ORIGINAL USER AND INSTALLATION INSTRUCTION: Lifting Point 8-211

CERTEX

CONFORMITY

BA11.428-211UK05.10.21

In accordance with the Machinery Directive 2006/42EC.CERTEX Danmark A/S assures, that the equipment supplied is CE marked and delivered in accordance with Danish Standard.
If the customer makes any kind of modifications, or if the customer combines the product with a non-compliant product / component assumes CERTEX Danmark A/S is not responsible for the product.

INFORMATION

According to the Labour Inspection Authorization No. 2.3.0.4 "gripping" the staff to use lifting equipment must be instructed in the proper execution of work. The instruction must be in accordance with this authorization and shall include the specific actions required by each hooking job.
Before the equipment into service, this manual should be read through. The information is intended as a means to achieve the safe use of equipment.
User manual contains important information about how equipment is operating safely and properly.
Is the equipment used in accordance with these instructions may hazards and damage avoided.
Anyone using the equipment must read and act in accordance with instructions.
Furthermore, we refer also to WEA rules and regulations that otherwise apply on the spot. Including a.o. the message No 2:02:10.
IMPORTANT! WLL is not exceeded, and label instructions must be followed.

1. Safety Instruction

Warning Message

Wrong assembled or damaged lifting point as well as improper use can lead to injuries of persons and damage of objects when load drops. Please inspect all lifting point before each use.

When installed, the 8-211 lifting point must be rotated 360°.
Refer to German standard, under rule 500 (DGUV BGR 100-500) or other country specific regulations. All the inspection should be operated by the competent persons

2. Intended use

The 8-211 lifting point must only be used for the assembly of the load or at load accepting means
Their usage is intended to be used as lifting means.
The 8-211 lifting point can also be used as lashing points for the fixture of lashing means.
The 8-211 lifting point must only be used in the here described usage purpose.

3. Instruction manual

3.1 General Information

The lifting point cannot be used in the following chemicals influence environment such as acid and steam. If you still cannot avoid, please contact the manufacturer to indicate how to use correctly.

Temperature effects:
As the DIN/EN bolts are used in the lifting points, the working load limit must be reduced:
-40°C to 100°C no reduction (-40°F to 212°F)
100°C to 200°C minus 15% (212°F to 392°F)
200°C to 250°C minus 20% (392°F to 482°F)
250°C to 350°C minus 25% (482°F to 662°F)
Temperature above 350°C (662°F) is not allowed.

Please note the nuts' maximum temperature (optionally):
- Clamping nut according to DIN EN ISO 7042 (DIN 980) can only be used up to +150°C (302°F).
- Collar nut according to DIN 6331 can only be used up to 300°C (572°F).

Yoke lifting point is supplied with 100% crack tested bolt.
Use only YOKE parts as replacements.

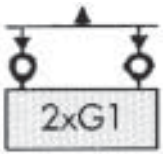
3.2 Assembly hints

After determining the loads on each Lifting Point, select the proper size Lifting Point using the Working Load Limit ratings in Table 1.
The material construction, to which the lifting point will be attached, should be of adequate strength to withstand forces during lifting without deformation. YOKE recommends the following minimum for bolt lengths:
(M = diameter of YOKE lifting point bolt, e.g. M 20)
- 1.5 x M in Steel
- 1.5 x M in cast iron
- 2 x M in aluminum alloys
- 2.5 x M in aluminum-magnesium alloys

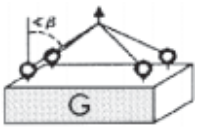
A plane bolting surface must be guaranteed. The holes must be drilled with a sufficient depth in order to guarantee compatibility with the supporting surface
The lifting points must be positioned as suggestion below:

- The lifting point should be vertically above the center of the load for single leg.

- The lifting points must be equidistant to/or above the center of the load for two legs.



- The lifting points should be placed symmetrically around the center of the load for three and four leg.



Load symmetry:

Using the following formula as symmetrical loading calculation:

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$$W_{LL} = \frac{G}{n \times \cos ß}$$

W_{LL} = working load limit
G = load weight (kg)
n = number of load bearing legs
ß = angle of inclination of the chain to the vertical

The calculation of load bearing is as follows:

	Symmetric	Asymmetric
2 Legs	2	1
3/4 Legs	3	1

Attach lifting device ensuring free fit to Lifting Point bail (lifting ring) (Fig. 1).
Apply partial load and check proper rotation and alignment. There should be no interference between load (work piece) and hoist ring bail (Fig. 2).

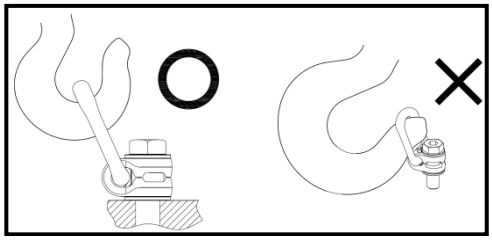


Fig. 1

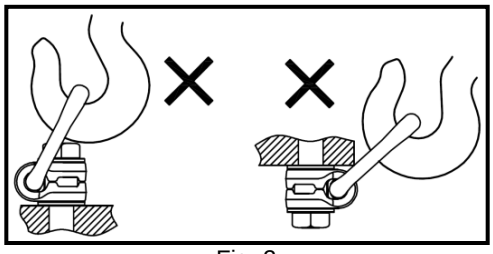
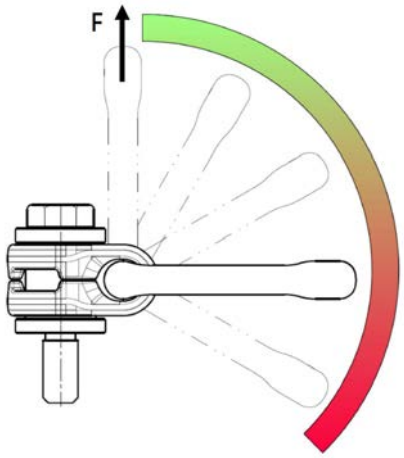


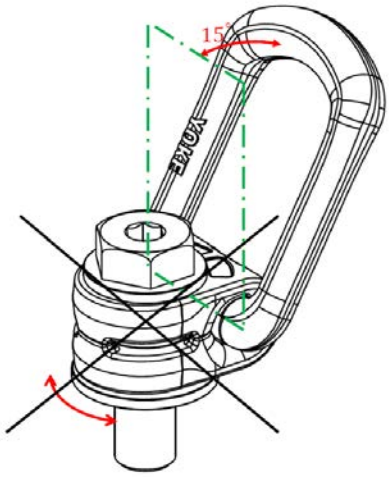
Fig. 2

3.3 Instructions for use
The lifting point ring must not touch the edge and should be free to move.
When lifting, users should avoid sharp edges environment that will cause the damage of the lifting.
The following use is allowed.



Hoist ring rotation range

The following use must be avoided.



3.4 Periodical inspections:
Lifting point should be inspected periodically, determine by the usage, but at least once a year. It should be operated by a competent person
The inspection times depend on the usage condition, which wear or corrosion increase by frequent use. In this case, user may need to inspect more than one time a year.

4. Inspection's criteria
Before each operation, observe and control the following points during regular period：
• The lifting point should be complete.
• Evidence of cracks.
• The lifting point must be free to rotate.
• The deformation of the component parts
• Confirm the compatibility of the bolt threads and tapped hole torque control
• The working load limit and manufacturer stamp should be visible clearly
• Mechanical damage, ex: notches, especially in the high-pressure area.
• Wear should not exceed 10% of the cross-sectional diameters.
• Evidence of corrosion.
• Damaged on the bolts, nuts and / or threads.

Table. 1 YOKE 8-211 lifting point normal load applications

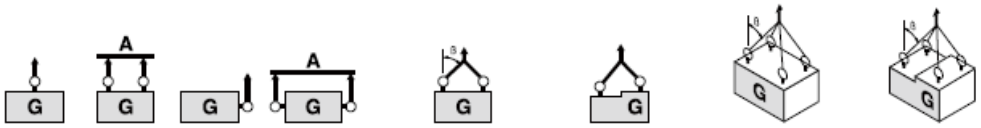
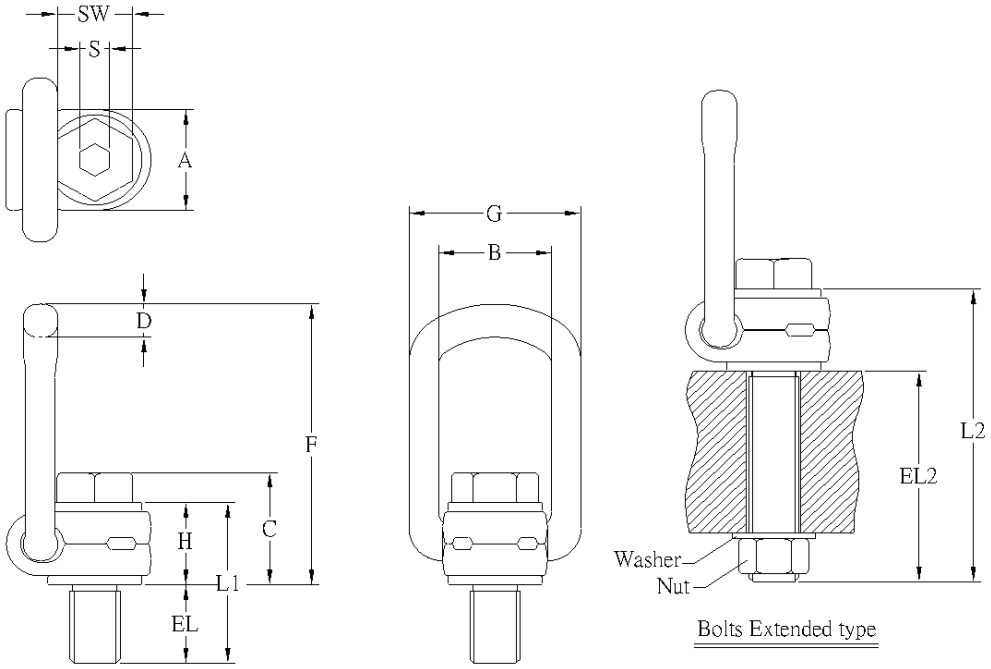
Kind of attachment										
Number of legs	1	2	1	2	2	2	2	3-4	3-4	3-4
Load direction	0°	0°	90°	90°	0-45°	45° - 60°	unsymm.	0 - 45°	45° - 60°	unsymm.
Item No. / Thread	WLL(t)									
8-211-003 M 8	0.3	0.6	0.3	0.6	0.42	0.3	0.3	0.63	0.45	0.3
8-211-006 M 10	0.63	1.26	0.63	1.26	0.88	0.63	0.63	1.32	0.95	0.63
8-211-010 M 12	1	2	1	2	1.4	1	1	2.1	1.5	1
8-211-012 M 14	1.2	2.4	1.2	2.4	1.7	1.2	1.2	2.5	1.8	1.2
8-211-015 M 16	1.5	3	1.5	3	2.1	1.5	1.5	3.1	2.2	1.5
8-211-020 M 18	2	4	2	4	2.8	2	2	4.2	3	2
8-211-025 M 20	2.5	5	2.5	5	3.5	2.5	2.5	5.2	3.7	2.5
8-211-040 M 24	4	8	4	8	5.6	4	4	8.4	6	4
8-211-042 M 27	4	8	4	8	5.6	4	4	8.4	6	4
8-211-050 M 30	5	10	5	10	7	5	5	10.5	7.5	5
8-211-070 M 36	7	14	7	14	9.8	7	7	14.7	10.5	7
8-211-080 M 36	8	16	8	16	11.2	8	8	16.8	12	8
8-211-100 M 42	10	20	10	20	14	10	10	21	15	10
8-211-150 M 42	15	30	15	30	21	15	15	31.5	22.5	15
8-211-200 M 48	20	40	20	40	28	20	20	42	30	20
8-211-220 M 56	22 NEW	44	22	44	30.8	22	22	46.2	33	22
8-211-225 M 64	22.5 NEW	45	22.5	45	31.5	22.5	22.5	47.25	33.75	22.5

Table. 2 YOKE 8-211 lifting point Specifications

Item No.	Working Load Limit	Thread version			Dimensions									Torque in	N.W.
		M	E	Pitch	A	B	C	D	F	G	H	S	SW		
	tonnes	mm	mm	DIN13	mm									Nm	kg
8-211-003	0.3	M 8	11	1.25	30	35	35	10	85	55	29	6	13	30	0.2
8-211-006	0.63	M 10	16	1.5	30	35	36	10	85	55	29	6	17	60	0.3
8-211-010	1	M 12	18	1.75	33	37	44	14	98	57	36	8	19	100	0.5
8-211-012	1.2	M 14	21	2	33	37	45	14	98	57	36	10	22	120	0.5
8-211-015	1.5	M 16	24	2	33	37	46	14	98	57	36	10	24	150	0.5
8-211-020	2	M 18	26	2	50	54	57	17	140	82	44	12	30	200	1.3
8-211-025	2.5	M 20	30	2.5	50	54	57	17	140	82	44	12	30	250	1.3
8-211-040	4	M 24	36	3	50	54	59	17	140	82	44	14	36	400	1.4
8-211-042	4	M 27	38	3	60	65	79	23	170	99	62	17	41	400	2.8
8-211-050	5	M 30	48	3.5	60	65	81	23	170	99	62	17	46	500	3.1
8-211-070	7	M 36	54	4	60	65	88	23	178	99	65	22	55	700	3.3
8-211-080	8	M 36	62	4	77	85	101	27	225	124	78	22	55	800	5.8
8-211-100	10	M 42	72	4.5	77	85	104	27	225	124	78	24	65	1000	6.3
8-211-150	15	M 42	63	4.5	95	104	112	36	256	158	86	24	65	1500	10.8
8-211-200	20	M 48	72	5	95	104	120	36	259	158	90	27	75	2000	11.6
8-211-220	22 NEW	M 56	84	5.5	95	104	128	36	259	158	90	27	89	2100	15.0
8-211-225	22.5 NEW	M 64	100	6	113	104	133	36	259	158	90	32	95	2200	16.3

* Design Factor 4:1
* Bolt in GEOMET® finished on request



Bolts Extended type