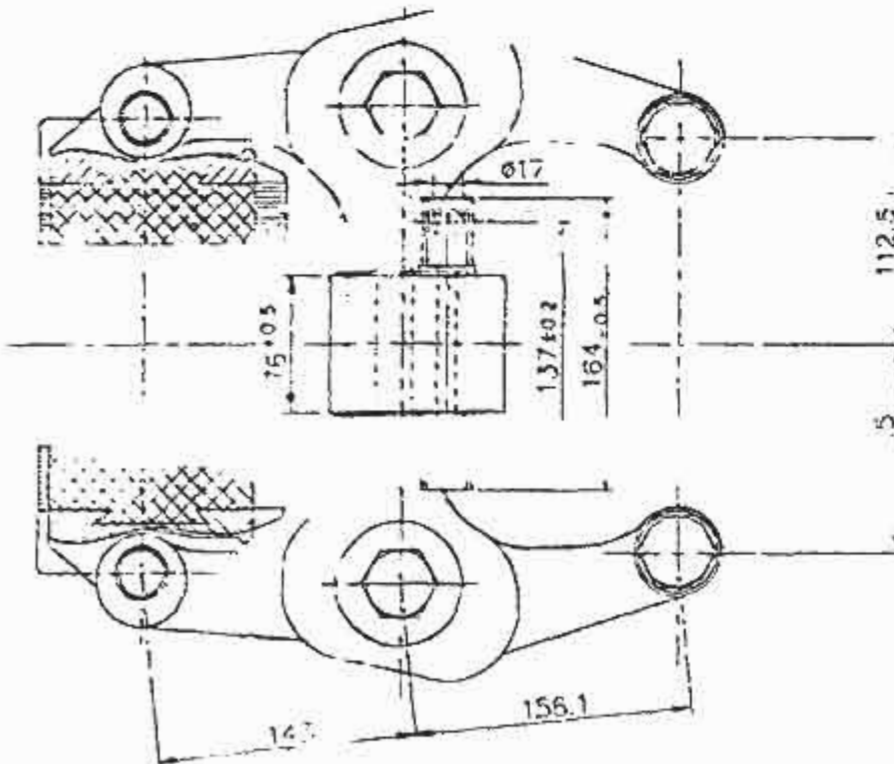
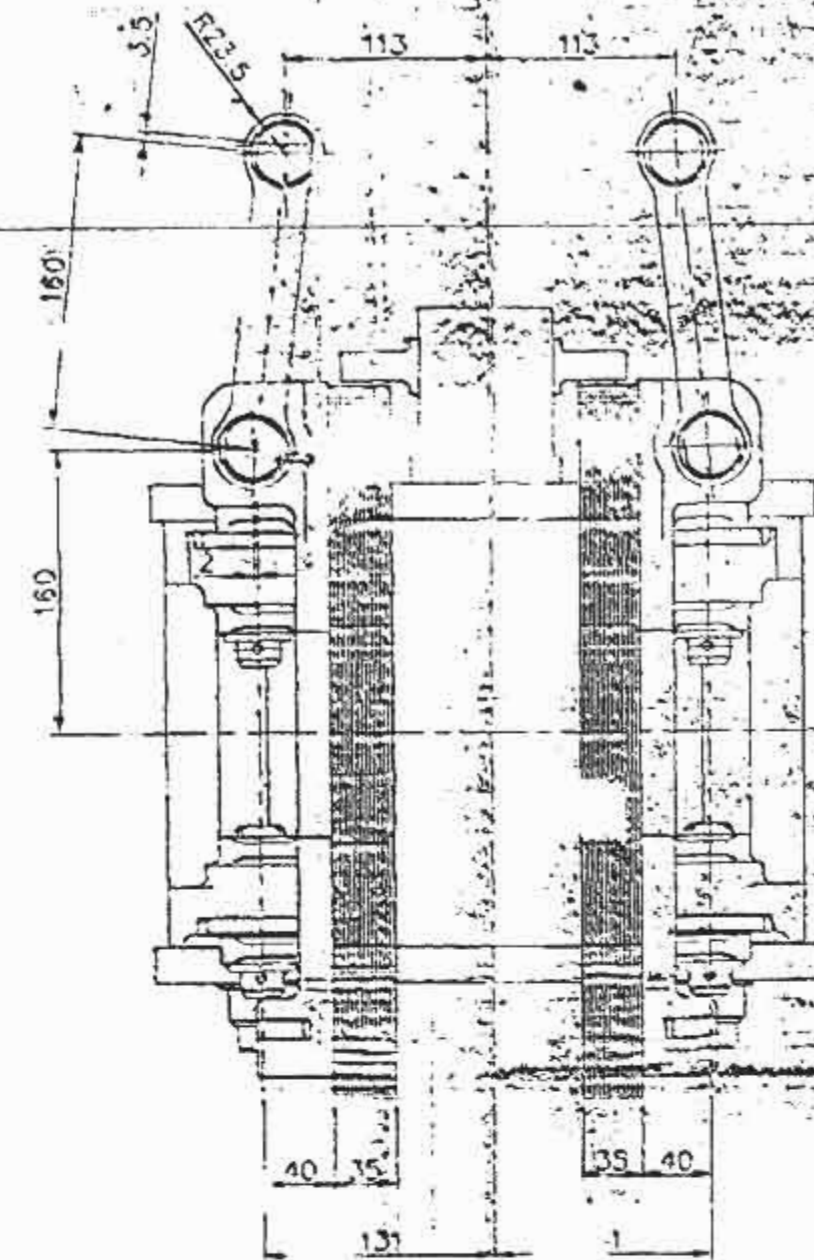
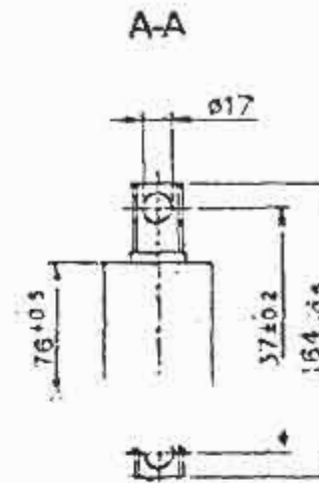
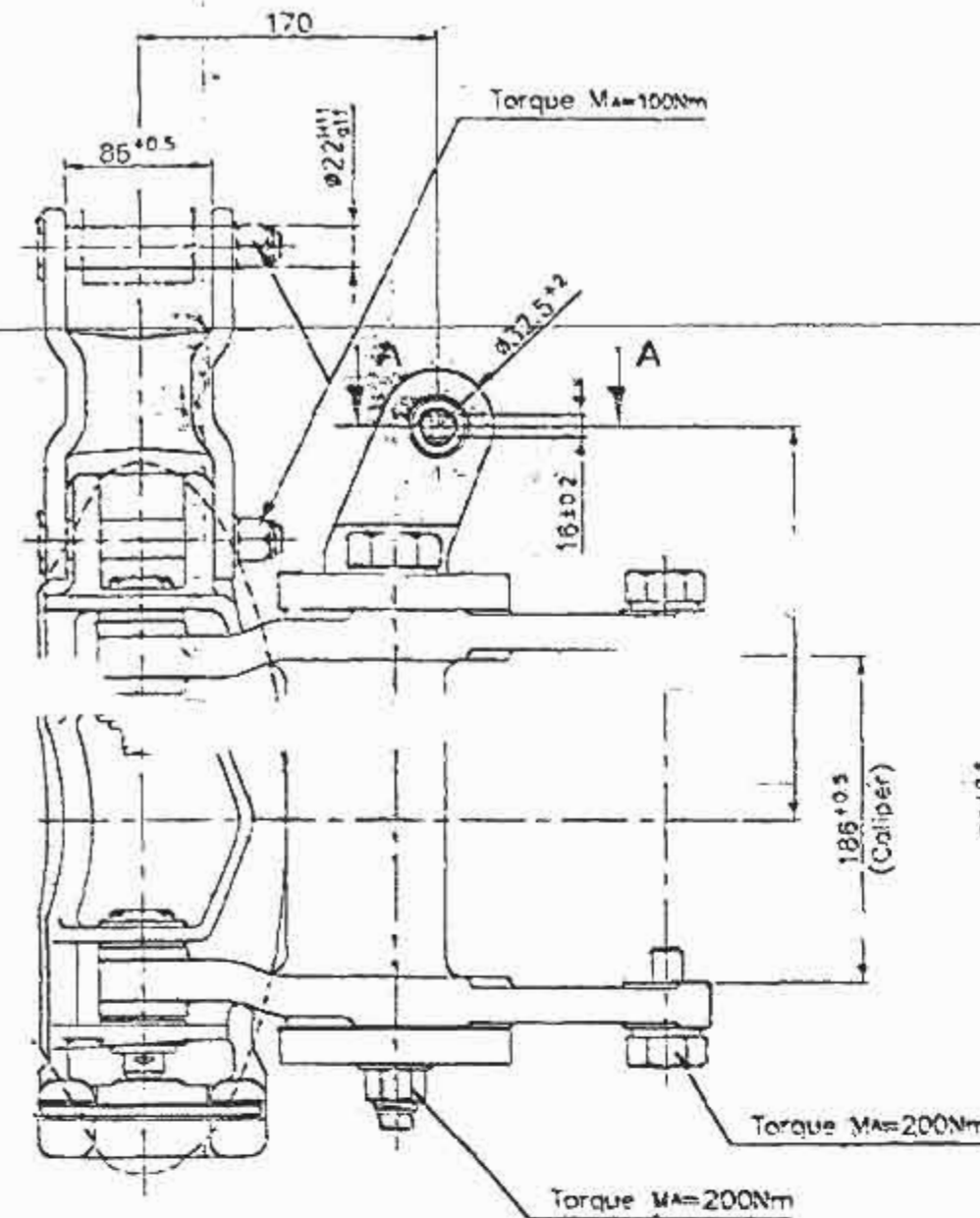


DO NOT SCALE IF IN DOUBT, ASK



All bearings and articulations lubricated with and MOLYKOTE P40 manufacturer is DOW CORNING

Disc diam. $\phi 40$ Fosseur Co.

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FAIVELEY / R&D
Transport
ISSUED TO: MDM
ON: 28 DEC 2009
AUTH BY: [Signature]

FAIVELEY / R&D
Transport
ISSUED TO: MDM
ON: 10 DEC 2009
AUTH BY: [Signature]

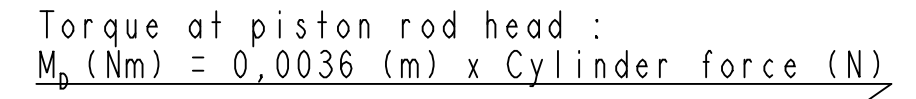
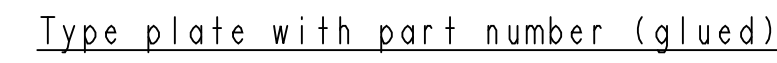
UNCONTROLLED COPY
FAIVELEY / R&D
Transport
ISSUED TO: MDM
ON: 28 DEC 2009
AUTH BY: [Signature]

Approved for release, general design
for mass and control of dimensions, subject
to considerations made in this office before
manufacture. Dimensions shown on this drawing
and dimensions shown on other drawings
shall be in conformity with the
drawing and specifications.

Approved for release, general design
for mass and control of dimensions, subject
to considerations made in this office before
manufacture. Dimensions shown on this drawing
and dimensions shown on other drawings
shall be in conformity with the
drawing and specifications.

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<p>CONFIDENTIAL DRAWING</p> <p>THIS DRAWING IS THE SOLE PROPERTY OF SAB WABCO INDIA LIMITED. IT SHOULD NOT BE COPIED OR COMMUNICATED TO ANY PERSON WITHOUT THE WRITTEN APPROVAL OF SAB WABCO INDIA LIMITED.</p> <p>© 2004</p>		<p>ALL DIMENSIONS ARE IN mm</p> <p>REMOVE BURRS & SHARP EDGES FROM FINISHED PARTS. ALL DIMENSIONS ARE AFTER PLATING</p> <p>WALL THICKNESS TO IS 4215-1987-06</p> <p>CONV. TO ISO 2618-1987-06</p>	<p>DATE: 21/11/09</p> <p>BY: [Signature]</p> <p>CHKD: [Signature]</p> <p>APPR: [Signature]</p> <p>DRS: [Signature]</p>	<p>SCALE: 1:1</p> <p>CAD FILE</p>	<p>SAB WABCO</p> <p>SAB WABCO INDIA LIMITED</p> <p>CHENNAI, INDIA</p>	<p>PART NO</p> <p>D127550-600</p>
<p>BRAKE CALIPER</p>		<p>DRG NO.</p> <p>127550F51</p>				



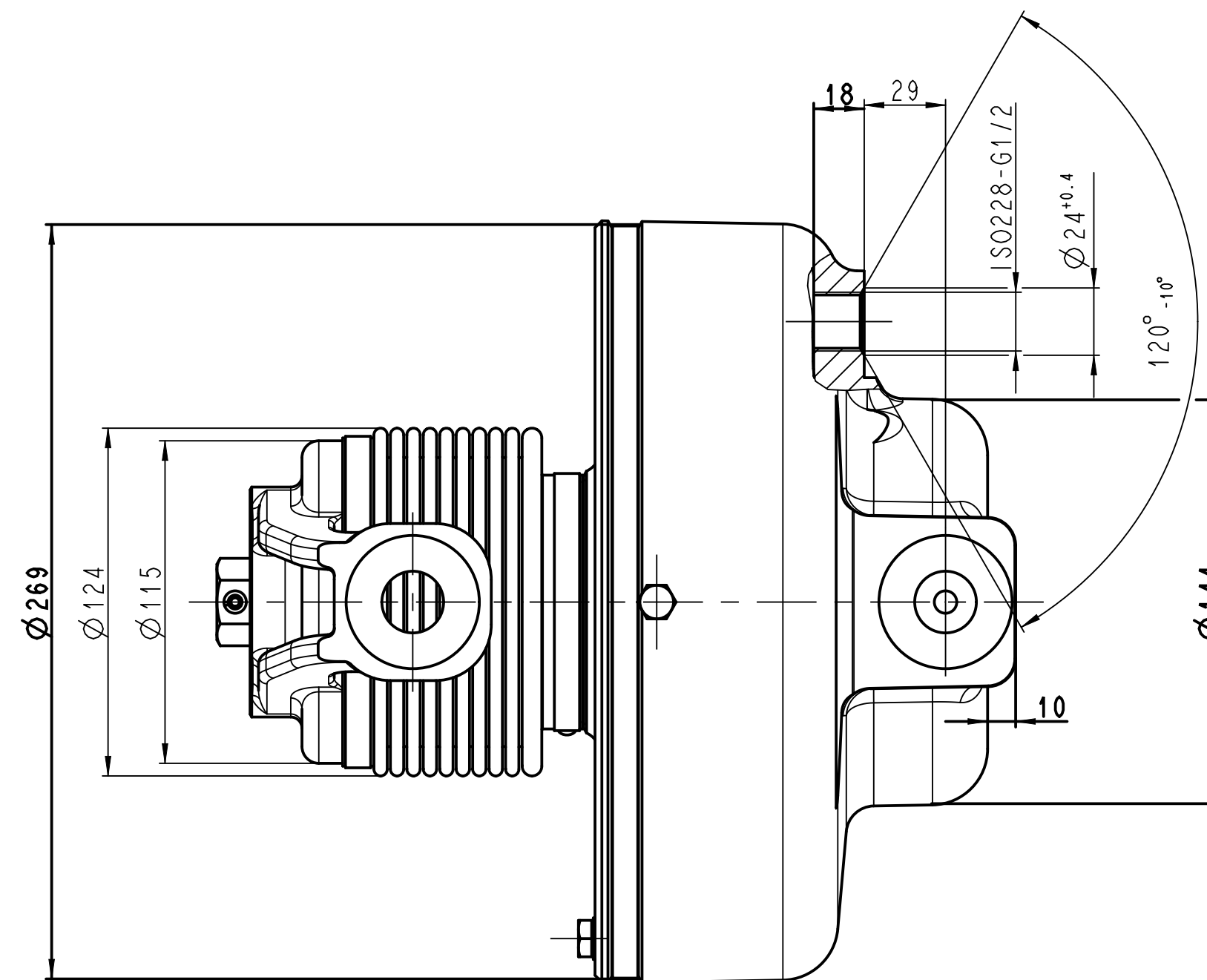
Effective piston area:	510.7	cm ²
Dead volume: (including coupling stroke)	0.7	l
Average counter force:	1500	N
Application stroke A:	2 to 8	mm
Max. adjustment capacity N: (E = rigging deflection stroke at brake cylinder)	130-E	mm
Max. effective piston stroke:	21	mm
Max. adjustment per application:	21 - A	mm
Rigging return force	500	N
Max. service pressure:	4.5	bar
Permissible ambient temperature:	from -40°C to 80°C	
Piston gasket: standard press-on packing		

Code for ref. no.:

```

graph TD
    Painting --> Application[Application stroke in mm (02 to 08) adjustable in steps of 1 mm]
    Painting --> Position[Position of the air connections (3,7)]
    Painting --> Version[Version]
  
```

Note: Dimensions without tolerances are only informative dimensions for installation.

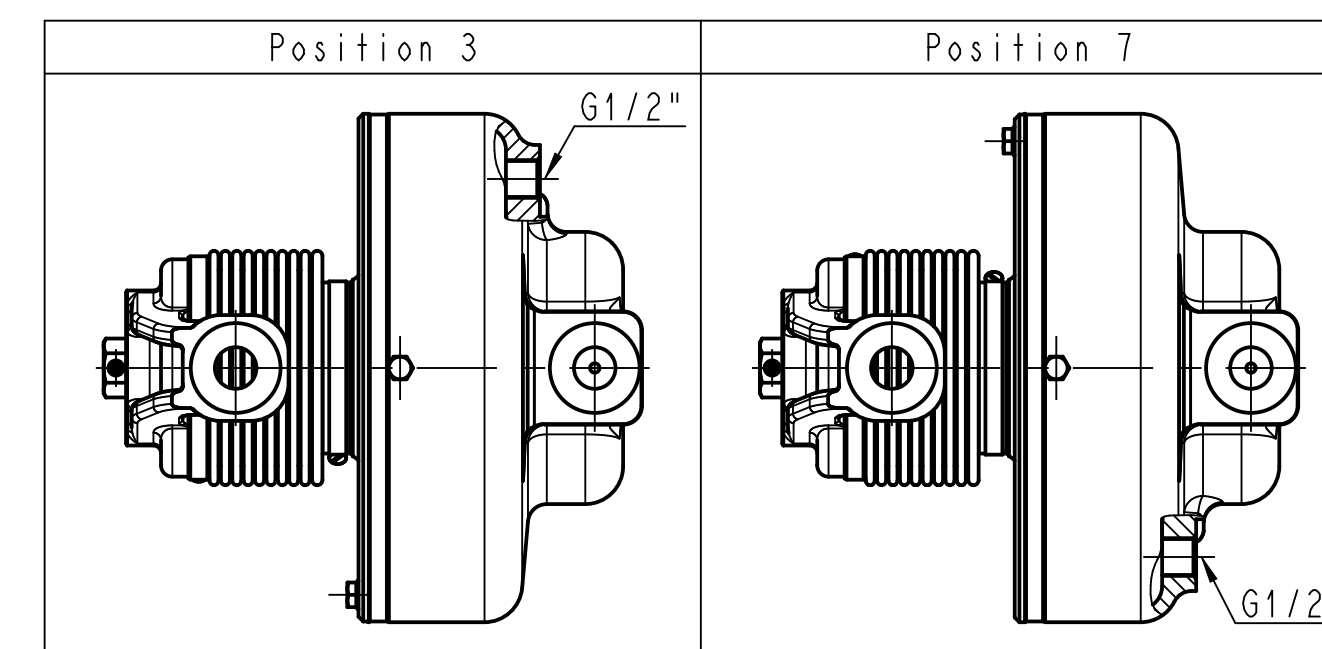


Order No.

Type

Consecutive No.

Code No. for KB manufacturing plant



170297/...UR	Special varnish: RAL 7012 (basalt grey) [EP metal primer (min.100µm) + PUR finishing coat (ca.60µm) Total layer thickness min.160µm]]
170297/...LP	Special varnish: RAL 7012 (basalt grey) [EP metal primer (60µm) + priming paint (60µm) + PUR top coat (40µm)]
170297/...MX	Standard varnish: RAL 7021 (blackgrey) [EP metal primer (min.100µm) + PUR finishing coat (ca.60µm) Total layer thickness min.160µm]]
Paint code	Specification

[illegible]

C160859 (A1)	2.1	"The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration."
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"Vielmehr wurde Verweilhaltung dieser Elemente, Verweilung und Ausleitung selbst inhaltlich sind verschieden, sondern ausserordentlich guttural. Bei Identifizierung verbleiben bei Schindlerwörter. Alle Rechte für den Fall der Patent, Verweilhaltung oder Verweilhaltung verbleiben."

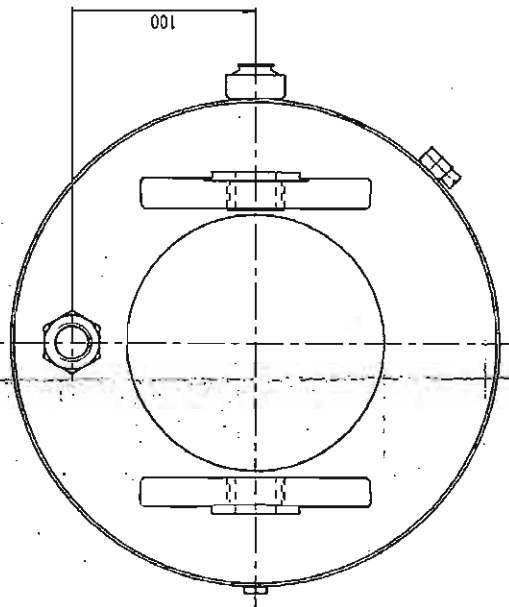
A parking brake application force (from the brake rigging) to the piston rod is not permitted.
Do not install a return spring in the rigging.
Do not apply static radial load to the piston rod head.
Installation with vertical mounting axis only.

Effective piston area	510.7	cm ²
Dead volume (including coupling strokes)	0.7	L
Average counter force	1500	N
Application stroke Δ	2 to 8	mm
Max. slack adjuster capacity N	130 - E	mm
(E = Brake cyl. stroke due to rigging elasticity)		
Max. effective piston stroke	21	mm
Max. adjustment per stroke	21 - A	mm
Rigging return force	500	N
Max. service pressure	6	bar
Height	23	kg
Piston gasket: standard press-on packing		

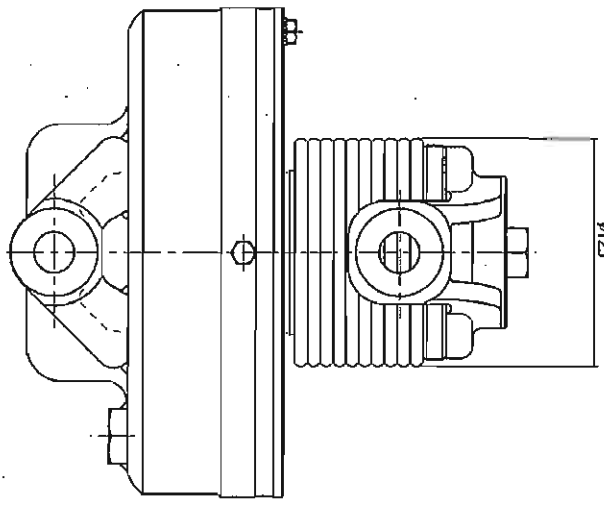
Ein Herausziehen der Kolbenstange durch eine Feststellbremse im Gestänge ist nicht zulässig
 Im Gestänge darf keine Rückzugfeder angebracht werden
 Auf die Kolbenstange darf keine statische Überbelastung wirken
 Einbau nur mit vertikalten Logenachse
 Techn. dato:

Wirksame Kolbenfläche	510,7	cm ²
Totvolumen (einschl. Kupplungshub)	0,7	L
Mittlere Gegenkraft	1500	N
Anlegenhub A	2 bis 8	mm
(E = Gestützeckdrehungshub am Bremszylinder)	130 - E	mm
Max. effektiver Kolbenhub	21	mm
Max. Nachstellung je Hub	21 - A	mm
Gestüngerdruckkraft	500	N
Max. Betriebsdruck	6	bar
Gewicht	23	kg

Technische Daten :



Lage des Luftanschlusses
 zur Zylinderlagerung
 bzw. Entlüftungsschraube
 Position of air connection in relation
 to cylinder venting screw

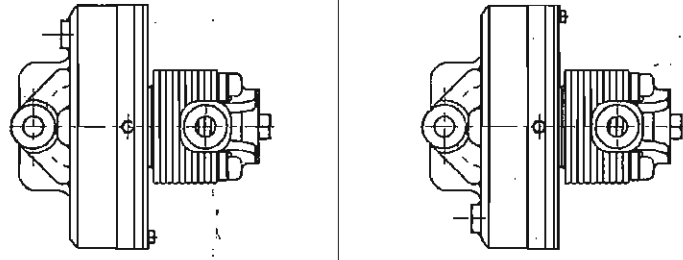


Nummernschlüssel :
Port No. Code :
II. /

Lockierung:	Painting	Angelehnt in m	Application str	Luftschlüsselstell	Position of air c	Ausführung	Version
-------------	----------	----------------	-----------------	--------------------	-------------------	------------	---------

Beispiel: 1182515 / 304 LP
Exemple:

Anlagebuch in mm (02 bis 08) von mm zu mm einstellbar
Application stroke in mm (02 to 08) adjustable in steps
Lufteinanschließung (3,7)
Position of air connection (3,7)

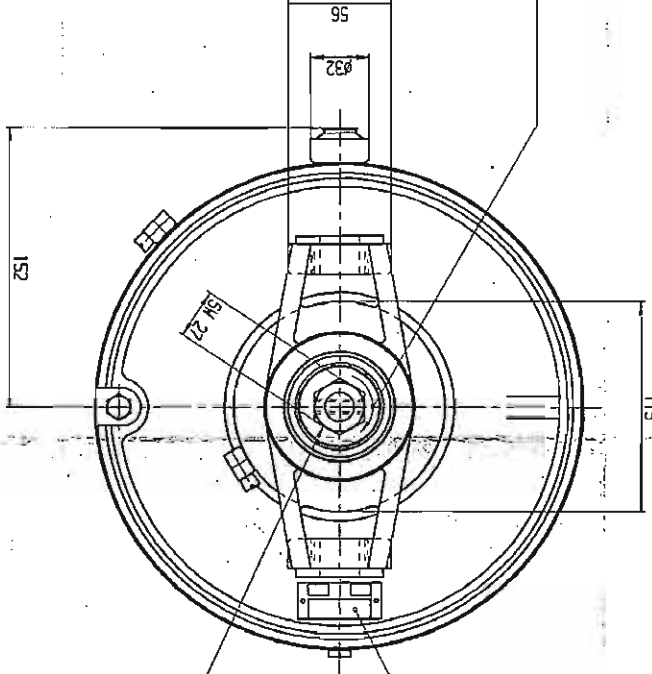
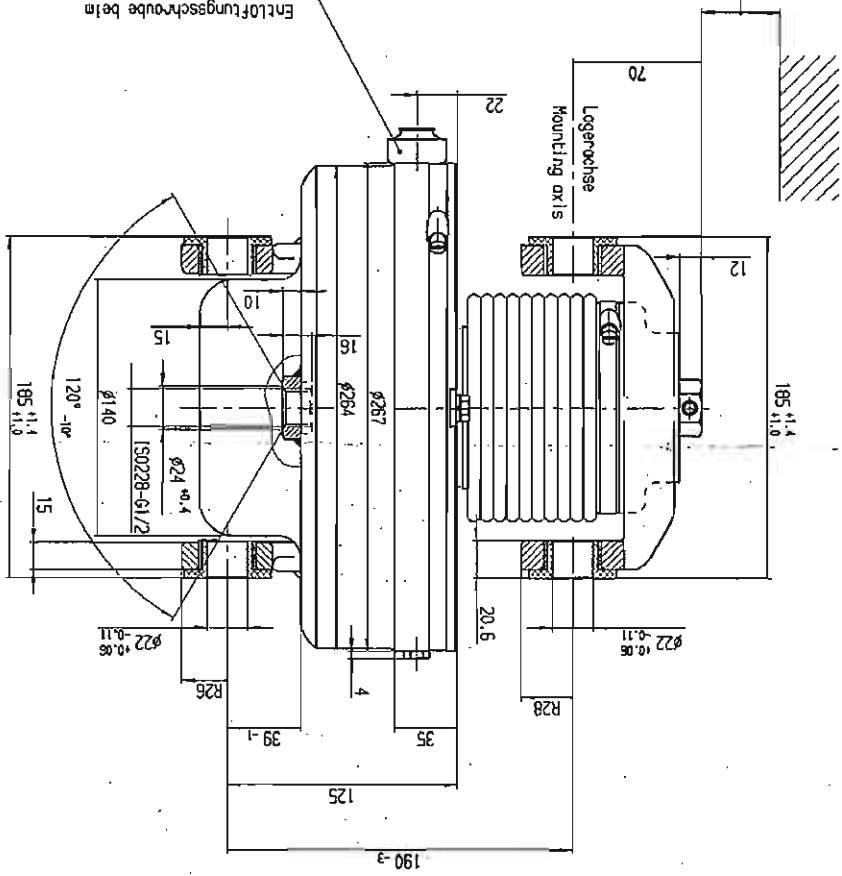


<p> </p>	<p> </p>
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Hinweis: Maße ohne Toleranzangaben sind grobe Richtmaße für den Einbau.
Note: Dimensions without tolerances are rough dimensions for installation.

$$\frac{\text{freier Raum} = N + \text{Anlegelhub} + E}{\text{Clearance} = N + \text{application stroke} + E}$$

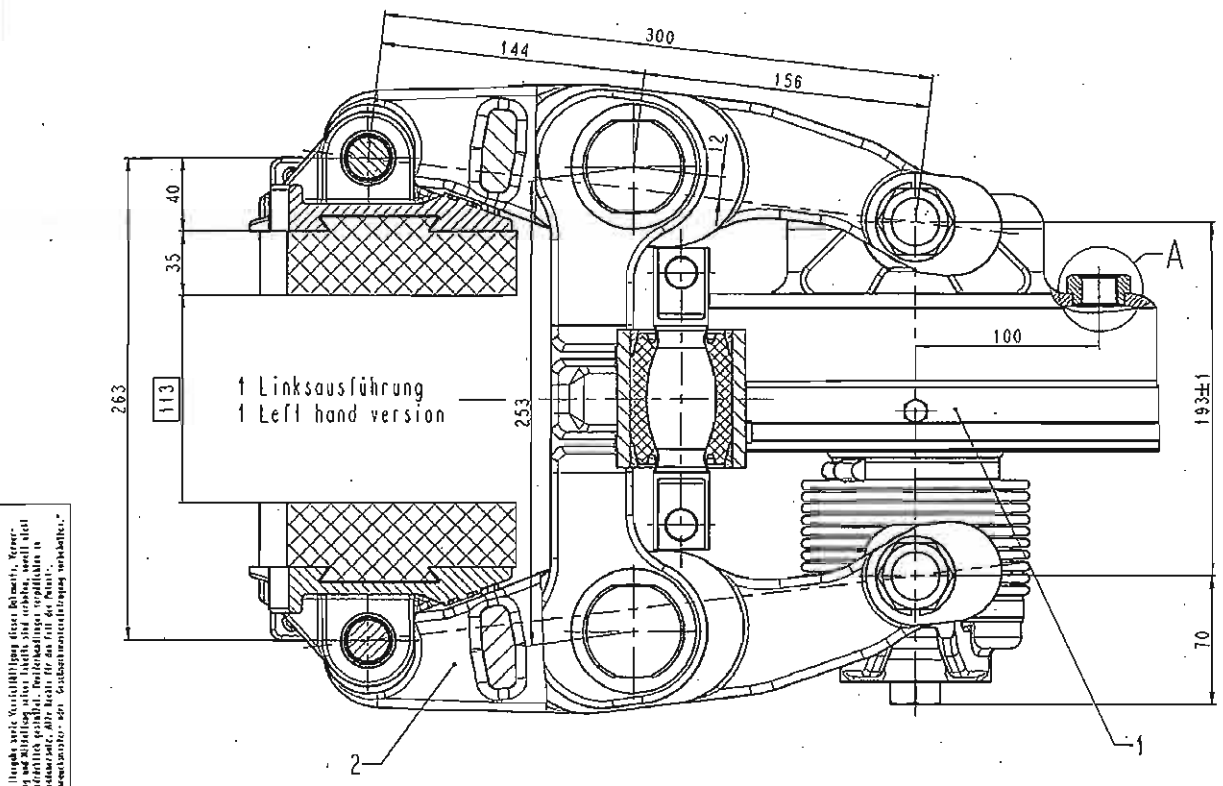
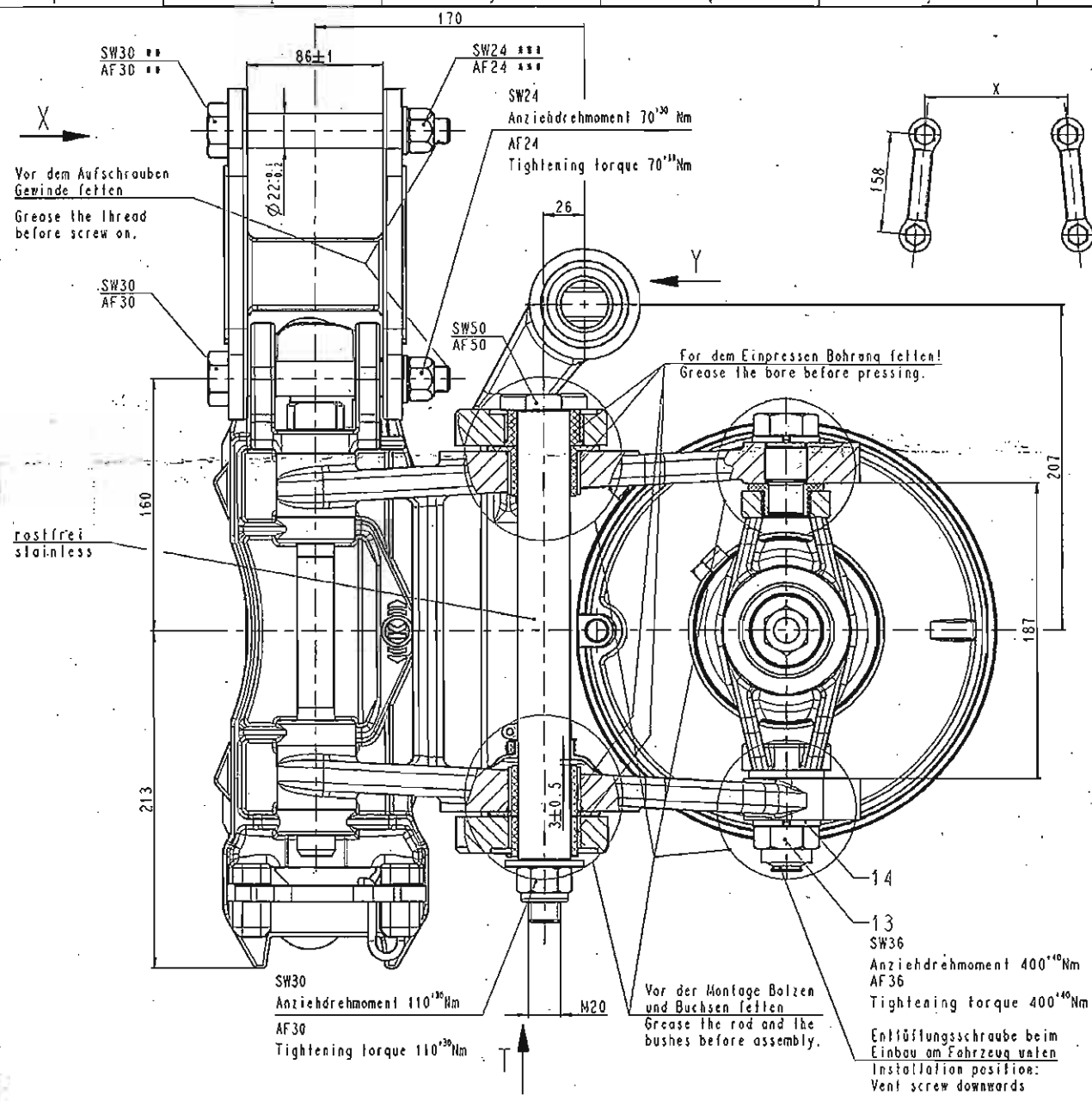
Entlüftungsschraube beim Einbau am Fahrzeug unten
Installation position:
Freier Raum = $N + \text{Anlenkhub} + E$
vent screen downwards



Typenschild mit Seriennummer	Zum Rückstellen im Uhrzeigersinn drehen, Rückstellmoment ≈ 15 Nm
Type plate with part number	For resetting turn hexagonal nut (A.F27/SW27) clockwise, resetting torque ≈ 15 Nm.

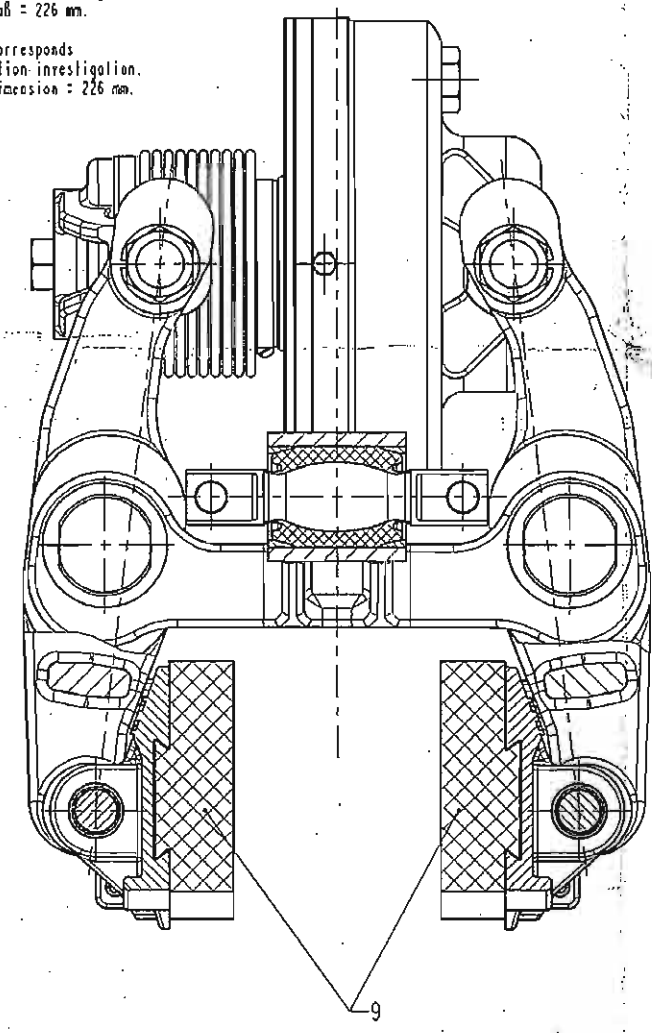
<p>Drehmoment am Kolbenstangenjoch $M_D \text{ (Nm)} = 0,0036 \text{ (m)} \times \text{Zylinderkraft (N)}$</p>	<p>Torque at piston rod head $M_D \text{ (Nm)} = 0,0036 \text{ (m)} \times \text{Cylinder force (N)}$</p>
--	---

[illegible][illegible]



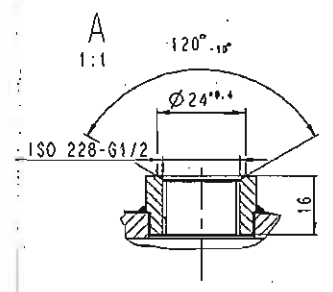
X
1:5
Das Maß X richtet sich nach der Einbauforschung. Empfohlenes Maß = 226 mm.
Dimension X corresponds with installation investigation. Recommended dimension = 226 mm.

2 Rechtsausführung
2 Right hand version



Befestigungselemente können extra bestellt werden.
Fastening parts can be ordered separately.
Auftragflächen des Drehgestells und Verbindungselementen sollen Öl-, Fett- und Farbfrei sein! Gelenkbolzen verzinkt.
Flange surface of the bogie and fasteners have to be free of oil, grease and paint. Hinge pin is zinc coated.
Befestigung des Gelenkbolzens mit zwei M16-12.9 Schrauben. Anziehdrehmoment $M_t=280Nm \pm 5\%$ nach DIN25202-B, gleichzeitig gilt Reibungskategorie B nach VDI2230. Ganzmetallsicherungsmutter M16-Fest. 12.9 (Klemmoment 6-16Nm ist bei 280Nm berücksichtigt).
Hinge pin attached to the bogie with two M16-12.9 screws. Tightening torque $M_t=280Nm \pm 5\%$ DIN25202-B, and simultaneously valid is class of friction coefficient B acc. to VDI2230. Totally all metal safety nut: M16 grade 12 (clamping torque 6-16Nm is taken into account by 280Nm).
EINBAUPFEHLUNG
INSTALLATION SUGGESTION
(Alternative: z.B. zwei gleichsinnig geschichtete Spannscheiben DIN6796 unter dem Schraubenkopf)
(Alternative: e.g. two spring washers DIN6796 mounted parallel under the head of the bolt)
auf dem Drehgestell on the bogie

1:1
+ Beschreibung:
+ Lettering:
Typ z.B. WZ37UP10XS11
Type e.g. WZ37UP10XS11
Laufende Nummer
Serial Number
Soch.-Nr. z.B.: 1139691/1BZA
Part-No. e.g.: 1139691/1BZA
eingearbeitet
engraved



Approved for general design
for use and controlling dimensions, subject
to the conditions made in this order form.
Dimensions have not been checked
by the manufacturer and should ensure
they are in conformity with the
drawing and specifications.

Nummernschlüssel für Bestellung
z.B.: 1139691/...A
Soch.-Nr. Bauzustand
Deckenstrich siehe Tabelle
Kode von Belag
Nr. 1 Linksausführung
Nr. 2 Rechtsausführung

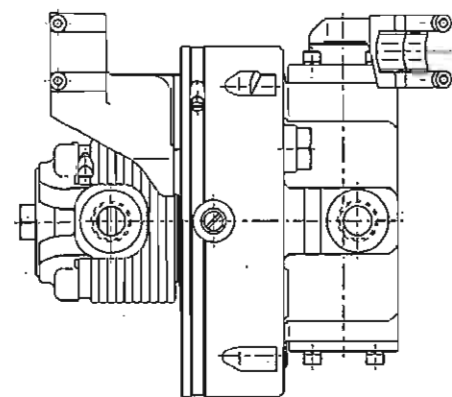
Part-No. Code
e.g.: 1139691/...A
Part-No. Configuration level
Final point see table
Brake pad code
Nr. 1 Left hand version
Nr. 2 Right hand version

Grund- und Deckenstrich für Pos. 1 und 2 sind bereits im Einzelteil durchgeführt.
Alle Befestigungs- u. Kleinteile mit Cr(VI)-freie Korrosionsschutz.
Bremsbelaghalter nach DIN EN 12476 phosphatiert und geölt.
An sämtlichen Lagerstellen sind die Bolzen, Buchsen und alle Gleitflächen mit Schmierstoff N12006-L23 zu fetten (Statorbolzen NBU 30 PTM der Fa. Klüber).
Lage des Bolzens bei der Montage des Drehgestells entsprechend der Einbauzeichnung berücksichtigen.
Sicherungsmutter nur bis zum Sicherungsblei aufgeschraubt ausgeliefert. Nach der Montage ins Drehgestell die Sicherungsmutter mit Drehmoment 70 Nm anziehen.

Adjusted dimension
Primary and Topcoat to items 1 and 2 made before assembly.
All fastening parts, bolts and accessories with Cr(VI)-free corrosion protection.
Brake pad holder phosphated acc. to DIN EN 12476 and oiled.
At all bearing the bolts, bushes and gliding surfaces greased with Statorbolzen NBU 30 PTM, firm Klüber, acc. to N12006-L23.
Positioning bolt during bogie installation as shown on installation drawing.
Safety lock nut only screwed on up to locking device. After installation in the bogie tighten safely lock nut with torque of 70 Nm.

Z	Sonderlackierung:	EP-Metallgrund (60µm) + PUR-Grundfarbe (60µm) + PUR-Deckenstrich (40µm) RAL 7012 (basaltgrau) + EP-Primärfarbe (60µm) + PUR-Primärfarbe (60µm) + PUR-Topcoat (40µm) RAL 7012 (basaltgrau)
	Standardlackierung:	EP-Metallgrund (60µm) + PUR-Grundfarbe (60µm) + PUR-Deckenstrich (40µm) RAL 7012 (basaltgrau) + EP-Primärfarbe (60µm) + PUR-Primärfarbe (60µm) + PUR-Topcoat (40µm) RAL 7012 (basaltgrau)
Teil	Deckenstrich für Pos. 1, 2	Final point for part 1, 2
Hinweis:	Maße ohne Toleranzangaben sind grobe Richtmaße für den Einbau.	BRAKE CALIPER UNIT
	Gewichtstoleranz: ±5% Dimensions without tolerances are rough dimensions for installation. Weight tolerance: ±5%	WITH PAD 400/35 L:300 / I:2.17 WZ37UP10XS11
Gewicht: mit Beläge Weight: with pads		
Kode von Belag Brake pad code		
Soch.-Nr. links und rechts Part-No. left and right		
Verwendbar für:		
1139691		
WZ37UP10XS11		
BREMSENGEINHEIT MIT BELAG 400/35 L:300 / I:2.17 C76300/A		

CT6300.A (A1)
4 2 0
"Alle Maße sind in mm angegeben. Alle Maße sind auf 0.1 mm gerundet. Alle Maße sind auf 0.1 mm gerundet. Alle Maße sind auf 0.1 mm gerundet."



Drehmoment am Pleuellagerbolzen
 $M_2 \text{ (Nm)} = 0,0036 \text{ (s)} \times \text{Zylinderkraft (N)}$

Torque at piston rod head
 $M_2 \text{ (Nm)} = 0,0036 \text{ (s)} \times \text{cylinder force (N)}$

For reset turn clockwise
Resetting torque = 15 Nm.

Technische Daten :	Betriebszyl. / Handpresse
Wirtseisen Kolbenfläche	510,7 / cm ²
Twistwellen (einstrichl. Kupplungshub)	1 /
Mittlere Bogenkraft	1500 / 1500 N
Anlegeteuf	4 bis 8 mm
Max. Nachstellkopplzeit M	130 - E ms
E = Gestängeverstellungshub an Bremszylinder)	
Max. effektiver Kolbenhub	21 / 14 mm
Max. Nachstellung je Hub	21 - A 14 mm
Gestängeverstellungshub	500 mm
Mittlere Handhebel-Übertragung	5,18
Handkraft an Kolbenstangekopf	= F ₆ 18,0 - 35,10 N
Max. Beinabdruck	60000 - N
Max. Bremskraft an Kolbenstangekopf	10000 - N
Gewicht	36 kg
Kolbenabdruck: Standard-Außenspannschritte	

Die Gestänge darf keine Rückzugfeder angebracht werden.
Auf die Kolbenstange darf keine statische Querbelastung wirken.
Einbau nur mit vertikaler Lagerachse.
In Lösestellung muß der Zylinder zur Atmosphäre entlüftet sein.

¹⁹ Bei Überlagerung von Druckluft- und Handbremskraft beachten!

²⁾ Max. Kraft an Handbremsanschluß des Bremszylinders, z.B. max. Reaktionskraft infolge Gestängedeckung beim Entlöten nach Überlagerung.
Gef. anliegende Belastbarkeit des Flexhols beachten!

¹¹ Erforderlicher eff. Kolbenhub für die Handpresse $\geq A + E$

9. Erforderlicher Hub an Flexballanschluß $\rightarrow M_{\text{B}} + E_{\text{B}} \cdot 41 \rightarrow x_{\text{B}} 6,18$

Yashin, Data:	Brake cylinder / Hand brake	
Effective piston area	510.7	cm ²
Dead volume (incl. coupling stroke)	1	l
Average counter force	1500 / 1500	N
Application stroke A	4 to 8	mm
Max. adjustment capacity H	130 - E	mm
(E = rigging deflection stroke at brake cylinder)		
Max. effective piston stroke	21 / 14 ²⁰	mm
Max. adjustment per application	21 - A / 14 - A	mm
Rigging return spring force	500	N
Velocity ratio of parking brake	6 / 6.18	
Hand brake force on piston rod	= Fx6.18x0.95=1500	
Max. service pressure	6	bar
Max. brake force on piston rod	36000	kg
Weight		kg
Piston packing, standard press-on packing		

Do not install return spring in the rigging.
Do not apply static radial load to the piston rod.
Installation with vertical mounting axis only.
In release position the cylinder must be vented into the atmosphere.

¹³ Caution by superimposed forces of service- and parking brake.

²⁾ Max. force at brake cylinder connection for parking brake e.g., max. reaction force due to rigging deflection when venting after superimposed forces occur. Eventually pay attention to the minimized loading capacity of Flexball!

¹¹ Required piston stroke for the parking brake $\geq A + E$ ⁰ Required stroke for the flexball $\geq (A + E + 4) \times E \cdot 10$

Nummernschlüssel:
Part No. code:

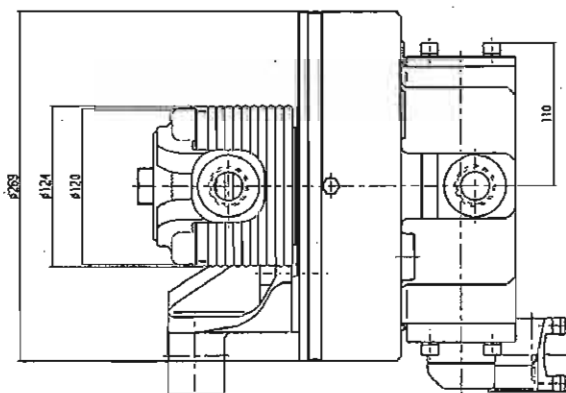
Lockierung (1st = Standardlocking) Painting (1st = Standard-paintschicht)
Anlegehub in mm (04 bis 08) in 1 mm Stufen einstellbar
Application stroke in mm (04 to 08) adjustable in steps of 1 mm
Luftanschlußlogo (1,2) Position of air connection (1,2)
Einbaulage (1,2,3,4) Installation position (1,2,3,4)
Ausführung Version

Beispiel: [182516/1204LP
Für example: [182516/1204LP

Hinweise: Maße ohne Toleranzangaben sind grobe Richtmaße für den Einbau.

Note: Dimensions without tolerances are rough dimensions for installation.

"Approved for material, general design features and controlling dimensions, subject to observations made in this office letter ~~Notwithstanding~~ other design details, and dimensions have not been checked. Builders/Manufacturers should ensure that they are in conformity with contract drawing and specifications."



Anschlußteile (gesondert anzuweisen)
Connecting parts (to be ordered separately)

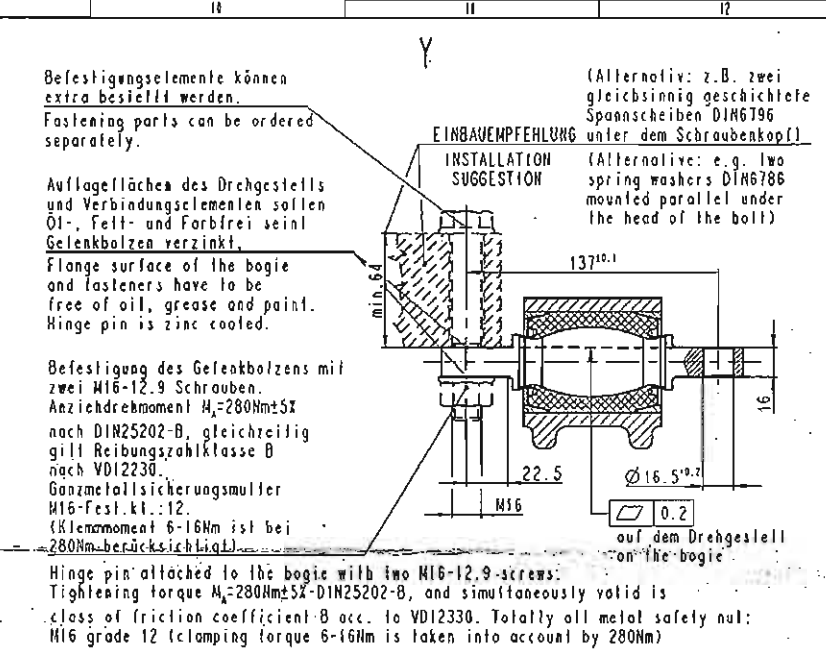
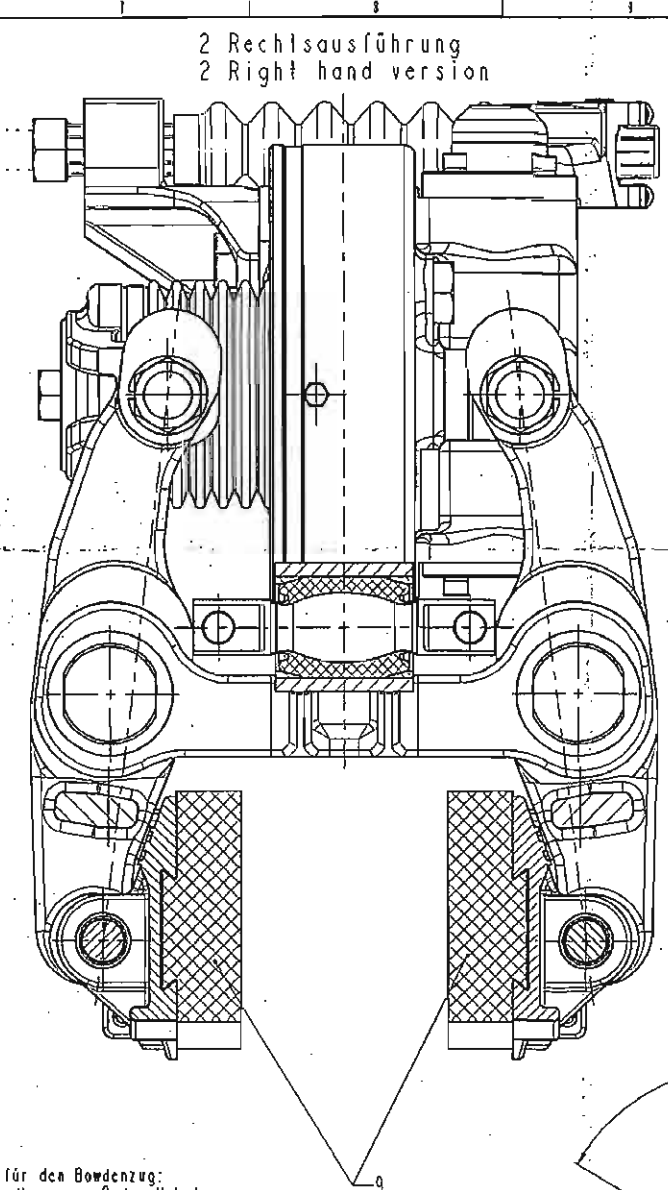
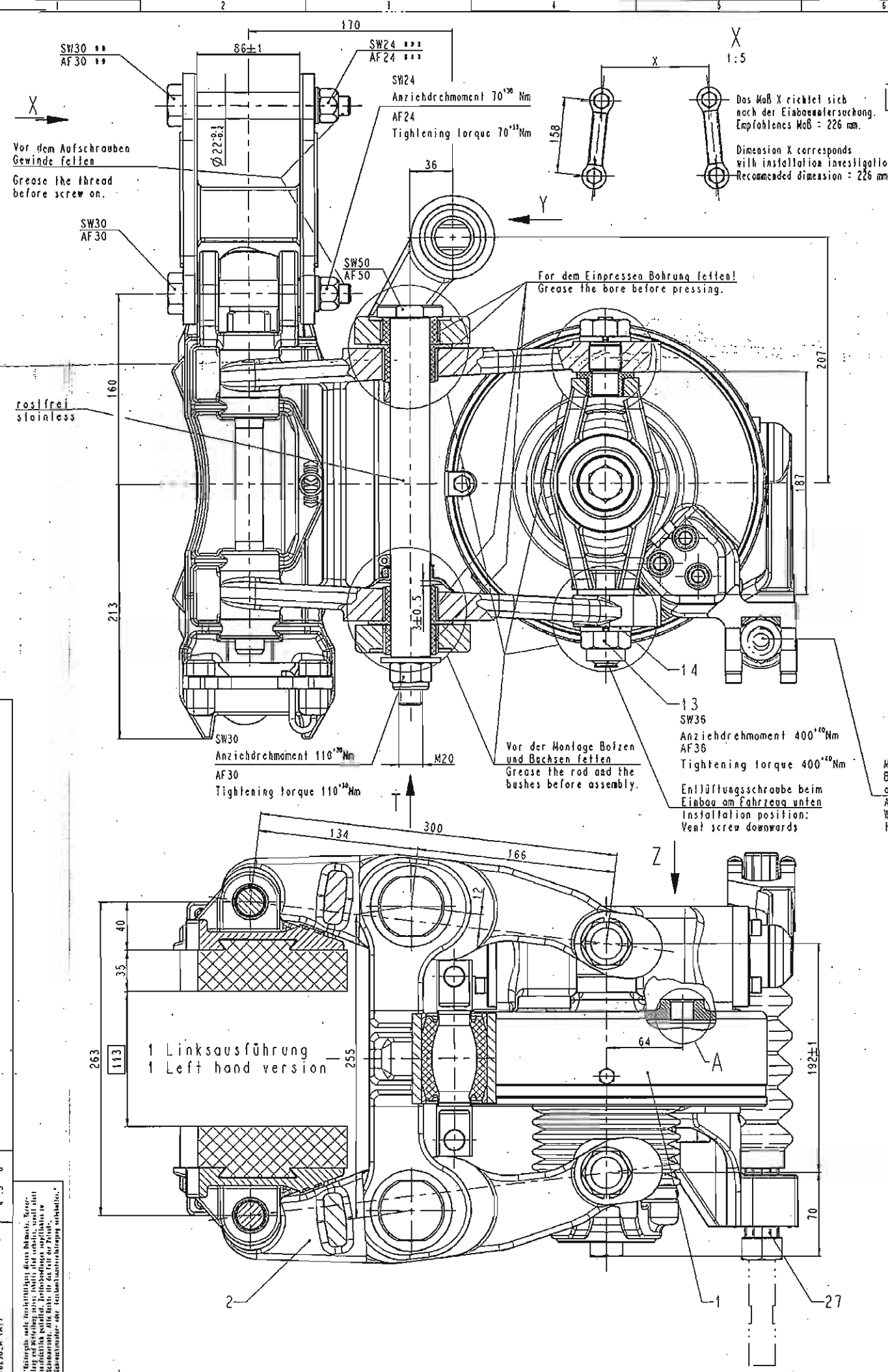
Soch-Nr. Ref. no.	Einbauleitung-Nr. Installation drawing	Nr. Flexball-Typ for Flexball-type
II 17430/125	C57907/125	Flexball Typ 125 Hub 101-150 mm Stroke 101-150 mm
II 17430/160	C57907/160	Flexball Typ 160 Hub 71-100 mm oder Hub 101-150 mm Stroke 71-100 mm or stroke 101-150 mm

<p>(182516/....GR</p>	<p>Sonderlackierung: RAL 7012 (basaltgrau) EP-Metallgrund (min. 100µm) + PUR Deckcoat (ca. 60µm) Gesamtschichtstärke min. 160µm</p>	<p>Special varnish: RAL 7012 (basalt grey) EP metal primer (min. 100µm) + PUR top coat (ca. 60µm) Total layer thickness min. 160µm</p>
<p>(182516/....LP</p>	<p>Sonderlackierung: RAL 7012 (basaltgrau) EP-Metallgrund (60µm) + PUR-Grundfarbe (50µm) + PUR-Deckanstrich (40µm)</p>	<p>Special varnish: RAL 7012 (basalt grey) EP metal primer (60µm) + PUR priming paint (50µm) + PUR finishing coat (40µm)</p>
<p>+ 182516/....HX</p>	<p>Standardlackierung: RAL 7021 (schwarzgrau) EP-Metallgrund (min. 100 µm) + PUR Deckstrich (ca. 60 µm) Gesamtschichtstärke min. 160 µm</p>	<p>Standard varnish: RAL 7021 (blackish grey) EP metal primer (min. 100 µm) + PUR Finishing coat (ca. 60 µm) Total layer thickness min. 160 µm</p>
<p>Version</p>	<p>Merkmale</p>	<p>Characteristics</p>

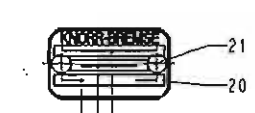
BRAKE CYLINDER
 WITH STEEL + PLASTIC BUSHINGS
 WITH HANDBRAKE LEVER

BREMSZYLINDER
MIT STAHL-KUNSTSTOFFDUCHE
MIT MANIPULIERSTANGE

RTT	RTT
SE	£17736

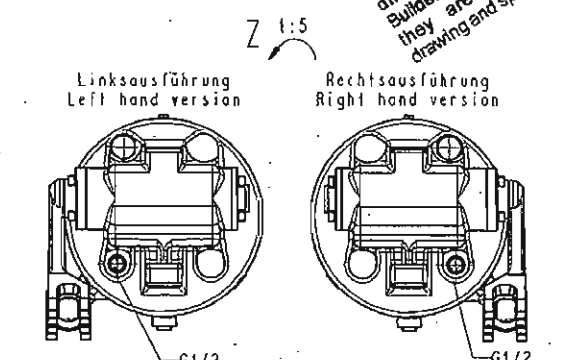
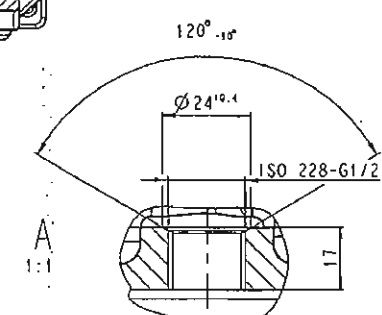


1:1
Beschriftung:
Lettering:



Typ z.B. WZ42UP10HS11
Type e.g. WZ42UP10HS11
Laufende Nummer
Serial Number
Sach.-Nr. z.B.: 1139260/1BZA
Part-No. e.g.: 1139260/1BZA

Approved for material, general design features and controlling dimensions subject to observations made in this office letter. Dimensions have not been checked and Builders/Manufacturers should ensure that they are in conformity with contract drawing and specifications.



Nummernschlüssel für Bestellung
z.B.: 1139260/...A

Sach.-Nr. Bauzustand
Deckenstrich siehe Tabelle
Kode von Belag
Nr. 1 Linksausführung
Nr. 2 Rechtsausführung

Part-No. Code
e.g.: 1139260/...A

Part-No. Configuration Level
Final point see table
Brake pad code
Nr. 1 Left hand version
Nr. 2 Right hand version

Einstellmaß
Adjusted dimension

Grund- und Deckenstrich für Pos. 1 und 2 sind bereits im Einzelteil durchgeführt!

Alle Befestigungs- u. Kleinleile mit Cr(VI)-freie Korrosionsschutz.

Brakebelaghalter nach DIN EN 12476 phosphoriert und geölt.

An sämtlichen Lagerstellen sind die Bolzen, Buchsen und alle Gleitflächen mit Schmierstoff N12006-1.23 zu fetten (Staburags NBU 30 PTH der Fa. Klüber).

Positioning bolt during bogie installation as shown on installation drawing

Sicherungsstift nur bis zum Sicherungsstift aufgeschraubt ausgeteilt. Nach der Montage ins Drehgestell die Sicherungsmutter mit Drehmoment 70¹⁰ Nm anziehen

Safety lock nut only screwed on up to locking device. After installation in the bogie tighten safety lock nut with torque of 70¹⁰ Nm.

Primary and Topcoat for items 1 and 2 made before assembly

All fastening parts, bolts and accessories with Cr(VI)-free corrosion protection.

Brake pad holder phosphated acc. to DIN EN 12476 and oiled.

All bearing the bolts, bushes and gliding surfaces greased with Staburags NBU 30 PTH, firm Klüber, acc. to N12006-1.23

Z	Sonderlackierung:	EP-Metallgrund (60µm) + PUR-Grundfarbe (60µm) + PUR-Deckenstrich (40µm) RAL 7012 (basaltgrau) + PUR-Primary point (60µm) + PUR-Primary point + PUR-Topcoat (40µm) RAL 7012 (basalt gray)
	Special paint:	
L	Standardlackierung:	EP-Metallgrund (60µm) + PUR-Grundfarbe (60µm) + PUR-Deckenstrich (40µm) RAL 7021 (schwarzgrau) + PUR-Primary point (60µm) + PUR-Primary point + PUR-Topcoat (40µm) RAL 7021 (blackgray)
	Standard paint:	
Teil	Deckenstrich für Pos. 1, 2	
Part	Final point for port 1, 2	
Hinweis: Maße ohne Toleranzangaben sind grobe Richtmaße für den Einbau. Gewichtstoleranz: ±5%		BRAKE CALIPER UNIT
Note: Dimensions without tolerances are rough dimensions for installation. Weight tolerance: ±5%		WITH PAO 400/35 L=300 / I=2.48 WZ42UP10HS11
Gewicht: mit Beläge Weight: with pads		Kode von Belag Brake pad code
		Sach.-Nr. links und rechts Part No. left and right
Verwendbar für:		
1139260		
WZ42UP10HS11		

Verfälschung als die Verunreinigung eines Elements, Zerstörung und Fälschung seines Inhalts sind verboten, soweit nicht ausdrücklich gestattet. Bei Verstößen werden gemäß den Bestimmungen des Strafgesetzbuchs die Strafen verhängt. Alle Rechte für den Fall der Verletzung vorbehalten. Alle Rechte vorbehalten.

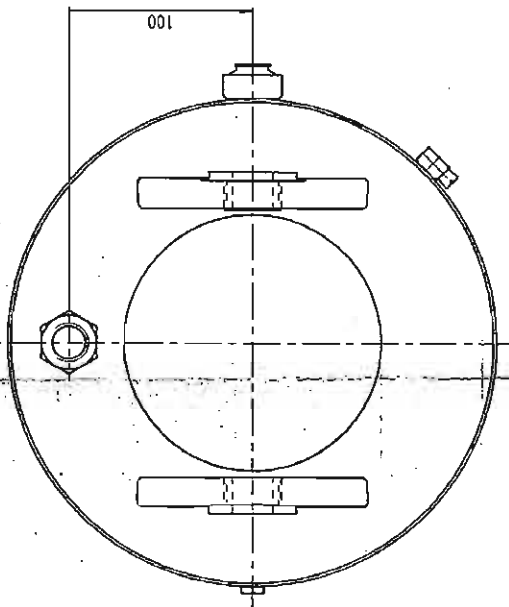
Do not install a return spring in the r/ging.
Do not apply static radial load to the piston rod head.
Installation with vertical mounting axis only.

cm ³	510.7	Dead volume (including coupling strokes)
l	0.7	Average counter force
N	1500	Application strokes A
mm	2 to 8	Max. shock adjustment capability N
mm	130 - E	(E = Brake cyl. stroke due to rigging elasticity)
mm	21	Max. effective piston stroke
mm	21 - A	Max. adjustment per stroke
N	500	Rigging return force
bar	6	Max. service pressure
kg	23	Height
		Piston gasket: standard press-on packing

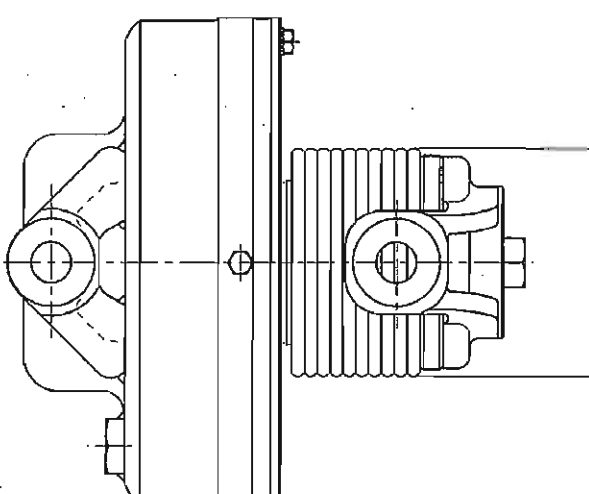
Ein Herausziehen der Kolbenstange durch eine Feststellbremse im
 Im Gestänge darf keine Rückzufeder angebracht werden
 Auf die Kolbenstange darf keine statische Querbelastung wirken
 Einbau nur mit vertikaler Lagerachse
 Techn. dato:

Wirksame Kolbenfläche	510,7	cm ²
Totvolumen (einschl. Kupplungshub)	0,7	l
Mittlere Gegenkraft	1500	N
Anlegehub A	2 bis 8	mm
Mox. Nachstellkapazität N	130 - E	mm
(E = Gasdrückgehöringshub am Bremszylinder)		
Mox. Nachstellung je Hub	21	mm
Mox. effektiver Kolbenhub	21 - A	mm
Gestängengeberkraft	500	N
Mox. Betriebsdruck	6	bar
Gewicht	23	kg
Kolbenrichtung: Standard-Aufpreßwandschleife		

Technische Daten:

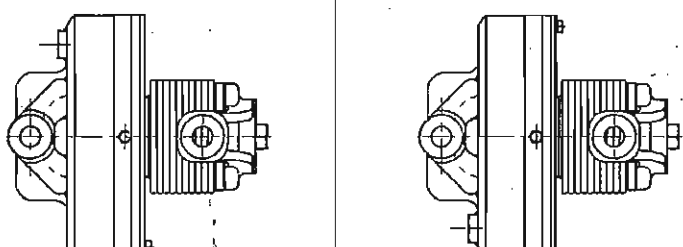


Lage des Luftanschlusses
 zur Zylinderlagerung
 bzw. Entlüftungsschraube
 Position of air connection in relation
 to cylinder breather and vent screw.



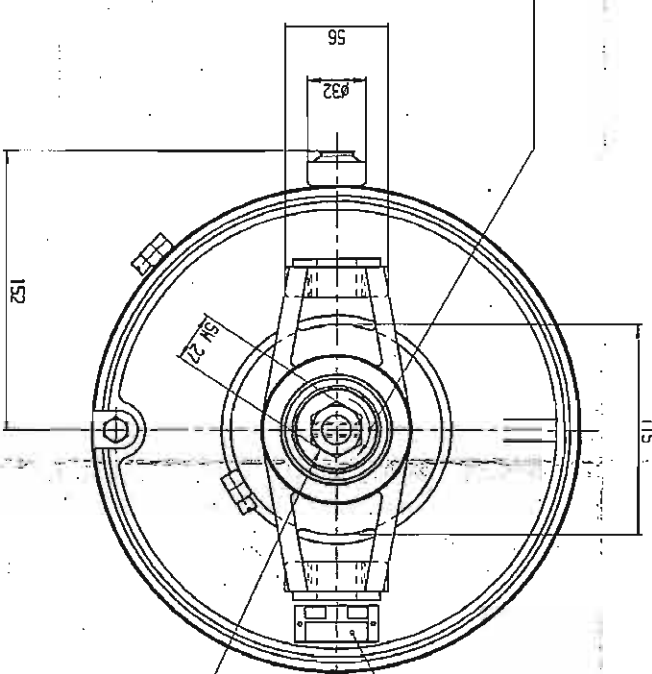
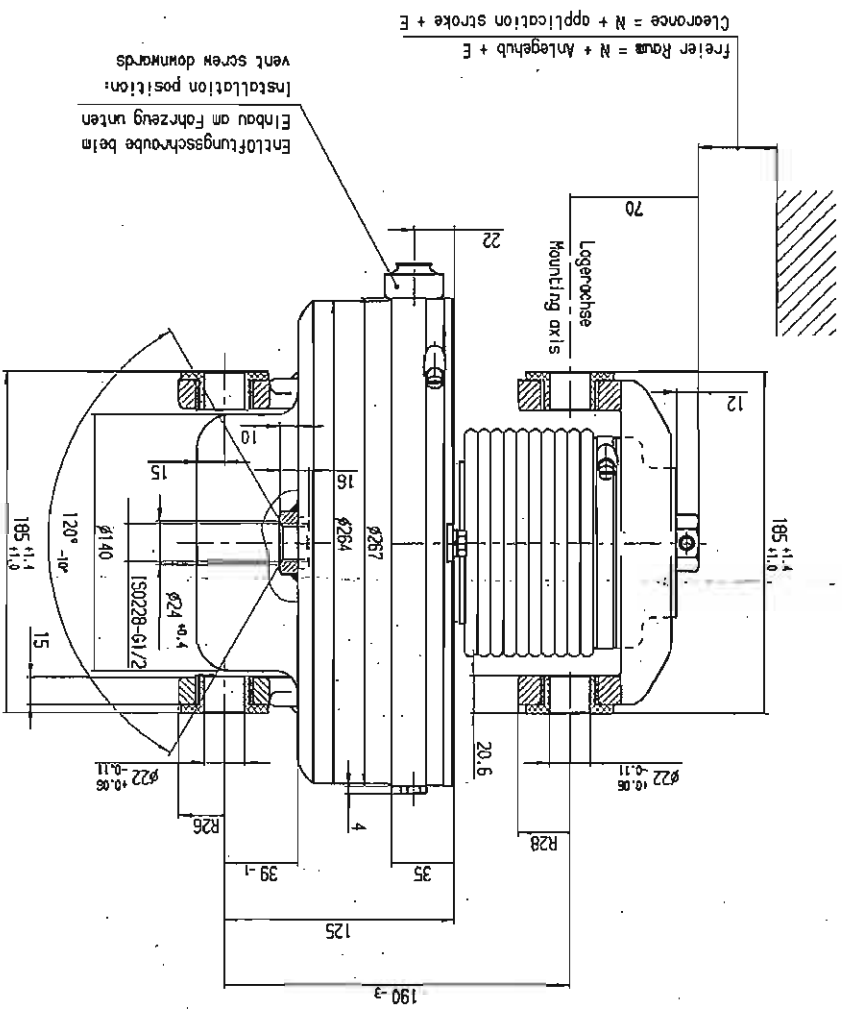
```

graph TD
    Root[Port No. Code :] --> Child1[Nummerschlüssel :]
    Root --> Child2[Ausführung]
    Root --> Child3[Version]
    Child1 --> Child1_1[Anlagebuch in]
    Child1 --> Child1_2[Application st]
    Child1 --> Child1_3[Lufteinrichtung]
    Child2 --> Child2_1[Position of air]
    Child3 --> Child3_1[Lufteinrichtung]
  
```



<p> </p>	<p> </p>
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Hinweis: Maße ohne Toleranzangaben sind grobe Richtmaße für den Einbau.
 Note: Dimensions without tolerances are rough dimensions for installation.



$$M_p \text{ (Nm)} = 0,0036 \text{ (m)} \times \text{Zylinderkraft (N)}$$

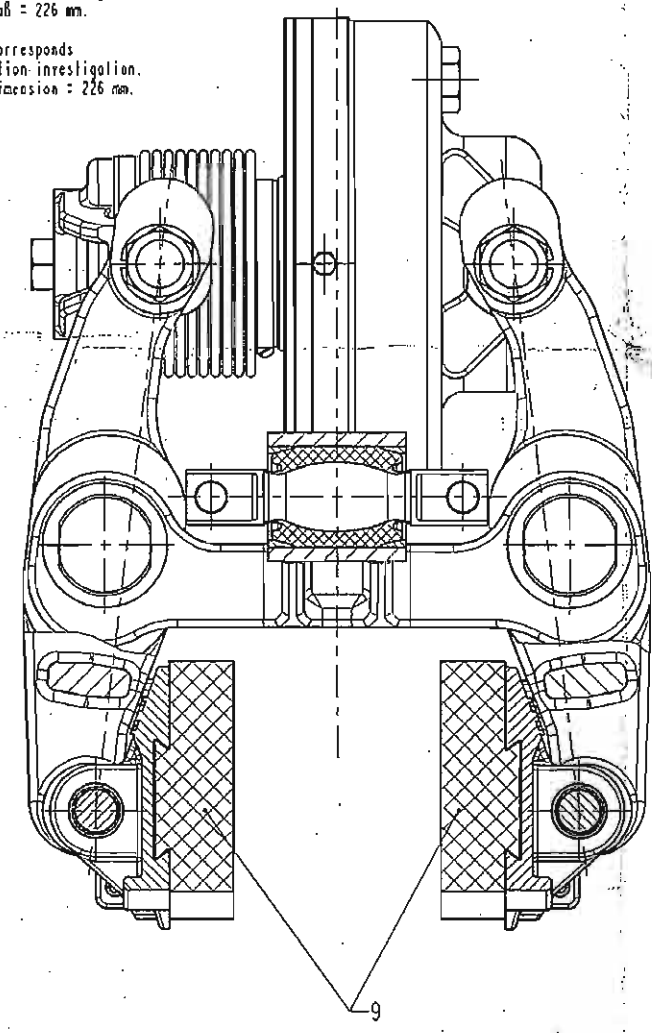
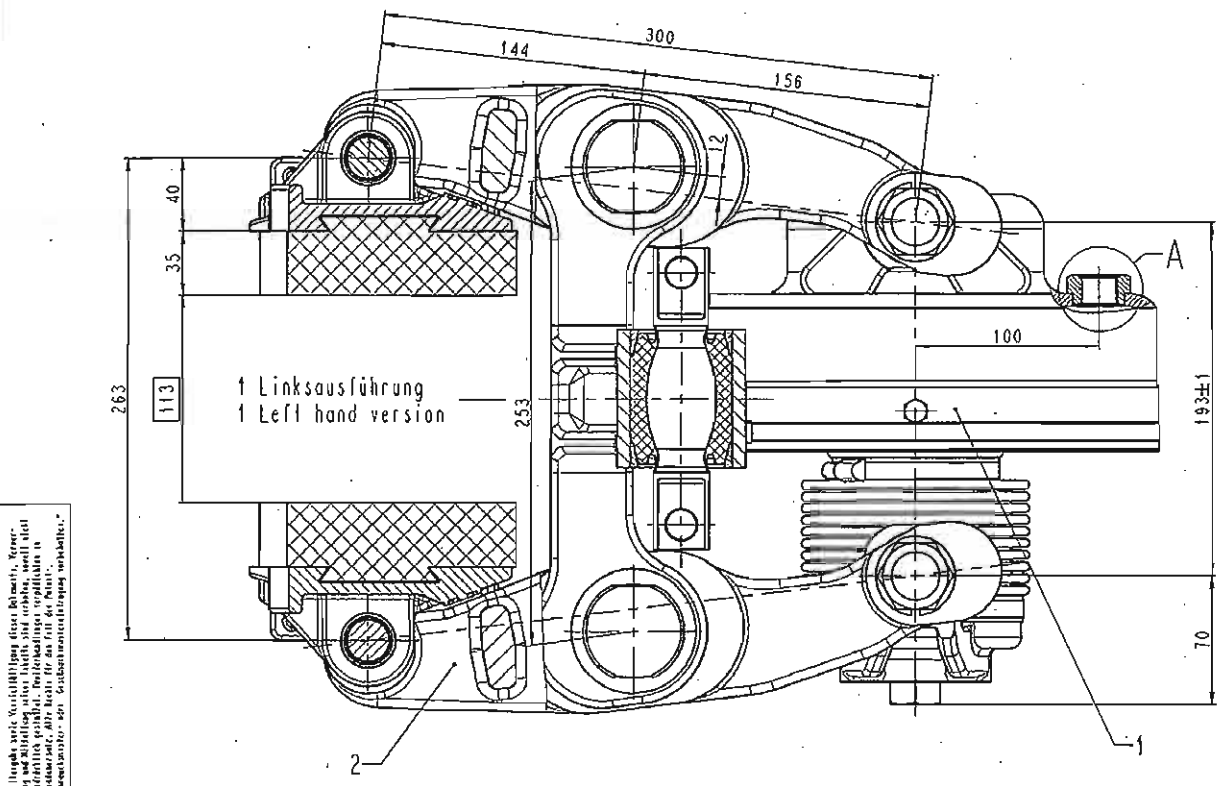
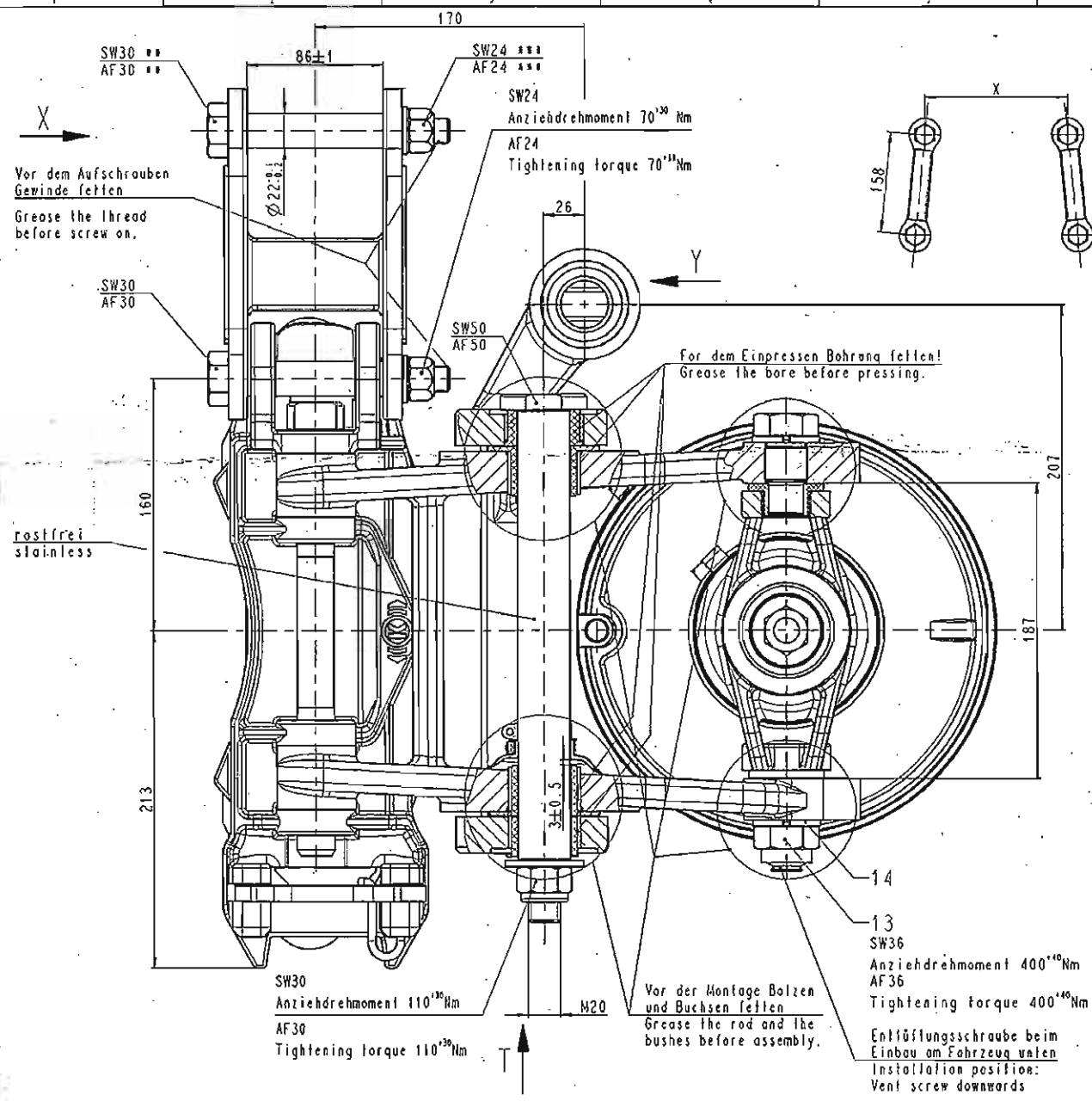
Entlüftungsschraube beim Einbau am Fahrzeug unten
Installation position:
vent screw downwards

[illegible]

1182515/...RP	Standardlackierung; RAL 7012 (basaltgrau) + PUR-Deckkonstr. (40µm) + PUR-Grundforbe (60µm)	Standardlackierung; RAL 7012 (basaltgrau) + PUR-Deckkonstr. (40µm) + PUR-Grundforbe (60µm)	1182515/...MX	Standardlackierung; RAL 7021 (schwarzgrau) + PUR-Deckkonstr. (ca. 60µm) + PUR-Deckkonstr. (ca. 60µm)	1182515/...MX	Standardlackierung; RAL 7021 (schwarzgrau) + PUR-Deckkonstr. (ca. 60µm) + PUR-Deckkonstr. (ca. 60µm)	Version
1182515/...RP	Special varnish; RAL 7012 (basalt grey) + PUR priming paint (60µm) + PUR finishing coat (40µm)	Special varnish; RAL 7012 (basalt grey) + PUR priming paint (60µm) + PUR finishing coat (40µm)	1182515/...MX	Standard varnish; RAL 7021 (black grey) + PUR metal primer (100µm) + PUR top coat (ca. 60µm)	Standard varnish; RAL 7021 (black grey) + PUR metal primer (100µm) + PUR top coat (ca. 60µm)	Standard varnish; RAL 7021 (black grey) + PUR metal primer (100µm) + PUR top coat (ca. 60µm)	Characteristics
1182515/...RP	Special varnish; RAL 7012 (basalt grey) + PUR top coat (ca. 60µm) + PUR top coat (ca. 60µm)	Special varnish; RAL 7012 (basalt grey) + PUR top coat (ca. 60µm) + PUR top coat (ca. 60µm)	1182515/...MX	Standard varnish; RAL 7021 (black grey) + PUR metal primer (100µm) + PUR top coat (ca. 60µm)	Standard varnish; RAL 7021 (black grey) + PUR metal primer (100µm) + PUR top coat (ca. 60µm)	Standard varnish; RAL 7021 (black grey) + PUR metal primer (100µm) + PUR top coat (ca. 60µm)	Characteristics
1182515/...RP	Standardlackierung; RAL 7012 (basaltgrau) + PUR-Deckkonstr. (ca. 60µm) + PUR-Deckkonstr. (ca. 60µm)	Standardlackierung; RAL 7012 (basaltgrau) + PUR-Deckkonstr. (ca. 60µm) + PUR-Deckkonstr. (ca. 60µm)	1182515/...MX	Standardlackierung; RAL 7021 (schwarzgrau) + PUR-Deckkonstr. (ca. 60µm) + PUR-Deckkonstr. (ca. 60µm)	Standardlackierung; RAL 7021 (schwarzgrau) + PUR-Deckkonstr. (ca. 60µm) + PUR-Deckkonstr. (ca. 60µm)	Standardlackierung; RAL 7021 (schwarzgrau) + PUR-Deckkonstr. (ca. 60µm) + PUR-Deckkonstr. (ca. 60µm)	Version

Zur Rocksteilen im Uhrzeigersinn drehen,
Rocksteillelement # 15 Nm

For resetting turn hexagonal
nut (A.F27/SK27) clockwise,
resetting torque # 15 Nm.



Befestigungselemente können extra bestellt werden.
Fastening parts can be ordered separately.

Auflageflächen des Drehgestells und Verbindungselementen sollen Öl-, Fett- und Farbfrei sein! Gelenkbolzen verzinkt.
Flange surface of the bogie and fasteners have to be free of oil, grease and paint. Hinge pin is zinc coated.

Befestigung des Gelenkbolzens mit zwei M16-12.9 Schrauben.
Anziehdrehmoment $M_t=280Nm \pm 5\%$
nach DIN25202-B, gleichzeitig gilt Reibungsklasse B nach VD12330.
Ganzmetallsicherungsmutter M16-Fest. 12-12
(Klemmoment 6-16Nm ist bei 280Nm berücksichtigt)
Hinge pin attached to the bogie with two M16-12.9 screws.
Tightening torque $M_t=280Nm \pm 5\%$ -DIN25202-B, and simultaneously valid is class of friction coefficient B acc. to VD12330. Totally all metal safety nut: M16 grade 12 (clamping torque 6-16Nm is taken into account by 280Nm)

Einbaupfehlung
INSTALLATION SUGGESTION
(Alternative: z.B. zwei gleichsinnig geschichtete Spannscheiben DIN6796 unter dem Schraubenkopf)
(Alternative: e.g. two spring washers DIN6786 mounted parallel under the head of the bolt)

1:1
+ Beschriftung:
+ Lettering:

Typ z.B. WZ37UP10XS11
Type e.g. WZ37UP10XS11
Laufende Nummer
Serial Number
Soch.-Nr. z.B.: 1139691/1BZA
Part-No. e.g.: 1139691/1BZA

eingearbeitet
engraved

Nummernschlüssel für Bestellung
z.B.: 1139691/...A

Sach.-Nr.
Bauzustand
Deckenstrich siehe Tabelle
Kode von Belag
Nr. 1 Linksausführung
Nr. 2 Rechtsausführung

Part-No. Code
e.g.: 1139691/...A

Part-No.
Configuration level
Final point see table
Brake pad code
Nr. 1 Left hand version
Nr. 2 Right hand version

Einstellmaß Adjusted dimension

Grund- und Deckenstrich für Pos. 1 und 2 sind bereits im Einzelteil durchgeführt
Primary and Topcoat to items 1 and 2 made before assembly

Alle Befestigungs- u. Kleinteile mit Cr(VI)-freie Korrosionsschutz.
All fastening parts, bolts and accessories with Cr(VI)-free corrosion protection.

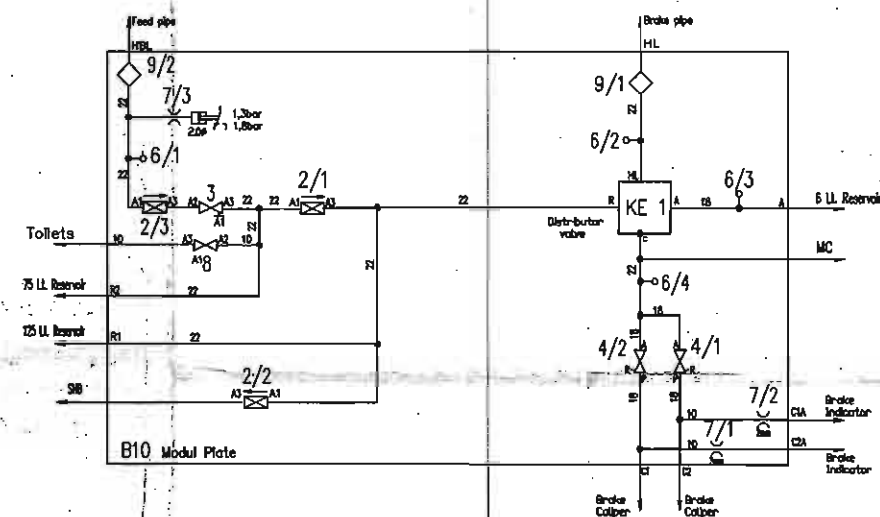
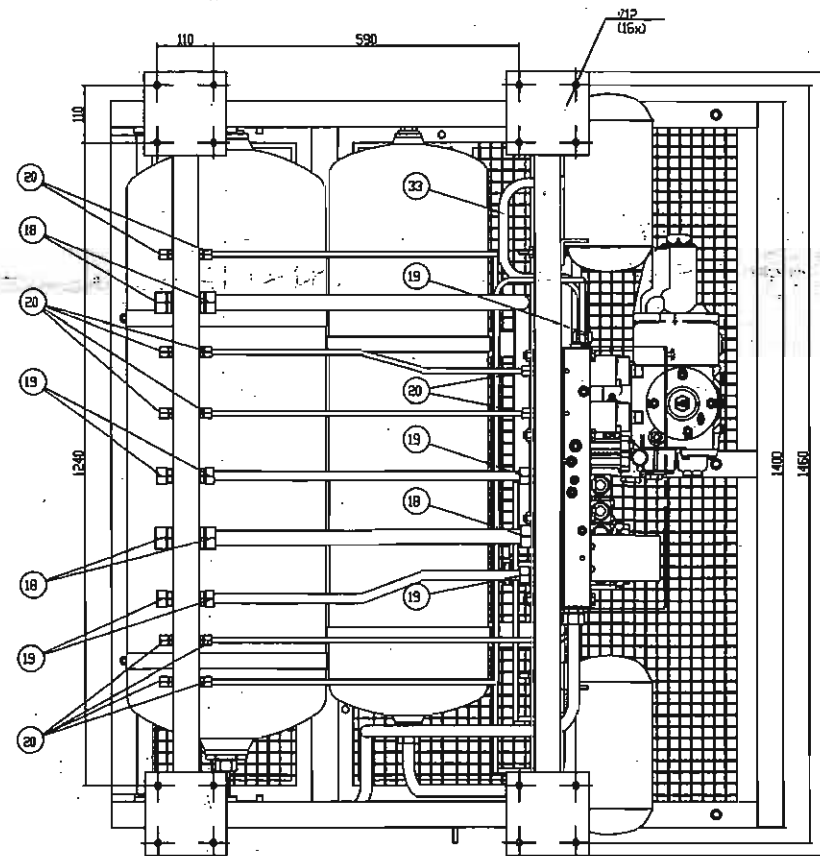
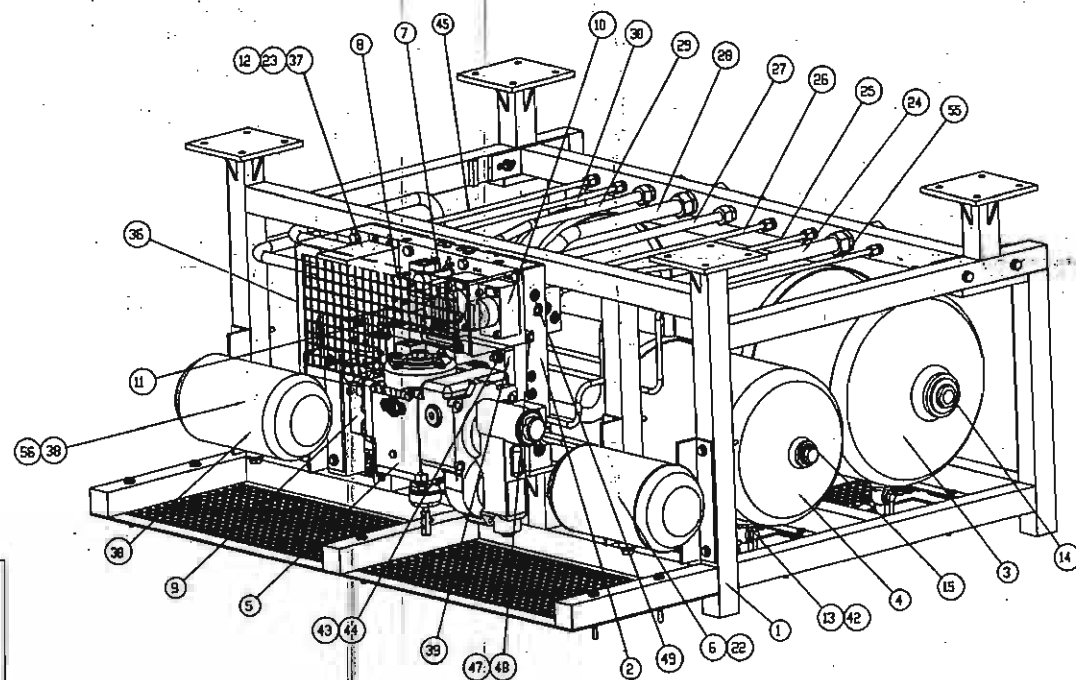
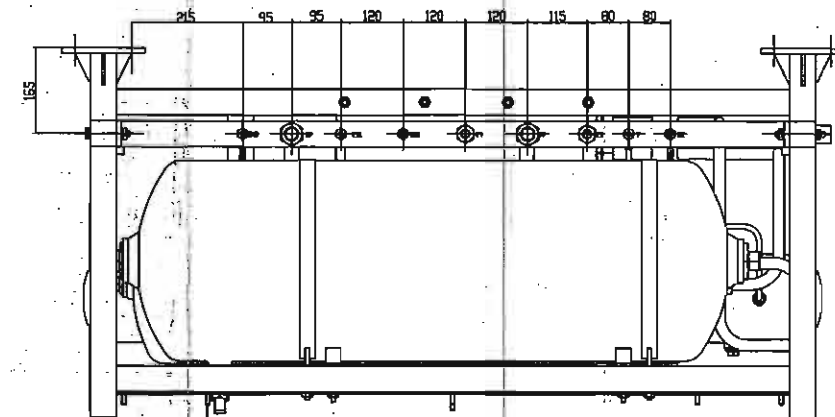
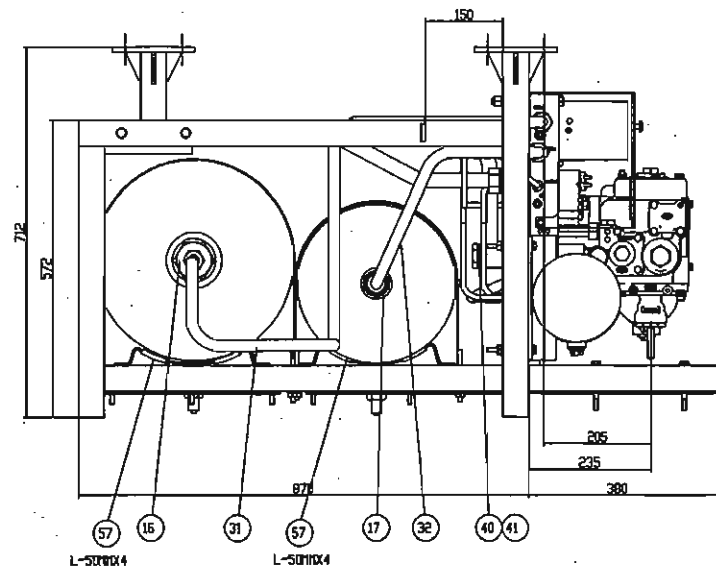
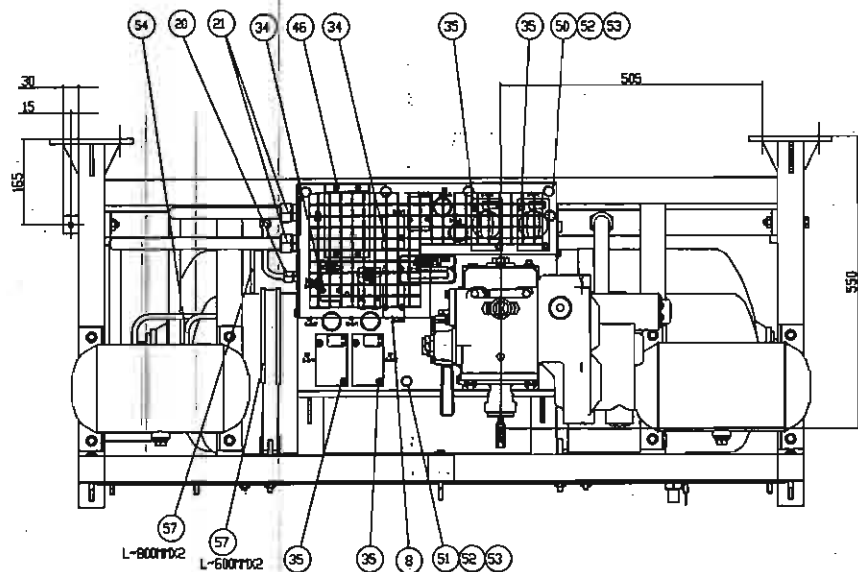
Bremsbelaghalter nach DIN EN 12476 phosphatiert und geölt.
Brake pad holder phosphated acc. to DIN EN 12476 and oiled.

An sämtlichen Lagerstellen sind die Bolzen, Buchsen und alle Gleitflächen mit Schmierstoff M12006-L23 zu fetten (Statorbolzen NBU 30 PTM der Fa. Klüber).
At all bearing the bolts, bushes and gliding surfaces greased with Sluborags NBU 30 PTM, firm Klüber, acc. to M12006-L23

Lage des Bolzens bei der Montage des Drehgestells entsprechend der Einbauzeichnung berücksichtigen.
Positioning bolt during bogie installation as shown on installation drawing

Sicherungsmutter nur bis zum Sicherungsblei aufgeschraubt ausgeliefert. Nach der Montage ins Drehgestell die Sicherungsmutter mit Drehmoment 70 Nm anziehen.
Safety lock nut only screwed on up to locking device After installation in the bogie tighten safely lock nut with torque of 70 Nm.

Z	Sonderlackierung:	EP-Metallgrund (60µm) + PUR-Grundfarbe (60µm) + PUR-Deckenstrich (40µm) RAL 7012 (basaltgrau) + EP-Primärfarbe (60µm) + PUR-Primärfarbe (60µm) + PUR-Topcoat (40µm) RAL 7012 (basaltgrau)
	Standardlackierung:	EP-Metallgrund (60µm) + PUR-Grundfarbe (60µm) + PUR-Deckenstrich (40µm) RAL 7021 (schwarzgrau) + EP-Primärfarbe (60µm) + PUR-Primärfarbe (60µm) + PUR-Topcoat (40µm) RAL 7021 (schwarzgrau)
Teil	Deckenstrich für Pos. 1, 2	Final point for part 1, 2
Hinweis:	Maße ohne Toleranzangaben sind grobe Richtmaße für den Einbau.	BRAKE CALIPER UNIT
	Gewichtstoleranz: ±5% Dimensions without tolerances are rough dimensions for installation. Weight tolerance: ±5%	WITH PAD 400/35 L:300 / I:2.17 WZ37UP10XS11
Mole:		
Gewicht: mit Beläge Weight: with pads		
Kode von Belag Brake pad code		
Soch.-Nr. links und rechts Part-No. left and right		
Verwendbar für:		
1139691		
WZ37UP10XS11		
BREMSENGEINHEIT MIT BELAG 400/35 L:300 / I:2.17 C76300/A		



BRAKE PANEL CIRCUIT
LHB

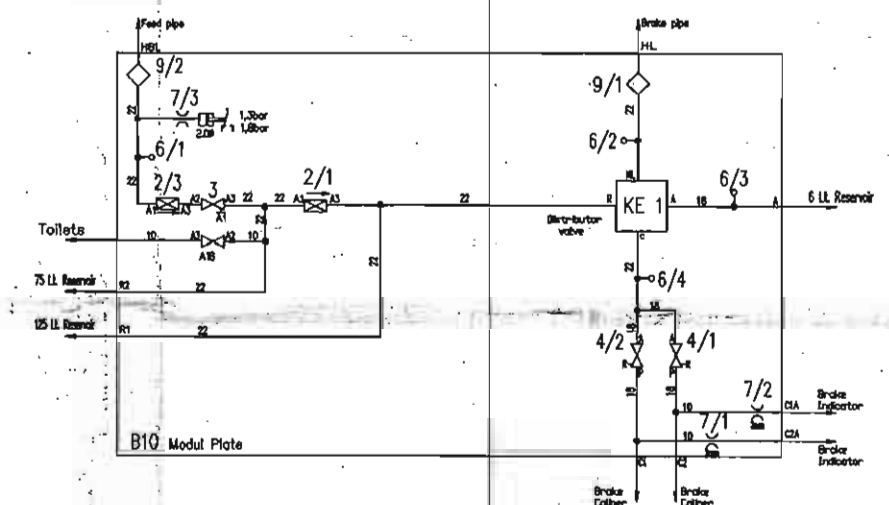
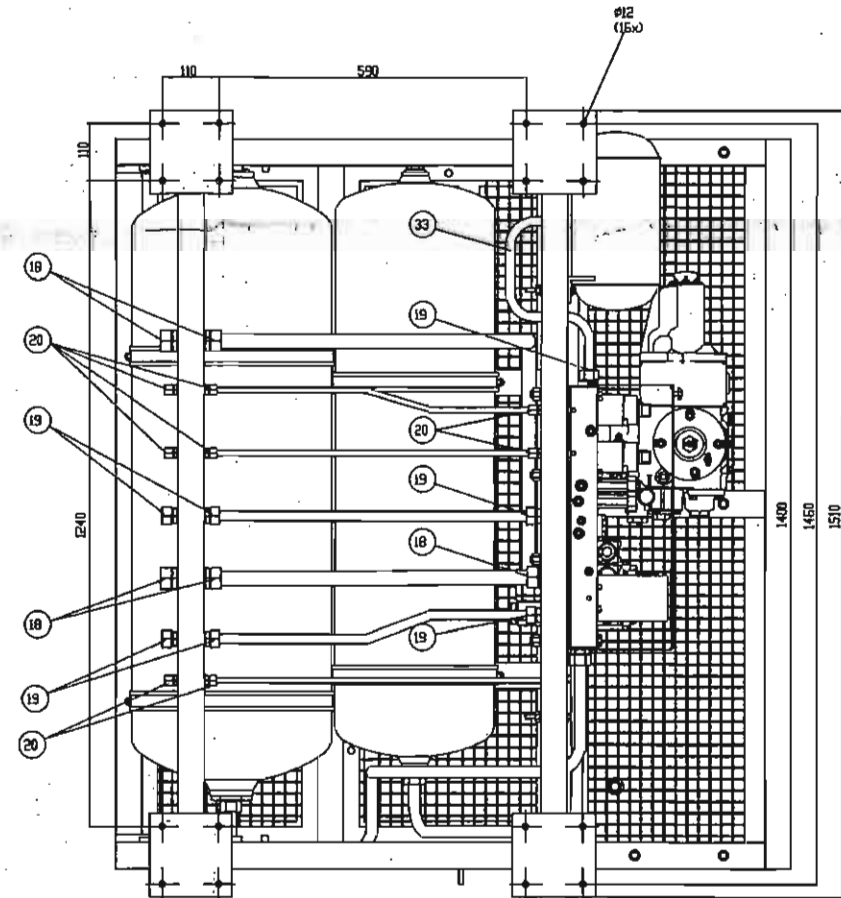
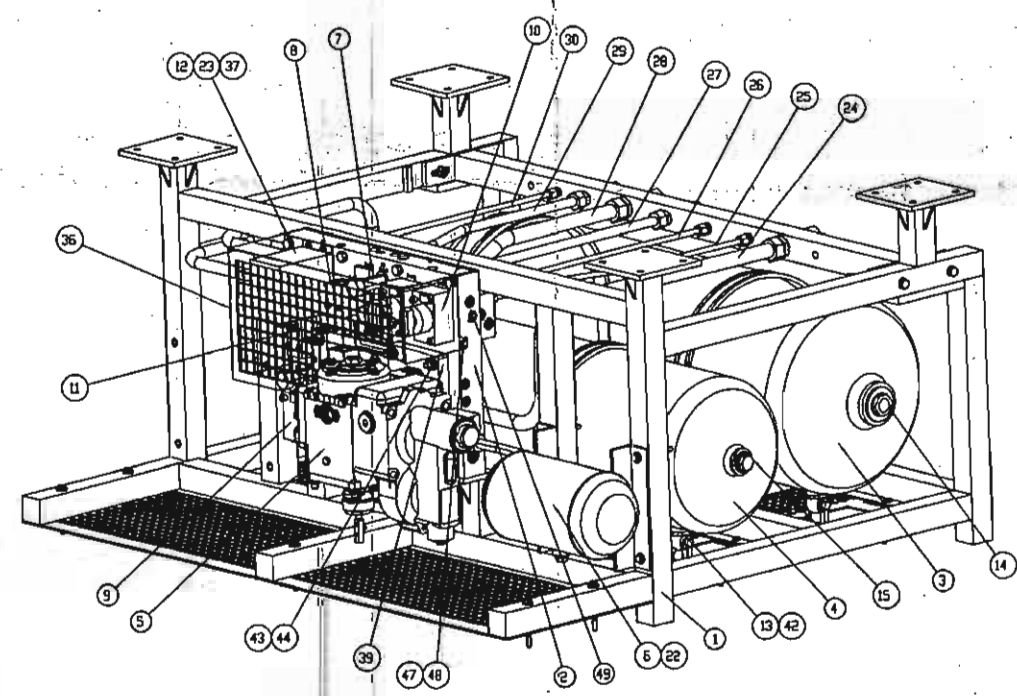
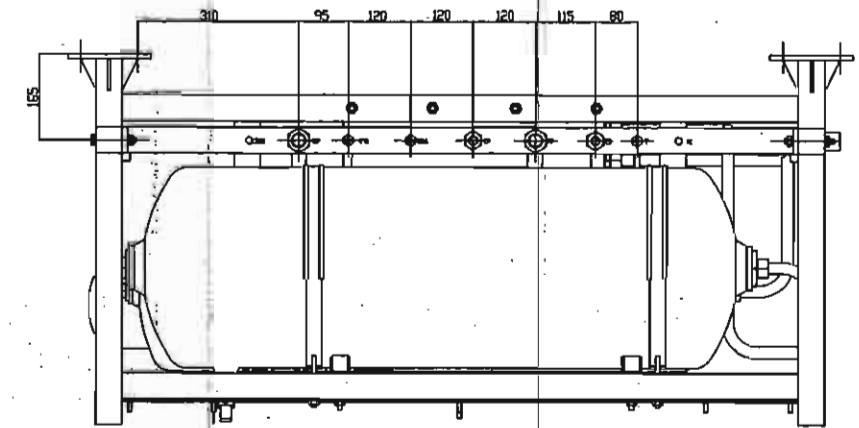
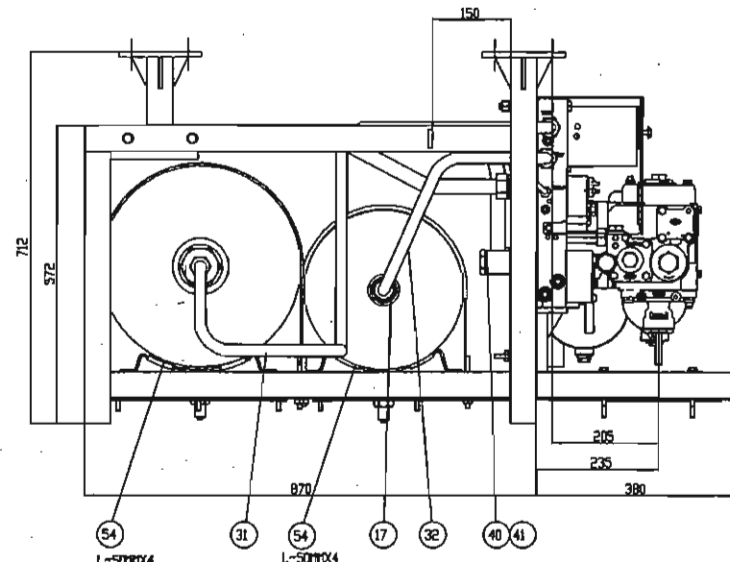
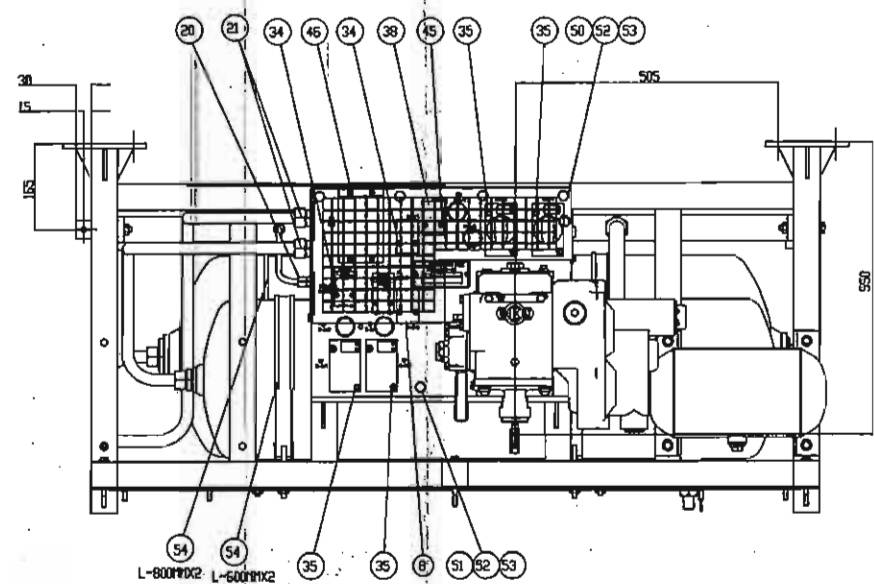
*Approved for material, general design features and controlling dimensions subject to observations made in this office letter No. 1111 dated 11/1/54. Further design details and dimensions have not been checked. Builders/Manufacturers should ensure that they are in conformity with contr. drawing and specifications.

DETAIL OF END CONNECTION:-

- HL - FEED PIPE
- HL - BRAKE PIPE
- C1 - BRAKE CYLINDER BOGIE - 1
- C2 - BRAKE CYLINDER BOGIE - 2
- C1A - INDICATING DEVICE BOGIE - 1
- C2A - INDICATING DEVICE BOGIE - 2
- T - AUXILIARY SUPPORT PIPE FOR TOILET.

ITEM	DESCRIPTION	QTY	UNIT	REMARKS
1	BRAKE PANEL CIRCUIT	1	SET	
2	BRAKE CYLINDER BOGIE	2	SET	
3	INDICATING DEVICE BOGIE	2	SET	
4	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
5	FEED PIPE	1	SET	
6	BRAKE PIPE	1	SET	
7	BRAKE CYLINDER BOGIE	1	SET	
8	INDICATING DEVICE BOGIE	1	SET	
9	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
10	FEED PIPE	1	SET	
11	BRAKE PIPE	1	SET	
12	BRAKE CYLINDER BOGIE	1	SET	
13	INDICATING DEVICE BOGIE	1	SET	
14	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
15	FEED PIPE	1	SET	
16	BRAKE PIPE	1	SET	
17	BRAKE CYLINDER BOGIE	1	SET	
18	INDICATING DEVICE BOGIE	1	SET	
19	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
20	FEED PIPE	1	SET	
21	BRAKE PIPE	1	SET	
22	BRAKE CYLINDER BOGIE	1	SET	
23	INDICATING DEVICE BOGIE	1	SET	
24	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
25	FEED PIPE	1	SET	
26	BRAKE PIPE	1	SET	
27	BRAKE CYLINDER BOGIE	1	SET	
28	INDICATING DEVICE BOGIE	1	SET	
29	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
30	FEED PIPE	1	SET	
31	BRAKE PIPE	1	SET	
32	BRAKE CYLINDER BOGIE	1	SET	
33	INDICATING DEVICE BOGIE	1	SET	
34	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
35	FEED PIPE	1	SET	
36	BRAKE PIPE	1	SET	
37	BRAKE CYLINDER BOGIE	1	SET	
38	INDICATING DEVICE BOGIE	1	SET	
39	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
40	FEED PIPE	1	SET	
41	BRAKE PIPE	1	SET	
42	BRAKE CYLINDER BOGIE	1	SET	
43	INDICATING DEVICE BOGIE	1	SET	
44	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
45	FEED PIPE	1	SET	
46	BRAKE PIPE	1	SET	
47	BRAKE CYLINDER BOGIE	1	SET	
48	INDICATING DEVICE BOGIE	1	SET	
49	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
50	FEED PIPE	1	SET	
51	BRAKE PIPE	1	SET	
52	BRAKE CYLINDER BOGIE	1	SET	
53	INDICATING DEVICE BOGIE	1	SET	
54	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
55	FEED PIPE	1	SET	
56	BRAKE PIPE	1	SET	
57	BRAKE CYLINDER BOGIE	1	SET	
58	INDICATING DEVICE BOGIE	1	SET	
59	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
60	FEED PIPE	1	SET	
61	BRAKE PIPE	1	SET	
62	BRAKE CYLINDER BOGIE	1	SET	
63	INDICATING DEVICE BOGIE	1	SET	
64	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
65	FEED PIPE	1	SET	
66	BRAKE PIPE	1	SET	
67	BRAKE CYLINDER BOGIE	1	SET	
68	INDICATING DEVICE BOGIE	1	SET	
69	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
70	FEED PIPE	1	SET	
71	BRAKE PIPE	1	SET	
72	BRAKE CYLINDER BOGIE	1	SET	
73	INDICATING DEVICE BOGIE	1	SET	
74	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
75	FEED PIPE	1	SET	
76	BRAKE PIPE	1	SET	
77	BRAKE CYLINDER BOGIE	1	SET	
78	INDICATING DEVICE BOGIE	1	SET	
79	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
80	FEED PIPE	1	SET	
81	BRAKE PIPE	1	SET	
82	BRAKE CYLINDER BOGIE	1	SET	
83	INDICATING DEVICE BOGIE	1	SET	
84	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
85	FEED PIPE	1	SET	
86	BRAKE PIPE	1	SET	
87	BRAKE CYLINDER BOGIE	1	SET	
88	INDICATING DEVICE BOGIE	1	SET	
89	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
90	FEED PIPE	1	SET	
91	BRAKE PIPE	1	SET	
92	BRAKE CYLINDER BOGIE	1	SET	
93	INDICATING DEVICE BOGIE	1	SET	
94	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
95	FEED PIPE	1	SET	
96	BRAKE PIPE	1	SET	
97	BRAKE CYLINDER BOGIE	1	SET	
98	INDICATING DEVICE BOGIE	1	SET	
99	AUXILIARY SUPPORT PIPE FOR TOILET	1	SET	
100	FEED PIPE	1	SET	

BRAKE CONTAINER
FOR POWER CAR/SR
C159154



BRAKE PANEL CIRCUIT
LHB

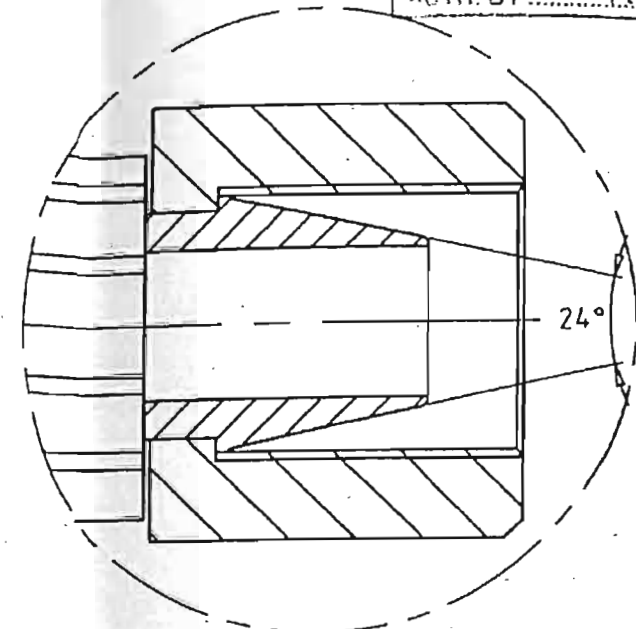
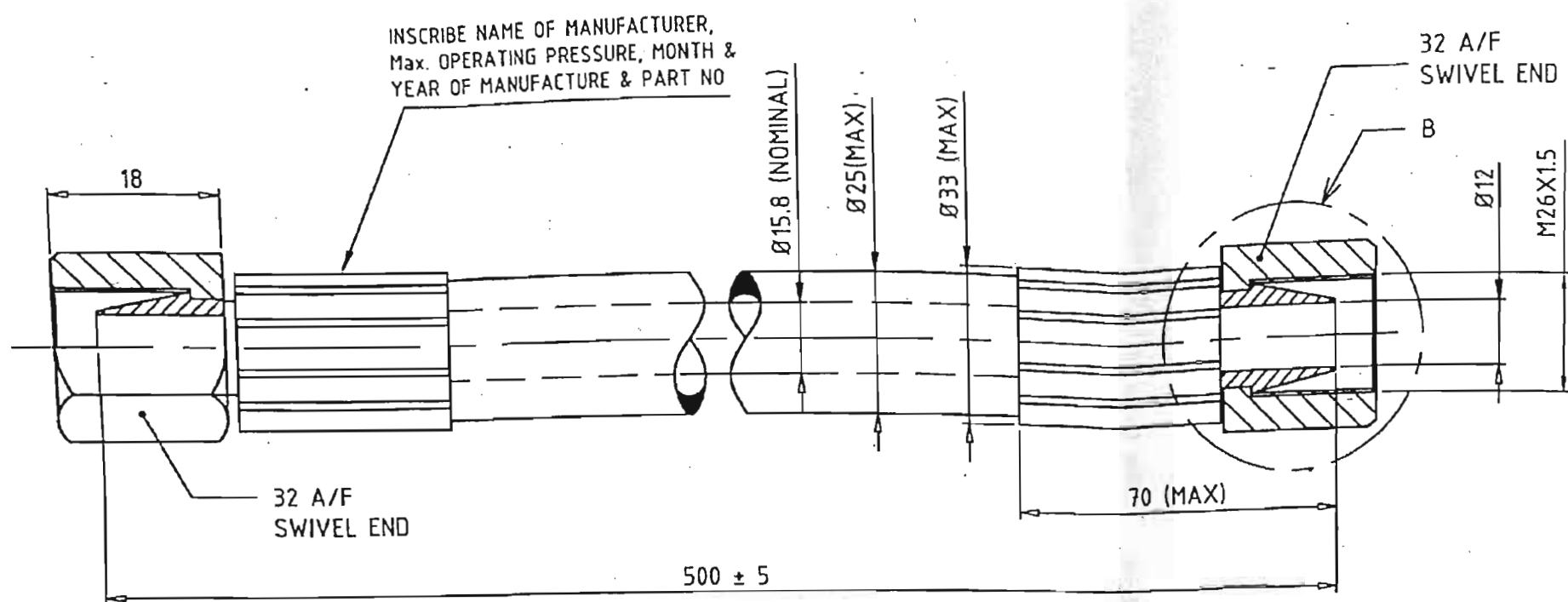
Check the drawing for dimensions and specifications. If any dimensions are not in the drawing, they are in conformity with the drawing and specifications.

- DETAIL OF END CONNECTION:-
- HBL - FEED PIPE
 - HL - BRAKE PIPE
 - C1 - BRAKE CYLINDER BOGIE - 1
 - C2 - BRAKE CYLINDER BOGIE - 2
 - C1A - INDICATING DEVICE BOGIE - 1
 - C2A - INDICATING DEVICE BOGIE - 2
 - T - AUXILIARY SUPPORT PIPE FOR TOILET.

ITEM	DESCRIPTION	QTY	UNIT	REMARKS
1	BRAKE CYLINDER BOGIE - 1	1	EA	
2	BRAKE CYLINDER BOGIE - 2	1	EA	
3	INDICATING DEVICE BOGIE - 1	1	EA	
4	INDICATING DEVICE BOGIE - 2	1	EA	
5	AUXILIARY SUPPORT PIPE FOR TOILET	1	EA	
6	FEED PIPE	1	EA	
7	BRAKE PIPE	1	EA	
8	BRAKE CYLINDER BOGIE - 1	1	EA	
9	BRAKE CYLINDER BOGIE - 2	1	EA	
10	INDICATING DEVICE BOGIE - 1	1	EA	
11	INDICATING DEVICE BOGIE - 2	1	EA	
12	AUXILIARY SUPPORT PIPE FOR TOILET	1	EA	
13	FEED PIPE	1	EA	
14	BRAKE PIPE	1	EA	
15	BRAKE CYLINDER BOGIE - 1	1	EA	
16	BRAKE CYLINDER BOGIE - 2	1	EA	
17	INDICATING DEVICE BOGIE - 1	1	EA	
18	INDICATING DEVICE BOGIE - 2	1	EA	
19	AUXILIARY SUPPORT PIPE FOR TOILET	1	EA	
20	FEED PIPE	1	EA	
21	BRAKE PIPE	1	EA	
22	BRAKE CYLINDER BOGIE - 1	1	EA	
23	BRAKE CYLINDER BOGIE - 2	1	EA	
24	INDICATING DEVICE BOGIE - 1	1	EA	
25	INDICATING DEVICE BOGIE - 2	1	EA	
26	AUXILIARY SUPPORT PIPE FOR TOILET	1	EA	
27	FEED PIPE	1	EA	
28	BRAKE PIPE	1	EA	
29	BRAKE CYLINDER BOGIE - 1	1	EA	
30	BRAKE CYLINDER BOGIE - 2	1	EA	
31	INDICATING DEVICE BOGIE - 1	1	EA	
32	INDICATING DEVICE BOGIE - 2	1	EA	
33	AUXILIARY SUPPORT PIPE FOR TOILET	1	EA	
34	FEED PIPE	1	EA	
35	BRAKE PIPE	1	EA	
36	BRAKE CYLINDER BOGIE - 1	1	EA	
37	BRAKE CYLINDER BOGIE - 2	1	EA	
38	INDICATING DEVICE BOGIE - 1	1	EA	
39	INDICATING DEVICE BOGIE - 2	1	EA	
40	AUXILIARY SUPPORT PIPE FOR TOILET	1	EA	
41	FEED PIPE	1	EA	
42	BRAKE PIPE	1	EA	
43	BRAKE CYLINDER BOGIE - 1	1	EA	
44	BRAKE CYLINDER BOGIE - 2	1	EA	
45	INDICATING DEVICE BOGIE - 1	1	EA	
46	INDICATING DEVICE BOGIE - 2	1	EA	
47	AUXILIARY SUPPORT PIPE FOR TOILET	1	EA	
48	FEED PIPE	1	EA	
49	BRAKE PIPE	1	EA	
50	BRAKE CYLINDER BOGIE - 1	1	EA	
51	BRAKE CYLINDER BOGIE - 2	1	EA	
52	INDICATING DEVICE BOGIE - 1	1	EA	
53	INDICATING DEVICE BOGIE - 2	1	EA	
54	AUXILIARY SUPPORT PIPE FOR TOILET	1	EA	

BRAKE CONTAINER
FOR PASSENGER CAR/EDG
C156469

Faiveley Transport R&D
ISSUED TOMAG
ON29.08.19
AUTH. BYM.A.R



अ० अ० मा० मं०
R. D. S. O.

इस कार्यालय के पत्रांक. MC/LHB/Brake.dtt. 17.09.19

वे किये गये प्रेशरों की शर्त पर, सामग्री; सामान्य डिजाइन नक़्शों, और नियन्त्रक आमानों के लिए, अनुमोदित/अन्य डिजाइन विवरण की जाँच नहीं की गई है। डिज़ाइन/निर्माता सुनिश्चित करें, कि वे करार की ड्राइंगों, और दिशानिर्देशों के अनुरूप हैं।

Approved for material general design features and controlling dimensions subject to observations made in this office letter No.....other design details and dimensions have not been checked, Builders/Manufacturers should ensure that they are in conformity with contract drawing and specifications.

UNCONTROLLED COPY

NOTE:

1. MATERIAL OF HOSE SHALL CONFIRM TO SAE 100 R1 AT & TEST AS PER SAE J343. 17.09.19
2. -HOSE ENDS SHALL BE PROVIDED WITH CRIMPING SUITABLE FOR HIGHER PRESSURE CONFORMING TO THAT OF HOSE
3. MIN.BURST PRESSURE 413 bar (6000 psi). Min BEND RADII 203 mm(8").
4. FLOW TEST- Ø 11 MM BALL TO BE PASSED ON FROM ANY ONE END OF HOSE. BALL SHOULD PASS THROUGH HOSE & COME OUT FROM ANOTHER END.

A02 BASED ON RDSO DRAWING (CG-19037,REV 01) DRAWING UPDATED				D					
A01 BASED ON RDSO DRAWING (CG-19037) DRAWING UPDATED									
A00 NEW RELEASE									
Rev. Change Description				DRAWING SHALL NOT BE REVISED OUTSIDE CAD SYSTEM Status RELEASED					
Surface				✓					
Hardening				Hardness		Depth		Finish	
Treatment				Raw part number		Model number			
Tol.Dim Deviation Tol.Dim Deviation				Weight g		BOM		Responsible site: HSR Size A3	
Application				General Tolerance		Material		Document classification	
				IS 2102 (v)		REFER NOTES		Fire and smoke class Classification FC1	
Based on: FT0052512-000				Replacement		Replaced			
Customer name				Customer Revision indexes		Customer Reference number			
Approved by customer				SSC		Part title, subtitle			
Scale: NTS				Prepared 27 08 2019		MAK			
				Checked 27 08 2019		BSH			
				Approved 27 08 2019		Name			
				Date		mm			
				en					
Faiveley Transport A Wabtec Company				Drawing identification no		FT0052512-002			
				Revision A02		Sheet 1		Sheets 1	
								A3	



भारत सरकार - रेल मंत्रालय
अनुसंधान अमिकल्प और मानक संगठन
लखनऊ - 226 011
EPBX (0522) 2451200
Fax (0522) 2458500

Government of India-Ministry of Railways
Research Designs & Standards Organisation
Lucknow - 226 011
DID (0522) 2450115
DID (0522) 2465310



No. MC/LHB/Brake

Date 09.10.2019

M/s Knorr-Bremse India Pvt. Ltd.,
51/4 KM Stone, Vill. & P.O. Baghola,
Delhi Mathura Road (NH-2)
Palwal-121102, Haryana

Sub: Approval of modified drawings of flexible Hose for Bogie & Brake Actuator for LHB Coaches.

Ref: Your letter no.KBI/LHB/AG dated 30.09.2019

In reference to above, please find enclosed herewith a copy of duly approved drawings for Flexible hose 650 mm for bogie (Drg. No.KP0274893 Rev.02) & Flexible hose 500 mm for brake actuator (Drg. No.KP0313153 Rev.02) for your record please.

Above approval is for general design features and controlling dimensions. Other design details and dimensions have not been checked. Suppliers/manufacturers should ensure that they are in conformity with contract drawing, specifications and QAP. Notwithstanding this approval, firm is wholly and completely responsible for quality, online performance, reliability and life of the item supplied.

Any alterations/amendment/revision of these drawings will render this approval void automatically. In such case, you should obtain a fresh approval for the altered/amended drawing.

This is for kind information & necessary action please.

DA: As above


(Gaureav Kumar Singh)

Director/Carriage
for Director General/ Carriage

Copy to:

Director/I&L/RDSO, Behind Shankar Market, Near IRCOT, Connaught Place, New Delhi-110001

MARK/IND CATE MAX. OPERATING PRESSURE, PART NO. AND OTHER NECESSARY DETAILS

Ø15.8 (NOMINAL)
Ø25 (MAX)

18

INSR 'BE NAME OF MANUFACTURER, MONTH & YEAR OF MANUFACTURE

Swivel End

650±5

Swivel End



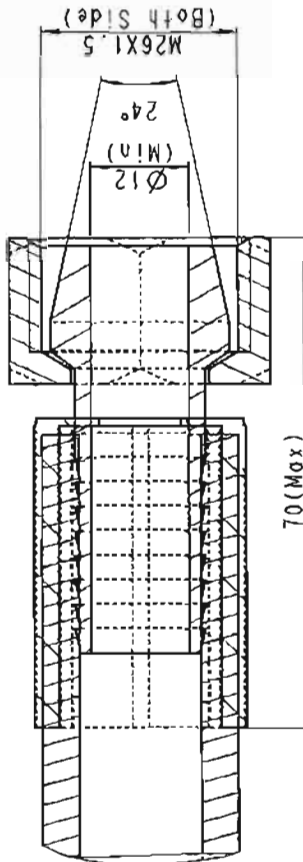
अं अं मां सो
R.D.S.O.

एक नमूने के परीक
में किये गये प्रसर्ग की शर्त पर, सामग्री; सामान्य डिजाइन
लेखन, और नियंत्रक आपनों के लिए, अनुमोदित/अनुमोदित
डिजाइन विवरण की जाँच नहीं की गई है। विस्तृत विवरण
सुनिश्चित करें, कि वे कार की ड्राइंगों, और डिजाइन के
अनुसंधान हैं।

Approved for material selected design features and controlling dimensions subject to observations made in this office letter No.....other design details and dimensions have not been checked, Builders/manufacturers should ensure that they conform with the contract drawing and specifications.



DETAIL 'A'



NOTE --

1. THE HOSE SHALL CONFORM TO SAE 100 R1 AT. TEST CERTIFICATE FOR VARIOUS TEST AS PER SAE J343 SHALL BE SUBMITTED.
2. THE HOSE ENDS SHALL BE PROVIDED WITH CRIMPING SUITABLE FOR HIGHER PRESSURE CONFORMING TO THAT OF HOSE. THE HOSE END FITTINGS SHALL BE MADE FROM STAINLESS STEEL, GRADE AISI304. END FITTINGS NOT PEEL OFF ON BURST TEST.
3. FLOW TEST-Ø11 MM BALL TO BE PASSED ON FROM ANY ONE END OF HOSE. BALL SHOULD PASS THROUGH HOSE & COME OUT FROM ANOTHER END.

Ref RDSO Drg. No. CG-19035 Dated: 05.10.19

For

Suitable for:				
	2	ECT-0055474	2019-09-25	KUMA
	1	ECT-0058879	2019-07-25	KUMA
	0	-	2019-07-18	KUMA

Tolerancing ISO8015

1.32 to A3

For material

MTB

Mode from

Rep. by:

Edited

Revised

HOSE CONNECTION

Scale 1:2 (Tech) 2019-09-25 KUMA

(Check) 2019-09-25 SHARMAGA

(Norm) 2019-09-25 BURNI

Date

IN

Name

mm

2

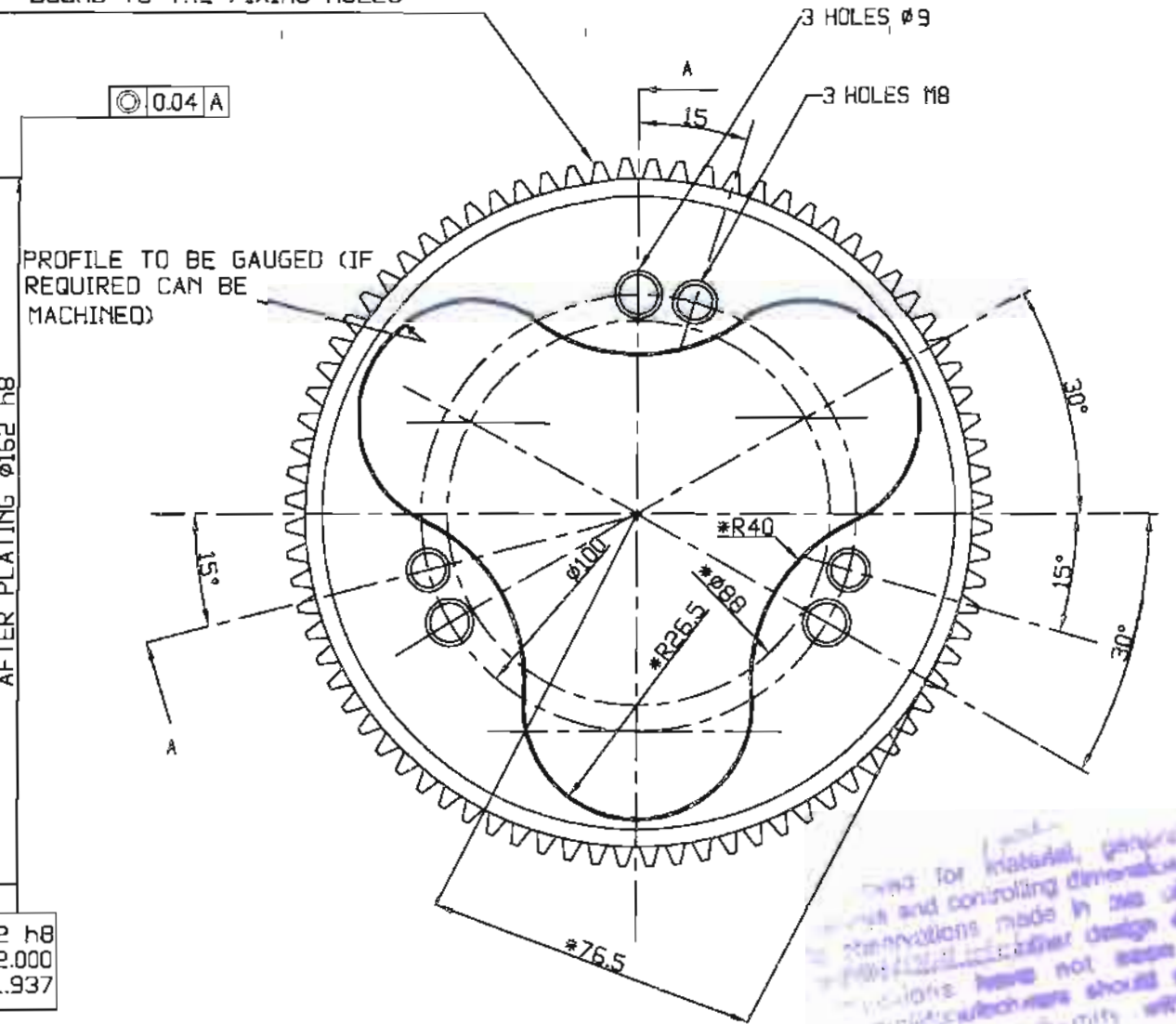
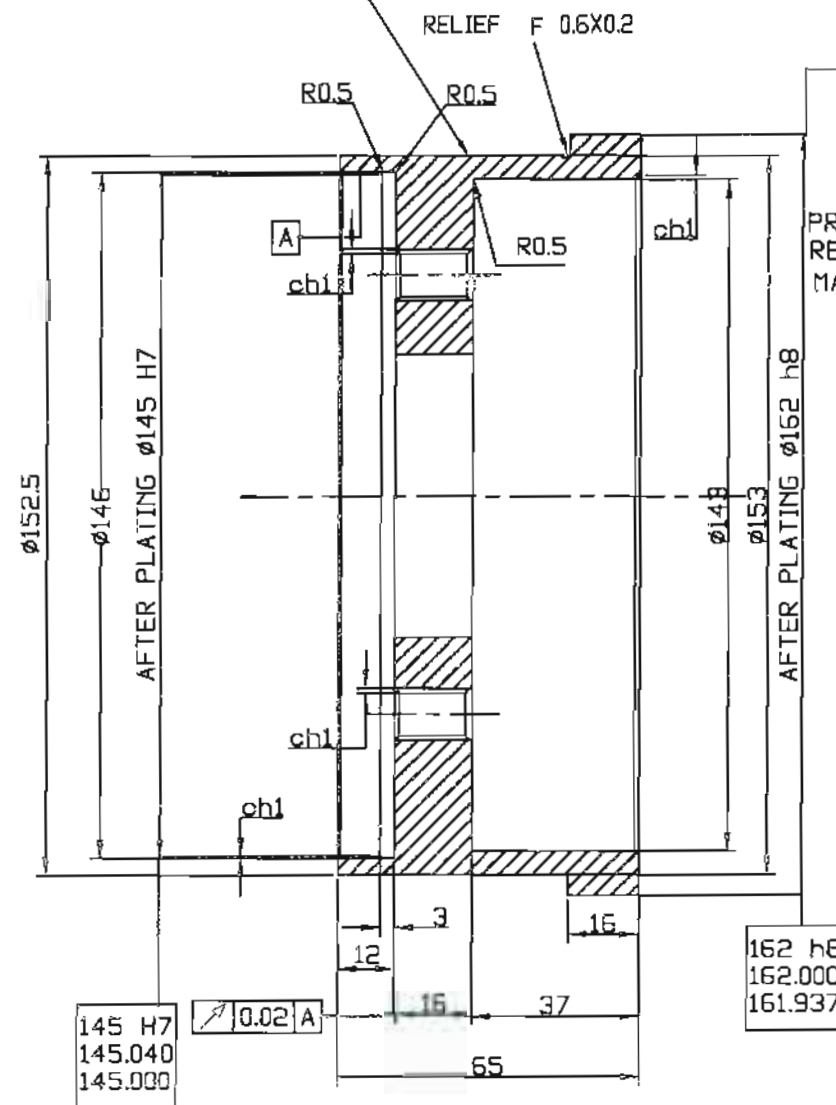
01/01

KP0274893

Knorr-Bremse Group

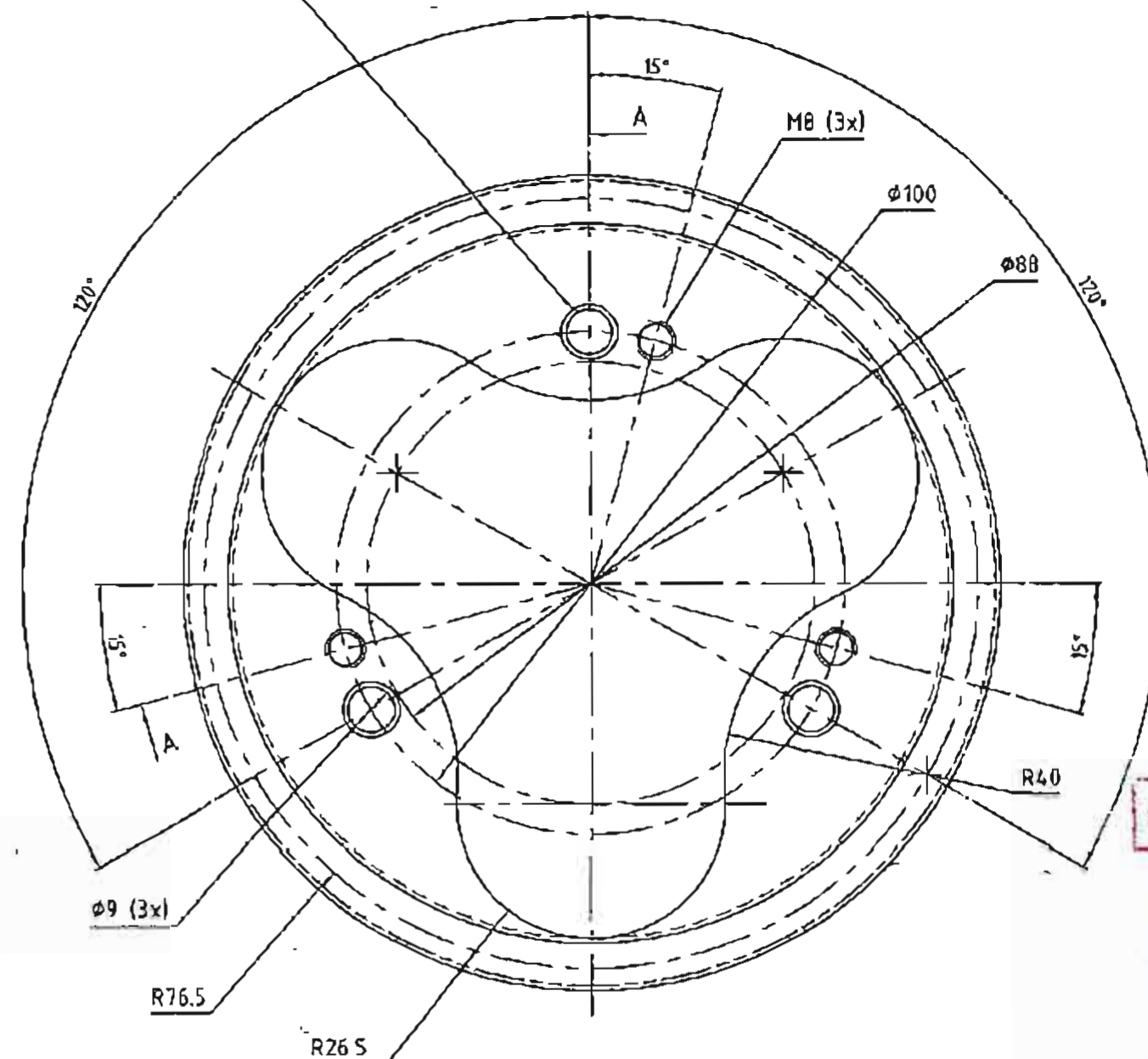
8

POSITION OF THE TEETH IS NOT
BOUND TO THE FIXING HOLES




1) * MARKED DIMENSION IS FOR REFERENCE ONLY.
2) Zn PLATING 10-15 micron.
3) REF.V12014 / 013.24.434

[illegible]



UNCONTROLLED COPY



ISSUED TO AMTC

ON 23.05.19

AUTH BYM.A.J?

GEAR DETAILS

No. of TEETH	$z = 80$
MODULE	$m = 2$
PROFILE STD REF.	DIN 867
DEDENDUM	$h_f = 2.33$
PRESSURE ANGLE	$\alpha = 20^\circ$
MEAN ϕ	$d_o = 160$
ROOT ϕ	$d_f = 155.34$

अ० अ० मा० सं०
R. D. S. O.

MC/LHB/Brake dt. 28.5.19

हम कार्यालय के पत्रों MC/LHB/Brake 02 में किये गये प्रेषणों की शर्त पर, सामग्री; सानान्य डिजाईन लक्षणों, और नियन्त्रक आमाओं के लिये, अनुमोदित/अन्य डिजाईन विवरण की जाँच नहीं की गई है। बिस्वर/मिमांता सुनिश्चित करें, कि वे करार की ड्राइंगों, और विशिष्टियों के अनुरूप हैं।

Approved for material general design features and controlling dimensions subject to observations made in this office letter No.....other design details and dimensions have not been checked. Builders/Manufacturers should ensure that they are in conformity with contract drawing and specifications.

Dated: 28.05.19

For Director General

[illegible]