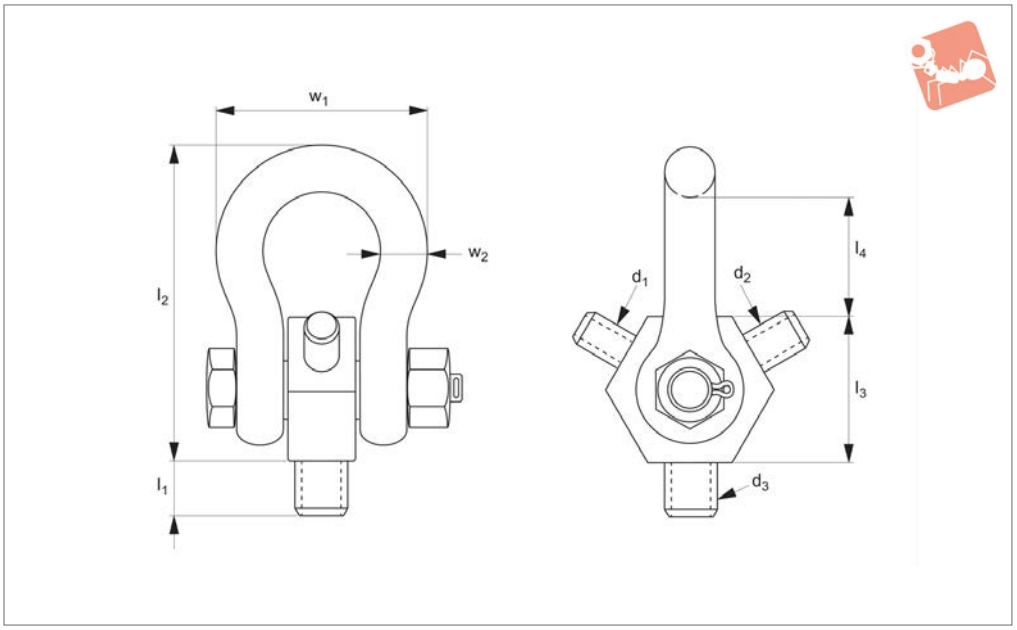
Lifting Shackle - Tri-Thread - Male

metric - coarse



63651

Material
Forged alloy steel.

Technical Notes
Flexible lifting ring with three threads in one - vertical lifting only.

Important Notes
For straight/vertical lifting only - do not apply side load.

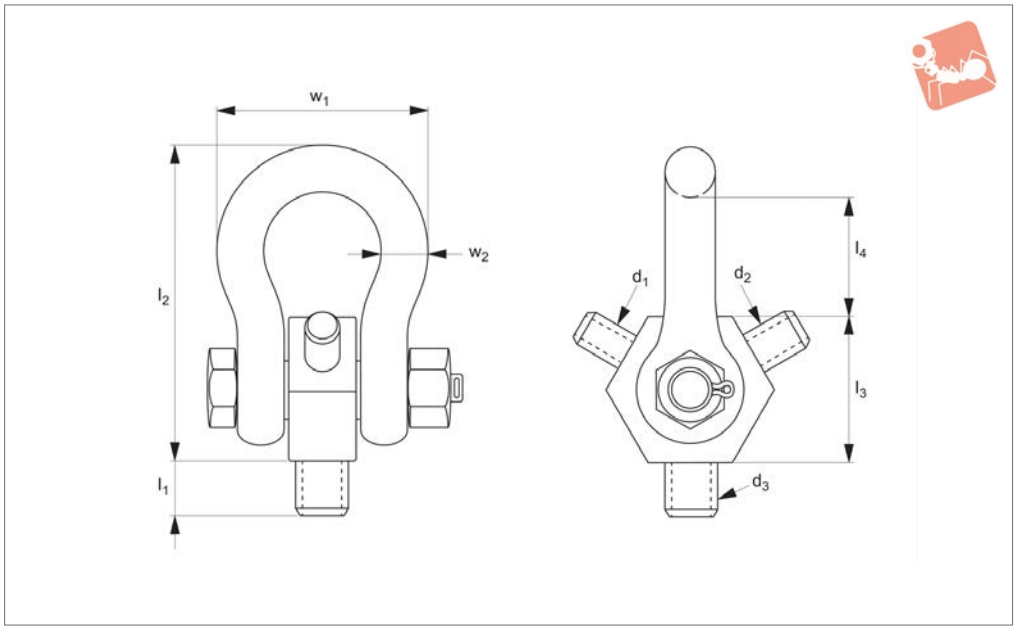
Always follow safety instructions.

Order No.	Thread	Thread size	Load capacity tonnes (t)	l_1	l_2	l_3	l_4	w_1	w_2	Weight kg
	d1	M 8x1,25	0,40	13	77,80	34,93	31,8	53,98	11,11	0,36
63651.W0812I	d2	M10x1,50	0,45	13	77,80	34,93	31,8	53,98	11,11	0,36
	d3	M12x1,75	1,05	13	77,80	34,93	31,8	53,98	11,11	0,36
	d1	M14x2,00	1,05	19	111,13	50,80	44,5	76,20	15,90	1,13
63651.W1420I	d2	M16x2,00	1,90	19	111,13	50,80	44,5	76,20	15,90	1,13
	d3	M20x2,50	2,20	19	111,13	50,80	44,5	76,20	15,90	1,13

Lifting Shackle - Tri-Thread - Male

UNC thread

63652



Material
Forged alloy steel.

Technical Notes
Flexible lifting ring with three threads in one - vertical lifting only.

Important Notes
For straight/vertical lifting only - do not apply side load.

Always follow safety instructions.

Order No.	Thread	Type	Load capacity lb	Screw size UNC	l_1	l_2	l_3	l_4	w_1	w_2	Weight kg
	d_1	Standard	400	1/4-20	1/2	3-1/16	1-3/8	1-1/4	2-1/8	7/16	0,8
63652.W2537I	d_2	Standard	800	5/16-18	1/2	3-1/16	1-3/8	1-1/4	2-1/8	7/16	0,8
	d_3	Standard	1400	3/8-16	1/2	3-1/16	1-3/8	1-1/4	2-1/8	7/16	0,8
	d_1	Standard	2600	1/2-13	3/4	4-3/8	2	1-3/4	3	5/8	2,5
63652.W5075I	d_2	Standard	4000	5/8-11	3/4	4-3/8	2	1-3/4	3	5/8	2,5
	d_3	Standard	6000	3/4-10	3/4	4-3/8	2	1-3/4	3	5/8	2,5
	d_1	Fine	400	1/4-28	1/2	3-1/16	1-3/8	1-1/4	2-1/8	7/16	0,8
63652.W2537F	d_2	Fine	800	5/16-24	1/2	3-1/16	1-3/8	1-1/4	2-1/8	7/16	0,8
	d_3	Fine	1400	3/8-24	1/2	3-1/16	1-3/8	1-1/4	2-1/8	7/16	0,8
	d_1	Fine	2600	1/2-20	3/4	4-3/8	2	1-3/4	3	5/8	2,5
63652.W5075F	d_2	Fine	4000	5/8-18	3/4	4-3/8	2	1-3/4	3	5/8	2,5
	d_3	Fine	6000	3/4-16	3/4	4-3/8	2	1-3/4	3	5/8	2,5

Heavy duty safety hoist rings are stronger than competitive lifting devices, providing better value while
delivering the quality and safety only the best design and manufacture can achieve.

- Manufactured from high strength alloy steel.
- One piece body and shouldered d-ring element.
- Just 6 component parts for increased safety.

The patented shoulder pin used in our heavy duty safety hoist rings allows for rotation of the pin, without shearing of any retaining dowel pin which is so often used in the construction of other competitive hoist rings. This unique design element enables disassembly of our hoist rings for inspection, compliance testing and reassembly.

General maintenance and care

Improper maintenance and inspection of your hoist ring could result in damaged equipment, personal injury or even death. In order to ensure maximum safety please read, understand and follow these maintenance and inspection guidelines prior to using any lifting hoist ring.

Maintenance

- When not in use, store hoist rings carefully to prevent corrosion or accidental damage.
- Do not remove the installation and safety tag from the lifting device. Ensure the identification tag remains legible during the life to the lifting device.

Inspection

Visually inspect the lifting device prior to any use. Frequency of inspection should increase with the frequency of use, severity of service conditions and the more safety critical the use of the device.

Discontinue use of any lifting device if inspection identifies any of the following:

- Missing identification tags.
- Indications of heat damage.
- Excessive corrosion or pitting.
- Damaged or missing load bearing components.
- Excessive nicks or gouges.
- Excessive thread damage.
- Evidence of unauthorised welding or modification.
- Lack of ability to swivel 360° or pivot 180°.

Important installation and operation instructions

Installation

- Ensure thread has been tapped perpendicular to the mounting surface. Mounting surface should be flat to provide full 360° flush seating for the hoist ring.
- For installation in ferrous metal ensure bolt is tightened to the full torque load +0-20% (as specified on the product data sheet).
- To ensure the 5:1 design safety factor we recommend the ultimate tensile strength of the mating material to be min. 80,000 psi.
- For weaker mating material consider using longer bolts or through hole mounting with a nut and washer on the back side. To prevent stripping the mating thread, lower torque values (down to half the stated value) may be considered in temporary installations.
- On completion of installation check the lifting ring can swivel and pivot freely in all directions.
- Use at temperatures between -30°C and +200°C

Safety notes

- Never exceed the working load limit.
- Visually inspect the hoist ring for damage before each use.
- Loosening of the a bolt may develop after prolonged service, it is advisable to periodically retighten to the specified torque value.
- Apply lifting loads gradually to avoid shock loads.
- Use of free fit spacers between the lifting ring bush flange and the mounting surface is not recommended.
- Do not over size hooks nor use attachment methods which spread the ring.
- It is important to align the lifting ring with ~the direction of the load.
- Do not attach guidelines to hoist rings.
- Do not leave a gap between lifting ring bushing and mounting surface.
- Never allow personnel to walk underneath a suspended load.

It is very important for you to read and comply with these installation and safety notes prior to use or any lifting device.

Hoist Ring Safety and Installation

safety guidelines

Formula to calculate the load per lifting ring

$$F = \frac{W}{N \sin A}$$

F = force on each hoist ring
N = number of hoist rings
A = lifting angle
W = total weight

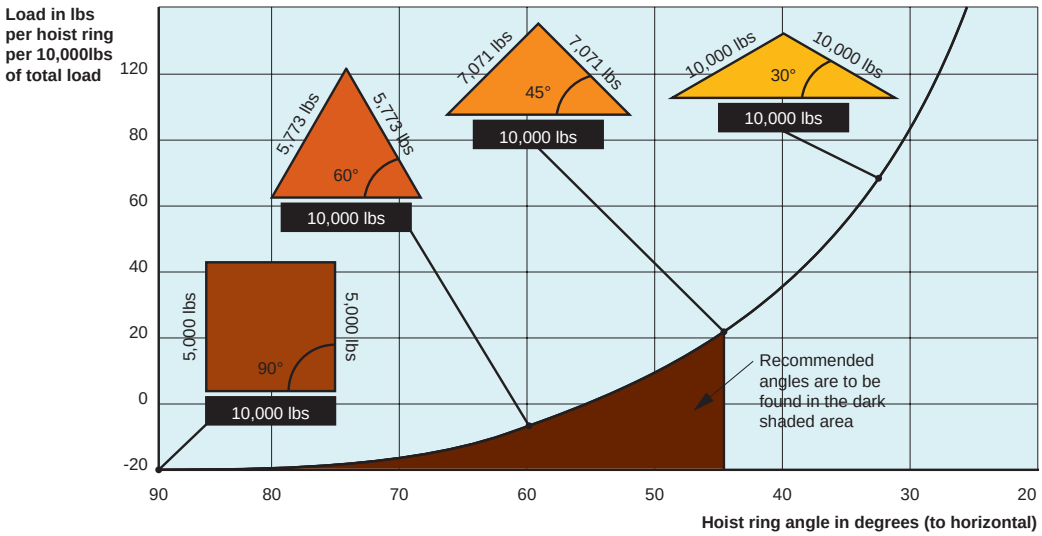
For example:

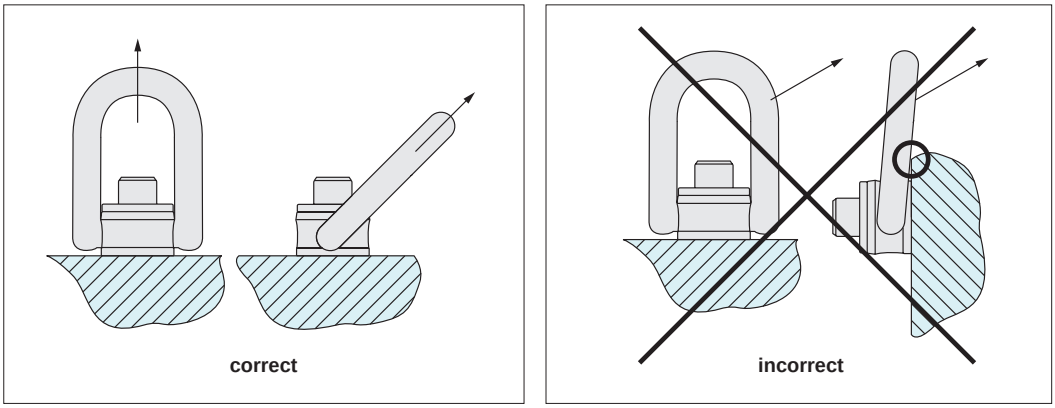
If A = 65° $F = \frac{4000}{4 \sin 65°} = 1103$ lbs.

If A = 14° $F = \frac{4000}{4 \sin 14°} = 4134$ lbs.

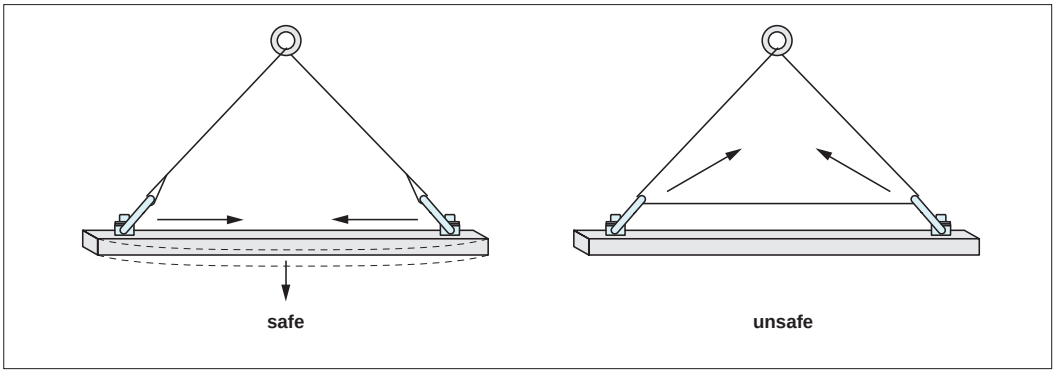
Important note: The force exerted on each hoist ring is not simply a function of the total weight divided by the number of hoist rings, but is critically reliant upon the lifting angle, greater forces are present the lower the lifting angle. See example below.

Angular lifting



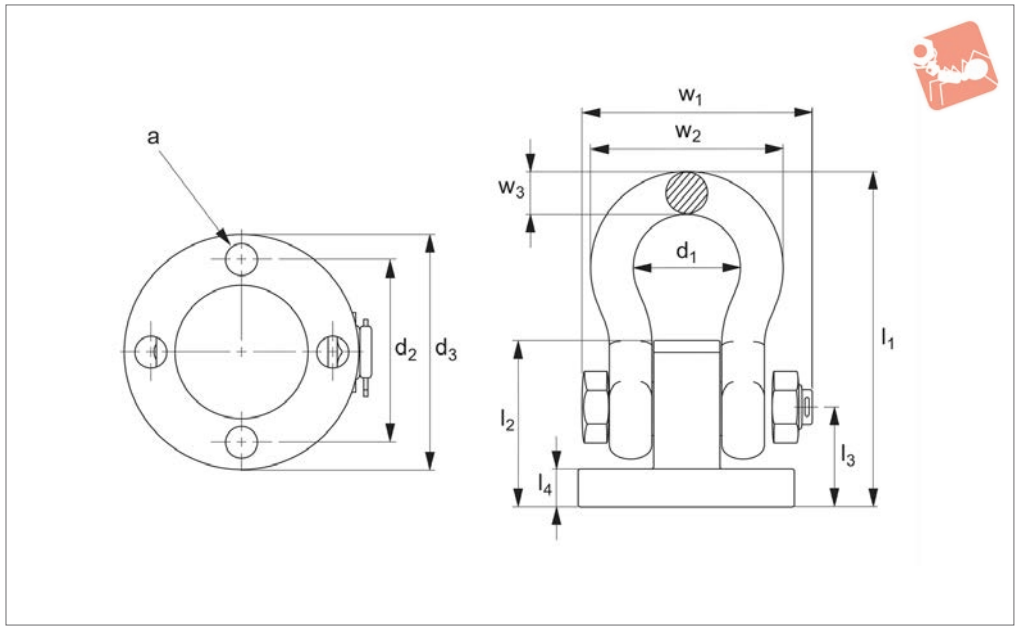


Do not allow the lifting ring to bind/stick and hence apply side loads to the bail. Ensure loads applied are in the same direction of the bail. If necessary use a spreader bar to avoid binding.



Wixroyd AN ESSENTRA COMPANY

wixroyd.com



63750

Material
Alloy steel, black oxide coated.

Technical Notes
Magnetic particle inspected as per ASTM 1444.

Tips
Min design factor 5:1. 360° swivel and 180° pivot under load. Particularly suited for lifting of large and heavy structures. Can be bolted or welded in place.

Important Notes
All dimensions in imperial.

Order No.	Working load lb	a for screw size	d_1	d_2	d_3	l_1	l_2	l_3	l_4	w_1	w_2	w_3
63750.W0251I	2000	1/4-20x1/2	1.03	1.56	2.1	2.96	1.43	0.91	0.40	2.17	1.78	0.38
63750.W0311I	3000	5/16-18x1/2	1.16	1.76	2.4	3.55	1.76	1.16	0.52	2.51	2.03	0.44
63750.W0371I	4000	3/8-16x5/8	1.31	2.10	2.9	3.91	1.91	1.21	0.52	2.80	2.31	0.50
63750.W0431I	6500	7/16-14x3/4	1.69	2.56	3.5	4.97	2.41	1.51	0.64	3.53	2.94	0.69
63750.W0631I	13000	5/8-11x1	2.28	3.40	4.6	6.85	3.31	2.06	0.90	4.71	4.03	0.97
63750.W0751I	19000	3/4-10x1 1/4	2.91	4.00	5.4	8.75	4.01	2.61	1.14	5.09	5.16	1.25
63750.W0881I	24000	7/8-9x2	3.25	4.50	6.1	9.68	4.51	2.91	1.30	6.51	5.75	1.38

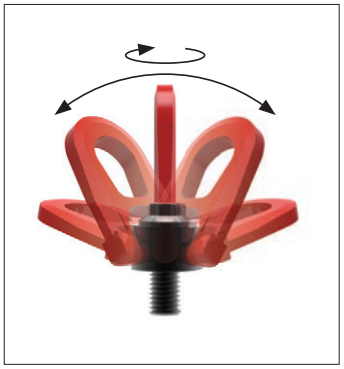
Wixroyd Swivel Lifting Rings & Lifting Bolts
introduction

Swivel lifting rings

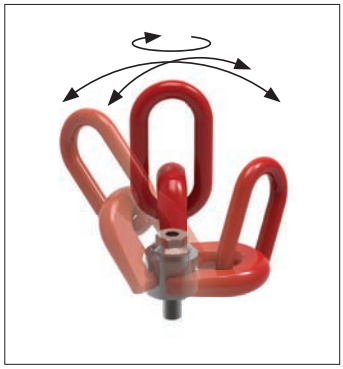
Our swivel lifting rings fully comply with the EC directive 2006/42/EC. They are CE marked and are supplied with a Certificate of Conformity. There is a 100% check on anti-cracking, a proof load test of 2.5 x load limit and a safety factor of 5 on most parts. Each ring is individually marked to ensure full product traceability.

The Swivel Lifting Rings come in three main forms – depending on the number of axis required to swivel. The most popular type is the double swivel rings.

Single swivel - threads M8 – M48 loads 0,3 tons – 15 tons



Double swivel - threads M4 – M100 loads 0,05 tons – 50 tons



Triple swivel - threads M8 – M56 loads 0,3 tons – 22 tons

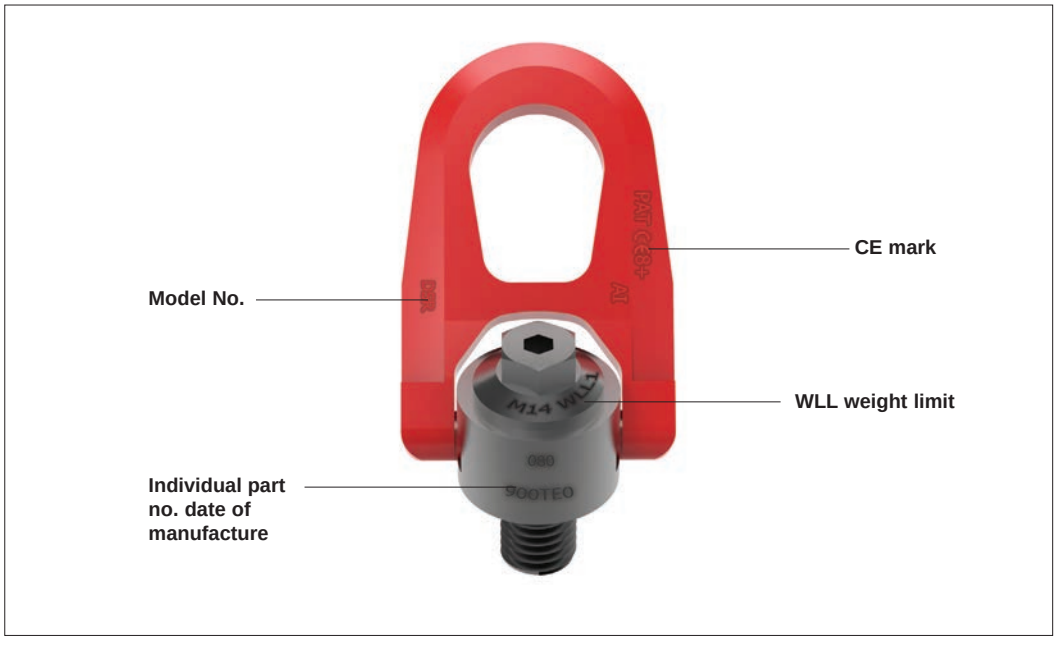
Steel and stainless steel (316) versions

Steel

Stainless (316L)

Product marking

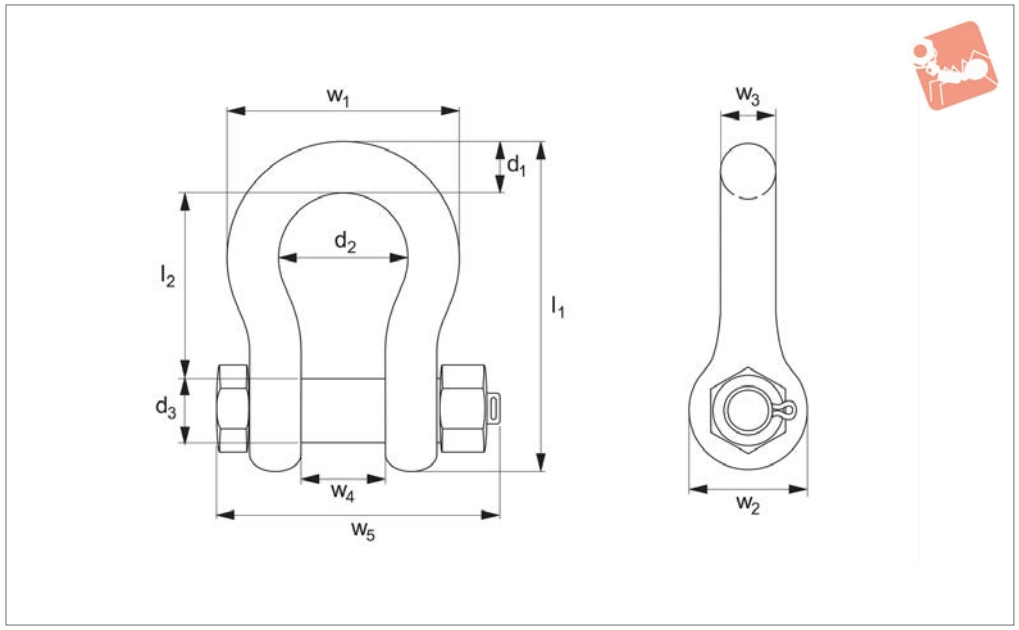
Compliant with 2006/42/EC, and with individual date of manufacture and batch number.



A swivel lifting rings that complies with 2006/42/CE

Wixroyd AN ESSENTRA COMPANY

wixroyd.com



63752

Material
Forged alloy steel, black oxide coated.

Technical Notes
Supplied with thin head bolt, nut and cotter pin.

Tips
Min. design safety factor 6:1.

Important Notes
All dimensions in imperial.

Order No.	Working load lb	d_1	d_2	d_3	l_1	l_2	w_1	w_2	w_3	w_4	w_5
63752.W0371I	2000	3/8	1.03	0.44	2.49	1.44	1.78	0.91	0.38	0.66	2.17
63752.W0431I	3000	7/16	1.16	0.50	2.91	1.69	2.03	1.06	0.44	0.75	2.51
63752.W0501I	4000	1/2	1.31	0.63	3.28	1.88	2.31	1.19	0.50	0.81	2.80
63752.W0631I	6500	5/8	1.69	0.75	4.19	2.38	2.94	1.50	0.63	1.06	3.53
63752.W0881I	13000	7/8	2.28	1.00	5.83	3.31	4.03	2.09	0.88	1.44	4.71
63752.W1141I	19000	1-1/8	2.91	1.25	7.47	4.25	5.16	2.69	1.13	1.81	6.00
63752.W1251I	24000	1-1/4	3.25	1.38	8.25	4.69	5.75	3.00	1.25	2.03	6.51