

Lab Report Nr. 409

LIFTING EYES - LOADING TEST

According user manual with safety factor 4

Revision 2.0

DUT type:	Lifting eyes Varistar CP	Test date:	28-08-2020
DUT p/n:	24630-030	Firmware:	
DUT s/n:		Test also applies to p/n:	
Test item:		24630-030	
Results: <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL <input type="checkbox"/> MIXED			
Document history:			
Revision	Date	Author	Description of changes
1.0	2020.08.17	D.GERTZ	Initial Release
2.0	2022.03.28	J-L HOFFMEYER	Addition test of raised top covers



Information about producer:
 Schrack SAS
 F-67660 Betschdorf
nvent.com/SCHROFF

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1. Test purpose

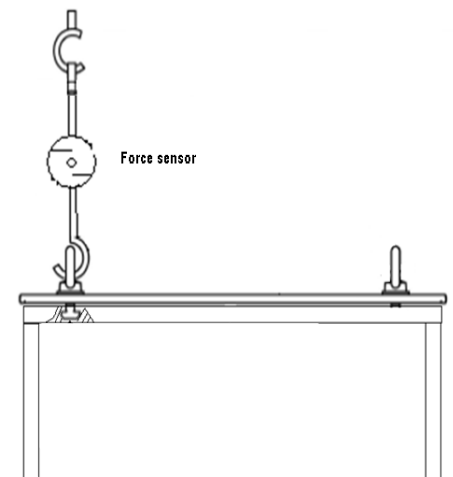
1.1. As described in the safety instruction delivered with all equipped cabinets, the standard Varistar CP lifting eyes kit is released for :

1.1.1. **340** kg per eye-bolt when pulling straight up

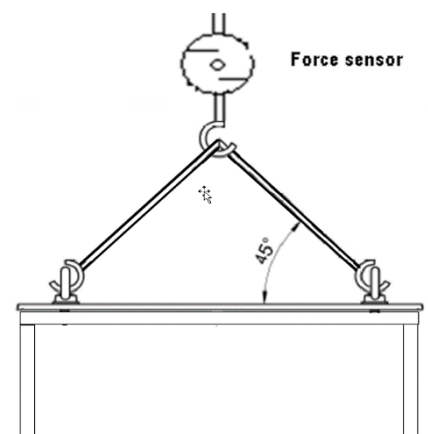
1.1.2. **240** kg for couple eye-bolt when pulling at $\leq 45^\circ$ angle

Eyes screwed in till contact + 45° by hand. If the angle was not obtain screwing with tool max. 28Nm

2. Description of the test sample



Pulling on 1 lifting eye by steps :
340kg \rightarrow 680kg \rightarrow 1020kg \rightarrow 1360kg (x4)



Pulling on 4 lifting eyes by steps :
 $\beta = 45^\circ$ 480kg \rightarrow 960kg \rightarrow 1920kg (x4)

Components :

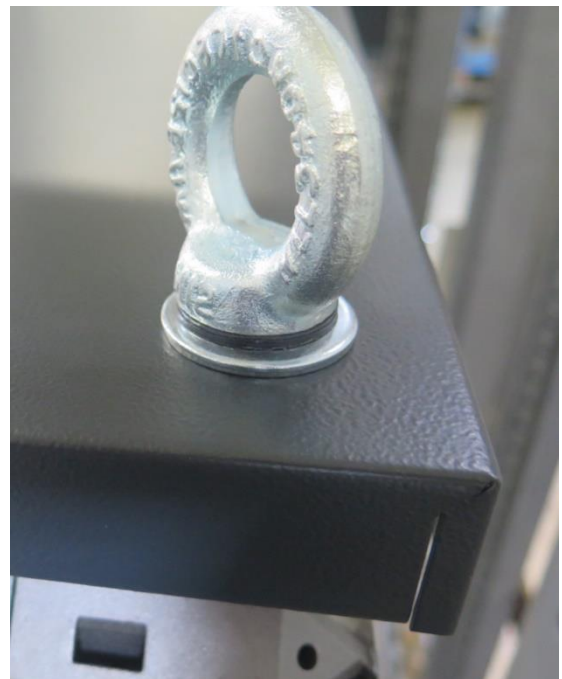
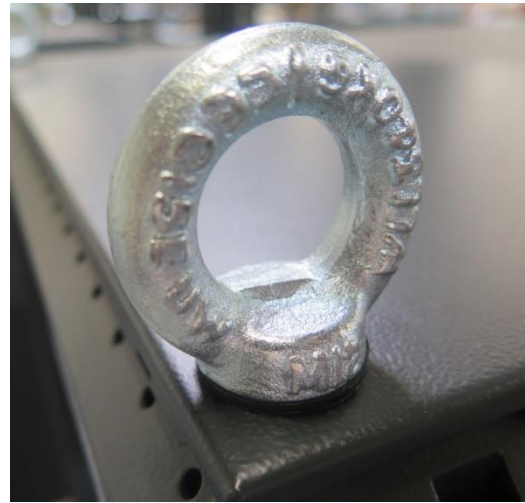
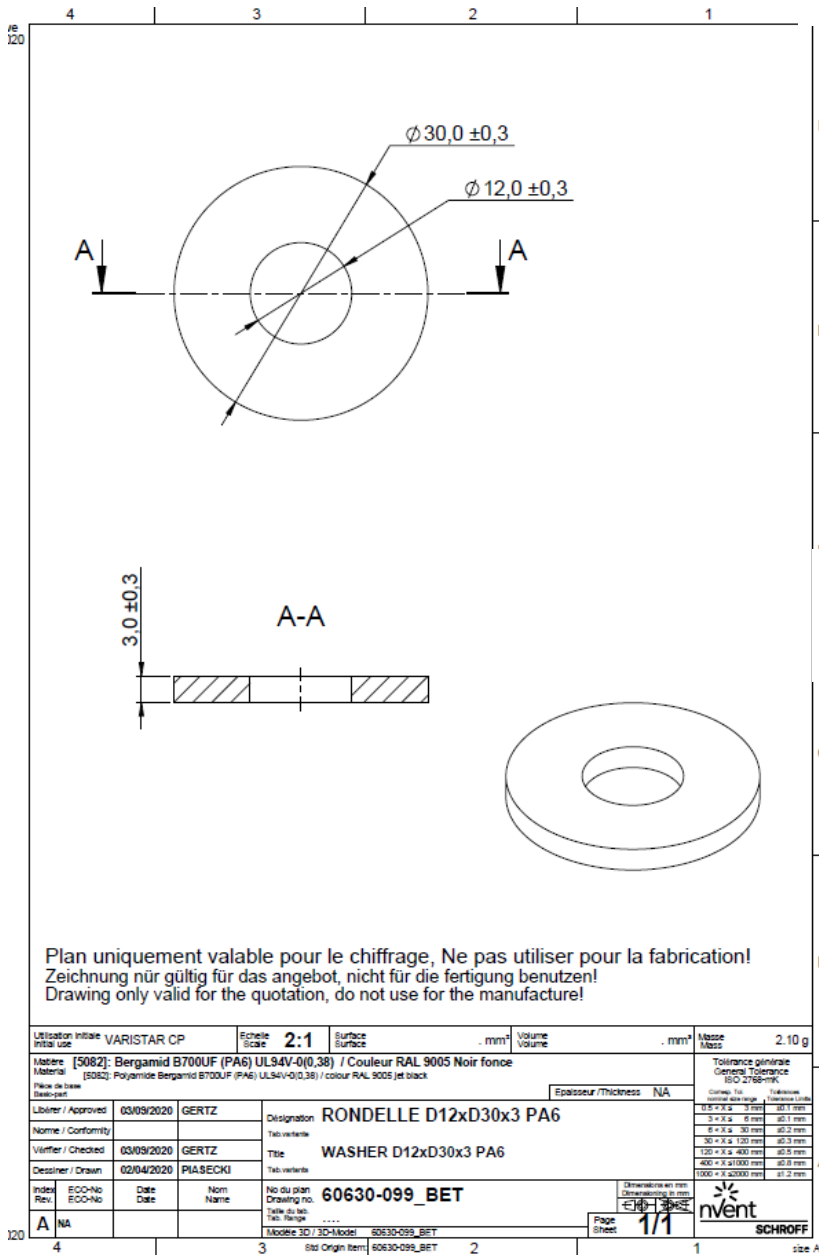
Frame Varistar CP 800x1200x1200



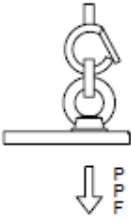
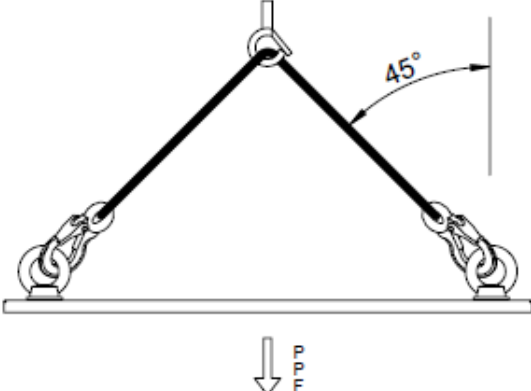
Lifting eye Kit 24630-030 :

Composant	Désignation du composant	Quantité
50612100	ANNEAU DE LEVAGE M12 DIN580	4
60630099	RONDELLE D12D30 EP3 PA6 NOIRE	4
* 52712101	RONDELLE A13 PLATE DIN9021	4
60630100	NOTICE ANNEAU DE LEVAGE	1
60000015	SACHET 150X220X0,05	1

FOR FLAT TOP COVERS USE ONLY PA6 PLASTIC WASHER 60630099

FOR RAISED TOP COVERS USE DIN9021 WASHER 52712101 & PA6 PLASTIC WASHER 60630099



Sicherheitshinweis	Safety instruction	Consignes de sécurité
<div style="text-align: center;">  </div> <p>Handhabung ausschließlich für qualifiziertes Personal vorbehalten. Beachten Sie die geltenden Vorschriften. Bevor Sie die Kranösen benutzen, ist es wichtig, eine Sichtprüfung durchzuführen, um sicherzustellen, dass die Kranösen nicht beschädigt sind und die Ösen nicht locker sind.</p> <p>Handling reserved exclusively for qualified personnel. In accordance with the regulations. Before using the lifting eyes, it's important to make a visual inspection to verify that the eyes are not damaged and connected to the cabinet.</p> <p>Manutention réservée exclusivement au personnel qualifié. Respecter les prescriptions en vigueur. Avant d'utiliser les anneaux de levage, il est important de faire une inspection visuelle pour vérifier que les anneaux ne sont pas endommagés et sont toujours bien fixés sur la baie.</p>		
<p style="text-align: center;">Belastungsart Direction of lift Mode d'accrochage</p>	<p style="text-align: center;">Maximale Belastbarkeit Maximum load-carrying capacity Charge admissible</p>	
	<p style="text-align: center;">340 kg</p> <p style="text-align: center;">Gültig für je eine Kranöse Valid for a single lifting eye Poids pour un anneau</p>	
	<p style="text-align: center;">240 kg</p> <p style="text-align: center;">Gültig für 2 Kranösen Valid for 2 lifting eyes Poids pour 2 anneaux</p> <p>Kranösen komplett lösen, danach anziehen um zu den Schlingen auszurichten. Anzugsdrehmoment 28 Nm max.</p> <p>Loose the eyes then screw to align the eyes with the slings. Tightening torque 28 Nm max.</p> <p>Desserrer les anneaux, puis les serrer pour les aligner avec les élingues. Couple de serrage 28 Nm max.</p>	

3. Basis of assessment

3.1 Test resources/equipment

1 force sensor up to 2500kg with digital display
1 dial indicator analog display
Lifting hooks and rings
Torque dynamometer 2003107594

4. Measurement results

Test 1.1.1 : vertical pulling

Test 1.1.2 : $\beta = 45^\circ$

5. Conclusion

All configurations have been tested without failure (no eye-bolt deformation):
1360 kg per eye-bolt when pulling straight up (nominal loading x4)
1920 kg per 4 eye-bolt when pulling at 45° (nominal loading x4)

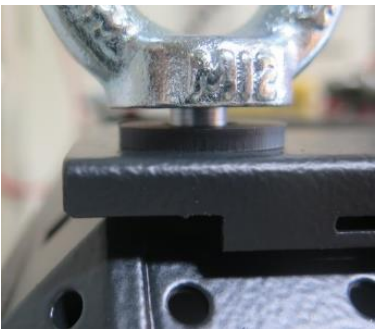
The standard lifting eyes kit is therefore compliant with DIN EN 61010-1 2011_07

6. Photo documentation

Picture 1:



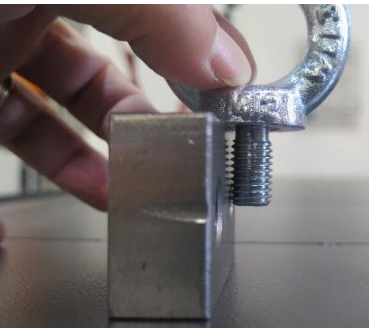
Picture 2:



OK



OK



OK

Picture 3: (raised top cover, vertical pulling):



Picture 4: (raised top cover, 45° pulling):

