

SCREW CONVEYOR

**INSTALLATION, OPERATION and MAINTENANCE
MANUAL**

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1- EQUIPMENT IDENTIFICATION

EQUIPMENT NAME : SCREW CONVEYOR
CUSTOMER NAME : LUDWIG PFEIFFER Hoch- und Tiefbau GmbH & Co. KG
PROJECT NAME : LAKE SEVAN / ARMENIA
DELIVERY YEAR : 2011
SERIAL NUMBER : **SC.11.079-1** , SC.11.079-3, SC.11.079-5, SC.11.079-8

2- EQUIPMENT DATA SHEET

SC.11.079-1

Type : Screw Conveyor

Quantity : 1

Main Components : Body
Screw
Drive Unit
Wearing shoes
Hopper
Supports

Screw Type : Shaftless

Dimensions

Screw Diameter : 235 mm
Conveyor Length : 6330 mm

Material

Body : AISI 304L
Screw : St 52.3
Hopper : AISI 304L
Wearing Shoes : PE
Support Legs : AISI 304L

DRIVE UNIT

Gearbox&motor manufacturer : NORD
Model : SK 9022.1 AFBH 80L/4; 10 rpm
Motor Power : 0,75 kW
Electrical Supply : 380 V, 50 Hz, 3 phase
Protection Class : IP 65

SC.11.079-3

Type : Screw Conveyor Compactor

Quantity : 1

Main Components : Body
Screw
Drive Unit
Wearing shoes
Hopper
Supports

Screw Type : Shaftless

Dimensions

Screw Diameter : 280 mm

Conveyor Length : 6325 mm

Material

Body : AISI 304L

Screw : St 52.3

Hopper : AISI 304L

Wearing Shoes : PE

Support Legs : AISI 304L

DRIVE UNIT

Gearbox&motor manufacturer : NORD

Model : SK 9032.1 AFBH 90S/4; 10 rpm

Motor Power : 1,1 kW

Electrical Supply : 380 V, 50 Hz, 3 phase

Protection Class : IP 65

SC.11.079-5

Type : Screw Conveyor

Quantity : 1

Main Components : Body
Screw
Drive Unit
Wearing shoes
Hopper
Supports

Screw Type : Shaftless

Dimensions

Screw Diameter : 235 mm

Conveyor Length : 3395 mm

Material

Body : AISI 304L

Screw : St 52.3

Hopper : AISI 304L

Wearing Shoes : PE

Support Legs : AISI 304L

DRIVE UNIT

Gearbox&motor manufacturer : NORD

Model : SK 9032.1 AFBH 90S/4; 10 rpm

Motor Power : 0,75 kW

Electrical Supply : 380 V, 50 Hz, 3 phase

Protection Class : IP 65

SC.11.079-8

Type : Screw Conveyor

Quantity : 1

Main Components : Body
Screw
Drive Unit
Wearing shoes
Hopper
Supports

Screw Type : Shaftless

Dimensions

Screw Diameter : 235 mm

Conveyor Length : 4315 mm

Material

Body : AISI 304L

Screw : St 52.3

Hopper : AISI 304L

Wearing Shoes : PE

Support Legs : AISI 304L

DRIVE UNIT

Gearbox&motor manufacturer : NORD

Model : SK 9032.1 AFBH 90S/4; 10 rpm

Motor Power : 0,75 kW

Electrical Supply : 380 V, 50 Hz, 3 phase

Protection Class : IP 65

3- INSTRUCTIONS

3.1 General

The screw conveyor has been completely assembled in the workshop and is ready for operation.

The site installation is performed according to the main assembly drawing and the corresponding list of material.

3.2 Status On Delivery / Erection

The conveyor is delivered as one piece. Please refer to enclosed drawings for the details of the unit. MASS must be informed about any damaged or missing parts, after carefully examining supplied material.

3.3 Specification for Transport

Wooden plates are located between parts to protect against damages. Drive units must be transported in strong boxes. Small parts, screws, nuts etc. have to be packed into boxes

3.4 Storage , Handling and Installation Instruction

Before storing, inspect all parts for possible damage during transport. Damage to corrosion prevention must be repaired according to specifications. For further storage specifications refer to drive unit producer's specifications. Store drive units and accessories as well as screws, nuts and other fastening material in closed and air-conditioned rooms. The transportation to the installation site can be carried out by means of a truck and a mobile crane.

3.5 Preparation Of Installation

First of all, check the installation documents regarding their completeness. The civil construction works are to be checked for proper recess and dimension accuracy in accordance with the corresponding civil drawings. The elevations are to be checked.

The supply is partially pre-assembled. Further detailed lists of material are therefore not necessary. With the enclosed mechanical assembly list, the equipment and other components can be mounted together acc. to drawings. The place of installation is to be cleaned from the remaining shuttering, debris and alike. The installation surface is to be kept dry during the complete erection time.

3.6 Safety During Installation

Lifting

- Use only classified lifting equipment of sufficient size.
- Check documentation for machine weights.
- Connect lifting equipment to the lifting eyes, designed for this purpose.
- No work should be done under the equipment until it has been safe secured.
- Don't remove lifting equipment until the screw conveyor is safe secured by other means.
- Check that protective covers are connecting well to flooring or other machines so that no involuntary contact between man and moving parts are possible.

Electrical

- Electrical installation may only be done by authorized persons. The electric installation must be done according to local and national safety regulations.
- It is not allowed to connect power to the screen as long as it is under mechanical installation. Cables have to be located where there is no risk for squeezing the cables when for example swiveling the screen up in service position.

3.7 Installation

First of all,

- Measure and check screw conveyor and the installation location.
- Avoid short chains when lifting

The screw conveyor has been completely assembled in the workshop and is ready for operation. Subsequently the conveyor will be fixed with the provided screws and chemical anchors.

3.8 Control

Drive Unit:

The oil amount of the gearboxes must be checked and in case of inadequacy, oil must be added up to the indicating level.

Originally, gearbox is transported as full of oil. If it is not full, please fill gearbox with oil up to indicator line. For the recommended gearbox oil types and trade marks, please see section 4. OPERATING AND MAINTENANCE OF THE DRIVE UNIT.

If the conveyor has not worked for a long time, it is recommended to change gearbox oil before equipment starts working.

Before starting operation, the separately supplied venting filter has to be replaced with the filter plug which is located on gearbox unit.

3.9 Operation

Before the conveyor is used, it should be tested to make sure that all parts are completed, installed properly and there are no leakage. Please check equipment drawing one more time.

Conduct the necessary connections. All electrical connections should be made by an electrician. Proceeding these steps, the conveyor must be operated for a short time to see whether there's any problem. During normal operation the current of the motor must be measured to be certain that it's not above the tolerated value. Start the motor and check that the spirals whether it rotates to correct way.

3.10 Maintenance

Drive Unit:

Lubrication:

Check oil level and its color by 6 months periods and refill the gearbox if necessary.

Check the packing box against leakage once a month.

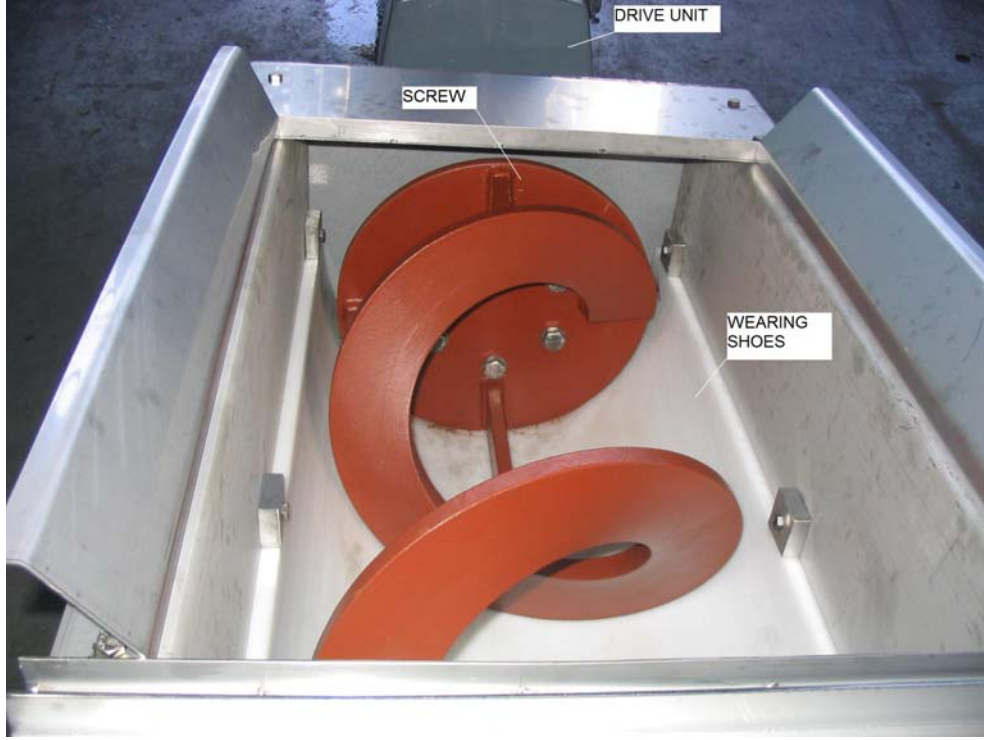
For drive unit lubrication quantities, please see section 4. OPERATING AND MAINTENANCE OF THE DRIVE UNIT

Screw:

Check the screw against any damage by monthly periods (visual inspection) and clean the screw from the remaining shuttering, debris and alike if necessary.

Wearing Shoes

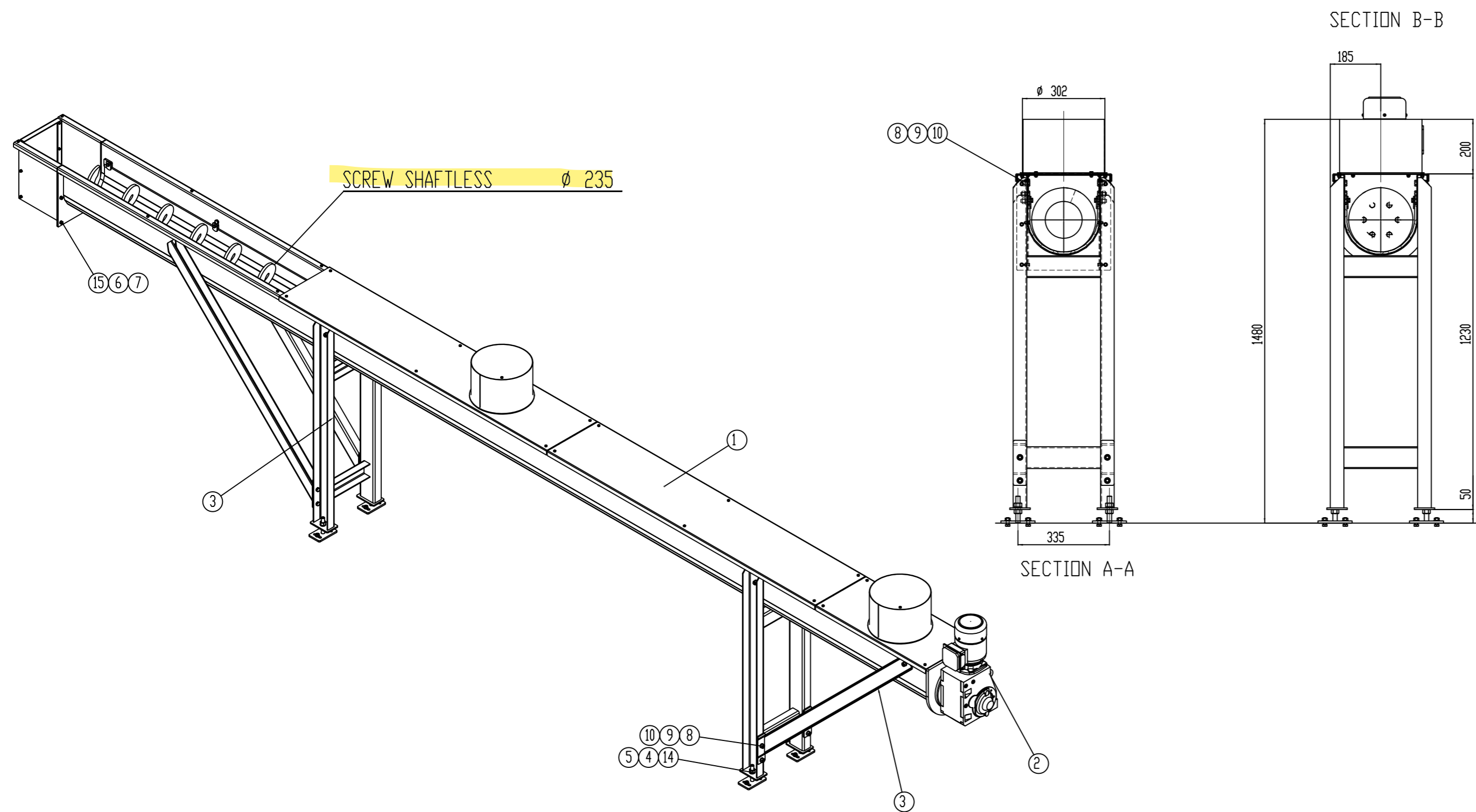
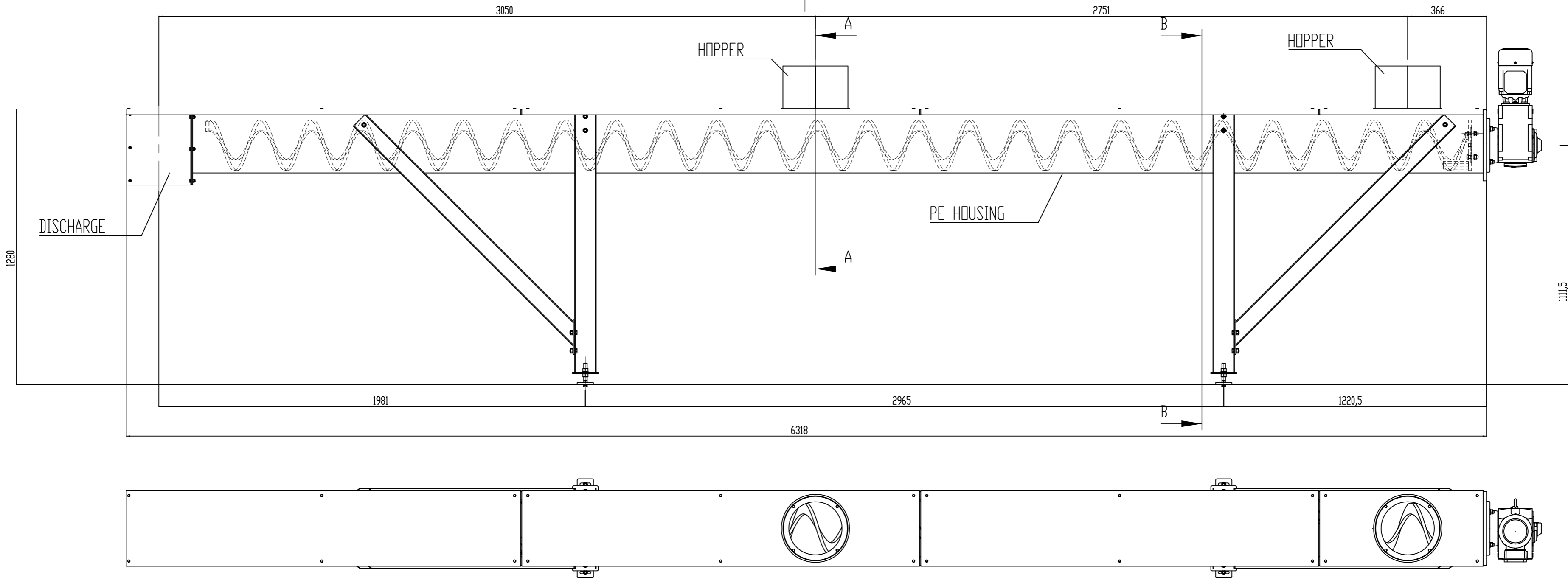
Check the wearing shoes by monthly periods (visual inspection), if any damage is observed change it with new one as following instructions;




- Remove the cover of the the conveyor.
- Bring out the screw by dismounting the flanges between the screw and gearbox.
- Remove the worn out wearing shoes by splitting from the steel housing with the a screwdriver.
- Place the new wearing shoes into the conveyor.
- Install the screw and mount it to the drive unit.

4- OPERATING AND MAINTENANCE MANUAL OF THE DRIVE UNIT

5- TECHNICAL DRAWINGS



Pos.No	Adet Pcs.	Tasarım, Boyut, Standart Özellikler Designation, Sizes, Standart Specifications	Malzeme Material	Açıklama Remarks	Tedarikçi/Supplier	Ağırlık Weight
1	1	HOUSING	AISI 304L			
2	1	DRIVE UNIT SK 90221 AFBH-80L-4 RD 0,75kW- 10 rpm	-			
3	2	SUPPORT-1	AISI 304L			
4	8	HEX-NUT M16 DIN 934	A2			
5	4	Spring washer DIN 128 - A16	A2			
6	6	Spring washer DIN 128 - A8	A2			
7	6	Hexagon Nut ISO 4032 - M8 - W - N	A2			
8	20	HEX-BOLT M12x25 DIN 933	A2			
9	20	SPRING WASHER DIN 127 - A12	A2			
10	20	HEX-NUT M12 DIN 934	A2			
11	9	HEX-BOLT M10x25 DIN 933	A2			
12	9	WASHER A10 (DIN 125)	A2			
13	10	HEX-NUT M10 DIN 934	A2			
14	6	SCREWED FOOT	AISI 304L			
15	6	HEX-BOLT M8x20 DIN 933	A2			



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İNŞAAT SANAYİ VE TİCARET ANONİM ŞİRKETİ

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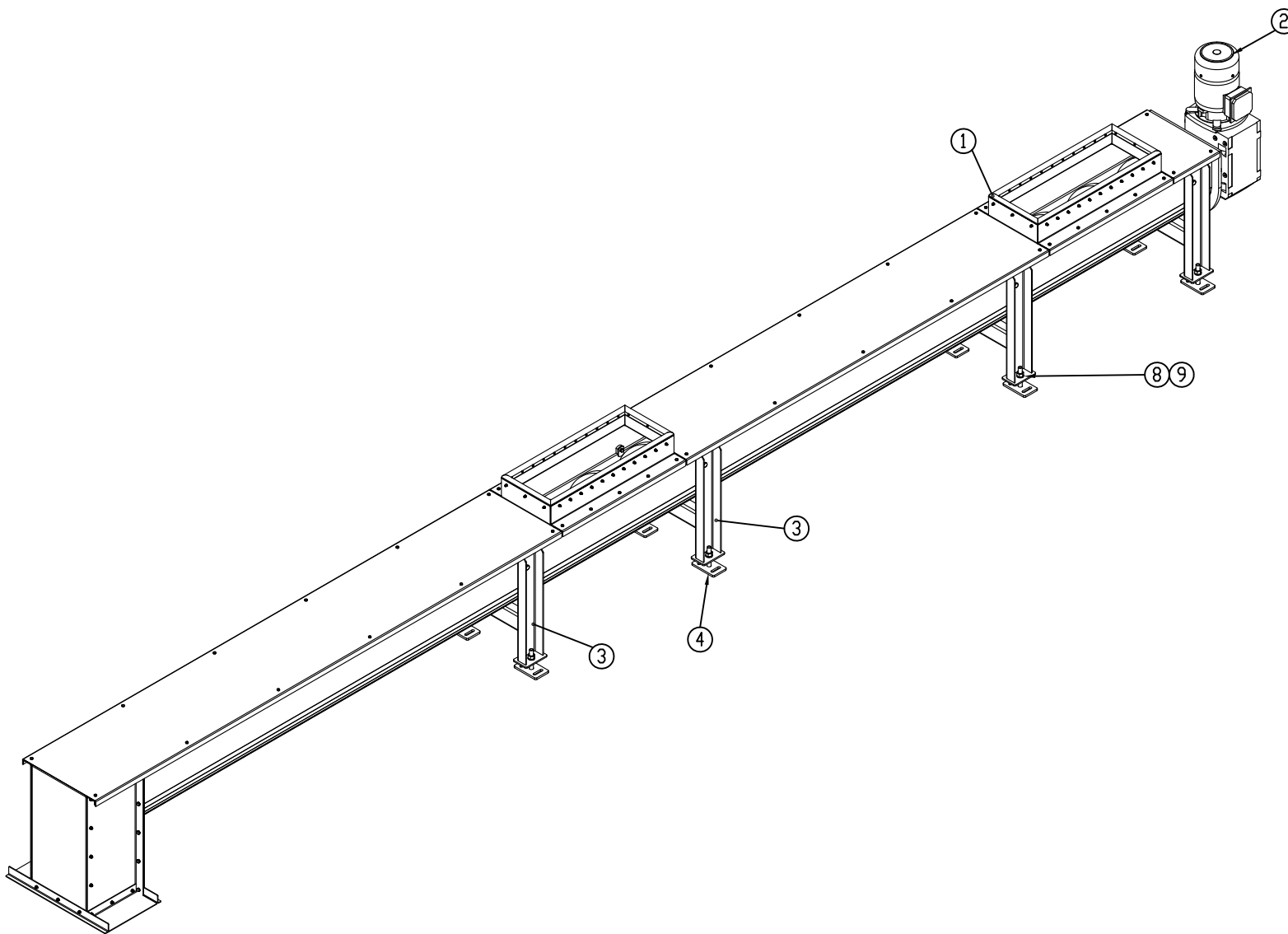
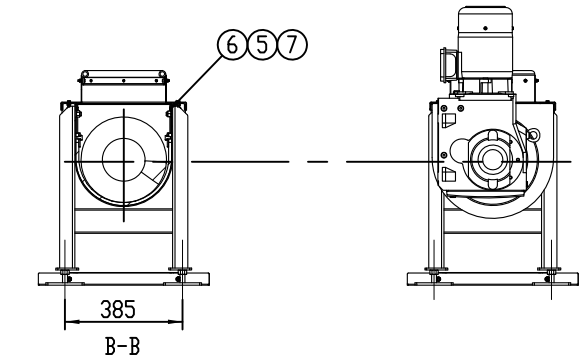
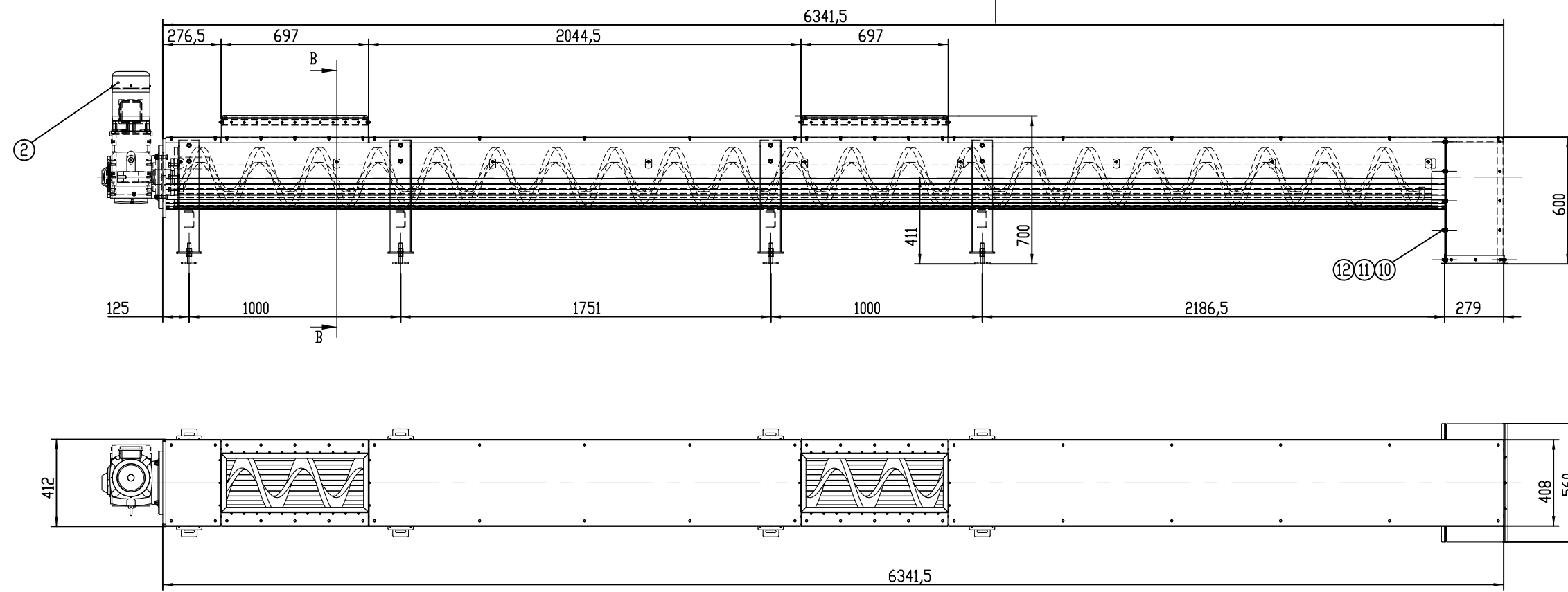
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Project Name: Ludwig Pfeiffer_Armenia
GAVAR

Resim Adı
Drawing Name: SCREW CONVEYOR
GENERAL

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Kontrol Checked	Özcan ŞAHİNÖZ	31.10.2011				
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All dimensions are mm.



Pos.No	Adet Pcs.	Tasarım, Boyut, Standart özellikler Designation, Sizes, Standart Specifications	Malzeme Material	Açıklama Remarks	Tedarikçi Supplier	Ağırlık Weight
1	1	HOUSING	AISI 304L			
2	1	DRIVE UNIT SKSK 9032,1 AFBH-90S-4RD 1,1kW-10 rpm	AISI 304L			
3	4	SUPPORT-2	AISI 304L			
4	8	SCREWED FOOT	AISI 304L			
5	16	HEX-BOLT M12x25 DIN 933	A2			
6	16	Hexagon Nut ISO 4032 M12	A2			
7	16	Spring washer DIN 128 - A12	A2			
8	8	Spring washer DIN 128 - A16	A2			
9	16	Hexagon Nut ISO 4032 M16	A2			
10	10	HEX-BOLT M8x20 DIN 933	A2			
11	10	Spring washer DIN 128 - A8	A2			
12	10	Hexagon Nut ISO 4032 M8	A2			



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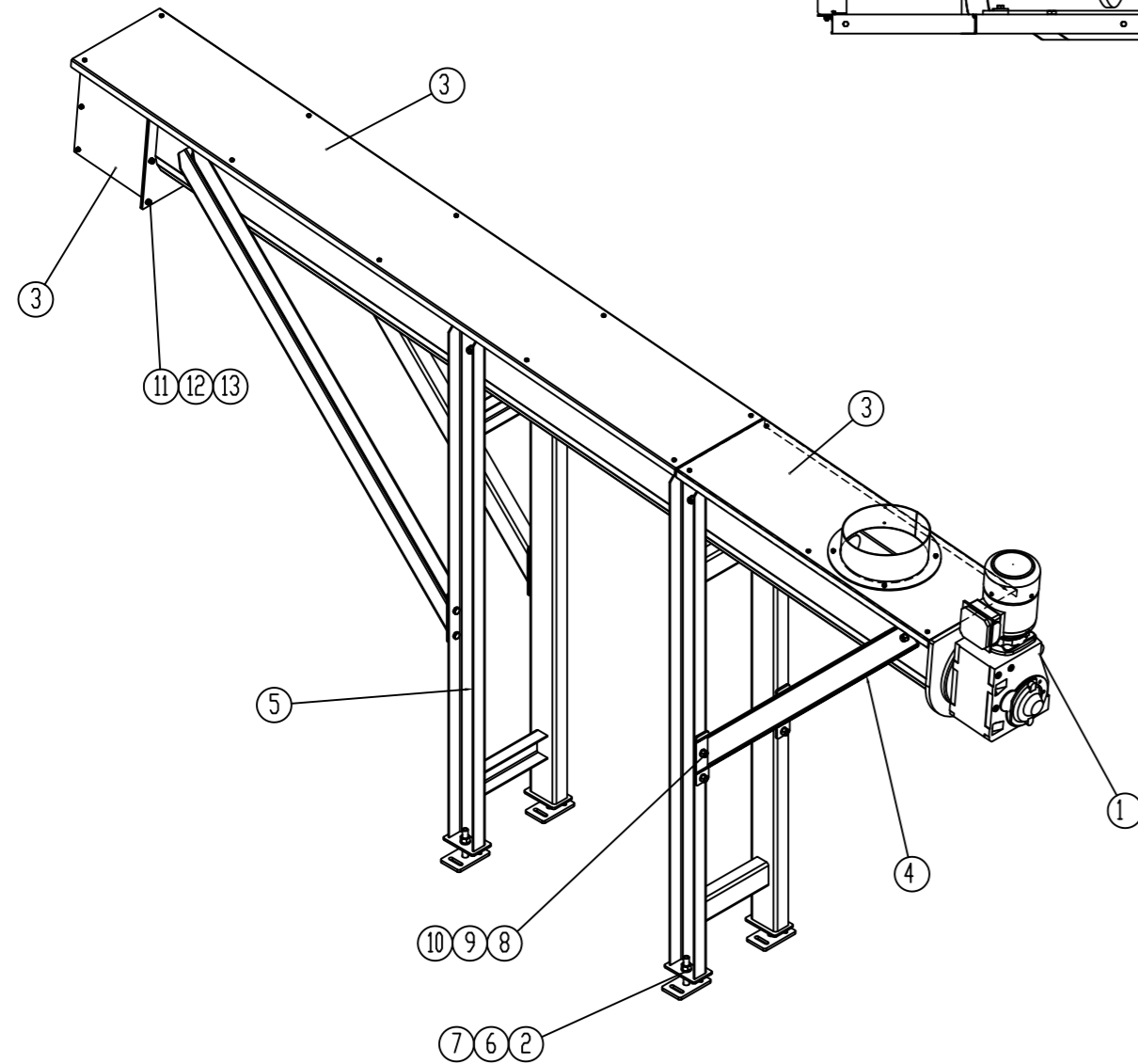
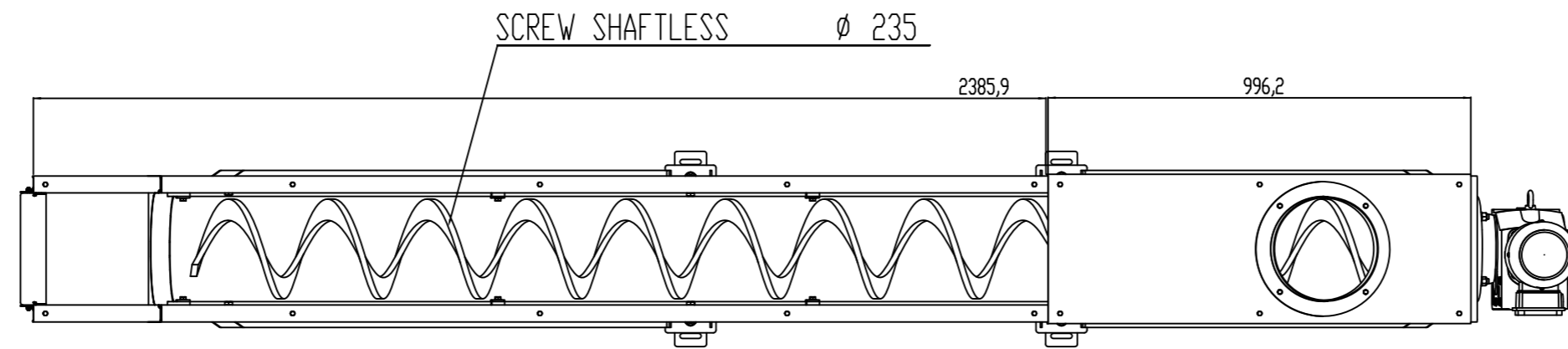
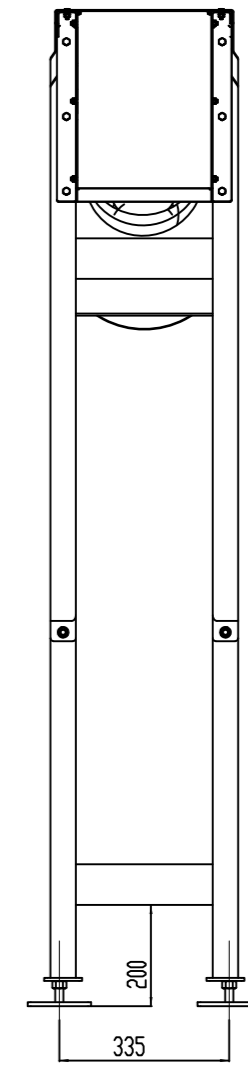
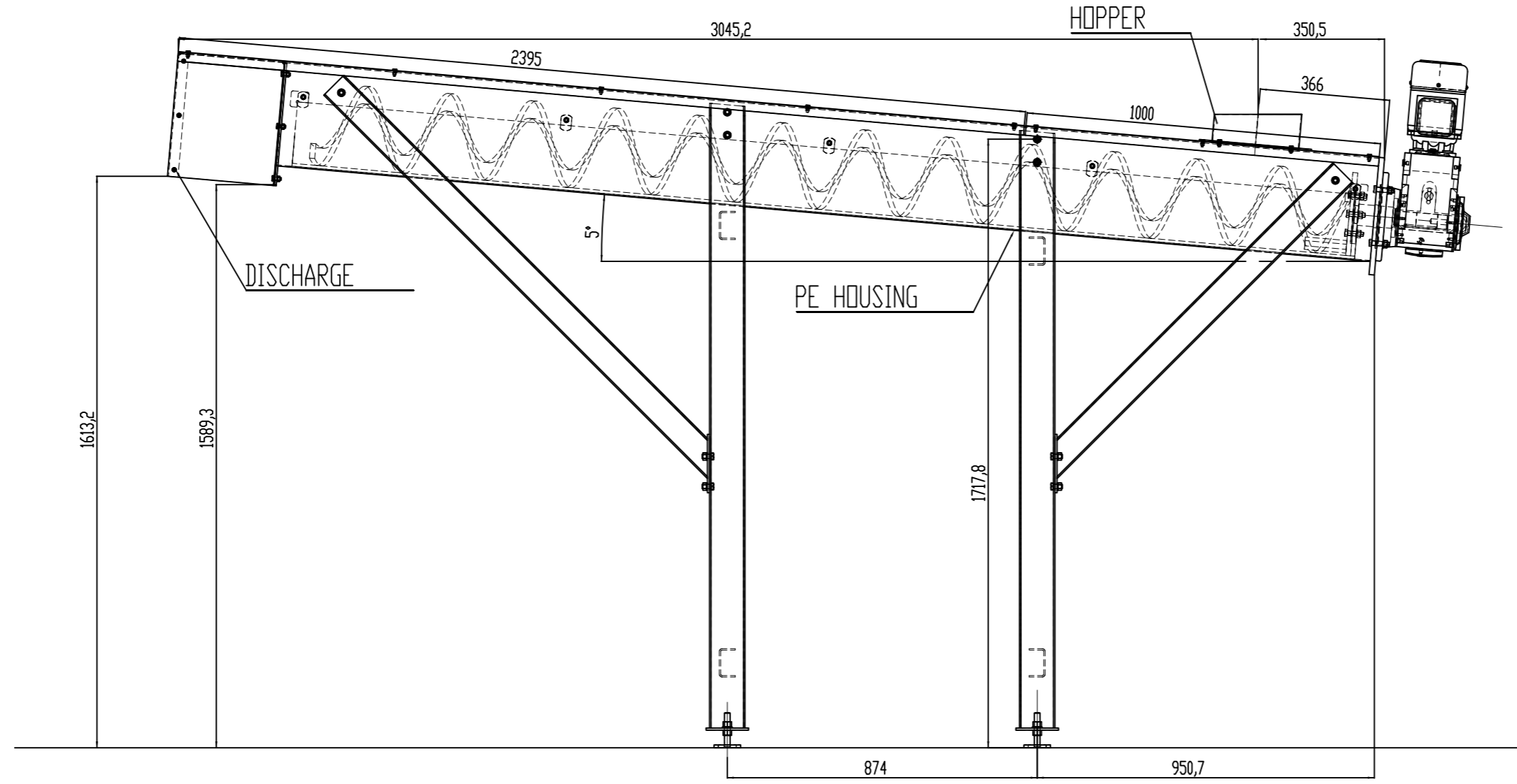
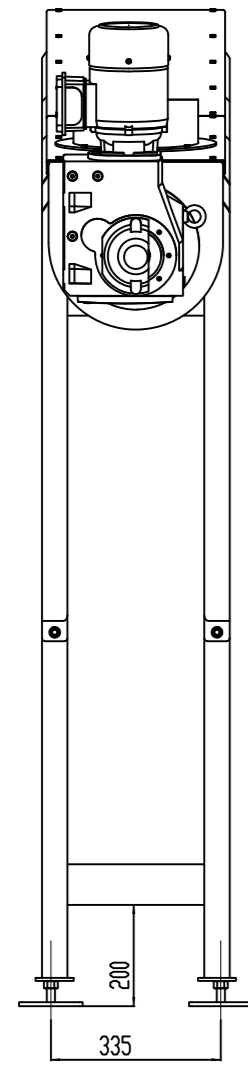
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 Project Name: Ludwig Pfeiffer_Armenia
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Resim Adı
 Drawing Name: SCREW CONVEYOR GENERAL

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Cizen Drawn	28.10.2011		1/5	1	SC11.079-3.000
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1	1	DRIVE UNIT SK 9022,1 AFBH-80L-4 RD 0,75kW- 10 rpm	-		NORD	
2	4	SCREWED FOOT	AISI 304L			
3	1	HOUSING	AISI 304L			
4	1	SUPPORT-1	AISI 304L			
5	1	SUPPORT-2	AISI 304L			
6	8	Hexagon Nut ISO 4032 M16	A2			
7	4	SPRING WASHER DIN 127 - A16	A2			
8	20	HEX-BOLT M12x25 DIN 933				
9	19	SPRING WASHER DIN 127 - A12				
10	19	HEX-NUT M12 DIN 934				
11	6	HEX-BOLT M8x20 DIN 933	A2			
12	6	Spring washer DIN 128 - A8	A2			
13	6	Hexagon Nut ISO 4032 - M8	A2			



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Onaylayan Approved			

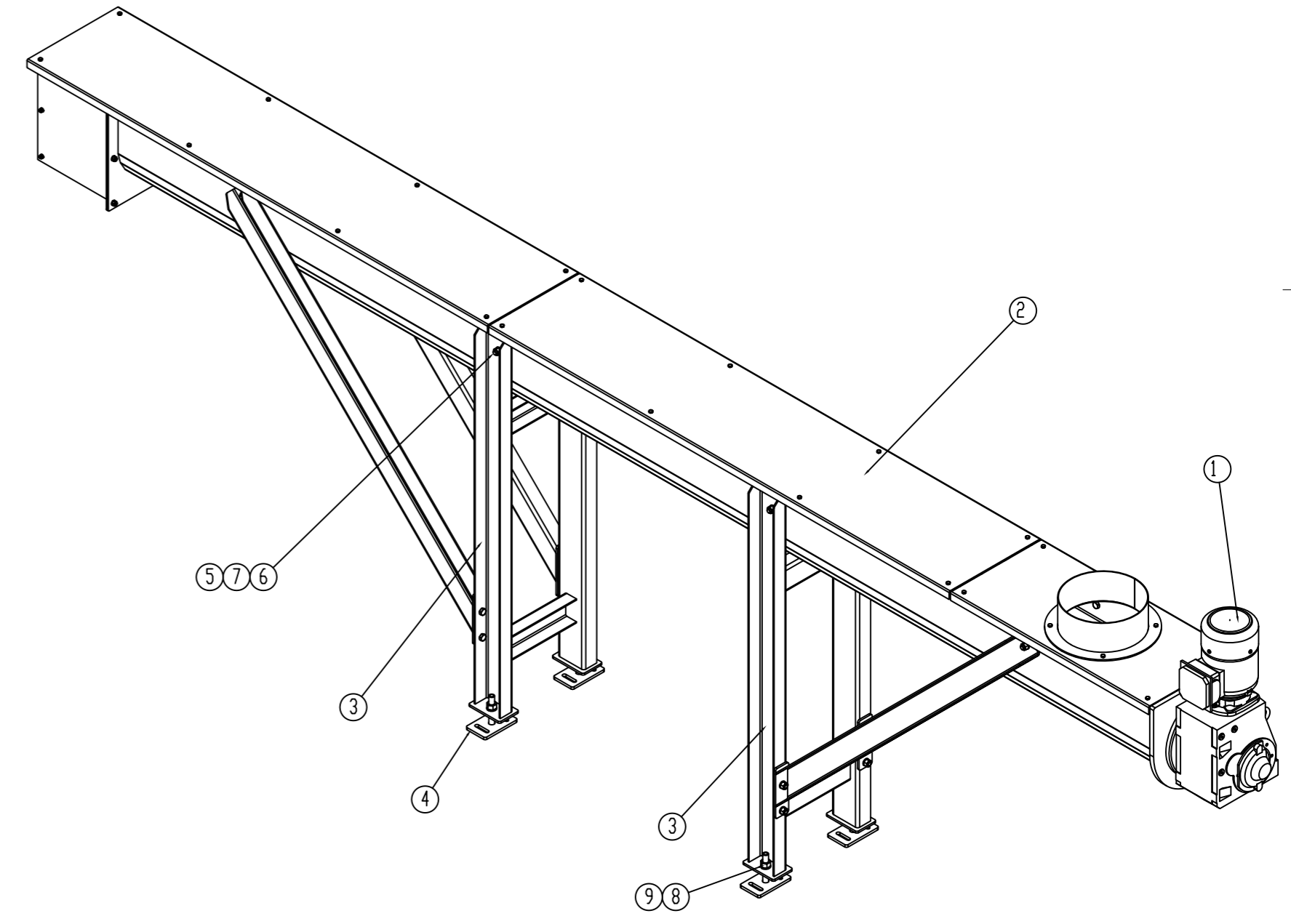
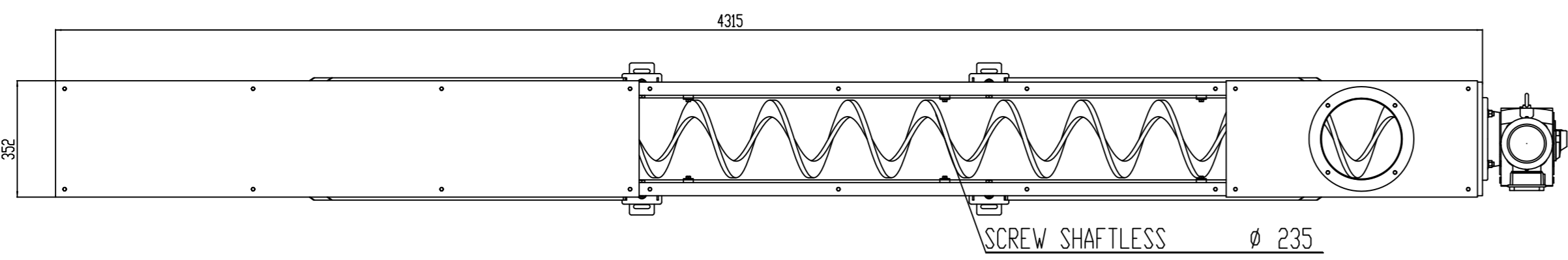
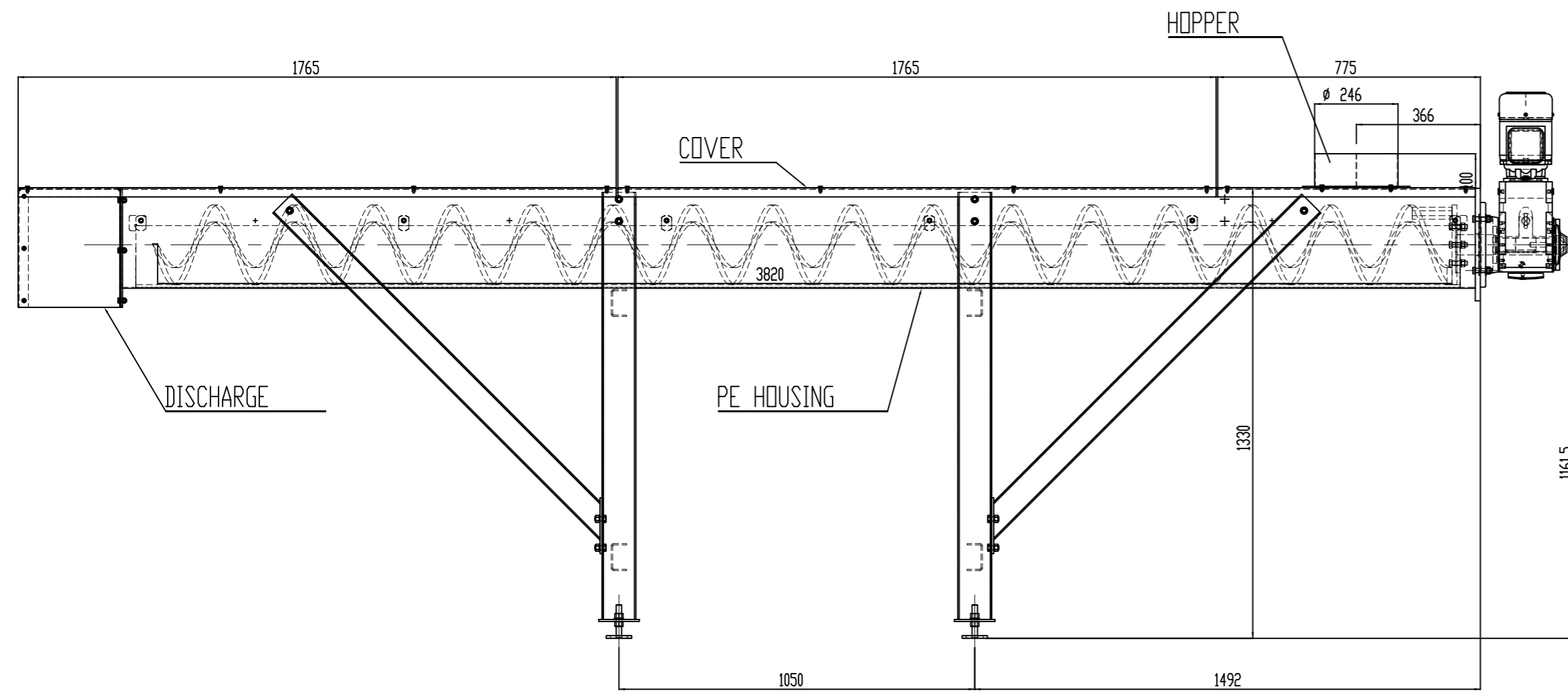
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Project Name: Ludwig Pfeiffer_Armenia
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Resim Adı
Drawing Name: SCREW CONVEYOR
GENERAL


Ölçek Scale	Adet Pieces	Resim No Drawing No:
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1	1	DRIVE UNIT SK 9022,1 AFBH-80L-4 RD 0,75kW- 10 rpm	-	SC11.079-1.020	NORD	
2	1	HOUSING	AISI 304L	SC11.079-1.010		
3	2	SUPPORT-2	AISI 304L	SC11.079-1.040		
4	4	SCREWED FOOT	AISI 304L	SC11.079-1.050		
5	20	HEX-NUT M12 DIN 934	A2			
6	20	HEX-BOLT M12x25 DIN 933	A2			
7	20	SPRING WASHER DIN 127 - A12	A2			
8	8	HEX-NUT M16 DIN 934	A2			
9	4	SPRING WASHER DIN 127 - A16	A2			



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Proje Adı
Project Name: Ludwig Pfeiffer_Armenia

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Resim Adı
Drawing Name:
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Çizen Drawn	Adı Name	Tarih Date	İmza Signature	Ölçek Scale	Adet Pieces	Resim No Drawing No
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