norwood, MA 02062 USA



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## Piping Attached Products

Model	Part Description	Orientation	Run Pipe Nominal Size, in.	Run Pipe Reference	Horizontal Load Ratings lb (N)				Remarks
					Installation Angle (a)				
					30° - 44°	45° - 59°	60° - 74°	75° - 90°	
CSB	Pipe Clamp	Lateral	1	LW, 10, 40	1490 (6620)	2110 (9380)	2580 (11470)	2900 (12890)	a, c, d, e
CSB	Pipe Clamp	Lateral	1-1/4, 1-1/2, 2	LW, 10, 40	1380 (6130)	1960 (8710)	2400 (10670)	2690 (11960)	a, c, d, e
CSB	Pipe Clamp	Lateral	2-1/2	LW, 10, 40	1440 (6400)	2030 (9020)	2490 (11070)	2790 (12410)	a, c, d, e
CSB	Pipe Clamp	Lateral	3, 4, 5	LW, 10, 40	1390 (6180)	1970 (8760)	2420 (10760)	2710 (12050)	a, c, d, e
CSB	Pipe Clamp	Lateral	6	LW, 10, 40	1460 (6490)	2060 (9160)	2520 (11200)	2830 (12580)	a, c, d, e
CSB	Pipe Clamp	Lateral	8, 10	0.188, 40	1330 (5910)	1880 (8360)	2300 (10230)	2580 (11470)	a, c, d
CSB	Pipe Clamp	Lateral	12	0.188, 40	1680 (7470)	2370 (10540)	2910 (12940)	3260 (14500)	a, c, d
CSB	Pipe Clamp	Longitudinal	1, 1-1/4	LW, 10, 40	1290 (5730)	1240 (5510)	1260 (5600)	1400 (6220)	a, c, d, e
CSB	Pipe Clamp	Longitudinal	1-1/2	LW, 10, 40	1200 (5330)	1860 (8270)	2180 (9690)	2250 (10000)	a, c, d, e
CSB	Pipe Clamp	Longitudinal	2	LW, 10, 40	1200 (5330)	1820 (8090)	2180 (9690)	2250 (10000)	a, c, d, e
CSB	Pipe Clamp	Longitudinal	2-1/2	LW, 10, 40	1320 (5870)	1820 (8090)	2190 (9740)	2500 (11120)	a, c, d, e
CSB	Pipe Clamp	Longitudinal	3, 4, 5	LW, 10, 40	1300 (5780)	1790 (7960)	2190 (9740)	2500 (11120)	a, c, d, e
CSB	Pipe Clamp	Longitudinal	6	LW, 10, 40	1410 (6270)	1950 (8670)	2350 (10450)	2680 (11920)	a, c, d, e



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Model	Part Description	Orientation	Run Pipe Nominal Size, in.	Run Pipe Reference	Horizontal Load Ratings lb (N)				Remarks
					Installation Angle (a)				
					30° - 44°	45° - 59°	60° - 74°	75° - 90°	
CSB	Pipe Clamp	Longitudinal	8, 10	0.188, 40	1400 (6220)	1920 (8540)	2350 (10450)	2640 (11740)	a, c, d
CSB	Pipe Clamp	Longitudinal	12	0.188, 40	1600 (7110)	1860 (8270)	2240 (9960)	2590 (11520)	a, c, d
CSBBRP	Pipe Clamp	Lateral	1, 1.25	LW, 10, 40	120 (535)	170 (755)	210 (935)	230 (1025)	c, d, e, g
CSBBRP	Pipe Clamp	Lateral	1, 1.25	LW, 10, 40	140 (625)	190 (845)	240 (1070)	270 (1200)	c, d, e, h
CSBBRP	Pipe Clamp	Lateral	1-1/2, 2	LW, 10, 40	140 (625)	190 (845)	240 (1070)	270 (1200)	c, d, e, g
CSBBRP	Pipe Clamp	Lateral	1-1/2, 2	LW, 10, 40	110 (490)	150 (665)	190 (845)	210 (935)	c, d, e, h
CSBEZU	Pipe Clamp	Lateral	1, 1-1/4, 1-1/2	LW, 10, 40	860 (3825)	1220 (5425)	1500 (6670)	1670 (7430)	a, c, d, e
CSBEZU	Pipe Clamp	Longitudinal	1, 1-1/4, 1-1/2	LW, 10, 40	390 (1735)	550 (2445)	670 (2980)	750 (3335)	a, c, d, e
CSBEZU	Pipe Clamp	Lateral	2, 2-1/2, 3	LW, 10, 40	1530 (6805)	2160 (9610)	2650 (11790)	2960 (13165)	a, c, d, e
CSBEZU	Pipe Clamp	Longitudinal	2, 2-1/2, 3	LW, 10, 40	520 (2315)	690 (3070)	830 (3690)	930 (4136)	a, c, d, e
CSBEZU	Pipe Clamp	Lateral	4, 5	LW, 10, 40	1570 (6985)	2220 (9875)	2720 (12100)	3030 (13480)	a, c, d, e
CSBEZU	Pipe Clamp	Longitudinal	4, 5	LW, 10, 40	630 (2800)	900 (4005)	1100 (4895)	1230 (5470)	a, c, d, e
CSBEZU	Pipe Clamp	Lateral	6	LW, 10, 40	1980 (8805)	2810 (12500)	3440 (15300)	3840 (17080)	a, c, d, e
CSBEZU	Pipe Clamp	Longitudinal	6	LW, 10, 40	730 (3245)	1000 (4450)	1230 (5470)	1370 (6095)	a, c, d, e



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Model	Part Description	Orientation	Run Pipe Nominal Size, in.	Run Pipe Reference	Horizontal Load Ratings lb (N)				Remarks
					Installation Angle (a)				
					30° - 44°	45° - 59°	60° - 74°	75° - 90°	
CSBQG	Pipe Clamp	Lateral	2.5	LW, 10, 40	1410 (6270)	2000 (8895)	2450 (10900)	2740 (12190)	b, c, d, e
CSBQG	Pipe Clamp	Lateral	3, 4	LW, 10, 40	1190 (5295)	1680 (7475)	2060 (9163)	2300 (10230)	b, c, d, e, l
CSBQG	Pipe Clamp	Lateral	5, 6	LW, 10	870 (3870)	1230 (5470)	1510 (6715)	1690 (7515)	b, c, d, e
CSBQG	Pipe Clamp	Lateral	5, 6	40	970 (4315)	1370 (6095)	1680 (7475)	1870 (8320)	b, c, d, e
CSBQG	Pipe Clamp	Lateral	8	0.188, 40	790 (3515)	1110 (4940)	1360 (6050)	1520 (6760)	b, c, f
CSBQIKCL	Pipe Clamp	Lateral	1, 1-1/4, 1-1/2	LW	290 (1290)	410 (1830)	495 (2200)	550 (2445)	b, e
CSBQIKCL	Pipe Clamp	Lateral	1, 1-1/4, 1-1/2	10	150 (665)	210 (935)	280 (1245)	315 (1400)	b, d
CSBQIKCL	Pipe Clamp	Lateral	1, 1-1/4, 1-1/2	40	475 (2115)	665 (2960)	825 (3670)	925 (4115)	b, c
CSBQIKCL	Pipe Clamp	Lateral	2, 2-1/2, 3, 3-1/2	LW	390 (1735)	550 (2445)	670 (2980)	750 (3335)	b, e
CSBQIKCL	Pipe Clamp	Lateral	2, 2-1/2, 3, 3-1/2	10	350 (1555)	500 (2225)	620 (2760)	690 (3070)	b, d
CSBQIKCL	Pipe Clamp	Lateral	2, 2-1/2, 3, 3-1/2	40	490 (2180)	690 (3070)	850 (3780)	950 (4225)	b, c
CSBQIKCL	Pipe Clamp	Lateral	4	LW	470 (2090)	660 (2935)	810 (3605)	910 (4050)	b, e
CSBQIKCL	Pipe Clamp	Lateral	4	10	510 (2270)	730 (3245)	890 (3960)	990 (4405)	b, d
CSBQIKCL	Pipe Clamp	Lateral	4	40	500 (2225)	710 (3160)	870 (3870)	970 (4315)	b, c



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Model	Part Description	Orientation	Run Pipe Nominal Size, in.	Run Pipe Reference	Horizontal Load Ratings lb (N)				Remarks
					Installation Angle (a)				
					30° - 44°	45° - 59°	60° - 74°	75° - 90°	
CSBQIKCSE	Pipe Clamp	Lateral	4	LW	1370 (6095)	1940 (8630)	2380 (10590)	2260 (10055)	b, e
CSBQIKCSE	Pipe Clamp	Lateral	4	10	1280 (5695)	1810 (8050)	2220 (9875)	2480 (11030)	b, d
CSBQIKCSE	Pipe Clamp	Lateral	4	40	1290 (5740)	1820 (8095)	2230 (9920)	2490 (11075)	b, c
CSBQIKCSE	Pipe Clamp	Lateral	5, 6	LW	840 (3735)	1190 (5295)	1460 (6495)	1630 (7250)	b, e
CSBQIKCSE	Pipe Clamp	Lateral	5, 6	10	850 (3780)	1200 (5340)	1480 (6585)	1650 (7340)	b, d
CSBQIKCSE	Pipe Clamp	Lateral	5, 6	40	1060 (4715)	1510 (6715)	1840 (8185)	2060 (9165)	b, c
CSBQIKCSE	Pipe Clamp	Lateral	8	0.188	880 (3915)	1250 (5560)	1530 (6805)	1710 (7605)	b, f
CSBQIKCSE	Pipe Clamp	Lateral	8	40	950 (4225)	1350 (6005)	1650 (7340)	1840 (8185)	b, c
CSBSTU	Pipe Clamp	Lateral	1, 1-1/4, 1-1/2	LW, 10, 40	860 (3825)	1220 (5425)	1500 (6670)	1670 (7430)	a, c, d, e
CSBSTU	Pipe Clamp	Longitudinal	1, 1-1/4, 1-1/2	LW, 10, 40	970 (4315)	720 (3200)	860 (3825)	960 (4270)	a, c, d, e
CSBSTU	Pipe Clamp	Lateral	2, 2-1/2, 3	LW, 10, 40	1530 (6805)	2160 (9610)	2650 (11790)	2960 (13165)	a, c, d, e
CSBSTU	Pipe Clamp	Longitudinal	2, 2-1/2, 3	LW, 10, 40	870 (3870)	690 (3070)	830 (3690)	930 (4136)	a, c, d, e
CSBSTU	Pipe Clamp	Lateral	4, 5	LW, 10, 40	1570 (6985)	2220 (9875)	2720 (12100)	3030 (13480)	a, c, d, e
CSBSTU	Pipe Clamp	Longitudinal	4, 5	LW, 10, 40	1550 (6895)	1390 (6185)	1680 (7475)	1870 (8320)	a, c, d, e



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Model	Part Description	Orientation	Run Pipe Nominal Size, in.	Run Pipe Reference	Horizontal Load Ratings lb (N)				Remarks
					Installation Angle (a)				
					30° - 44°	45° - 59°	60° - 74°	75° - 90°	
CSBSTU	Pipe Clamp	Lateral	6	LW, 10, 40	1980 (8805)	2810 (12500)	3440 (15300)	3840 (17080)	a, c, d, e
CSBSTU	Pipe Clamp	Longitudinal	6	LW, 10, 40	1470 (6540)	1170 (5205)	1410 (6270)	1570 (6985)	a, c, d, e
CSBSTU	Pipe Clamp	Lateral	8, 10	0.188, 40	2040 (9075)	2890 (12855)	3540 (15745)	3950 (17570)	a, c, f
CSBSTU	Pipe Clamp	Longitudinal	8, 10	0.188, 40	1200 (5340)	1700 (7560)	2090 (9295)	2330 (10365)	a, c, f

## Structural Attached Products

Model	Part Description	Joist or Beam Thickness, in (mm)	Orientation	Horizontal Load Ratings lb (N)				Remarks
				Installation Angle (a)				
				30° - 44°	45° - 59°	60° - 74°	75° - 90°	
CSBBARJ	Beam Clamp	¼ - ½ (6.3 - 12.7)	Lateral	1740 (7740)	1710 (7605)	2060 (9165)	2300 (10230)	a
CSBBARJ	Beam Clamp	¼ - ½ (6.3 - 12.7)	Longitudinal	1410 (6270)	2110 (9385)	2540 (11300)	2830 (12590)	a
CSBBRS1	Structure Attached	Steel - 12 Ga. 0.1094 - 0.50 (2.78 - 12.7 mm)	N/A	220 (980)	310 (1380)	210 (935)	210 (935)	g
CSBBRS1	Structure Attached	Steel - 12 Ga. 0.1094 - 0.50 (2.78 - 12.7 mm)	N/A	210 (935)	290 (1290)	200 (890)	220 (980)	h
CSBBRS2	Structure Attached	N/A	N/A	210 (935)	290 (1290)	200 (890)	210 (935)	g, h
CSBBRS3	Structure Attached	N/A	N/A	320 (1425)	310 (1380)	190 (845)	210 (935)	k



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Model	Part Description	Joist or Beam Thickness, in (mm)	Orientation	Horizontal Load Ratings lb (N)				Remarks
				Installation Angle (a)				
				30° - 44°	45° - 59°	60° - 74°	75° - 90°	
CSBBRS3	Structure Attached	Steel – 16 Ga 0.0598 (1.5 mm) Minimum	N/A	320 (1425)	310 (1380)	190 (845)	210 (935)	j
CSBBRS3	Structure Attached	0.25 – 0.75 (6 – 19 mm)	Lateral	120 (535)	170 (755)	210 (935)	230 (1025)	g, h, i
CSBBRS3	Structure Attached	0.25 – 0.75 (6 – 19 mm)	Longitudinal	140 (625)	200 (890)	230 (1025)	260 (1155)	g, h, i
CSBBC	Beam Clamp	0.25 – 0.75 (6 – 19 mm)	Lateral	1190 (5295)	1680 (7475)	1160 (5160)	1280 (5695)	a
CSBBC	Beam Clamp	0.25 – 0.75 (6 – 19 mm)	Longitudinal	1620 (7205)	1710 (7605)	1010 (4495)	1110 (4940)	a
CSBIB	Beam Clamp	0.25 – 1-1/4 Thick (6.3 – 31 mm) Thick 4 – 18 inch wide (100 – 455 mm wide)	Lateral	1620 (7205)	2300 (10230)	2820 (12545)	3140 (13965)	a
CSBIB	Beam Clamp	0.25 – 1-1/4 Thick (6.3 – 31 mm) Thick 4 – 18 inch wide (100 – 455 mm wide)	Longitudinal	1620 (7205)	1710 (7605)	1010 (4495)	1110 (4940)	a
CSBUNIV	Structure Attached	N/A	N/A	1620 (7205)	2300 (10230)	2820 (12545)	3140 (13965)	a
CSBMA	Structure Attached	N/A	N/A	3290 (14630)	4520 (20100)	5540 (24640)	6200 (27570)	
CSBS1	Structure Attached	¼ - ¾ (6-19 mm)	Lateral	850 (3780)	1780 (7910)	2770 (12320)	2840 (12630)	a
CSBS1	Structure Attached	¼ - ¾ (6-19 mm)	Longitudinal	880 (3910)	1430 (6360)	2020 (8980)	2410 (10720)	a
CSBS1A	Structure Attached	¼ - ¾ (6-19 mm)	Lateral	850 (3780)	1780 (7910)	2770 (12320)	2840 (12630)	a
CSBS1A	Structure Attached	¼ - ¾ (6-19 mm)	Longitudinal	880 (3910)	1430 (6360)	2020 (8980)	2410 (10720)	a



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Model	Part Description	Joist or Beam Thickness, in (mm)	Orientation	Horizontal Load Ratings lb (N)				Remarks
				Installation Angle (a)				
				30° - 44°	45° - 59°	60° - 74°	75° - 90°	
CSBS2	Structure Attached	¾-1-1/4 (19-31 mm)	Lateral	1220 (5420)	2140 (9510)	2580 (11470)	2870 (12760)	a
CSBS2	Structure Attached	¾-1-1/4 (19-31 mm)	Longitudinal	1100 (4890)	1820 (8090)	2190 (9740)	2680 (11920)	a
CSBS3	Structure Attached	¼ - ¾ (6-19 mm) Width: 4-8.5 (100-215 mm)	Lateral	1180 (5240)	2210 (9830)	2830 (12580)	2940 (13070)	a
CSBS3	Structure Attached	¼ - ¾ (6-19 mm) Width: 4-8.5 (100-215 mm)	Longitudinal	820 (3640)	1380 (6130)	2080 (9250)	3010 (13380)	a
CSBS4	Structure Attached	¼-3/4 (6-19 mm) Width: 4-14.5 (100-365mm)	Lateral	1180 (5240)	2210 (9830)	2830 (12580)	2940 (13070)	a
CSBS4	Structure Attached	¼-3/4 (6-19mm) Width: 4-14.5 (100-365mm)	Longitudinal	820 (3640)	1380 (6130)	2080 (9250)	3010 (13380)	a
CSBS5	Structure Attached	¾-1-1/4 (19-31 mm) Width: 4-18 (100-455mm)	Lateral	1220 (5420)	2140 (9510)	2580 (11470)	2870 (12760)	a
CSBS5	Structure Attached	¾-1-1/4 (19-31 mm) Width: 4-18 (100-455mm)	Longitudinal	1100 (4890)	1820 (8090)	2190 (9740)	2680 (11920)	a
CSBU1	Structure Attached	N/A	N/A	1690 (7510)	2210 (9830)	2660 (11830)	3090 (13740)	a
CSBU2	Structure Attached	N/A	N/A	1480 (6580)	2290 (10180)	2860 (12720)	3090 (13740)	a
CSBUS1	Structure Attached	N/A	N/A	2010 (8940)	2840 (12630)	3420 (15210)	3810 (16940)	m



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Model	Part Description	Joist or Beam Thickness, in (mm)	Orientation	Horizontal Load Ratings lb (N)				Remarks
				Installation Angle (a)				
				30° - 44°	45° - 59°	60° - 74°	75° - 90°	
CSBUS2	Structure Attached	N/A	N/A	2010 (8940)	2840 (12630)	3420 (15210)	3810 (16940)	m
CSBUS1PA	Structure Attached	N/A	N/A	1160 (5170)	1860 (8290)	1860 (8290)	1680 (7470)	m
CSBUS2PA	Structure Attached	N/A	N/A	1160 (5170)	1860 (8290)	1860 (8290)	1680 (7470)	m

**Remarks:**

- a. FM Approved when used with 1", 1-1/4", 1-1/2", or 2" (DN25, DN32, DN40, DN50) NPS Schedule 40, GB/T 3091, EN 10255 (Heavy), AS 1074 Heavy or JIS G3454 brace pipe.
- b. FM Approved when used with 1" and 1-1/4" (DN 25 and DN32) NPS Schedule 40, AS 1074 Heavy, GB/T 3091, EN 10255 (Heavy), or JIS G3454 brace pipe.
- c. Load ratings for Schd 40 above may also be applied to AS 1074 Heavy, GB/T 3091, EN 10255 (Heavy), and JIS G3454 pipe.
- d. Load ratings for Schd 10 above may also be applied to AS 1074 Medium, GB/T 3091, EN 10255 (Medium or Heavy), JIS G3452, FM Approved Thinwall, and Schd 40 pipes unless otherwise indicated.
- e. Load ratings for LW above refers to FM Approved Lightwall Pipe, commonly referred to as "Schedule 7". These ratings may also be applied to AS 1074 Lightwall, EN 10255 L, EN 10220, and GB/T 8163 pipe unless otherwise specified.
- f. Load ratings for "0.188 wall" above may be applied to any thicker walled pipe unless otherwise specified.
- g. Load ratings based on the use of a 3/8"-16 UNC (M10 x 1.5) threaded rod as the brace member.
- h. Load ratings based on the use of 1/2"-13UNC (M12 x 1.75) threaded rod as the brace member.
- i. Load ratings based on the use of a Model 300 Beam Clamp (3/8"-16UNC / M10 x 1.5 Bolt) as means for attachment to structural member.
- j. Load ratings based on the use of 3/8"-16 UNC (M10 x 1.5) threaded fastener as the attachment fastener to the structural member.
- k. Load ratings based on the use of 3/8"-16 UNC (M10 x 1.5) threaded fastener as the attachment fastener to a concrete insert.
- l. Includes CSBQG0250MEG to accommodate DN65 pipe size.
- m. FM Approved with 12 gauge or thicker Type A strut as brace member



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