



# EU TYPE-EXAMINATION CERTIFICATE

According to Annex IV, Part A of 2014/33/EU Directive

**Certificate No.:** EU-BD 819/1

**Certification Body of the Notified Body:** TÜV SÜD Industrie Service GmbH  
Westendstr. 199  
80686 Munich - Germany  
Identification No. 0036

**Certificate Holder:** WARNER Electric Europe  
7, rue de Champfleür  
BP 20095  
49124 Saint Barthélemy d'Anjou - France

**Manufacturer of the Test Sample:** WARNER Electric Europe  
7, rue de Champfleür  
BP 20095  
49124 Saint Barthélemy d'Anjou - France  
(Manufacturer of Serial Production – see Enclosure)

**Product:** Braking device acting on the shaft of the traction sheave, as part of the protection device against overspeed for the car moving in upwards direction and braking element against unintended car movement

**Type:** ERS VAR07  
Size:  
SZ300/\_\_\_, SZ420/\_\_\_, SZ420/\_\_\_ SY,  
SZ600/\_\_\_, SZ600/\_\_\_ SY, SZ800/\_\_\_,  
SZ800/\_\_\_ AZ

**Directive:** 2014/33/EU

**Reference Standards:** EN 81-20:2014  
EN 81-50:2014  
EN 81-1:1998+A3:2009

**Test Report:** EU-BD 819/1 of 2016-03-09

**Outcome:** The safety component conforms to the essential health and safety requirements of the mentioned Directive as long as the requirements of the annex of this certificate are kept.

**Date of Issue:** 2016-03-09

**Date of Validity:** from 2016-04-20

*Werner Rau*

Werner Rau

Certification Body "lifts and cranes"



**1 Scope of application**

**1.1 Use as braking device – part of the the protection device against overspeed for the car moving in upwards direction – permissible brake torques and tripping rotary speeds**

1.1.1 Permissible brake torques and maximum tripping rotary speeds of the traction sheave when the brake device acts on the shaft of the traction sheave while the car is moving upward

Size	Permissible brake torque [Nm]	Max. tripping rotary speed of the traction sheave [rpm]
SZ300/_ _ _	482 - 747	300
SZ300/_ _ _	434 - 689	600
SZ420/_ _ _	547 - 999	300
SZ420/_ _ _	502 - 788	600
SZ420/_ _ _ SY	603 - 1070	600
SZ600/_ _ _	947 - 1306	300
SZ600/_ _ _	724 - 1045	600
SZ600/_ _ _ SY	811 - 1688	600
SZ800/_ _ _	1144 - 2177	300
SZ800/_ _ _ AZ	1007 - 1871	400
SZ800/_ _ _	1042 - 1997	600

1.1.2 Maximum tripping speed of the overspeed governor and maximum rated speed of the lift

The maximum tripping speed of the overspeed governor and the maximum rated speed of the lift must be calculated on the basis of the traction sheave's maximum tripping rotary speed as outlined above taking into account traction sheave diameter and car suspension.

$$v = \frac{D_{TS} \times \pi \times n}{60 \times i}$$

$v$  = Tripping (rated) speed (m/s)  
 $D_{TS}$  = Diameter of the traction sheave from rope's centre to rope's centre (m)  
 $\pi$  = 3,14  
 $n$  = Rotary speed (rpm)  
 $i$  = Ratio of the car suspension

**1.2 Use as braking element – part of the protection device against unintended car movement (acting in up and down direction) – permissible brake torques, tripping rotary speeds and characteristics**

1.2.1 Nominal brake torques and response times with relation to a brand-new brake element

Size	Min. nominal brake torque* [Nm]	Intermediate nominal brake torque * [Nm]	Max. nominal brake torque * [Nm]	Max. tripping rotary speed [rpm]	Maximum response times** [ms] with / without overexcitation		
					t <sub>10</sub>	t <sub>50</sub>	t <sub>90</sub>
SZ300/_ _ _	2 x 250 = 500			300	60	93	125
SZ300/_ _ _			2 x 350 = 700	300	50	100	150
SZ300/_ _ _	2 x 250 = 500			600	55	88	120
SZ300/_ _ _			2 x 315 = 630	600	50	90	130
SZ420/_ _ _	2 x 250 = 500			300	60	90	120
SZ420/_ _ _			2 x 450 = 900	300	50	105	160
SZ420/_ _ _	2 x 225 = 450			600	60	75	90
SZ420/_ _ _			2 x 350 = 700	600	60	80	100
SZ420/_ _ _ SY	2 x 360 = 720			600	95	128	160

## Annex to the EU Type-Examination Certificate No. EU-BD 819/1 of 2016-03-09



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SZ420/___SY			2 x 420 = 840	600	95	148	200
SZ600/___	2 x 420 = 840			300	80	120	160
SZ600/___		2 x 550 = 1100		300	50	85	120
SZ600/___			2 x 600 = 1200	300	50	100	150
SZ600/___	2 x 315 = 630			600	70	90	110
SZ600/___			2 x 500 = 1000	600	50	90	130
SZ600/___SY	2 x 550 = 1100			600	80	108	135
SZ800/___	2 x 665 = 1330			300	65	95	125
SZ800/___			2 x 1000 = 2000	300	55	153	250
SZ800/___AZ	2 x 667 = 1334			400	120	160	200
SZ800/___AZ			2 x 800 = 1600	400	100	125	150
SZ800/___	2 x 665 = 1330			600	65	103	140
SZ800/___		2 x 800 = 1600		600	55	93	130
SZ800/___			2 x 900 = 1800	600	55	115	175

Interim values can be interpolated

### Explanations:

- \* **Nominal brake torque:** Brake torque assured for installation operation by the safety component manufacturer.
- \*\* **Response times:**  $t_x$  time difference between the drop of the braking power until establishing X% of the nominal brake torque,  $t_{50}$  optionally calculated  $t_{50} = (t_{10} + t_{90})/2$  or value taken from the examination recording

### 1.2.2 Assigned execution features

Size	Type of powering / deactivation	Brake control	Nominal air gap [mm]	Damping elements / adhesive foil integrated	Overexcitation
SZ300/___	Continuous current / continuous current end	serial	0.6	yes / yes	at double non-release voltage
SZ420/___	Continuous current / continuous current end	serial	0.6	yes / yes	at double non-release voltage
SZ420/___SY	Continuous current / continuous current end	serial or parallel	0.65	yes / no	at double non-release voltage
SZ600/___	Continuous current / continuous current end	serial	0.6	yes / yes	at double non-release voltage
SZ600/___SY	Continuous current / continuous current end	serial or parallel	0.65	yes / no	at double non-release voltage
SZ800/___	Continuous current / continuous current end	parallel	0.6	yes / yes	at double non-release voltage
SZ800/___AZ	Continuous current / continuous current end	parallel	0.65	no / no	no

## 2 Conditions

- 2.1 Above mentioned safety component represents only a part at the protection device against over-speed for the car moving in upwards direction and unintended car movement. Only in combination with a detecting and triggering component in accordance with the standard (two separate components also possible), which must be subjected to an own type-examination, can the system created fulfil the requirements for a protection device.

**Annex to the EU Type-Examination Certificate  
No. EU-BD 819/1 of 2016-03-09**



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- 2.2 The installer of a lift must create an examination instruction to fulfil the overall concept, add it to the lift documentation and provide any necessary tools or measuring devices, which allow a safe examination (e. g. with closed shaft doors).
- 2.3 The manufacturer of the drive unit must provide calculation evidence that the connection traction sheave – shaft – brake disc and the shaft itself is sufficiently safe, if the brake disc is not a direct component of the traction sheave (e. g. casted on). The shaft itself has to be statically supported in two points.  
An evidence must be enclosed with the technical documentation of the lift.
- 2.4 The setting of the brake torque has to be secured against unauthorized adjustment (e. g. sealing lacquer).
- 2.5 The respective identification drawing according to the following table shall be included to the EU type-examination certificate for the identification and information of the general construction and operation and distinctness of the approved type:

Size	No. of the identification drawing	Date of stamp
SZ300/_ _ _	1 12 107185	01.07.2009
SZ420/_ _ _	1 12 107272	15.03.2010
SZ420/_ _ _ SY	I-1 12 108237	09.03.2016
SZ600/_ _ _	1 12 107273	15.03.2010
SZ600/_ _ _ SY	I-1 12 108239	09.03.2016
SZ800/_ _ _	I-1 12 107213	09.03.2016
SZ800/_ _ _ AZ	I-1 12 108244	09.03.2016

- 2.6 The EU type-examination certificate may only be used in combination with the corresponding annex and enclosure (List of authorized manufacturer of the serial production). The enclosure will be updated immediately after any change by the certification holder.

**3 Remarks**

- 3.1 The brake moments effectively adjusted of one brake circuit will be marked at the blank after the type designation ERS VAR07 SZXXX/\_ \_ \_ XX.
- 3.2 In the scope of this type-examination it was found out, that the brake device also functions as a brake for normal operation, is designed as a redundant system and therefore meets the requirements to be used also as a part of the protection device against overspeed for the car moving in upwards direction and as braking element as part of the protection device against unintended car movement.
- 3.3 Checking whether the requirements as per section 5.9.2.2 of EN 81-20:2014 (D) have been complied with is not part of this type examination.
- 3.4 Other requirements of the standard, such as reduction of brake torque respectively brake force due to wear or operational caused changes of traction are not part of this type examination.
- 3.5 This EU type-examination certificate was issued according to the following standards:  
– EN 81-1:1998 + A3:2009 (D), Annex F.7 and F.8  
– EN 81-20:2014 (D), part 5.6.6.11, 5.6.7.13  
– EN 81-50:2014 (D), part 5.7 and 5.8
- 3.6 A revision of this EU type-examination certificate is inevitable in case of changes or additions of the above mentioned standards or of changes of state of the art.

**Enclosure to the EU Type-Examination Certificate  
No. EU-BD 819/1 of 2016-03-09**



Industrie Service

**Authorised Manufacturer of Serial Production – Production Sites (valid from: 2016-01-22):**

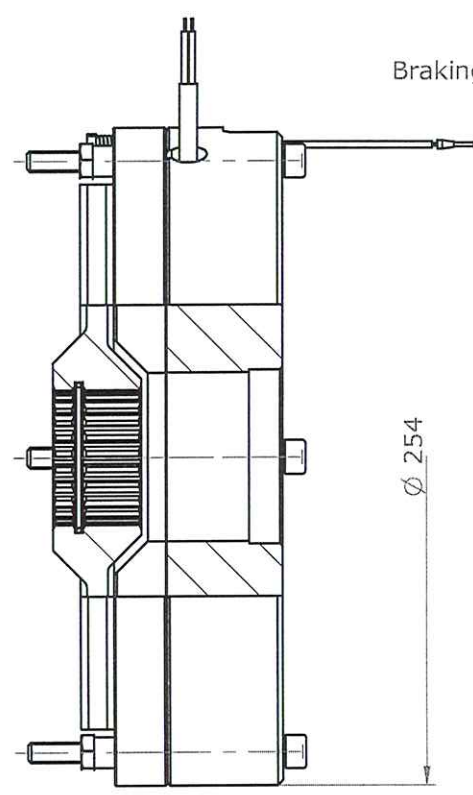
**Company** WARNER Electric Europe  
**Address** 7, rue de Champfleür  
BP 20095  
49124 Saint Barthélemy d'Anjou - France

**Company** Altra Industrial Motion Shenzhen Co. Ltd.  
**Address** Dabo Industry Zone  
18 Huanzhen Road  
Bogang County, Shajing Town  
Baoan District, Shenzhen City  
518104 Guangdong province - China (PRC)

- END OF DOCUMENT -

Les cotes sans indication de tolérances sont des cotes nominales.  
 Untoleranced dimensions are nominal dimensions.

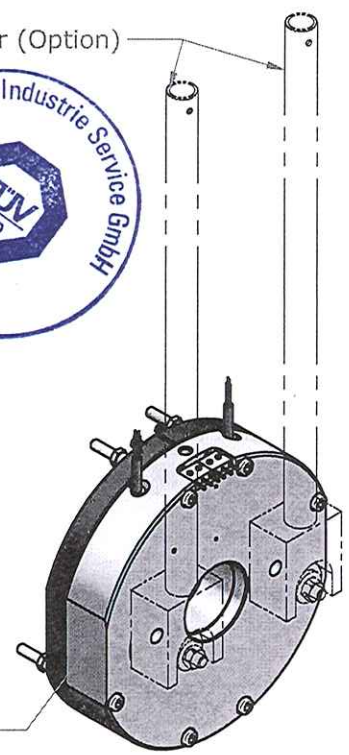
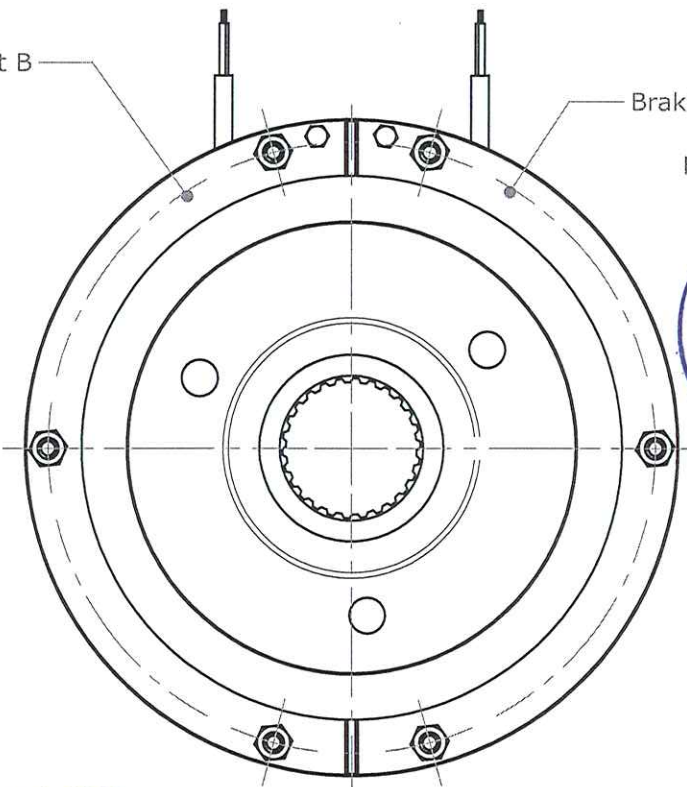
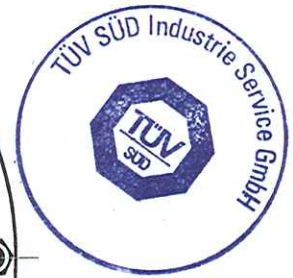
NOTES



Braking circuit B

Braking circuit A

Hand lever (Option)

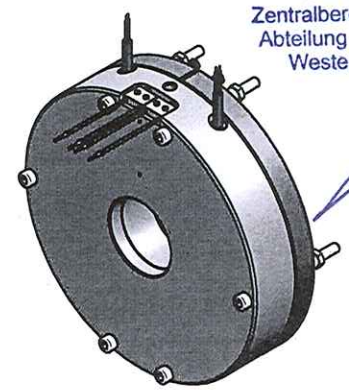
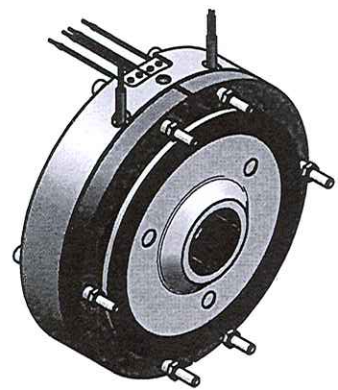


Alternative shape (option)

1. Juli 2009

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 Abteilung Aufzüge und Sicherheitsbauteile  
 Westendstr. 199, D-80688 München  
 Der Sachverständige



TUV DIFFUSION

Client/customer:		Customer ref :							
Ms (Nm) :		Dimensions in mm	FM	LT	REVISION		DATE	By	Ch.
Md (Nm) :			Manual/Notice : SM		Drawn : G. Ferrand		Date: 21.04.09		
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U (Vdc) :		Type: <b>ERS VAR07 SZ300/300</b>							
P20°C (W) :		<b>N° 1 12 107185</b>							
Insulation class (°C):									
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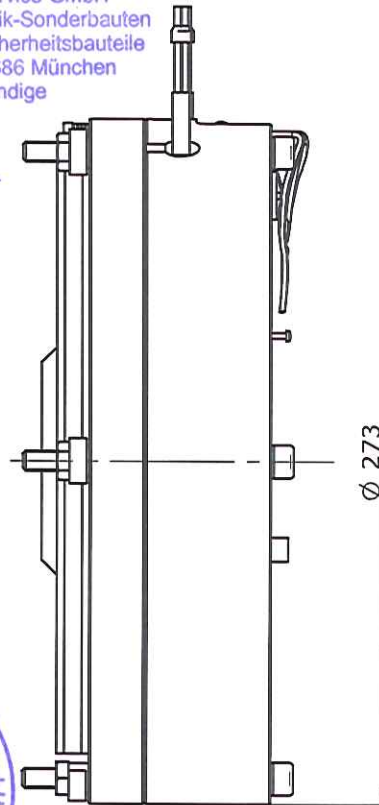
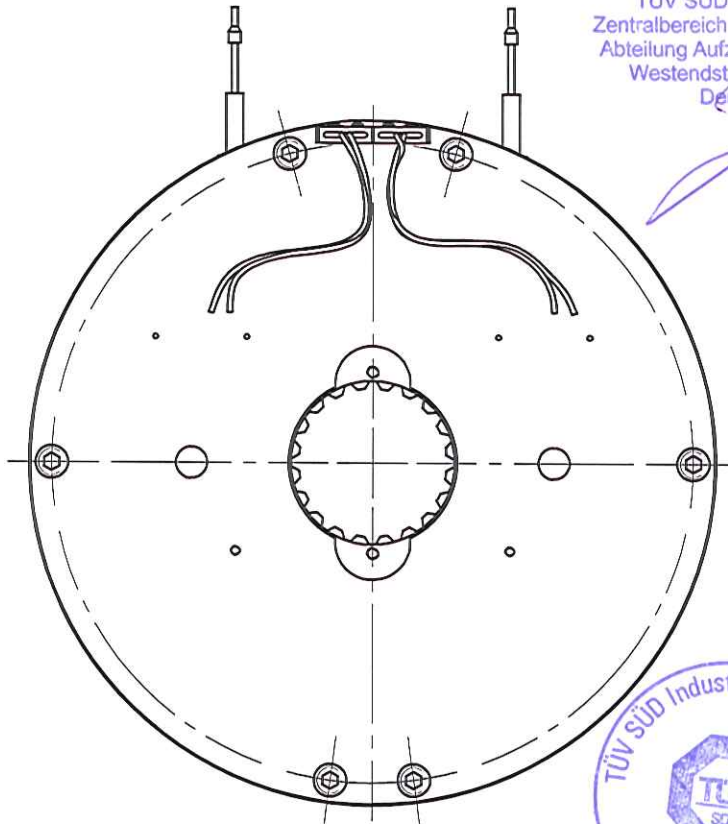
15. März 2010

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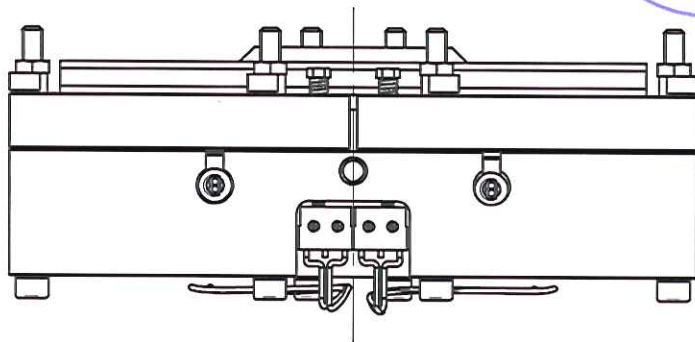
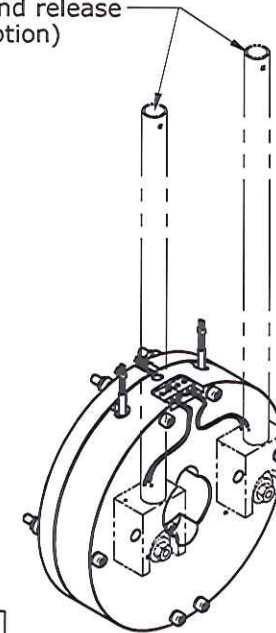


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**NOTES**



Hand release (option)



**TUV DIFFUSION**

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Md (Nm) :		
n Md (min-1) :		
n max (min-1) :		
U (Vdc) :		
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Insulation class (°C):		
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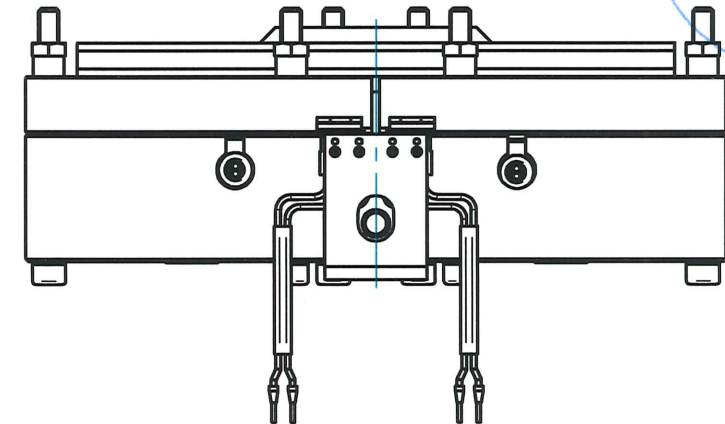
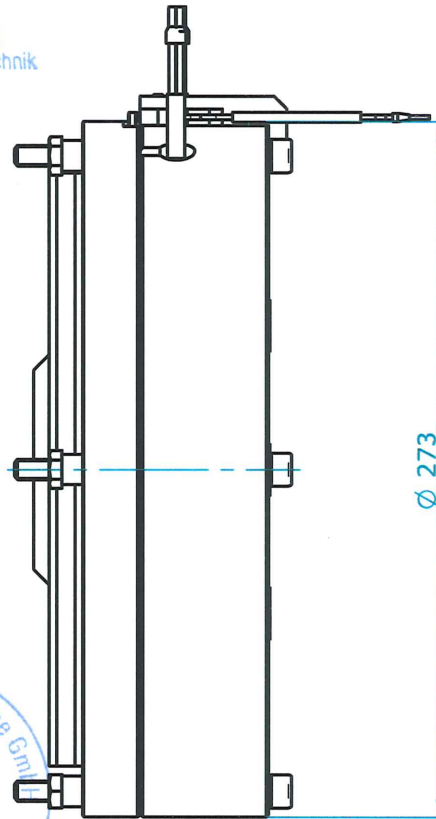
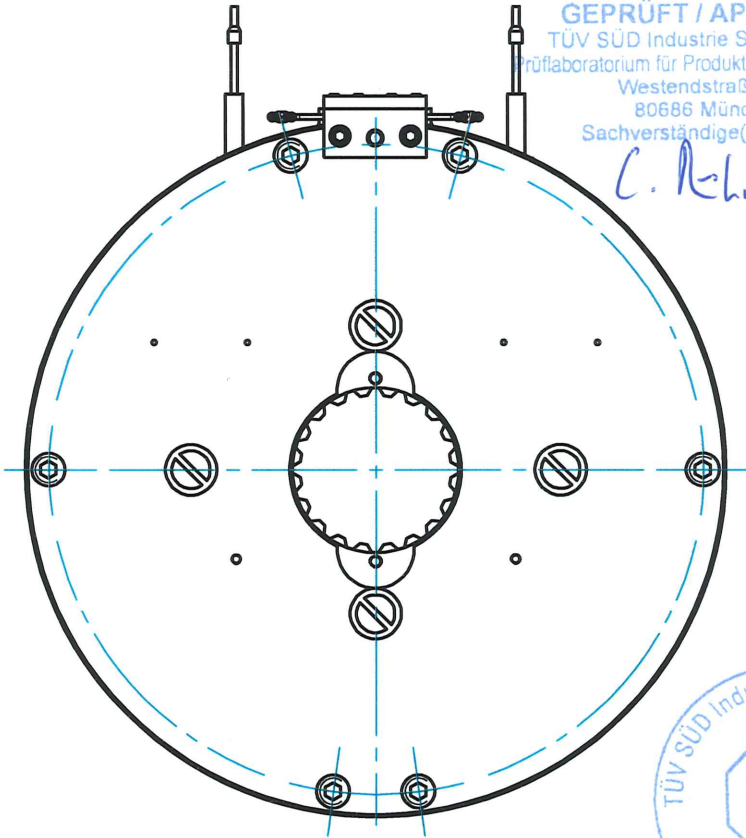
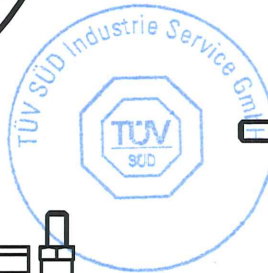
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Type: <b>ERS VAR07 SZ420/----</b>					
N° <b>1 12 107272</b>					

A3 CAD SE

0 9. MRZ. 2016

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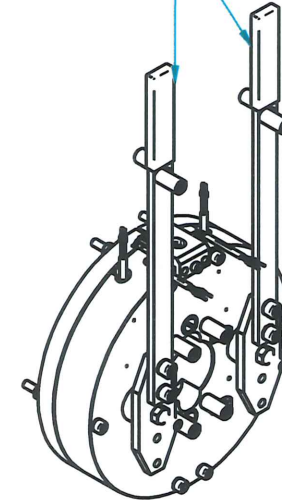
*C. Lehmege*



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 Untoleranced dimensions are nominal dimensions.

**NOTES**

Hand release (option)

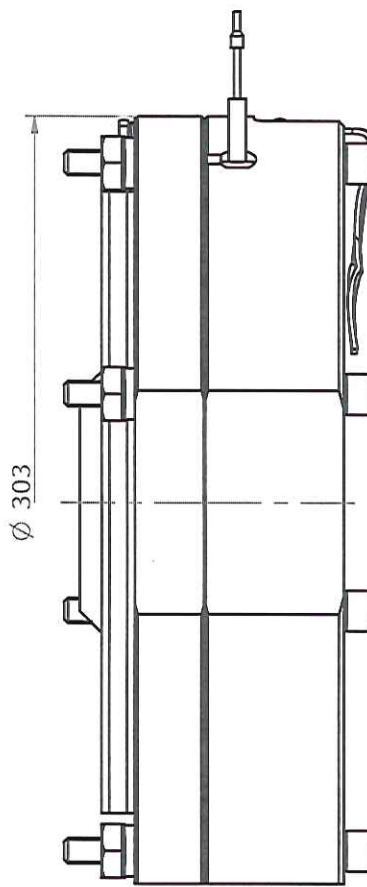
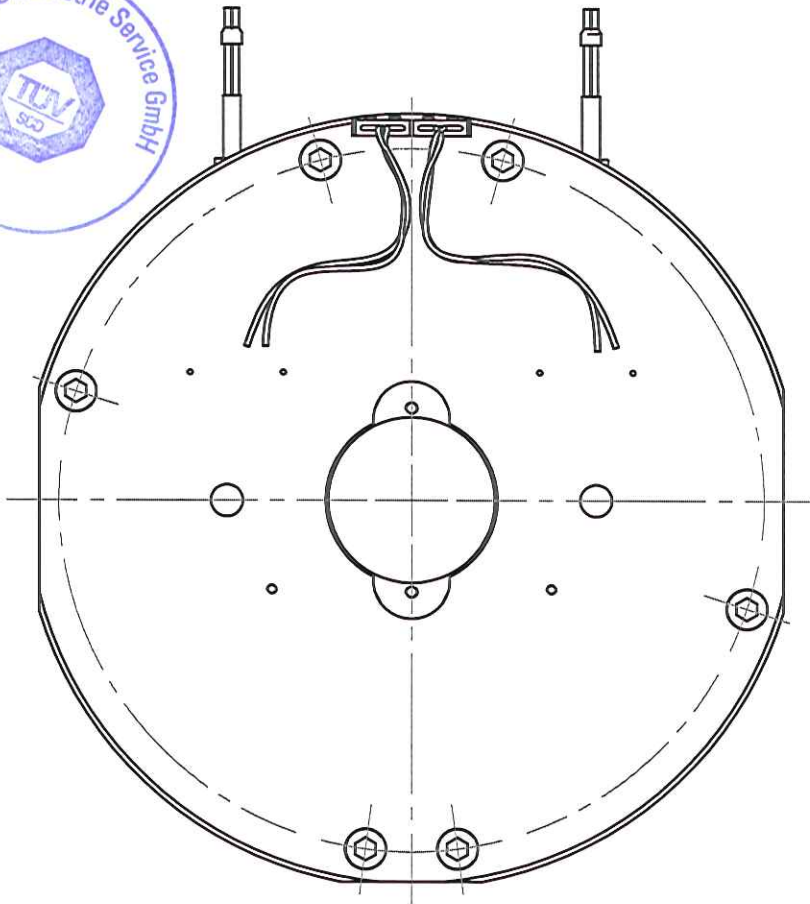


**TUV Diffusion**

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P 20°C :		<b>Design.: Frein électromagnétique</b>			
Insulation class (°C) :		<b>Electromagnetic brake</b>			
Electric Clutch Brake Group Warner Electric • Matrix International Inertia Dynamics • Warner Linear www.altramotion.com		This document is the property of Warner Electric Europe SAS, it may not be copied or used for any purpose, except directly for the company, without their prior written consent, nor is it to be shown to any third party.			
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		<b>Dwg N°: I-1 12 108237</b>			
		Rev. <b>A</b>			

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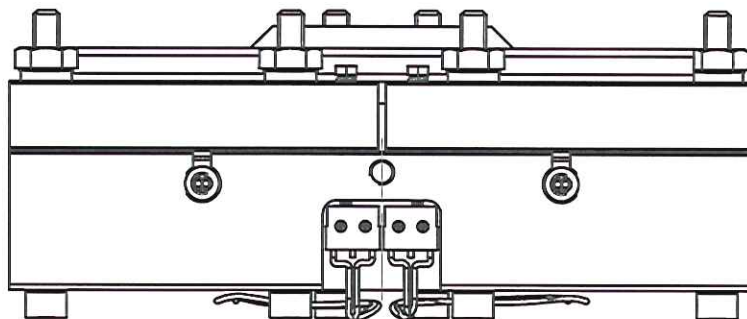
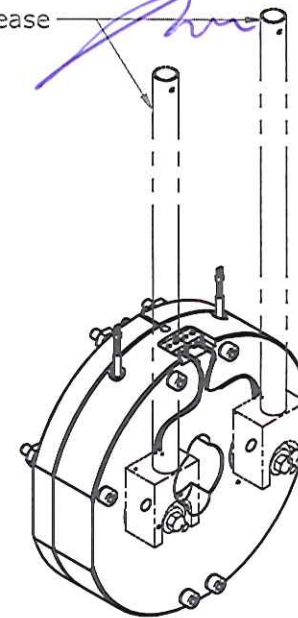
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15. März 2010

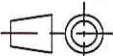
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 Der Sachverständige

Hand release  
 (option)



**TUV DIFFUSION**

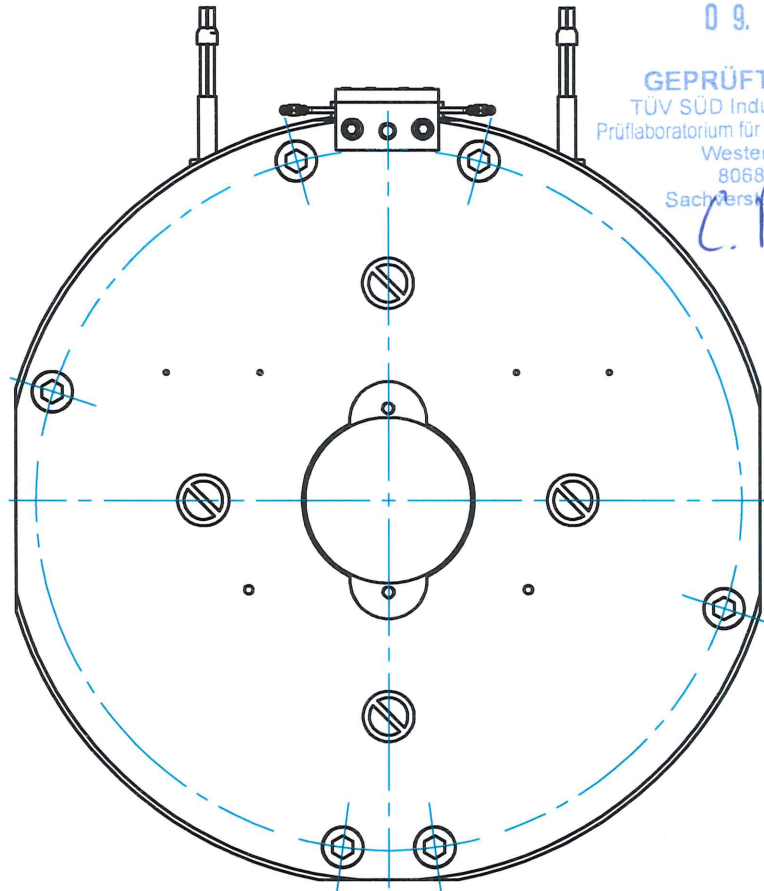
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U (Vdc) :		Mass :	Scale:						
P20°C (W) :									
Insulation class (°C):									
Ce plan est la propriété de Warner Electric Europe, il ne peut être divulgué ni reproduit entièrement ou partiellement, sans autorisation écrite.		<b>Warner</b> Electric Europe		<b>Design.:</b> Frein électromagnétique Electromagnetic brake					
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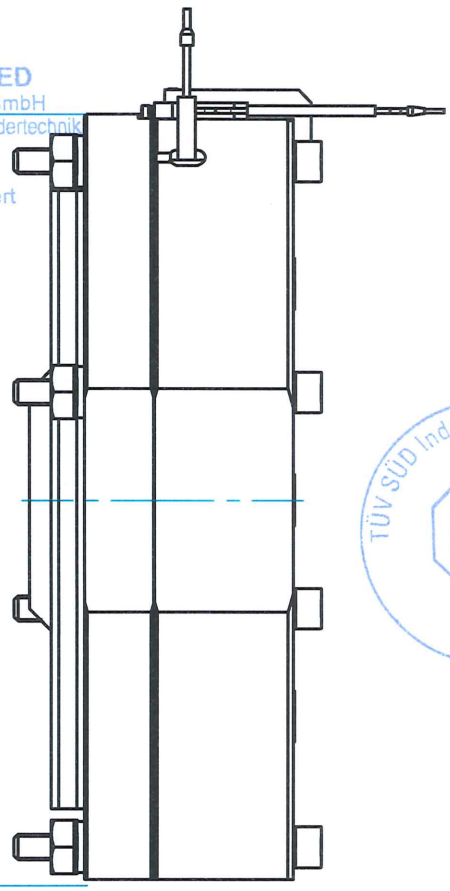
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 Sachverständige(r) / Expert  
*C. Schumpe*

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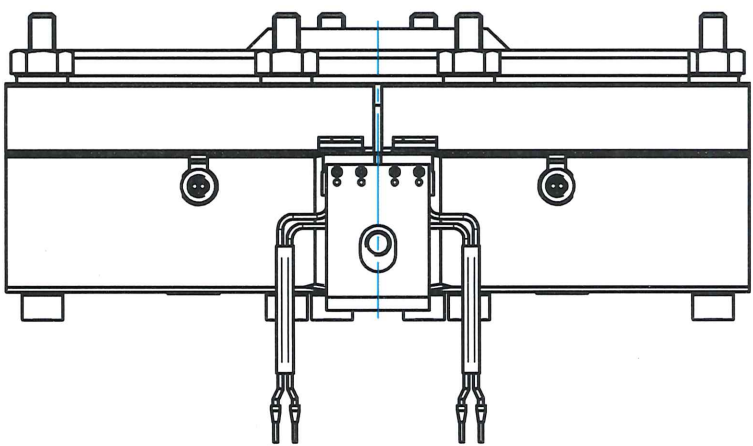
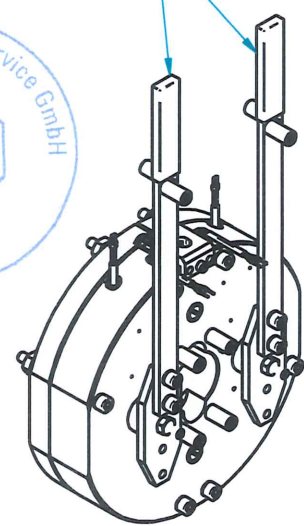
**NOTES**




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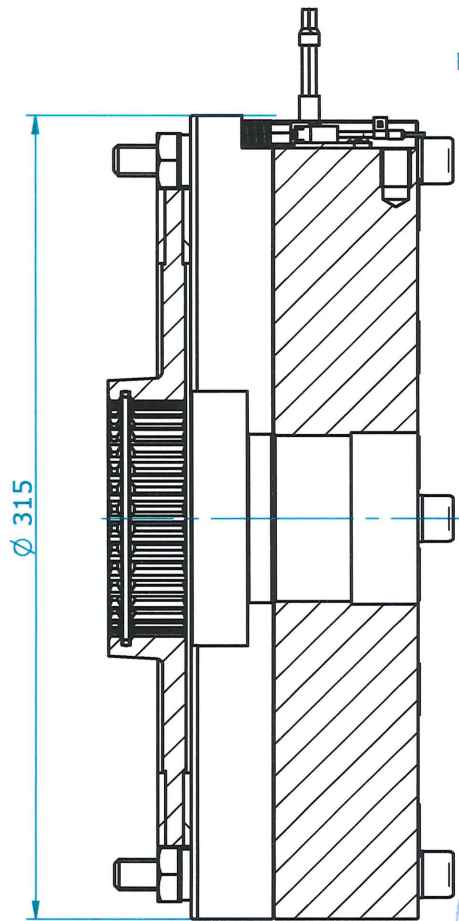
Hand release (option)



**TUV Diffusion**

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P 20°C :		<b>Design.: Frein électromagnétique Electromagnetic brake</b>			
Insulation class (°C) :	This document is the property of Warner Electric Europe SAS, it may not be copied or used for any purpose, except directly for the company, without their prior written consent, nor is it to be shown to any third party.	<b>Type: ERS VAR07 SZ600/--- SY</b>			
 Electric Clutch Brake Group Warner Electric • Matrix International Inertia Dynamics • Warner Linear www.altramotion.com		<b>SAP N°:</b>			
<b>Dwg N°: I-1 12 108239</b>					Rev. <b>A</b>

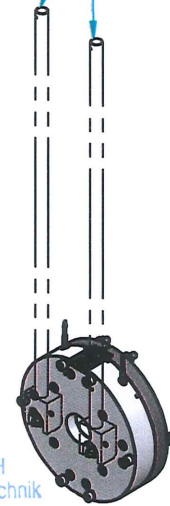
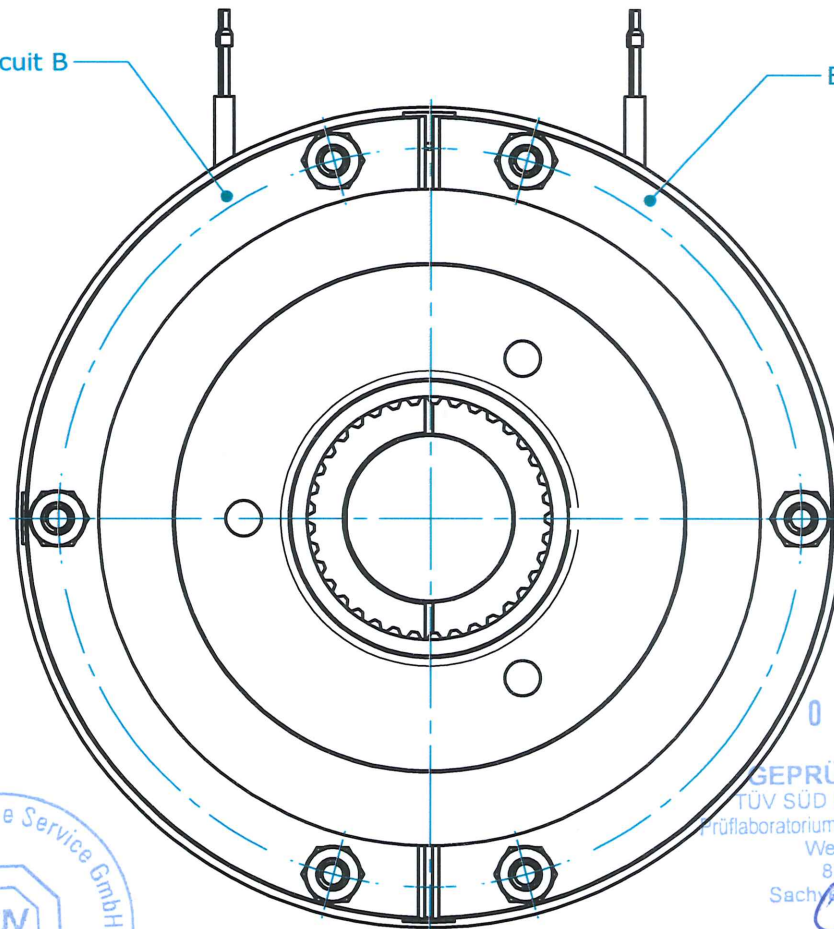
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Braking circuit B

Braking circuit A

Hand lever (option)

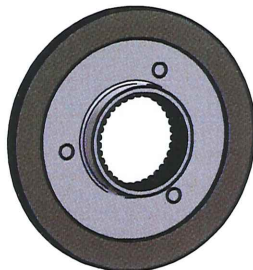
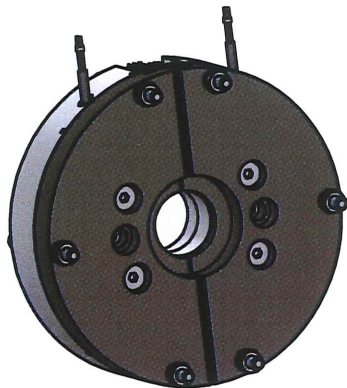


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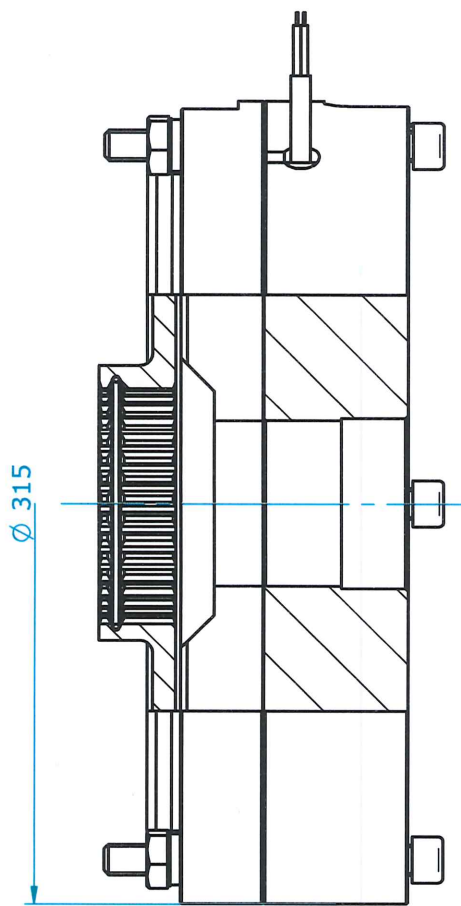
TUV DIFFUSION



Last modifications in Blue Dernières modifications en Bleu									
Client / Customer:		Customer ref:							
Ms (Nm) :		Dimensions in mm		FM	LT	<b>B</b>	<b>Drawing updating</b>	25/02/16	JE
Md (Nm) :		Manual / Notice:		REVISION				DATE	By
n Md (min-1) :		SM		Drawn: J.Emery		Checked: JG		25/02/16	Ch.
n max (min-1) :		Mass:	Scale:	Date: 25/02/16		Date: 25/02/16			
U (Vdc) :		Insulation class (°C) :		Design.: <b>Electromagnetic Brake</b> Frein Electromagnétique					
P 20°C :		This document is the property of Warner Electric Europe SAS, it may not be copied or used for any purpose, except directly for the company, without their prior written consent, nor is it to be shown to any third party.		Type: <b>ERS VAR07 SZ800/---</b>					
		 <b>Altra</b> Electric Clutch Brake Group Warner Electric • Matrix International Inertia Dynamics • Warner Linear		Dwg N°: <b>I-1 12 107213</b>					
				SAP N°:					
				Rev. <b>B</b>					

CAD SE

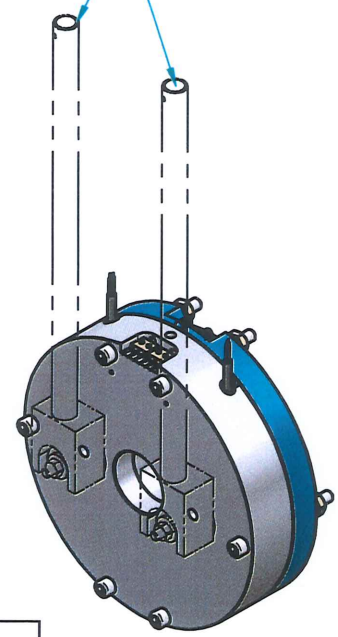
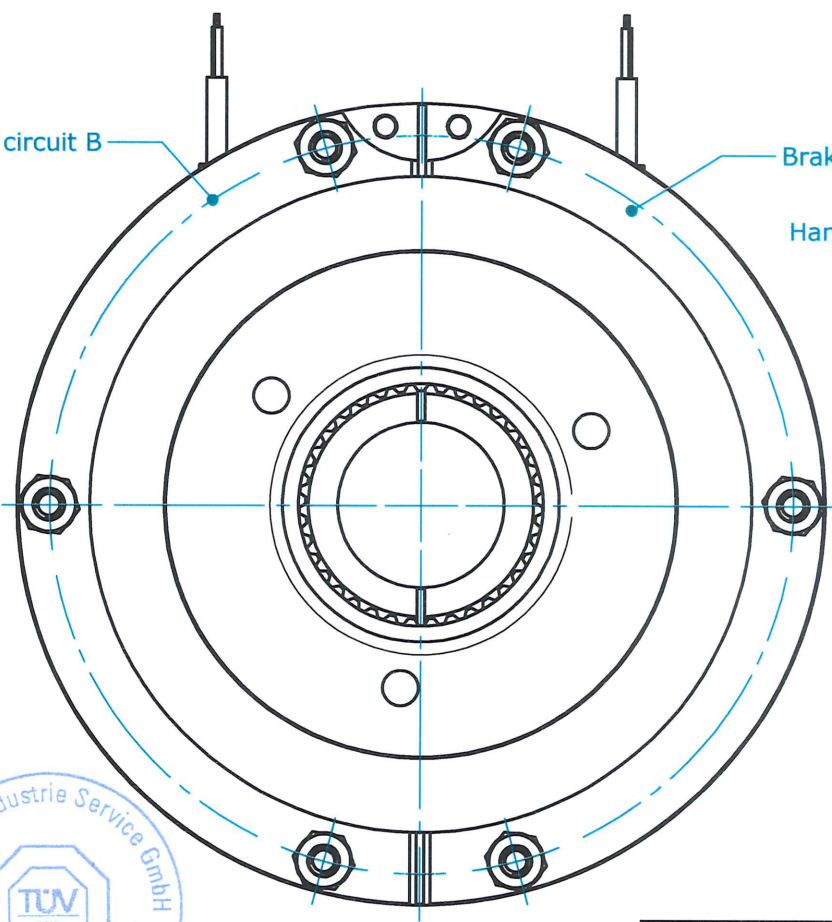
A3ens



Braking circuit B

Braking circuit A

Hand lever (option)

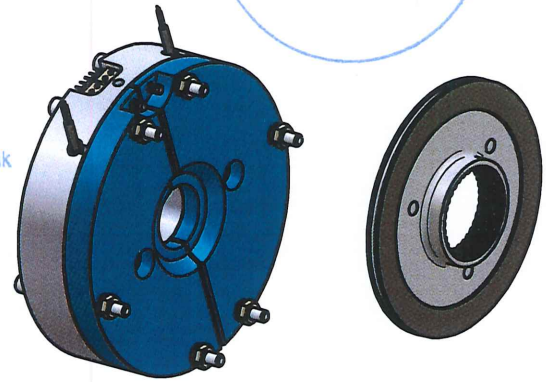


**TUV DIFFUSION**

0 9. MRZ. 2016

**GEPRÜFT / APPROVED**  
 TÜV SÜD Industrie Service GmbH  
 Prüflaboratorium für Produkte der Fördertechnik  
 Westendstraße 199  
 80686 München  
 Sachverständige(r) / Expert

*C. Kelzinger*



Last modifications in Blue Dernières modifications en Bleu					
Client / Customer:					
Ms (Nm) :	Customer ref:				
Md (Nm) :	Dimensions in mm	FM	LT	REVISION	DATE
n Md (min-1) :	Manual / Notice:			25/02/16	JE
n max (min-1) :	SM			By	Ch.
U (Vdc) :	Mass:			25/02/16	
P 20°C :	Scale:			25/02/16	
Insulation class (°C) :	Design.: <b>Frein électromagnétique</b> Electromagnetic brake				
Electric Clutch Brake Group Warner Electric • Matrix International Inertia Dynamics • Warner Linear		Type: <b>ERS VAR07 SZ800/--- AZ</b> Dwg N°: <b>I-1 12 108244</b> SAP N°:			
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CAD SE A3ens