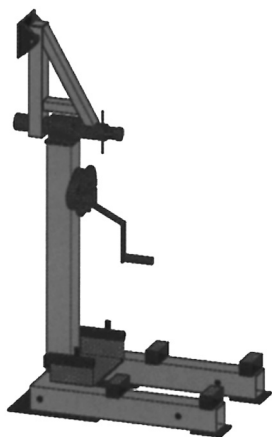
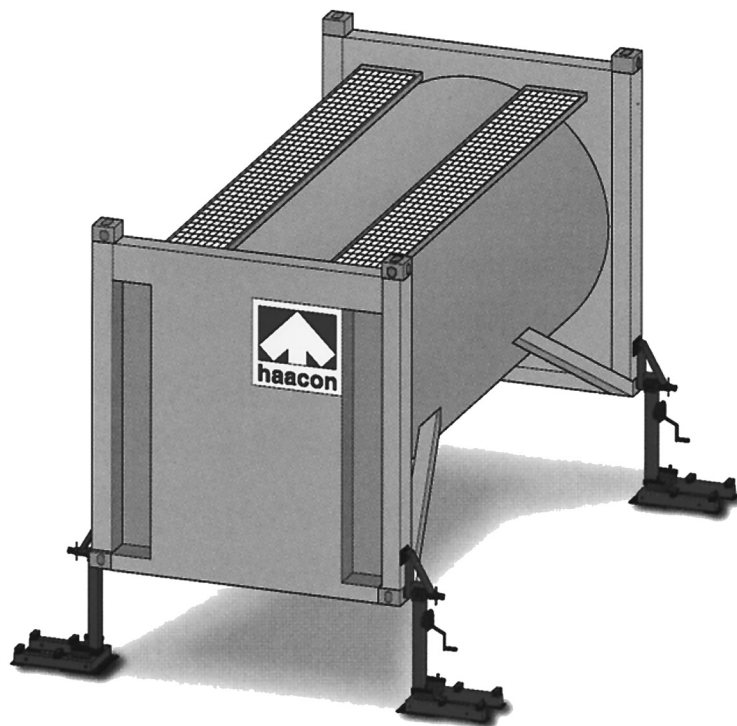


Operating manual

(Translation)



Type 2942.32
with extended foot



Type 3108.32
with extended foot



Type 3108.32
Basic

Lifting device

E.C. Declaration of Conformity

to 2006/42/EC IIA

haacon hebetchnik GmbH
Josef-Haamann-Straße 6
D-97896 Freudenberg/Main



Name and address: haacon hebetchnik gmbh
Josef-Haamann-Straße 6
D-97896 Freudenberg / Main

Telefon: +49 (0) 9375 / 84-0
Telefax: +49 (0) 9375 / 8466

We hereby declare that the product

Designation:	Lifting device	Support device	Transport unit
Type:	2942, 8776, 8806	3108	3108.32.50
Capacities:	- 32 t		

as delivered corresponds to the following
relevant directives.

2006/42/EC EC-machinery directive

Harmonised standards:

DIN EN ISO 12100-1/-2 safety of machines

National standards and technical specifications:

BGV A1	Unfallverhütungsvorschriften (Grundsätze der Prävention)
BGV D8	Unfallverhütungsvorschriften (Winden, Hub-Zuggeräte)
DIN 1055 Blatt 4	Verkehrslasten-Windlast
VDI 2687	Lastaufnahmemittel für Container, Wechselbehälter und Sattelanhänger

Signed:

Freudenberg, 09.03.2010

i.V. Robert Miltenberger

i.V. Theo Müller

gb issue 5; 03/10

090025 dated 09.03.2010

Formblatt-Nr. 100021

Content

1. User groups	3
2. Safety instructions	3
3. Technical instructions on the support	3
4. Specifications	4
5. General	5
6. Operation (Mounting)	5
7. Safety equipment (type 2942)	6
8. Stability of the empty container	6
9. Inspection	7
10. Maintenance recommendation	8
11. Disassembly, disposal	8
12. Technical documentation	8

1. USER GROUPS

	Duties	Qualifications
Operator	Operation, visual inspection, assembly, disassembly	Instruction by means of the operating instructions; Authorised person 1
Specialist personnel	Repair, maintenance	Mechanic, Electrician
	Inspections	Authorised person 2 per TRBS-1203a (Technical expert)

2. SAFETY INSTRUCTIONS

Proper usage

Operate the equipment in accordance with the information in these operating instructions.

- It may only be used at type 2942 for positioning, lifting and lowering containers.
- It may only be used at type 3108 for positioning, not for lifting and lowering containers.
- It may only be used if it is in perfect technical condition.
- To be used by trained personnel only.
- It may only be used on even ground, which is solid enough.
Minimum ground load bearing capacity:
45 N/cm² (e.g. concrete).
- It may only be used on containers that can withstand a lateral compression force of 50 kN at its corner struts at a height of 400 mm.



Safe working practice

- First read the operating instructions.
- Always be conscious of safety and hazards when working.
- Observe lifting device and load during all movements.
- Immediately report any damage or defects to the person in charge.
- Repair equipment first before continuing work!



Do not

- Overload (--> technical data, type plate, payload plate)
- Mechanical propulsion.
- Impacts, blows.
- Stay neither in, on, nor under the sustained load without additional securing.
- Remain under the minimum load (depending on the wind force - see indication plate).

Application restriction

- Not to be used on unfortified soil (min. ground load bearing capacity 45 N/cm²)
- Not to be used at slope more than 1%.
- Not suitable for permanent operation and vibration stress.

- Not approved for use in explosive areas/environments.
- Not suitable for aggressive environments.
- Not suitable for lifting hazardous loads.
- Not suitable for lifting liquids.

Supervision

- Keep off obstacles from the loading area.
- Ensure that these operating instructions are always at hand.
- Do not allow this support device to be operated by untrained staff.
- Check regularly that the support device is operated safely and according to these instructions.

Installation, Maintenance and Repair

- Only by specialist personnel!
- Only use original spare parts for repairs.
- Do not modify or alter safety-relevant parts, this particularly applies to welding work on load-bearing parts!
- Additional attachments must not impact safety.

Other regulations to be complied with

- German Industrial Health and Safety Ordinance (BetrSichV).
- Country-specific regulations.
- German Accident prevention regulations (BGV D8).
- Notice signs / identification plates.

3. TECHNICAL INSTRUCTIONS ON THE SUPPORT

To prevent accidents and damage there are instructions plates on the support that must be complied with:

Attention!

Personnel are not allowed neither in, on or under the container while it is being raised.

type 2942

Ohne zusätzliche Abstützung sind Arbeiten an und im Bereich der Last untersagt!
It is not allowed to work without an additional support on, under or near the charge!
Sans appui supplémentaire il est interdit de travailler sous, avec et à côté de la charge!

S 1061 de/gb/fr

type 3108

Safety instructions

The movement range of load equipment must be kept clear of obstacles.
 When erecting the lifting device ensure that the ground is flat and can hold the load (minimum load bearing capacity of the ground 45 N/cm², max. gradient 1%).
 Ensure that the load is picked up properly and locked.
 Whilst the container is supported on the support device do not allow persons to stand under or on the load or the device itself.
 The container the supports are to be monitored at all times whilst manoeuvring the truck since otherwise there is a risk that a support will be tipped over, moved or damaged.
 Ask somebody to help back in the truck.
 Refer to the detailed operating manual. Do not climb on to the load or the lifting device.
 In the event of a defect this haacon support is to be shut down and locked away so that nobody else can use it.

type 2942

Safety Instructions

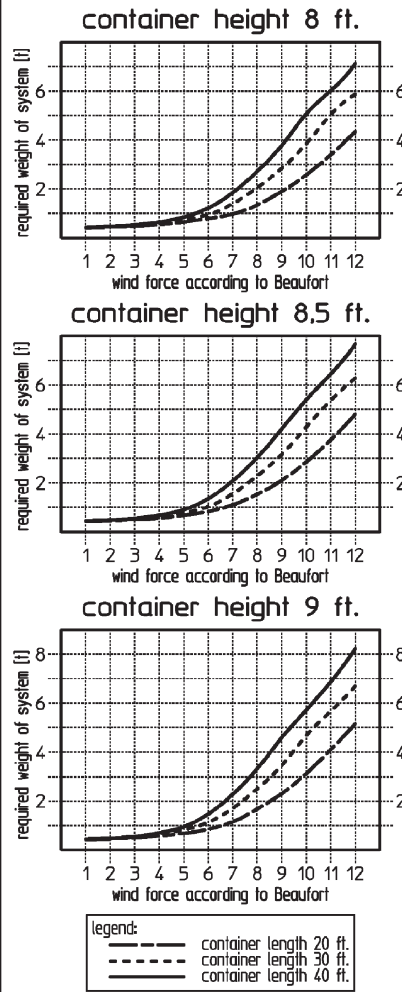
Keep the area around the levelling support free from obstacle.
 During mounting ensure that the ground is plain and has sufficient loading capacity. (Minimum loading capacity: 45 N/cm², maximum sloping position: 1%).
 Take care that the load is securely lifted and bolted.
 During the container is standing on the levelling support persons are not allowed to stay under or on the load and on the levelling support.
 During the trucks drives in or out, the container and the levelling support must be supervised.
 Ensure that the truck does not push against the levelling support, to avoid damage, overturn or displacing of the levelling support.
 Additional person to direct the driver!
 Always use a detailed operating instruction.
 It is not allowed to climb up a load or the levelling support.
 In case of damage, ensure that the levelling support is out of operation and take it under lock and key.

S 1284 e

type 3108

ATTENTION !

In order to secure the stability of the lifting system also in case of wind, it is necessary that the complete system has a minimum weight, depending on the container size and the wind force.
 Please see charts below.

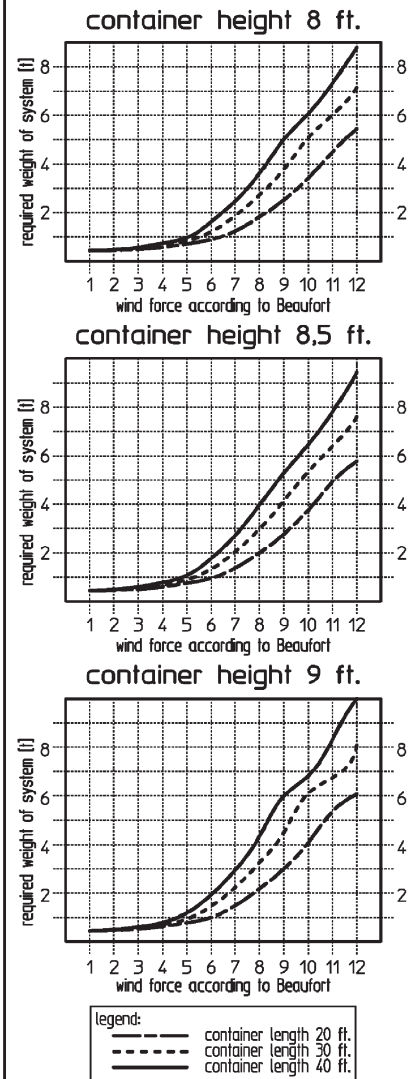


type 2942 + 3108
 Extended foot

-132040gb-

ATTENTION !

In order to secure the stability of the lifting system also in case of wind, it is necessary that the complete system has a minimum weight, depending on the container size and the wind force.
 Please see charts below.



type 3108
 Basic

-132032gb-

4. SPECIFICATIONS

Type			2942 Extended foot	3108 Extended foot	3108 Basic
Lifting load / set	t		32	32	32
Lifting load / support	t		11	11	11
Design height	mm		1675	1625	1625
Lift	mm		500	480	480
Crank force	load speed at 10,8 t	N	180	280	280
	fast speed at 1,6 t	N	270		
Gear ratio	load speed		9,43:1	1:1,5	1:1,5
	fast speed		1:1,06		
Lift / turn of crank handle	load speed	mm	0,53	6,67	6,67
	fast speed	mm	5,3		
Weight / support (without tube extension)	kg		~ 135	~ 120	~ 95

5. GENERAL

The support device is used to lower a container from a truck. It consists of four support legs each corresponding to BGV D8. The stable, extendable spindle support has a large base. On the upper end there is a pivotable load arm with locking bolt and abutment plate. By means of a crank the support is, in unloaded condition, steplessly adjustable to the desired height.

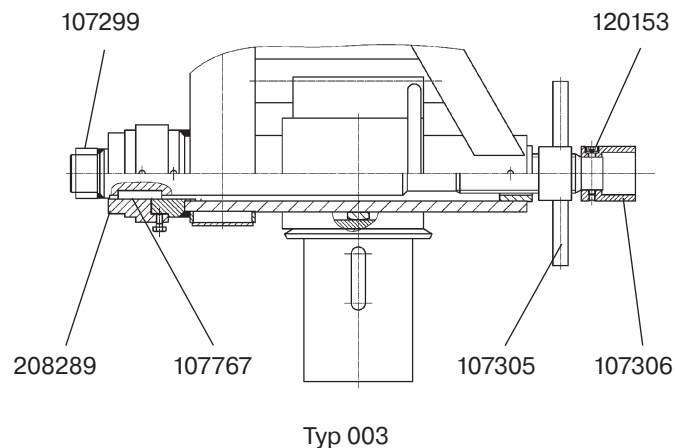
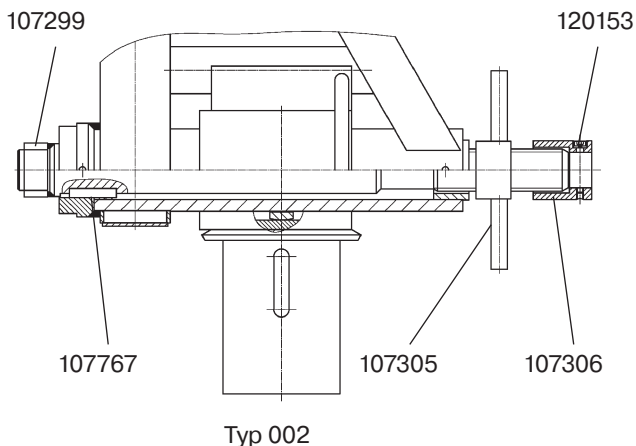
The spindle drive is only used to adjust the height. This has to be done when the support device is unloaded. Due to the transmission, the manual crank force of the crank handle allows at type 3108 a dynamic force on the nut and the spindle of max. 3 to.

6. OPERATION (MOUNTING)

1. Remove hex socket head screw (120153) from the console and take off the securing ring (120153).
2. Remove clamping nut (107305) from interlocking bolt (107299).
3. Remove the interlocking bolt from the console, take care not to lose the feather (107767).
4. Fit the adapter to the console. Secure it with hex socket head screw. The feather slot should align with the slot in the console.
5. Mount the interlocking bolt. The feather fits in the console's slot.
6. Mount clamping nut to the interlocking bolt.
7. Mount the securing ring (107306) at type 002 inside, at type 003 outside (view sketch).

For container with recessed ISO-corners an adapter (208289) for the console (107108) is optionally available.

It may be retrofitted to compensate the distance to the containment wall. By means of this type 002 will be modified to type 003.

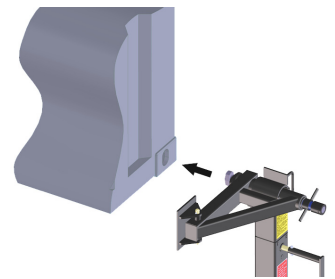


Disassembling of adapter in reverse order.



Attention!

Before moving the support make sure that the load bracket is in horizontal position.



Type 2942 and 3108 with extended foot

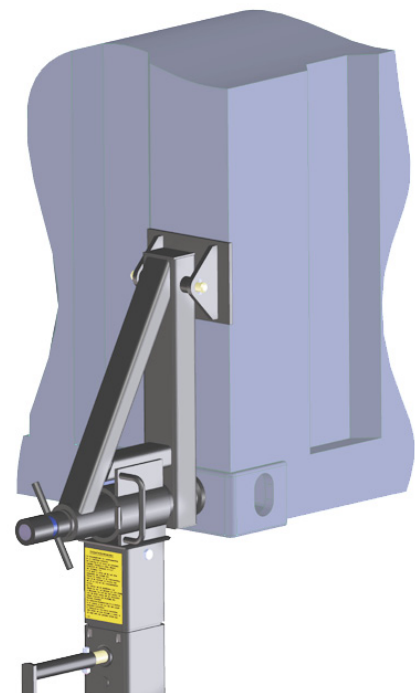
- Move the supports to the container separately using a forklift truck or positioning truck.
- The corresponding mountings for them are fitted on the foot of the support.
- Move the positioning truck into place from the rear until the bolts on the truck fully engage in the tubular mountings in the supports.
- Raise the support as far as possible using the crank, move the support to the tank container and position one support as near as possible to the container edge and put it down to the ground.
- Push the locking device into the slot of the corner casting. Turn the load bracket 90° upwards and use the fixing nut to screw it on the container.

Type 3108 Basic

- The support device can be tipped over the wheels which are fixed at the base plate. Then the support can be transported to the location.
- Place the support device as near as possible to the container edge and put it down to the ground.
- Push the locking device into the slot of the ISO-corner casting. Turn the load bracket 90° upwards and use the fixing nut to screw it on the container.



The load bracket has to be fixed in parallel position to the corner post of the container.



- If the spindle winch is at an angle correct it by retracting the support until the base plate can be moved. Then extend the support until the base plate is flat and the bracket sits on the shaft.
- By cranking all four spindle supports briefly after they have been mounted and aligned, place as even a load as possible on to all of them.
- The raise the container to the desired or required height by turning the front and then the rear spindle supports evenly and simultaneously.

Do not exceed an angle of 1°

An angle of 1° on a 20' container (along its length) corresponds to a height difference of around 265 mm and around 530 mm on a 40' container.

Ensure that the container is raised evenly by the two supports.

A support must not be raised using one support alone so that the opposite support loses its contact with the ground.

Otherwise there is a

- a) Danger of overloading the supports
- b) Danger of warping the container body
- c) Danger of the container tipping over.

Type 2942

Switching to rapid traverse: Pull out the crank handle.

Switching to rapid traverse: Push in the crank handle.

Only move the vehicle if there is sufficient space between the container and the vehicle.

Have somebody guide the lorry!

Monitor the container and supports whilst driving the truck in and out.

The truck must not push against the support devices, otherwise the support devices could be displaced or damaged or the complete system could fall over.

Follow the above instructions in reverse order to place the container on the truck chassis!

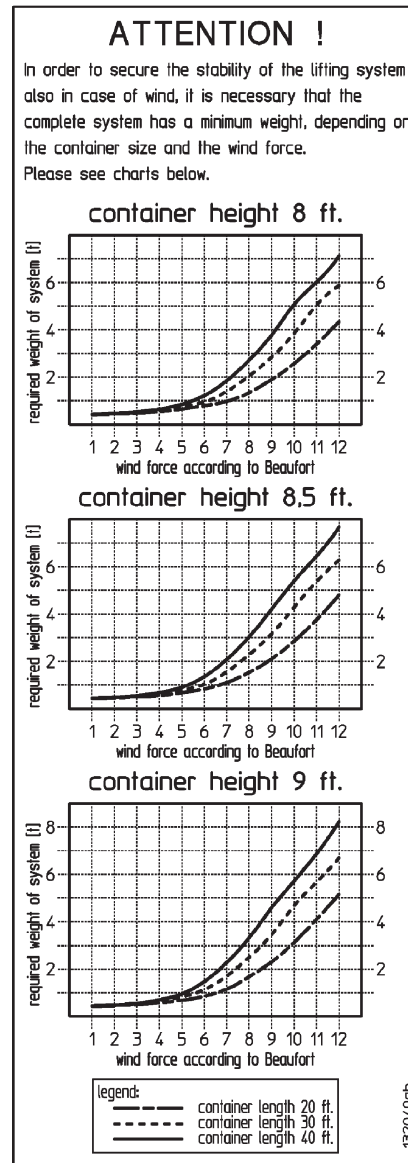
The lifting device must not be operated by persons under the age of 18. The operating personnel must have been trained in how to use the lifting device.

7. SAFETY EQUIPMENT (TYPE 2942)

If the support nut breaks the load passes on to a secondary nut, which only allows the load to be lowered. In this case do not use the lifting device any more. The lifting device has to be repaired and tested. Therefore observe and apply to all valid regulations. The spindle supports cannot collapse and the load (container) cannot fall over. The spindle support has no switchable limits.

8. STABILITY OF THE EMPTY CONTAINER

The stability of the empty container on the support device is endangered, if the minimum load of the container is not reached and the wind force and the resulting forces on the container are relatively high. The required minimum weight depends on the surface exposed to the wind and the size of the container. The required minimum weight can be seen on the tables set out below. These tables are also fixed on each support, so that a control at the user's site is possible.

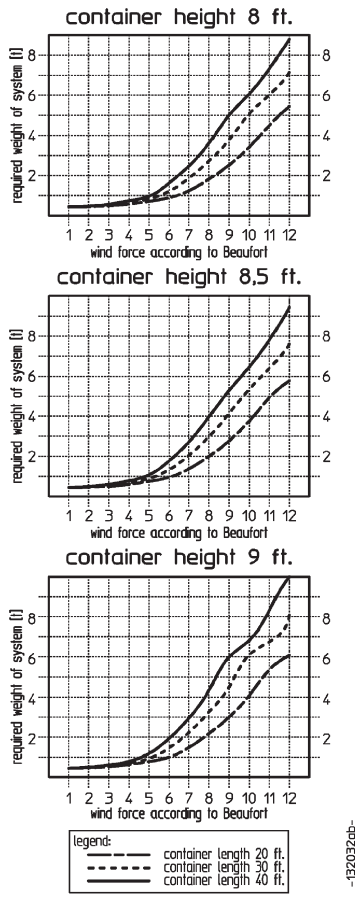


type 2942 + 3108
extended foot

wind force / wind velocity		1	2	3	4	5	6	7	8	9	10	11	12
wind force acc. to Beaufort		1	2	3	4	5	6	7	8	9	10	11	12
wind velocity in km/h		6	12	19	28	38	50	62	75	88	102	118	133

ATTENTION !

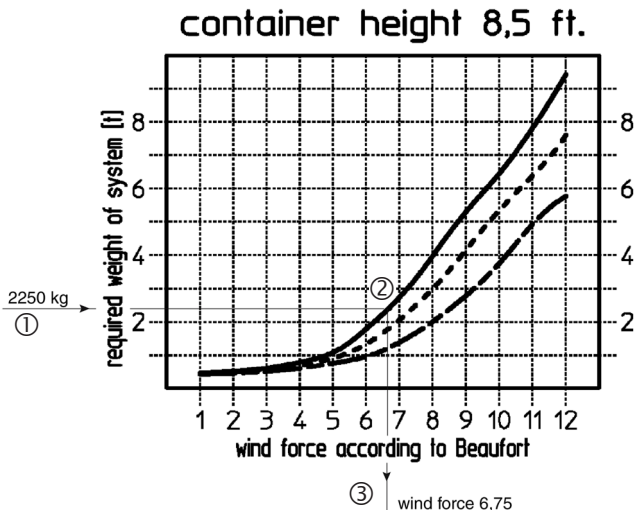
In order to secure the stability of the lifting system also in case of wind, it is necessary that the complete system has a minimum weight, depending on the container size and the wind force.
Please see charts below.



Example:

A container with the dimensions 8x8,5x40 feet (W x H x L) and a weight of 2250 kg (empty) has to be lowered. Up to which wind force the stability is guaranteed?

- Chose the table corresponding to the container height.
- Enter the table with the value already known (2250 kg). (1)
- Remain at the same height until you reach the curve corresponding to your container length. (2)
- The interface shows the requested value (3).
- Should you know the wind force and try to find our the necessary minimum weight, just follow these instructions in reverse order.



If the net weight is below the above values or if a higher wind load occurs (for example in coastal regions) the standing area of the supports must be increased. For these cases telescopic tubes can be supplied as accessories for the supports types 2942 and 3108 with extended foot. These tubes can then be inserted into the two square tubes on the existing base plate.

Spring-loaded locking bolts ensure that the telescopic tube can be positioned in two settings:

- **Extended:** Increase the standing area of the support using the telescopic tubes. By turning the cross handle at the end of the tubes clockwise a plate must be pressed into the ground to ensure stability.
- **Retracted:** The telescopic tubes are engaged almost fully into the foot of the support. This can only be moved using the positioning truck.

Both settings are secured by spring pins.

Push in the pins to move the telescopic tubes.

9. INSPECTION

The equipment must be inspected in accordance with the conditions of use and the operating conditions latest after 50 lifting procedures at least once per year by an authorised person 2 per TRBS 1203 (Technical expert) (testing per BetrSichV, § 10, sect.2 represents implementation of EC Directives 89/391/EEC and 95/63/EC and the annual occupational safety inspection per BGV D8, §23, sect. 2 and BGG956).

These inspections must be documented:

- Before commissioning.
- After significant alterations before recommissioning.
- Latest after 50 lifting procedures.
- At least once per year.
- In the event of unusual occurrences arising that could have detrimental effects on the safety of the winch (extraordinary tests, e.g. after a long period of inactivity, accidents, natural events).
- After repair works that could have an influence on the safety of the winch.

Technical experts (AP2) are persons, who have sufficient knowledge based on their specialist training and experience, in the areas of winches, lift and pull systems and the relevant official occupational health and safety rules, accident prevention regulations, guidelines and generally accepted engineering rules (e.g. EN standards), to evaluate the operational safety of winches, and lift and pull systems.

Technical experts (AP2) are to be nominated by the operator of the equipment. Performance of the annual occupational safety inspection as well as the training required to obtain the aforementioned knowledge and skills can be provided by haacon hebetchnik.

In **every 5th inspection**, at the latest however, **after 5 years**, a verification of the suspension and the components relevant for security must occur. On this occasion all load-bearing brake and friction pads of the lifting device must be exchanged. This examination can occur on site, also in the tilted state of the lifting device.

In **every 10th inspection**, at the latest however, **after 10 years**, a major overhaul of the lifting device must occur. In this process, the lifting device will be disassembled and the condition of all components has to be examined. Operational worn components will be substituted, wear parts (bearings, sealings...) and components relevant for safety have to be exchanged in every case. We recommend to charge haacon hebetechnik gmbh with the conduction of this major overhaul. This inspection may be carried out only by people who are authorised by the manufacturer haacon hebetechnik gmbh and who are trained in dealing with this lifting device and its components.

10. MAINTENANCE RECOMMENDATION

The operator determines the intervals themselves based on frequency of use and the operating conditions.

Regular cleaning, no steam jets!



CAUTION!

Only perform inspection, maintenance and repair work on an unloaded hoist. Only allow work on brakes and locks to be performed by qualified specialist personnel.

Maintenance and inspection work	Intervals
Visual and functional tests	Before every use
Brake function under load	
Lubricate (grease nipple), at the same time drive out and in over the complete stroke	Semi-annually
Check spindle and nut for wear, grease and replace if necessary	Annually
Check type plate for legibility	
Professional inspection	
Check gear parts, grease and replace if necessary	Every 2 - 5 years

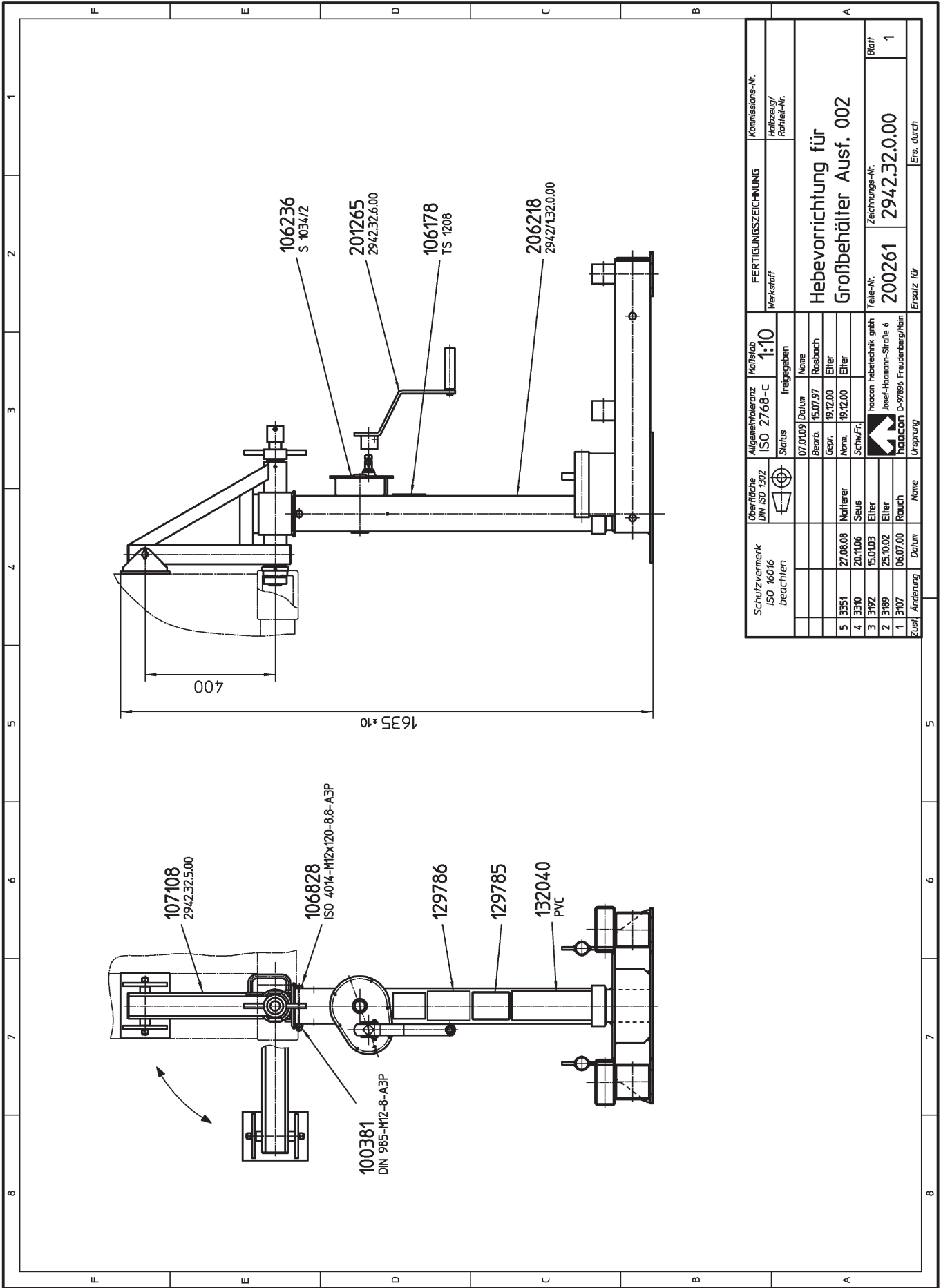
Lubricant recommendations:

Multi-purpose grease per DIN 51502 K3K-20

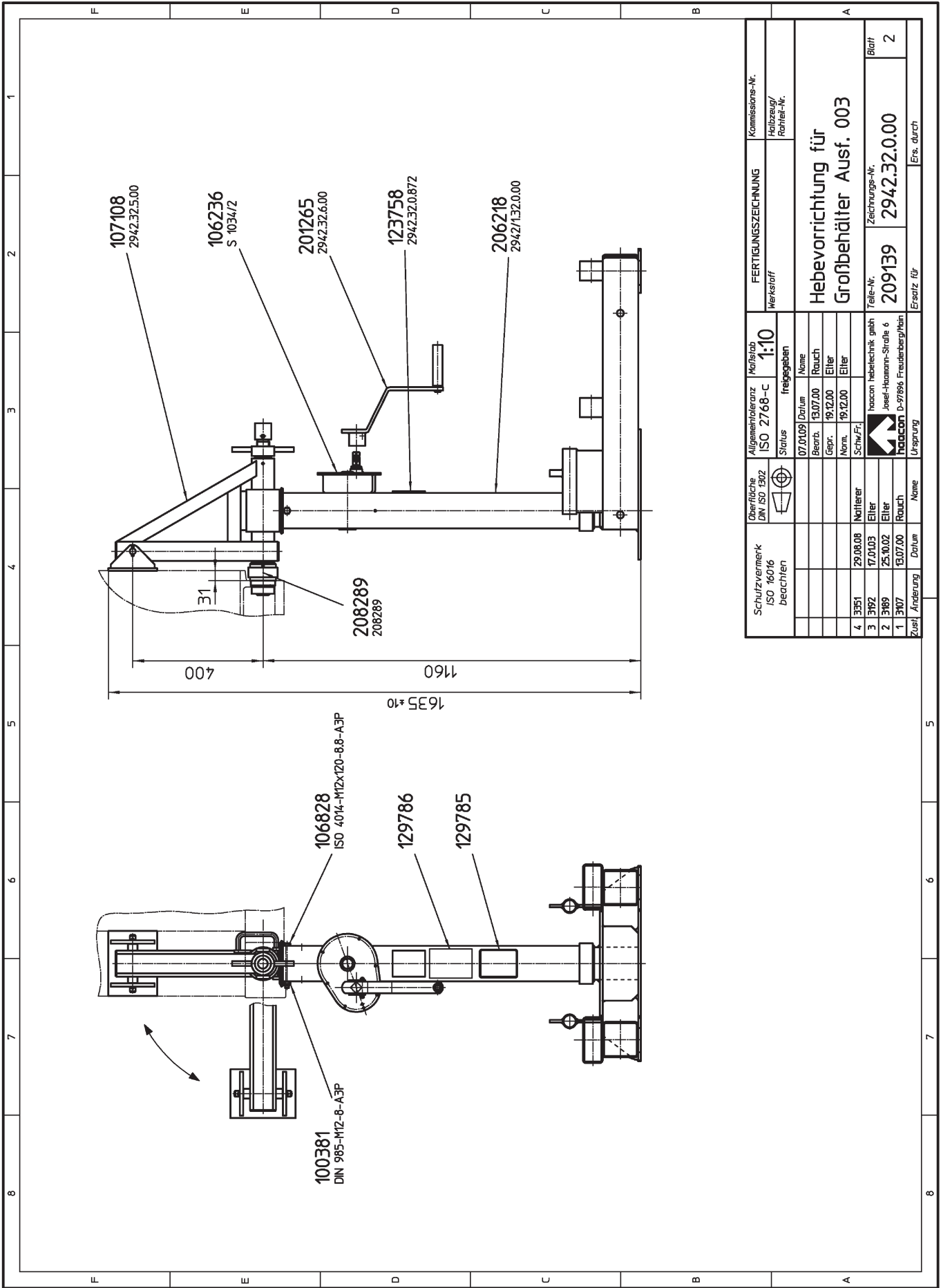
11. DISASSEMBLY, DISPOSAL

- Make sure to observe the safety instructions.
- Dispose of the equipment and the substances within it in an environmentally responsible manner.

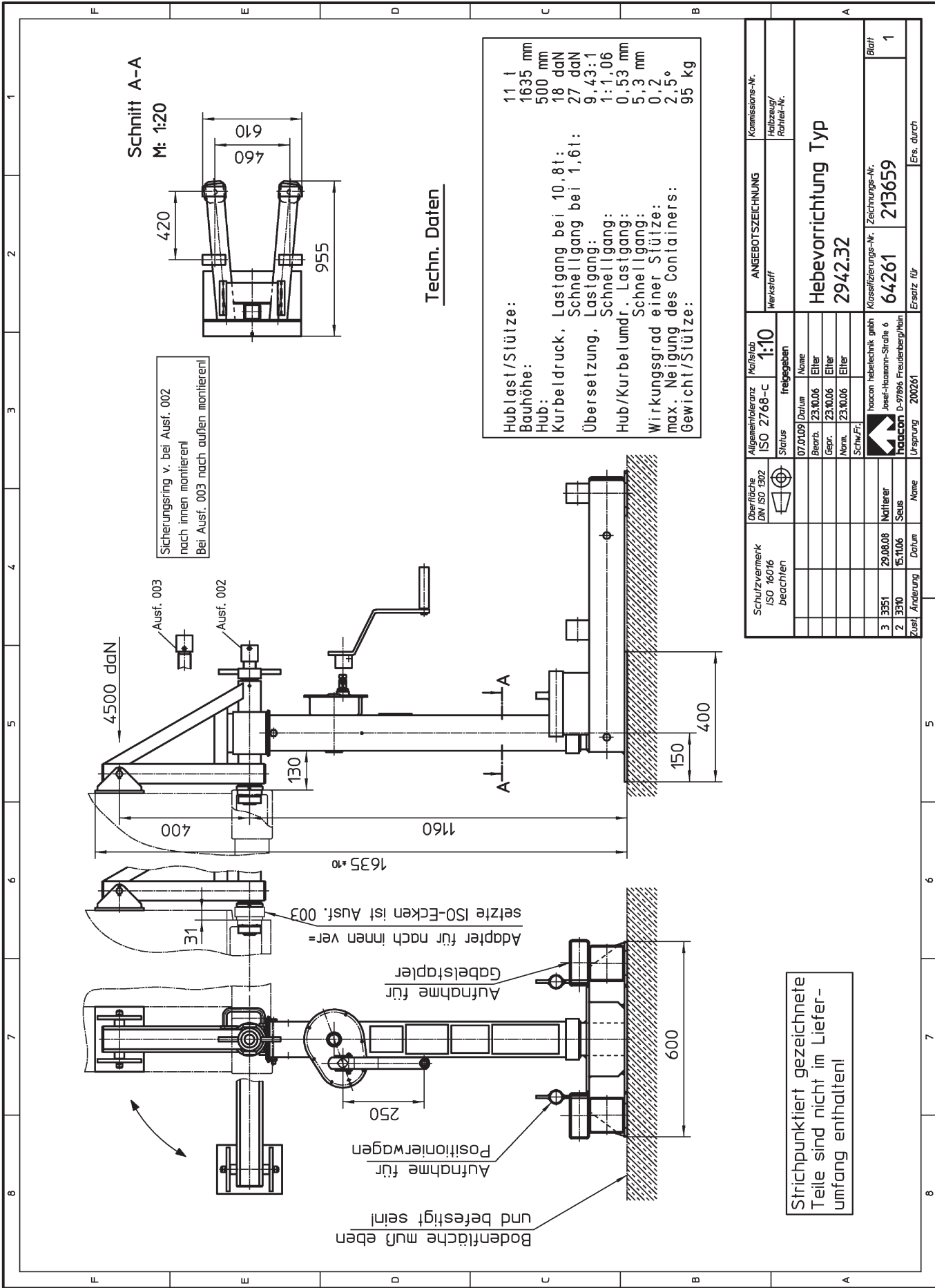
12. TECHNICAL DOCUMENTATION



Schutzvermerk ISO 16016 bezeichnen		Oberfläche DIN ISO 7502	Allgemeintoleranz ISO 2768-C	Maßstab 1:10	FERTIGUNGSZEICHNUNG Werkstoff		Kommissions-Nr. Halbzeug/ Rahm-Nr.
Zust. Änderung		07.01.09 Datum	Status freigegeben	Name	Hebevorrichtung für Großbehälter Ausf. 002		Blatt 1
5	3351	27.08.08	Bearb.	15.07.97	200261		
4	3310	20.11.06	Gepr.	19.12.00	Zählungs-Nr. 2942.32.0.00		
3	3192	15.01.03	Norm.	19.12.00	Ersatz für		
2	3189	25.10.02	Schw.Fz.		Ers. durch		
1	3107	06.07.00	Seus				
			Elter				
			Rauch				
			Name				
			Datum				
			haacon hebeteknik gmbh Josef-Haumann-Straße 6 D-97896 Freudenberg/Main				
			haacon				
			Ursprung				



Schutzvermerk ISO 16016 beachten		Oberfläche DN ISO 1302	Allgemeintoleranz ISO 2768-C	Maßstab 1:10	FERTIGUNGSZEICHNUNG Werkstoff		Kommissions-Nr. Holzzeug/ Fahrl.-Nr.	
			Status freigegeben	Name	Hebevorrichtung für Großbehälter Ausf. 003		Zeichnungs-Nr. 209139	
			07.01.09 Datum	Rauch			Ersatz für	
			Bearb. 13.07.00	Elter			Telle-Nr. 209139	
			Gepr. 19.12.00	Elter			Zeichnungs-Nr. 2942.32.0.00	
			Norm. 19.12.00	Elter			Blatt 2	
			Schw.F.				Ersatz für	
			4 3351 29.08.08	Niltner			Blatt	
			3 3192 17.01.03	Elter			2	
			2 3189 25.10.02	Elter			Blatt	
			1 3107 13.07.00	Rauch			2	
Zust. Änderung		Datum	Name	Ursprung			Ersatz für	
				haacon hebeteknik gmbh Joel-Hannn-Stralle 6 D-97996 Freudenberg/Mein			Ersatz für	

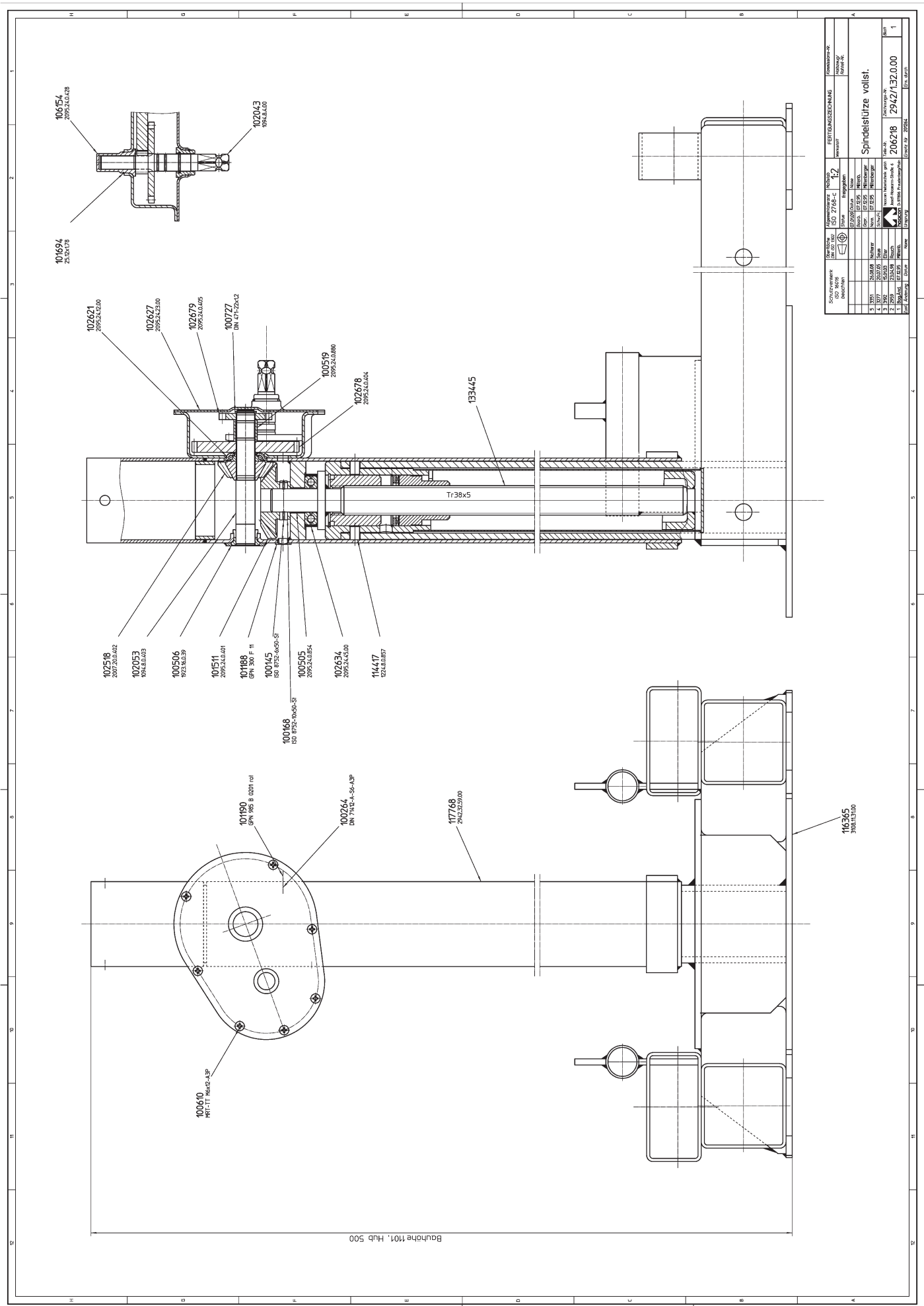


Techn. Daten

Hublast/Stütze: 11 t
 Bauhöhe: 1635 mm
 Hub: 500 mm
 Kurbeldruck, Lastgang bei 10,8 t: 18 daN
 Schnellgang bei 1,6 t: 27 daN
 Übersetzung, Lastgang: 9,43:1
 Schnellgang: 1:1,06
 Hub/Kurbelumdrl. Lastgang: 0,53 mm
 Schnellgang: 5,3 mm
 Wirkungsgrad einer Stütze: 0,2
 max. Neigung des Containers: 2,5°
 Gewicht/Stütze: 95 kg

Oberfläche DIN ISO 7502		Allgemeintoleranz ISO 2768-C		Maßstab 1:10		ANGEBOTSZEICHNUNG		Kommissions-Nr.	
Schutzvermerk ISO 16016 bezeichnen		Status 07.01.09 freigegeben		Name Elter		Werkstoff		Halbzeug/ Rahm-Nr.	
		Bezir.		23.10.06					
		Gepr.		23.10.06					
		Norm.		23.10.06					
		Schw.Fz.							
3 3951		29.08.08		Nittler		hacon Hebetchnik gmbh		Klassifizierungs-Nr.: Zeichnungs-Nr.	
2 3310		15.11.06		Seus		hacon		64261	
Zus. Änderung		Datum		Name		Ursprung		200261	
								Ersatz für	
								213659	
								Blatt	
								1	

Strichpunktiert gezeichnete
Teile sind nicht im Liefer-
umfang enthalten!

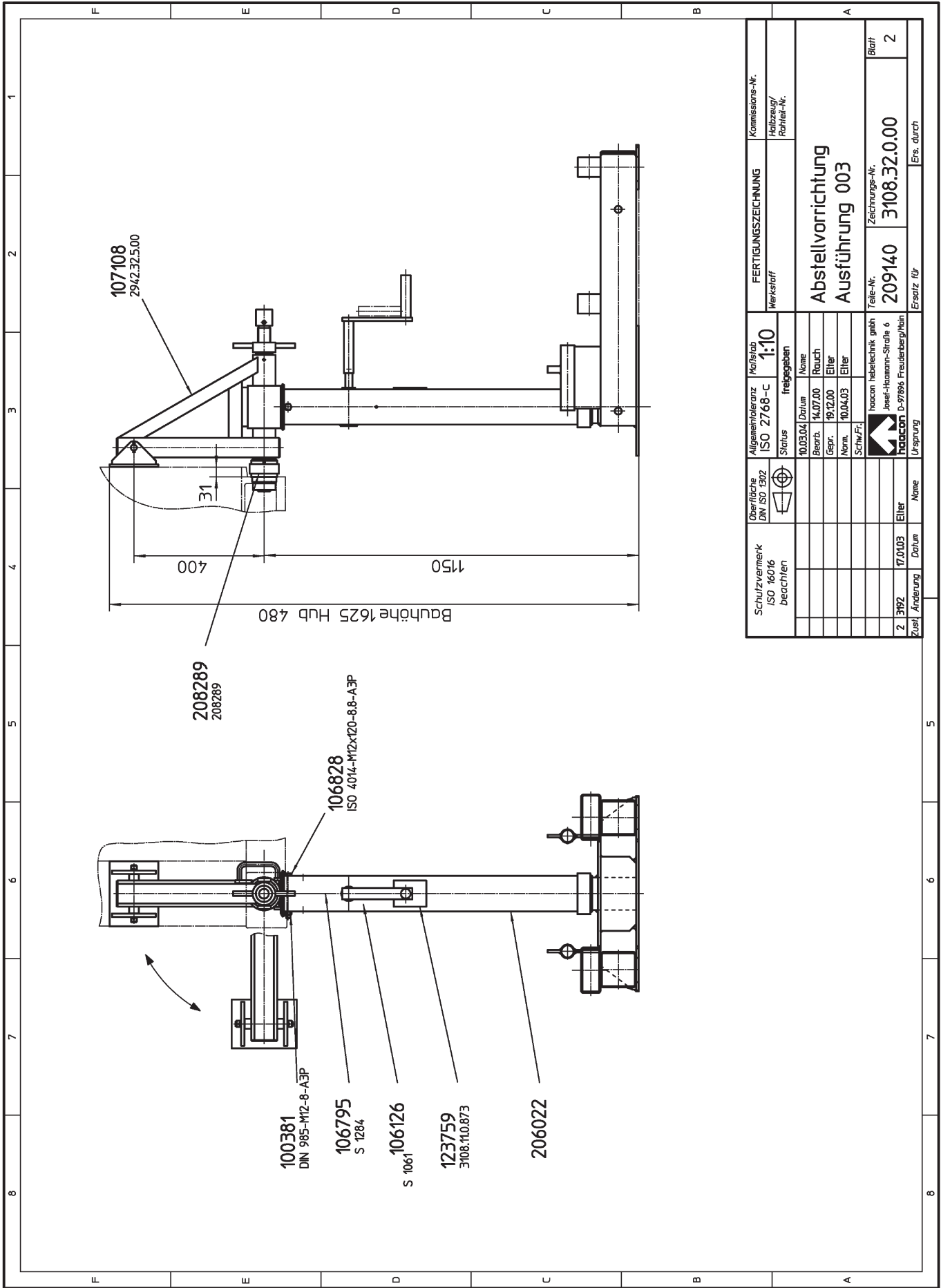


SWISS SYSTEMS		ISO 7793		ISO 7793		ISO 7793		ISO 7793		ISO 7793		ISO 7793		ISO 7793	
SWISS SYSTEMS	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793
SWISS SYSTEMS	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793	ISO 7793
5	1351	75.8x5.0	100	100	100	100	100	100	100	100	100	100	100	100	100
3	1352	75.8x5.0	100	100	100	100	100	100	100	100	100	100	100	100	100
2	1353	75.8x5.0	100	100	100	100	100	100	100	100	100	100	100	100	100
1	1354	75.8x5.0	100	100	100	100	100	100	100	100	100	100	100	100	100

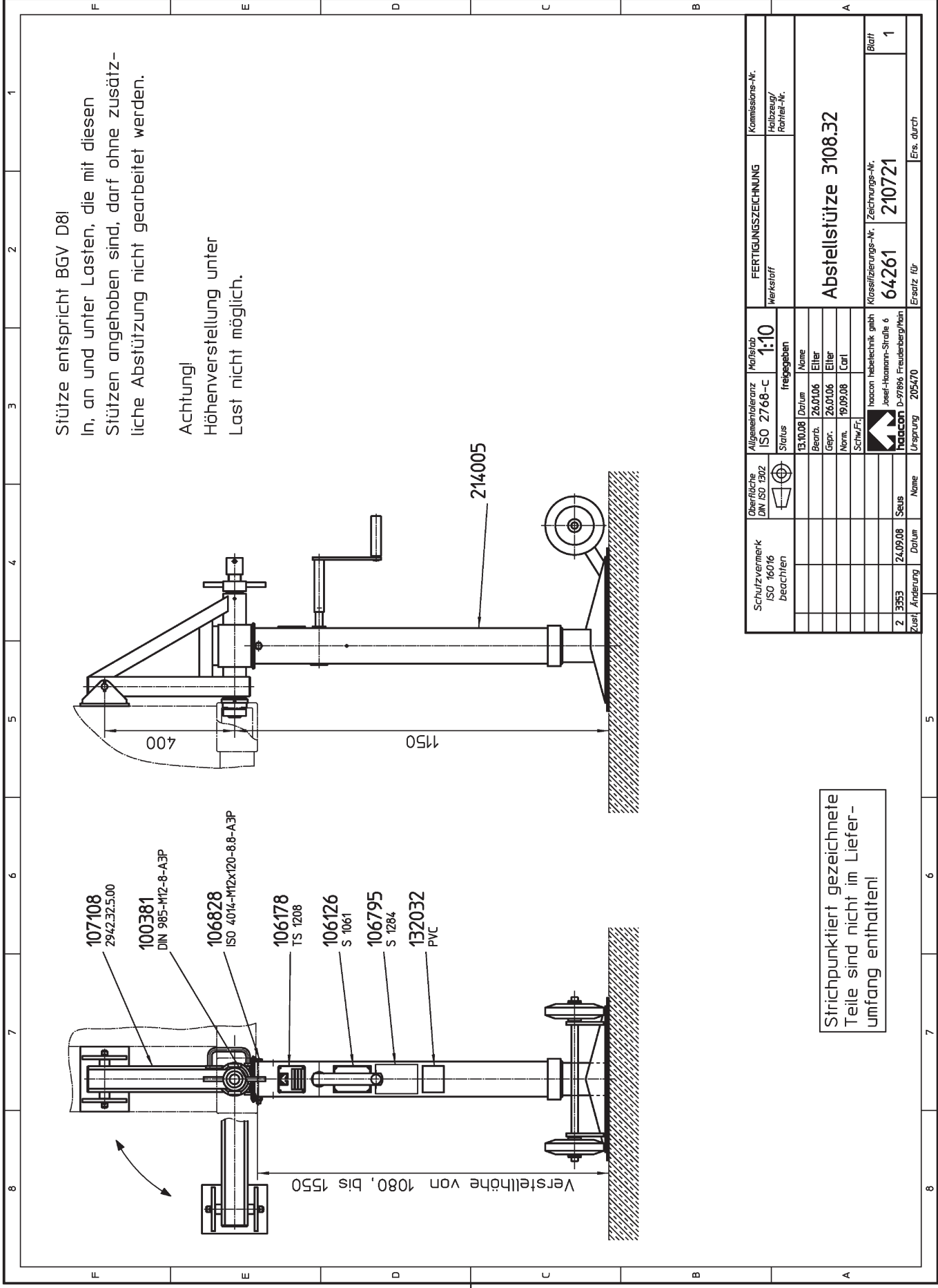
Spindelstütze vollst.

206278 2942/132.0.00

Baureihe 1101, Hub 500

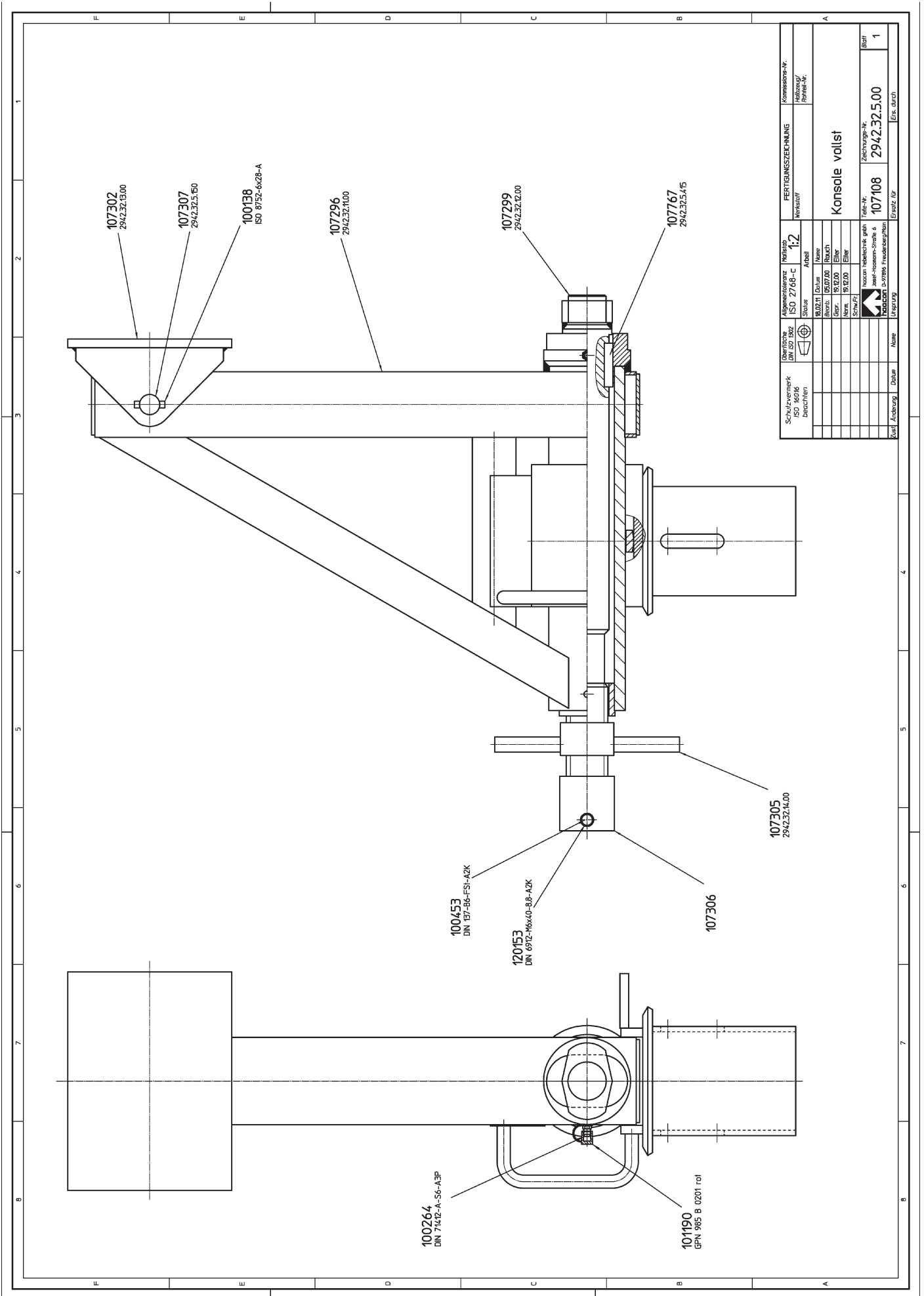


Schutzvermerk ISO 16016 beachten	Oberfläche DN ISO 1502	Allgemeintoleranz ISO 2768-C	Maßstab 1:10	FERTIGUNGSZEICHNUNG		Kommissions-Nr.
				Status freigegeben	Werkstoff	
		10.03.04	Name	Abstellvorrichtung Ausführung 003		
		Bearb. 14.07.00	Rauch			
		Gepr. 19.12.00	Eller			
		Norm. 10.04.03	Eller			
			Schm.Fz.	Zeichnungs-Nr.		
				209140		
				Ersatz für		
				3108.32.0.00		
				Blatt		
				2		
Zust. Änderung	Datum	Name	Ursprung	Ers. durch		
2 3192	17.01.03	Eller	haacon hebeteknik gmbh Josef-Haumann-Str. 6 D-97896 Freudenberg/Main	Ers. durch		



Strichpunktiert gezeichnete Teile sind nicht im Lieferumfang enthalten!

Schutzvermerk ISO 16016 beachten	Oberfläche DN ISO 1302	Allgemeintoleranz ISO 2768-C	Maßstab 1:10	FERTIGUNGSZEICHNUNG	Kommissions-Nr.
		Status freigegeben	freigegeben	Werkstoff	Holzzeit/ Rohleit-Nr.
		Datum 13.10.08	Name Eller	Abstellstütze 3108.32	
		Bearb. 26.01.06	Eller		
		Gepr. 26.01.06	Eller		
		Norm. 19.09.08	Carl		
		Schw.Fz.		Klassifizierungs-Nr. Zeichnungs-Nr.	
		haacon hebeteknik gmbh Joel-Heumann-Strasse 6 D-97896 Freudenberg/Main		64261	210721
2 3953	24.09.08	Seus	Seus	Ersatz für	Ers. durch
Zust. Änderung	Datum	Name	Name		Blatt
					1



Schulz-Vermerk ISO 8606 bezeichnen	Überfläche DIN ISO 802	Allgemeintoleranz ISO 2768-C	Maßstab 1:2	FERTIGUNGSZEICHNUNG		Kommission-Nr. Hebzeug/ Rolle-Nr.
	⊕			Status	Konsolle vollst	
				Name	Zeichnungs-Nr.	Blatt/ 1
				18.02.11	2942.32.5.00	
				Beinh.	06.07.00	Ersatz für
				Ger.	19.12.00	
				Verf.	19.12.00	Ersatz für
				Schwarzl.	19.12.00	
				haacon hebeteknik gmbh Industriestraße 6 42699 Solingen, Deutschland		Ersatz für
				107108		
Zust.-Antrag	Datum	Name	Ursprung		Ersatz für	

