

HOIST RINGS

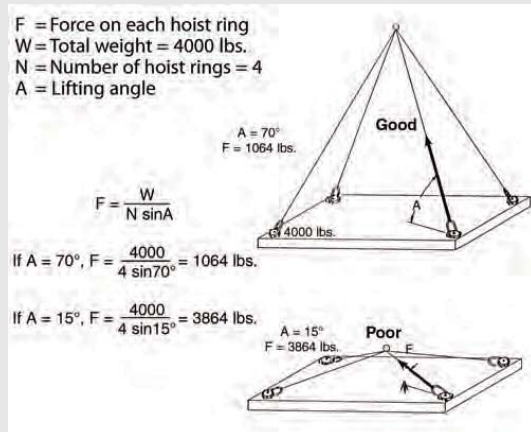
SELECTION CHART:

CAPACITY	SWIVEL			SIDE-PULL	PIVOTING	LIFTING EYES
	STEEL	STAINLESS	NICKEL			
< 500 LBS	X	X				X
500-999 LBS.	X		X	X		X
1,000-2,499 LBS.	X	X	X	X	X	X
2,500-4,999 LBS.	X	X	X	X	X	X
5,000-7,499 LBS.	X	X		X	X	X
7,500-9,999 LBS.	X	X		X	X	X
10,000-24,999 LBS.	X	X		X	X	X
>25,000 LBS.	X	X				

HOIST RING SAFETY PRECAUTIONS

INFO+: The following safety precautions apply to all lifting devices on pages 67, 69-81 and page 52. Also see these individual pages for additional precautions and installation guidelines.

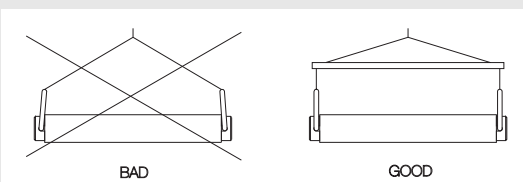
1. **IMPORTANT!** The load on each hoist ring is not simply total weight divided by the number of hoist rings. The resultant force can be significantly greater at shallow lift angles and with unevenly distributed loads. See the example below:



2. Despite the 5:1 safety factor on hoist rings, never exceed the rated load capacity. This safety margin is needed in case of misuse, which could drastically lower load capacity.

3. Tensile strength of parent material should be above 80,000 psi to achieve full load rating. For weaker material, consider through-hole mounting with a nut and washer on the other side.

4. Do not allow hoist rings to bind. Use a spreader bar, if necessary, to avoid binding.



5. Do not use spacers between the hoist ring and the mounting surface.

6. Mounting surface must be flat and smooth for full contact under hoist ring. Tapped mounting holes must be perpendicular to the mounting surface.

7. Tighten mounting screws to the torque recommended. Periodically check torque because screws could loosen in extended service. For hoist rings not furnished with screws, mount using only high-quality socket-head cap screws.

8. Never lift with a hook or other device that could deform the lifting ring. **INFO+:** Do not use cable assemblies on pages 60-61 for lifting.

9. Do not apply shock loads. Always lift gradually. Repeat magnaflux testing if shock loading ever occurs.

10. After installation, check that ring rotates and pivots freely in all directions.

HOIST RINGS

TYPES



SWIVEL HOIST RINGS

The original, patented safety-engineered Hoist Ring, and the only one that has a production sample destructively pull tested to guarantee each production run meets or exceeds the 5:1 safety factor. Pivots 180 degrees and swivels 360 degrees simultaneously to allow lifting from any direction. Black oxide finish is standard, with cadmium plating available as a special. Also available in 300-series stainless steel, with a load rating equal to 50% of the steel version. Heavy duty versions are available in capacities up to 250,000 lbs. Some varieties available electroless nickel plated, for a less-hazardous corrosion-resistant finish. Made in USA. **INFO+:** Pages 69-77.



PIVOTING HOIST RINGS

An economical lifting device ideal for permanent installation. Also has a low profile and high load capacity. Forged base and solid-loop forged ring. Pivots a full 180 degrees, but does not rotate. Safety factor = 5:1. Made in USA. **INFO+:** Page 80.



SIDE-PULL HOIST RINGS

Required for side mounting. Flip and turn loads without unhooking (use with a spreader bar). Forged alloy-steel ring pivots 180 degrees and swivels 360 degrees simultaneously to allow lifting from any direction. Large, weldless forged ring can accommodate larger lifting hooks. Meets OSHA standards and military specifications MIL-STD-209J and MIL-STD-1365(11). Safety factor = 5:1. Made in USA. **INFO+:** Pages 78-79.



LIFTING EYES

Forged steel eyebolts with an integral shoulder for greater strength. These simple, economical products are suitable for vertical lifting in-line with the threaded bolt, such as when lifting from a single point or from two points with a spreader bar. For lifting at an angle, Swivel Hoist Rings should be used instead. Manufactured and tested according to ASTM A489 and ANSI B18.15 specifications. Safety factor = 5:1. Made in USA. **INFO+:** Page 81.

MATERIALS

STEEL

Alloy steel, heat treated, black oxide finish (cadmium plating available as a special). Every production lot of swivel Hoist Rings is subjected to testing, including the industry's most rigorous pull testing. We destructively pull test every production lot to ensure that they meet or exceed our 5:1 safety factor.

STAINLESS STEEL

The stainless steel version of our original, patented safety-engineered hoist ring comes with a load rating equal to 50% of the steel version. Useful for corrosive, cryogenic, or elevated-temperature environments.

NICKEL-PLATED STEEL

Alloy-steel Swivel Hoist Rings are available with electroless nickel plating. This optional finish offers excellent corrosion and wear resistance while still providing the full load capacity of our heat-treated alloy-steel hoist rings.

All hoist rings are made in the USA, and available DFARS and RoHS compliant.

HOIST RINGS

AVAILABLE EXCLUSIVELY ONLINE AT WWW.CARRLANE.COM

The following hoist ring selections may be found online in the product catalog at carrlane.com



FORGED ROAD-PLATE SWIVEL HOIST RINGS*

These hoist rings have a shorter, larger-diameter bolt, ideal for lifting heavy plates. Patent no. 4,570,987, no. 4,641,986, no. 5,405,210 and others pending.



FORGED BAR-TITE™ SWIVEL HOIST RINGS*

These hoist rings have a steel bar knob for tightening with a level bar instead of a wrench. Patent no. 4,570,987, no. 4,641,986, no. 5,405,210 and others pending.



FORGED SPIN-N-LOK™ SWIVEL HOIST RINGS*

These hoist rings have a spoked lug nut for tightening without a wrench. Patent no. 4,570,987, 4,641,986, 5,405,210 and other patents pending.



FORGED WELD-MOUNT SWIVEL HOIST RINGS*

These hoist rings mounted by welding. Patent no. 4,570,987, no. 4,641,986, no. 5,405,210 and others pending.



HEAVY-DUTY SUPER-COIL™ SWIVEL HOIST RINGS*

These hoist rings are furnished with a coil bolt, and are ideal for temporary attachment to steel structures and construction material. Patent no. 4,570,987, 4,641,986, 5,405,210, 5,732,991, and others pending.



FORGED SWIVEL LIFT PLATES

These swivel hoist rings have a center through-hole instead of a bolt, for mounting with a custom anchoring system. Patent no. 4,570,987, no. 4,641,986, no. 5,405,210 and others pending.



SHACKLE HOIST RINGS*

These swivel hoist rings are designed for permanent mounting on tooling and equipment. Forged alloy-steel shackle pivots 180 degrees and swivels 360 degrees simultaneously to allow lifting from any direction. Patent no. 5,823,588.



FAST-LOK™ PLATE LIFTING SYSTEM

Plate-lifting system with a weld-on base and totally removable shackle assembly, allowing the plate surface to remain totally free of obstructions. Patent pending. FEATURES: Fast-Lok™ Clevis, Fast-Lok™ Base, Forged Anchor Shackle, Fast-Lok™ Detent Pin.



SCISSOR-LOK™ PLATE LIFTING SYSTEM

Plate-lifting system with a weld-on base and totally removable shackle assembly, allowing the plate surface to remain total free of obstructions. Patent pending, FEATURES: Scissor-Lok™ Tool, Fast-Lok™ Base, Forged Anchor Shackle, and Fast-Lok™ Detent Pin.



HEAVY-DUTY LIFTING EYES

These lifting eyes have a short, large-diameter thread, making them ideal for lifting heavy plates. Designed for straight vertical lifting only. High-tensile alloy steel. Patent pending.



UNIVERSAL LIFTING RINGS

Removable hoist rings with a forged alloy-steel shackle. Each Universal Lifting Ring fits three different thread sizes. Designed for straight vertical lifting only. Patent no. 4,557,513.

HOIST RING ACCESSORIES — AVAILABLE EXCLUSIVELY ONLINE:



WELD-IN THREADED INSERTS



RENEWAL ROAD PLATES ROUND



RENEWAL ROAD PLATES SQUARE

*Forged alloy-steel shackle pivots 180 degrees and swivels 360 degrees simultaneously to allow lifting from any direction.

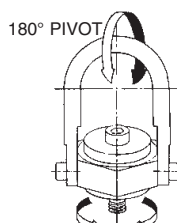
SWIVEL HOIST RINGS

ALLOY STEEL, HEAT TREATED, BLACK OXIDE FINISH, 100% MAGNAFLUX INSPECTED

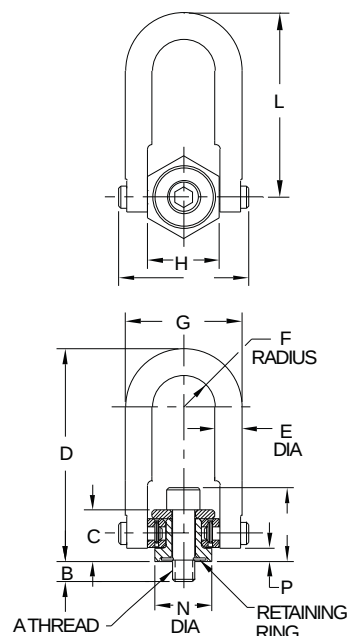


The original safety-engineered hoist ring. Pivots 180 degrees and swivels 360 degrees simultaneously to allow lifting from any direction. Safety factor = 5:1. Black oxide finish is standard, with cadmium plating available as a special (add -C to part number). Swivel Hoist Rings are also available in 300-series stainless steel, with a load rating equal to 50% of the steel version (**INFO+** see pages 72-73). Patent no. 3,297,293 and 4,705,422.

Fasten hoist rings using the installation torque specified in the dimension table. Always install so that the hoist ring can pivot and swivel freely. Some hoist rings are available with a choice of bolt lengths. Use the shortest bolt length only for steel plates, the other lengths for weaker materials and for through-hole mounting with a washer and nut. **INFO+** See general Hoist Ring Safety Precautions on page 66.



360° ROTATION



STANDARD RING (INCH)

PART NO.	LOAD RATING (LBS)	A	B	C	D	E DIA	F	G	H	J	K	L	N DIA	P	INSTALLATION TORQUE (FT-LBS)	REPLACEMENT BOLT (WITH RETAINING RING)
CL-550-SHR-2	550	1/4-20	.54	.71	2.67	3/8	.43	1.61	1.00	1.84	.96	2.31	.75	.17	5	—
CL-800-SHR-1	800	5/16-18	.29	.72	2.63	3/8	.44	1.62	1.00	1.82	1.03	2.35	.75	.17	7	CL-800-SHRB-1
CL-800-SHR-2			.54													CL-800-SHRB-2
CL-1000-SHR-1	1000	3/8-16	.54	.72	2.63	3/8	.44	1.62	1.00	1.82	1.09	2.35	.75	.17	12	CL-1000-SHRB-1
CL-23301-SHR	2500	1/2-13	1.07	.93	3.77	1/2	.70	2.40	1.49	2.58	1.43	3.31	1.25	.20	28	CL-23318-SHRB-1
CL-2500-SHR-1			.77													CL-2500-SHRB-1
CL-2500-SHR-2	2500	1/2-13	1.02	1.23	4.77	3/4	.88	3.25	2.00	3.52	1.73	4.24	1.50	.16	28	CL-2500-SHRB-2
CL-2500-SHR-3			1.27													CL-2500-SHRB-3
CL-4000-SHR-1			.77													CL-4000-SHRB-1
CL-4000-SHR-2	4000	5/8-11	1.02	1.23	4.77	3/4	.88	3.25	2.00	3.52	1.86	4.24	1.50	.16	60	CL-4000-SHRB-2
CL-4000-SHR-3			1.27													CL-4000-SHRB-3
CL-5000-SHR-1			1.02													CL-5000-SHRB-1
CL-5000-SHR-2	5000	3/4-10	1.52	1.23	4.77	3/4	.88	3.25	2.00	3.52	1.98	4.24	1.50	.16	100	CL-5000-SHRB-2
CL-7000-SHR-1			1.03													CL-7000-SHRB-1
CL-7000-SHR-2	7000	3/4-10	1.53	1.72	6.55	1-1/16	1.40	4.94	3.00	5.06	2.47	5.80	2.37	.24	100	CL-7000-SHRB-2
CL-8000-SHR-1			1.03													CL-8000-SHRB-1
CL-8000-SHR-2	8000	7/8-9	1.53	1.72	6.55	1-1/16	1.40	4.94	3.00	5.06	2.60	5.80	2.37	.24	160	CL-8000-SHRB-2
CL-10000-SHR-1			1.28													CL-10000-SHRB-1
CL-10000-SHR-2	10000	1"-8	1.53	1.72	6.55	1-1/16	1.40	4.94	3.00	5.06	2.72	5.80	2.37	.24	230	CL-10000-SHRB-2
CL-10000-SHR-3			2.28													CL-10000-SHRB-3
CL-15000-SHR-1	15000	1-1/4"-7	1.89	2.11	8.73	1-1/4	1.75	6.00	3.76	6.50	3.36	7.75	3.20	.35	470	CL-15000-SHRB-1
CL-24000-SHR-1	24000	1-1/2"-6	2.70	2.81	12.47	1-3/4	2.25	8.00	4.87	8.55	4.36	11.12	4.20	.47	800	CL-24000-SHRB-1
CL-30000-SHR-1	30000	2"-4-1/2	2.96	2.81	12.47	1-3/4	2.25	8.00	4.87	8.55	5.36	11.12	4.20	.47	1100	—
CL-23503-SHR																—
CL-23501-SHR	50000	2-1/2"-4	4.00	4.09	16.87	2-1/4	3.00	10.50	6.52	11.67	6.59	14.50	5.75	1.12	2100	—
CL-23501-SHR		2-1/2"-8														—
CL-23600-SHR	75000	3"-4	5.20	5.20	19.50	2-3/4	3.75	13.00	8.10	14.15	8.27	17.00	7.25	1.00	4300	—
CL-23701-SHR	100000	3-1/2"-4	7.00	7.00	22.09	3-1/4	4.00	14.50	8.60	15.90	9.56	19.25	7.75	1.09	6600	—

CONTINUED ON NEXT PAGE

SWIVEL HOIST RINGS

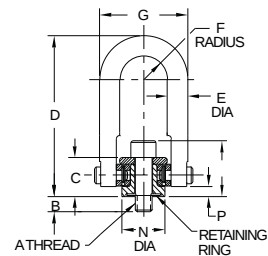
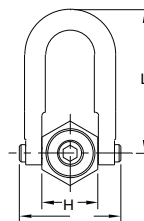
STANDARD RING (METRIC)

PART NO.	LOAD RATING (LBS)	A	B	C	D	E DIA	F	G	H	J	K	L	N DIA	P	INSTALLATION TORQUE (FT-LBS)	REPLACEMENT BOLT WITH (RETAINING RING)
CLM-800-SHR-2	880	M8	.66	.72	2.63	3/8	.44	1.62	1.00	1.82	1.02	2.35	.75	.17	7	CLM-800-SHRB-2
CLM-1000-SHR-1	1000	M10	.66	.72	2.63	3/8	.44	1.62	1.00	1.82	1.10	2.35	.75	.17	12	CLM-1000-SHRB-1
CLM-2500-SHR-1	2300	M12	.74	1.23	4.77	3/4	.88	3.25	2.00	3.52	1.70	4.24	1.50	.16	27	CLM-2500-SHRB-1
CLM-4000-SHR-2	4000	M16	1.13	1.23	4.77	3/4	.88	3.25	2.00	3.52	1.86	4.24	1.50	.16	59	CLM-4000-SHRB-2
CLM-24020-SHR	4800	M20	1.18	1.23	4.77	3/4	.88	3.25	2.00	3.52	2.01	4.25	1.50	.16	100	CLM-24220-SHRB
CLM-7000-SHR-2	6600	M20	1.26	1.72	6.55	1-1/16	1.40	4.94	3.00	5.06	2.51	5.80	2.31	.24	100	CLM-7000-SHRB-2
CLM-9000-SHR-2	9200	M24	1.46	1.72	6.55	1-1/16	1.40	4.94	3.00	5.06	2.66	5.80	2.31	.24	159	CLM-9000-SHRB-2
CLM-10000-SHR-1	10000	M30	2.12	1.71	6.52	1	1.40	4.80	3.00	5.14	2.72	5.80	2.31	.24	230	CLM-24230-SHRB
CLM-15000-SHR-1	15000	M30	1.81	2.11	8.73	1-1/4	1.75	6.00	3.76	6.50	3.36	7.75	3.20	.35	470	CLM-24421-SHRB
CLM-24042-SHR			2.60													CLM-24433-SHRB
CLM-24000-SHR-1	24000	M36	2.72	2.81	12.47	1-3/4	2.25	8.00	4.87	8.55	4.36	11.12	4.20	.47	800	CLM-24223-SHRB
CLM-27000-SHR-1	27000	M42	3.11	2.81	12.47	1-3/4	2.25	8.00	4.87	8.55	4.86	11.12	4.20	.47	800	CLM-24232-SHRB
CLM-30000-SHR-1	30000	M48	3.11	2.81	12.47	1-3/4	2.25	8.00	4.87	8.55	5.36	11.12	4.20	.47	800	CLM-24225-SHRB
CLM-24060-SHR	48000	M64	4.02	4.09	16.87	2-1/4	3.00	10.50	6.52	11.67	6.61	14.50	5.75	1.12	2100	CLM-24527-SHRB
CLM-24062-SHR	69000	M72	5.20	5.27	19.50	2-3/4	3.75	13.00	8.10	14.50	8.27	17.00	7.25	1.00	4200	CLM-24627-SHRB
CLM-24064-SHR	110000	M90	7.01	6.06	22.09	3-1/4	4.00	14.50	8.60	15.90	9.56	19.25	7.75	1.09	7100	CLM-24727-SHRB



Optional Long-Ring Version

Long-ring version provides extra reach and allows using larger lifting hooks.



LONG RING (INCH)

PART NO.	LOAD RATING (LBS)	A	B	C	D	E DIA	F	G	H	J	K	L	N DIA	P	INSTALLATION TORQUE (FT-LBS)	REPLACEMENT BOLT WITH (RETAINING RING)
CL-23322-SHR	2500	1/2-13	.78	1.22	6.72	3/4	.88	3.25	1.99	3.52	1.72	6.19	1.50	.16	28	CL-23024-SHRB
CL-23323-SHR			1.03													CL-23025-SHRB
CL-23324-SHR			1.28													CL-23026-SHRB
CL-23320-SHR	4000	5/8-11	1.03	1.22	6.72	3/4	.88	3.25	1.99	3.52	1.85	6.19	1.50	.16	60	CL-23022-SHRB
CL-23321-SHR			1.28													CL-23023-SHRB
CL-23325-SHR	5000	3/4-10	1.03	1.22	6.72	3/4	.88	3.25	1.99	3.52	1.97	6.19	1.50	.16	100	CL-23027-SHRB
CL-23327-SHR			1.53													CL-23029-SHRB
CL-23329-SHR	7000	3/4-10	1.04	1.71	8.11	1	1.40	4.80	3.00	5.14	2.46	7.38	2.37	.24	100	CL-23122-SHRB
CL-23330-SHR			1.54													CL-23123-SHRB
CL-23328-SHR	8000	7/8-9	1.04	1.71	8.11	1	1.40	4.80	3.00	5.14	2.59	7.38	2.37	.24	160	CL-23121-SHRB
CL-23331-SHR			1.29													CL-23125-SHRB
CL-23332-SHR	10000	1"-8	1.54	1.71	8.11	1	1.40	4.80	3.00	5.14	2.71	7.38	2.37	.24	230	CL-23126-SHRB
CL-23333-SHR			2.29													CL-23127-SHRB

LONG RING (METRIC)

CLM-24014-SHR	2300	M12	.75	1.22	6.72	3/4	.88	3.25	1.99	3.52	1.69	6.19	1.50	.16	27	CLM-24212-SHRB
CLM-24018-SHR	4000	M16	.94	1.22	6.72	3/4	.88	3.25	1.99	3.52	1.85	6.19	1.50	.16	59	CLM-24216-SHRB
CLM-24021-SHR	4800	M20	1.18	1.22	6.72	3/4	.88	3.25	1.99	3.52	2.01	6.19	1.50	.16	100	CLM-24220-SHRB
CLM-24023-SHR	6600	M20	1.14	1.71	8.11	1	1.40	4.80	3.00	5.14	2.50	7.38	2.37	.24	100	CLM-24222-SHRB
CLM-24026-SHR	9200	M24	1.34	1.71	8.11	1	1.40	4.80	3.00	5.14	2.65	7.38	2.37	.24	230	CLM-24224-SHRB
CLM-24032-SHR	10000	M30	2.13	1.71	8.11	1	1.40	4.80	3.00	5.14	2.89	7.38	2.37	.24	230	CLM-24230-SHRB

NICKEL-PLATED SWIVEL HOIST RINGS

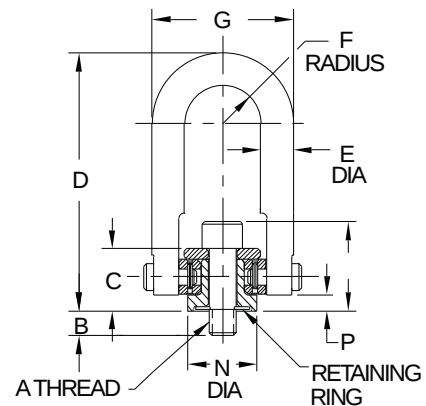
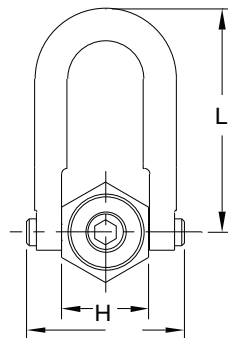
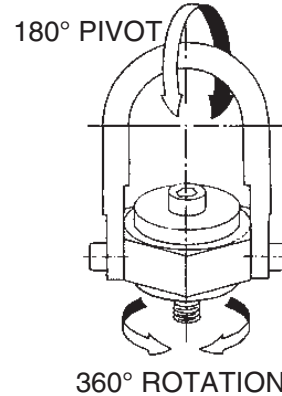
ALLOY STEEL, HEAT TREATED, ELECTROLESS NICKEL PLATED, 100% MAGNAFLUX INSPECTED



Nickel Plated

Our original alloy-steel Swivel Hoist Rings are now available with electroless nickel plating. These hoist rings offer excellent corrosion and wear resistance while still providing the full load capacity of our heat-treated alloy-steel hoist rings. Electroless nickel is a hard, uniform coating that is very resistant to a wide range of chemicals, which makes these hoist rings suitable for many corrosive and marine environments. Swivel Hoist Rings pivot 180 degrees and swivel 360 degrees simultaneously to allow lifting from any direction. Safety factor = 5:1. Patent no. 3,297,293 and 4,705,422.

Fasten hoist rings using the installation torque specified in the dimension table. Always install so that the hoist ring can pivot and swivel freely. Some hoist rings are available with a choice of bolt lengths. Use the shortest bolt length only for steel plates, the other lengths for weaker materials and for through-hole mounting with a washer and nut. **INFO+:** See general Hoist Ring Safety Precautions on page 66.



STANDARD RING, ELECTROLESS NICKEL PLATED (INCH)

PART NO.	LOAD RATING (LBS)	A	B	C	D	E DIA	F	G	H	J	K	L	N DIA	P	INSTALLATION TORQUE (FT-LBS)	REPLACEMENT BOLT (WITH RETAINING RING)
CL-800-SHR-2-N	800	5/16-18	.54	.72	2.63	3/8	.44	1.62	1.00	1.82	1.03	2.35	.75	.17	7	CL-800-SHRB-2-N
CL-1000-SHR-1-N	1000	3/8-16	.54	.72	2.63	3/8	.44	1.62	1.00	1.82	1.09	2.35	.75	.17	12	CL-1000-SHRB-1-N
CL-2500-SHR-1-N	2500	1/2-13	.77	1.23	4.77	3/4	.88	3.25	2.00	3.52	1.73	4.24	1.50	.16	28	CL-2500-SHRB-1-N
CL-2500-SHR-2-N			1.02													CL-2500-SHRB-2-N
CL-2500-SHR-3-N			1.27													CL-2500-SHRB-3-N
CL-4000-SHR-1-N	4000	5/8-11	.77	1.23	4.77	3/4	.88	3.25	2.00	3.52	1.86	4.24	1.50	.16	60	CL-4000-SHRB-1-N
CL-4000-SHR-2-N			1.02													CL-4000-SHRB-2-N
CL-4000-SHR-3-N			1.27													CL-4000-SHRB-3-N
CL-5000-SHR-1-N	5000	3/4-10	1.02	1.23	4.77	3/4	.88	3.25	2.00	3.52	1.98	4.24	1.50	.16	100	CL-5000-SHRB-1-N
CL-5000-SHR-2-N			1.52													CL-5000-SHRB-2-N

STAINLESS SWIVEL HOIST RINGS

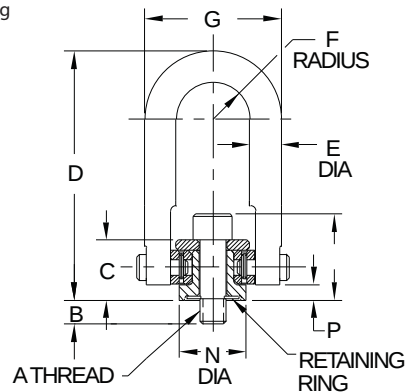
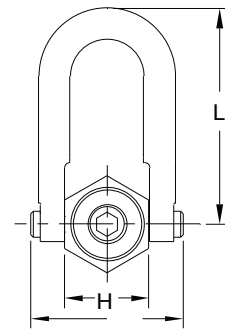
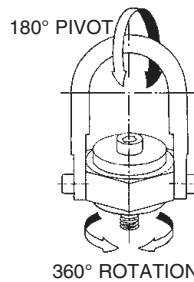
300-SERIES STAINLESS STEEL, PASSIVATED, 100% LIQUID-PENETRANT INSPECTED



Stainless Steel

Stainless steel version of our original safety-engineered hoist ring, with a load rating equal to 50% of the alloy steel version. Useful for corrosive, cryogenic, or elevated-temperature environments. Pivots 180 degrees and swivels 360 degrees simultaneously to allow lifting from any direction. Safety factor = 5:1. Patent no. 3,297,293 and 4,705,422.

Fasten hoist rings using the installation torque specified in the dimension table. Always install so that the hoist ring can pivot and swivel freely. Some hoist rings are available with a choice of bolt lengths. Use the shortest bolt length only for steel plates, the other lengths for weaker materials and for through-hole mounting with a washer and nut. **INFO+:** See general Hoist Ring Safety Precautions on page 66.



STANDARD RING — STAINLESS STEEL (INCH)

PART NO.	LOAD RATING (LBS)	A	B	C	D	E DIA	F	G	H	J	K	L	N DIA	P	INSTALLTION TORQUE (FT-LBS)
CL-275-SHR-1-S	275	1/4-20	.54	.71	2.67	3/8	.43	1.61	1.00	1.84	.96	2.31	.75	.17	2.5
CL-400-SHR-1-S	400	5/16-18	.29	.71	2.67	3/8	.43	1.61	1.00	1.84	.96	2.31	.75	.17	3.5
CL-400-SHR-2-S			.54												
CL-500-SHR-1-S	500	3/8-16	.54	.71	2.67	3/8	.43	1.61	1.00	1.84	1.09	2.31	.75	.17	6
CL-29301-SHR-S	1250	1/2-13	1.07	.93	3.77	1/2	.70	2.40	1.49	2.58	1.43	3.31	1.25	.20	4
CL-1250-SHR-1-S	1250	1/2-13	.78	1.22	4.78	3/4	.88	3.25	1.99	3.52	1.72	4.25	1.50	.16	14
CL-1250-SHR-2-S			1.03												
CL-1250-SHR-3-S			1.28												
CL-2000-SHR-1-S	2000	5/8-11	.78	1.22	4.78	3/4	.88	3.25	1.99	3.52	1.85	4.25	1.50	.16	30
CL-2000-SHR-2-S			1.03												
CL-2000-SHR-3-S			1.28												
CL-2500-SHR-1-S	2500	3/4-10	1.03	1.22	4.78	3/4	.88	3.25	1.99	3.52	1.97	4.25	1.50	.16	50
CL-2500-SHR-2-S			1.53												
CL-29102-SHR-S	3500	3/4-10	1.04	1.71	6.52	1	1.40	4.80	3.00	5.14	2.46	5.78	2.37	.24	50
CL-29103-SHR-S			1.54												
CL-29101-SHR-S	4000	7/8-9	1.04	1.71	6.52	1	1.40	4.80	3.00	5.14	2.59	5.78	2.37	.24	80
CL-29105-SHR-S	5000	1"-8	1.29	1.71	6.52	1	1.40	4.80	3.00	5.14	2.71	5.78	2.37	.24	115
CL-29106-SHR-S			1.54												
CL-29107-SHR-S			2.29												
CL-29401-SHR-S	7500	1-1/4"-7	1.89	2.11	8.73	1-1/4	1.75	6.00	3.76	6.50	3.36	7.75	3.20	.35	235
CL-29202-SHR-S	12000	1-1/2"-6	2.70	2.81	12.47	1-3/4	2.25	8.00	4.87	8.55	4.31	11.12	4.20	.47	400
CL-29200-SHR-S	15000	2"-4-1/2	2.96	2.81	12.47	1-3/4	2.25	8.00	4.87	8.55	5.31	11.12	4.20	.47	550
CL-29503-SHR-S	25000	2-1/2"-4	4.00	4.09	16.87	2-1/4	3.00	10.50	6.52	11.67	6.59	14.50	5.75	1.12	1050
CL-29501-SHR-S		2-1/2"-8													
CL-29600-SHR-S	37500	3"-4	5.20	5.27	19.50	2-3/4	3.75	13.00	8.10	14.15	8.27	17.00	7.25	1.00	2150
CL-29701-SHR-S	50000	3-1/2"-4	7.00	6.06	22.09	3-1/4	4.00	14.50	8.60	15.90	9.56	19.25	7.75	1.09	3300

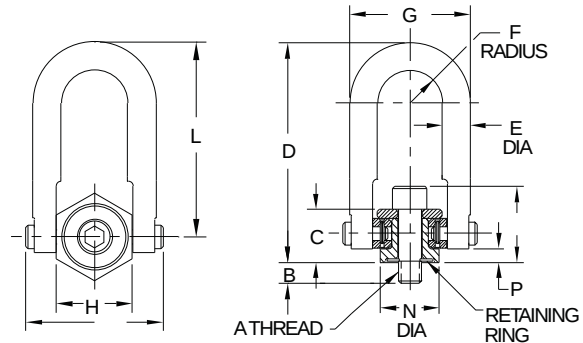
STAINLESS SWIVEL HOIST RINGS

STANDARD RING — STAINLESS STEEL (METRIC)

PART NO.	LOAD RATING (LBS)	A	B	C	D	E DIA.	F	G	H	J	K	L	N DIA.	P	INSTALLATION TORQUE (FT-LBS)
CLM-440-SHR-2-S	440	M8	.67	.71	2.67	3/8	.43	1.61	1.00	1.84	1.03	2.31	.75	.17	3.5
CLM-500-SHR-1-S	500	M10	.67	.71	2.67	3/8	.43	1.61	1.00	1.84	1.11	2.31	.75	.17	6
CLM-1150-SHR-1-S	1150	M12	.75	1.22	4.78	3/4	.88	3.25	2.00	3.52	1.69	4.25	1.50	.16	14
CLM-2000-SHR-2-S	2000	M16	.94	1.22	4.78	3/4	.88	3.25	2.00	3.52	1.85	4.25	1.50	.16	30
CLM-2400-SHR-2-S	2400	M20	1.18	1.22	4.78	3/4	.88	3.25	2.00	3.52	2.01	4.25	1.50	.16	50
CLM-29822-SHR-S	3300	M20	1.14	1.71	6.53	1	1.40	4.77	3.00	5.14	2.50	5.78	2.31	.24	50
CLM-29824-SHR-S	4600	M24	1.34	1.71	6.53	1	1.40	4.77	3.00	5.14	2.65	5.78	2.31	.24	115
CLM-29830-SHR-S	5000	M30	2.13	1.71	6.53	1	1.40	4.77	3.00	5.14	2.89	5.78	2.31	.24	115
CLM-29840-SHR-S	7500	M30	1.81	2.11	8.73	1.25	1.75	6.00	3.76	6.50	3.29	7.75	3.20	.35	235
CLM-29842-SHR-S			2.60												
CLM-29850-SHR-S	12000	M36	2.72	2.81	12.47	1.75	2.25	8.00	4.87	8.55	4.23	11.12	4.20	.47	400
CLM-29852-SHR-S	13500	M42	3.11	2.81	12.47	1.75	2.25	8.00	4.87	8.55	4.46	11.12	4.20	.47	400
CLM-29854-SHR-S	15000	M48	3.11	2.81	12.47	1.75	2.25	8.00	4.87	8.55	4.70	11.12	4.20	.47	400
CLM-29860-SHR-S	24000	M64	4.02	4.09	16.87	2.25	3.00	10.50	6.52	11.67	6.61	14.50	5.75	1.12	1050



Long-ring version provides extra reach and allows using larger lifting hooks.



LONG RING — STAINLESS STEEL (INCH)

PART NO.	LOAD RATING (LBS)	A	B	C	D	E DIA.	F	G	H	J	K	L	N DIA.	P	INSTALLATION TORQUE (FT-LBS)
CL-29322-SHR-S	1250	1/2-13	.78	1.22	6.72	3/4	.88	3.25	1.99	3.52	1.72	6.19	1.50	.16	14
CL-29323-SHR-S			1.03												
CL-29324-SHR-S			1.28												
CL-29320-SHR-S	2000	5/8-11	1.03	1.22	6.72	3/4	.88	3.25	1.99	3.52	1.85	6.19	1.50	.16	30
CL-29321-SHR-S			1.28												
CL-29325-SHR-S			1.03												
CL-29327-SHR-S	2500	3/4-10	1.53	1.22	6.72	3/4	.88	3.25	1.99	3.52	1.97	6.19	1.50	.16	50
CL-29329-SHR-S			1.04												
CL-29330-SHR-S			1.54												
CL-29328-SHR-S	3500	3/4-10	1.04	1.71	8.11	1	1.40	4.80	3.00	5.14	2.46	7.38	2.37	.24	50
CL-29331-SHR-S			1.29												
CL-29332-SHR-S			1.54												
CL-29333-SHR-S	4000	7/8-9	1.04	1.71	8.11	1	1.40	4.80	3.00	5.14	2.59	7.38	2.37	.24	80
CL-29331-SHR-S			1.29												
CL-29332-SHR-S	5000	1"-8	1.54	1.71	8.11	1	1.40	4.80	3.00	5.14	2.71	7.38	2.37	.24	115
CL-29333-SHR-S			2.29												

LONG RING — STAINLESS STEEL (METRIC)

CLM-29814-SHR-S	1150	M12	.75	1.22	6.72	3/4	.88	3.25	1.99	3.52	1.69	6.19	1.50	.16	14
CLM-29818-SHR-S	2000	M16	.94	1.22	6.72	3/4	.88	3.25	1.99	3.52	1.85	6.19	1.50	.16	30
CLM-29821-SHR-S	2400	M20	1.18	1.22	6.72	3/4	.88	3.25	1.99	3.52	2.01	6.19	1.50	.16	50
CLM-29823-SHR-S	3300	M20	1.14	1.71	8.11	1	1.40	4.80	3.00	5.14	2.50	7.38	2.37	.24	50
CLM-29826-SHR-S	4600	M24	1.34	1.71	8.11	1	1.40	4.80	3.00	5.14	2.65	7.38	2.37	.24	115
Please contact factory	5000	M30	2.13	1.71	8.11	1	1.40	4.80	3.00	5.14	2.89	7.38	2.37	.24	235

HEAVY-DUTY® SWIVEL HOIST RINGS

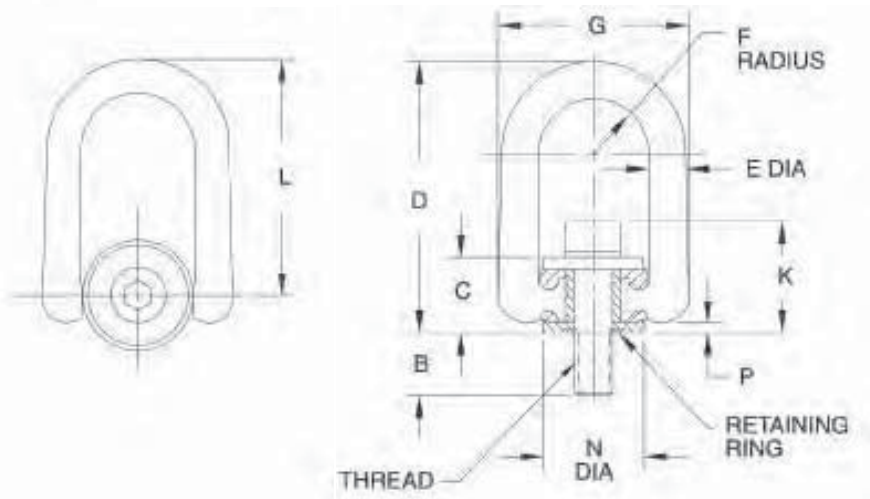
ALLOY STEEL, HEAT TREATED, BLACK OXIDE FINISH, 100% MAGNAFLUX INSPECTED



The next generation of Swivel Hoist Rings, with a heavy-duty forged steel ring. Pivots 180 degrees and swivels 360 degrees simultaneously to allow lifting from any direction. Safety factor = 5:1. Meets OSHA standards and Military Specification MIL-STD-1365(11) or MIL-STD-209C. Patent no. 4,570,987 and 4,641,986, and other patents pending.

Fasten hoist rings using the installation torque specified in the dimension table.

Always install so that the hoist ring can pivot and swivel freely. Some hoist rings are available with a choice of bolt lengths. Use the shortest bolt length only for steel plates, the other lengths for weaker materials and for through-hole mounting with a washer and nut. **INFO-:** See general Hoist Ring Safety Precautions on page 66.



STANDARD RING (INCH)

PART NO.	LOAD RATING (LBS)	A	B	C	D	E DIA	F	G	K	L	N DIA	P	INSTALLATION TORQUE (FT-LBS)	REPLACEMENT BOLT (WITH RETAINING RING)
CL-33106-SHR	10000	1"-8	1.20	2.05	7.37	1.00	1.40	5.10	3.05	6.62	2.81	.18	230	CL-33126-SHRB
CL-33105-SHR			1.45											CL-33125-SHRB
CL-33107-SHR			2.20											CL-33127-SHRB
CL-33402-SHR	15000	1-1/4"-7	1.88	2.87	9.22	1.25	2.00	6.75	4.23	8.12	3.88	.32	470	CL-33419-SHRB
CL-33401-SHR			2.63											CL-33421-SHRB
CL-33420-SHR	20000	1-3/8"-6	2.63	2.87	9.22	1.25	2.00	6.75	4.35	8.12	3.88	.32	670	CL-33429-SHRB
CL-33424-SHR	24000	1-1/2"-6	2.63	2.87	9.22	1.25	2.00	6.75	4.48	8.12	3.88	.32	800	CL-33422-SHRB
CL-33427-SHR	30000	2"-4-1/2	2.96	2.87	9.22	1.25	2.00	6.75	4.48	8.12	3.88	.32	1100	—
CL-33432-SHR		2"-8												—

HEAVY-DUTY® SWIVEL HOIST RINGS

STANDARD RING (METRIC)

PART NO.	LOAD RATING (LBS)	A	B	C	D	E DIA	F	G	K	L	N DIA	P	INSTALLATION TORQUE (FT-LBS)	REPLACEMENT BOLT (WITH RETAINING RING)
CLM-34102-SHR	9200	M24	1.10	2.05	7.37	1.00	1.40	5.10	3.00	6.62	2.81	.18	230	CLM-34121-SHRB
CLM-34103-SHR			M30											CLM-34123-SHRB
CLM-34105-SHR	10000	M30	1.50	2.05	7.37	1.00	1.40	5.10	3.23	6.62	2.81	.18	230	CLM-34126-SHRB
CLM-34107-SHR			M36											CLM-34127-SHRB
CLM-34401-SHR	15000	M30	2.64	2.87	9.22	1.25	2.00	6.75	4.23	8.12	3.88	.32	470	CLM-34421-SHRB
CLM-34402-SHR	24000	M36	2.64	2.87	9.22	1.25	2.00	6.75	4.48	8.12	3.88	.32	800	CLM-34422-SHRB
CLM-34403-SHR	27000	M42	3.15	2.87	9.22	1.25	2.00	6.75	4.48	8.12	3.88	.32	800	CLM-24232-SHRB
CLM-34404-SHR	30000	M48	3.15	2.87	9.22	1.25	2.00	6.75	4.48	8.12	3.88	.32	800	CLM-24225-SHRB



Optional
Long-Ring Version

Long-ring version provides extra reach and allows using larger lifting hooks.

LONG RING (INCH)

PART NO.	LOAD RATING (LBS)	A	B	C	D	E DIA	F	G	K	L	N DIA	P	INSTALLATION TORQUE (FT-LBS)	REPLACEMENT BOLT (WITH RETAINING RING)
CL-33165-SHR	10000	1"-8	1.20	2.05	9.00	1.00	1.40	5.10	3.05	8.25	2.81	.18	230	CL-33126-SHRB
CL-33166-SHR			1.45											CL-33125-SHRB
CL-33167-SHR			2.20											CL-33127-SHRB

LONG RING (METRIC)

CLM-34162-SHR	9200	M24	1.10	2.05	9.00	1.00	1.40	5.10	3.00	8.25	2.81	.18	230	CLM-34121-SHRB
CLM-34163-SHR			1.50											CLM-34123-SHRB
CLM-34165-SHR	10000	M30	1.50	2.05	9.00	1.00	1.40	5.10	3.23	8.25	2.81	.18	230	CLM-34126-SHRB
CLM-34167-SHR			1.89											CLM-34127-SHRB

Aerospace Is In Our DNA

Carr Lane Manufacturing was founded in 1952 to produce tooling components for the aerospace industry. Let us show you what more than six decades of industry knowledge and experience can bring to your next project.



Carr Lane
MANUFACTURING CO.

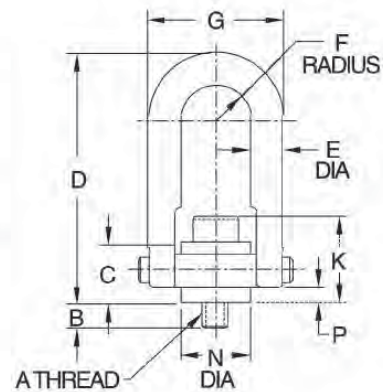
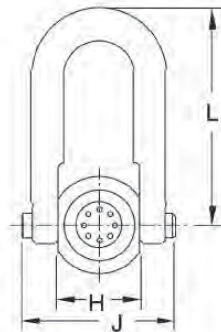
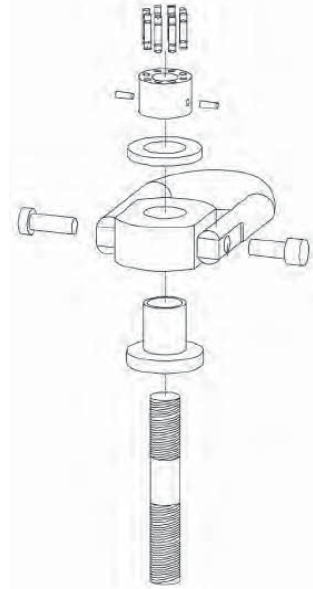
EZ-TORQUE® SWIVEL HOIST RINGS

ALLOY STEEL, HEAT TREATED, BLACK OXIDE FINISH, 100% MAGNAFLUX INSPECTED



**E-Z Torque®
Swivel Hoist Rings**

Extra-large Swivel Hoist Rings with our patented system that allows tightening several smaller bolt heads with a standard torque wrench instead of tightening one large bolt with a special tool. Swivel Hoist Rings pivot 180 degrees and swivel 360 degrees simultaneously to allow lifting from any direction. Safety factor = 5:1. Black oxide finish is standard, with cadmium plating available as a special. Available in load capacities up to 250000 lbs. Patent no. 3,297,293, 4,705,422, and 6,199,925. Fasten hoist rings using the installation torque specified in the dimension table. Always install so that the hoist ring can pivot and swivel freely. **INFO+** See general Hoist Ring Safety Precautions on page 66.



E-Z-TORQUE® SWIVEL HOIST RINGS (INCH)

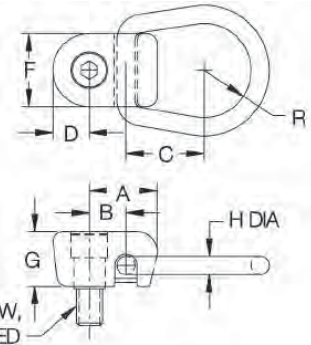
PART NO.	LOAD RATING (LBS)	A	B	C	D	E DIA	F	G	H	J	K	L	N DIA	P	INSTALLATION TORQUE (FT-LBS)
CL-23490-SHR	15000	1-1/4"-7	1.89	2.11	8.73	1-1/4	1.75	6.0	3.76	6.50	3.60	7.75	3.20	.35	10
CL-23494-SHR	24000	1-1/2"-6	2.70	2.81	12.47	1-3/4	2.25	8.0	4.87	8.55	4.60	11.12	4.20	.47	18
CL-23290-SHR	30000	2"-4-1/2	2.96	2.81	12.47	1-3/4	2.25	8.0	4.87	8.55	4.60	11.12	4.20	.47	26
CL-23592-SHR	50000	2-1/2"-4	4.00	4.09	16.87	2-1/4	3.00	10.5	6.52	11.67	6.89	14.50	5.75	1.12	49
CL-23590-SHR		2-1/2"-8													
CL-23690-SHR	75000	3"-4	5.20	5.27	19.50	2-3/4	3.75	13.0	8.10	14.15	8.72	17.00	7.25	1.00	92
CL-23790-SHR	100000	3-1/2"-4	7.00	6.06	22.09	3-1/4	4.00	14.5	8.60	15.90	9.56	19.25	7.75	1.09	98
CL-23792-SHR	150000	4-1/4"-4	8.50	7.50	27.38	4	5.00	18.0	10.75	19.69	10.45	23.81	9.87	1.33	123
CL-23794-SHR	200000	5"-4	9.00	9.00	33.00	5	6.00	22.0	13.00	24.00	13.00	28.50	12.38	1.88	193
CL-23798-SHR	250000	6"-4	9.00	9.00	33.00	5	6.00	22.0	13.00	24.00	13.00	28.50	12.38	1.88	207

SAFETY HOIST RINGS

RING: FORGED 4130 STEEL, HEAT TREATED, BLACK OXIDE FINISH, 100% MAGNAFLUX INSPECTED
BASE: FORGED 1045 STEEL, BLACK OXIDE FINISH



Forged base rotates 360 degrees while the solid-loop forged ring pivots 180 degrees, to allow lifting from any direction. High-strength shoulder screw furnished. Safety factor = 5:1. Fasten hoist ring using the installation torque specified in the dimension table. Always install so that the hoist ring can pivot and swivel freely. **INFO+:** See general Hoist Ring Safety Precautions on page 66.



INCH

PART NO.	LOAD RATING (LBS)	A	B	C	D	F	G	H DIA	J	K	R	INSTALLTION TORQUE (FT-LBS)	REPLACEMENT SHOULDER SCREW
CL-10-SHR	1000	1-1/8	5/8	1-1/2	5/8	1-1/4	7/8	5/16	3/8-16	5/8	13/16	7-10	CL-10-SHRB
CL-25-SHR	2500	1-5/8	7/8	1-7/8	7/8	1-3/4	1-5/16	7/16	5/8-11	7/8	1-1/8	42-50	CL-25-SHRB

METRIC

CLM-10-SHR	1000	1-1/8	5/8	1-1/2	5/8	1-1/4	7/8	5/16	M10	.59	13/16	7-10	CLM-10-SHRB
CLM-25-SHR	2500	1-5/8	7/8	1-7/8	7/8	1-3/4	1-5/16	7/16	M16	.79	1-1/8	42-50	CLM-25-SHRB

TRUSTED TO MOVE THE MOST DANGEROUS MATERIALS IN THE WORLD



We offer more hoist rings than any other manufacturer, with more than 20 different types, ranging from economical, low profile versions to heavy-duty, extra-large types with load capacities up to 250,000 lbs.

- Swivel hoist rings
- Safety hoist rings
- Pivoting hoist rings
- Lifting eyes
- Side-pull hoist rings

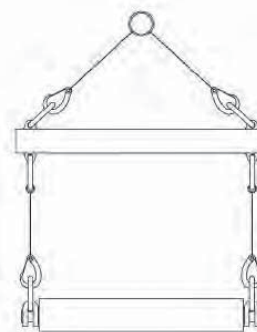
CarrLane
MANUFACTURING CO.

SIDE-PULL HOIST RINGS

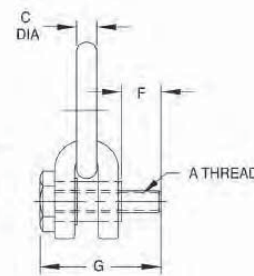
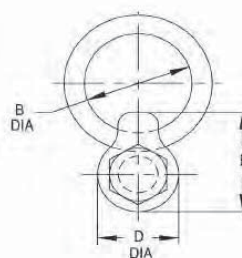
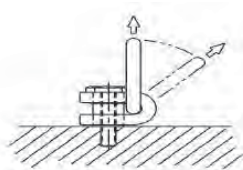
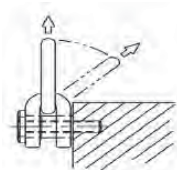
ALLOY STEEL, BLACK OXIDE FINISH, 100% MAGNAFLUX INSPECTED



Side-Pull Hoist Rings are ideal for side mounting. Flip and turn loads without unhooking (use with a spreader bar). Forged alloy-steel ring pivots 180 degrees and swivels 360 degrees simultaneously to allow lifting from any direction. Large, weldless forged ring can accommodate larger lifting hooks. Meets OSHA standards and Military Specifications MIL-STD-209C and MIL-STD-1365(11). Safety factor = 5:1. Fasten hoist ring using the installation torque specified in the dimension table. Always install so that the hoist ring can pivot and swivel freely. **INFO+** See general Hoist Ring Safety Precautions on page 66.



Side-Pull Hoist Rings are ideal whenever side mounting is required.



INCH

PART NO.	LOAD RATING (LBS)	A DIA	B DIA	C DIA	D DIA	E	F	G	INSTALLATION TORQUE (FT-LBS)
CL-650-SPHR	650	5/16-18	2	3/8	1-1/2	2	5/8	2-5/16	3.5
CL-800-SPHR	800	3/8-16					3/4	2-5/8	4.5
CL-1800-SPHR	1800	1/2-13	3	5/8	2-3/8	3-3/16	1	3-1/2	15
CL-2500-SPHR	2500	5/8-11					1-1/4	3-7/8	25

METRIC

CLM-36710-SPHR	880	M8	2	3/8	1-1/2	2	.63	2.13	6
CLM-36715-SPHR	1100	M10					.79	2.29	12
CLM-36720-SPHR	1900	M12					.94	3.32	20
CLM-36725-SPHR	3500	M16	3	5/8	2-3/8	3-3/16	1.26	4.76	47
CLM-36730-SPHR	5500	M20					1.57	5.07	92

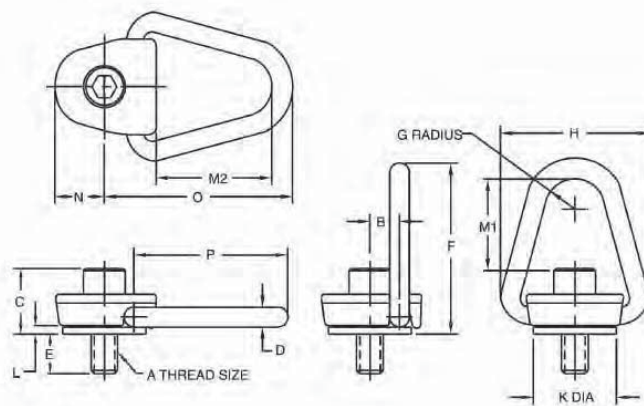
HEAVY-DUTY® SIDE-PULL HOIST RINGS

ALLOY STEEL, BLACK OXIDE FINISH, 100% MAGNAFLUX INSPECTED



Heavy-Duty version of our Side-Pull Hoist Rings offers greater load capacity in a given mounting-thread size. Side-Pull Hoist Rings are ideal for side mounting. Flip and turn loads without unhooking (use with a spreader bar). Forged alloy-steel ring pivots and swivels 360 degrees simultaneously to

allow lifting from any direction. Safety factor = 5:1. Patent no. 6,267,422. Fasten hoist ring using the installation torque specified in the dimension table. Always install so that the hoist ring can pivot and swivel freely. **INFO+:** See general Hoist Ring Safety Precautions on page 66.



INCH

PART NO.	LOAD RATING (LBS)	A	B	C	D	E	F	G	H	K DIA	L	M1	M2	N	O	P	INSTALLTION TORQUE (FT-LBS)
CL-36305-SPHR	800	5/16-18	.88	1.33	.50	.48	4.72	.75	3.88	2.19	.22	2.89	3.19	1.25	5.12	4.25	7
CL-36310-SPHR	1000	3/8-16		1.39		.48						2.84					12
CL-36315-SPHR	2500	1/2-13		1.53		.98						2.70					28
CL-36320-SPHR	4000	5/8-11		1.64		1.23						2.92					60
CL-36325-SPHR	5000	3/4-10	1.25	1.78	.75	1.25	6.25	.88	5.25	3.25	.25	2.94	4.19	1.62	6.75	5.62	100
CL-36330-SPHR	7000	3/4-10		2.12		1.25						4.00					100
CL-36335-SPHR	8000	7/8-9		2.25		1.50						3.88					160
CL-36340-SPHR	10000	1"-8		2.38		1.50						3.75					230

METRIC

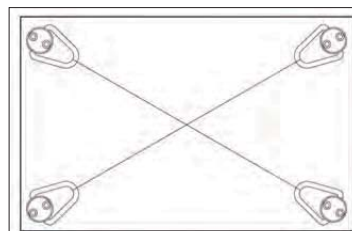
CLM-36805-SPHR	880	M8	.88	1.34	.50	.55	4.72	.75	3.88	2.20	.20	2.87	3.19	1.25	5.12	4.25	7
CLM-36810-SPHR	1000	M10		1.42		.94						2.80					12
CLM-36815-SPHR	2300	M12		1.50		1.46						2.72					27
CLM-36820-SPHR	4000	M16		1.65		1.46						2.56					59
CLM-36825-SPHR	4800	M20	1.25	1.81	.75	1.54	6.25	.88	5.25	3.11	.24	2.40	4.19	1.62	6.75	5.62	100
CLM-36830-SPHR	6600	M20		2.24		1.54						3.27					100
CLM-36835-SPHR	9200	M24		2.40		1.69						3.11					230

PIVOTING HOIST RINGS

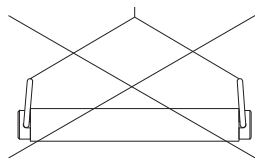
RING: FORGED 4130 STEEL, HEAT TREATED, BLACK OXIDE FINISH, 100% MAGNAFLUX INSPECTED PER ASTM E-1444
BASE: FORGED 1045 STEEL, BLACK OXIDE FINISH



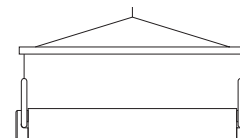
Economical hoist ring with a low profile and high load capacity. Forged base and solid-loop forged ring. Pivots a full 180 degrees, but does not rotate (install so that lifting force is applied in the pivoting direction). Safety factor = 5:1. Fasten hoist ring with grade-8 Socket-Head Cap Screws, using the installation torque specified in the dimension table. The smallest three sizes have two mounting holes, the largest two sizes have four. **INFO+:** See general Hoist Ring Safety Precautions on page 66.



Install hoist rings so that lifting force is applied in the pivoting direction.



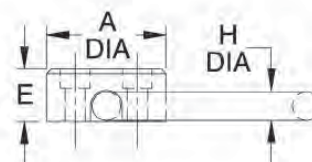
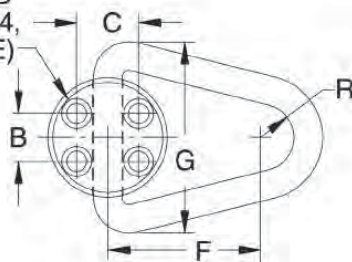
BAD



GOOD

Do not allow hoist rings to bind. Use a spreader bar, if necessary, to avoid binding.

FOR D SOCKET-HEAD
CAP SCREWS (2 OR 4,
DEPENDING ON SIZE)



PART NO.	LOAD RATING (LBS)	A DIA	B	C	D THREAD X MIN. LENGTH	E DIA	F	G	H DIA	R	INSTALLATION TORQUE (FT-LBS)	SCREW EXTENSION BELOW BASE
CL-20-HR	2000	1-3/4	0	1	5/16-18x1.00 (or M8x25mm)	3/4	2	2-1/2	5/16	1/2	4-7	.58 (or 14mm)
CL-25-HR	2500	2-1/4		1-1/8	3/8-16x1.25 (or M10x30mm)	7/8	2-1/2	3-3/16	3/8	5/8	7-10	.79 (or 18mm)
CL-50-HR	5000	2-5/8		1-1/2	1/2-13x1.50 (or M12x40mm)	1-1/8	3	3-7/8	1/2	3/4	20-25	.90 (or 25mm)
CL-120-HR	12000	3-1/8	1-1/4	1-5/8	1/2-13x1.75 (or M12x45mm)	1-3/8	4	5	3/4	7/8	20-25	.90 (or 23mm)
CL-200-HR	20000	3-5/8		2-1/16	5/8-11x2.50 (or M16x65mm)	1-7/8	5	6-3/16	1	1	42-50	1.25 (or 33mm)

LIFTING EYES

FORGED CARBON STEEL, QUENCHED AND DRAWN, PLAIN FINISH

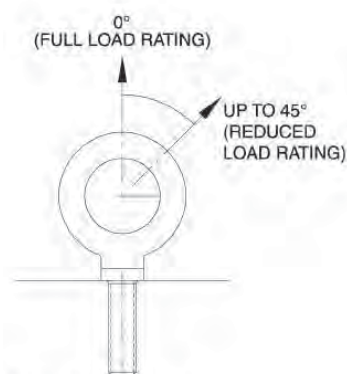


Lifting Eyes are forged steel eyebolts with an integral shoulder for greater strength. These simple, economical lifting devices are suitable for vertical lifting in-line with the threaded bolt, such as when lifting from a single point or from two points with a spreader bar. For lifting at an angle, Swivel Hoist Rings should be used instead. Manufactured and tested according to ASTM A489 and ANSI B18.15 specifications. Safety factor = 5:1. Made in USA.

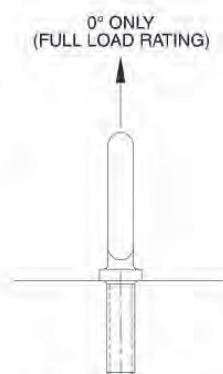
Lifting Eyes should be inspected before each use for possible defects and installed by a person trained in the installation of lifting devices. The tapped receiving hole should be countersunk, free of any debris, and deep enough to ensure proper shoulder seating. Firm hand tightening is recommended for installation; do not use wrenches or bars. Angular lifting should be avoided, because angular lifts significantly reduce rated capacity. Any angular loads must be radial in the plane of the eye, never at an angle to that plane. A steel washer or shim may be used under the shoulder to achieve proper

eye orientation, but its thickness should not exceed one thread pitch. A washer may also be required to ensure flush seating on rough mounting surfaces.

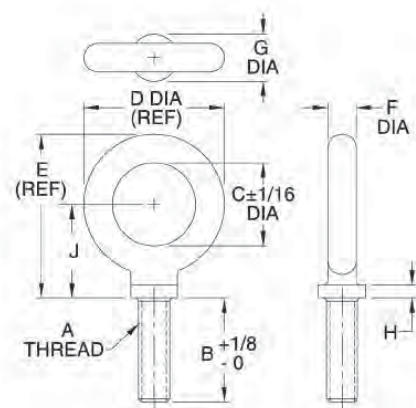
Do not exceed rated load capacity. Maximum load rating applies to straight vertical lifting only. Lifting at an angle reduces load rating significantly – see table below for reduced load rating at 45° (this reduced rating should be used for any lift other than at 0° vertical). Do not work, stand, or crawl near the load of a Lifting Eye. Do not use a Lifting Eye to lift a load that can rotate; Swivel Hoist Rings should be used for such loads. Do not shock load Lifting Eyes; instead gradually increase lifting of the load to minimize load shock. Do not force hooks or any other fittings into the eye; they must fit freely. Do not weld or machine Lifting Eyes, or perform any repair. Do not expose Lifting Eyes to extreme temperatures or environmental conditions, as this may permanently reduce load capacity. Periodic inspection of installed Lifting Eyes is highly recommended. **INFO+:** Also see general Hoist Ring Safety Precautions on page 66.



Angular lifting at up to 45° is allowable in this direction (plane of the eye) but load rating is reduced.



Only straight lifting is allowable in this direction.



INCH

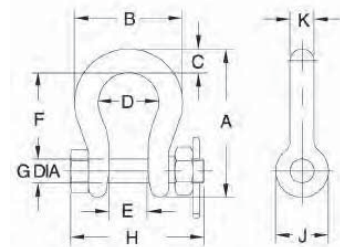
PART NO.	A	B	C DIA	D DIA	E	F DIA	G DIA	H	J	LOAD RATING (LBS)	
										0°	45°
CL-4-LE	1/4-20	1	3/4	1-3/16	1-11/32	7/32	17/32	5/32	3/4	500	125
CL-5-LE	5/16-18	1-1/8	7/8	1-7/16	1-21/32	9/32	19/32	5/32	15/16	900	225
CL-6-LE	3/8-16	1-1/4	1	1-11/16	1-31/32	11/32	21/32	5/32	1-1/8	1300	325
CL-8-LE	1/2-13	1-1/2	1-3/16	2-1/8	2-7/16	15/32	29/32	7/32	1-3/8	2400	600
CL-10-LE	5/8-11	1-3/4	1-3/8	2-9/16	2-15/16	19/32	1-1/32	9/32	1-21/32	4000	1000
CL-12-LE	3/4-10	2	1-1/2	2-13/16	3-7/32	21/32	1-3/16	9/32	1-13/16	5000	1250
CL-16-LE	1"-8	2-1/2	1-3/4	3-19/16	4-3/32	29/32	1-9/16	13/32	2-5/16	9000	2250

HOIST RING ACCESSORIES



Forged Anchor Shackles

High-strength forged alloy-steel anchor shackle. Supplied with thin-head bolt and nut with cotter pin. Meets Federal Specification RR-C 271D, Type IVA, Grade A, Class 3. Safety factor = 6:1. Heat treated with black oxide finish. INFO+: See general Hoist Ring Safety Precautions on page 66.

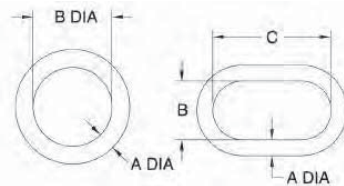


FORGED ANCHOR SHACKLES (INCH)

PART NO.	LOAD RATING (LBS)	NOMINAL SHACKLE SIZE	A	B	C	D	E	F	G DIA.	H	J	K
CL-36511-FAS	2000	3/8	2.49	1.78	.38	1.03	.66	1.44	.44	2.17	.91	3/8
CL-36521-FAS	3000	7/16	2.91	2.03	.44	1.16	.75	1.69	.50	2.51	1.06	7/16
CL-36531-FAS	4000	1/2	3.28	2.31	.50	1.31	.81	1.88	.63	2.80	1.19	1/2
CL-36541-FAS	6500	5/8	4.19	2.94	.69	1.69	1.06	2.38	.75	3.53	1.50	5/8
CL-36551-FAS	13000	7/8	5.83	4.03	.97	2.28	1.44	3.31	1.00	4.71	2.09	7/8
CL-36561-FAS	19000	1-1/8	7.47	5.16	1.25	2.91	1.81	4.25	1.25	5.09	2.69	1-1/8
CL-36571-FAS	24000	1-1/4	8.25	5.75	1.38	3.25	2.03	4.69	1.38	6.51	3.00	1-1/4



Forged Rings



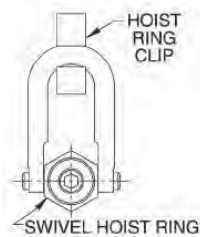
High-strength weldless forged alloy-steel ring. Meets Federal Specification RR-C 271D, Type VI. Safety factor = 6:1. Heat treated with black oxide finish. The largest-size Forged Ring (49000 lbs capacity) is oval shaped. INFO+: See general Hoist Ring Safety Precautions on page 66.

FORGED RINGS

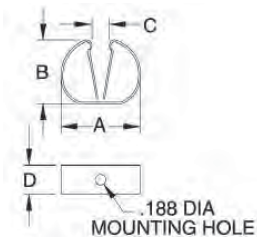
PART NO.	LOAD RATING (LBS)	A DIA.	B DIA.	C
CL-36111-FR	3800	3/8	2	—
CL-36121-FR	6100	5/8	3	—
CL-36131-FR	18000	1	4	—
CL-36141-FR	30000	1-3/8	6	—
CL-36151-FR	49000	1-1/2	5-1/4	10-1/2



Hoist-Ring Clips



Handy holddown clip to keep Swivel Hoist Rings and Side-Pull Hoist Rings from rotating when not in use. Spring steel, zinc plated. Available in two sizes, one fitting ring diameters from 3/8" to 5/8", the other fitting ring diameters from 3/4" to 1-1/16".



HOIST-RING CLIPS

PART NO.	FITS RING DIAMETER	A	B	C	D
CL-1-HRC	3/8, 7/16, 5/8	1-3/8	15/16	5/16	1/2
CL-2-HRC	3/4, 1-1/16	1-5/8	1-1/4	3/4	5/8