

# DVT Report

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**Test Item**            VARISTAR lifting eyes

**Identification**     Test report No.000232

**Test Order**            VARISTAR lifting eyes pull test  
According to DIN EN 61010-1 2011\_07

**Reported by**        Christophe MARCINKOWSKI

**Date**                    11.07.2014

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## 1. Assessment

As described in the safety instruction delivered with all equipped cabinets (see picture 4), the standard Varistar lifting eyes kit is released for :

- 340 kg per eye-nut when pulling straight up
- 120 kg per eye-nut when pulling at 45° angle

Both configurations have been tested without failure up to 4 times the released load :

- 1360 kg per eye-nut when pulling straight up
- 480 kg per eye-nut when pulling at 45° angle

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

## 2. Results

### 2.1 Vertical pulling :

Pulling step	Pulling force (kg)	Displacement 1 (mm)	Displacement 2 (mm)	Comments
340kg	440	0.29	0.65	OK
680kg	701	0.47	1.00	OK
1020kg	1045	0.70	1.49	OK
1360kg	1312	1.33	2.45	OK

Table 1

### 2.2 45° angle pulling :

Pulling step	Pulling force (kg)	Displacement 1 (mm)	Displacement 2 (mm)	Comments
240kg	260	0.08	0.2	OK
480kg	480	0.23	0.94	OK

Table 2

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### 3. Description of the test

#### 3.1 Test sample(s)

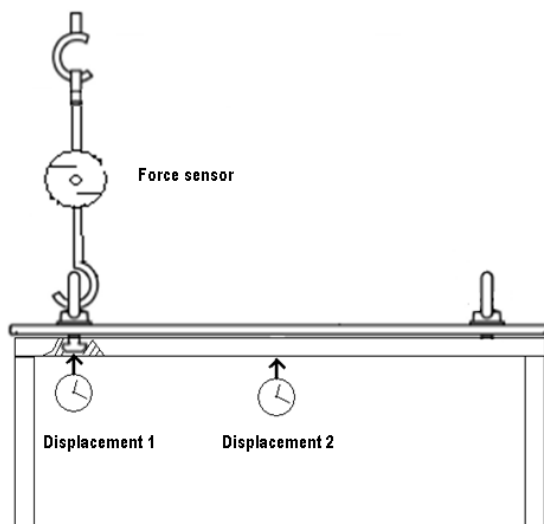
Quantity	Description	Item number
1	VARISTAR frame SL 1200Hx800Wx1200D	25139-933
4	Plastic bushing	60130-018
1	Top cover 800x1200	24130-047
1	Lifting eyes kit	23130-072

Table 3

#### 3.2 Test parameters / test set-up / test performed

The top cover and lifting eyes kit are mounted on the frame which is bolted to the floor.

→ Vertical pulling on 1 eye-nut (see picture 2) :



Picture 1: Electrical hoist up to 2000kg

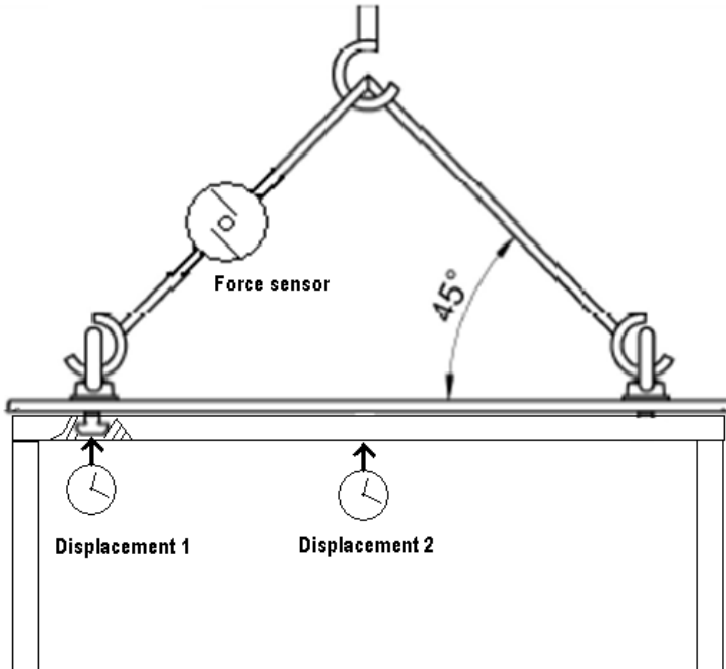
Pulling by steps :

340kg → 680kg → 1020kg → 1360kg → steps of 100kg until pulling out or max 2000kg (max value for the eye-nut according to DIN 582)

Pulling is done using an electrical hoist (see picture 1). At each step, real value of the applied force and both displacement values are noted down.

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→ 45° angle pulling on 2 eye-nuts (see picture 3) :



Picture 2: Electrical hoist up to 2000kg

Pulling by steps (value for 1 eye-nut) :

240kg → 480kg → 720kg → 960kg → steps of 100kg until pulling out or max 1412kg (max value for the eye-nut according to DIN 582)

Pulling is done using an electrical hoist (see picture 1). At each step, real value of the applied force and both displacement values are noted down.

### 3.3 Test resources / equipment

- 1 electrical hoist up to 2000 kg
- 1 force sensor up to 2500kg with digital display
- 2 dial indicators with digital display
- Lifting hooks and rings

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#### 4. Remarks

None

#### 5. Enclosure(s)



Illustration 3: Electrical hoist up to 2000kg



Illustration 4: Vertical pulling on one eye nut

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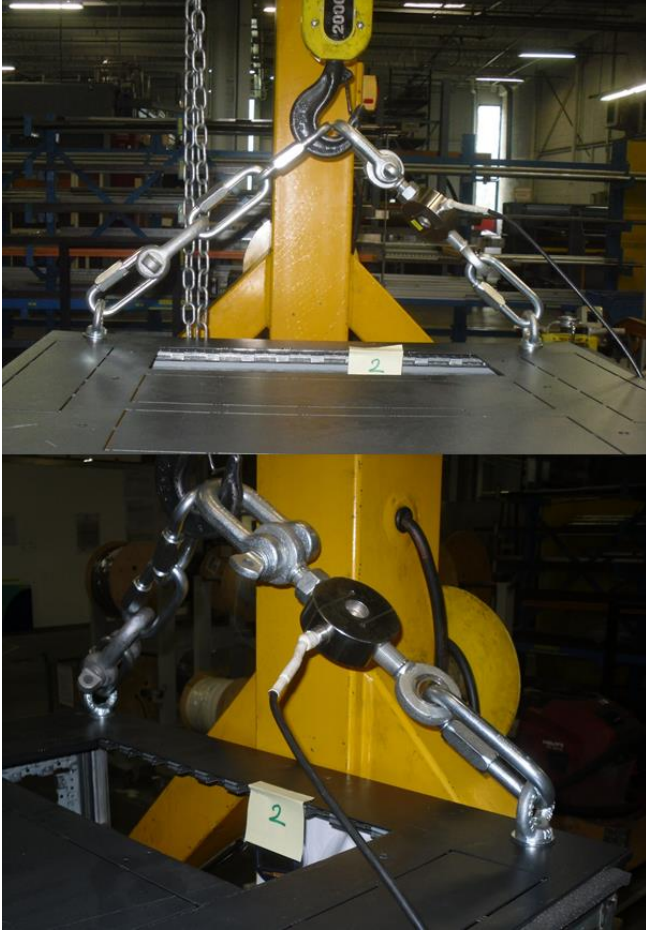


Illustration 6: 45° angle pulling on 2 eye nuts

Benutzeranleitung  
VARISTAR  
Sicherheitshinweis  
für Kranösen M12

User Manual  
VARISTAR  
Safety instruction  
for lifting eyes M12

Instructions utilisateur  
VARISTAR  
Consignes de sécurité  
pour les anneaux  
de levage M12



Anzugsdrehmoment:  
Tightening torque:  
Couple de serrage: **20 ± 10 Nm**

Belastungsart Direction of lift Mode d'accrochage	Maximale Belastbarkeit Maximum load-carrying capacity Charge admissible
	<b>340 kg</b> Gültig für je eine Kranöse Valid for a single lifting eye Poids pour un anneau
	<b>240 kg</b> Gültig für 2 Kranösen Valid for 2 lifting eyes Poids pour 2 anneaux
Vorgeschriebene Werte dürfen nicht überschritten werden. Specified values must not be exceeded. Ne pas dépasser les valeurs indiquées.	

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Illustration 5: Safety instructions delivered with cabinet

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