

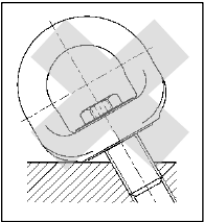
ROTARY EYE BOLT RE User Manual

Thank you for purchasing the ROTARY EYE BOLT (RE Type).

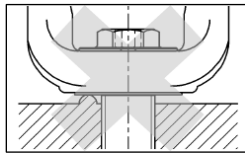
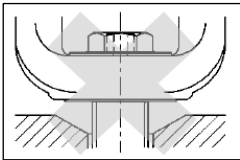
Please read this manual carefully before use and handle the ROTARY EYE BOLT (hereafter referred to as ROTARY) safely according to the instructions. Please keep this manual in a safe place.

Safety Precautions

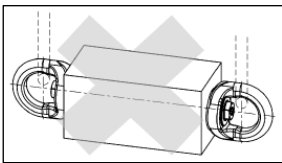
1. Do not apply a load higher than the working load limit (WLL).
* Please refer to the Table of Working Load Limits Depending on Lifting Method (page 5).
2. Do not directly connect hooks or fittings larger than the inner diameter of the eye part.
3. Avoid sudden uplifting from the ground (shock loading).
4. Ensure ROTARY is mounted evenly to the surface in close contact with the surface of the load.



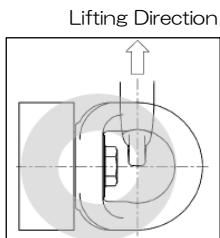
5. Make sure the ROTARY seat fits tightly to the load (without gap).



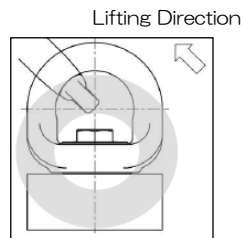
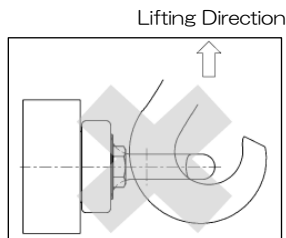
6. The ROTARY is not suitable for rotating of objects when under load.



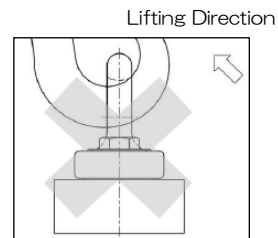
7. When lifting horizontally or diagonally, align other lifting equipment to the lifting direction of the ROTARY.



Horizontal Lifting



Diagonal Lifting



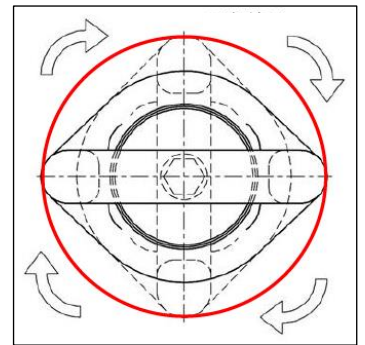
Prohibitions

- Do not disassemble.
- Do not modify or perform additional processing.

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Use

1. Confirm the lifting method and the load of the lifted object.
For the working load limit (WLL), refer to the comparison table on page 5.
2. Before mounting the ROTARY, carry out a prior to use inspection as described on page 3.
3. Mounting Method
 - (1) Check the material and the depth of the insert on the load.
 - Insert Hole Material
The hardness of the insert hole should be S15C (Tensile strength 370N/mm²) or SS400 or higher.
When lifting cast iron or non-ferrous metals, the insert strength is low, the working load limit must be reduced. Please contact us for confirming the adequate working load.
 - (2) Remove adhesives from the female thread before tightening the ROTARY.
 - (3) Tighten the ROTARY using tightening tool RET (optional product), a short type hex wrench or a spanner.
 - (4) After tightening, make sure that the ROTARY seat is in close contact with the surface of the load (no gap).
 - (5) After tightening, make sure the eye rotates smoothly.
 - (6) Make sure there no objects interfere with the rotation range of the eye part (see figure "Range of Eye Rotation").
4. Lifting operations should be carried out by qualified personnel only.



Range of Eye Rotation

Please contact us if you have questions regarding handling or use.

Tightening

1. For tightening, tool RET (optional product), a short type hex wrench or a spanner can be used.
2. If torque tightening is required, apply the specified torque, using a torque wrench equipped with a spanner-type or box-type adapter.
See the specifications table (page 4) for the specified tightening torque.
3. Even if tightened with the correct torque, the ROTARY may loosen depending on lifting conditions.
Check that it is properly tightened before use.
4. Please contact us for detailed instructions on how to use the optional tightening tool RET.

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Inspection

1. Daily Inspection (Prior to Use)

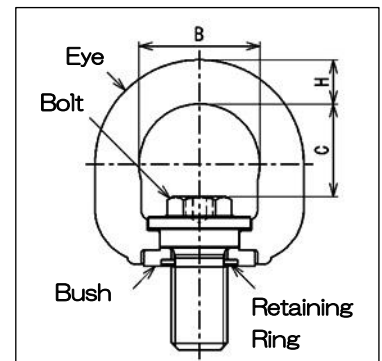
Be sure to carry out the following checks before mounting the ROTARY and starting the lifting work.

- (1) Moveability: Check if the eye part rotates smoothly.
- (2) Deformation: There should be no deformation of the eye, no bending of the bolt, and the retaining ring should not be deformed or stand up.
- (3) Cracks: There should be no cracks.

2. Periodic Inspection

Periodically measure wear and elongation as follows.

Set the inspection period depending on the frequency and environment of use.



ROTARY Dimensions and Parts

3. Inspection Criteria

- (1) Wear of the eye top H: If it exceeds 5%, discard or replace.
- (2) Elongation or deformation of eye width B: If it exceeds 5%, discard or replace.
- (3) Elongation or deformation of eye height C: If it exceeds 5%, discard or replace.

4. Calculation formula for wear, elongation and deformation:

$$\frac{\text{Initial dimension} - \text{Measured dimension}}{\text{Initial dimension}} \times 100 > 5$$

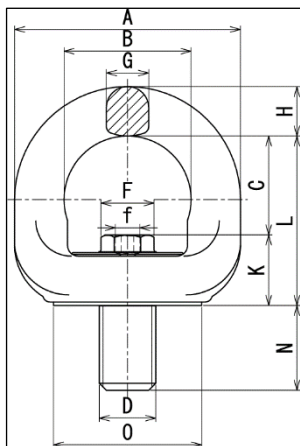
If the conditions in the above formula are met, disposal or replacement is necessary.

5. Inspection Notes

- (1) Since the eye is a forged part and dimensional tolerances can occur, measure the initial dimensions before the first use.
- (2) Please refer to the specifications table (page 4) for the standard values of each dimension.
- (3) If wear, elongation or deformation exceeds 5%, please discard or replace the product.
- (4) Please contact us for information regarding the discard standard values (wear, elongation, or deformation exceeding 5%).

We offer a (paid) inspection service. Please feel free to contact us.

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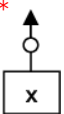
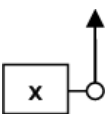
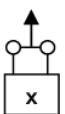
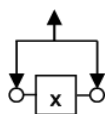
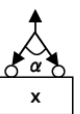
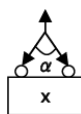
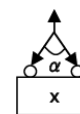
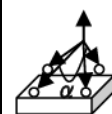
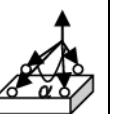

Specifications

The working load limit (WLL) varies depending on the lifting method.
Please refer to the WLL table.

Product Code	WLL (t)	Bolt D	Hex Width F (mm)	Hex Hole f (mm)	Dimensions (mm)									Tightening Torque (Nm)	Weight (kg)
					A	B	C	G	H	K	L	N	O		
RE-12	0.6	M12	10	5	56	32	24	10	12	18	42	18	36	4~15	0.25
RE-16	1.2	M16	13	6	64	36	28	12	14	20	48	24	42	8~30	0.4
RE-20	2.0	M20	19	8	76	42	31	15	17	25	56	30	44	16~50	0.7
RE-24	2.6	M24	24	10	90	52	40	17	19	30	70	36	48	25~80	1.0
RE-30	4.0	M30	24	10	112	62	54	24	25	35	89	45	64	40~150	2.1
RE-36	6.0	M36	27	10	134	74	67	28	30	39	106	54	72	60~210	3.5
RE-42	7.5	M42	30	-	152	84	70	32	34	48	118	63	84	80~300	5.1
RE-48	10.0	M48	36	-	174	94	80	38	40	54	134	72	96	120~450	8.0

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Table of Working Load Limits Depending on Lifting Method

Lifting Method										
Lifting Angle (°)	0	90	0	90	$0 \leq \alpha \leq 60$	$60 < \alpha \leq 90$	$90 < \alpha \leq 120$	$0 \leq \alpha \leq 60$	$60 < \alpha \leq 90$	$90 < \alpha \leq 120$
Mode Coefficient	1	1	2	2	1.73	1.41	1	2.59	2.12	1.5
Product Code	Working Load Limits (t)									
RE-12	0.6	0.6	1.2	1.2	1.0	0.8	0.6	1.5	1.2	0.9
RE-16	1.2	1.2	2.4	2.4	2.0	1.6	1.2	3.1	2.5	1.8
RE-20	2.0	2.0	4.0	4.0	3.4	2.8	2.0	5.1	4.2	3.0
RE-24	2.6	2.6	5.2	5.2	4.4	3.6	2.6	6.7	5.5	3.9
RE-30	4.0	4.0	8.0	8.0	6.9	5.6	4.0	10.3	8.4	6.0
RE-36	6.0	6.0	12.0	12.0	10.3	8.4	6.0	15.5	12.7	9.0
RE-42	7.5	7.5	15.0	15.0	12.9	10.5	7.5	19.4	15.9	11.2
RE-48	10.0	10.0	20.0	20.0	17.3	14.1	10.0	25.9	21.2	15.0

Warning 1: Lifting methods marked with a * refer to straight lifting. When using a wire sling, make sure to use a fitting with a bearing.

The rotational force generated by an untwisting wire sling bears the risk of loosening the rotating lifting point.

Warning 2: When lifting concrete products with inserted threads, the following two problems may occur.

1. There may not be enough space for close contact of concrete surface and the bearing surface of the rotating lifting point.
2. The screw engagement may be insufficient (not enough bolt length to be inserted into the thread).

Due to 1. and 2., the load limits listed in above WLL table may not apply.

Please check the insert dimensions of concrete parts you want to lift, and contact us.

* Manual issued February 2025. Product specifications are subject to change without notice to improve reliability, function or design.



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