1	2	3	4	5	6	7	8	9	10

machine marking
6750 - main control cabinet
3018 - silo S100
7333 - WTG 75-800
3388 - MD2000 (1)
8272 - WTG 75-500
6113 - SBBS
5018 - FW1000-4000 (1)
5477 - FW1000-4000 (2)
9891 - WSST 2500-8
9653 - FW1000-4000 (3)
7962 - MD2000 (2)

electrical location marking	
=WS1+MCC1	- main control cabinet
=WS1+BBS1	- SBBS
=WS1+BS1	- silo S100
=WS1+FW1	- FW1000-4000 (1)
=WS1+FW2	- FW1000-4000 (2)
=WS1+FW3	- FW1000-4000 (3)
=WS1+MD1	- MD2000 (1)
=WS1+MD2	- MD2000 (2)
=WS1+SST1	- WSST 2500-8

input product:
##
throughput:
up to approx. 3700kg/h

Power supply main cabinet
3x 400V AC/50Hz+N+PE
approx 840 kVA (without reserve)

special features

safety technology
All (hazardous) actuators - Motors and solenoid valves are stopped immediately after pressing the emergency stop button. -> If a shutdown should occur in any respect problems/hazards, please do so, to inform us in the project planning phase.

legend:
- material flow
- fresh water
- treated water
- process water
- waste water
- cooling water flow
- cooling water return flow
- compressed air
- exhaust air
- earthing point
- safety switch
- sensors
- proximity sensor
- pressure sensor
- flow sensor
- filter monitoring
- level sensor
- radar/ultrasonic sensor
- temperature sensor
- three-phase motor
- pump
- actuators
- solenoid valve
- shut-off valve
- non-return valve
- filter
- silencer

=WS1+MCC1
cabinet dimensions (WxHxD): 4800mm x 2200mm x 600mm
6750

main supply line
part of the customer

material input
part of the customer

3018
+BS1-9B2
+BS1-9B4
+BS1-5B7
+MCC1-310M3
+BS1-5S1
+BS1-5S2
=WS1+BS1
+MCC1-300M3
+BS1-5S3
+BS1-8B2
+BS1-8B2
+BS1-8B4
+BS1-11M2
+MCC1-50S4
+MCC1-50S8
+MCC1-315M3
+BS1-5B5
+BS1-5S9
+MCC1-328S1
7333
+MCC1-323M1
+MCC1-324M3
+BS1-5B6
+MCC1-327M3
+BS1-6B1 +BS1-12M2
+BS1-6B2 +BS1-12M3
+BS1-6B3 +BS1-12M4
+BS1-6B5 +BS1-12M5
+BS1-6B6 +BS1-13M2
+BS1-6B7 +BS1-13M3
+BS1-6B8 +BS1-13M4
+BS1-6B9 +BS1-13M5
=WS1+BS1

3388
+MCC1-620S1
+MCC1-620S5
+MCC1-51S1
+MD1-5B2
+MD1-1K3
+MD1-1K5
+MCC1-600M1
+MD1-5B1
+MCC1-602M3
+MCC1-603M3
+MCC1-604M3
+MD1-5B3
+MD1-5B5
dirt discharge
part of the customer
6113
+MD1-5B9
+MCC1
-610M3
+MCC1-607S1
8272
+MCC1-606M3
=WS1+BBS1
=WS1+MD1

5018
+MCC1-551M3
+SST1-7B1
Water valves
part of the customer
Not included in delivery.
+SST1-10M4
+SST1-10M5
=WS1+FW1

5477
+MCC1-556M3
+SST1
-7B2
Water valves
part of the customer
Not included in delivery.
+SST1-10M6
+SST1-10M7
=WS1+FW2

=WS1+SST1-20A5

+MCC1-405M1
+SST1-5B7
+MCC1-400M1
+SST1-5B1
+MCC1-402M1
+SST1-5B3
+MCC1-403M1
+SST1-5B5
+MCC1-409M1 +SST1-6B1
+MCC1-410M1 +SST1-6B2
+MCC1-411M1 +SST1-6B4
+MCC1-412M1 +SST1-6B5
+MCC1-413M1 +SST1-6B6
+MCC1-414M1 +SST1-6B7
+MCC1-415M1 +SST1-6B8
+MCC1-416M1 +SST1-6B9
+MCC1-407M1
+SST1-5B9
+MCC1-406M1
+SST1-5B8
+SST1-8B4
+MCC1-404M1
+SST1-5B6
+MCC1-52S1
+SST1-1K3
+SST1-1K5
+SST1-1K8
+SST1-2K3
+SST1-2K5
+SST1-2K8
Water valves
part of the customer
Not included in delivery.
+SST1-10M2
+SST1-10M3
9891
=WS1+SST1

9653
+MCC1-561M3
+SST1-7B3
Water valves
part of the customer
Not included in delivery.
+SST1-10M9
+SST1-10M10
=WS1+FW3

7962
+MCC1-650S1
+MCC1-650S5
+MCC1-51S4
+MD2-5B2
+MD2-1K3
+MD2-1K5
+MCC1-630M1
+MD2-5B1
+MCC1-632M3
+MCC1-633M3
+MCC1-634M3
+MD2-5B3
+MD2-5B5
to the silo S100
=PD1
dirt discharge
part of the customer
=WS1+MD2

The graphics shown here serve to illustrate the material flow and the equipment of the plant components. The graphics are not to scale or order specific. Changes are reserved.

place, date

stamp, signature customer

			Date	03.12.2021
			Ed. by	de
			Appr	
Modification	Date	Name	Original	

THAT'S THE WAY TO RECYCLE

WIPA Werkzeug- & Maschinenbau GmbH D - 48703 Stadtlohn

Omni Polymers AB
Eastmansvägen 23
113 61 Stockholm
Schweden

material flow diagram
-
entire plant

A374 - Omni Polymers

=WS1		
+		
&EFB	flow diagram	Page 1
#MFD	material flow diagram	from 2

DT	Function text	Remark
+MCC1-610M3	rotary valve WZS700 SBBS	1,1kW;motorstarter;AC 400V;
+MD1-5B9	rotation monitoring rotary valve SBBS	inductive proximity switch;DC 0V%;1NO
+MCC1-50S4	emergency stop pushbutton 1 silo S100	emergency stop mushroom pushbutton;2NC
+MCC1-50S8	emergency stop pushbutton 2 silo S100	emergency stop mushroom pushbutton;2NC
+MCC1-300M3	hydraulic unit silo S100	7,5kW;YD;AC 400V;
+MCC1-310M3	spreading screw silo S100	7,5kW;YD;AC 400V;
+MCC1-315M3	opening roller silo S100	1,5kW;direct;AC 400V;
+MCC1-323M1	discharge screw silo S100	7,5kW;fc;AC 400V;
+MCC1-324M3	forced blower discharge screw silo S100	0,09kW;direct;AC 400V;
+MCC1-327M3	removal fan silo S100	22kW;YD;AC 400V;
+MCC1-328S1	safety switch removal fan silo S100	safety switch;DC 0V%;2NC
+BS1	terminal box silo S100	
+BS1-5B5	rotation monitoring opening roller 1 silo S100	inductive proximity switch;DC 0V%;1NO
+BS1-5B6	rotation monitoring discharge screw 1 silo S100	inductive proximity switch;DC 0V%;1NO
+BS1-5B7	rotation monitoring spreading screw silo S100	inductive proximity switch;DC 0V%;1NO
+BS1-5S1	fill level silo input (rotation paddle)	rotary vane level indicator;24V DC
+BS1-5S2	fill level silo output (rotation paddle)	rotary vane level indicator;24V DC
+BS1-5S3	oil filter monitoring hydraulic unit silo	filter monitoring;24V DC..250V AC
+BS1-5S9	overfilling material discharge silo	Membrane level indicator;24V DC..250V AC
+BS1-6B1	position sensor cylinder 1 retracted	inductive proximity switch;DC 0V%;1NO
+BS1-6B2	position sensor cylinder 1 advanced	inductive proximity switch;DC 0V%;1NO
+BS1-6B3	position sensor cylinder 2 retracted	inductive proximity switch;DC 0V%;1NO
+BS1-6B5	position sensor cylinder 2 advanced	inductive proximity switch;DC 0V%;1NO
+BS1-6B6	position sensor cylinder 3 retracted	inductive proximity switch;DC 0V%;1NO
+BS1-6B7	position sensor cylinder 3 advanced	inductive proximity switch;DC 0V%;1NO
+BS1-6B8	position sensor cylinder 4 retracted	inductive proximity switch;DC 0V%;1NO
+BS1-6B9	position sensor cylinder 4 advanced	inductive proximity switch;DC 0V%;1NO
+BS1-8B2	oil-level/-temperature hydraulic unit silo S100	level- and temperature sensor;DC 0V%;IO-Link
+BS1-8B4	actual value oil-pressure hydraulic unit silo S100	pressure sensor;DC 18…30V;IO-Link
+BS1-9B2	actual value level material input silo S100	radar sensor;DC 0V%;4-20mA;
+BS1-9B4	actual value level material output silo S100	radar sensor;DC 0V%;4-20mA;
+BS1-11M2	main valve hydraulic unit silo S100	solenoid valve;DC 0V%;26,5W
+BS1-12M2	silo S100 push floor 1 forward	solenoid valve;DC 0V%;26,5W
+BS1-12M3	silo S100 push floor 1 backward	solenoid valve;DC 0V%;26,5W
+BS1-12M4	silo S100 push floor 2 forward	solenoid valve;DC 0V%;26,5W
+BS1-12M5	silo S100 push floor 2 backward	solenoid valve;DC 0V%;26,5W
+BS1-13M2	silo S100 push floor 3 forward	solenoid valve;DC 0V%;26,5W
+BS1-13M3	silo S100 push floor 3 backward	solenoid valve;DC 0V%;26,5W
+BS1-13M4	silo S100 push floor 4 forward	solenoid valve;DC 0V%;26,5W
+BS1-13M5	silo S100 push floor 4 backward	solenoid valve;DC 0V%;26,5W
+MCC1-551M3	main drive FW1000 (1)	75kW;YD;AC 400V;
+SST1-7B1	rotation monitoring main drive FW1000 (1)	inductive proximity switch;DC 0V%;1NO
+SST1-10M4	solenoid valve water inlet FW1000 (1)	solenoid valve;DC 0V%;26,5W
+SST1-10M5	solenoid valve rinsing connection FW1000 (1)	solenoid valve;DC 0V%;26,5W
+MCC1-556M3	main drive FW1000 (2)	75kW;YD;AC 400V;
+SST1-7B2	rotation monitoring main drive FW1000 (2)	inductive proximity switch;DC 0V%;1NO
+SST1-10M6	solenoid valve water inlet FW1000 (2)	solenoid valve;DC 0V%;26,5W
+SST1-10M7	solenoid valve rinsing connection FW1000 (2)	solenoid valve;DC 0V%;26,5W
+MCC1-561M3	main drive FW1000 (3)	75kW;YD;AC 400V;
+SST1-7B3	rotation monitoring main drive FW1000 (3)	inductive proximity switch;DC 0V%;1NO

DT	Function text	Remark
+SST1-10M9	solenoid valve water inlet FW1000 (3)	solenoid valve;DC 0V%;26,5W
+SST1-10M10	solenoid valve rinsing connection FW1000 (3)	solenoid valve;DC 0V%;26,5W
+MCC1-51S1	emergency stop pushbutton MD2000 (1)	emergency stop mushroom pushbutton;2NC
+MCC1-600M1	main drive MD2000 (1)	200kW;fc;AC 400V;
+MCC1-602M3	scrapper MD2000 (1)	1,5kW;motorstarter;AC 400V;
+MCC1-603M3	dirt discharge screw MD2000 (1)	1,5kW;motorstarter;AC 400V;
+MCC1-604M3	rising screw dirt discharge MD2000 (1)	1,5kW;motorstarter;AC 400V;
+MCC1-606M3	dirt discharge fan MD2000 (1)	15kW;YD;AC 400V;
+MCC1-607S1	safety switch dirt discharge fan MD2000 (1)	safety switch;DC 0V%;2NC
+MCC1-620S1	safety switch wing door leftside MD2000 (1)	safety switch;DC 0V%;2NC
+MCC1-620S5	safety switch wing door rightside MD2000 (1)	safety switch;DC 0V%;2NC
+MD1-5B1	rotation monitoring scrapper MD2000 (1)	inductive proximity switch;DC 0V%;1NO
+MD1-5B2	rotation monitoring main drive MD2000 (1)	inductive proximity switch;DC 0V%;1NO
+MD1-5B3	rotation monitoring dirt discharge screw MD2000 (1)	inductive proximity switch;DC 0V%;1NO
+MD1-5B5	rotation monitoring rising screw dirt discharge MD2000	inductive proximity switch;DC 0V%;1NO
+MCC1-51S4	emergency stop pushbutton MD2000 (2)	emergency stop mushroom pushbutton;2NC
+MCC1-630M1	main drive MD2000 (2)	200kW;fc;AC 400V;
+MCC1-632M3	scrapper MD2000 (2)	1,5kW;motorstarter;AC 400V;
+MCC1-633M3	dirt discharge screw MD2000 (2)	1,5kW;motorstarter;AC 400V;
+MCC1-634M3	rising screw dirt discharge MD2000 (2)	1,5kW;motorstarter;AC 400V;
+MCC1-650S1	safety switch wing door leftside MD2000 (2)	safety switch;DC 0V%;2NC
+MCC1-650S5	safety switch wing door rightside MD2000 (2)	safety switch;DC 0V%;2NC
+MD2-5B1	rotation monitoring scrapper MD2000 (2)	inductive proximity switch;DC 0V%;1NO
+MD2-5B2	rotation monitoring main drive MD2000 (2)	inductive proximity switch;DC 0V%;1NO
+MD2-5B3	rotation monitoring dirt discharge screw MD2000 (2)	inductive proximity switch;DC 0V%;1NO
+MD2-5B5	rotation monitoring rising screw dirt discharge MD2000	inductive proximity switch;DC 0V%;1NO
+MCC1-52S1	emergency stop pushbutton WSST 2500	emergency stop mushroom pushbutton;2NC
+MCC1-400M1	transverse screw 1 input WSST 2500	3kW;fc;AC 400V;
+MCC1-402M1	feeding screw 1 WSST 2500	3kW;fc;AC 400V;
+MCC1-403M1	feeding screw 2 WSST 2500	3kW;fc;AC 400V;
+MCC1-404M1	conveyor screw sinking material WSST 2500	3kW;fc;AC 400V;
+MCC1-405M1	discharge screw sinking material WSST 2500	3kW;fc;AC 400V;
+MCC1-406M1	discharge screw floating material WSST 2500	3kW;fc;AC 400V;
+MCC1-407M1	opening roller WSST 2500	0,75kW;fc;AC 400V;
+MCC1-409M1	paddle 1 WSST 2500	0,75kW;fc;AC 400V;
+MCC1-410M1	paddle 2 WSST 2500	0,75kW;fc;AC 400V;
+MCC1-411M1	paddle 3 WSST 2500	0,75kW;fc;AC 400V;
+MCC1-412M1	paddle 4 WSST 2500	0,75kW;fc;AC 400V;
+MCC1-413M1	paddle 5 WSST 2500	0,75kW;fc;AC 400V;
+MCC1-414M1	paddle 6 WSST 2500	0,75kW;fc;AC 400V;
+MCC1-415M1	paddle 7 WSST 2500	0,75kW;fc;AC 400V;
+MCC1-416M1	paddle 8 WSST 2500	0,75kW;fc;AC 400V;
+SST1-5B1	rotation monitoring transverse screw 1 input floating	inductive proximity switch;DC 0V%;1NO
+SST1-5B2	rotation monitoring transverse screw 2 input floating	
+SST1-5B3	rotation monitoring feeding screw 1 floating sink tank	inductive proximity switch;DC 0V%;1NO
+SST1-5B5	rotation monitoring feeding screw 2 floating sink tank	inductive proximity switch;DC 0V%;1NO
+SST1-5B6	rotation monitoring conveyor screw sinking material	inductive proximity switch;DC 0V%;1NO
+SST1-5B7	rotation monitoring discharge screw sinking material	inductive proximity switch;DC 0V%;1NO
+SST1-5B8	rotation monitoring discharge screw floating material	inductive proximity switch;DC 0V%;1NO
+SST1-5B9	rotation monitoring opening roller floating sink tank	inductive proximity switch;DC 0V%;1NO

DT	Function text	Remark
+SST1-6B1	rotation monitoring paddle 1 floating sink tank	inductive proximity switch;DC 0V%;1NO
+SST1-6B2	rotation monitoring paddle 2 floating sink tank	inductive proximity switch;DC 0V%;1NO
+SST1-6B4	rotation monitoring paddle 3 floating sink tank	inductive proximity switch;DC 0V%;1NO
+SST1-6B5	rotation monitoring paddle 4 floating sink tank	inductive proximity switch;DC 0V%;1NO
+SST1-6B6	rotation monitoring paddle 5 floating sink tank	inductive proximity switch;DC 0V%;1NO
+SST1-6B7	rotation monitoring paddle 6 floating sink tank	inductive proximity switch;DC 0V%;1NO
+SST1-6B8	rotation monitoring paddle 7 floating sink tank	inductive proximity switch;DC 0V%;1NO
+SST1-6B9	rotation monitoring paddle 8 floating sink tank	inductive proximity switch;DC 0V%;1NO
+SST1-8B4	water level floating sink tank	pressure sensor;DC 18…30V;4-20mA
+SST1-10M2	solenoid valve water inlet SST2500	solenoid valve;DC 0V%;26,5W
+SST1-10M3	solenoid valve rinsing connection SST2500	solenoid valve;DC 0V%;26,5W

Translation of the original operating
Instructions in English

Operating Instructions

friction washer
type:
FW 500 - 1000

Figure 1 Example construction of a Friction washer

WIPA Werkzeug- & Maschinenbau GmbH
Benzstrasse 12
48703 Stadtlohn

Identification data

Tool/Machine/Plant	
Model name:	Friction washer
Type:	FW 1000-4000
Machine number:	5018, 5477, 9653
Project/identification number	A374
Year of manufacture:	2022
Customer entries:	
Company name:	Omni Polymers AB Eastmansvägen 23 113 61 Stockholm, Sweden
Order no.:	AB_PH_SWE_20052021_00_Rev_01
Location:	Omni Polymers AB Nordalagatan 1 262 73 Ängelholm, Sweden
Manufacturer address:	
Company name:	WIPA Werkzeug- & Maschinenbau GmbH
Street:	Benzstrasse 12
Location:	48703 Stadtlohn
Phone:	+49 2563 20585-0
Telefax:	+49 2563 20585-20
E-Mail	info@wipa-germany.de
Homepage	www.wipa-germany.de
Document data:	
Version:	1.4
Creation date:	12.10.2018
Date of change:	27.09.2021

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1 General

1.1 Introduction

These operating instructions are a significant assistance for the correct and safe operation of the Friction washer.

These operating instructions contain important notes on the safe, correct and economical operation of the Friction washer. Adhering to them will help prevent danger, avoid repair costs and downtime and increase the reliability and lifespan of the Friction washer.

These operating instructions must always be available to be read and applied by everybody who works on or are assigned to work on the Friction washer. This includes, among others:

- Operation and troubleshooting in operation,
- Maintenance (care, servicing, set-up) and/or
- Transport.

1.2 References to intellectual property rights

- These operating instructions must be treated confidentially.
- Only authorized persons shall have access to these operating instructions.
- These operating instructions may only be given to third parties with the written consent of WIPA Werkzeug- & Maschinenbau GmbH.

1.3 Notes for the operator

The operating instructions are a significant component of the Friction washer.

- Make sure that the service personnel have a complete knowledge of these operating instructions.
- These operating instructions are to be supplemented by the operator with instructions based on national regulations for Health and Safety at Work and Environmental Protection, including the information on the responsibilities of supervision and obligations to report for the observance of operational specifics, e.g. concerning work organization, operational sequences and/or appointed personnel.

- Besides these operating instructions and the obligatory regulations for Health and Safety at Work applicable in the country of use as well as in the place of use, the recognized specialist technical regulations for safe and professional work must also be observed.
- Do not make any changes, additions and conversions to the Friction washer that could impair the safety without the prior consent of WIPA Werkzeug- & Maschinenbau GmbH. This applies to the installation and adjustment of safety devices as well as any welding work on load-bearing components.

All spare parts must meet the technical requirements specified by WIPA Werkzeug- & Maschinenbau GmbH. This is always guaranteed with original spare parts.

- Use only trained or instructed personnel for operation, maintenance, repair and transport of the Friction washer.
- Clearly specify the responsibilities of the personnel for operation, maintenance, repair and transport.

1.4 Instruction and training assistance

- As a company/operator you are obliged to inform and instruct operating personnel about existing legal and accident prevention regulations as well as about available safety devices on the Friction washer. This obligation extends to such safety devices that are installed in the area surrounding the Friction washer. The different professional qualifications of employees are to be taken into consideration.
- The operating personnel must understand the instructions and it must be ensured that they adhere to the instructions.
- Only this will enable you to achieve a safe and hazard conscious working method for your personnel. You should regularly check that instructions are being followed.
- As a company/operator, you should therefore obtain written confirmation from each employee of his/her participation in a training.

You will find examples for training topics on the following pages, as well as a template for confirmation of participation in the training.

1.5 Example of training course topics

1. For safety
Accident prevention regulations General legal provisions General safety precautions Actions to be taken in an emergency Safety precautions for operating the Friction washer How to handle the safety devices of the Friction washer Safety devices in the area surrounding the Friction washer Definition of symbols and signs _____ _____
2. For the operation of the Friction washer
How to operate the controls of the Friction washer Explanation of the operating instructions for the operating personnel Operator’s special experiences in handling the Friction washer Elimination of malfunctions _____ _____
3. For maintenance and service instructions
Prescribed use of cleaning agents, lubricants Operator’s special experiences in the areas of service, maintenance, cleaning and care of the Friction washer _____ _____

Confirmation of the training received		
Training topic:		
Date:	Instructor:	Signature of the instructor:

No.	Name, first name	Signature
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

2 Safety

2.1 General

The Friction washer has been designed and built-in accordance with state-of-the-art technology and the recognized safety rules and regulations.

Nonetheless dangers may arise for the operator and/or cause impairments to the Friction washer and other material assets when using the Friction washer, if:

– it is operated by personnel who are not trained or instructed,
– it is not employed as intended and/or
– it is not properly serviced or maintained.

2.2 Notes on the signs and symbols

The following terms and/or signs are used in these operating instructions for references to particularly important information:

- The bullet is used to identify work and/or operating steps. The steps are to be executed in sequence from top to bottom.

– The hyphen is used to identify lists.

This is a warning of an imminent danger, which could inevitably result in serious injury or death, if the specific instruction is not followed precisely.

Draws attention to a potentially hazardous situation, which could lead to serious injury or death if the specific instruction is not followed precisely.

This is a warning indicating a potentially hazardous situation, resulting in minor or light bodily injuries and/or substantial property damage, if the specific instruction is not followed precisely.

This indicates useful information for the safe and proper handling.

- The instructions and symbols directly mounted on the Friction washer have to be adhered to, such as warning signs, operating signs and component markings. They must not be removed.
- The instructions and symbols must always be kept clean and in well readable condition.

2.3 Intended use

The friction washer type FW is used for the intensive cleaning of plastics and the separation of dirt particles. The size of the dirt particles that are separated is defined by the size of the screen perforation.

The maximum size of the charged material is 50x50mm for foil fractions and 25mmx25mm for hard plastics. The determination of the machines is prescribed in each individual case by the order confirmation and the material specification contained therein. Foreign bodies may only be made of paper, tinplate or aluminium with a maximum size of 1 mm.

The material must be conveyed evenly dosed into the friction washer.

- Follow the instructions in section *Technical Data.* Complying with these specifications is imperative.

Intended use also includes observance of the instructions

- on safety,
- operation and control,
- maintenance and service,
- material composition after order confirmation

that are described in these operating instructions.

Any other use or use beyond the specifications is considered to be improper use. The operator of the Friction washer shall be solely responsible for any resulting damage. This also applies to any unauthorized modifications to the Friction washer.

2.4 Reasonably foreseeable misuse

Following exemplary processing procedures are considered suspected misuse and are therefore not according to the intended use:

- The use and/or processing of explosive substances.
- The use and/or processing of substances that could be harmful or are subject to the Ordinance on hazardous Substances.
- Processing of materials other than those named for the intended use.
- Processing of materials implied or adhered with are inhalants subject to labelling
- The processing of materials with fluctuating material properties

Further considered contrary to the intended use:

- The operation of the system in an explosive atmosphere.
- The operation of the system without fully installed protection devices.
- The usage by private users, or users without professional instruction and training.
- The storage of explosive or flammable materials in the vicinity of the machine.

In the event of using materials other than those listed in the technical data sheet, safety of the operating personnel and protection of the Friction washer cannot be guaranteed.

- Do not set up the Friction washer in unprotected rooms or halls that are exposed to weathering.

2.5 Residual risk

Even if all safety rules are observed, a residual risk remains when the Friction washer is operated.

- As the contractor/operator you must ensure that all persons working on or with the Friction washer are aware of these residual risks.
- Follow the instructions that will prevent those residual risks lead to accidents or damages.

During set up and fitting work, it may be necessary to remove on site protective devices. This causes various residual risks and potential hazards that each operator must be aware of:

DANGER

Risk of death from electric shock

An electric shock can cause fatal injuries.

- **Before carrying out any repair, set-up and maintenance work, the Friction washer must be disconnected from the main switch.**
- **Secure the Friction washer against unintentional switching-on.**
- **Lock the main switch and set up warning signs.**
- **In addition, actuate an emergency stop button.**

DANGER

Life-threatening injuries during the operation of the Friction washer

Automatic sequences of movements of the Friction washer during the operation could cause persons to be seriously crushed.

- **Before commissioning the Friction washer, it is absolutely necessary to make sure that all protective devices are installed and functioning.**
- **Never access the protected area during automatic operation.**

2.6 Description of the protective devices

The Friction washer is built according to the state-of-the-art and all recognized safety rules.

2.6.1 Location of emergency stop devices

Emergency stop buttons are installed on the control panel and at the control cabinet.

- Have the function of the emergency stop devices checked annually and record this process.
- Check all devices for stopping in an emergency individually and separately.
- Instantly stop the machine in case of defective safety devices.
- Secure the machine against being switched on again.

Function test of the emergency stop devices:

- Switch on the machine
- Actuate the emergency stop devices

The actuation of the emergency stop devices must shutdown all machine functions:

– Start enable

– Motors

2.6.2 Safety devices on the Friction washer

The safety concept provides for movable or fixed separating protective devices – the general rule is:

- Separating protective devices can be removed only with tools.
- Movable separating protective devices that are unsecured do not remain in protective position.
- Fastening means are firmly connected to the protective devices.

Fastening means are chosen so that the removal of switches or actuating means for interlocked protective devices are not possible with tools like:

- objects of everyday usage such as keys, tape, twine or wire; or
- replacement actuating elements or keys for interlocking devices with key transfer systems; or
- needed and easily available tools for machines/systems such as screwdriver and key, hexagonal wrench and pliers

is not possible - a reasonably foreseeable circumvention of the protective device is thereby prevented.

Motor, belt drive

The rotor is driven by a belt drive which is connected to an electric motor. The shaft of the motor and the belt drive are secured by a housing and by fixed separating guards.

Rotor, material inlet/outlet

The rotor is completely enclosed due to the process. Access to the rotor is effectively prevented once the transitions at the material inlet and outlet have been installed.

Access to the rotor via the water outlet flange is not possible.

If this transition is not part of the scope of delivery, the operator of the system must provide a suitable transition so that intervention is not possible.

2.7 Markings and signs on the Friction washer

Clearly legible on the friction washer

Figure 2 Typeplate

Aluminium/adhesive type plate with the following information:

1	Name and address of the manufacturer	6	Rated operating current
2	Year of manufacture	7	Circuit diagram
3	Machine no.	8	frequency in Hz
4	Type / designation	9	Phases
5	Operating voltage	10	Control voltage
		11	CE marking

Sign	Meaning	Mounting location
	Read and observe the operating instructions and safety instructions before commissioning.	Immediately near the type plate
	Warning of hand injuries due to belt drive	On the maintenance flaps of the belt drive
	Warning of dangerous, electrical voltage	Signs on all terminal boxes, switch boxes and control cabinets for low voltage.
	Lifting point	At the recommended lifting points
	Use safety goggles	during maintenance and repair work
	Connection point marking of the external ground conductor	ground conductor terminal

Sign	Meaning	Mounting location
	Ground conductor connection	adjacent to the grounding screws

2.8 Additional necessary markings and signs

- As the operator put up additional necessary markings and signs on the Friction washer and in its surroundings.

Such markings and signs could for example relate to the provision for carrying personal protective equipment.

2.9 Safety instructions for operating personnel

Any person who is responsible for the commissioning, operation and maintenance must have read and understood these operating instructions completely - especially chapter 2 *Safety*. Do not wait to read it until you start working. This applies in particular to personnel who are only occasionally working with the Friction washer.

- Use the Friction washer only in technically perfect condition and as intended, safely and aware of the dangers and with full observance of the operating instructions.
- Malfunctions that could impair the safety must be removed immediately.
- The operating instructions must always be kept to hand at the site of the Friction washer. No liability is assumed for damages and accidents caused due to non-compliance with the operating instructions.
- Observe the relevant accident prevention regulations and the generally accepted safety and occupational health ordinances.

This includes:

- Assign individual responsibilities for different activities as part of servicing and maintenance and comply with them.
- Oblige the operating and maintenance personnel to wear personal protective equipment (safety shoes, goggles, gloves).
- Do not wear open long hair, loose clothing or jewellery! There is the danger of getting stuck, being pulled in or getting caught in moving parts.
- If safety-related changes occur on the Friction washer:
  The Friction washer is to be stopped and secured immediately and the incidence has to be reported to the competent authority/person.
- Follow the instructions for maintenance.
- The statutory minimum age limits must be observed.

Only reliable trained and certified personnel may take action on the Friction washer.

Personnel undergoing training, instruction or persons taking part in general vocational training programs may only take action on the Friction washer under supervision by an experienced person.

2.10 Safety instructions for maintenance and fault elimination on the Friction washer

- Stipulated schedules or those given in the operating instructions for regular checks/inspections are to be observed.

2.10.1 Preparation

Workshop equipment appropriate to the task in hand is absolutely necessary for the execution of maintenance work.

- Set-up, maintenance and repair work as well as troubleshooting may only be carried out when the system is turned off.
- Secure a wide area around the maintenance area as far as is necessary.
- Cordon off the working area with a red and white safety chain and a warning sign.
- Moreover, a warning sign has to be attached.
- Clean especially connections and threaded connections of any traces of contamination or preservatives before commencing maintenance/repair/care.

2.10.2 Implementation

- Never stand under suspended loads.
- Individual components and larger assemblies must be carefully fastened and secured on hoists when making replacements, so that any risk they pose is minimized. Only use suitable and technically sound hoists and load carrying devices with sufficient load-bearing capacity.
- Always tighten loose screw connections during maintenance and repair work. If required, tighten the provided screws by using a torque wrench.
- Do not use any aggressive cleaning agents. Use non-linting cleaning cloths.
- Ensure a safe and environmentally friendly disposal of operating and auxiliary materials as well as replaced parts.

2.11 Instructions regarding special types of dangers

2.11.1 Electrics

Work on the electrical equipment of the Friction washer may only be carried out by a qualified electrician or by instructed persons under the direction and supervision of a qualified electrician in accordance with the electro-technical regulations.

- Switch off the Friction washer with the main switch before opening the control cabinet.
- Secure the Friction washer with a safety lock against being switched on again.

- You must switch off the Friction washer immediately at the main switch if a fault occurs in the power supply.
- Switch off the electrical components on which inspection, maintenance and repair work is carried out.
- Use only original fuses with the prescribed amperage.
- Secure the equipment that was used to disconnect from the mains against accidental or automatic restart (locking away fuses, blocking breakers, etc.).
- First, check the de-energized electrical components for the presence of power and insulate adjacent live components.
- Make sure that in case of repairs changes to the structural and functional characteristics are not detrimental to safety (e.g. creepage and clearance distances as well as gaps are not reduced by insulation).

Where work must be executed on electrically live components (only in exceptional situations!):

- A second person shall be called upon to actuate the emergency stop button or disconnect the main switch in the case of an emergency.
- Use insulated tools only.

Proper grounding of the electrical system must be guaranteed by protective ground conductor systems.

- Regularly check cables for damage.
- Immediately replace defective cables.

2.11.2 Oils, greases and other chemical substances

- When dealing with oil, grease and other chemical substances, observe the applicable instructions and safety data sheets of the manufacturers of these substances with regard to storage, handling, use and disposal and comply with them.

2.11.3 Noise

The A-weighted equivalent continuous sound pressure level at the operator workstations during normal operation of the Friction washer is above 85 dB(A).

- Always wear suitable hearing protection at the operating workstations.
- Place additional warnings near the Friction washer to indicate that hearing protection should be worn.

2.11.4 Interfaces between machine components

Linking individual machine components into a functioning system can produce danger locations, which did not exist when viewing the individual components. The danger locations are usually appropriately secured. If this is not possible, these dangers are specifically pointed out.

2.11.5 Interfaces to adjacent system components

The operator of the entire system is responsible for the safety review (protection, training of the staff) of the interfaces to system areas for which the company WIPA Werkzeug- und Maschinenbau GmbH is not responsible anymore.

3 Product description

Figure 3 Product description

3.1 Functional description

The material is fed in at the top of the Friction washer and conveyed upwards to the outlet by the throwing paddles mounted on the inner rotor. During transport, the material is repeatedly thrown against the screen basket located below the rotor, which cleans the material and separates water, paper fibres, sand and other contaminants that are smaller than the screen perforation. The housing of the friction washer has several rinsing connections through which water can be fed in. The wastewater flows out underneath the friction washer via a flange.

3.2 Electric

The electrical system of the Friction washer comprises a three-phase motor and a rotation monitor on the bearing side opposite the drive unit. The technical data of the three-phase motor can be found in the chapter technical data or on the type plate.

3.3 Technical data

Mechanical data	Dimensions (L x W x H)	See Chapter Dimensions
	Weight FW500 FW600 FW700 FW800 FW1000	 Ca. 2,0t Ca. 2,3t Ca. 2,5t Ca. 4,2t Ca. 5,6 t
Electrical data	Operating voltage	400 V/AC (clockwise rotating field)
	Control voltage	24 V DC
	Power consumption FW500 FW600 FW700 FW800 FW1000	 22 kW 30 kW 37 kW 55 kW 75 kW
	The specification may vary depending on customer requirements.	
Intended environmental conditions	Air temperature operation	10°C - 30°C
	Air humidity Operation	65 % rel.
Emissions	Noise (sound pressure)	>85 db(A)

3.3.1 Dimensions

The dimensions of the Friction washer in the standard frame are shown below. The height may vary depending on requirements.

Model	**Length(mm)**	**Width(mm)**	**Height(mm)**
FW500	3059	1102	3909
FW600	3500	1136	4112
FW700	3545	1320	4351
FW800	4706	1420	5219
FW1000	5005	1620	5420

4 Transport and assembly

4.1 General

The Friction washer must be put into operation by WIPA Werkzeug- und Maschinenbau GmbH in order for a warranty claim to arise.

If changes are to be made to the Friction washer, it may make sense to have the conversion as well as the set-up and setup work on Friction washer carried out at WIPA Werkzeug- und Maschinenbau GmbH. For this purpose, the Friction washer must be transported back to WIPA Werkzeug- und Maschinenbau GmbH.

WARNING

Risk of life-threatening crushing injuries when lifting and transporting the Friction washer

Improper lifting and transporting can cause tipping and falling of the Friction washer.

- **Close the Friction washer completely. In this way you avoid a shift in the centre of gravity and the associated risk of tipping over.**
- **Lift and transport the Friction washer only with one fork lift truck. Do not exceed the permissible load capacity of the fork lift truck.**
- **Never stand under suspended loads.**

4.2 Transport with a crane

- Observe the following safety instructions when transporting the Friction washer by crane:

Risk of life-threatening crushing injuries when lifting and transporting the Friction washer

Improper lifting and transport may cause the Friction washer to tip over and fall down.

- **Lift and transport the Friction washer only with a suitable sling.**
- **Only use slings that are in technically perfect condition.**
- **Attach the Friction washer to the appropriately marked attachment points.**
- **Never stay under suspended loads.**

- Observe the applicable accident prevention and occupational safety regulations.
- Observe the instructions and regulations of the transport carrier.
- Check the tightness of the lifting means on the suspension points and the crane hook.
- Attach the transport ropes on the crane hook so that they do not touch machine parts above the anchor points when they are in taut condition.
- If necessary, use a loading gear.
- Adjust the lengths of the four carrying ropes so that the machine is suspended horizontally. Hang the ropes with shackles on the suspension brackets.
- When choosing the shackles, ensure that each single shackle has a sufficient load-bearing capacity.

4.3 Transporting with floor conveyor

DANGER

Risk of life-threatening crushing injuries when transporting the Friction washer

Improper lifting and transporting can cause tipping and falling of the Friction washer.

- **Close the Friction washer completely. This is to avoid displacement of center of gravity and the associated risk of tipping over.**
- **Lash the components of the Friction washer to the floor conveyor to avoid any risk of tipping over.**
- **Never stand under suspended loads.**

The following floor conveyors are allowed for the transport of the system components:

– Roll pallet of transport system with transport vehicle,
– forklift and
– pallet trucks.

NOTICE

- Avoid touching of the components of the Friction washer with the lifting frame of the floor conveyor.
- For this purpose, place spacers between the components and the lifting frame.
- Avoid strong shocks when setting down the Friction washer.

4.4 Installation and assembly

NOTICE

The installation site of the Friction washer must be dry and weather-proof.

The Friction washer may not be exposed to salty air

- Secure the Friction washer against mechanical damage.

Factory lighting for assembly and maintenance work of at least 300 lx must be available.

- Make sure that adequate space for movement is available for the forklift or crane at the site of installation of the Friction washer.

NOTICE

Damage to the Friction washer due to yielding of the ground!

- Check load capacity of the installation site before installing the Friction washer!
- If in doubt, get in contact with your architect/construction engineer.

- Set up the Friction washer according to the installation plans in the layout.
- Set up the Friction washer on a horizontal concrete floor that is as even as possible.
- Align the Friction washer carefully.

When planning the installation site, a minimum distance of 2.0 meters to buildings or other machines/systems must be maintained. The ceiling height must be sufficient for the assembly of the Friction washer.

NOTICE

Important notice about the screws/small parts!

All the screws and hexagon nuts required for mounting the friction washer are already fitted at the mounting points or are supplied separately in a box. Washers, spring washers, etc. are mounted onto the screws!

- Disassemble screws and small parts prior to each work step!
- Only then carry out the next assembly step!

4.4.1 Installation

Preparatory work

- Clean the stand position where the friction washer is to be set up so that the floor is free of grease, dry and broom clean.

Set up/align friction washer

NOTICE

High load for the feet if the floor under the friction washer is uneven.

- Level out unevenness in the concrete floor with metal plates or similar under the feet.

- Assemble the basic frame of the friction washer (See assembly drawing).
- Position the frame at the stand position.
- Drill the anchor holes for fixing the frame in the hall floor. Holes are provided on the base frame for this purpose.
- Clean the anchor holes thoroughly. The dust must be removed from the drill hole.

NOTICE

Observe the specifications of the drill anchor manufacturer

- Push the mortar cartridges of the compound anchors into the anchor holes.
- Drive the anchor rods of the compound anchors through the mortar cartridge to the bottom of the borehole by rotating them and hammering (with a hammer drill).
- Check the correct installation of the anchor rod! - The ring marking on the anchor rod must be flush with the edge of the drill hole and - the ring gap around the anchor rod must be filled with mortar.

NOTICE

If the temperature of the hall floor is below 0 °C, the bonded anchors must not be loaded until 5 hours after curing has been initiated!

Be sure to wait this time before tightening the hexagon nuts on the anchor rods.

- Screw the hexagon nuts belonging to the compound anchor only hand-tight (!) onto the anchor rods. The hexagon nuts are not tightened until later, when the mortar in the drill holes has hardened!

If the machine is not set up correctly, natural vibrations can occur. This can result in bearing damage and increased noise levels as well as impairing the function of the machine.

CAUTION

High material damage possible!

Long-term damage and increased wear and tear occur if the friction washer is not aligned exactly.

- **It is essential that you take the time to align the friction washer exactly.**

- Dismantle the transport frame of the friction washer in the raised position. Now loosen the screws on the frame that are connected to the C-profile of the friction washer.
- Now mount the supplied brackets on the powder-coated plates on the C-profile of the friction washer.
- Place the friction washer with the crane in the frame.
- Now connect the bracket to the vibration elements on the frame. For this purpose, there is one screw per vibration element and angle, which is connected to each other (see drawing).

The friction washer must be commissioned by the manufacturer.

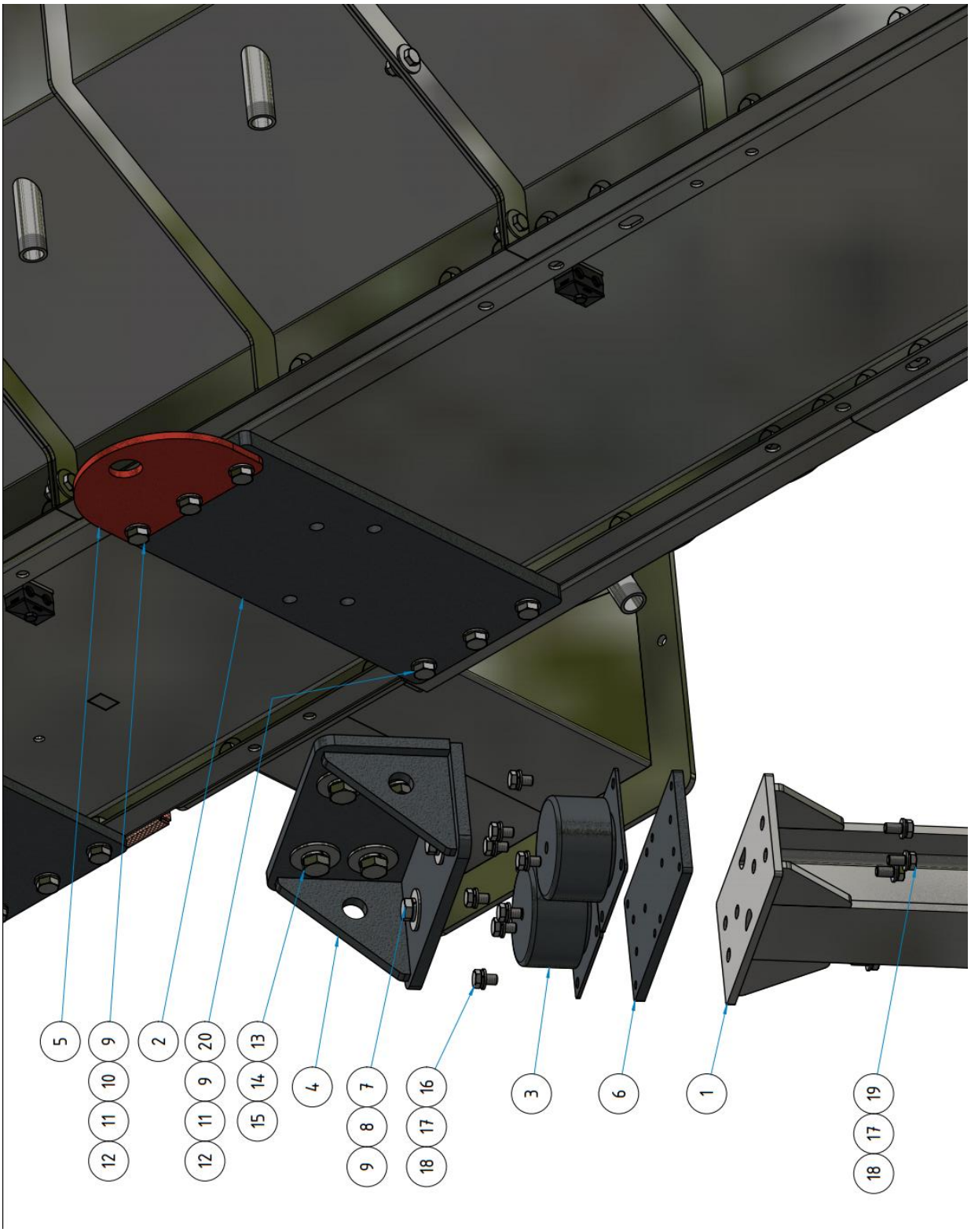


Figure 4 Installation

NO	QUANTITY	DESCRIPTION	PART NUMBER	MATERIAL
1	2	Support	04-01-08-01-03_SBG	
2	4	Screw plate	04-06-01-08-015_LT	
3	8	Hat element H	H-44.60	
4	4	Console	04-01-08-01_SBG	
5	4	lifting lug	04-01-08-030_LT	
6	4	Adapter plate	04-01-08-032_LT	
7	8	Hexagon head screw	DIN 933 – M16 x 35	Steel, galv.
8	8	Washer	DIN 9021 – A17	Steel, galv.
9	44	Spring washer	DIN 127 – A16	Steel, galv.
10	12	Hexagon head screw	DIN 933 - M16 x 60	Steel, galv.
11	24	Washer	DIN 125 - A 17	Steel, galv.
12	12	Hexagon nut	DIN 934 – M16	Steel, galv.
13	16	Hexagon head screw	DIN 933 – M20 x 45	Steel, galv.
14	16	Spring washer	DIN 127 – A20	Steel, galv.
15	16	Washer	DIN 9021 – A 22	Steel, galv.
16	32	Hexagon head screw	DIN 933 – M12 x 20	Steel, galv.
17	56	Washer	DIN 125 – A12,5	Steel, galv.
18	56	Spring washer	DIN 127 – A12	Steel, galv.
19	24	Hexagon head screw	DIN 933 – M12 x 25	Steel, galv.
20	12	Hexagon head screw	DIN 933 - M16 x 50	Steel, galv.

4.5 Supply and installation

4.5.1 Install material supply lines

- Position the upstream machine so that the material is conveyed into the friction washer via the inlet.

  An opening is prefabricated above the friction washer for this purpose.

NOTICE

The opening at the inlet must be tightly closed after installation of the machine so that any intervention is effectively prevented.

If the connection to the inlet is not supplied by WIPA Werkzeug- und Maschinenbau GmbH, the operator of the machine must ensure a suitable transition. In this case make sure that the vibration is decoupled (compensator).

4.5.2 Connecting the material removal line

The material discharge line must be connected to the friction washer.

For this purpose, connect a suitable transition to the connection nozzle of the friction washer.

- Connect the connection piece on the friction washer to the connection piece of the material transport line.
- Connect the connection pipe with screws at the prefabricated drill holes.
- Make sure that the connection is tight.

NOTICE

The opening at the outlet must be tightly closed after installation of the machine so that any intervention is effectively prevented.

If the connection to the inlet is not supplied by WIPA Werkzeug- und Maschinenbau GmbH, the operator of the machine must ensure a suitable transition. In this case make sure that the vibration is decoupled (compensator).

4.5.3 Connection of the water injection system

There are several connections (1") on the friction washer to apply water to the material. These are located on the side of the lid and on the motor side of the front panel. There are two flushing connections in front of the material outlet for flushing the drain channel below the strainer basket.

Fit a water supply line to the connections. These must be adjustable with a stopcock.

NOTICE

When connecting, make sure that the vibration is decoupled. A hose connection is recommended for this.

4.5.4 Connecting the water drainage pipe

A water drain line must be installed below the friction washer. The flange size varies depending on the model:

Model	Flange size
FW500	DN 100 PN6
FW700	DN 200 PN6
FW800	DN 200 PN6
FW1000	DN 200 PN6

Furthermore, a hose connection must be made between the drainage channel below the fabric bush of the rotor and the water drainage pipe.

NOTICE

The operator must dimension the discharge pipe so that a back-up is avoided. Note that problems can occur even with short-term backups.

Only discharge filtered wastewater into the sewer system.

When making the connection, ensure that the vibration is decoupled. A hose connection is recommended for this.

4.5.5 Making the electrical connection

Danger to life from electric shock

An electric shock has caused fatal injuries. After the machine has been electrically disconnected via the main switch, voltage remains on the sockets and lights in the switch cabinet.

- **Observe the marking of the parts in the control cabinet that are still live after disconnection.**
- **Have electrical work carried out only by a trained specialist.**

The electrical supply line is clamped in the switch cabinet. The other machine parts are supplied from there.

- Carry out the connection in accordance with the applicable standards and directives at the installation site and according to the circuit diagram. For voltage and current consumption, see Chapter Technical Data.

A circuit diagram is stored in the electrical control cabinet.

- Carry out the connections according to the circuit diagram.
- Do not create any tripping hazards due to loose cables.
- Protect the cables from damage.

Procedure

The machine must be commissioned by the manufacturer.

4.5.5.1 AC Motor

If the control cabinet is not part of the scope of delivery, the operator of the system must observe the following when planning and setting up the electrical equipment:

All drives must only be operated with an operating frequency of 50 Hz. Control at other frequencies requires the written consent of WIPA Werkzeug- und Maschinenbau GmbH.

5 Operation and control

Every person involved in the operation, maintenance and repair of the Friction washer must have carefully read and understood these operating instructions.

If the control integration is not part of the scope of delivery, the operator of the entire plant must supplement the control part.

5.1 General notes

Work on the Friction washer may be carried out only by authorized, duly trained and qualified personnel. Improper use may lead to dangers to the life and limb of the user, for the Friction washer and any associated equipment, or for the effective performance of the Friction washer.

The Friction washer may be operated only by authorized, technically suitable persons.

A technically suitable person by virtue of his or her professional training, knowledge and occupational experience and knowledge of health and safety regulations is able to assess the work with which he is entrusted and can detect and avoid possible risks, if he or she also meets the personal requirements for the activity, e.g. can work independently.

- Use the equipment only for the purpose specified by the manufacturer or that is common.
- Operate the Friction washer only in technically perfect condition in order to avoid accidents.
- Use no foreign parts on the Friction washer, as otherwise the adherence to the required safety is not guaranteed.
- Refrain from any work method, which compromises the safety on the Friction washer.
- You must immediately report any changes on the Friction washer (that compromises the safety) to the competent supervisors.
- Shut down the Friction washer at once in case of any fault that compromises the safety. Only put the Friction washer back in operation after the failure is removed.
- Do not remove or manipulate any safety devices. Do not put any safety devices out of operation.
- Do not remove covers in drive parts before standstill of the hazardous movements. Reattach the covers properly before restarting.

5.1.1 Information for the operator

- As the operator you must ensure that the function check on all safety devices on the Friction washer are carried out by trained personnel before any further new commissioning.
- As the operator you must ensure that personal protective equipment (PPE) is

available to your operating personnel and that it gets used.

5.1.2 Electrotechnical information

Risk of death from electric shock

An electric shock can cause fatal injuries.

- **Connect the Friction washer and ancillary equipment according to regulations. Complying with the regulations is imperative.**
- **Check all safety-related switching devices at regular intervals for proper function.**
- **Never remove or bridge or compromise safety devices (such as emergency switches, limit switches, key switches).**
- **Only allow trained and instructed personnel to operate the control of the system.**
- **Allow repair and maintenance work to be performed only in the off (not energized) state and only by a qualified electrician.**

A qualified electrician is a person who due to his education, training, experience and knowledge of the relevant provisions is capable to assess the work with which he is entrusted and to detect and avoid possible risks.

7 Disposal

7.1 Environmental protection

CAUTION

Environmental pollution by substances hazardous to water

These substances can pollute the soil and groundwater or enter the sewage system.

- **During all work on and with the system, comply with the legal obligations for waste avoidance and proper recycling/disposal.**
- **When disposing of consumables or replacement materials during maintenance or when taking the friction washer out of service, follow the applicable legal regulations.**
- **Please note that, especially during installation, repair and maintenance work, water-hazardous substances such as lubricating greases and oils, emulsions and liquids containing petrol must not contaminate the ground or enter the sewerage system.**
- **Please note that these substances must be stored, transported, collected and disposed of in suitable containers.**

7.2 Oil and oil-containing waste, greases

Oil and oil-containing waste as well as lubricating greases represent a high-risk potential for the environment. Therefore, their disposal is carried out by specialist companies.

- Dispose of this waste internally and forward it to specialist companies.

7.3 Plastics

- Sort the used/processed plastics as far as possible.
- Dispose of plastics in accordance with the legal requirements.

7.4 Metals

- Separate the used/processed metals as far as possible.
- Have metals disposed of by an authorised company.

7.5 Electrical and electronic scrap

electrical and electronic scrap

Devices with this logo on the packaging or on the device must be disposed of separately. These devices must not be disposed of with normal household waste.

You are responsible for ensuring that any electrical or electronic waste is disposed of via the appropriate collection points, e.g. the recycling centre.

7.6 Final decommissioning

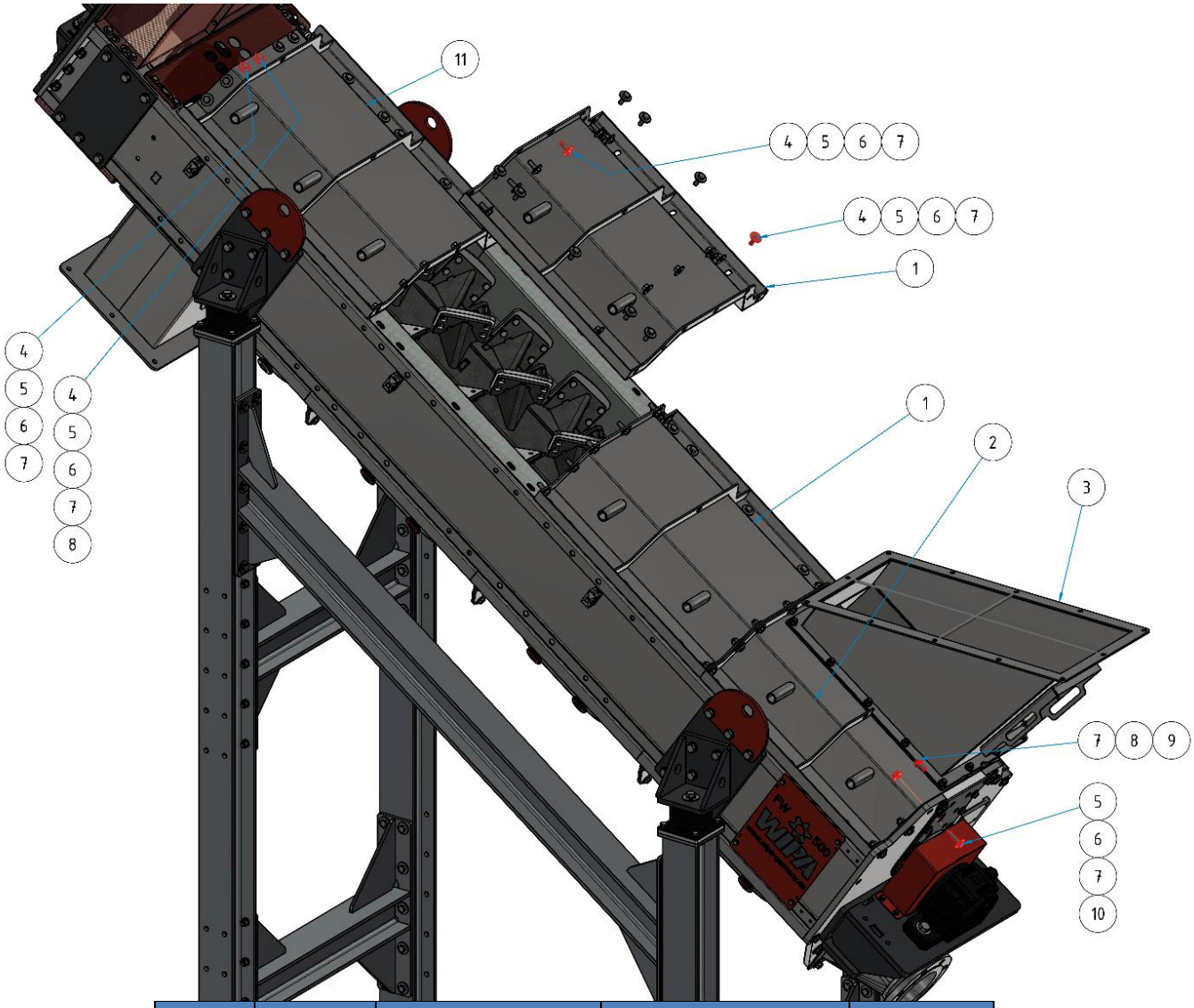
- Check which materials can be recycled and then arrange for proper disposal.

8 Appendix

- Parts list with spare parts recommendation/marking
- Electrical diagram + parts list (stored in the switch cabinet)
- Supplier documentation (digital)

8.1 Parts list with spare parts recommendation/marking FW 500

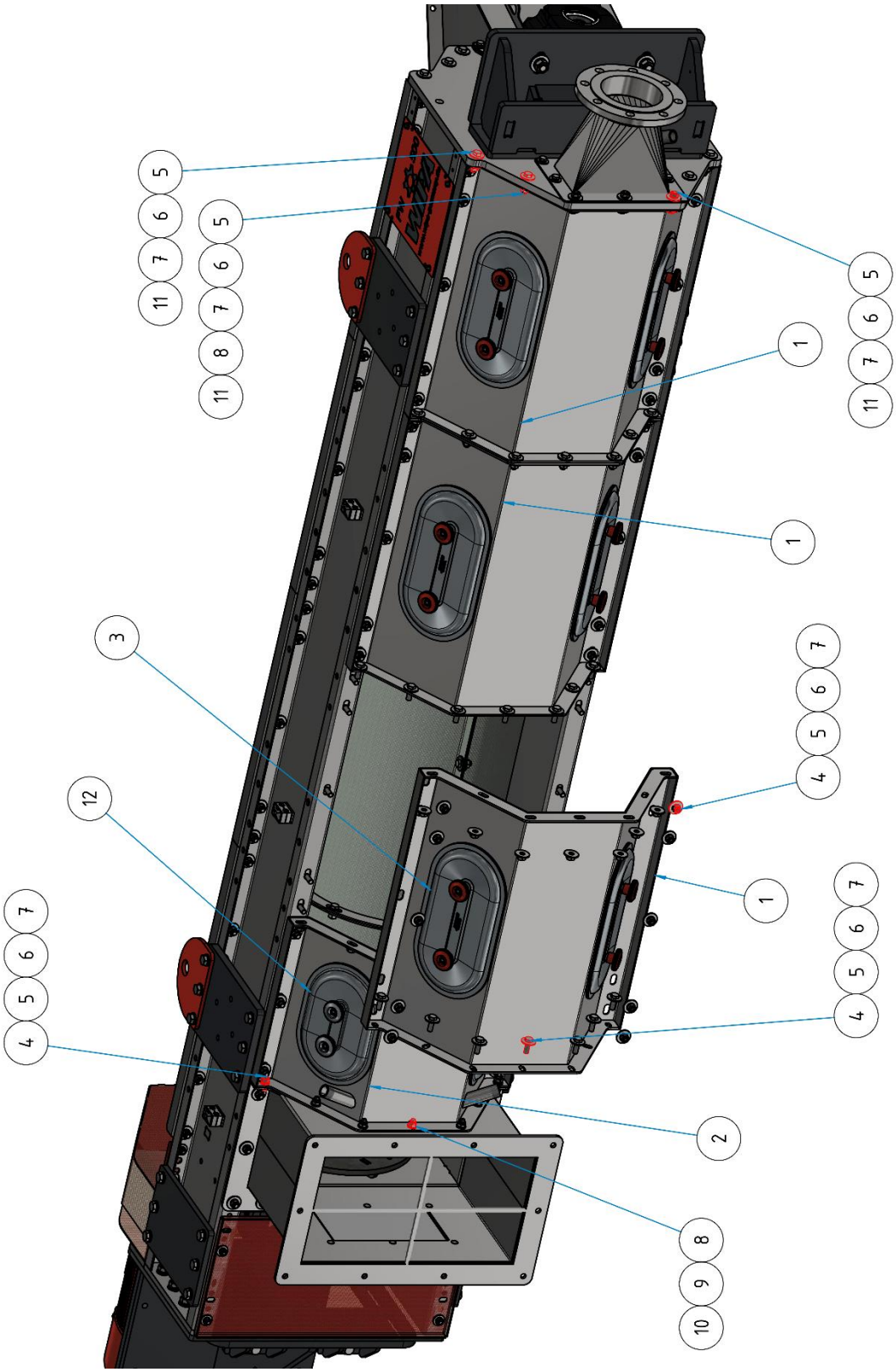
8.1.1 Disassembly cover top FW 500



No.	Piece	Designation	Part number/ DIN	Material
1	2	Cover	04-02-03-03-04_SBG	1.4301
2	1	Cover	04-02-03-03-06_SBG	1.4301
3	1	Filling funnel	04-02-03-03-02_SBG	1.4301
4	71	Hexagon head screw	DIN 933 - M12 x 35	Steel, galv.
5	154	Washer	DIN 9021 - 13	Steel, galv.
6	77	Hexagon nut	DIN 934 - M12	Steel, galv.

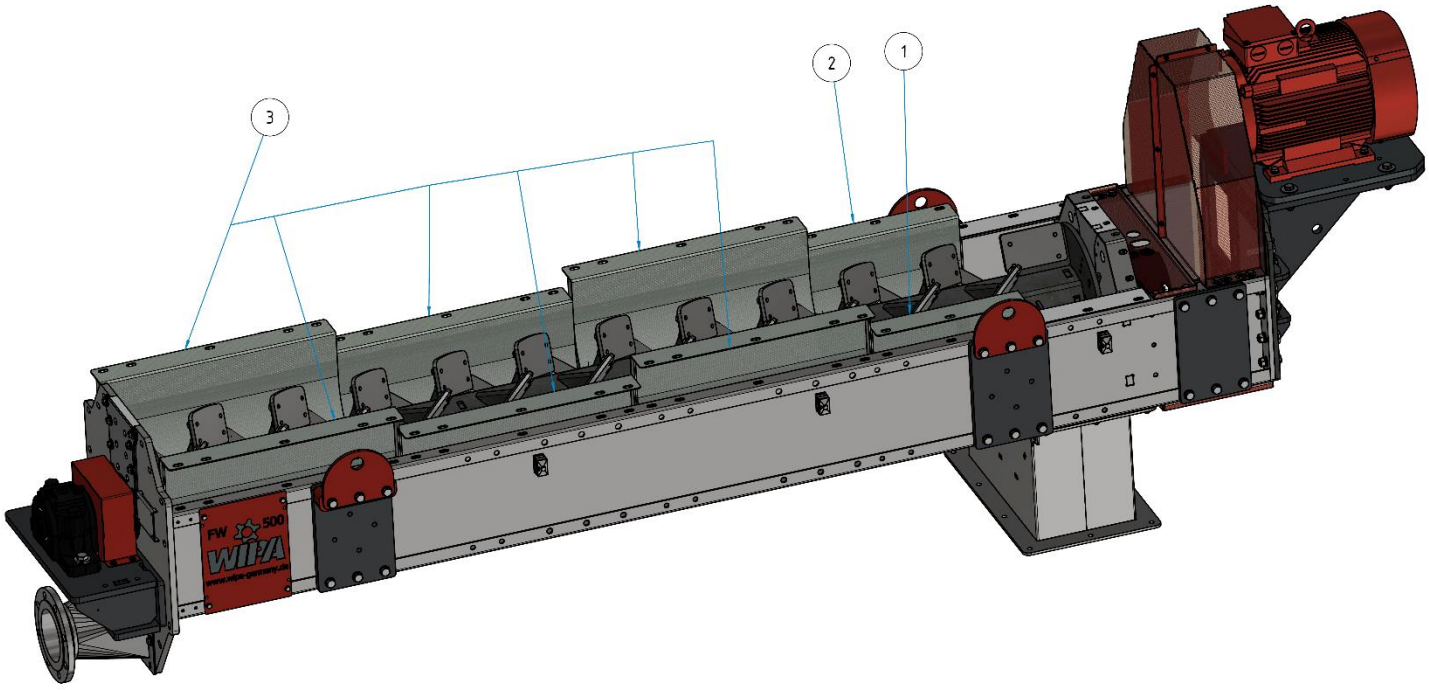
No.	Piece	Designation	Part number/ DIN	Material
7	79	Spring washer	DIN 127 - A 12	Steel, galv.
8	4	Washer	DIN 125 - A 13	Steel, galv.
9	2	Hexagon head screw	DIN 933 - M12 x 30	Steel, galv.
10	6	Hexagon head screw	DIN 933 – M12 x 50	Steel, galv.
11	1	Cover	04-02-03-03-03_SBG	1.4301

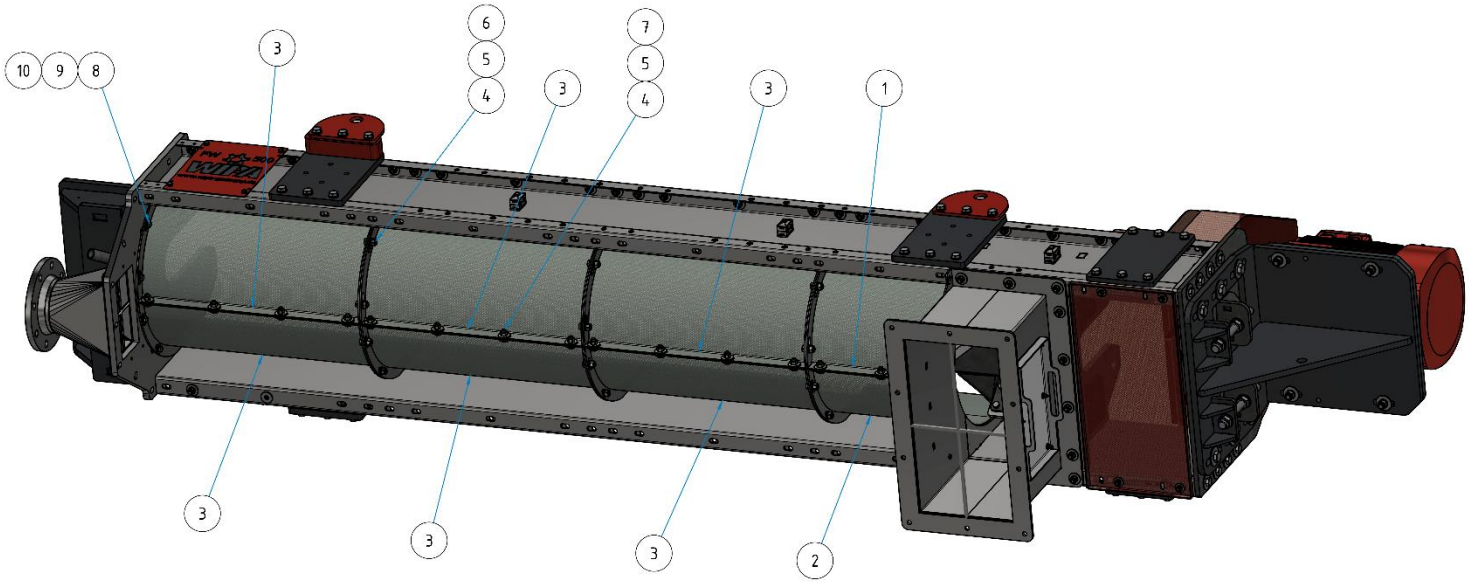
8.1.2 Disassembly cover bottom FW 500



No.	Piece	Designation	Part number/ DIN	Material
1	3	Cover	04-02-03-03-07_SBG	1.4301
2	1	Cover	04-02-03-03-08_SBG	1.4301
3	6	Inspection flap, large		1.4301
4	80	Hexagon head screw	DIN 933 - M12 x 35	Steel, galv.
5	172	Washer	DIN 9021 - 13	Steel, galv.
6	87	Hexagon nut	DIN 934 - M12	Steel, galv.
7	87	Spring washer	DIN 127 - A 12	Steel, galv.
8	11	Washer	DIN 125 – A13	Steel, galv.
9	5	Truss-head screw	DIN 603 – M12 x 30	VA
10	5	Hexagon nut	DIN 985 – M12	Steel, galv.
11	7	Hexagon head screw	DIN 933 – M12 x 50	Steel, galv.
12	2	Small inspection flap		1.4301

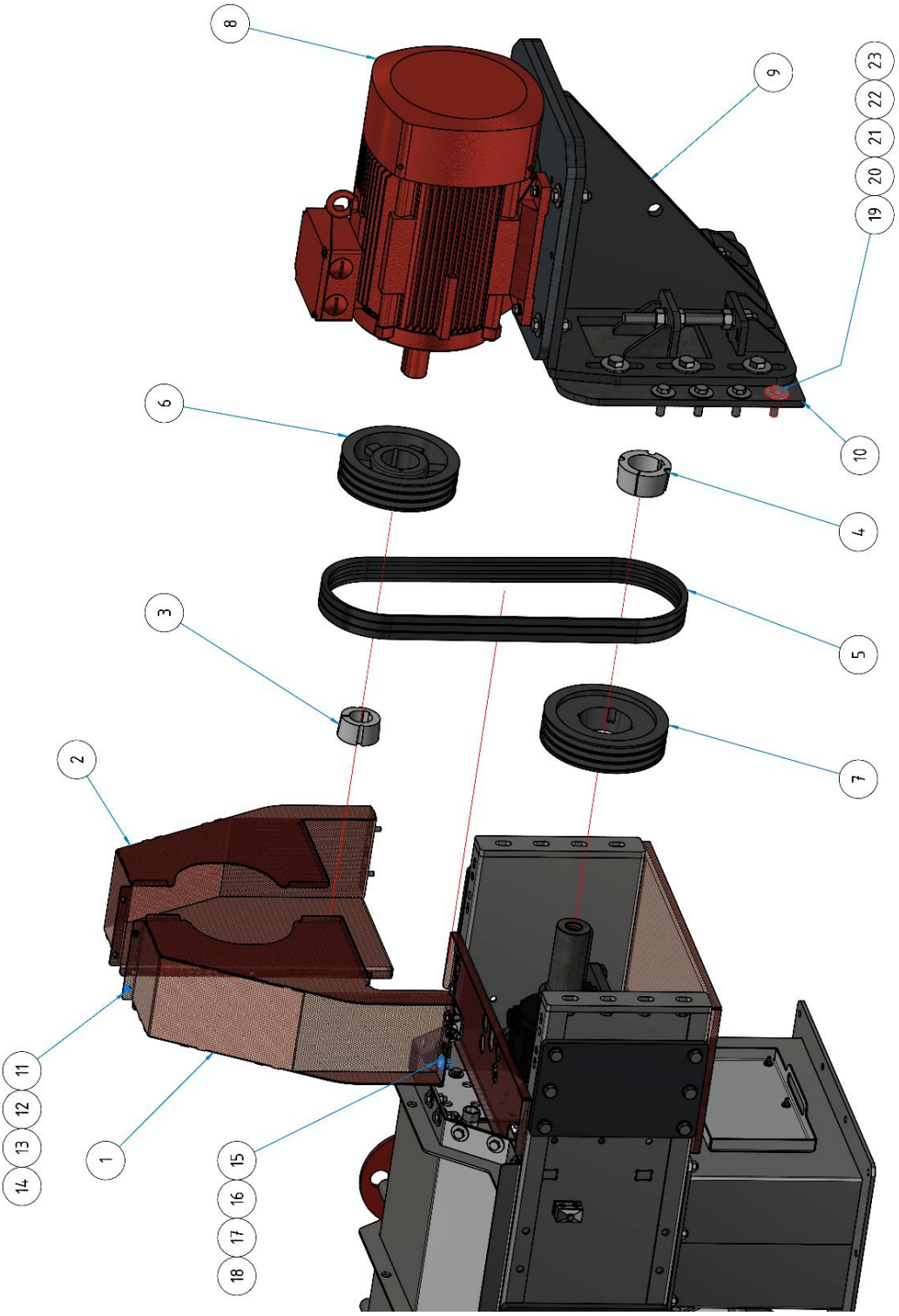
8.1.3 Dismantling screen basket FW 500





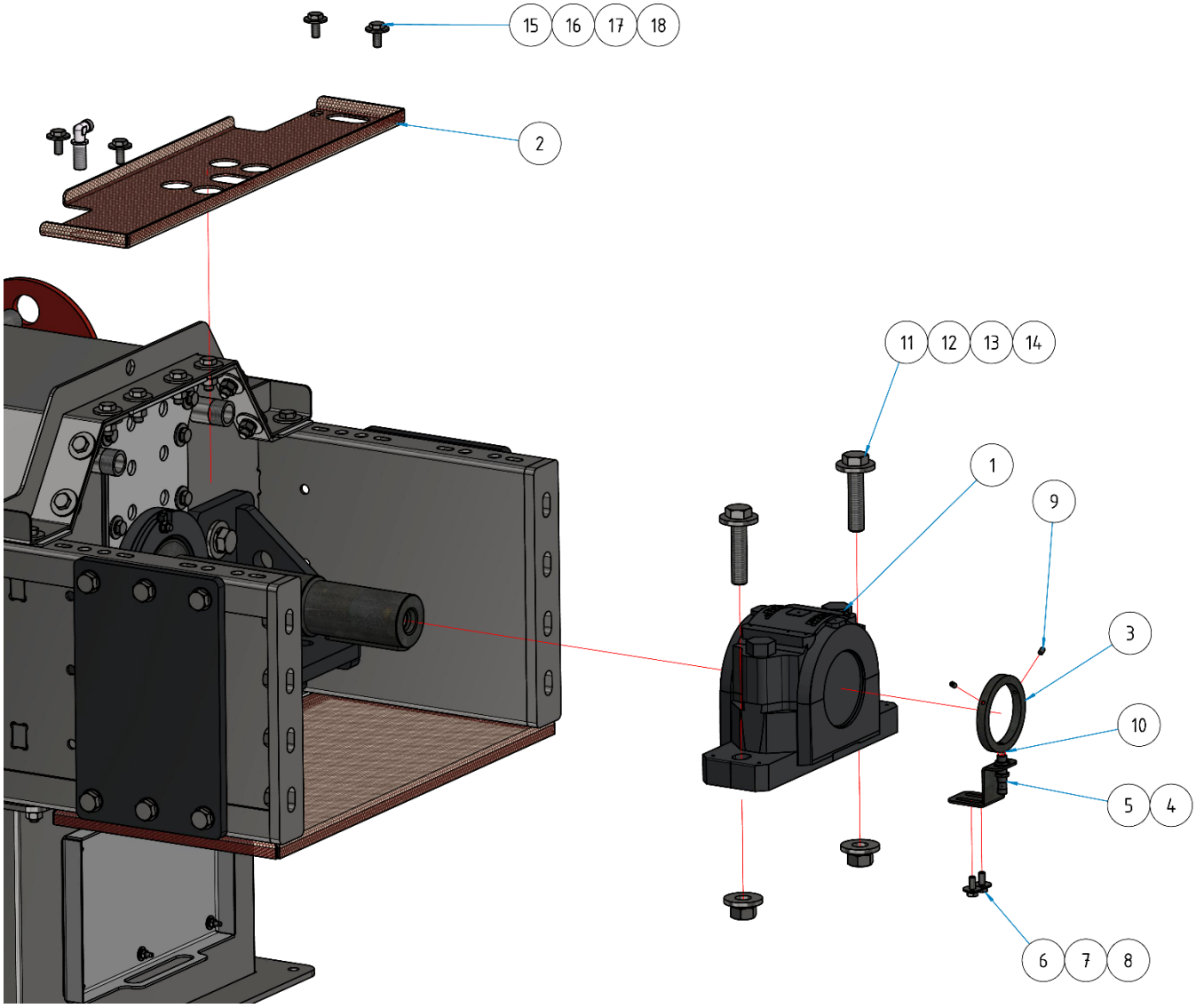
No.	Piece	Designation	Part number/ DIN	Material
1	1	Screen basket side 1 support	04-02-03-04-02_SBG	1.4301
2	1	Screen basket side 2 support	04-02-03-04-03_SBG	1.4301
3	6	Sieve	04-02-03-04-01_SBG	1.4301
4	27	Hexagon head screw	DIN 933 - M12 x 30	VA
5	27	Hexagon nut	DIN 980 - M12	VA
6	24	Washer	DIN 125 - A 13	VA
7	30	Washer	DIN 9021 - A 13	VA
8	4	Hexagon head screw	DIN 933 - M10 x 25	VA
9	4	Spring washer	DIN 127 - A 10	VA
10	4	Washer	DIN 9021 - 10,5	VA

8.1.4 Dismantling the FW 500 V-belt pulley



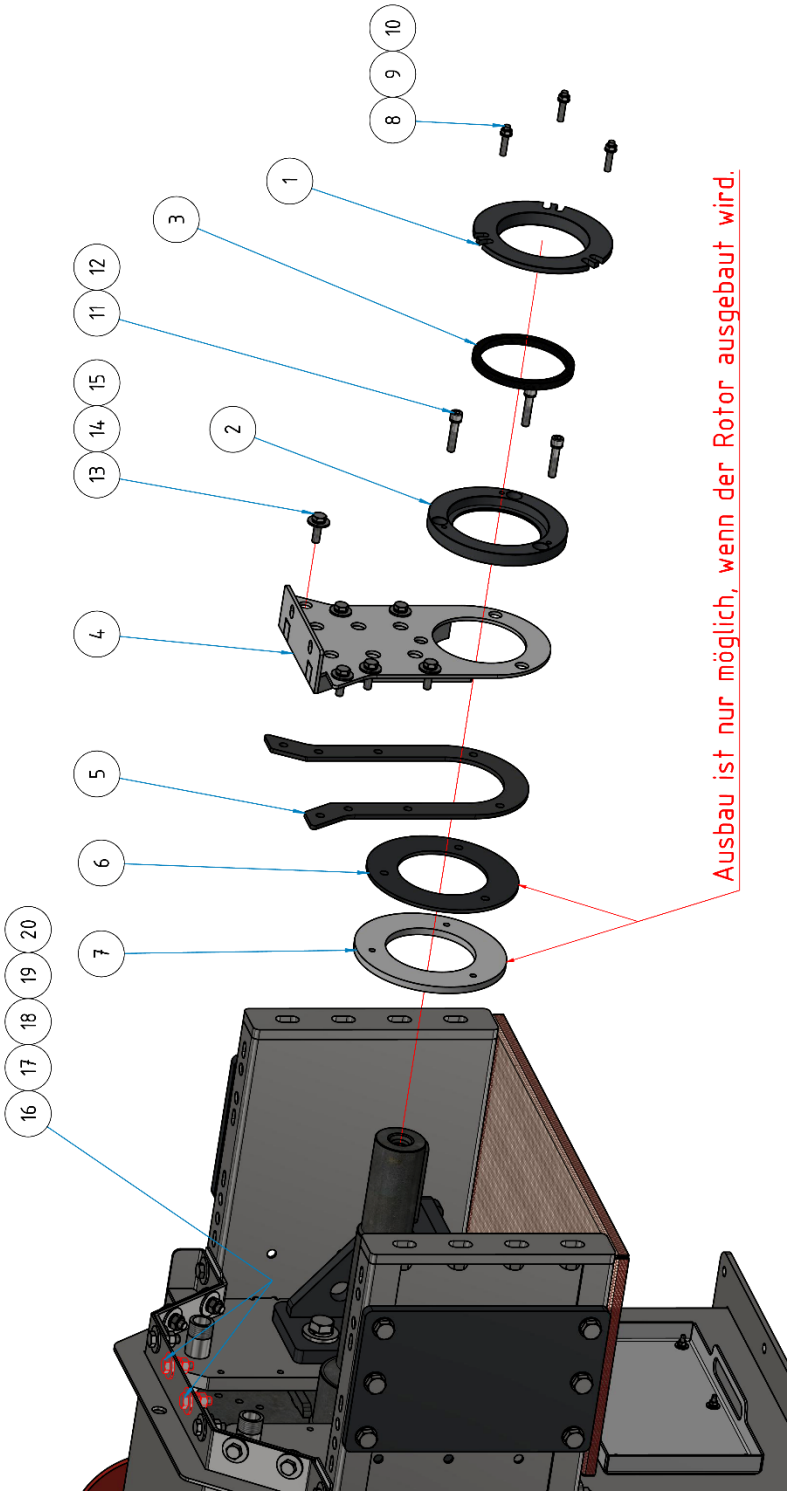
No.	Piece	Designation	Part number/ DIN	Material
1	1	Cover left	04-02-03-11-03_SBG	S235JR
2	1	Cover right	04-02-03-11-02_SBG	S235JR
3	1	Taper clamping bush		
4	1	Taper bush		
5	3	V-belt		
6	1	V-grooved pulley for taper bushes		
7	1	V-grooved pulley for taper bushes		
8	1	Motor	22kW	
9	1	Motor mount	04-02-03-11-01_SBG	S235JR
10	1	Motor adjustment plate	04-02-03-02-08_SBG	S235JR
11	5	Hexagon head screw	DIN 933 – M6x20	Steel, galv.
12	10	Washer	DIN 125 – A6,4	Steel, galv.
13	5	Spring washer	DIN 127 – A6	Steel, galv.
14	5	Hexagon nut	DIN 934 – M6	Steel, galv.
15	4	Hexagon head screw	DIN 933 – M10 x 25	Steel, galv.
16	8	Washer	DIN 9021 – A10,5	Steel, galv.
17	4	Spring washer	DIN 127 – A10	Steel, galv.
18	4	Hexagon nut	DIN 934 – M 10	Steel, galv.
19	8	Hexagon head screw	DIN 933 – M 16 x 55	Steel, galv.
20	8	Washer	DIN 125 – A17	Steel, galv.
21	8	Washer	DIN 9021 – A17	Steel, galv.
22	8	Spring washer	DIN 127 – A16	Steel, galv.
23	8	Hexagon nut	DIN 934 – M 16	Steel, galv.

8.1.5 Disassembly bearing unit drive side FW 500



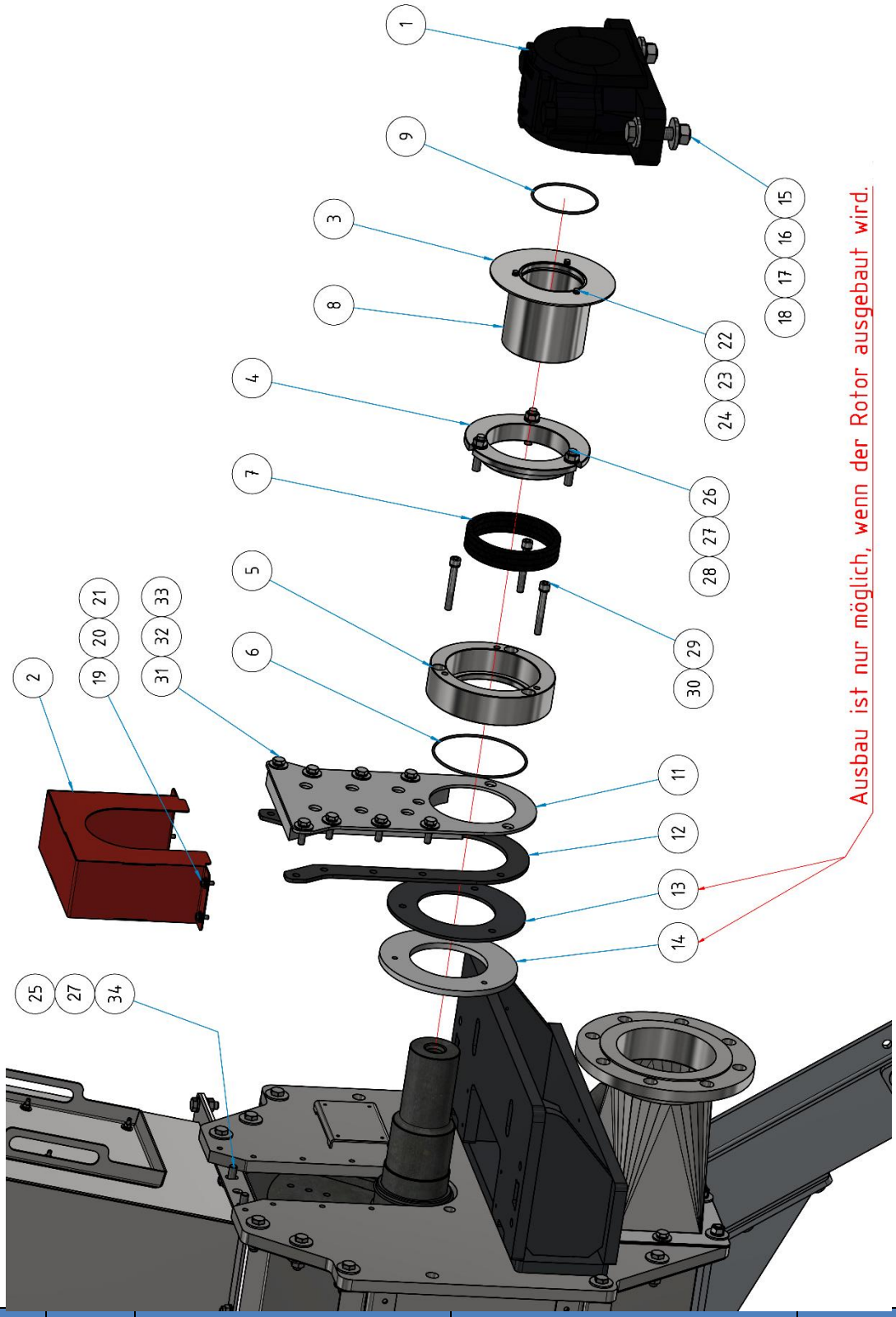
No.	Piece	Designation	Part number/ DIN	Material
1	1	Bearing	1x plummer block housing; 1x spherical roller bearing; 2x double lip seal; 1x adapter sleeve; 2x fixed rings	
2	1	Cover	04-02-03-11-029_KT	S235JR
3	1	Clamping bush	00-1093_DT	S235JR
4	1	Strap Sensor	00-1094_KT	S235JR
5	1	IFM rotation monitoring		
6	2	Hexagon head screw	DIN 933 – M8 x 20	Steel, galv.
7	2	Washer	DIN 9021 - A 8,4	Steel, galv.
8	2	Spring washer	DIN 127 - A 8	Steel, galv.
9	2	Grub screw	DIN 916 – M6 x 10	Steel, galv.
10	1	Hexagon head screw	DIN 933 - M6 x 10	Steel, galv.
11	2	Hexagon head screw	DIN 933 - M20 x 90	Steel, galv.
12	4	Washer	DIN 6340 - 21	Steel, galv.
13	2	Spring washer	DIN 127 – A20	Steel, galv.
14	2	Hexagon nut	DIN 934 - M20	Steel, galv.
15	4	Hexagon head screw	DIN 933 – M10 x 25	Steel, galv.
16	8	Washer	DIN 9021 – A10,5	Steel, galv.
17	4	Spring washer	DIN 127 – A10	Steel, galv.
18	4	Hexagon nut	DIN 934 – M10	Steel, galv.

8.1.6 Disassembly packing unit drive side FW 800



No.	Piece	Designation	Part number/ DIN	Material
1	1	Pressure flange	04-01-12-112_DT	S235JR
2	1	Sealing flange-2	04-01-12-110_DT	S235JR
3	1	Cord seal 10x10		
4	1	Top cover	04-02-03-12-05_SBG	1.4301
5	1	Seal	04-02-03-12-038_WSS	PU
6	1	Gasket AØ - 210 mm	04-01-12-021_WSS	PU
7	1	Flange AØ - 210 mm	04-01-12-020_LT	1.4301
8	3	Threaded bolt	DIN 976-1 - M8 x 45 - A	Steel, galv.
9	3	Washer	DIN 125 – A8,4	Steel, galv.
10	3	Hexagon nut	DIN 934 - M8	Steel, galv.
11	3	Cylinder head screw	DIN 912 – M10 x 45	Steel, galv.
12	3	Spring washer	DIN 7980 – A10	Steel, galv.
13	6	Hexagon head screw	DIN 933 - M10 x 35	Steel, galv.
14	6	Washer	DIN 9021 – A10,5	Steel, galv.
15	6	Spring washer	DIN 127 – A10	Steel, galv.
16	2	Hexagon head screw	DIN 933 - M12 x 35	Steel, galv.
17	2	Washer	DIN 125 - A 13	Steel, galv.
18	2	Spring washer	DIN 127 - A 12	Steel, galv.
19	2	Washer	DIN 9021 - 13	Steel, galv.
20	2	Hexagon nut	DIN 934 - M12	Steel, galv.

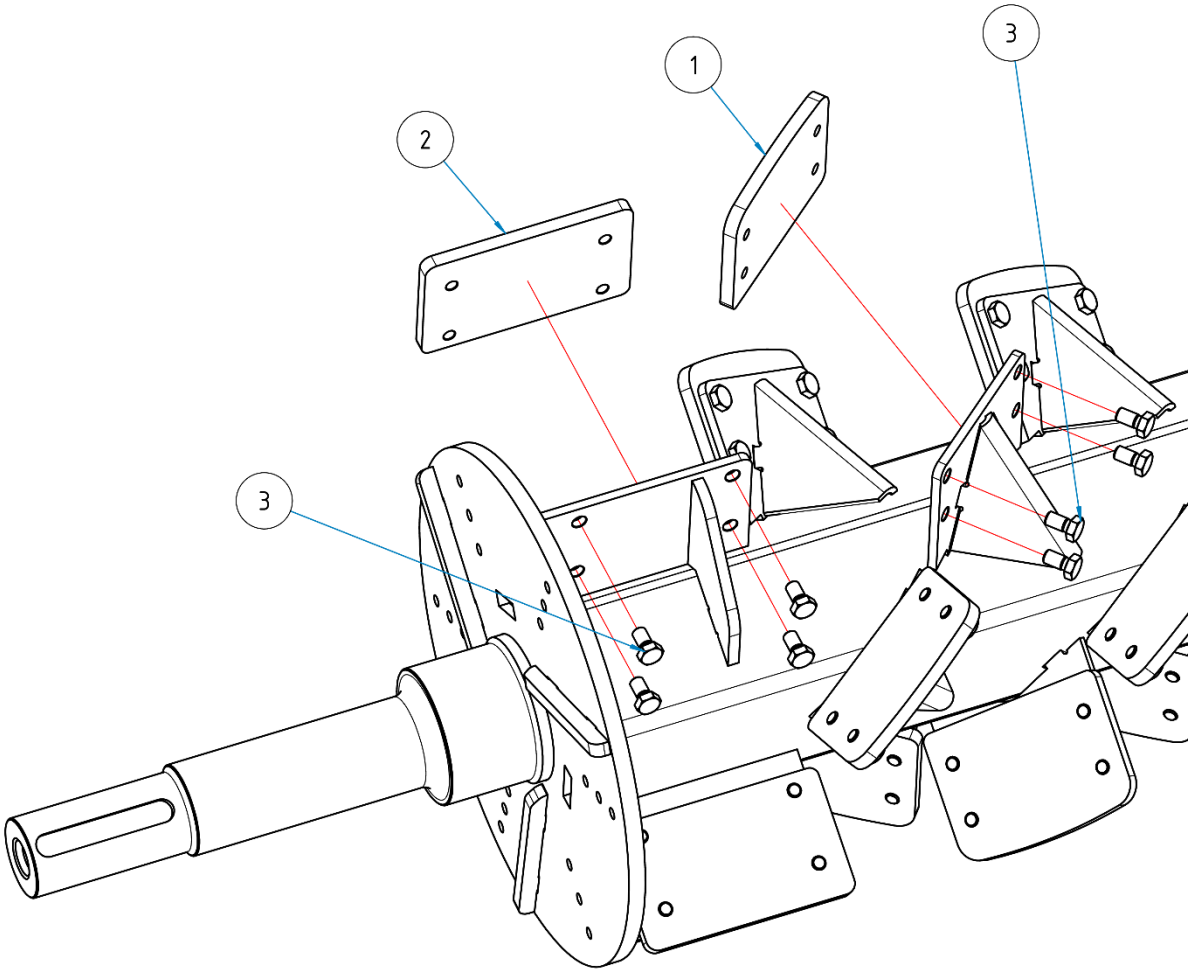
8.1.7 Dismantling bearing and packing unit FW500

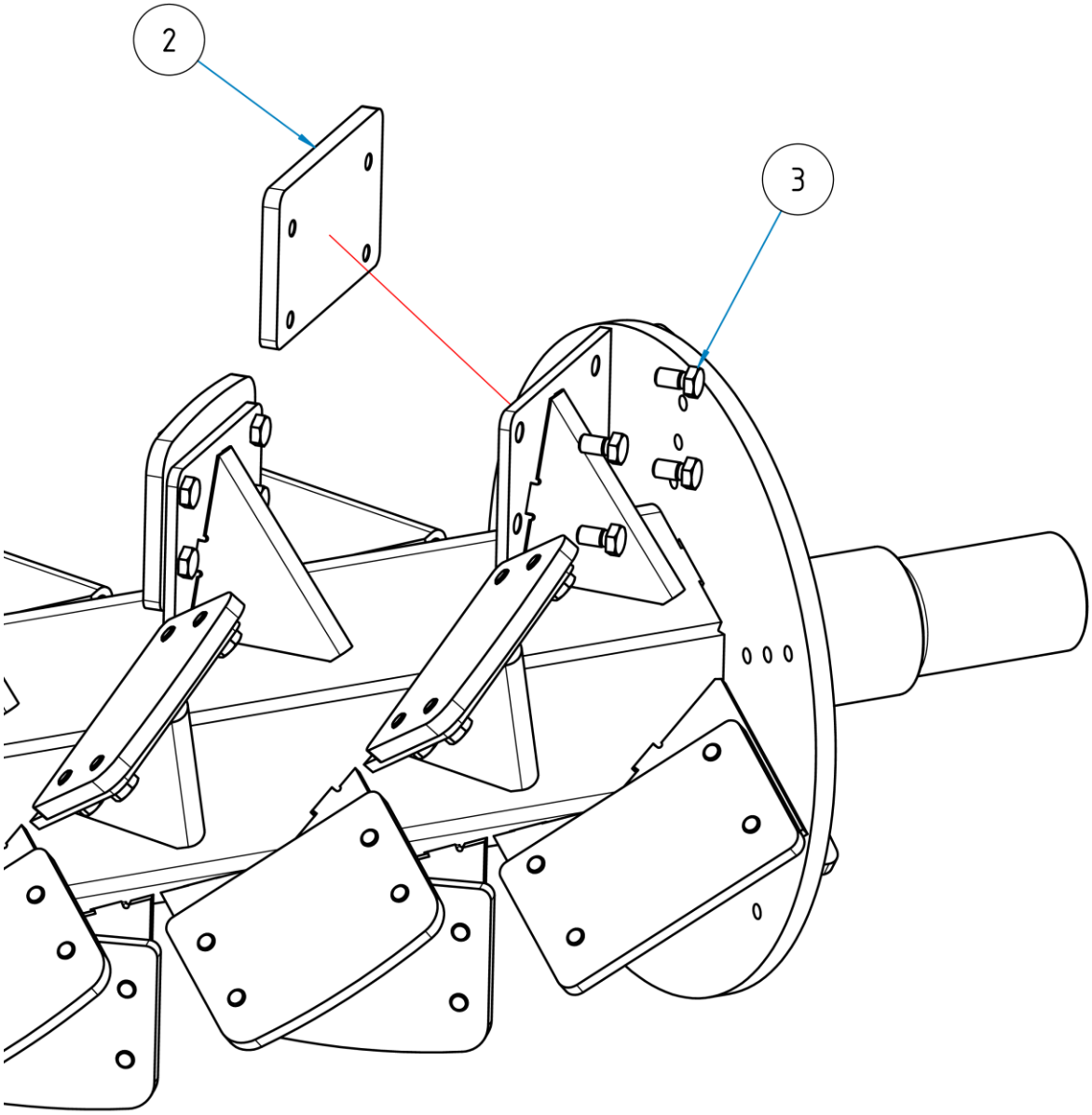


No.	Piece	Designation	Part number/ DIN	Material

1	1	Bearing	1x plummer block housing; 1x spherical roller bearing; 1x double lip seal; 1x adapter sleeve; 1x end cover	
2	1	Cover	04-01-10-12_SBG	S235JR
3	1	Washer	04-01-12-013_LT	1.4301
4	1	Cover	04-01-12-005_DT	1.4301
5	1	Bearing ring	04-01-12-002_DT	1.4301
6	1	O-ring	DIN 3771 - 145 x 3,55 - N - NBR 70	
7	3	Plastic cord seal 10x10		
8	1	Bushing	04-01-12-012_DT	1.4301
9	1	O-ring	DIN 3771 - 100 x 3,55 - N - NBR 70	
10	1	O-ring	DIN 3771 - 120 x 3,55 - N - NBR 70	
11	1	Cover bottom	04-02-03-12-04_SBG	1.4301
12	1	Seal	04-02-03-12-028_WSS	Rubber
13	1	Gasket AØ - 220 mm	04-01-12-111_WSS	Rubber
14	1	Flange AØ - 220 mm	04-01-12-010_LT	1.4301
15	2	Hexagon head screw	DIN 933 - M20 x 90	Steel, black
16	4	Washer	DIN 6340 - 21	Steel, galv.
17	2	Spring washer	DIN 127 - A 20	Steel, galv.
18	2	Hexagon nut	DIN 934 – M20	Steel, galv.
19	4	Hexagon head screw	DIN 933 - M6 x 16	Steel, galv.
20	4	Spring washer	DIN 127 - A 6	Steel, galv.
21	4	Washer	DIN 9021 - 6,4	Steel, galv.
22	3	Hexagon head screw	DIN 933 - M5 x 12	Steel, galv.
23	3	Spring washer	DIN 127 - A 5	Steel, galv.
24	3	Washer	DIN 125 - A 5,3	Steel, galv.
25	2	Spring washer	DIN 127 – A12	Steel, galv.
26	3	Threaded rod	DIN 976-1 - M12 x 60 - A	Steel, galv.
27	5	Washer	DIN 125 – A13	Steel, galv.
28	3	Hexagon nut	DIN 934 – M12	Steel, galv.
29	3	Cylinder head screw	DIN 912 – M10 x 80	Steel, galv.
30	3	Spring washer	DIN 7980 – A10	Steel, galv.
31	8	Hexagon head screw	DIN 933 – M10 x 35	Steel, galv.
32	8	Washer	DIN 9021 – A10,5	Steel, galv.
33	8	Spring washer	DIN 127 – A10	Steel, galv.
34	2	Hexagon head screw	DIN 933 – M12 x 30	Steel, galv.

8.1.8 Disassembly of wear plates rotor with disc FW 500

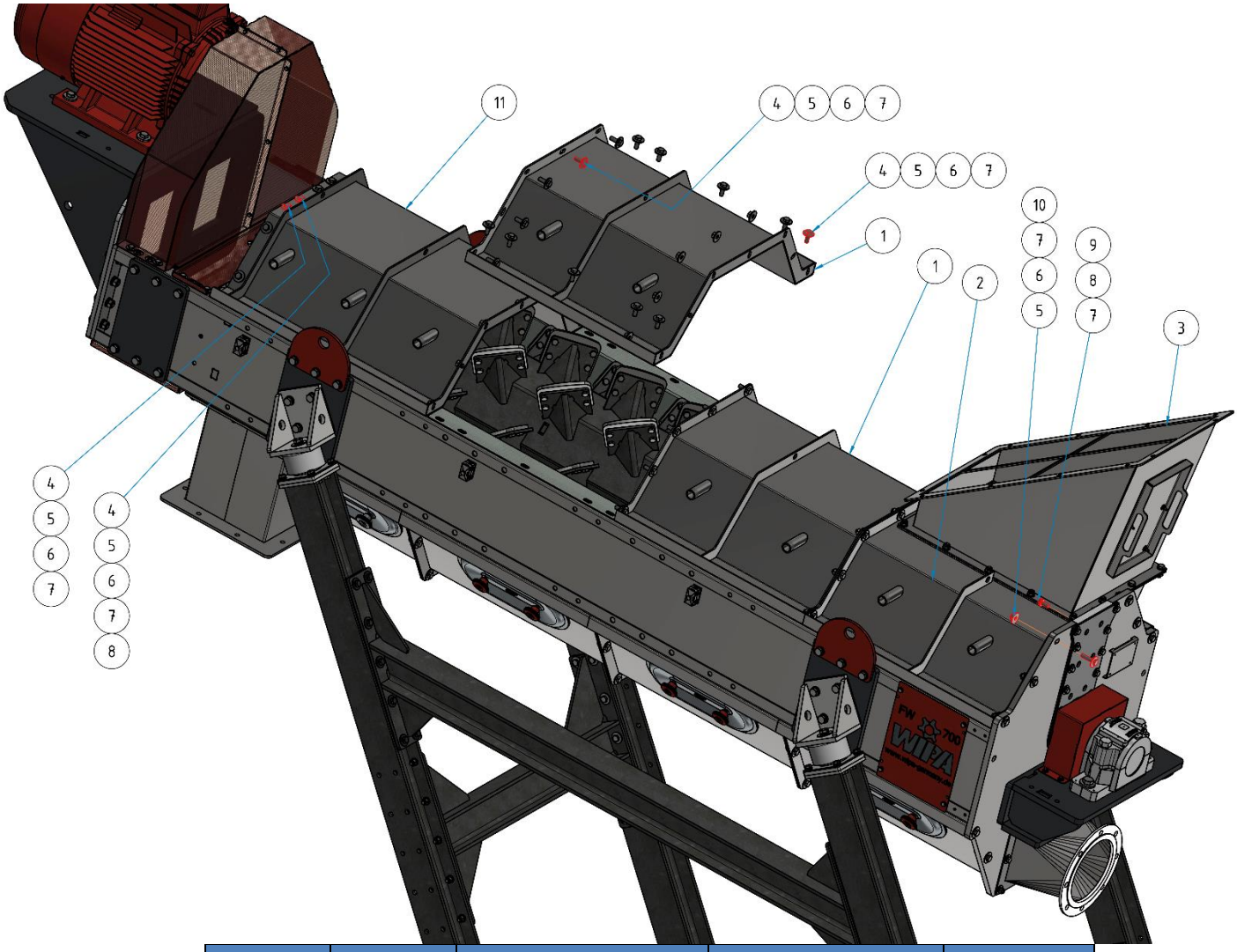




No.	Piece	Designation	Part number/ DIN
1	60	Wear paddle	04-01-06-004_LT
2	6	Wear paddle	04-01-06-003_LT
3	264	Hexagon head screw	DIN 933 - M12 x 22
4	60	Wear paddle	04-01-06-004_LT

8.2 Parts list with spare parts recommendation/identification FW 700

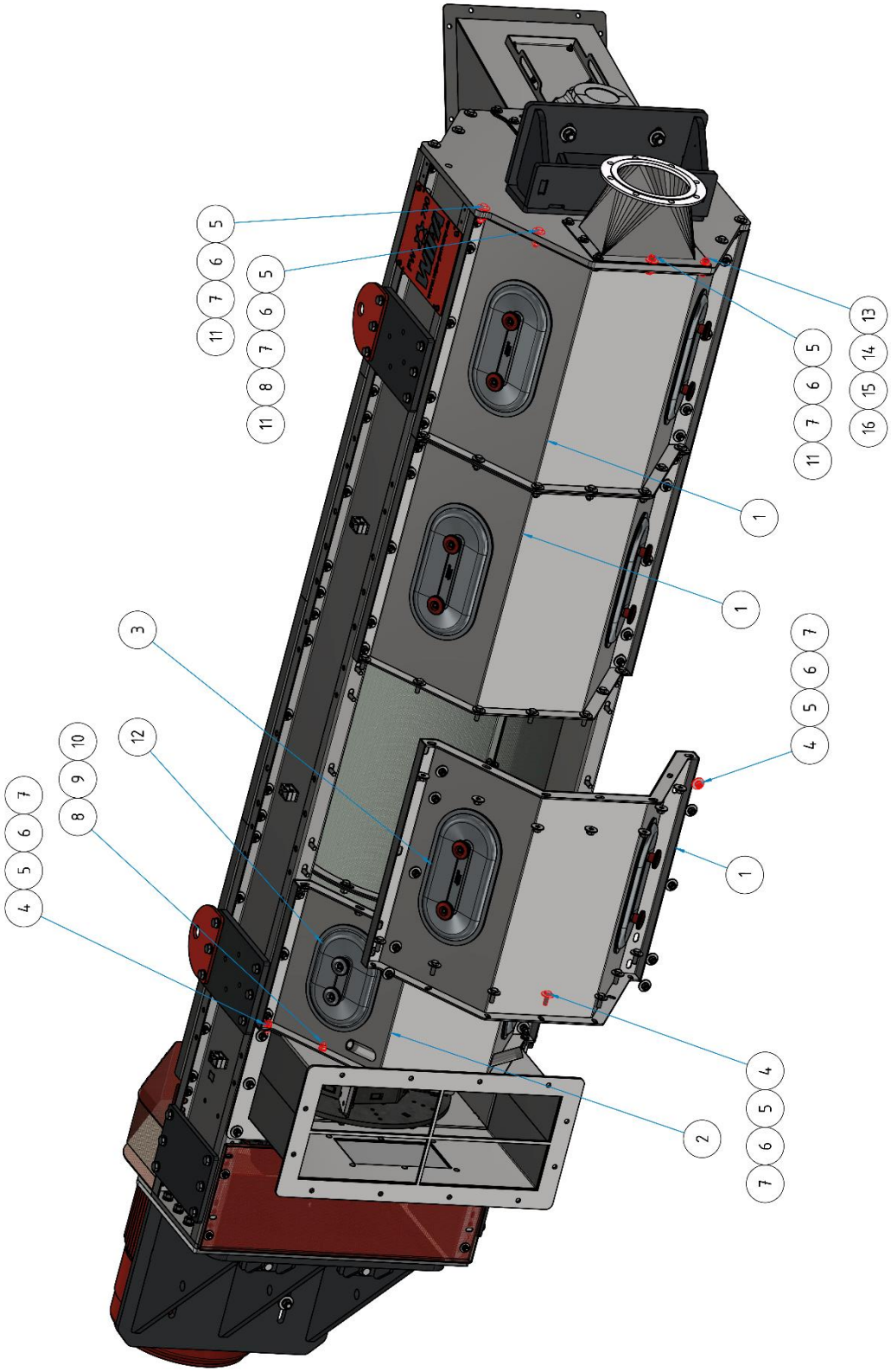
8.2.1 Disassembly cover top FW 700



No.	Piece	Designation	Part number/ DIN	Material
1	2	Cover	04-04-01-03-04_SBG	1.4301
2	1	Cover	04-04-01-03-06_SBG	1.4301
3	1	Filling funnel	04-04-01-03-02_SBG	1.4301
4	71	Hexagon head screw	DIN 933 - M12 x 35	1.4301
5	154	Washer	DIN 9021 - 13	Steel, galv.
6	77	Hexagon nut	DIN 934 - M12	Steel, galv.

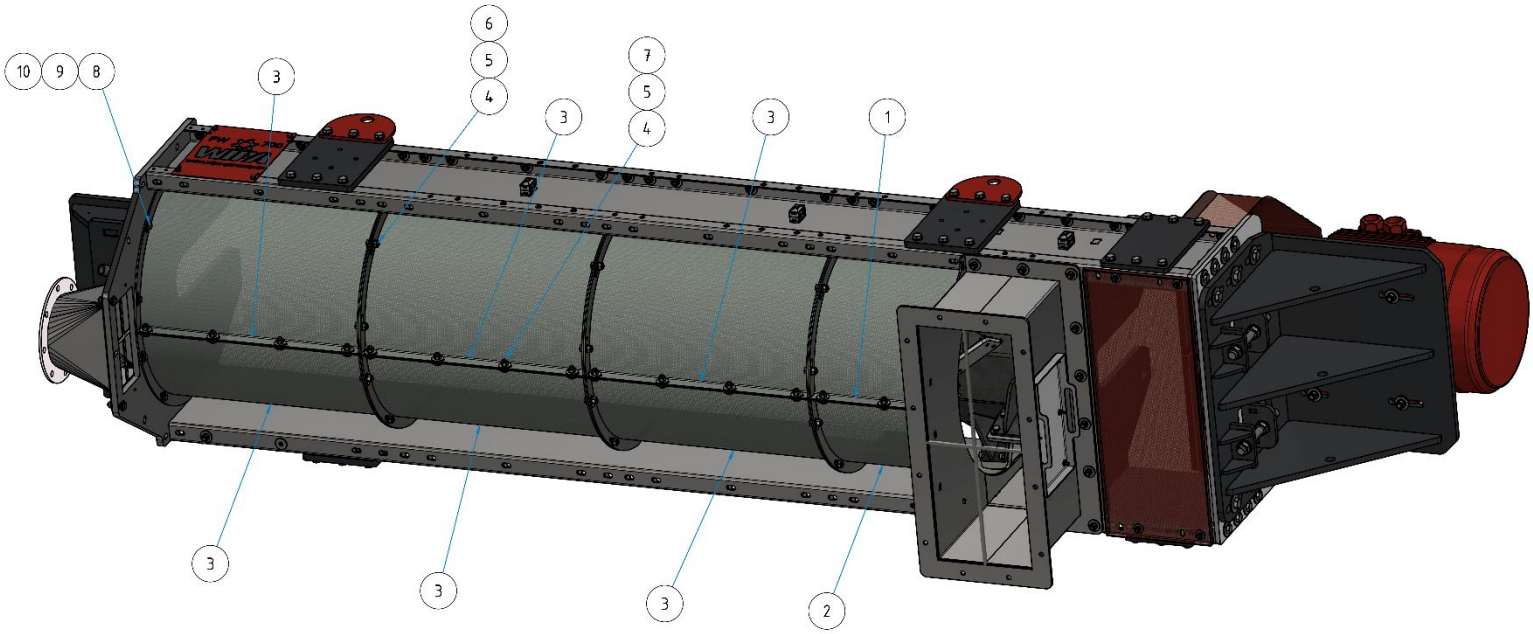
No.	Piece	Designation	Part number/ DIN	Material
7	79	Spring washer	DIN 127 - A 12	Steel, galv.
8	4	Washer	DIN 125 - A 13	Steel, galv.
9	2	Hexagon head screw	DIN 933 - M12 x 30	Steel, galv.
10	6	Hexagon head screw	DIN 933 – M12 x 50	Steel, galv.
11	1	Cover	04-04-01-03-03_SBG	Steel, galv.

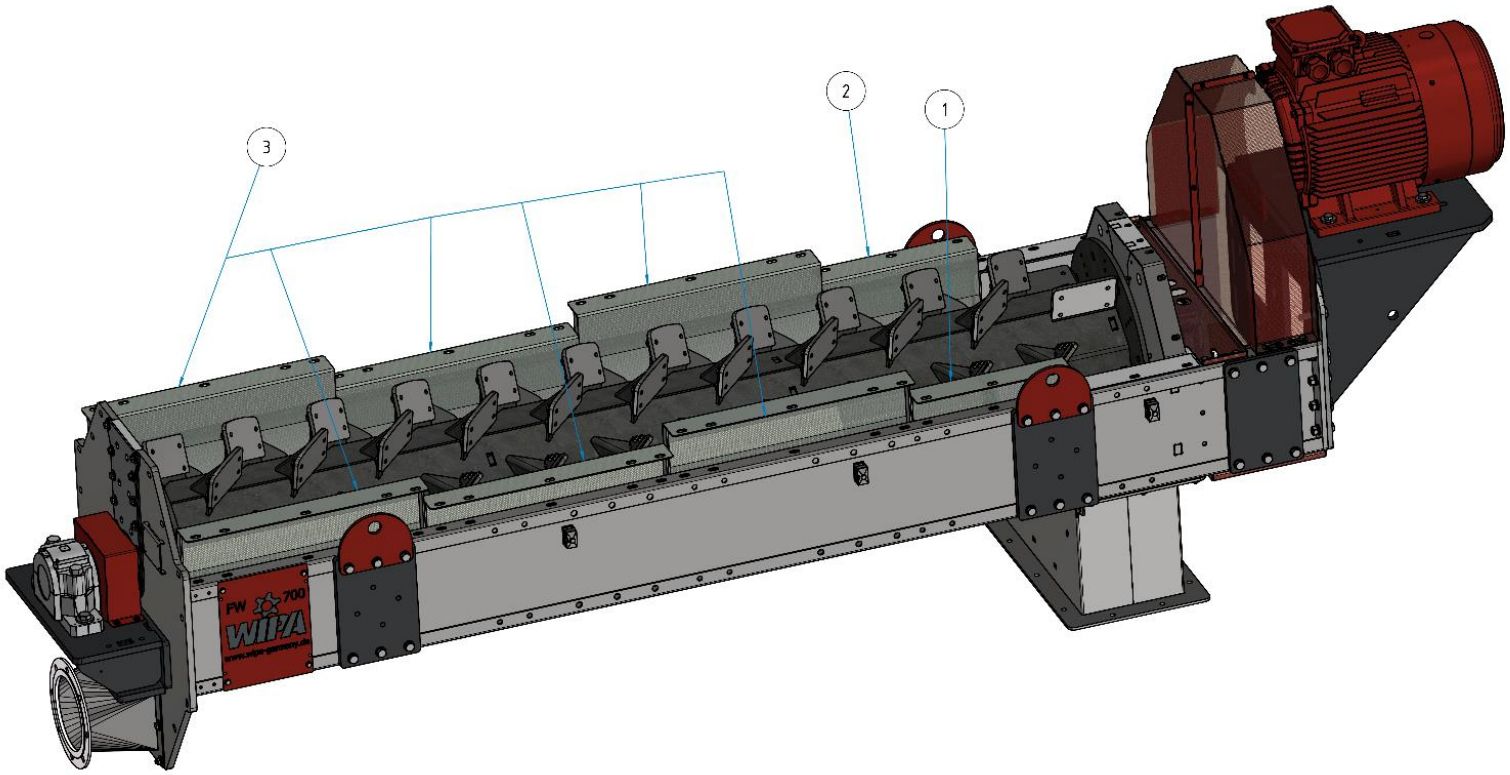
8.2.2 Disassembly cover bottom FW 700



No.	Piece	Designation	Part number/ DIN	Material
1	3	Cover	04-02-03-03-07_SBG	1.4301
2	1	Cover	04-02-03-03-08_SBG	1.4301
3	6	Inspection flap, large		1.4301
4	80	Hexagon head screw	DIN 933 - M12 x 35	Steel, galv.
5	168	Washer	DIN 9021 - 13	Steel, galv.
6	85	Hexagon nut	DIN 934 - M12	Steel, galv.
7	85	Spring washer	DIN 127 - A 12	Steel, galv.
8	11	Washer	DIN 125 – A13	Steel, galv.
9	5	Truss-head screw	DIN 603 – M12 x 30	VA
10	5	Hexagon nut	DIN 985 – M12	Steel, galv.
11	5	Hexagon head screw	DIN 933 – M12 x 50	Steel, galv.
12	2	Small inspection flap		1.4301
13	2	Hexagon head screw	DIN 933 - M10 x 50	Steel, galv.
14	2	Hexagon nut	DIN 934 - M10	Steel, galv.
15	2	Spring washer	DIN 127 - A 10	Steel, galv.
16	4	Washer	DIN 9021 - 10,5	Steel, galv.

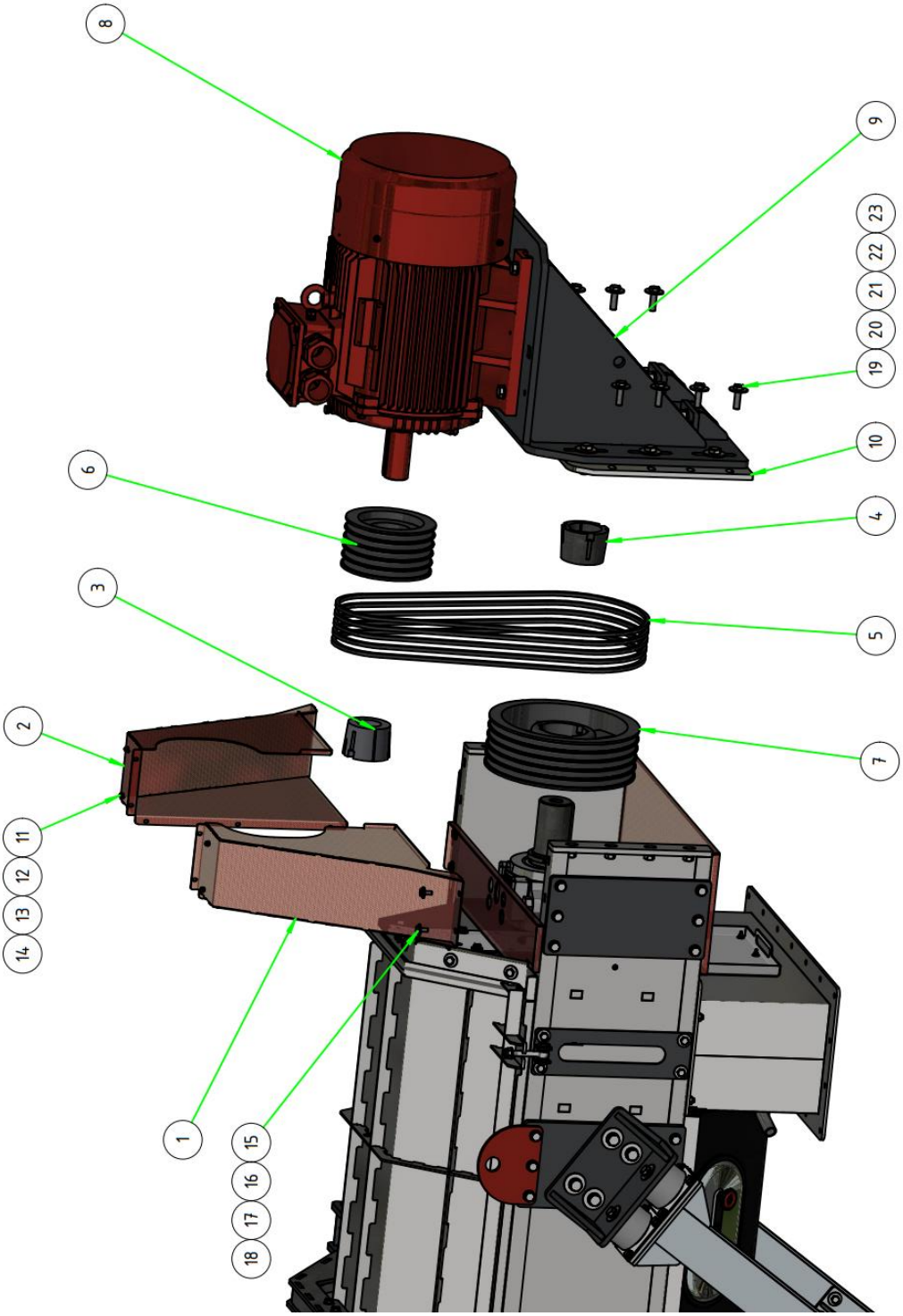
8.2.3 Dismantling screen basket FW 700





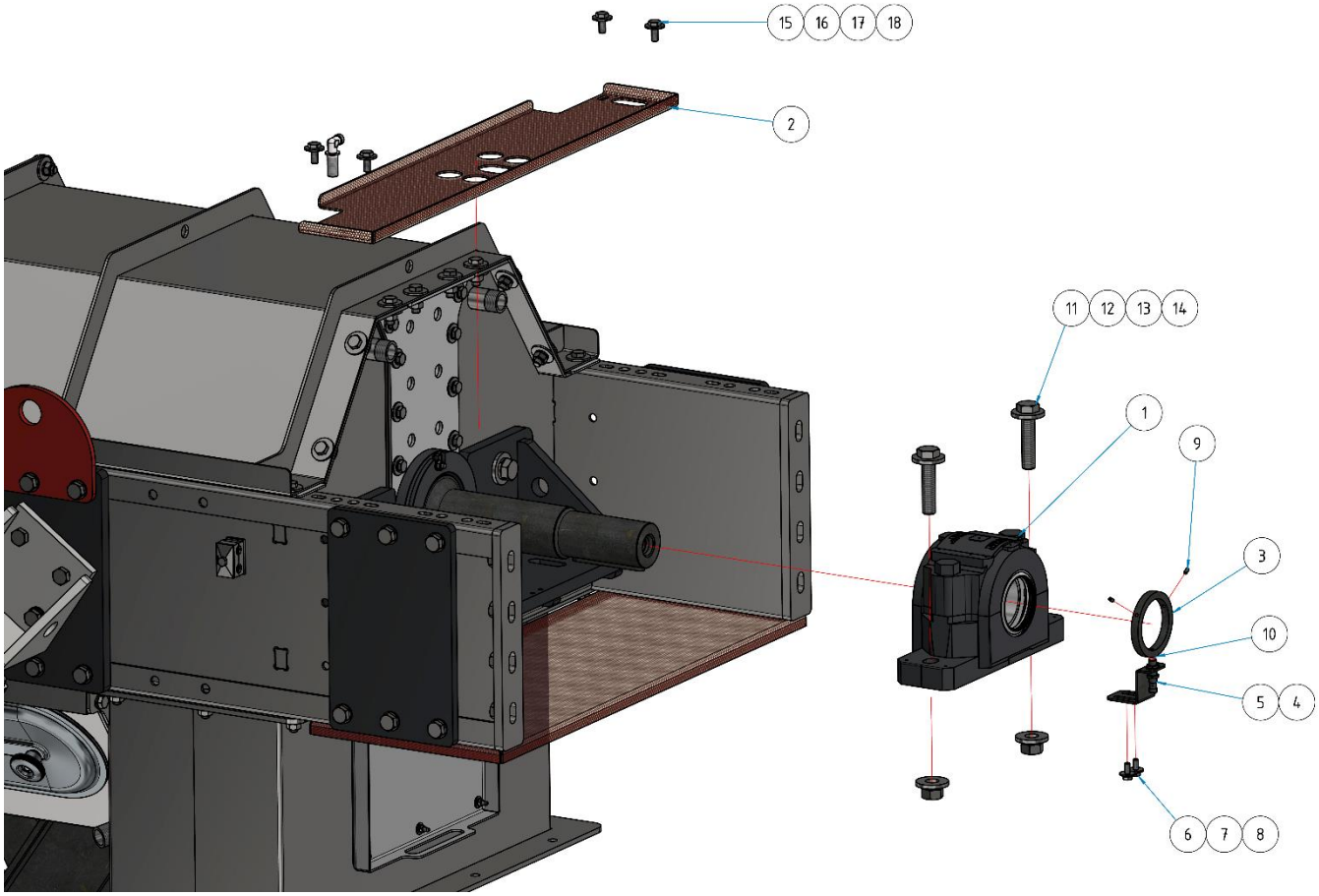
No.	Piece	Designation	Part number/ DIN	Material
1	1	Screen basket side 1 support	04-04-01-04-02_SBG	1.4301
2	1	Screen basket side 2 support	04-04-01-04-03_SBG	1.4301
3	6	Sieve	04-04-01-04-01_SBG	1.4301
4	27	Hexagon head screw	DIN 933 - M12 x 30	VA
5	27	Hexagon nut	DIN 980 - M12	VA
6	24	Washer	DIN 125 - A 13	VA
7	30	Washer	DIN 9021 - A 13	VA
8	4	Hexagon head screw	DIN 933 - M10 x 25	VA
9	4	Spring washer	DIN 127 - A 10	VA
10	4	Washer	DIN 9021 - 10,5	VA

8.2.4 Dismantling the FW 700 V-belt pulley



No.	Piece	Designation	Part number/ DIN	Material
1	1	Cover left	04-04-01-11-03_SBG	S235JR
2	1	Cover right	04-04-01-11-02_SBG	S235JR
3	1	Taper clamping bush		
4	1	Taper bush		
5	5	V-belt		
6	1	V-grooved pulley for taper bushes		
7	1	V-grooved pulley for taper bushes		
8	1	Motor 37kW		
9	1	Motor mount	04-04-01-11-01_SBG	S235JR
10	1	Motor adjustment plate	04-04-01-02-08_SBG	S235JR
11	5	Hexagon head screw	DIN 933 – M6x20	Steel, galv.
12	10	Washer	DIN 125 – A6,4	Steel, galv.
13	5	Spring washer	DIN 127 – A6	Steel, galv.
14	5	Hexagon nut	DIN 934 – M6	Steel, galv.
15	4	Hexagon head screw	DIN 933 – M10 x 25	Steel, galv.
16	8	Washer	DIN 9021 – A10,5	Steel, galv.
17	4	Spring washer	DIN 127 – A10	Steel, galv.
18	4	Hexagon nut	DIN 934 – M 10	Steel, galv.
19	8	Hexagon head screw	DIN 933 – M 16 x 55	Steel, galv.
20	8	Washer	DIN 125 – A17	Steel, galv.
21	8	Washer	DIN 9021 – A17	Steel, galv.
22	8	Spring washer	DIN 127 – A16	Steel, galv.
23	8	Hexagon nut	DIN 934 – M 16	Steel, galv.

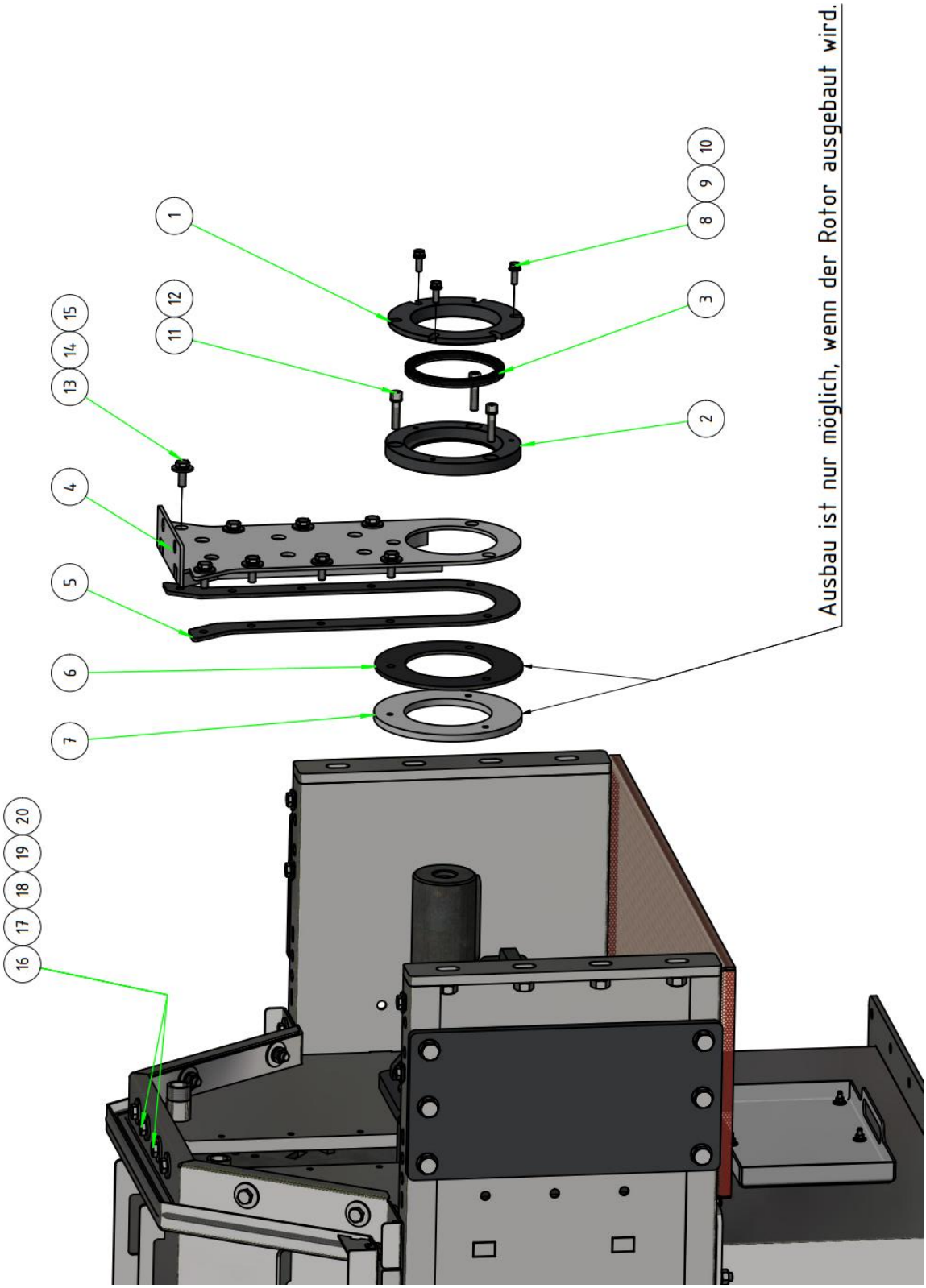
8.2.5 Disassembly bearing unit drive side FW 700



No.	Piece	Designation	Part number/ DIN	Material
1	1	Bearing	1x plummer block housing; 1x spherical roller bearing; 2x double lip seal; 1x adapter sleeve; 2x fixed rings	
2	1	Cover	04-04-01-11-029_KT	S235JR
3	1	Clamping bush	00-1093_DT	S235JR
4	1	Strap Sensor	00-1094_KT	S235JR
5	1	IFM rotation monitoring		
6	2	Hexagon head screw	DIN 933 – M8 x 20	Steel, galv.
7	2	Washer	DIN 9021 - A 8,4	Steel, galv.
8	2	Spring washer	DIN 127 - A 8	Steel, galv.
9	2	Grub screw	DIN 916 – M6 x 10	Steel, galv.
10	1	Hexagon head screw	DIN 933 - M6 x 10	Steel, galv.

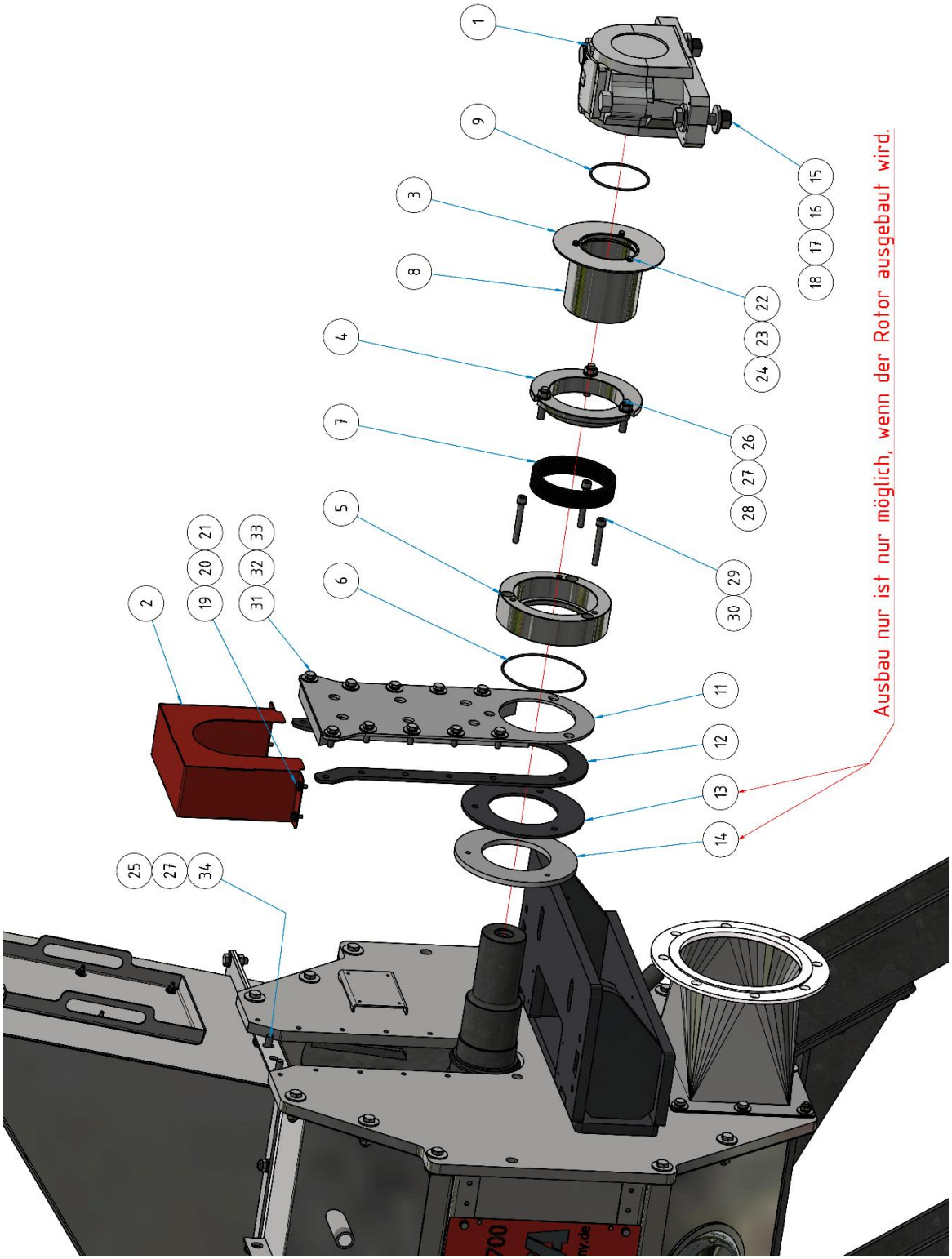
No.	Piece	Designation	Part number/ DIN	Material
11	2	Hexagon head screw	DIN 933 - M20 x 90	Steel, black
12	4	Washer	DIN 6340 - 21	Steel, galv.
13	2	Spring washer	DIN 127 – A20	Steel, galv.
14	2	Hexagon nut	DIN 934 - M20	Steel, galv.
15	4	Hexagon head screw	DIN 933 – M10 x 25	Steel, galv.
16	8	Washer	DIN 9021 – A10,5	Steel, galv.
17	4	Spring washer	DIN 127 – A10	Steel, galv.
18	4	Hexagon nut	DIN 934 – M10	Steel, galv.

8.2.6 Disassembly packing unit drive side FW 700



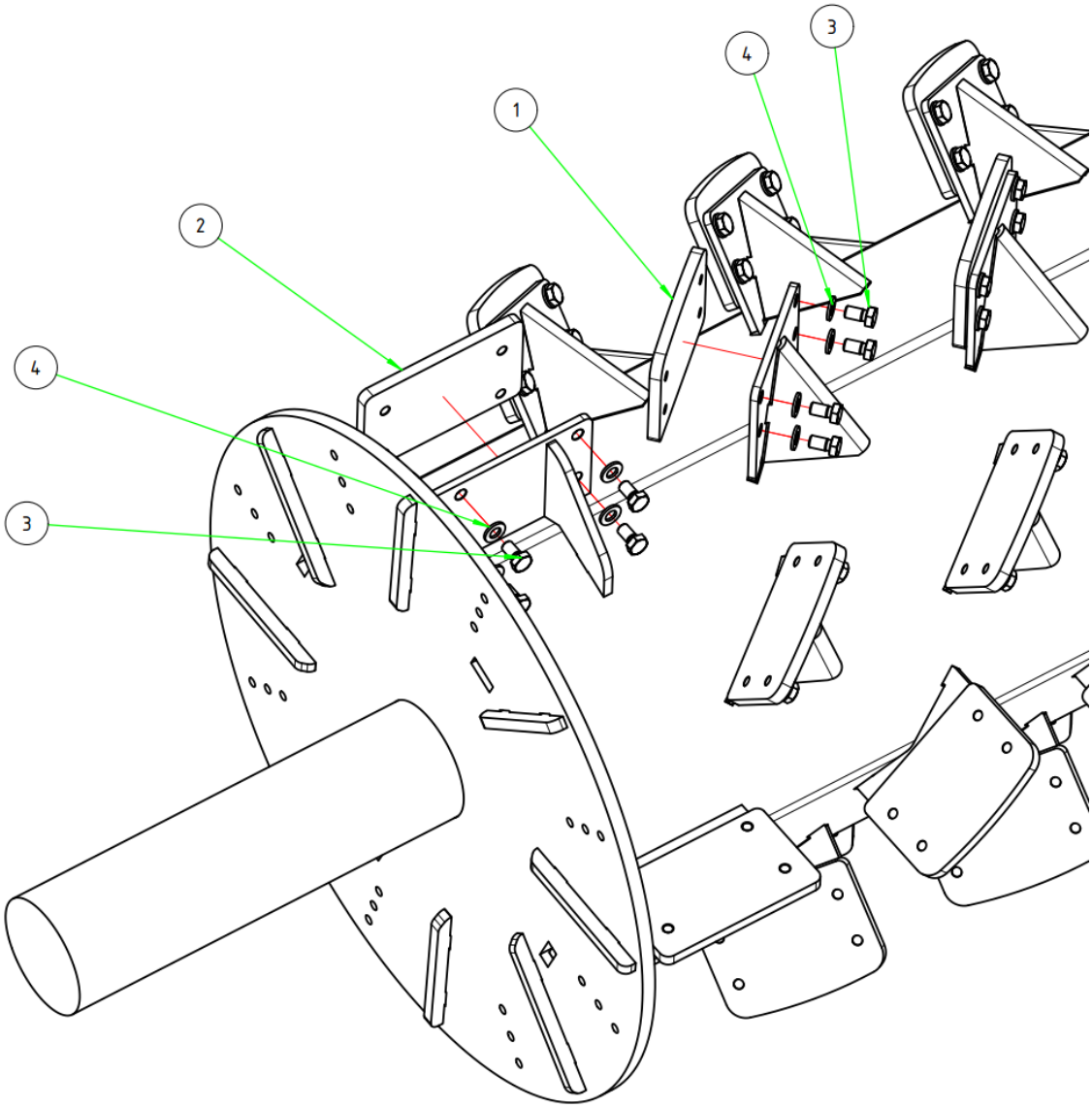
No.	Piece	Designation	Part number/ DIN	Material
1	1	Pressure flange	04-01-12-112_DT	S235JR
2	1	Sealing flange-2	04-01-12-110_DT	S235JR
3	1	Cord seal 10x10		
4	1	Top cover	04-04-01-12-05_SBG	1.4301
5	1	Seal	04-04-01-12-038_WSS	PU
6	1	Gasket AØ - 210 mm	04-01-12-021_WSS	PU
7	1	Flange AØ - 210 mm	04-01-12-020_LT	1.4301
8	3	Threaded bolt	DIN 976-1 - M8 x 45 - A	Steel, galv.
9	3	Washer	DIN 125 – A8,4	Steel, galv.
10	3	Hexagon nut	DIN 934 - M8	Steel, galv.
11	3	Cylinder head screw	DIN 912 – M10 x 45	Steel, galv.
12	3	Spring washer	DIN 7980 – A10	Steel, galv.
13	8	Hexagon head screw	DIN 933 - M10 x 35	Steel, galv.
14	8	Washer	DIN 9021 – A10,5	Steel, galv.
15	8	Spring washer	DIN 127 – A10	Steel, galv.
16	2	Hexagon head screw	DIN 933 - M12 x 35	Steel, galv.
17	2	Washer	DIN 125 - A 13	Steel, galv.
18	2	Spring washer	DIN 127 - A 12	Steel, galv.
19	2	Washer	DIN 9021 - 13	Steel, galv.
20	2	Hexagon nut	DIN 934 - M12	Steel, galv.

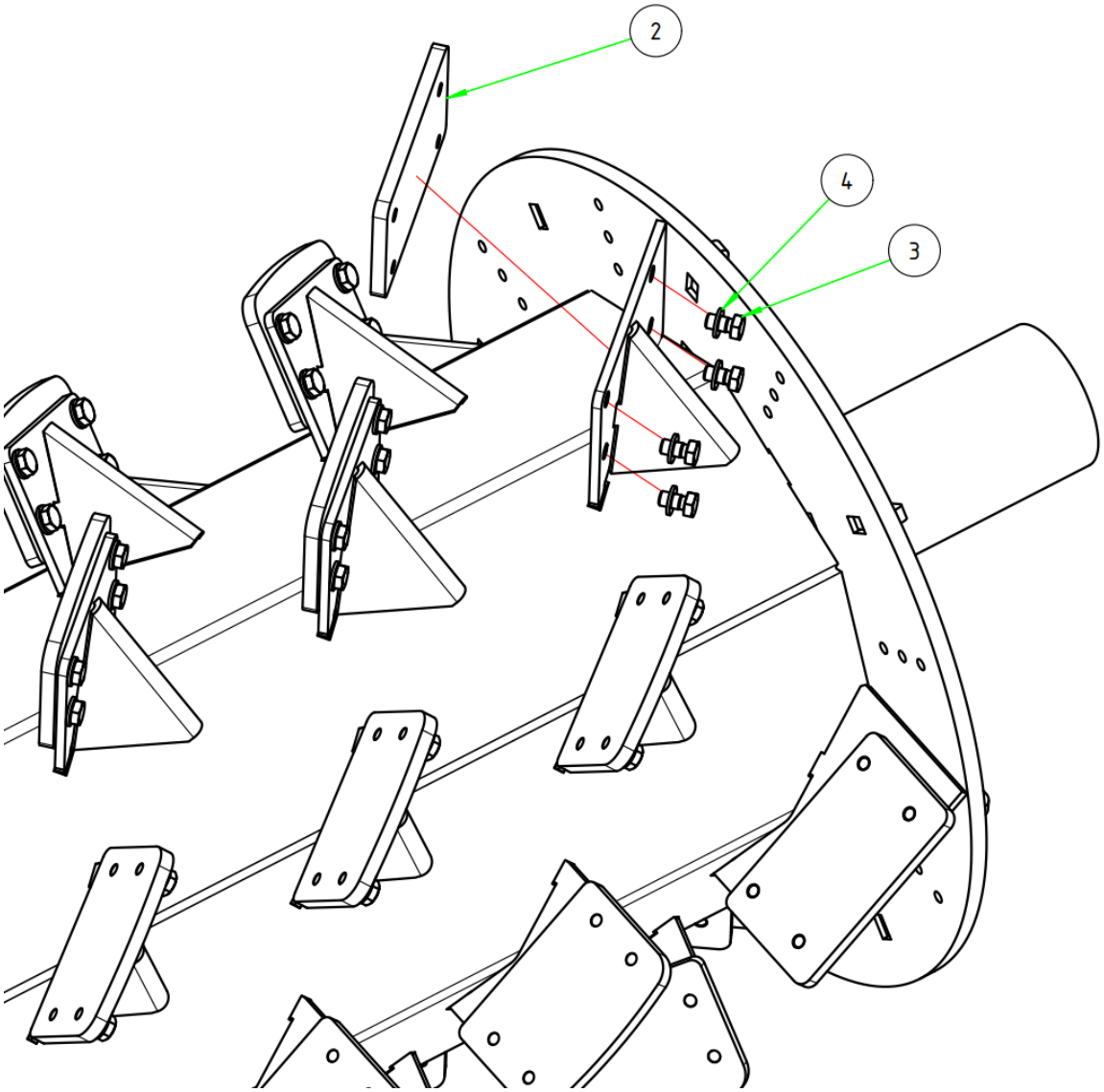
8.2.7 Dismantling bearing and packing unit FW700



No.	Piece	Designation	Part number/ DIN	Material
1	1	Bearing	1x plummer block housing; 1x spherical roller bearing; 1x double lip seal; 1x adapter sleeve; 1x end cover	
2	1	Cover	04-01-10-12_SBG	S235JR
3	1	Washer	04-01-12-013_LT	1.4301
4	1	Cover	04-01-12-005_DT	1.4301
5	1	Bearing ring	04-01-12-002_DT	1.4301
6	1	O-ring	DIN 3771 - 145 x 3,55 - N - NBR 70	
7	3	Plastic cord seal 10x10		
8	1	Bushing	04-01-12-012_DT	1.4301
9	1	O-ring	DIN 3771 - 100 x 3,55 - N - NBR 70	
10	1	O-ring	DIN 3771 - 120 x 3,55 - N - NBR 70	
11	1	Cover bottom	04-04-01-12-04_SBG	1.4301
12	1	Seal	04-04-01-12-028_WSS	Rubber
13	1	Gasket AØ - 220 mm	04-01-12-111_WSS	Rubber
14	1	Flange AØ - 220 mm	04-01-12-010_LT	1.4301
15	2	Hexagon head screw	DIN 933 - M20 x 90	Steel, black
16	4	Washer	DIN 6340 - 21	Steel, galv.
17	2	Spring washer	DIN 127 - A 20	Steel, galv.
18	2	Hexagon nut	DIN 934 – M20	Steel, galv.
19	4	Hexagon head screw	DIN 933 - M6 x 16	Steel, galv.
20	4	Spring washer	DIN 127 - A 6	Steel, galv.
21	4	Washer	DIN 9021 - 6,4	Steel, galv.
22	3	Hexagon head screw	DIN 933 - M5 x 12	Steel, galv.
23	3	Spring washer	DIN 127 - A 5	Steel, galv.
24	3	Washer	DIN 125 - A 5,3	Steel, galv.
25	2	Spring washer	DIN 127 – A12	Steel, galv.
26	3	Threaded rod	DIN 976-1 - M12 x 60 - A	Steel, galv.
27	5	Washer	DIN 125 – A13	Steel, galv.
28	3	Hexagon nut	DIN 934 – M12	Steel, galv.
29	3	Cylinder head screw	DIN 912 – M10 x 80	Steel, galv.
30	3	Spring washer	DIN 7980 – A10	Steel, galv.
31	10	Hexagon head screw	DIN 933 – M10 x 35	Steel, galv.
32	10	Washer	DIN 9021 – A10,5	Steel, galv.
33	10	Spring washer	DIN 127 – A10	Steel, galv.
34	2	Hexagon head screw	DIN 933 – M12 x 30	Steel, galv.

8.2.8 Dismantling wear plates rotor with washer FW 700

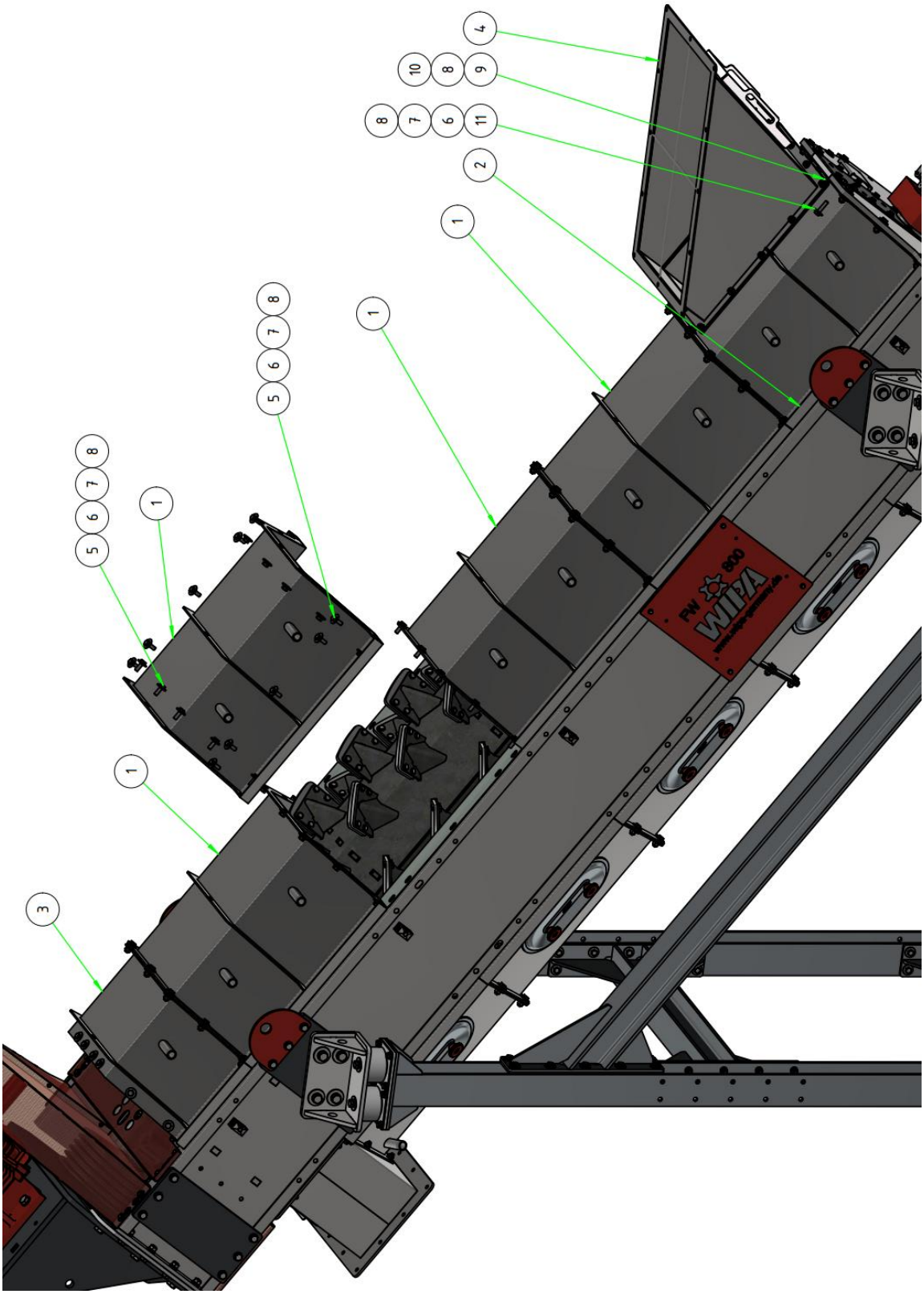




No.	Piece	Designation	Part number/ DIN
1	108	Wear paddle	04-01-06-004_LT
2	8	Wear paddle	04-01-06-003_LT
3	464	Hexagon head screw	DIN 933 - M12 x 25
4	464	Washer	DIN 125 – A13

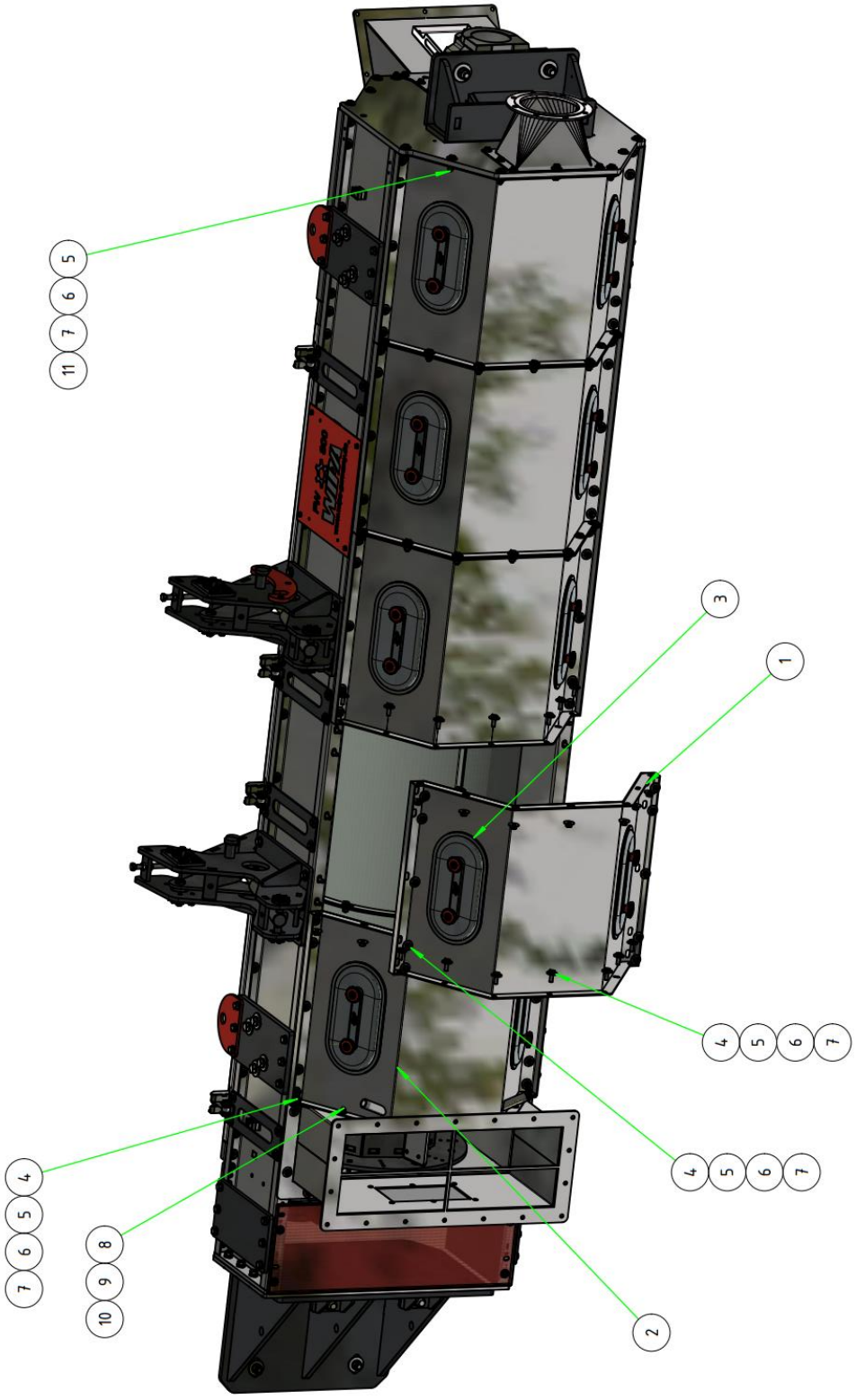
8.3 Parts list with spare parts recommendation/marking FW 800

8.3.1 Removal covers top FW 800



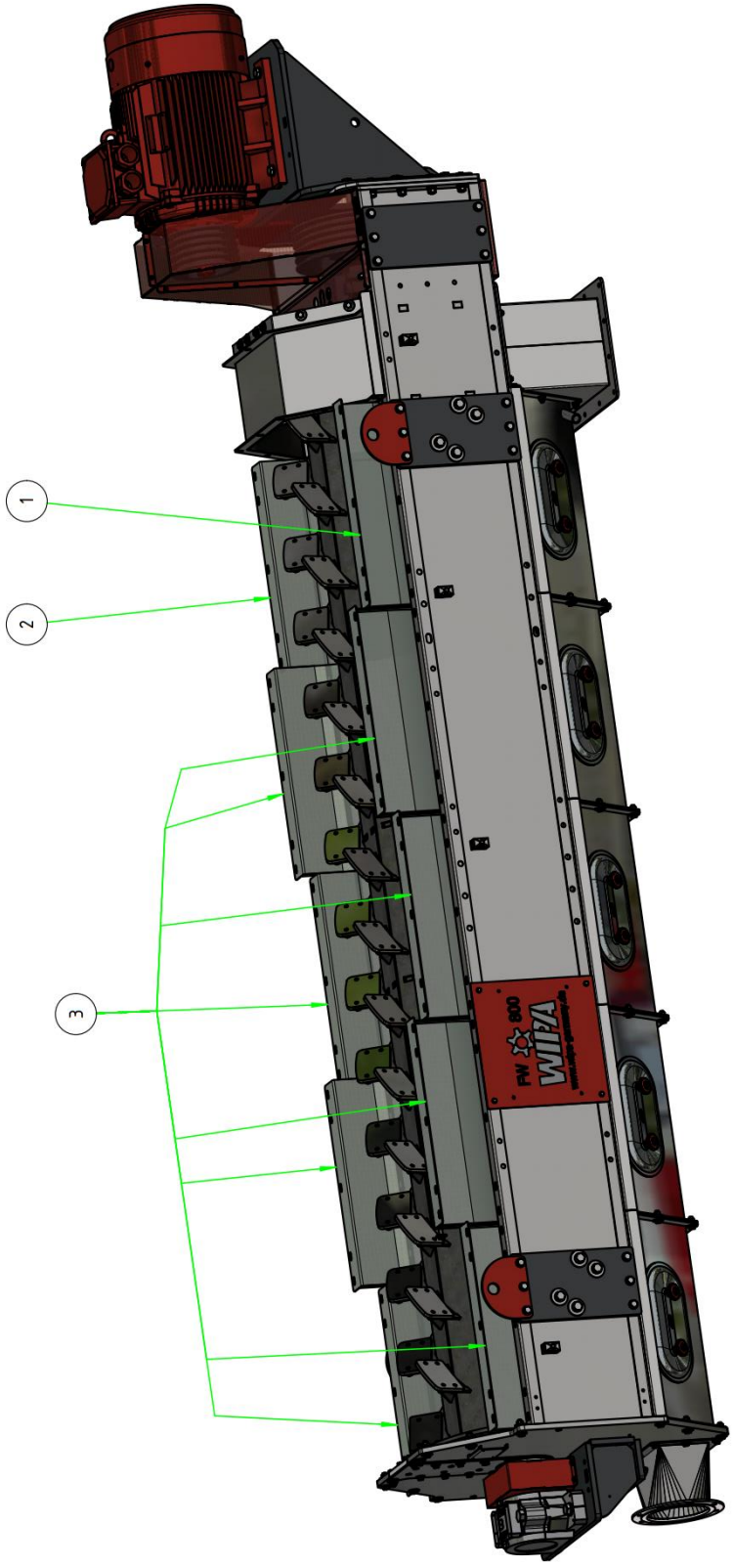
No.	Piece	Designation	Part number/ DIN	Material
1.	4	Cover	04-05-01-03-04_SBG	1.4301
2.	1	Cover	04-05-01-03-06_SBG	1.4301
3.	1	Cover	04-05-01-03-03_SBG	1.4301
4.	1	Filling funnel	04-05-01-03-02_SBG	1.4301
5.	101	Hexagon head screw	DIN 933 - M12 x 35	Steel, galv.
6.	218	Washer	DIN 9021 - 13	Steel, galv.
7.	109	Hexagon nut	DIN 934 - M12	Steel, galv.
8.	111	Spring washer	DIN 127 - A 12	Steel, galv.
9.	2	Washer	DIN 125 - A 13	Steel, galv.
10.	2	Hexagon head screw	DIN 933 - M12 x 30	Steel, galv.
11.	8	Hexagon head screw	DIN 933 – M12 x 50	Steel, galv.

8.3.2 Lower dismantling cover FW 800



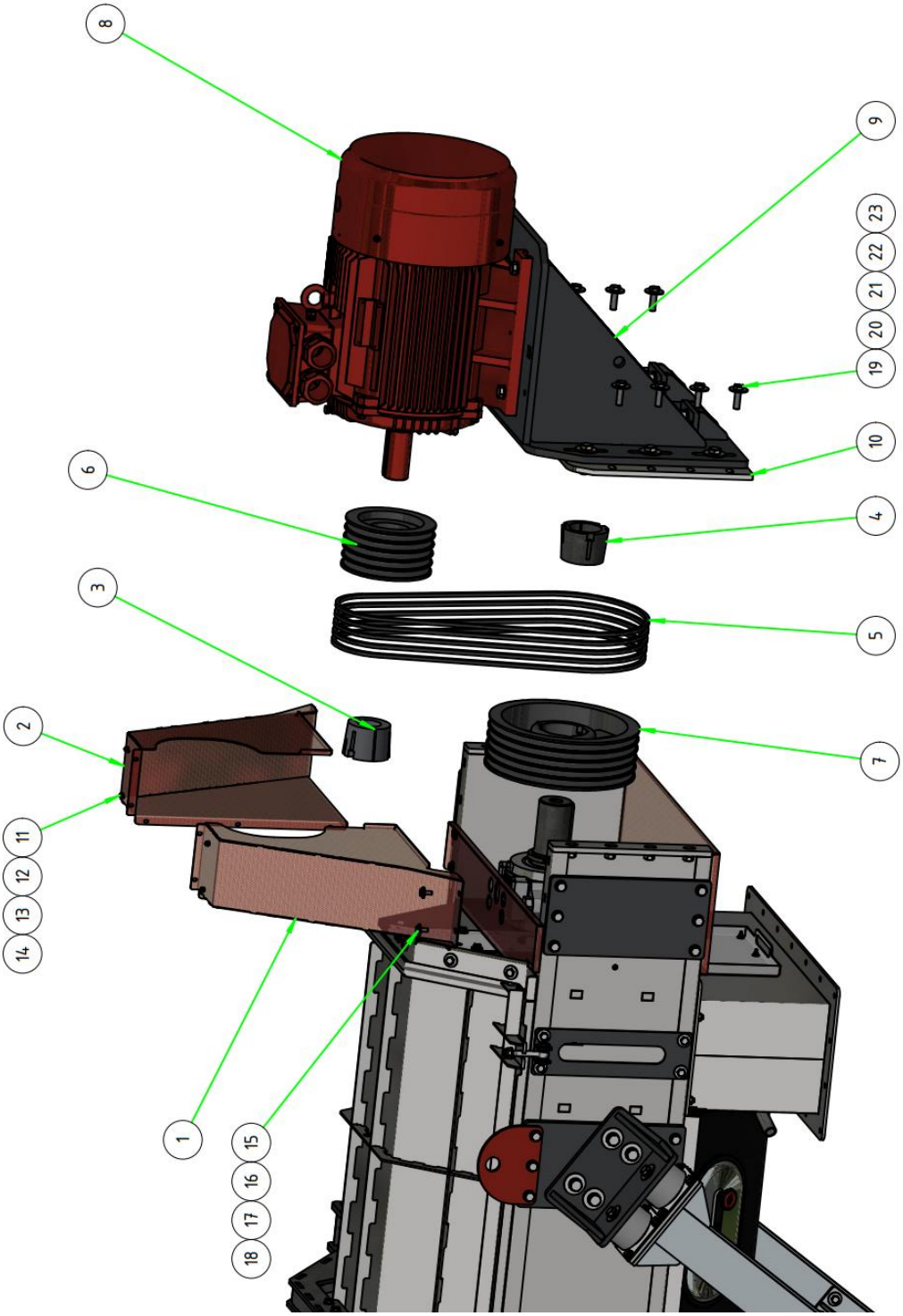
No.	Piece	Designation	Part number/ DIN	Material
1	4	Cover	04-05-01-03-07_SBG	1.4301
2	1	Cover	04-05-01-03-08_SBG	1.4301
3	10	Inspection flap		1.4301
4	80	Hexagon head screw	DIN 933 - M12 x 35	Steel, galv.
5	172	Washer	DIN 9021 - 13	Steel, galv.
6	87	Hexagon nut	DIN 934 - M12	Steel, galv.
7	87	Spring washer	DIN 127 - A 12	Steel, galv.
8	11	Washer	DIN 125 – A13	Steel, galv.
9	5	Truss-head screw	DIN 603 – M12 x 30	VA
10	5	Hexagon nut	DIN 985 – M12	Steel, galv.
11	7	Hexagon head screw	DIN 933 – M12 x 50	Steel, galv.

8.3.3 Disassembling screen basket FW 800



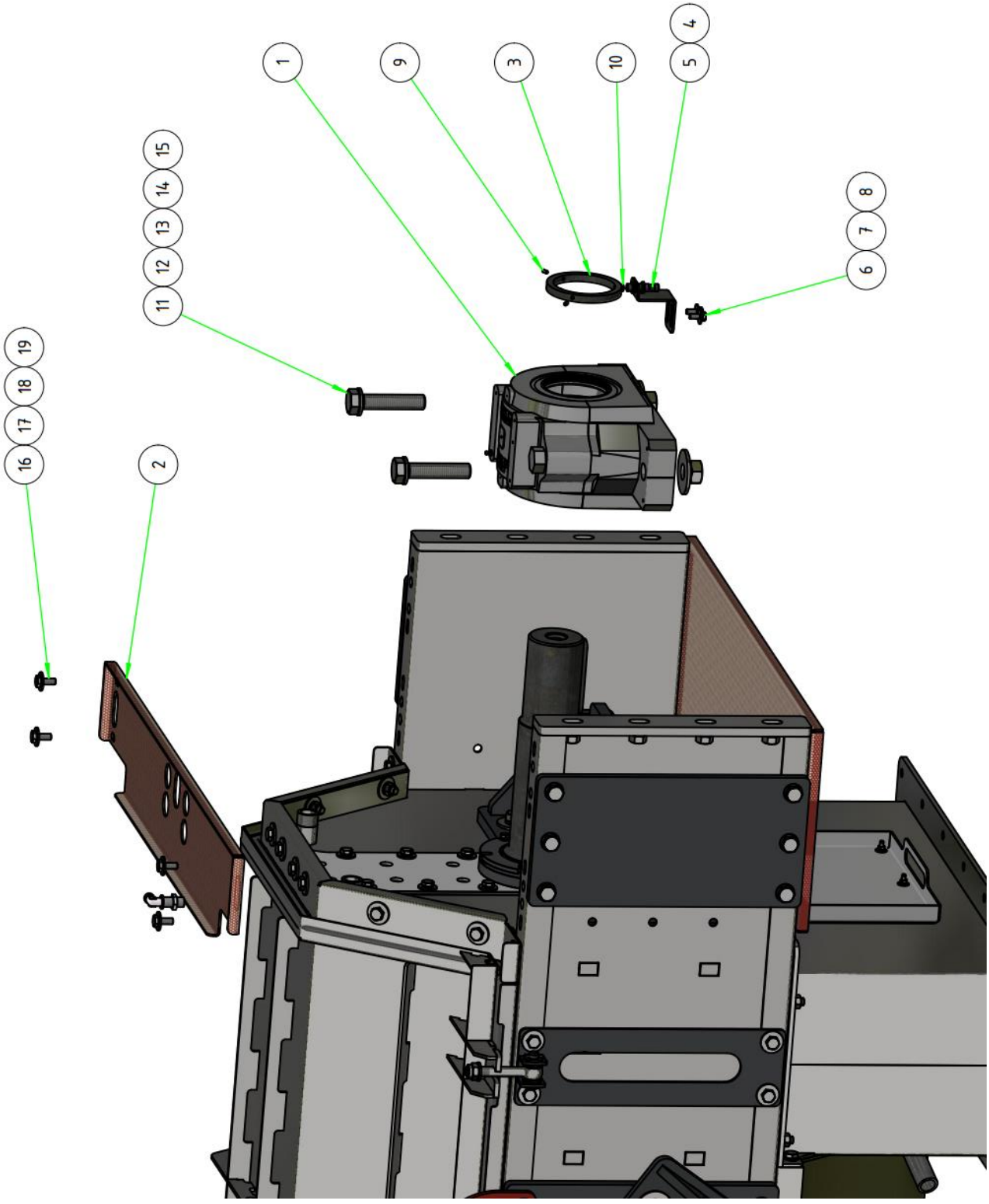
No.	Piece	Designation	Part number/ DIN	Material
1	1	Screen basket Page 1 Support	04-05-01-04-02_SBG	1.4301
2	1	Screen basket Page 2 Support	04-05-01-04-03_SBG	1.4301
3	8	Sieve	04-05-01-04-01_SBG	1.4301
4	36	Hexagon head screw	DIN 933 - M12 x 30	VA
5	36	Hexagon nut	DIN 980 - M12	VA
6	32	Washer	DIN 125 - A 13	VA
7	40	Washer	DIN 9021 - A 13	VA
8	4	Hexagon head screw	DIN 933 - M10 x 25	VA
9	4	Spring washer	DIN 127 - A 10	VA
10	4	Washer	DIN 9021 - 10,5	VA

8.3.4 Disassembly V-belt pulley FW 800



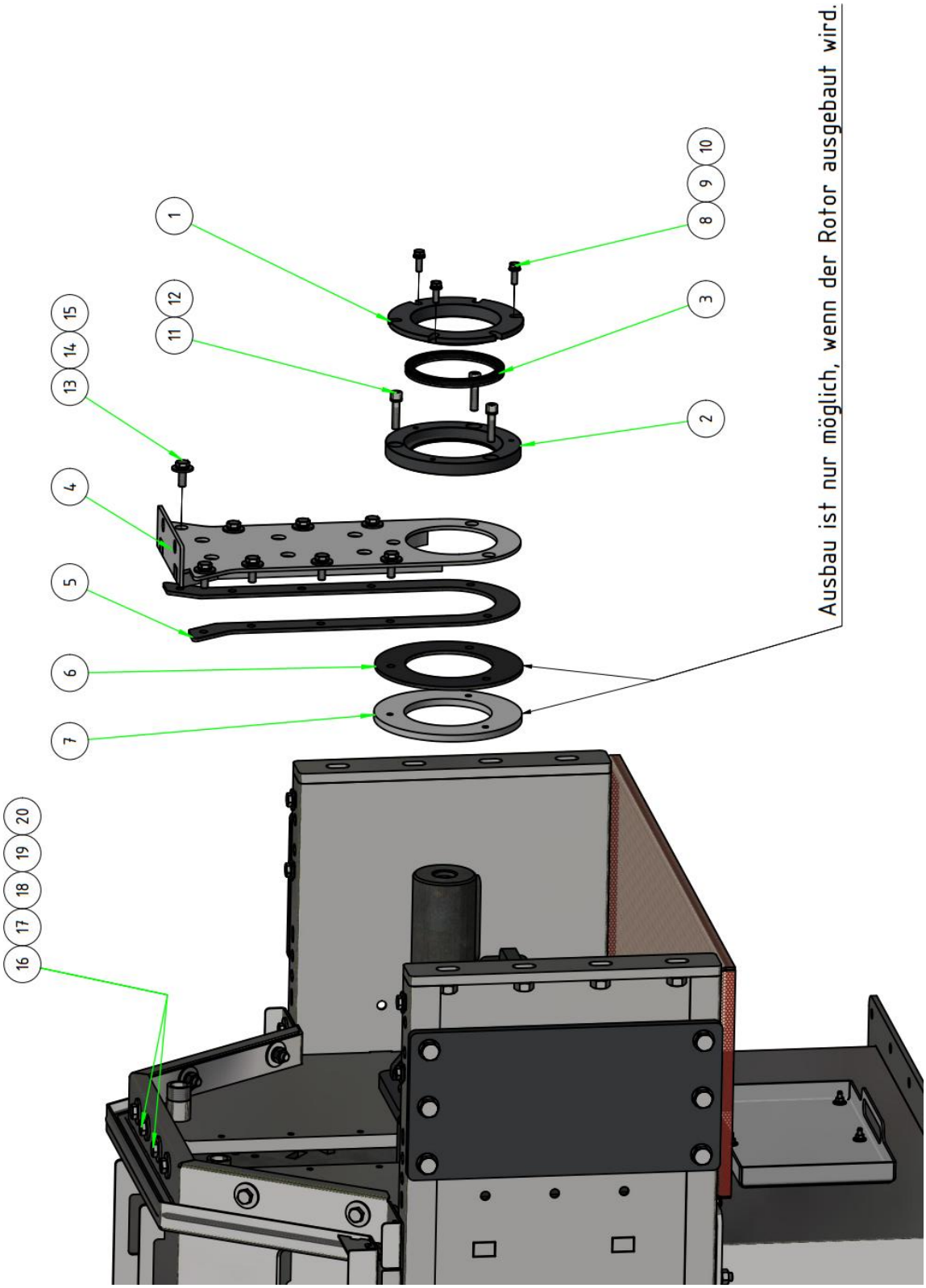
No.	Piece	Designation	Part number/ DIN	Material
1	1	Left cover	04-05-01-11-03_SBG	S235JR
2	1	Right cover	04-05-01-11-02_SBG	S235JR
3	1	Taper clamping bush	(3535_65)	
4	1	Taper clamping bush	(3535_90)	
5	5	V-belts	(SPC)	
6	1	V-groove washer for taper bushes	(spc_236_5_3535)	
7	1	V-groove washer for taper bushes	(spc_400_5_3535)	
8	1	Motor 55kW		
9	1	Motor mount	04-05-01-11-01_SBG	S235JR
10	1	Motor adjustment plate	04-05-01-02-08_SBG	S235JR
11	5	Hexagon head screw	DIN 933 – M6x20	Steel, galv.
12	10	Washer	DIN 125 – A6,4	Steel, galv.
13	5	Spring washer	DIN 127 – A6	Steel, galv.
14	5	Hexagon nut	DIN 934 – M6	Steel, galv.
15	4	Hexagon head screw	DIN 933 – M10 x 25	Steel, galv.
16	8	Washer	DIN 9021 – A10,5	Steel, galv.
17	4	Spring washer	DIN 127 – A10	Steel, galv.
18	4	Hexagon nut	DIN 934 – M 10	Steel, galv.
19	8	Hexagon head screw	DIN 933 – M 16 x 55	Steel, galv.
20	8	Washer	DIN 125 – A17	Steel, galv.
21	8	Washer	DIN 9021 – A17	Steel, galv.
22	8	Spring washer	DIN 127 – A16	Steel, galv.
23	8	Hexagon nut	DIN 934 – M 16	Steel, galv.

8.3.5 Disassembly bearing unit drive end FW 800



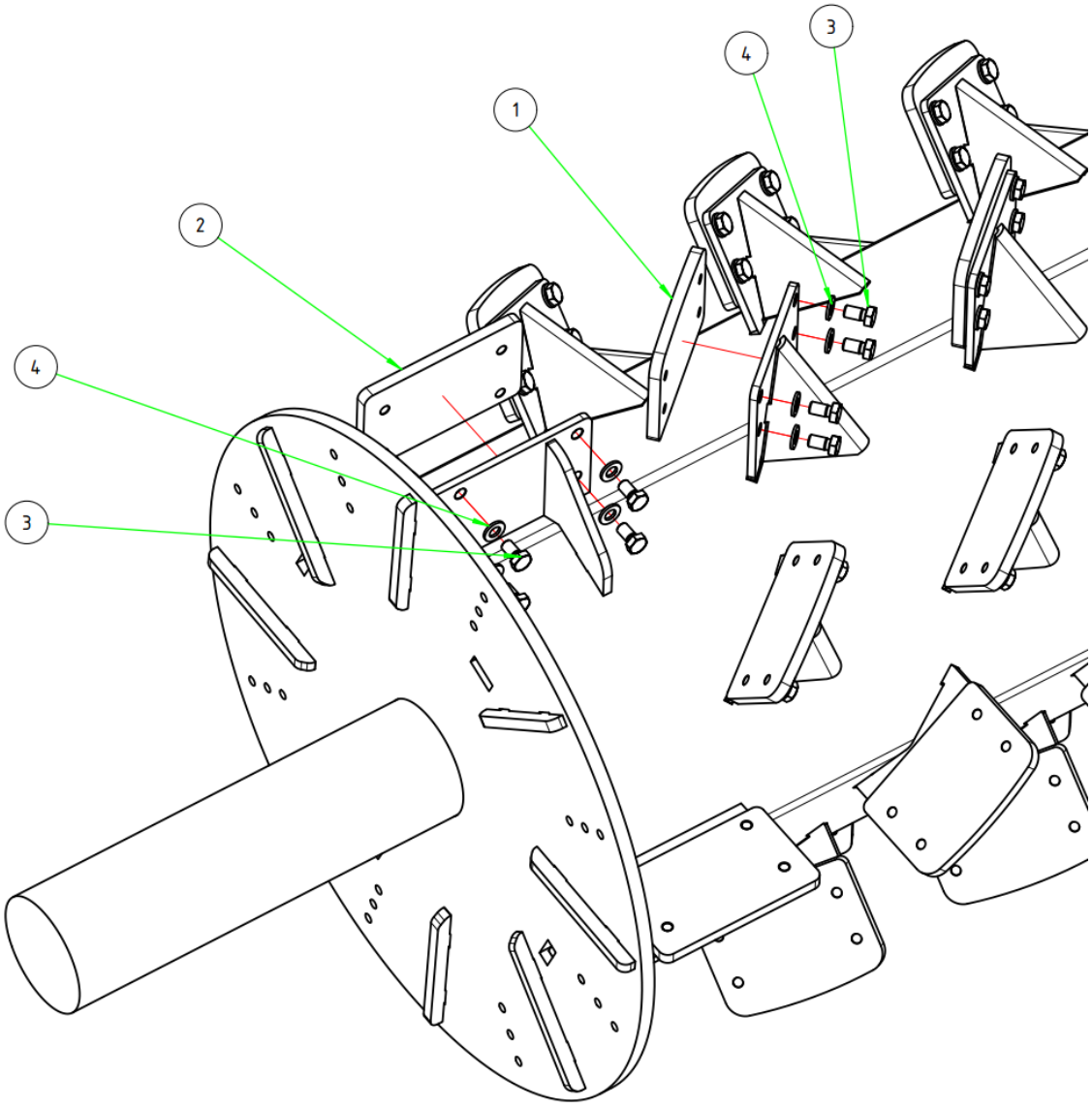
No.	Piece	Designation	Part number/ DIN	Material
19	1	Bearing	1x SNC 522-619 Plummer block housing; 1x 23222k Spherical roller bearings; 2x SC522DS Double lip seal; 1x H 2322 Clamping sleeve; 2x FR200 Fixed rings	
20	1	Cover	04-05-01-11-029_KT	S235JR
21	1	Tension bush	00-1065_DT	S235JR
22	1	Flap Sensor	00-1066_KT	S235JR
23	1	rotation monitoring		
24	2	Hexagon head screw	DIN 933 – M8 x 20	Steel, galv.
25	2	Washer	DIN 9021 - A 8,4	Steel, galv.
26	2	Spring washer	DIN 127 - A 8	Steel, galv.
27	2	Grub screw	DIN 916 – M5 x 10	Steel, galv.
28	1	Hexagon head screw	DIN 933 - M6 x 10	Steel, galv.
29	2	Hexagon head screw	DIN 933 – M24 x 110	Steel, galv.
30	2	Washer	DIN 125 – A26	Steel, galv.
31	2	Washer	DIN 9021 – A26	Steel, galv.
32	2	Spring washer	DIN 127 – A24	Steel, galv.
33	2	Hexagon nut	DIN 934 – M24	Steel, galv.
34	4	Hexagon head screw	DIN 933 – M10 x 25	Steel, galv.
35	8	Washer	DIN 9021 – A10,5	Steel, galv.
36	4	Spring washer	DIN 127 – A10	Steel, galv.
37	4	Hexagon nut	DIN 934 – M10	Steel, galv.

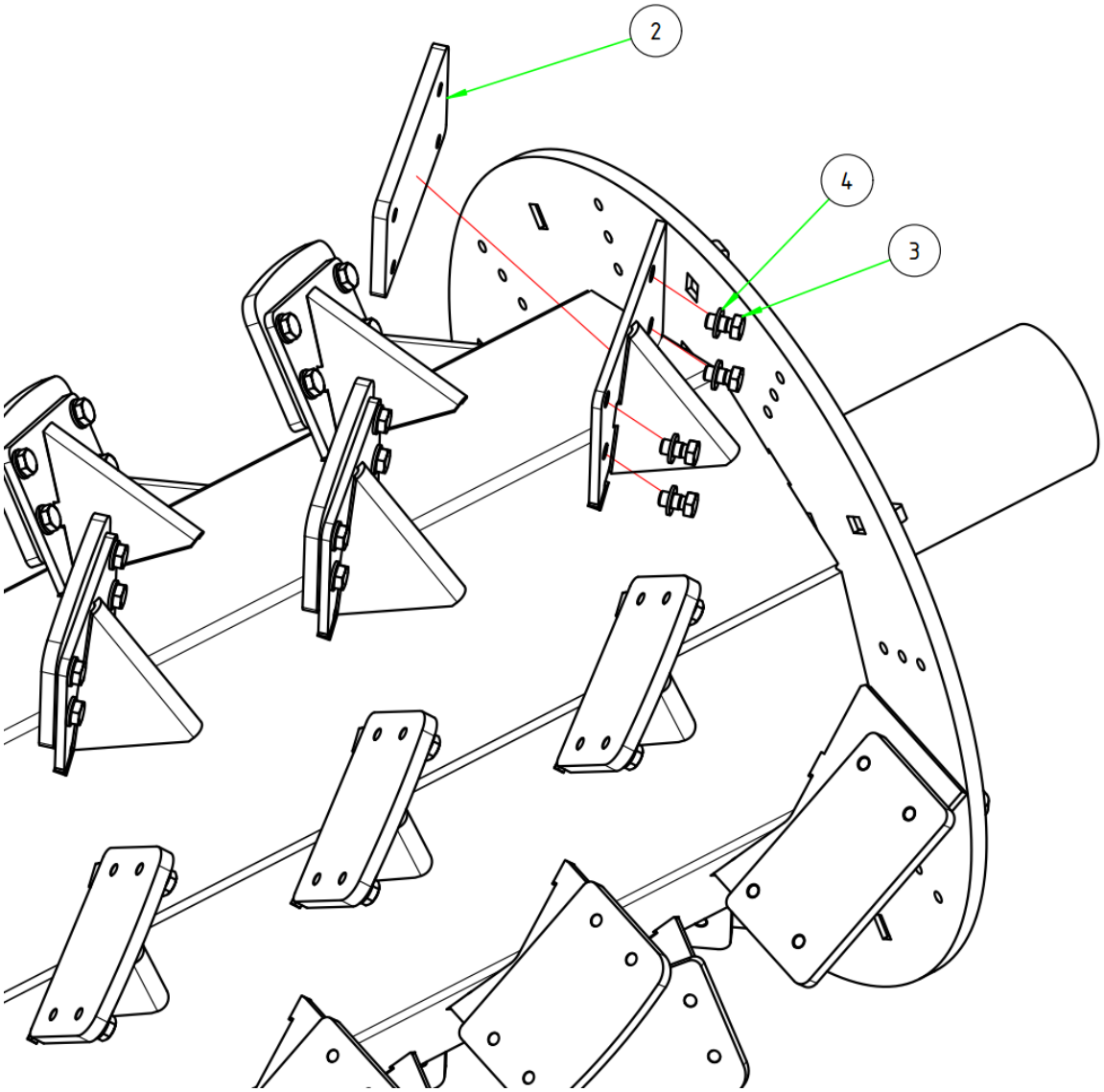
8.3.6 Disassembly packing unit drive side FW 800



NO	QUANTITY	DESCRIPTION	PART NUMBER	MATERIAL
21	1	Pressure flange	04-01-12-112_DT	S235JR
22	1	Sealing flange-2	04-01-12-110_DT	S235JR
23	1	Cord seal 10x10		
24	1	Top cover	04-05-01-12-05_SBG	1.4301
25	1	Seal	04-05-01-12-038_WSS	PU
26	1	Seal AØ - 210 mm	04-01-12-021_WSS	PU
27	1	Flange AØ - 210 mm	04-01-12-020_LT	1.4301
28	3	Hexagon head screw	DIN 933 – M8 x 25	Steel, galv.
29	3	Washer	DIN 125 – A8,4	Steel, galv.
30	3	Spring washer	DIN 127 – M8	Steel, galv.
31	3	Cylinder head screw	DIN 912 – M10 x 45	Steel, galv.
32	3	Spring washer	DIN 7980 – A10	Steel, galv.
33	8	Hexagon head screw	DIN 933 – M10 x 30	Steel, galv.
34	8	Washer	DIN 9021 – A10,5	Steel, galv.
35	8	Spring washer	DIN 127 – A10	Steel, galv.
36	2	Hexagon head screw	DIN 933 - M12 x 35	Steel, galv.
37	2	Washer	DIN 125 - A 13	Steel, galv.
38	2	Spring washer	DIN 127 - A 12	Steel, galv.
39	2	Washer	DIN 9021 - 13	Steel, galv.
40	2	Hexagon nut	DIN 934 - M12	Steel, galv.

8.3.7 Removal of wear plates rotor with disc FW 800

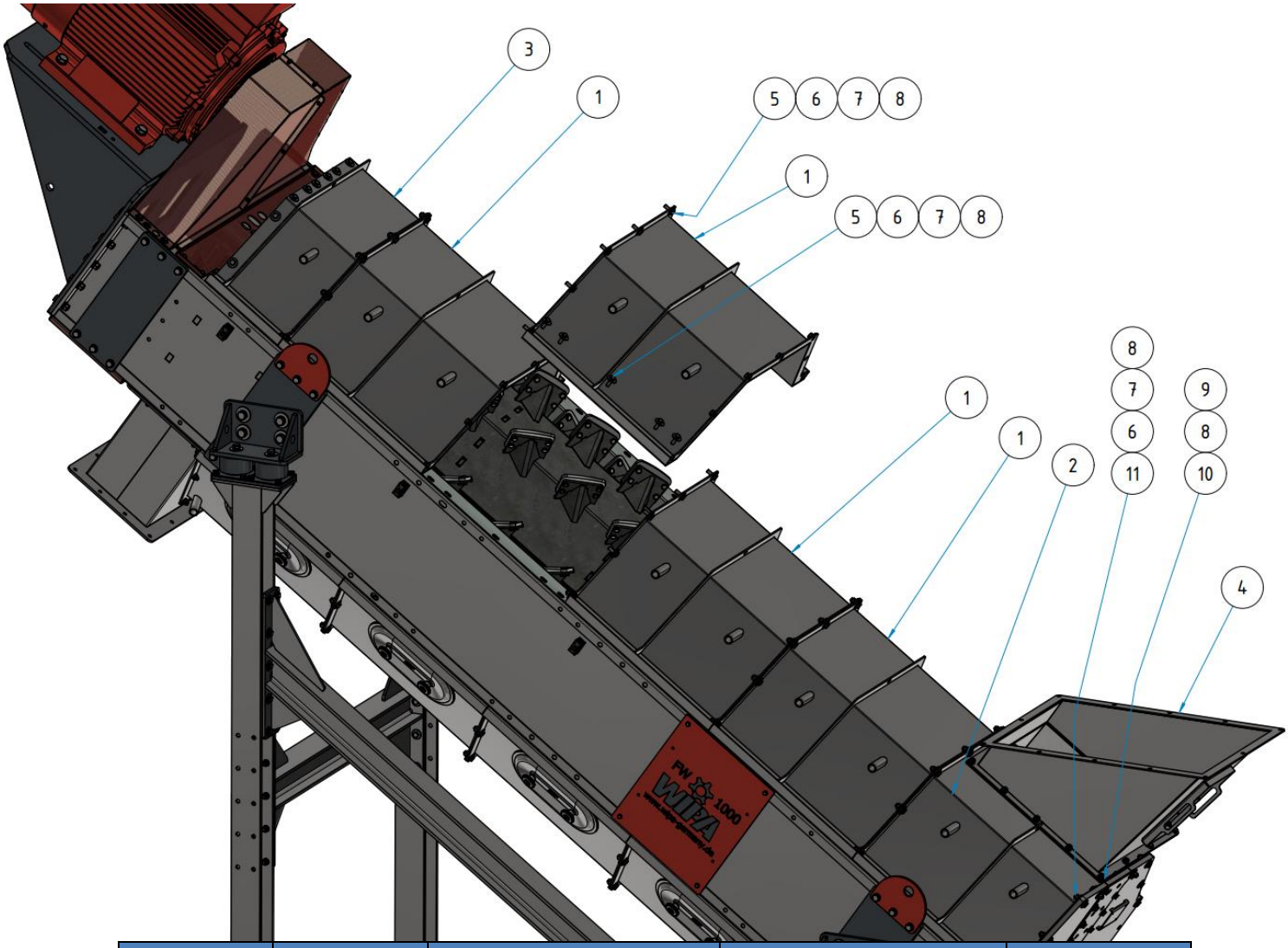




NO	QUANTITY	DESCRIPTION	PART NUMBER	MATERIAL
1	108	Wear paddle	04-01-06-004_LT	Hardox
2	8	Wear paddle	04-01-06-003_LT	Hardox
3	464	Hexagon head screw	DIN 933 - M12 x 25	according to rotor type
4	464	Washer	DIN 125 – A13	according to rotor type

8.4 Parts list with spare parts recommendation/marking FW 1000

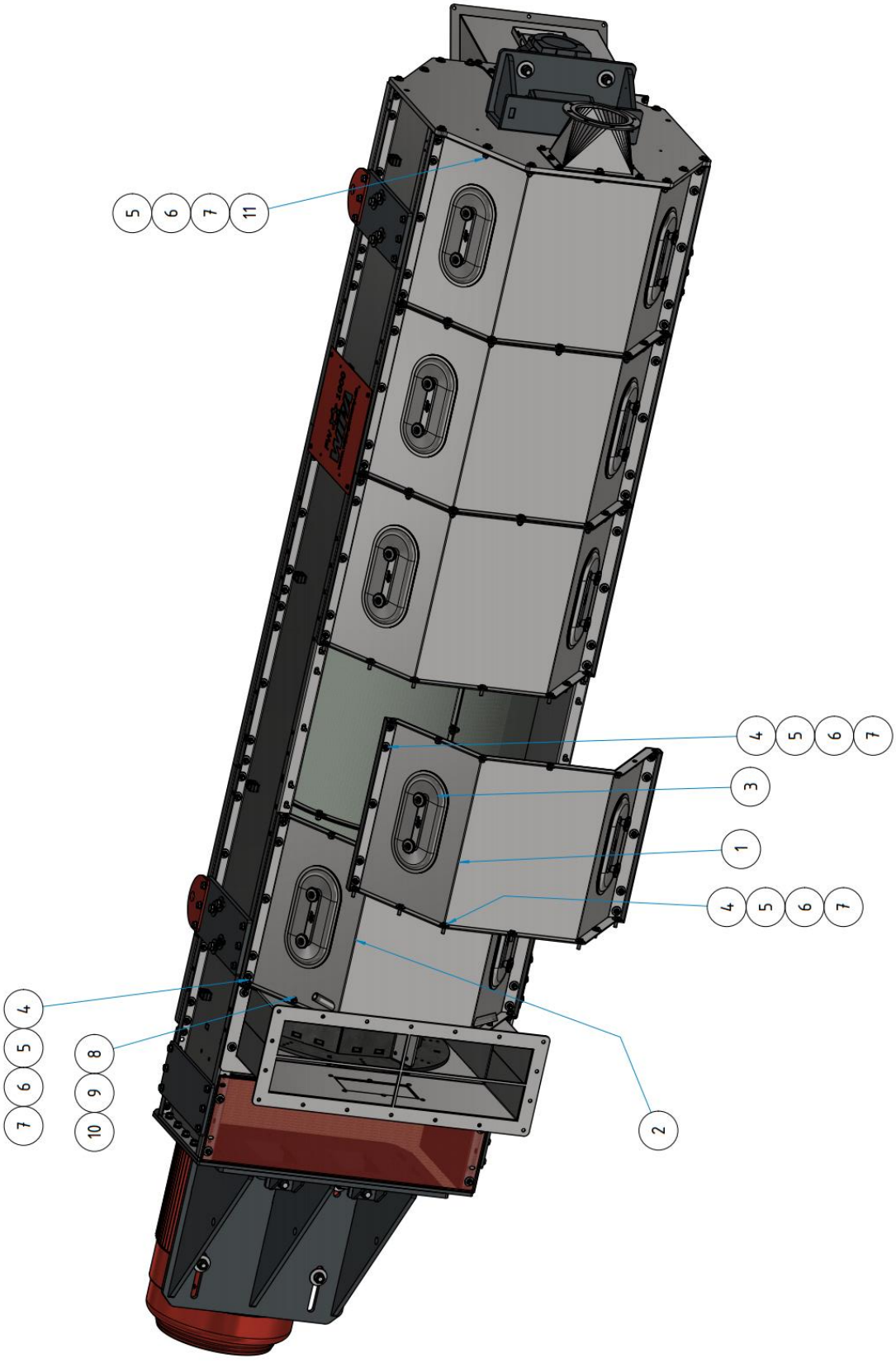
8.4.1 Removing the top cover FW 1000



No.	Piece	Designation	Part number/ DIN	Material
1	4	Cover	04-06-01-03-04_SBG	1.4301
2	1	Cover	04-06-01-03-06_SBG	1.4301
3	1	Cover	04-06-01-03-03_SBG	1.4301
4	1	Filling funnel	04-06-01-03-02_SBG	1.4301
5	101	Hexagon head screw	DIN 933 - M12 x 35	Steel, galv.
6	218	Washer	DIN 9021 - 13	Steel, galv.
7	109	Hexagon nut	DIN 934 - M12	Steel, galv.
8	111	Spring washer	DIN 127 - A 12	Steel, galv.
9	2	washer	DIN 125 - A 13	Steel, galv.

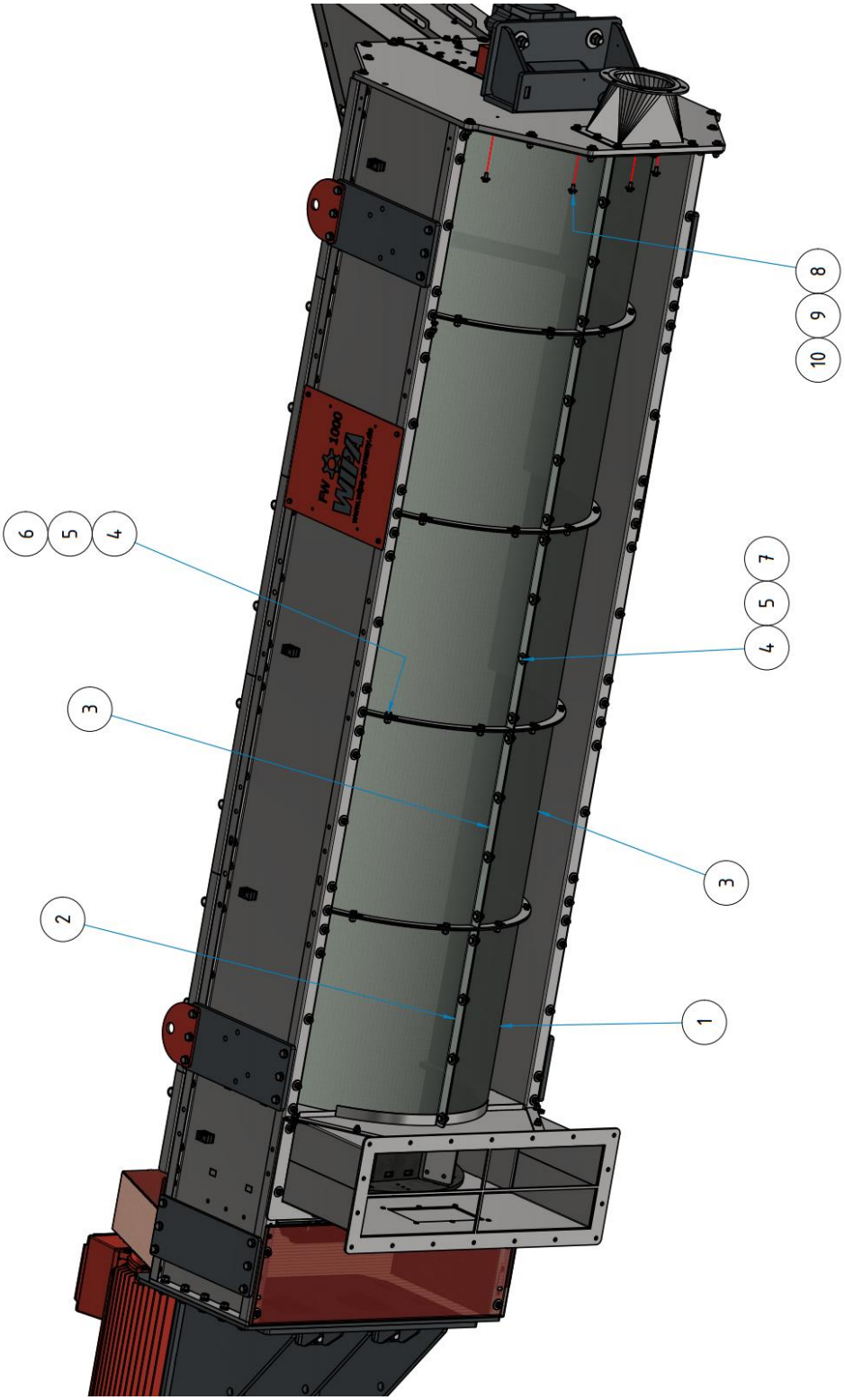
No.	Piece	Designation	Part number/ DIN	Material
10	2	Hexagon head screw	DIN 933 - M12 x 30	Steel, galv.
11	8	Hexagon head screw	DIN 933 – M12 x 50	Steel, galv.

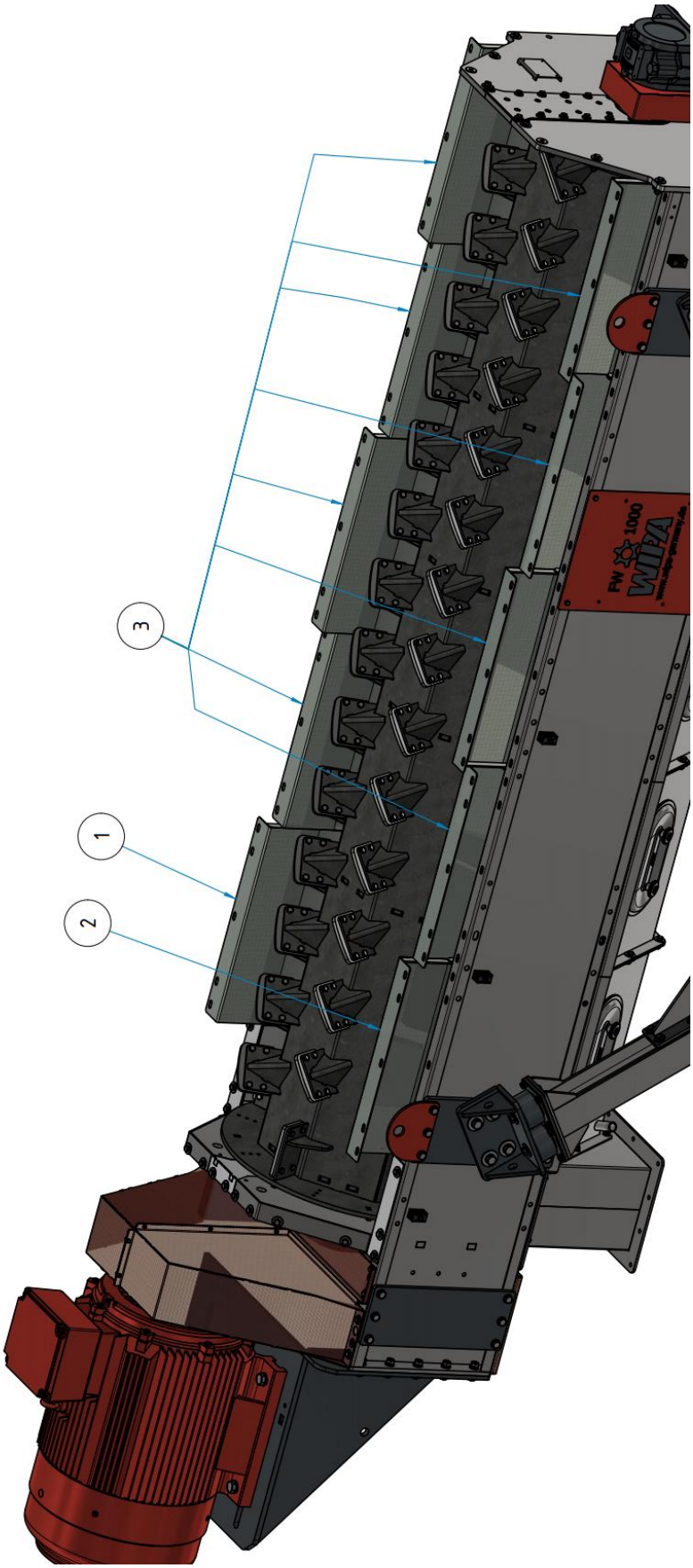
8.4.2 Lower cover removal FW 1000



No.	Piece	Designation	Part number/ DIN	Material
1	4	Cover	04-06-01-03-07_SBG	1.4301
2	1	Cover	04-06-01-03-08_SBG	1.4301
3	10	Inspection flap		1.4301
4	80	Hexagon head screw	DIN 933 - M12 x 35	Steel, galv.
5	172	Washer	DIN 9021 - 13	Steel, galv.
6	87	Hexagon nut	DIN 934 - M12	Steel, galv.
7	87	Spring washer	DIN 127 - A 12	Steel, galv.
8	11	Washer	DIN 125 – A13	Steel, galv.
9	5	Truss head screw	DIN 603 – M12 x 30	VA
10	5	Hexagon nut	DIN 985 – M12	Steel, galv.
11	7	Hexagon head screw	DIN 933 – M12 x 50	Steel, galv.

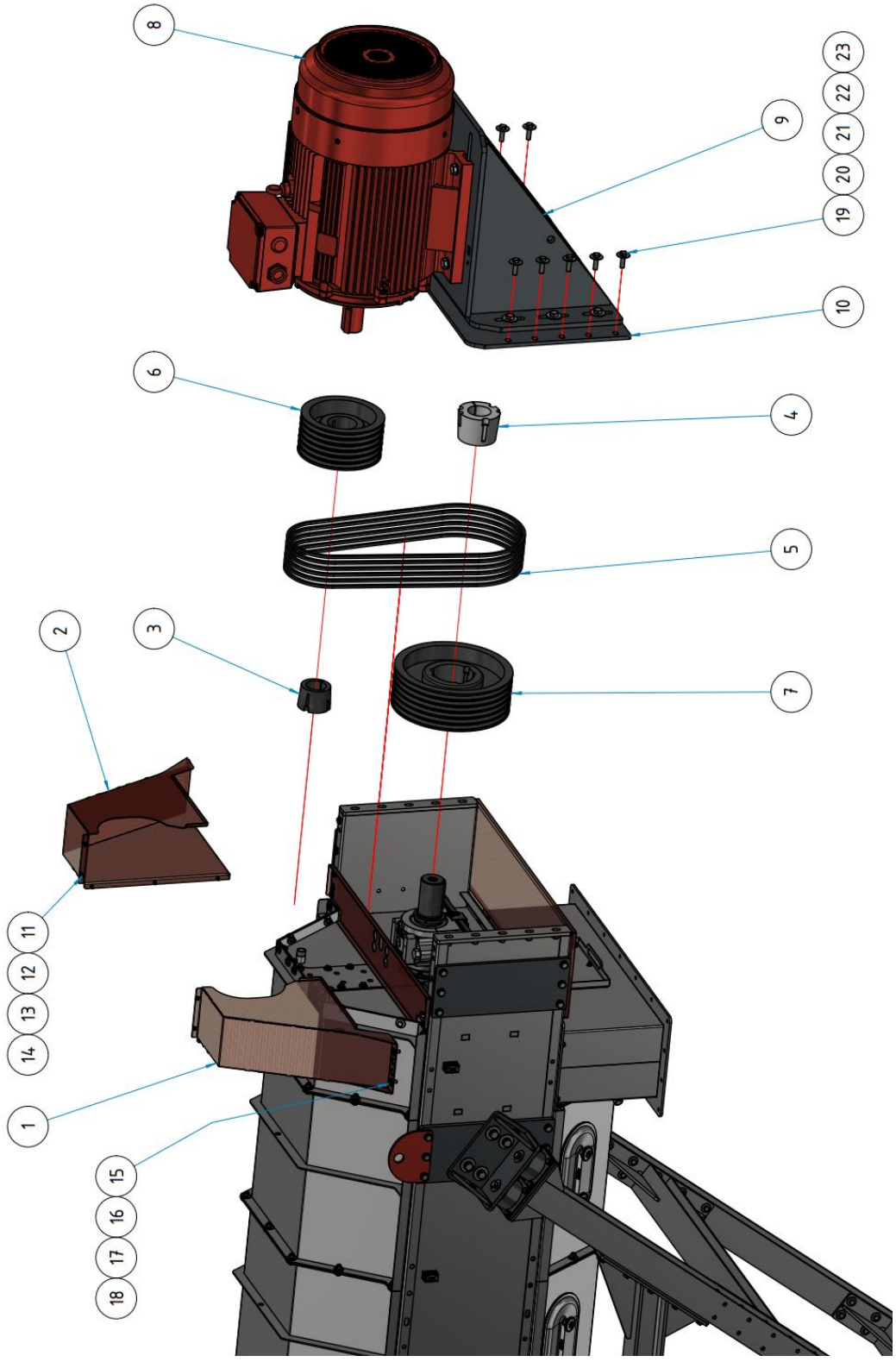
8.4.3 Dismantling screen basket FW 1000




3
1
2
FW 1000
WIPA

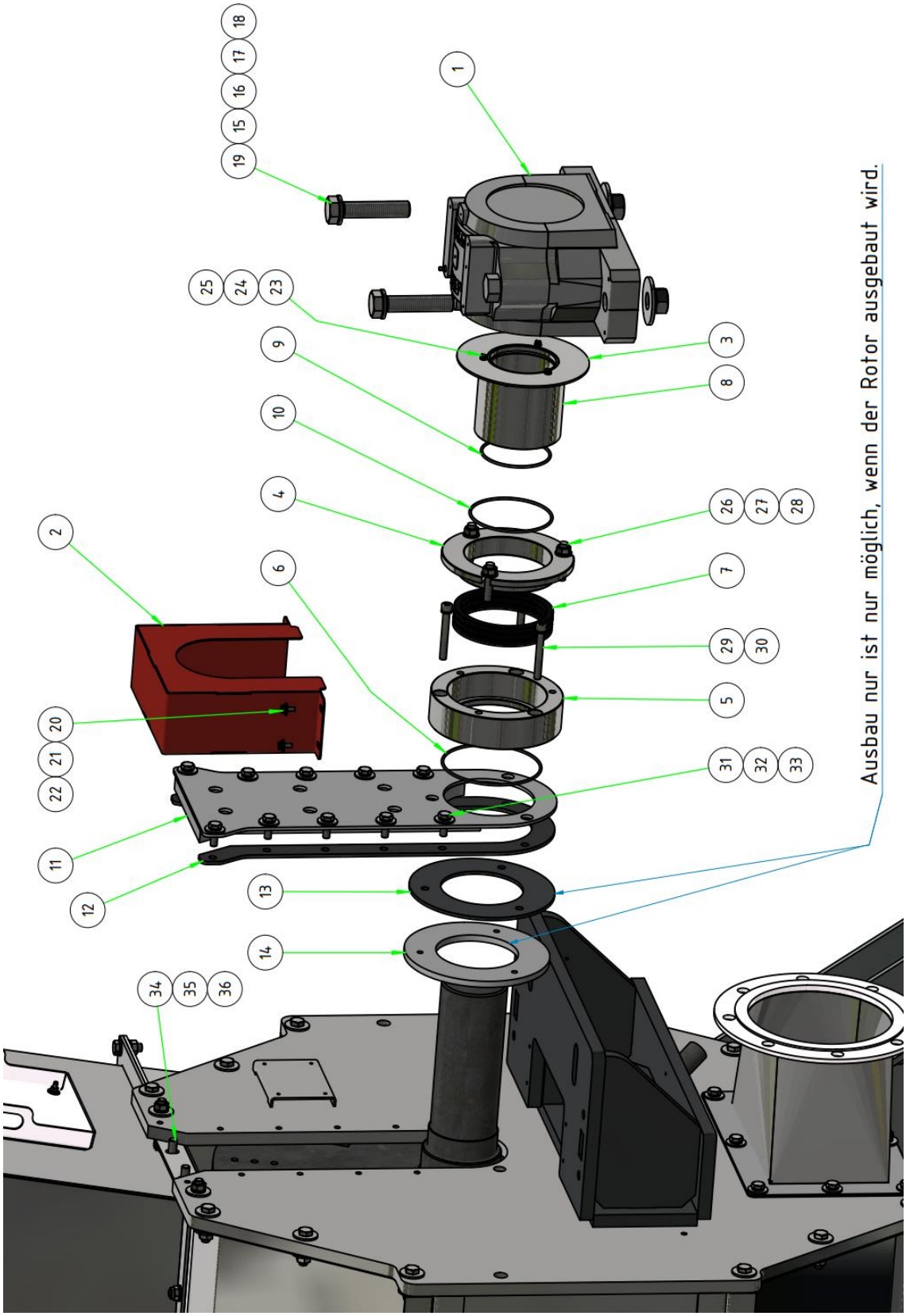
No.	Piece	Designation	Part number/ DIN	Material
1	1	Screen basket Page 1 Support	04-06-01-04-02_SBG	1.4301
2	1	Screen basket Page 2 Support	04-06-01-04-03_SBG	1.4301
3	8	Sieve	04-06-01-04-01_SBG	1.4301
4	36	Hexagon head screw	DIN 933 - M12 x 30	VA
5	36	Hexagon nut	DIN 980 - M12	VA
6	32	Washer	DIN 125 - A 13	VA
7	40	Washer	DIN 9021 - A 13	VA
8	4	Hexagon head screw	DIN 933 - M10 x 25	VA
9	4	Spring washer	DIN 127 - A 10	VA
10	4	Washer	DIN 9021 - 10,5	VA

8.4.4 Disassembly V-belt pulley FW 1000



No.	Piece	Designation	Part number/ DIN	Material
1	1	Left cover	04-06-01-11-03_SBG	S235JR
2	1	Right cover	04-06-01-11-02_SBG	S235JR
3	1	Taper clamping bush		
4	1	Taper clamping bush		
5	6	V-belts		
6	1	V-groove washer for taper bushes		
7	1	V-groove washer for taper bushes		
8	1	Motor 75kW		
9	1	Motor mount	04-06-01-11-01_SBG	S235JR
10	1	Motor adjustment plate	04-06-01-02-08_SBG	S235JR
11	5	Hexagon head screw	DIN 933 – M6x20	Steel, galv.
12	10	Washer	DIN 125 – A6,4	Steel, galv.
13	5	Spring washer	DIN 127 – A6	Steel, galv.
14	5	Hexagon nut	DIN 934 – M6	Steel, galv.
15	4	Hexagon head screw	DIN 933 – M10 x 25	Steel, galv.
16	8	Washer	DIN 9021 – A10,5	Steel, galv.
17	4	Spring washer	DIN 127 – A10	Steel, galv.
18	4	Hexagon nut	DIN 934 – M 10	Steel, galv.
19	10	Hexagon head screw	DIN 933 – M 16 x 55	Steel, galv.
20	10	Washer	DIN 125 – A17	Steel, galv.
21	10	Washer	DIN 9021 – A17	Steel, galv.
22	10	Spring washer	DIN 127 – A16	Steel, galv.
23	10	Hexagon nut	DIN 934 – M 16	Steel, galv.

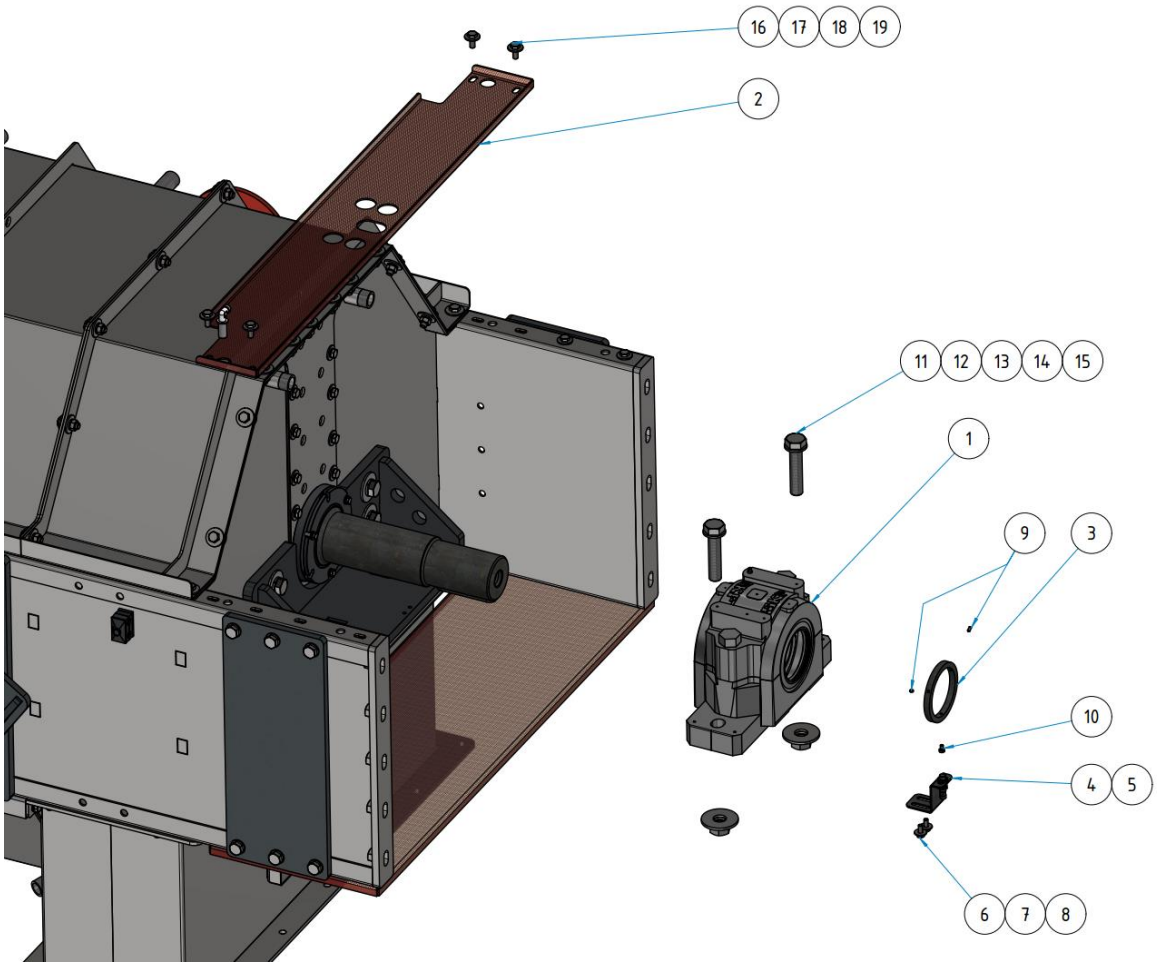
8.4.5 Disassembly bearing + packing unit drive side down FW 1000



No.	Piece	Designation	Part number/ DIN
1	1	Bearing	1x Plummer block housing; 1x Spherical roller bearings; 1x Double lip seal; 1x Clamping sleeve; 1x End cover
2	1	Cover	04-01-10-02_SBG
3	1	Disc	04-01-12-013_LT
4	1	Cover	04-01-12-005_DT
5	1	Bearing ring	04-01-12-002_DT
6	1	O-Ring	DIN 3771 - 145 x 3,55 - N - NBR 70
7	3	Plastic cord seal 10x10	
8	1	Socket	04-01-12-012_DT
9	1	O-Ring	DIN 3771 - 100 x 3,55 - N - NBR 70
10	1	O-Ring	DIN 3771 - 120 x 3,55 - N - NBR 70
11	1	Lower cover	04-05-01-12-04_SBG
12	1	Seal	04-05-01-12-028_WSS
13	1	Seal AØ - 220 mm	04-01-12-111_WSS
14	1	Flange AØ - 220 mm	04-01-12-010_LT
15	2	Hexagon head screw	DIN 933 - M24 x 110
16	2	Washer	DIN 125 - A 26
17	2	Washer	DIN 9021 – A26
18	2	Spring washer	DIN 127 - A 24
19	2	Hexagon nut	DIN 934 – M24
20	4	Hexagon head screw	DIN 933 - M6 x 16
21	4	Spring washer	DIN 127 - A 6
22	4	Washer	DIN 9021 - 6,4
23	3	Hexagon head screw	DIN 933 - M5 x 12
24	3	Spring washer	DIN 127 - A 5

No.	Piece	Designation	Part number/ DIN
25	3	Washer	DIN 125 - A 5,3
26	3	Threaded rod	DIN 976-1 - M12 x 60 - A
27	3	Washer	DIN 125 – A13
28	3	Hexagon nut	DIN 934 – M12
29	3	cylinder head screw	DIN 912 – M10 x 80
30	3	Spring washer	DIN 7980 – A10
31	10	Hexagon head screw	DIN 933 – M10 x 30
32	10	Washer	DIN 9021 – A10,5
33	10	Spring washer	DIN 127 – A10
34	2	Hexagon head screw	DIN 933 – M12 x 30
35	2	Washer	DIN 125 – A13
36	2	Spring washer	DIN 127 – A12

8.4.6 Disassembly bearing unit drive end FW 1000



No.	Piece	Designation	Part number/ DIN	Material
1	1	Bearing	1x Plummer block housing; 1x Spherical roller bearings; 2x Double lip seal; 1x Clamping sleeve; 2x Fixed rings	
2	1	Cover	04-06-01-11-029_KT	S235JR
3	1	Tension bush	00-1065_DT	S235JR
4	1	Flap Sensor	00-1066_KT	S235JR
5	1	Rotation monitoring		
6	2	Hexagon head screw	DIN 933 – M8 x 20	Steel, galv.
7	2	Washer	DIN 9021 - A 8,4	Steel, galv.
8	2	Spring washer	DIN 127 - A 8	Steel, galv.
9	2	Grub screw	DIN 916 – M5 x 10	Steel, galv.
10	1	Hexagon head screw	DIN 933 - M6 x 10	Steel, galv.
11	2	Hexagon head screw	DIN 933 – M24 x 110	Steel, galv.
12	2	Washer	DIN 125 – A26	Steel, galv.
13	2	Washer	DIN 9021 – A26	Steel, galv.
14	2	Spring washer	DIN 127 – A24	Steel, galv.
15	2	Hexagon nut	DIN 934 – M24	Steel, galv.
16	4	Hexagon head screw	DIN 933 – M10 x 25	Steel, galv.
17	8	Washer	DIN 9021 – A10,5	Steel, galv.
18	4	Spring washer	DIN 127 – A10	Steel, galv.
19	4	Hexagon nut	DIN 934 – M10	Steel, galv.

8.5 Electrical diagram + parts list (if supplied)

The electrical plan and the corresponding parts list are stored in the control cabinet.

8.6 Supplier documentation

Is provided digitally.

Translation of the original operating
Instructions in English

Operating Instructions

Mechanical Dryer Type MD
Series:
MD850 – MD1000 – MD1250 – MD1500 – MD2000

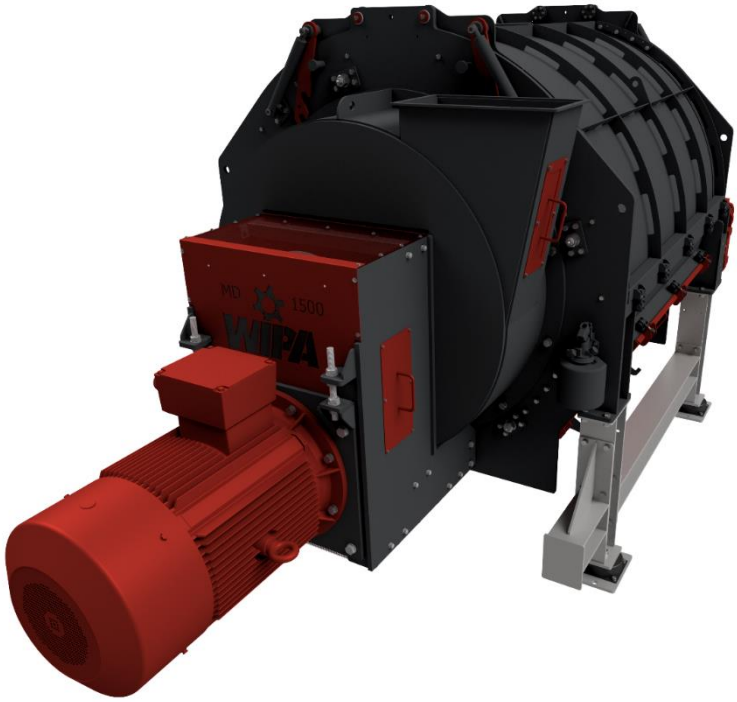


Figure 1 MD 1500 Example

WIPA Werkzeug- & Maschinenbau GmbH
Benzstrasse 12
48703 Stadtlohn

Identification data

Tool/machine/system	
Model name:	Mechanical Dryer
Type:	MD 2000
Machine number:	3388, 7962
Project/identification number	A374
Year of manufacture:	2022
Customer registration:	
Company name:	Omni Polymers AB Eastmansvägen 23 113 61 Stockholm, Sweden
Order no.:	AB_PH_SWE_20052021_00_Rev_01
Location:	Omni Polymers AB Nordalagatan 1 262 73 Ängelholm, Sweden
Manufacturer's address:	
Company name:	WIPA Werkzeug- & Maschinenbau GmbH
Street:	Benzstrasse 12
Place:	48703 Stadtlohn
Telephone:	+49 2563 20585-0
Fax:	+49 2563 20585-20
E-mail	info@wipa-germany.de
Homepage	www.wipa-germany.de
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1 General

1.1 Introduction

These operating instructions are an essential help for the correct and safe operation of the Mechanical Dryer.

The operating instructions contain important information to ensure safe, proper and efficient operation of the Mechanical Dryer. Their observance will help to avoid danger, reduce repair costs and downtime as well as to increase reliability and the service life of the Mechanical Dryer.

The operating instructions must always be available and must be read and applied by any person in charge of carrying out work on or with the Mechanical Dryer. This includes amongst other things:

- the operation and elimination of malfunctions in the operation,
- the maintenance (service, maintenance and repair) and/or
- the transport.

1.2 References to intellectual property rights

- These operating instructions must be treated confidentially.
- Only authorized persons shall have access to these operating instructions.
- These operating instructions may only be given to third parties with the written consent of WIPA Werkzeug- & Maschinenbau GmbH.

All documents are protected in the sense of the copyright law. It is forbidden to pass on and copy the documents, even in part, as well as to use and communicate their contents, insofar as this is not expressly conceded in writing.

Violations are punishable and incur an obligatory payment of damages. WIPA Werkzeug- & Maschinenbau GmbH reserves all the rights for the practice of industrial property rights.

1.3 Information for the operator

The operating instructions are a significant component of the Mechanical Dryer.

- Make sure that the service personnel have a complete knowledge of these operating instructions.
- These operating instructions are to be supplemented by the operator with instructions based on national regulations for Health and Safety at Work and Environmental Protection, including the information on the responsibilities of supervision and obligations to report for the observance of operational specifics, e.g., concerning work organization, operational sequences and/or appointed personnel.

- Besides these operating instructions and the obligatory regulations for Health and Safety at Work applicable in the country of use as well as in the place of use, the recognized specialist technical regulations for safe and professional work must also be observed.
- Do not make any changes, additions and conversions to the Mechanical Dryer that could impair the safety without the prior consent of the WIPA Werkzeug- & Maschinenbau GmbH. This applies to the installation and adjustment of safety devices as well as any welding work on load-bearing components.

All spare parts must meet the technical requirements specified by WIPA Werkzeug- & Maschinenbau GmbH. This is always guaranteed with original spare parts.

- Use only trained or instructed personnel for operation, maintenance, repair and transport of the Mechanical Dryer.
- Clearly specify the responsibilities of the personnel for operation, maintenance, repair and transport.

1.4 Instruction and training course assistance

- As a contractor/operator you are obligated to inform and/or instruct the operating personnel about existing provisions of law and accident prevention regulations as well as about existing safety regulations at the Mechanical Dryer. This obligation also extends to such safety devices, which are installed around the Mechanical Dryer. In doing so the different technical qualifications have to be taken into account.
- Make sure that the operating personnel have understood the training and ensure that the training is adhered to. Only in this way, safety and hazard conscious work of the personnel can be achieved.
- Control the adherence to the training on a regular basis.
- As the contractor/operator you should therefore obtain confirmation of each of the employee’s attendance in writing.

On the following pages you will find examples of the training course topics, as well as a form as a master copy for the confirmation of participation in the training/instruction.

1.5 Example of training course topics

1. For safety
Accident prevention regulations General legal provisions General safety precautions Actions to be taken in an emergency Safety precautions for operating the Mechanical Dryer How to handle the safety devices of the Mechanical Dryer Safety devices in the area surrounding the Mechanical Dryer Definition of symbols and signs _____ _____
2. For the operation of the Mechanical Dryer
How to operate the controls of the Mechanical Dryer Explanation of the operating instructions for the operating personnel Operator's special experiences in handling the Mechanical Dryer Elimination of malfunctions _____ _____
3. For maintenance and service instructions
Prescribed use of cleaning agents, lubricants Operator's special experiences in the areas of service, maintenance, cleaning and care of the Mechanical Dryer _____ _____

Confirmation of the training received		
Training topic:		
Date:	Instructor:	Signature of the instructor:

No.	Name, first name	Signature
1		
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2 Safety

2.1 General

The Mechanical Dryer has been designed and built-in accordance with state-of-the-art technology and the recognized safety rules and regulations.

Nonetheless dangers may arise for the operator and/or cause impairments to the Mechanical Dryer and other material assets when using the Mechanical Dryer, if:

– it is operated by personnel who are not trained or instructed,
– it is not employed as intended and/or
– it is not properly serviced or maintained.

2.2 Notes on the signs and symbols

The following terms and/or signs are used in these operating instructions for references to particularly important information:

- The bullet is used to identify work and/or operating steps. The steps are to be executed in sequence from top to bottom.

– The hyphen is used to identify lists.

This is a warning of an imminent danger, which could inevitably result in serious injury or death, if the specific instruction is not followed precisely.

Draws attention to a potentially hazardous situation, which could lead to serious injury or death if the specific instruction is not followed precisely.

This is a warning indicating a potentially hazardous situation, resulting in minor or light bodily injuries and/or substantial property damage, if the specific instruction is not followed precisely.

NOTICE

This indicates useful information for the safe and proper handling.

- The instructions and symbols directly mounted on the Mechanical Dryer have to be adhered to, such as warning signs, operating signs and component markings. They must not be removed.
- The instructions and symbols must always be kept clean and in well readable condition.

2.3 Intended use

The Mechanical Dryer type MD850 / MD1000 / MD1250 / MD1500 / MD2000 is used for the processing of dirty or wet plastics, as well as for the separation of impurities (including mixed fraction of pre-crushed plastic packaging). Thus, the input material is exposed to a cleaning and/or drying effect. In a continuous process, the material is subjected to frictional friction and turbulence effects.

The maximum size of the material fed in is 50x50mm for film fractions and 25mmx25mm for hard plastics. The determination of the machines is prescribed in each individual case by the order confirmation and the material specification contained therein. Foreign bodies may only be made of paper, tinplate or aluminum with a maximum size of 1 mm.

It must be possible to dosed in the material evenly.

NOTICE

- Follow the instructions in section *Technical Data.* Complying with these specifications is imperative.

Intended use also includes observance of the instructions

- on safety,
- operation and control,
- maintenance and service,

that are described in these operating instructions.

Any other use or use beyond the specifications is considered to be improper use. The operator of the Mechanical Dryer shall be solely responsible for any resulting damage. This also applies to any unauthorized modifications to the Mechanical Dryer.

2.4 Reasonably foreseeable misuse

Following exemplary processing procedures are considered suspected misuse and are therefore not according to the intended use:

- The use and/or processing of explosive substances.
- The use and/or processing of substances that could be harmful or are subject to the Ordinance on Hazardous Substances.
- The use and / or processing of substances that are subject to labeling requirements.
- Processing of materials other than those named for the intended use.
- Processing of materials with fluctuating material properties.

Further considered contrary to the intended use:

- The operation of the system in an explosive atmosphere.
- The operation of the system without fully installed protection devices.
- The use by private users, or users without professional instruction and training.
- The storage of explosive or flammable materials in the vicinity of the machine.

In the event of using materials other than those listed in the technical data sheet, safety of the operating personnel and protection of the Mechanical Dryer cannot be guaranteed.

- Do not set up the Mechanical Dryer in unprotected rooms or halls that are exposed to weathering.

2.5 Residual risk

Even if all safety rules are observed, a residual risk remains when the Mechanical Dryer is operated.

- As the contractor/operator you must ensure that all persons working on or with the Mechanical Dryer are aware of these residual risks.
- Follow the instructions that will prevent that residual risks lead to accidents or damages.

During set up and fitting work, it may be necessary to remove on site protective devices. This causes various residual risks and potential hazards that each operator must be aware of:

DANGER

Risk of death from electric shock

An electric shock can cause fatal injuries.

- **Before carrying out any repair, set-up and maintenance work, the Mechanical Dryer must be disconnected with the main switch.**
- **Secure the Mechanical Dryer against unintentional switching-on.**
- **Lock the main switch and set up warning signs.**
- **In addition, actuate an emergency stop button.**

DANGER

Life-threatening injuries during the operation of the Mechanical Dryer

Automatic sequences of movements of the Mechanical Dryer during the operation could cause persons to be seriously crushed.

- **Before commissioning the Mechanical Dryer, it is absolutely necessary to make sure that all protective devices are installed and functioning**.
- **Never access the protected area during automatic operation.**

2.6 Description of the protective devices

The Mechanical Dryer is built according to the state-of-the-art and all recognized safety rules.

2.6.1 Location of emergency stop devices

Emergency stop buttons are installed on the control panel, at the control cabinet and on the machine.

- Have the function of the emergency stop devices checked annually and record this process.
- Check all devices for stopping in an emergency individually and separately.
- Instantly stop the machine in case of defective safety devices.
- Secure the machine against being switched on again.

Function test of the emergency stop devices.

- Switch on the machine
- Actuate the emergency stop devices

The actuation of the emergency stop devices must shutdown all machine functions:

- Start enable
- Motors

2.6.2 Safety devices on the Mechanical Dryer

The safety concept provides for movable or fixed separating protective devices – the general rule is:

- Separating protective devices can be removed only with tools.
- Movable separating protective devices that are unsecured do not remain in protective position.
- Fastening means are firmly connected to the protective devices.

Fastening means are chosen so that the removal of switches or actuating means for interlocked protective devices are not possible with tools like:

- objects of everyday usage such as keys, tape, twine or wire; or
- replacement actuating elements or keys for interlocking devices with key transfer systems; or
- needed and easily available tools for machines/systems such as screwdriver and key, hexagonal wrench and pliers

-a reasonably foreseeable circumvention of the protective device can thereby be prevented.

Mechanical Dryer / rotary drive / cleaning

The Mechanical Dryer, drive shaft, V-belt drive and motor are secured by the housing and by fixed separating guards.

The inlet/intake opening of the Mechanical Dryer is firmly screwed to the piping. This prevents access.

If the pipeline is not supplied by WIPA, the customer must select and ensure a suitable protective device.

The conveying opening of the pneumatic conveyor discharge is firmly screwed to the pipeline. This means that no access is possible.

If the pipeline is not supplied by WIPA, the customer must select and ensure a suitable protective device.

Pneumatic conveying

The blower is housed in a closed casing. Access to moving parts is not possible.

Access for maintenance and cleaning is possible through a maintenance door.

The suction and discharge openings of the pneumatic conveyor are firmly screwed to the pipeline. Access to moving parts is not possible.

Moving conveying pipes are secured so that no persons are endangered.

All piping and pipe attachments are designed to withstand oscillating movements and shocks from pressurized operation.

Feed screw (optional)

Drive shafts and couplings between motor, gearbox and screw are secured with fixed separating guards (do not remain in protective position if not secured).

The outlet of the upstream unit dips into the inlet of the feed screw, thus preventing it from interfering with the screw.

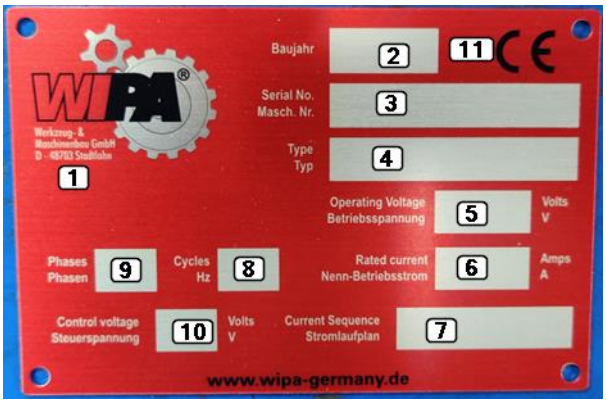
Dirt discharge screw (optional)

Drive shafts and couplings between motor, gearbox and screw are secured with fixed separating guards (do not remain in protective position if not secured).

The conveying opening of the dirt discharge screw is firmly screwed to the pipeline. This prevents access.

If the pipeline is not supplied by WiPa, the customer must select and ensure a suitable protective device.

2.7 Markings and signs on the Mechanical Dryer



Clearly legible on the Mechanical Dryer

Figure 2 Typeplate

1. Name and full address of the manufacturer
2. Year of manufacture
3. Machine no.
4. Type / designation
5. Operating voltage
6. Rated operating current
7. Circuit diagram
8. Mains frequency in Hz
9. Phases
10. Control voltage
11. CE marking

Sign	Meaning	Mounting location
	Read and follow the operating instructions and safety instructions before start-up.	Immediately near the nameplate
	Warning against hand injuries	At the maintenance doors
	Warning of a dangerous point	At the maintenance doors
	Warning of hazardous electrical voltage	signs on all terminal boxes, control boxes and cabinets for low voltage.
	Lifting point	On housing
	Use hearing protection	at the operating station

	Wear Safety goggles	for maintenance and repair work
	Wear safety helmet	During transport
	Connection point marking of the external ground conductor	ground conductor terminal
	Ground conductor connection	adjacent to the grounding screws

2.8 Additional necessary markings and signs

- As the operator put up additional necessary markings and signs on the Mechanical Dryer and in its surroundings.

Such markings and signs could for example relate to the provision for carrying personal protective equipment.

2.9 Safety instructions for operating personnel

Any person who is responsible for the commissioning, operation and maintenance must have read and understood these operating instructions completely - especially chapter *Safety*. Do not wait reading it until you start working. This applies in particular to personnel who are only occasionally working with the Mechanical Dryer.

- Use the Mechanical Dryer only in technically perfect condition and as intended, safely and aware of the dangers and with full observance of the operating instructions.
- Malfunctions that could impair the safety must be removed immediately.
- The operating instructions must always be kept to hand at the site of the Mechanical Dryer. No liability is assumed for damages and accidents caused due to non-compliance with the operating instructions.
- Observe the relevant accident prevention regulations and the generally accepted safety and occupational health ordinances.

This includes:

- Assign individual responsibilities for different activities as part of servicing and maintenance and comply with them.
- Oblige the operating and maintenance personnel to wear personal protective equipment (safety shoes, goggles, gloves).
- Do not wear open long hair, loose clothing or jewelry! There is the danger of getting stuck, being pulled in or getting caught in moving parts.

- If safety-related changes occur on the Mechanical Dryer:
  The Mechanical Dryer is to be stopped and secured immediately and the incidence has to be reported to the competent authority/person.
- Follow the instructions for maintenance.
- The statutory minimum age limits must be observed.

Only reliable trained and certified personnel may take action on the Mechanical Dryer.

Personnel undergoing training, instruction or persons taking part in general vocational training programs may only take action on the Mechanical Dryer under supervision by an experienced person.

2.10 Safety instructions for maintenance and fault elimination on the Mechanical Dryer

- Stipulated schedules or those given in the operating instructions for regular checks/inspections are to be observed.

2.10.1 Preparation

Workshop equipment appropriate to the task in hand is absolutely necessary for the execution of maintenance work.

- Set-up, maintenance and repair work as well as troubleshooting may only be carried out when the system is turned off.
- Secure a wide area around the maintenance area as far as is necessary.
- Cordon off the working area with a red and white safety chain and a warning sign.
- Moreover, a warning sign has to be attached.
- Clean especially connections and threaded connections of any traces of contamination or preservatives before commencing maintenance/repair/care.

2.10.2 Implementation

- Never stand under suspended loads.
- Individual components and larger assemblies must be carefully fastened and secured on hoists when making replacements, so that any risk they pose is minimized. Only use suitable and technically sound hoists and load carrying devices with sufficient load-bearing capacity.
- Always tighten loose screw connections during maintenance and repair work. If required, tighten the provided screws by using a torque wrench.
- Do not use any aggressive cleaning agents. Use non-linting cleaning cloths.
- Ensure a safe and environmentally friendly disposal of operating and auxiliary materials as well as replaced parts.

2.11 Instructions regarding special types of dangers

2.11.1 Electrics

Work on the electrical equipment of the Mechanical Dryer may only be carried out by a qualified electrician or by instructed persons under the direction and supervision of a qualified electrician in accordance with the electro-technical regulations.

- Switch off the Mechanical Dryer with the main switch before opening the control cabinet.
- Secure the Mechanical Dryer with a safety lock against being switched on again.
- You must switch off the Mechanical Dryer immediately at the main switch if a fault occurs in the power supply.
- Switch off the electrical components on which inspection, maintenance and repair work is carried out.
- Use only original fuses with the prescribed amperage.
- Secure the equipment that was used to disconnect from the mains against accidental or automatic restart (locking away fuses, blocking breakers, etc.).
- First, check the de-energized electrical components for the presence of power and insulate adjacent live components.
- Make sure that in case of repairs changes to the structural and functional characteristics are not detrimental to safety (e.g. creepage and clearance distances as well as gaps are not reduced by insulation).

Where work must be executed on electrically live components (only in exceptional situations!):

- A second person shall be called upon to actuate the emergency stop button or disconnect the main switch in the case of an emergency.
- Use insulated tools only.

Proper grounding of the electrical system must be guaranteed by protective ground conductor systems.

- Regularly check cables for damage.
- Immediately replace defective cables.

2.11.2 Hydraulics

Work on hydraulic systems must be carried out only by personnel with specialized knowledge and experience in hydraulics.

The maintenance personnel for maintenance work on the hydraulics must be thoroughly familiar with the hydraulic diagram and informed of function as well as the possible consequences of an incorrect operation.

- Check all pipes, hoses and fittings for leaks daily.
- Instantly stop the machine in the event of a leak.
- Correct the error/fault.

- Absorb leaking hydraulic fluid and dispose of it according to regulations.
- Before carrying out any work on hydraulic accumulators make sure that the accumulator circuits are depressurized.
- Depressurize all system sections to be opened and pressurized pipes before beginning repair work.
- Clean the connections and threaded connections of any traces of contamination before commencing the maintenance work.
- Rinse the connections and threaded connections after completion of the maintenance work.

The maximum allowable term of use of the hydraulic hose lines is six years, including any periods of storage. The storage time must not exceed two years.

2.11.3 Oils, greases and other chemical substances

- When dealing with oil, grease and other chemical substances, observe the applicable instructions and safety data sheets of the manufacturers of these substances with regard to storage, handling, use and disposal and comply with them.

2.11.4 Noise

The A-weighted equivalent continuous sound pressure level amounts to 85 dB (A) at the operator workstations during normal operation of the Mechanical Dryer.

- Always wear suitable hearing protection at the operator workstation.

2.11.5 Interfaces between machine components

Linking individual machine components into a functioning system can produce danger locations, which did not exist when viewing the individual components. The danger locations are usually appropriately secured. If this is not possible, these dangers are specifically pointed out.

2.11.6 Interfaces to adjacent system components

The operator of the entire system is responsible for the safety review (protection, training of the staff) of the interfaces to system areas for which the company WiPa is not responsible anymore.

3 Product description

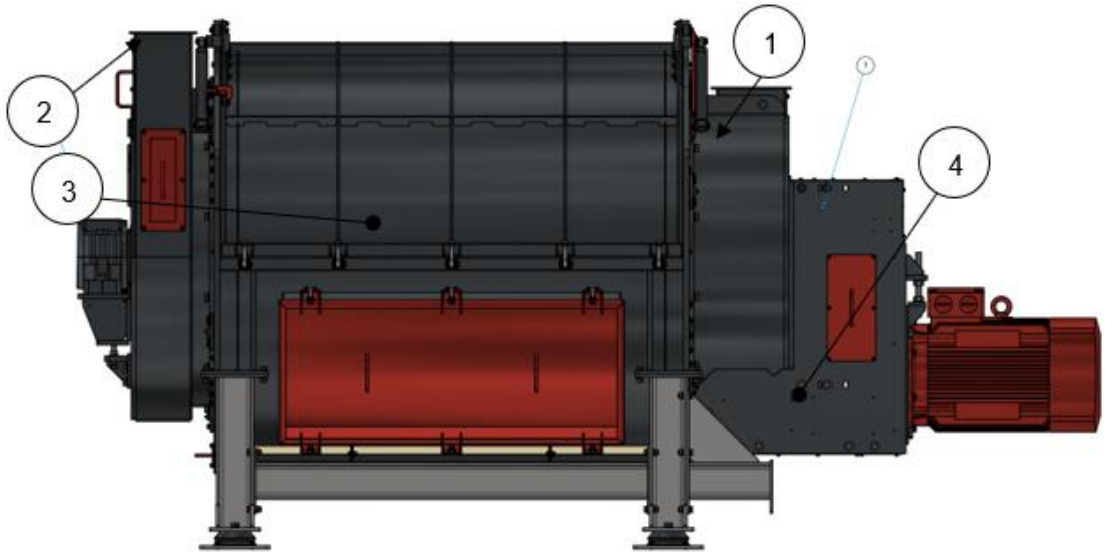


Figure 3 Mechanical Dryer example MD1500

Item	Description
1	Inlet
2	Outlet
3	Working room
4	Drive incl. belt drive

3.1 General

The plastic fraction is fed into the Mechanical Dryer via a feed opening or an upstream system. Through the feed chute and rotor geometry, the material is fed into the working chamber of the Mechanical Dryer. Due to the special rotor geometry and the screen basket geometry designed for this purpose, the material is divided into two material streams.

The plastic stream is conveyed to the material outlet. The material is pneumatically discharged by the fan at the end of the rotor.

The contaminants and separated materials are forced through the screen basket. A scraper device conveys the dirt and separated material to the underside. Here, the dirt and separated materials are transferred to the transfer systems (dirt discharge screw / rinsing trough / scraper chain conveyor). Depending on the option, these are part of the scope of delivery.

3.2 Electrics

The electrical equipment includes two three-phase motors, one of which is connected to the rotor via a belt drive and the other drives the doctor blade wiper via a gearbox and a gear wheel. Both drives have a rotation monitor.

Optionally, the Mechanical Dryer can also have another three-phase motor for driving the dirt discharge screw and another which serves as the drive for the rising screw.

A vibration sensor is optionally installed at each of the bearing points.

3.3 Hydraulics

The maintenance flaps can be opened without machines and auxiliary equipment via a hand hydraulic pump. The closing of the maintenance flaps is controlled by a throttle. A mechanical latching function when the maintenance flap is open prevents the maintenance flaps from falling down.

3.4 Technical Data

Mechanical data	Dimensions	Approx. L x W x H in mm (This may vary depending on the frame)	
	MD 1000 MD 1250 MD 1500 MD 2000	3780 x 1610 x 2041 4411 x 2162 x 2284 4620 x 2412 x 2541 5831 x 2924 x 3128	
	Weight	Approx. data in t	
	MD 1000 MD 1250 MD 1500 MD 2000	6 7,5 9 15	
Electrical data	Operating voltage	400 V/AC (clockwise field of rotation)	
	Control voltage	230 V AC / 24 V DC	
	Power consumption	main motor:	Rack motor:
	MD1000	75 kW o. 55 kW	0,75 kW
	MD1250	90 kW o. 110 kW	0,75 kW

	MD1500	110 kW o. 132 kW	0,75 kW
	MD2000	200 kW o. 160 kW	1,50 kW
	Dirt discharge screw (SMD) (Optional)	0,75 kW	
	Feed screw	3 kW	
Intended environmental conditions	Air temperature operation	10°C - 30°C	
	Humidity operation	65% rel.	
Emissions	Noise (sound pressure)	>85 db(A)	

4 Transport and assembly

4.1 General

The Mechanical Dryer must be put into operation by WIPA Werkzeug- und Maschinenbau GmbH in order for a warranty claim to arise.

If modifications are to be made to the Mechanical Dryer, it may be advisable to have the modification as well as the set-up and setup work on the Mechanical Dryer carried out at WIPA Werkzeug- und Maschinenbau GmbH. For this purpose, the Mechanical Dryer must be transported back to WIPA Werkzeug- und Maschinenbau GmbH.

WARNING

Risk of life-threatening crushing injuries when lifting and transporting the Mechanical Dryer

Improper lifting and transporting can cause tipping and falling of the Mechanical Dryer.

- **Close the Mechanical Dryer completely. This is to avoid displacement of center of gravity and the associated risk of tipping over.**
- **Lift and transport the Mechanical Dryer only with one forklift truck. Do not exceed the permissible load capacity of the forklift truck.**
- **Never stand under suspended loads.**

4.2 Transporting with a crane

- Please observe the following safety instructions when the Mechanical Dryer is transported with a crane:

DANGER

Risk of life-threatening crushing injuries when lifting and transporting the Mechanical Dryer

Improper lifting and transporting can cause tipping and falling of the Mechanical Dryer.

- **Lift and transport the Mechanical Dryer only with appropriate lifting means.**
- **Use only lifting means, which are in perfect working order.**
- **Fasten the Mechanical Dryer to the suspension points, which are marked accordingly.**
- **Never stand under suspended loads.**

- Observe the applicable accident prevention and occupational safety regulations.
- Observe the instructions and regulations of the transport carrier.
- Check the tightness of the lifting means on the suspension points and the crane hook.
- Attach the transport ropes on the crane hook so that they do not touch machine parts above the anchor points when they are in taut condition.
- If necessary, use a loading gear.
- Adjust the lengths of the four carrying ropes so that the machine is suspended horizontally. Hang the ropes with shackles on the suspension brackets.
- When choosing the shackles, ensure that each single shackle has a sufficient load-bearing capacity.

4.3 Transporting with floor conveyor

DANGER

Risk of life-threatening crushing injuries when transporting the system components

Improper lifting and transporting can cause tipping and falling of the components.

- **Close the components of the Mechanical Dryer completely. This is to avoid displacement of center of gravity and the associated risk of tipping over.**
- **Lash the components of the Mechanical Dryer to the floor conveyor to avoid any risk of tipping over.**
- **Never stand under suspended loads.**

The following floor conveyors are allowed for the transport of the system components:

– Roll pallet of transport system with transport vehicle,
– forklift and
– pallet trucks.

NOTICE

- Avoid touching of the components of the Mechanical Dryer with the lifting frame of the floor conveyor.
- For this purpose, place spacers between the components and the lifting frame.
- Avoid strong shocks when setting down the Mechanical Dryer.

4.4 Installation and assembly

NOTICE

The installation site of the Mechanical Dryer must be dry and weather-proof.

The Mechanical Dryer may not be exposed to salty air

- Secure the Mechanical Dryer against mechanical damage.

On-site lighting of at least 300 lx must exist.

- Make sure that adequate space for movement is available for the forklift or crane at the site of installation of the Mechanical Dryer.

NOTICE

Damage to the Mechanical Dryer due to yielding of the ground!

- Check load capacity of the installation site before installing the Mechanical Dryer!
- If in doubt, get in contact with your architect/construction engineer.

- Set up the Mechanical Dryer according to the layout.
- Set up the Mechanical Dryer on a horizontal concrete floor that is as even as possible.
- Align the Mechanical Dryer carefully.

When planning the installation site, a minimum distance of 2.0 meters to buildings or other machines/systems must be maintained. The ceiling height must be sufficient for the assembly of the Mechanical Dryer.

NOTICE

Important notice about the screws/small parts!

Almost all screws and hex nuts required for the assembly of the Mechanical Dryer are already mounted to the mounting points.

Washers, spring washers, etc. are mounted onto the screws or delivered separately in a box!

Disassemble screws and small parts prior to each work step!

Only then carry out the next assembly step!

4.4.1 Installation

Preparatory work

- Clean the installation site. It must be swept clean and free of grease and water.
- If a customer-specific frame is included in the scope of delivery, it must be set up at the installation site beforehand.
- When setting up, make sure that the vibration elements are mounted underneath the frame.

Mounting the Set up / align Mechanical Dryer

- Now remove the transport frame and lift the Mechanical Dryer into the other frame.

NOTICE

High load for the feet if the floor under the Mechanical Dryer is uneven.

- Level out unevenness in the concrete floor with metal plates or similar under the feet.

CAUTION

High material damage possible!

Long-term damage and increased wear and tear occur if the mechanical dryer is not precisely aligned.

- **Be sure to take your time for the exact alignment of the mechanical dryer**

Checking the alignment

- Place a machine spirit level on the base frame of the machine.
- Rotate the machine spirit level by 90°.
- Align the machine horizontally in this direction.
- Rotate the machine spirit level by 90° again.
- Check the position and correct it with metal plates if necessary.

NOTICE

Observe the specifications of the drill anchor manufacturer

- Now drill the anchor holes in the floor for fixing the Mechanical Dryer.
- Clean the drill holes thoroughly. The dust must be removed from the drilled hole!
- Slide the mortar cartridges of the composite anchors into the anchor holes.

- Drive the anchor rods of the composite anchors with rotating and hammering movement (with a drill hammer) through the mortar cartridge down to the base of the drill hole.
- Check the correct installation of the anchor rod! - The ring mark on the anchor rod must be flush with the drill hole edge and - the annular gap around the anchor rod must be filled with mortar.

NOTICE

> At temperatures of the hall floor below 0°C the composite anchors may be charged only 5 hours after the initiation of curing!
>
> It is imperative that you wait this time before you tighten the hexagon nuts on the anchor rods.

- Screw the hexagon nuts belonging to the composite anchors only hand-tight (!) on the anchor rods. The tightening of the hexagon nuts is carried out only later, when the mortar in the drill holes has cured!

Natural vibrations on the machine may occur if not installed correctly. This could cause bearing damage and increase noise levels as well as impair the function of the machine.

4.4.2 Start-up

The Mechanical Dryer must be put into operation by the manufacturer.

4.5 Supply and installation

4.5.1 Installing the material feed lines.

- Install the material feed system and connect it firmly with the connection opening on the Mechanical Dryer.
  An opening is prefabricated above the Mechanical Dryer.

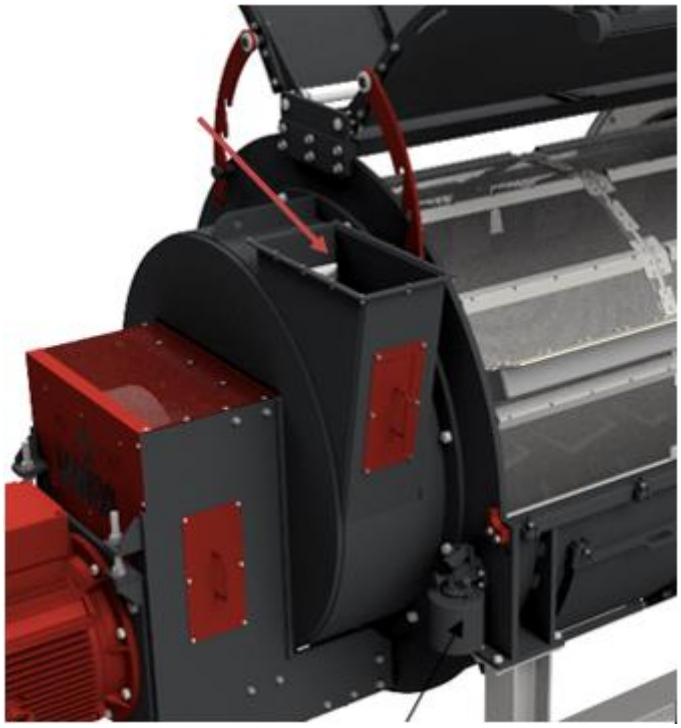


Figure 4 Feed opening in the inlet area

NOTICE

The opening at the inlet must be tightly closed after installation of the machine so that any intervention is effectively prevented.

If the connection to the inlet is not supplied by WIPA Werkzeug- und Maschinenbau GmbH, the operator of the machine must ensure a suitable transition. In this case make sure that the vibration is decoupled (compensator).

4.5.2 Connect material removal pipe

The material discharge pipe must be connected to the Mechanical Dryer.

To do this, connect the other piping to the connection piece of the Mechanical Dryer. The material outlet is located opposite the motor side and is directed sideways or upwards, depending on the configuration.

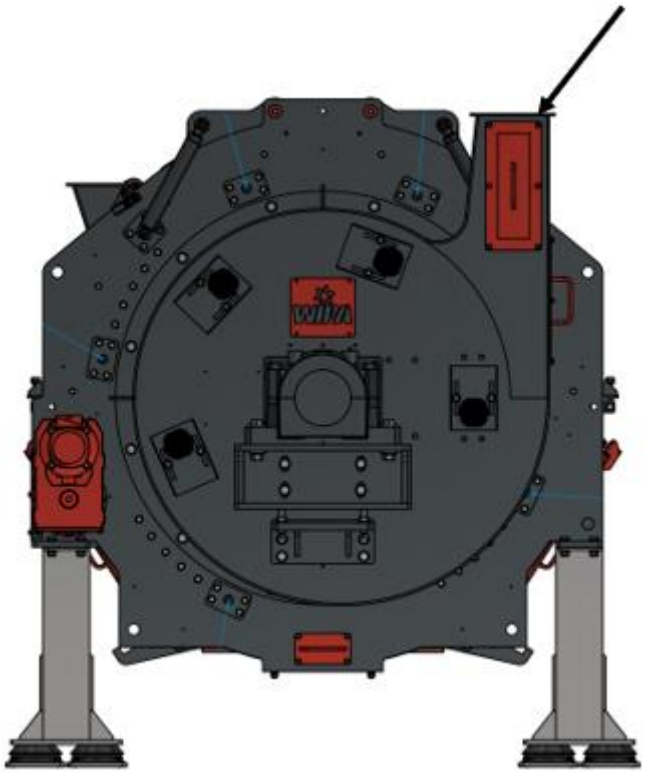


Figure 5 Connection piece of the material conveyor line on the Mechanical Dryer.

- Connect the connection piece on the Mechanical Dryer with the connection piece of the material conveyor line.
- Connect the connection piece with screws to the pre-made drill holes.
- Make sure that the connection is tight and no external air can enter at the joint. This would impair the performance of the suctioning.

NOTICE

If the connection to the outlet is not supplied by WIPA Werkzeug- und Maschinenbau GmbH, the operator of the system must ensure a suitable transition. In this case make sure that the vibration is decoupled (compensator).

WARNING

Health risk from dangerous substances!

Conveying air that is contaminated with pollutants can for example damage your airways and/or trigger dizziness.

- **Guide the conveying air at a suitable place to the outside. A recirculation of the conveying air in the workplace is not allowed, as an exposure to dangerous substances cannot be excluded in case of a breakdown of the machine.**

4.5.2.1 Connecting the discharge screw (SMD Optional) / dirt outlet

CAUTION

High property damage possible!

Incorrect dimensioning of the wastewater system leads to damage to the Mechanical Dryer

- **When designing the wastewater system, make sure that no material jam occurs. Damage to the Mechanical Dryer may occur even if the jam is short-lived.**

Connect the discharge screw or a suitable dirt outlet below the Mechanical Dryer. A flange is located below the Mechanical Dryer for this purpose. If a discharge screw (optional) is supplied, a box with the required screws is included.

4.5.3 Making the electrical connection

The electrical supply line is connected in the control cabinet. The other parts of the machine are supplied from there.

- Make the connection at the installation site in accordance with current standards and directives and in accordance with the circuit diagram. Voltage and current consumption, see chapter 3.

A circuit diagram is stored in the electrical cabinet.

- Make the connections according to the circuit diagram.
- Do no create any stumbling hazards with loosely laid cables.
- Protect the cables from damage.

Procedure

The machine is mounted and commissioned by the manufacturer.

Risk of death from electric shock

An electric shock can cause fatal injuries. After switching off the machine via the main switch, voltage remains on the sockets and lights in the control cabinet.

- **Observe the marking of the components in the control cabinet that still carry voltage after switching off.**
- **Allow electrical work to be done only by a trained specialist.**

5 Operation and control

Every person who deals with the operation, maintenance and repair of the Mechanical Dryer must have read and understood these operating instructions thoroughly.

If the control integration is not part of the scope of delivery, the operator of the complete plant must supplement the part of the control.

5.1 General notes

Work on the Mechanical Dryer may only be carried out by trained and/or instructed personnel. Improper use may result in danger to life and limb, to the machine and associated equipment, and to the efficient operation of the machine.

The Mechanical Dryer may only be operated by authorized, professionally suitable persons.

A technically suitable person can, on the basis of his technical training, knowledge and professional experience as well as knowledge of the accident prevention and occupational health and safety regulations, assess and carry out the work assigned to him and recognize possible dangers, if he also fulfills the necessary personal requirements for the activity, e.g. can work independently.

- Use the equipment only for the purpose intended or customary by the manufacturer.
- Always operate the Mechanical Dryer only in a technically perfect condition to avoid accidents.
- Do not use any foreign parts on the Mechanical Dryer, otherwise compliance with the required safety cannot be guaranteed.
- Refrain from any working method that impairs the safety of the Mechanical Dryer.
- Immediately report any changes that have occurred to the Mechanical Dryer (that affect safety) to the supervisor in charge.
- Immediately shut down the Mechanical Dryer in the event of a malfunction affecting safety. Do not restart the machine until the fault has been rectified.
- Do not dismantle or manipulate any safety devices. Do not put safety devices out of operation.
- Do not remove any covers from drive parts before the dangerous movements have stopped. Replace covers properly before recommissioning.

5.1.1 Notes for the operator

- As the operator, ensure that the functional test of the safety equipment on the Mechanical Dryer is performed by trained personnel both before the initial startup and before each new start-up.
- As the operator, make the required personal protective equipment (PPE) available to the operating personnel and ensure that it is also used.

5.1.2 Electrotechnical notes

DANGER

Danger to life due to electric shock

An electric shock has resulted in fatal injuries.

- **Connect the Mechanical Dryer and additional equipment according to the regulations. Be sure to comply with the regulations.**
- **Check the function of all safety-related switching devices at regular intervals.**
- **Never remove, bridge or impair safety devices (such as emergency switches, limit switches, key switches).**
- **Have the plant control system operated only by trained and instructed personnel.**
- **Have repair and maintenance work performed only when the system is switched off (de-energized) and only by a qualified electrician.**

A qualified electrician is someone who, on the basis of his technical training, knowledge and experience as well as knowledge of the relevant regulations, is able to assess the work assigned to him and recognize possible hazards.

5.2 Switching on and off, operation

DANGER

Life-threatening injuries during operation of the machine

Automatic movement sequences of the machine during operation can cause life-threatening crushing of persons.

- **Before operating the machine, check that all protective devices are installed and functioning.**

- Switch the control cabinet on or off with the main switch.

5.3 Operating the machine

This chapter describes the function of the operator display and which functions it provides.

The following visualizations may differ from the actual visualization due to updates. Depending on the scope of the plant, visualizations may be supplemented or shortened by certain fields.

Despite safe construction and proper maintenance of the system, damage can occur due to material fatigue and incorrect operation. If damage is detected, the system must be shut down immediately.

5.3.1 Switching on the plant

To switch on the system, perform the following steps:

- Make sure that no person is in the danger zone.
- Make sure that all safety doors and flaps are closed.
- Make sure that all safety switches are engaged.
- Turn the main switch to "I-On".
- Correct active faults.

The control cabinet is switched on.

5.3.2 Switch cabinet

Figure 6 Example of a control cabinet

No	Description	Function
1	Emergency stop mushroom pushbutton switch	The emergency stop should only be used in an emergency or for maintenance work and not as an operating stop switch.
2	Main switch	The main switch can be used to switch the entire control cabinet on or off. The lighting, the service socket and the control cabinet fan are still live even when the main switch is switched off. Before maintenance work, the main switch should always be in the 0 position and secured against being switched on again. Before switching on, the operator must ensure that the system is in proper condition.

No	Description	Function
		After switching on the main switch, the control unit must first start up completely. This can take up to one minute.
3	Signal light	The signal light indicates the status of the plant Operation = green Warning = yellow Malfunction = red
4	Control cabinet fan	The control cabinet fans ensure a normal operating temperature and filtered air in the control cabinet. The filters of the control cabinet fans should be cleaned at regular intervals. (At least every six months or more often, depending on the level of contamination).
	Cooling unit (Depending on the size/circumference of the control cabinet)	For larger control cabinets, a cooling unit is installed in the door. Please refer to the supplier documentation. This is located in the control cabinet.
	Emergency stop reset	The emergency stop reset button lights up in blue after an emergency stop switch is actuated. To reset the emergency stop relay, all emergency stop mushroom presses must be unlocked and all safety flaps must be closed. The blue indicator light in the emergency stop reset button goes out again after the emergency stop relay has been reset. Depending on the machine, this reset button is located directly on the operating display.

5.3.3 The operating display

To operate the system, an operator display is installed either on the front of the control cabinet, in a separate rack, or via a swivel arm on the machine at eye level. All the necessary operating dialogs can be called up on the operating display by pressing a finger on the display or using the mouse.

Mainly, plant overview pictures, the drive list, the recipe management, trends, message lists and a selection menu are used for orientation and operation of the plant. In addition, the operator has the possibility to make parameter settings.

Authorized personnel have the possibility to unlock a certain "user level" by entering a password. In general, all menus that are only used to display operator information are freely accessible.

Menus that have an influence on the configuration and operating behavior of the systems require password entry.

The following description of the individual user dialogs and menus is intended to provide detailed information about their meaning and handling.

5.3.4 System (main) menu

Figure 7 main menu 5.3.4

The menu appears after the control cabinet has been switched on and the touch panel has completely booted up. The start-up process of the control, as well as the touch panel, can take up to one minute.

From the start screen it is possible to switch to the other visualization pages. A language can be selected via the country flags. By default, German and English are available for selection.

Each visualization page has a header, a footer and a center part.

When you change the menu, only the middle part of the displayed image changes.

5.3.5 Header description and function

Figure 8 Header

No	Description	Function
1	Wipa-Logo	Clicking on the Wipa logo opens an information page. The information page contains supplier, customer and program information.
2	Login/Logout	With a click on this area, the log-in menu opens. There are different access rights. Each user has his own user name and password. The user names, passwords and access rights are agreed upon and handed out during commissioning.
3	Machine	This line shows which machine/plant/plant part is explicitly called.
4	Headline	The title bar shows the title of the current visualization page.
5	Active recipes (Optional)	Indicates the basic settings (recipe) according to which the machine is currently being operated.
6	Warning/ Alarm	If a warning is pending, the box for the collective warning lights up yellow. In the event of a fault, the box for the collective alarm lights up red.
7	Calendar	Displays the current date and time. Clicking on the field opens a menu where the date and time can be changed.

5.3.6 Description and function of the footer

Figure 9 Footer

The footer/key bar is used to quickly change the visualization pages. Depending on the scope of the plant, the contents of the footer may vary, therefore only the keys that are present on each machine are described. By finger pressure you reach the different visualization pages via the keys arranged here. These keys have the same meaning and function on each visualization page.

No	Description	Function
1	Menu	By clicking on the button, the start screen/menu of the system is called up.
2	ESC	The ESC key can be used to close the visualization page that is currently being displayed. The previously displayed visualization page is called up.
3	Plant	By clicking on this button, you will get to the flow diagram of the whole/part/plant.
4	Drives	Clicking on this button takes you to the actuator list. Here, all drives and valves of the plant are displayed in a list. Information about the actuator is available in this list.

9

No	Description	Function
4	Parameters	The system parameters are called up via this button. Basic settings can be made here and the system can be adjusted to the material.
5	Recipe management (Optional)	The recipe management can be called up here. The recipe management enables you to create different recipes and to save parameter values in the recipes. The saved parameter values can be taken over again at any time. This enables the machine to be quickly adapted to different materials. This button is not available on all systems and depends on the scope of delivery.
6	Trend	The trend recording can be called up via the button. In the trend recording, the most important values are recorded graphically. The trend recording is divided into two visualization pages (Current values / Long-term trend).
7	Energy	This button is used to call up the energy record. The most important energy values are displayed in this record.
8	Help	This can be used to open additional information such as the operating instructions or the circuit diagram.
9	Reset	The Reset button can be used to acknowledge fault messages as soon as the cause of the fault message has been eliminated.
10	Messages	The Messages button is used to access the fault message table. The current system messages, warning messages and fault messages are displayed in the fault message table. It is also possible to switch to the history view. All previous messages that have been archived on the memory card are displayed here.

5.3.7 Actual values, "All drives off" / All "Drives on automatic" keys

This bar is used to keep an eye on the most important actual values on each visualization page. In addition, the two buttons can be used to quickly switch all drives off or to automatic mode.

Figure 10 Example setup of actual values Keys "All drives on automatic" / All drives off

No	Description	Function
1	Button "All drives off"	The "All drives off" button can be used to switch off all drives simultaneously. If all drives are off, the button is displayed in green. As soon as one or more drives are switched to automatic or manual mode, the button is gray again. Caution: The "All drives off" button must not be misused as an emergency stop. To avoid damaging the system or provoking a material jam, the system should always be shut down in automatic mode.

No	Description	Function
2	Button "All drives to automatic"	The "All drives to automatic" button offers the option of switching all drives to automatic mode at the same time. If all drives are in automatic mode, the button is displayed in green. As soon as one or more drives are switched off or to manual mode, the button is gray again.
3	Current status	Shows which step the program is in or which operation is currently being performed. This status is also displayed in the header.
4	Important asset values	In the fields between the two buttons, all relevant values specific to the plant are displayed. The values displayed may vary depending on the scope of the plant.

5.3.8 Flow diagram of the plant

In the flow diagram of the plant, the entire plant is displayed on one or more visualization pages, depending on the scope of the plant. The flow diagram of the plant illustrates the material flow. The flow diagram is designed in such a way that all plant components are immediately recognizable. Actual values are displayed and set values can be changed in submenus. All plant components, motors, sensors and valves are labeled in the flow diagram. By clicking on the respective machine, an overview image of the machine is displayed. From here, the respective pop-up window in which the drive / valve is operated and set can be opened by clicking on the corresponding button.

5.3.9 Operating mode selection / drive information pop-up window

The pop-up window is used to select the operating mode and to output various information. The pop-up window can vary depending on the type and equipment of the drive. Pressing one of the drives in the flow diagram calls up the pop-up window.

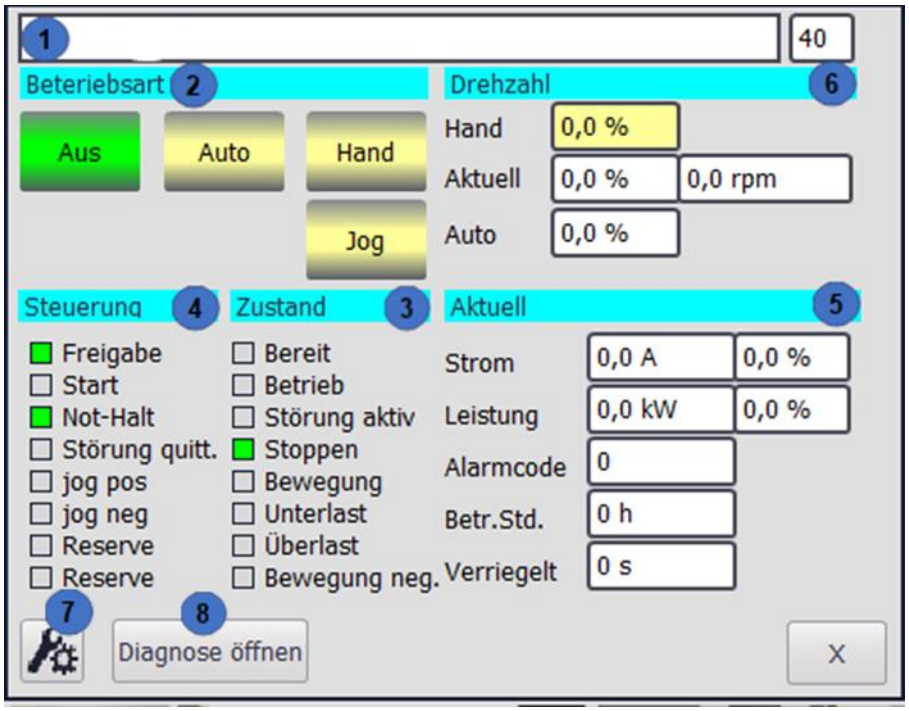
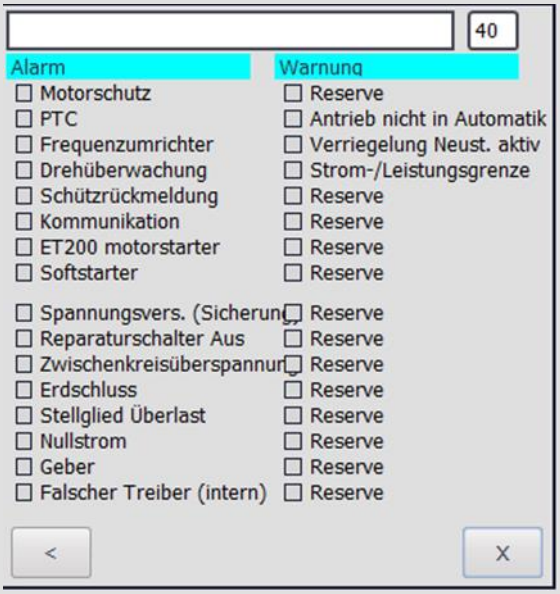


Figure 11 Pop-up example operating mode selection

No	Description	Function
1	Name of the drive	This field contains the designation of the drive/unit.
2	Operating mode	The operating mode can be selected in this field. The Off, Auto and Manual buttons are available for each actuator/valve. If an operating mode has been selected, the button of the associated operating mode is displayed in green. **Auto** If the drive is set to automatic mode, the drive is switched on automatically as soon as the requirement for this is given. **Off** If the actuator/valve is switched off, it remains switched off even if the request for a start in automatic mode would be given. Für Wartungsarbeiten an der Anlage ist es nicht ausreichend die Antriebe auf die Betriebsart „Aus“ zu stellen. Vor Wartungsarbeiten muss der Hauptschalter immer in 0 Stellung und gegen Wiedereinschalten gesichert sein. **Manual** In manual mode, the actuator / valve remains permanently switched on. If an actuator is set to manual, a warning message is issued to draw the operator's attention to this. In some exceptional cases, where continuous operation of the drive / valve could lead to damage to the machine, the drive / valve automatically resets to automatic mode after a certain time. For drives that are controlled by a frequency converter, a speed must be specified in addition to pressing "Manual". **Jog** In jog mode, the drive is started as long as the button is pressed.
3	Status	A box to the left of the state shows what state the drive is in.
4	Control	The control-dependent status of the drive/unit is displayed in this field.
5	Current	These fields display the most important values such as current consumption, power consumption and operating hours.
6	RPM	The speed is displayed in this field depending on the operating mode used. In the Manual operating mode, the desired speed can also be entered. This is only possible for drives that are controlled via a frequency inverter.
7	Parameters	This opens a mask in which parameters can be entered, which may only be done by the manufacturer, as this strongly influences the behavior of the respective unit/drive.

No	Description	Function
8	Open diagnosis	This opens a mask that helps to diagnose faults more quickly in the event of a fault. 

5.3.10 Drive list

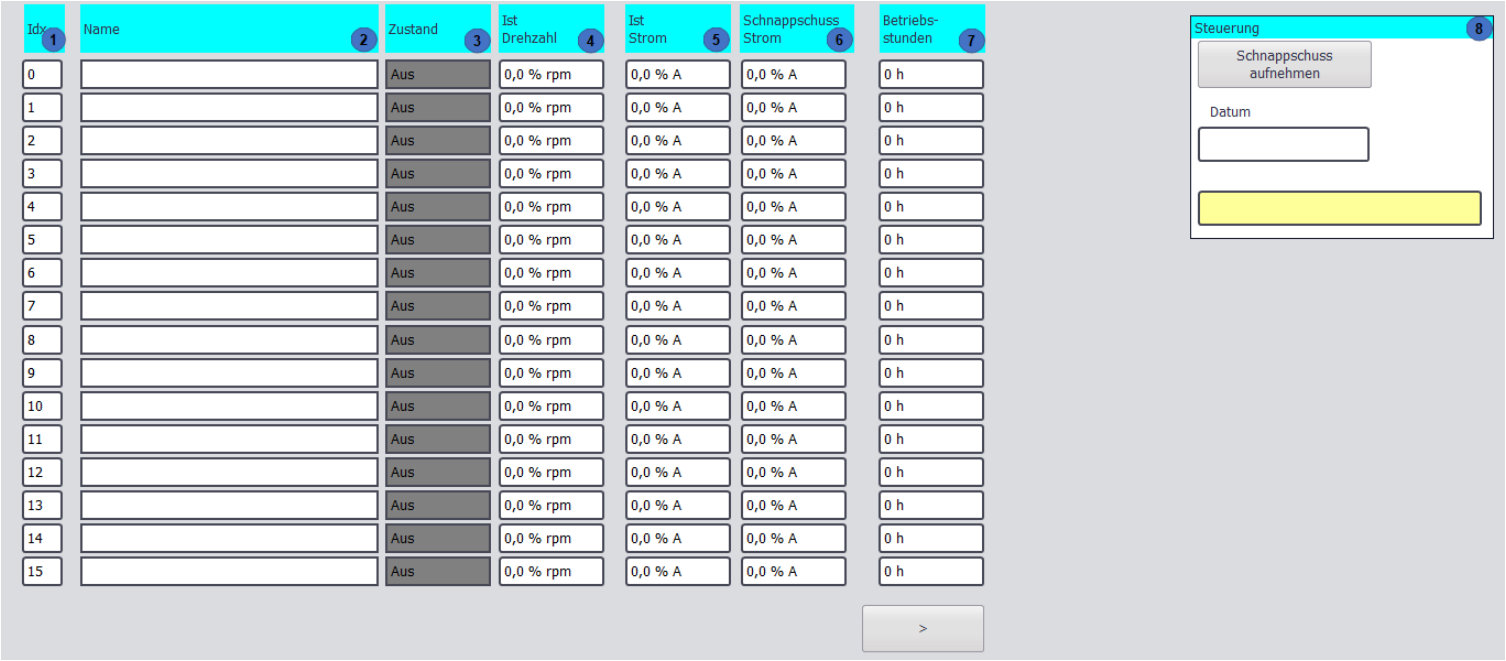


Figure 12 Example structure of a drive list

No.	Description	Function
1	Equipment identification	This column contains the equipment identification of the various actuators/valves
2	Actuator/valve designation	This column contains the device designation of the various drives/valves. The drive/valve designations are selected uniquely and are the same throughout the visualization.
3	State	This column displays the operating mode of the respective actuators/valves.
4	Actual motor speed [% rpm]	This column displays the percentage speed of the respective drive/valve. In the case of star-delta control and directly driven motors, 0 or 100% is displayed here depending on the status.
5	Actual current consumption [% A]	This column shows the percentage current consumption of the respective actuator/valve. In the case of star-delta control and directly driven motors, 0 or 100% is displayed here depending on the status.
6	Snapshot current	This column shows the percentage current consumption of a snapshot.
7	Operating hours	This field shows how many hours the respective actuator / valve has already been in operation.
8	Control take snapshot	In this field, the operator has the possibility to create a snapshot of the current recordings of the drives. The time stamp of this snapshot is displayed below the field. In addition, the operator can enter a note in the yellowish field. This feature is intended to allow the operator to compare values to ensure consistent operation and simplify operation.

5.3.11 Trend recording

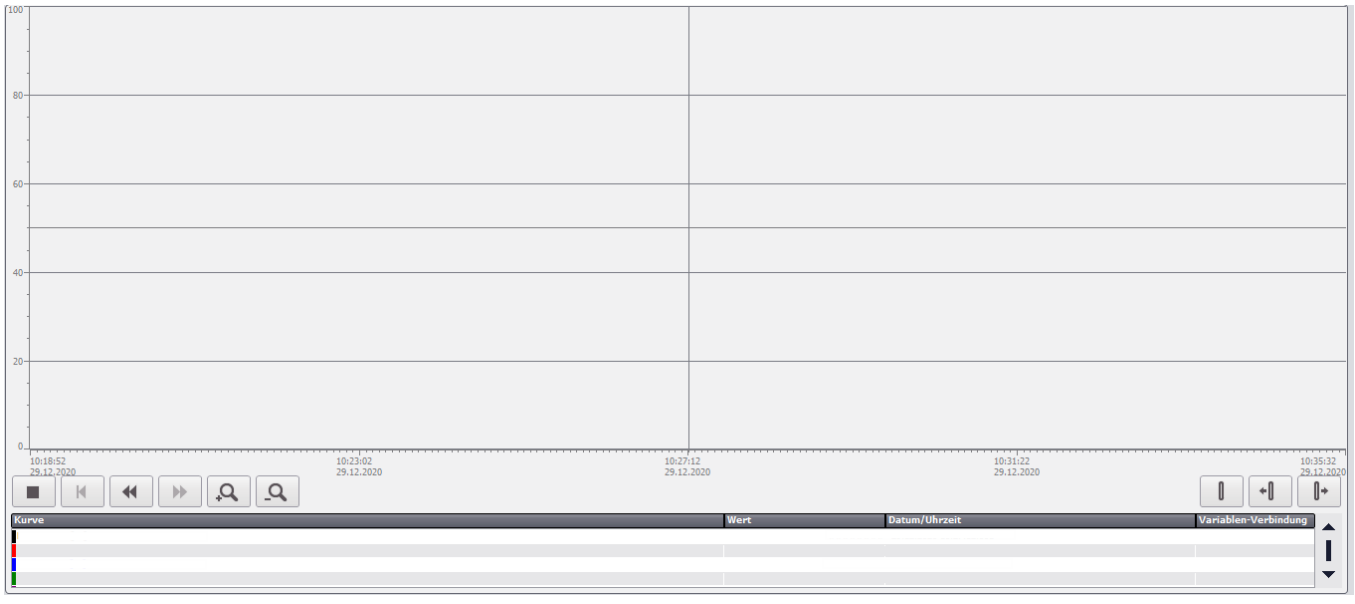


Figure 13 Trend recording

The trend recording is used for archiving and later evaluation and analysis of the most important process values. The trend recording is divided into two visualization pages. Clicking on the "Trend" button in the footer opens the trend recording. This graphical record updates itself every 10 seconds and shows the current values in the front. With a click on History, a graphical record is displayed that does not update by itself. Here, the archived values from the long-term archive are displayed graphically.

5.3.12 Fault message table

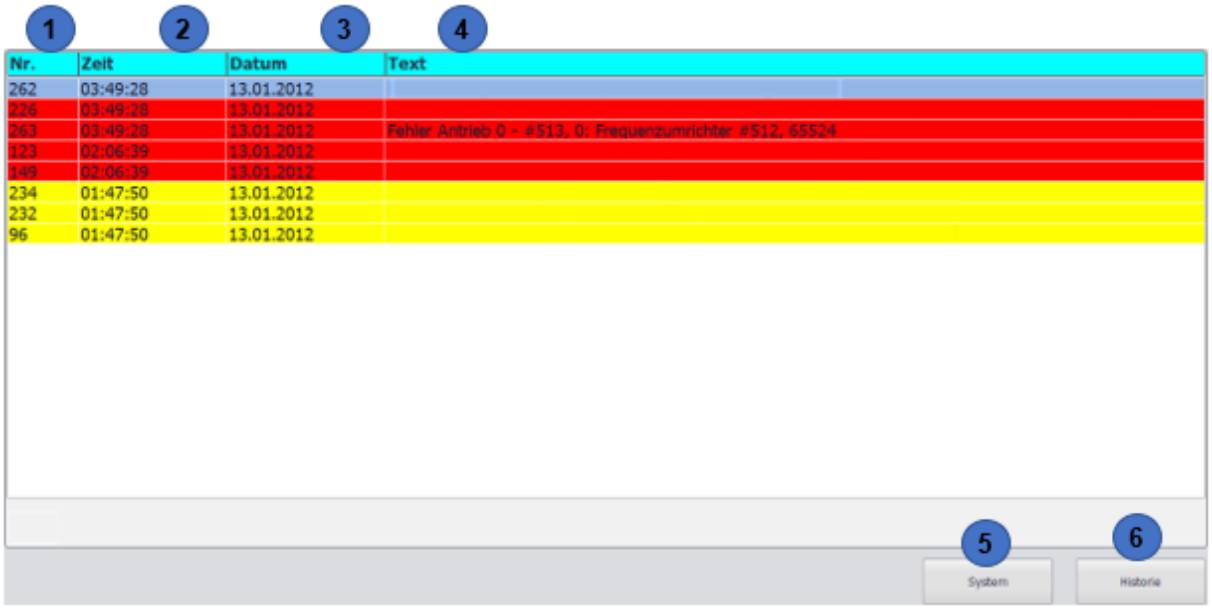


Figure 14 Example fault messages

No.	Description	Function
1	Number	This column displays the number of the error message.
2	Time	This column displays the time when the text occurred.
3	Date	This column displays the date in which the text occurred.
4	Text	The error texts are displayed in three different color levels depending on the fault. These texts serve as an aid for fault diagnosis. **Red = Fault message** Fault messages are displayed in red. The system reacts differently to the fault messages. Shutting down a drive due to a fault message causes the plant to stop. Example: The motor protection relay of a drive has tripped. In the case of fault messages that have no influence on the operation of the plant, the fault message is only displayed.

No.	Description	Function
		Example: A fuse for the lighting in the control cabinet has tripped. As soon as the problem no longer exists, a fault message must be acknowledged via the "Reset" button. **Yellow = Warning message** Warning messages are displayed in yellow. Warning messages acknowledge themselves as soon as the cause of the warning message has been eliminated. The operation of the machine is not affected by warning messages. **White = Information** Information messages are displayed in white. This information can indicate, for example, that operation is not possible because the local control is inactive.
5	System	This button opens a mask in which the last system messages are displayed.
6	History	The acknowledged error messages are displayed here.

6 Maintenance

The chapter *maintenance* is divided into the areas of care, maintenance and repair. This is to facilitate the planning of each required maintenance work.

The instructions in this chapter should be understood to be minimum requirements. Depending on operating conditions, further instructions can be required to maintain the Mechanical Dryer in optimum condition. The specified intervals refer to single-shift operation. For maintenance instructions on specific assemblies, see the respective documentation of the suppliers in chapter 8.

The maintenance and repair work described in this chapter may only be carried out by the operator's specially trained maintenance personnel.

Maintenance and repair work in specialized areas (for example, hydraulics) may only be carried out by professionals trained in that respective field.

For repairs or spare part orders, please refer to the drawings and part lists of the documentation in chapter *Appendixes*. This also applies to parts purchased by WIPA Werkzeug- & Maschinenbau GmbH.

Any replacement parts to be used must meet the technical requirements specified by WIPA Werkzeug- & Maschinenbau GmbH. This is always guaranteed with original spare parts.

- Read the relevant regulations and safety data sheets by the manufacturer as well as the instructions from the operator's operating instructions regarding storage, handling, deployment and disposal of gases, greases, oils and other chemical substances. Complying with these regulations and instructions is imperative.
- Provide for the safe and environmentally friendly disposal of operating materials and replacement parts.
- Be sure to observe the safety instructions on the following pages.

6.1 Care

CAUTION

Property damage due to improper cleaning

Improper cleaning of the Mechanical Dryer can cause malfunctions or damages.

- **Do not choose aggressive cleaning agents like petrol or thinner, which attack metal and plastic surfaces as well as hose connections.**
- **Never clean sensitive components with rough brushes and strong mechanical pressure. Use lint-free cleaning cloths.**
- **Never clean the Mechanical Dryer with a water jet or high-pressure cleaner.**
- **All water based industrial cleaning agents can be freely used.**

Taking care of the Mechanical Dryer is essentially limited to periodic cleaning of all surfaces of dust and other deposits.

- Simply dust or wipe off the Mechanical Dryer. It is not advised to use an application for sensitive surfaces.

Proper care helps to maintain the Mechanical Dryer in a long-term functional condition.

- Thoroughly clean the Mechanical Dryer at least once a week.
- Do not use metal objects such as scrapers or screwdrivers for cleaning bare machine parts such as piston rods or guides.
- Do not use aggressive cleaning agents or solvents (they damage seals) or abrasive paper for cleaning.
- Use only lint-free cleaning cloths for cleaning.

NOTICE

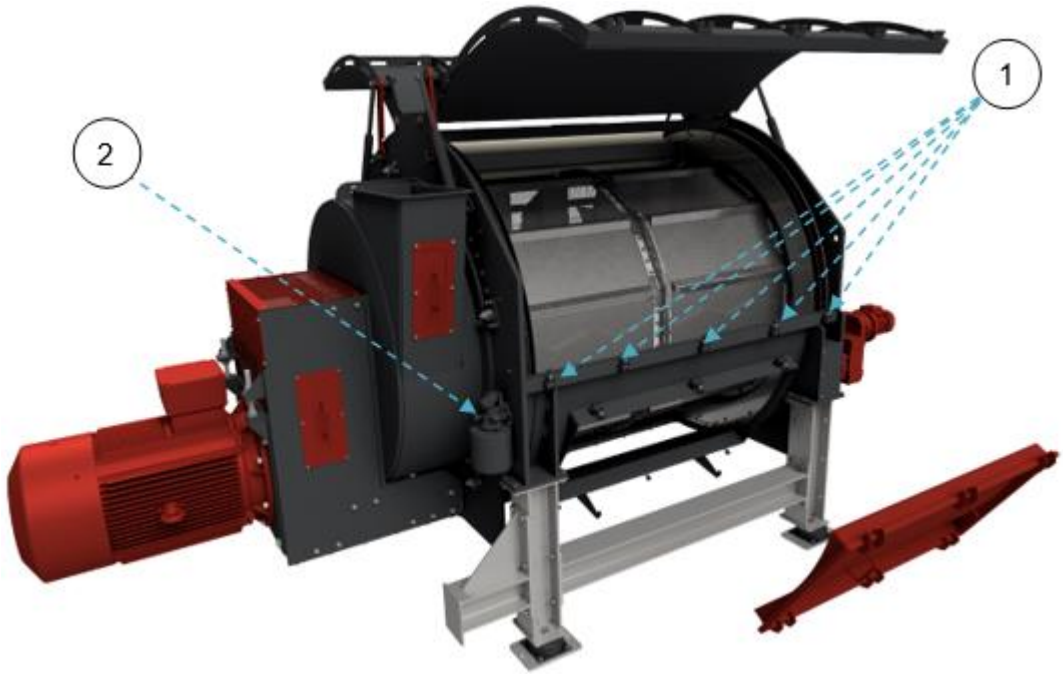
- Do not clean the Mechanical Dryer with compressed air. As a result, dust and/or dirt particles can get to seals and sealing surfaces and damage them.

6.2.5 Cleaning the machine interior

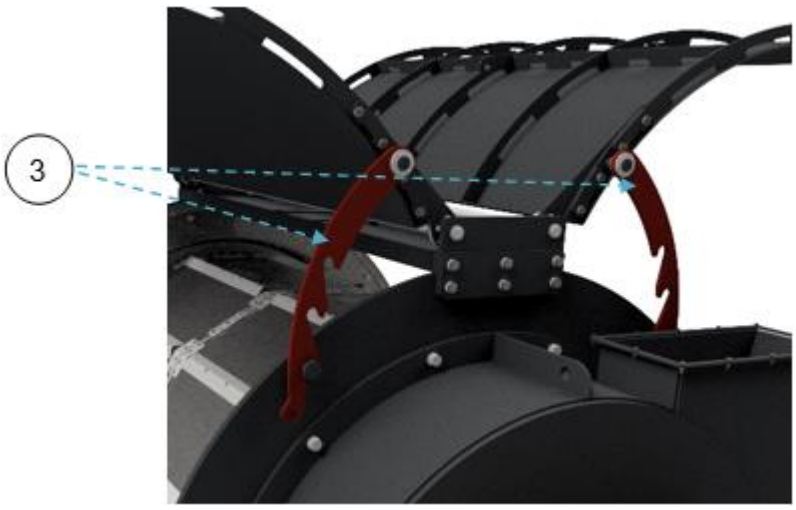
- At the end of operation of every working day, check the interior of the machine in the area of the sieve material residues.
- Remove remaining plastic residues from the machine. This prevents a permanent caking.

Procedure:

- Switch off the machine and secure it against being switched on again.



- Release the safety bolts (1) on the maintenance flaps. Ensure that no person is standing in the swivel area of the maintenance flaps and actuate the hydraulics (2).
- Make sure that the drop levers (3) engage and secure the covers.



- Remove foreign material deposits from the screen basket chamber.

- Now actuate the hydraulics so that the lever comes out of the detent position.
- Now these levers must be held past the detent position.
- Make sure that no person is in the swivelling range of the maintenance flaps.
- Now lower the maintenance flaps by opening the valve on the hydraulic pump.
- Now screw the maintenance flaps back into place.

6.2.6 Lubrication

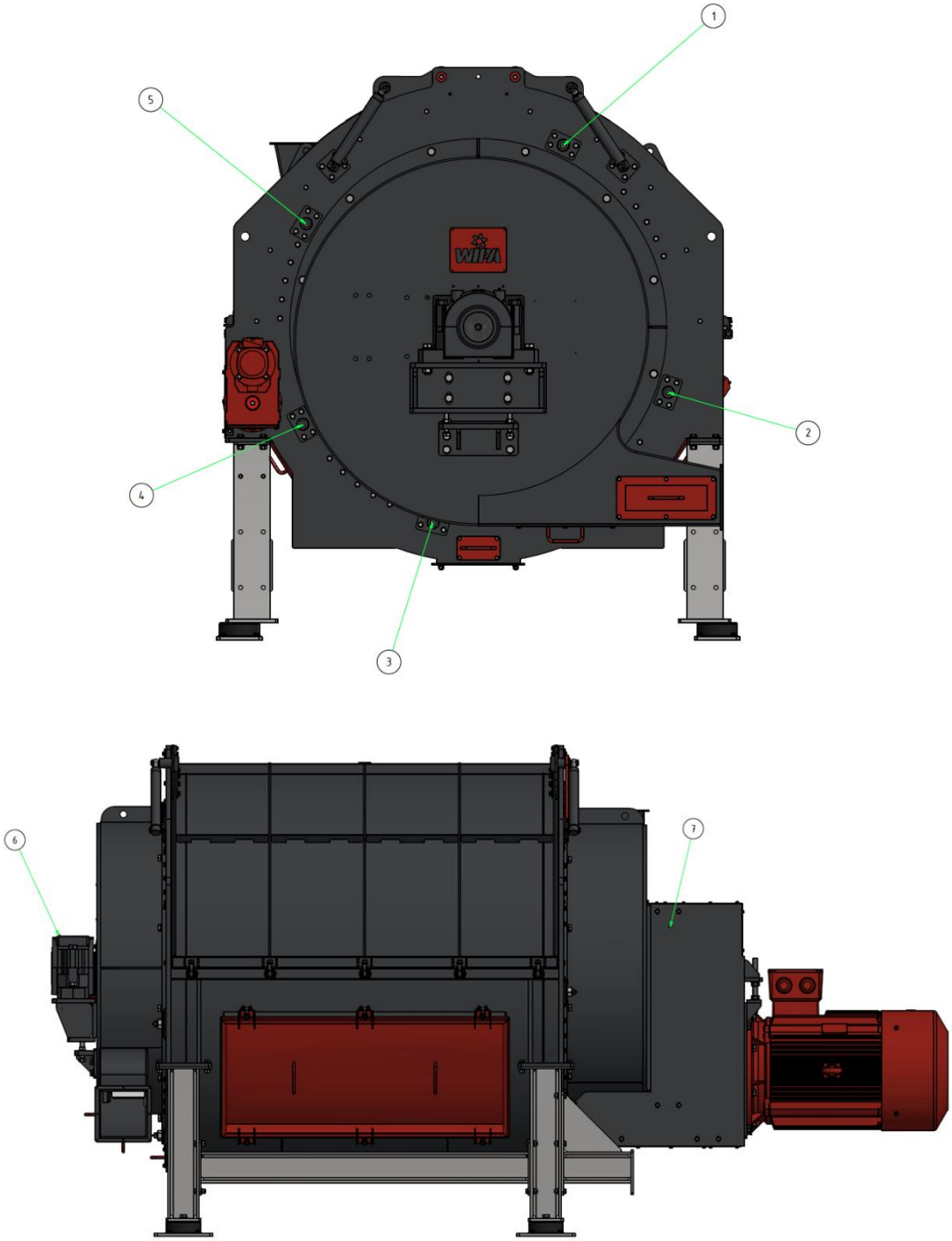
NOTICE

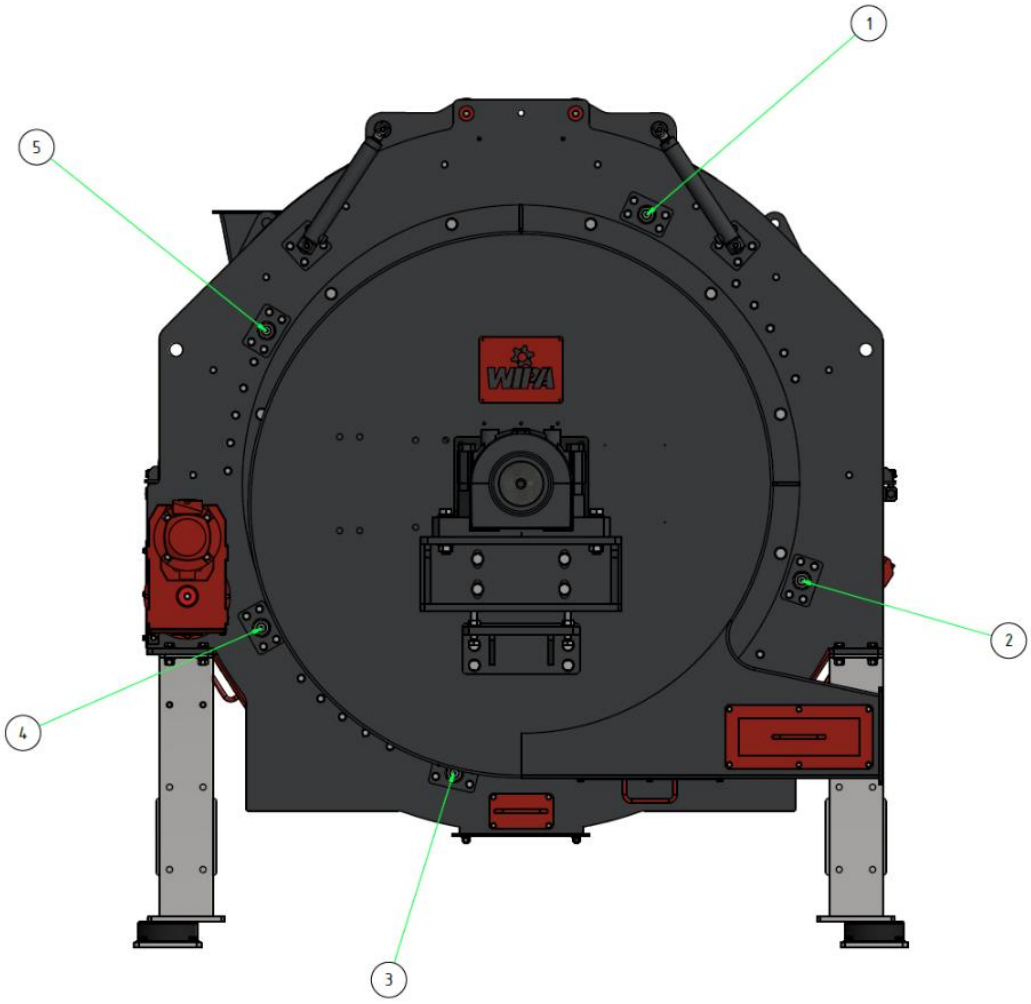
The lubrication schedule and the maintenance manual or the operating instructions of the installed equipment and components apply to the lubrication of the machine.

- Also note the following points:

- Keep filling and drain caps clean and do not leave the closures open longer than necessary.
- Drain waste oil only at operating temperature.
- Clean oil cavities and oil lubrication points only with lint-free cleaning cloths and low viscosity spindle oil ("flushing oil"). Not permitted are cotton waste, petroleum and benzene.
- Do not mix synthetic lubricating oils with mineral oils or synthetic oils from other manufacturers even if the synthetic oil has equivalent properties.
- Dispose of waste oils properly.

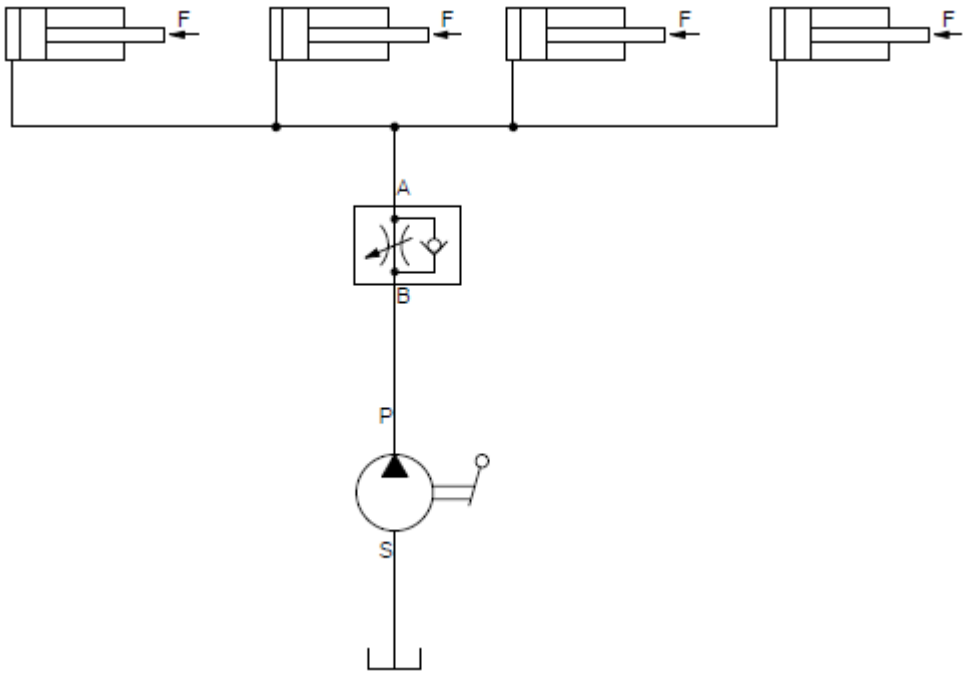
Lubrication points MD1000-2000





No	Unit	Description	Interval (Op.-hrs)	Lubrication quantity in g
1-5 9-13	Bearing Squeegee	Lubricate the bearings on the squeegee regularly	40	10
6 - 7	Rotor bearing	Lubricate the bearings of the rotor regularly. MD1000 MD1250 MD1500 MD2000	 256 180 260 260	 40 65 75 70
8	Gear Squeegee	Lubricate the gear drive regularly.	40	10

6.2.8 Hydraulic diagram



6.3 Maintenance plan

- Carry out maintenance work at the intervals specified below. The time specifications correspond to a single-shift operation. Adjust the time specifications accordingly for multi-shift operation. These tasks ensure a consistent, trouble-free operation of the Mechanical Dryer.

Task	**Maintenance interval**
Check safety devices	Daily / weekly and with every renewed start-up and after any repair of the machine
Check display elements	daily
Checking of rotor	daily
Checking of wear plate on the rotor	daily
Checking of the material entry	daily
Checking of the pulleys	daily
Checking of the v-belt	daily
Cleaning of the machine In particular, screen scraper (squeegee), dirt discharge screw, outlet.	Before finishing work. Before resuming work.
Check hydraulic liftin device	daily
Check filter mat on the fan of the control cabinet for soiling.	daily
Check the motor cooling for soiling.	daily
Check the rotor bearing	daily
Check squeegee bearing	daily
Check all screws for tightness	weekly

NOTICE

- Replace the wear plates on the rotor if the surface of the plate has been damaged. Damage to the wear plates can occur if large amounts of impurities have previously entered the system.

  IMPORTANT: After replacing some or all of the wear plates, a new operational balancing must be carried out by the manufacturer.
- Replace the screens on the screen basket if the surface of the screen plates has been damaged. Damage to the screen plates can occur if large amounts of impurities have previously entered the plant.
- Replace the rotor if the support plates or the core rotor have been damaged. The screen plates may be damaged if large impurities have entered the plant before.
- Replace the wear plates of the optional reinforced inlet/outlet if they are damaged. Increased damage can result from processing abrasive material.

6.3.1 Maintenance of supplied equipment components

NOTICE

- Be sure to observe the maintenance instructions in the documentation of the supplied system components.

6.4 Repair

Repair work on the Mechanical Dryer may only be carried out by trained and authorized personnel of the operator. The instructions in this chapter are limited to important general information and instructions which must be followed during the repair work.

NOTICE

The following applies for all extension and dismantling work:

- Marking the parts in their shared identity.
- Marking and noting the installation position and location.
- After the repair work, check that all bolted connections are tight.

6.4.1 V-belts

NOTICE

Use only V-belts that have been authorized by the manufacturer.

Using non-authorized V-belts renders the manufacturer's warranty null and void.

The V-pulleys must be free of burrs and dirt. Dirty V-pulleys prematurely destroy the V-belt.

- Put the V-belt on by hand.
- To do so, reduce the axis distance accordingly.

Forcible pulling over the disc edges or using mounting irons damage the cord and outer fabric, often not visibly, and considerably reduce the service life. V-belt drives must be carefully tensioned. Too low tension leads to inadequate power transmission and premature wear due to large slippage. Too high tension causes excessive stretching, unnecessary flexing associated with high temperatures and thus causes a reduction in the service of life. Furthermore, the shaft bearings are subjected to unnecessarily high stress.

- Check the tension after a short running-in period.
- If necessary, retention the V-belt.

Wrongly tensioned V-belts wear prematurely. Therefore, the correct V-belt tension is of enormous importance for the perfect power transmission and attaining the usual V-belt life.

- Apply the belt tension values (see supplier documentation)!
- Adjust the motor parallel until the specified belt tension.
- Carry out several belt rotations and check the belt tension again.
- Check the belt tension after a period of 0.5 to 4 hours again and correct the belt tension if necessary.

More information about the assembly and testing of the V-belts can be found in the appendix in the supplier documentation.

Procedure for the assembly/disassembly of the V-belts:

- Disconnect the machine from the mains.
- Secure the machine against being switched on again.
- Remove the V-belt protection.
- Reduce the axis distance via the adjustment of the motor bracket until the V-belt can be dismantled by hand without using force.
- Check the V-pulleys for dirt and damage.
- Mount new V-belts by hand without using force.

- Tension the V-belt via the adjustment of the motor bracket until the tension force has been reached. (Align motor bracket parallel!)
- Mount the V-belt protection.

7 Disposal

7.1 Environmental protection

CAUTION

CAUTION: Environmental exposure to substances hazardous to water

These substances can burden the soil and groundwater or reach the sewage system.

- **While working at or with the system, the legal responsibilities for waste-avoidance and proper recycling have to be followed.**
- **Be sure to observe the valid legal regulations for disposing of consumables and replacement material during maintenance or decommissioning of the Mechanical Dryer.**
- **Ensure that particularly during installation, repair and maintenance substances hazardous to water, such as greases and oils, emulsions and liquids containing petroleum do not burden the soil and groundwater or reach the sewage system.**
- **Ensure that suitable containers are used to store, transport, collect and dispose of these substances.**

7.2 Oil and oily wastes and lubricating greases

Oil and oily waste represent a high-risk potential for the environment. Thus, disposing of them must be carried out by specialized companies.

- Bring these wastes to the internal company waste disposal so that it can be passed on to the specialist companies.

7.3 Plastics

- As much as possible, get used/processed plastics sorted.
- Dispose of plastics in compliance with the legal requirements.

7.4 Metals

- As much as possible, get used/processed metals separated.
- Have an authorized company dispose of your metals.

7.5 Electrical and electronic scrap

Electrical and electronic scrap

Devices with this logo on the packaging or on the device must be disposed of separately. These devices may not be disposed of with normal household waste.

You are responsible for ensuring that any electrical or electronic waste is disposed of in the appropriate places, e.g., the recycling center.

7.6 Final decommissioning

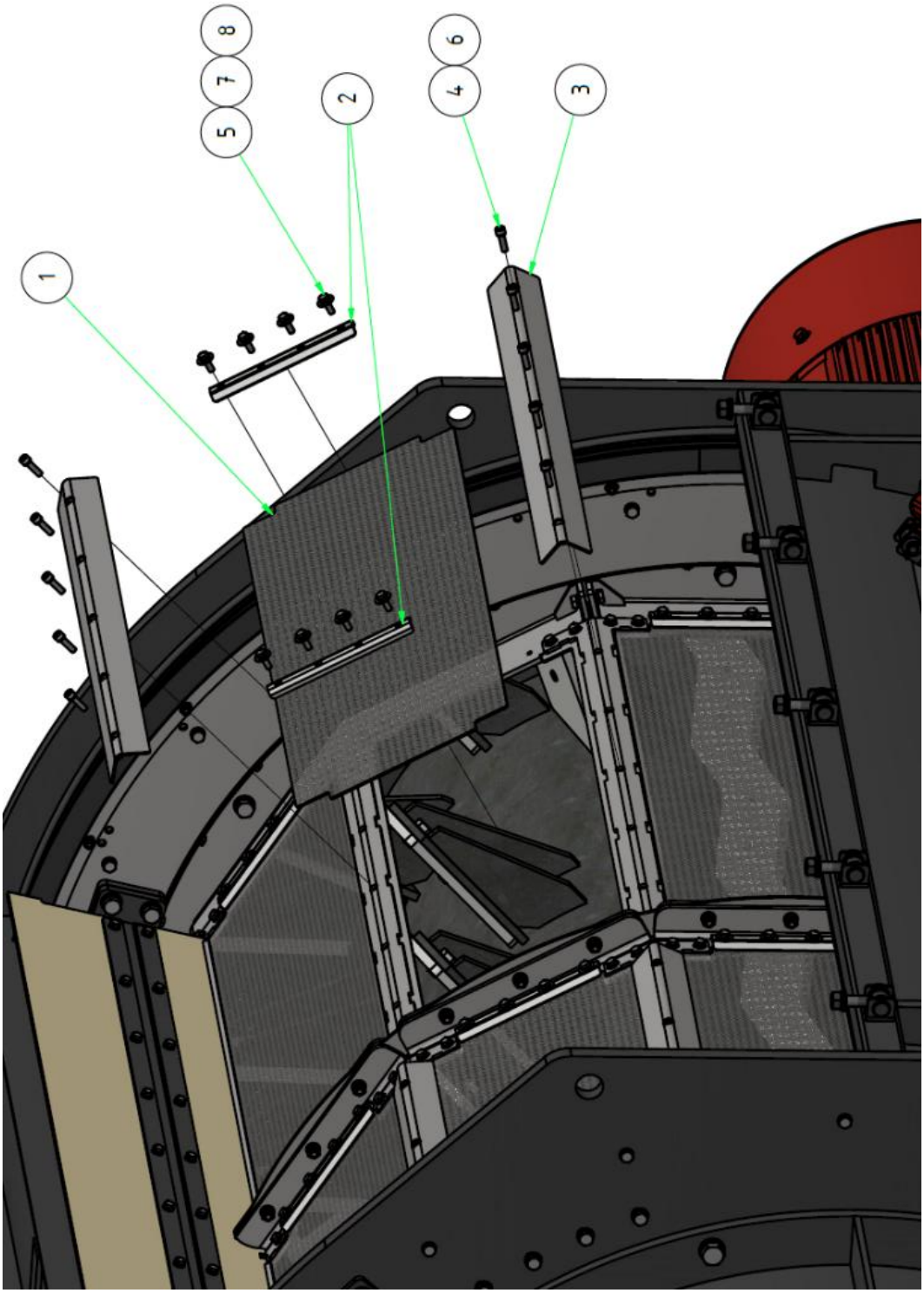
- Check which materials can be recycled and then do so.

8 Appendix

- Parts list with spare parts recommendation/marking
- Electrical plan + parts list
- Supplier documentation

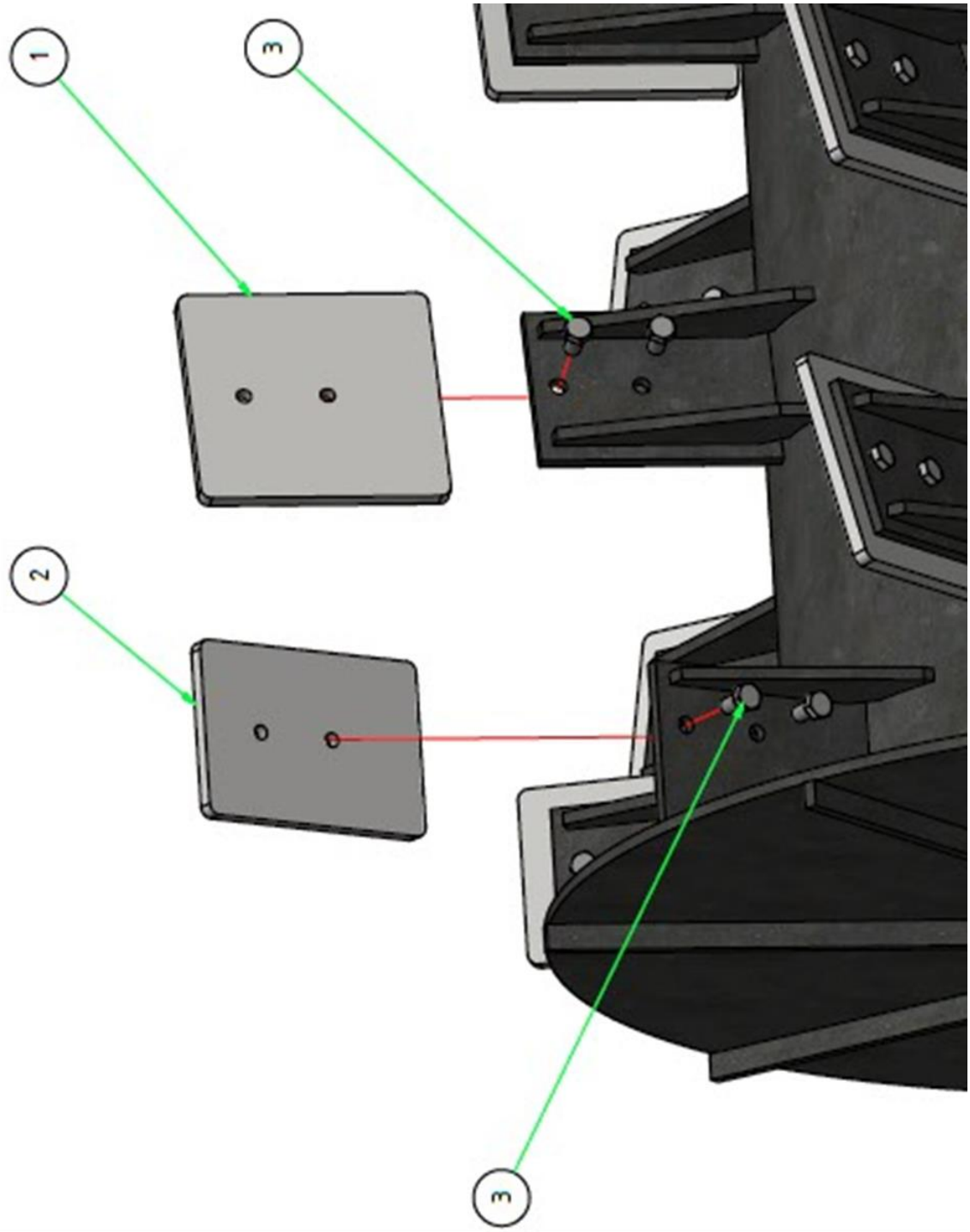
8.1 Parts list with spare parts recommendation/marking

8.1.1 Disassembling the screen basket



No.	Quantity				Description	Part number /DIN			
	MD 1000	MD 1250	MD 1500	MD 2000		MD1000	MD1250	MD1500	MD2000
1	24				Screen plate	02-04-05-11-006_LT	02-05-02-11-006	02-06-02-11-006	02-07-02-11-006_LT
2	48				Clamping angle	02-04-05-11-007_KT	02-05-02-11-007	02-06-02-11-007	02-07-02-11-007_KT
3	24				Clamping angle total	02-01-02-11-23_SBG	02-01-02-11-03_SBG	02-01-02-11-03	02-07-02-11-03_SBG
4	72	120		168	Cylindrical head screw	DIN 912 - M8 x 30	DIN 912 - M8 x 30	DIN 912 - M8 x 30	DIN 912 - M8 x 30
5	96	192		288	Hexagon head screw	DIN 933 - M8 x 20	DIN 933 - M8 x 25	DIN 933 - M8 x 25	DIN 933 - M8 x 25
6	72	120		168	Spring washer	DIN 7980 - 8	DIN 7980 - 8	DIN 7980 - 8	DIN 7980 - 8
7	96	192		288	Spring washer	DIN 127 - A 8	DIN 127 - A 8	DIN 127 - A 8	DIN 127 - A 8
8	96	192		288	Washer	DIN 9021 - 8,4	DIN 9021 - 8,4	DIN 9021 - 8,4	DIN 9021 - 8,4

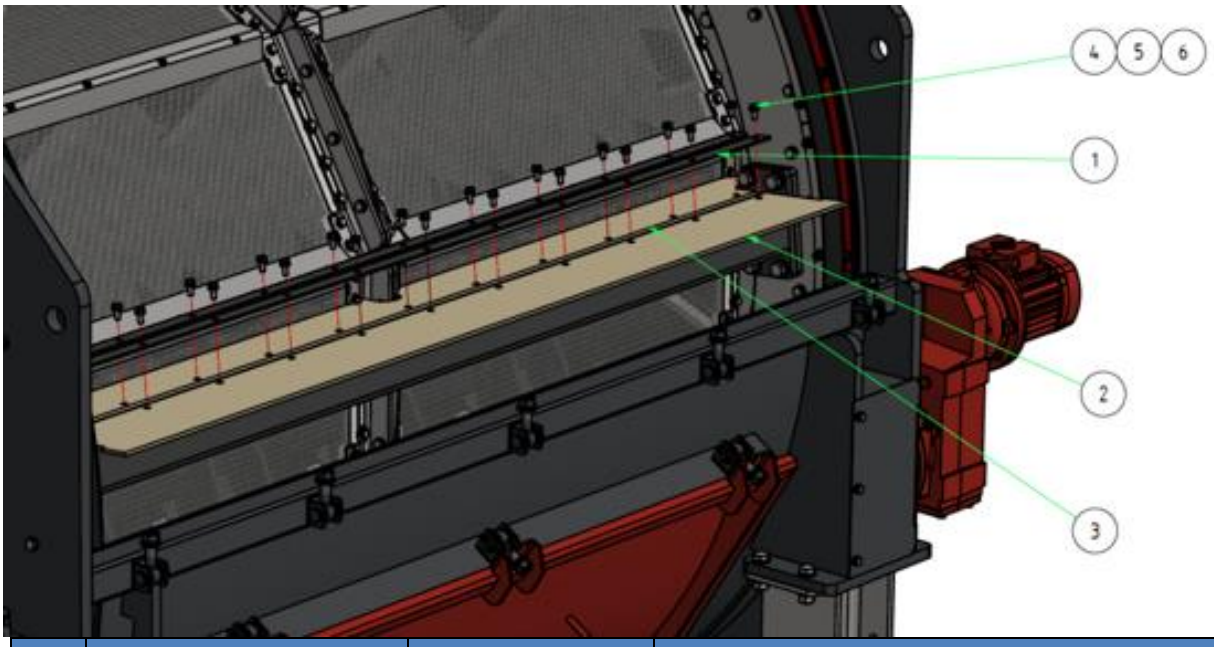
8.1.2 Removal of wear plates (only by WiPa qualified personnel)



No.	Quantity				Description	Part number /DIN	
	MD 1000	MD 1250	MD 1500	MD 2000		MD 1000	MD 1250-2000
1	48	60		114	Wear plate Throwing shovel	02-01-02-12-111_FT	02-01-02-12-011
2	6	8		12	Wear plate Discharge shovel	02-04-05-26-109_FT	02-01-02-12-009
3	108	136		256	Hexagon head screw	DIN 933 - M16 x 30	

ATTENTION: Wear plates may only be replaced by the manufacturer.
After changing the wear plates, a new operational balancing of the rotor by the manufacturer is necessary.
ATTENTION: The wear plates must be inserted with high-strength screw adhesive. Make sure that the screws and threads are clean and free of grease. Refer to the adhesive manufacturer's curing time information.

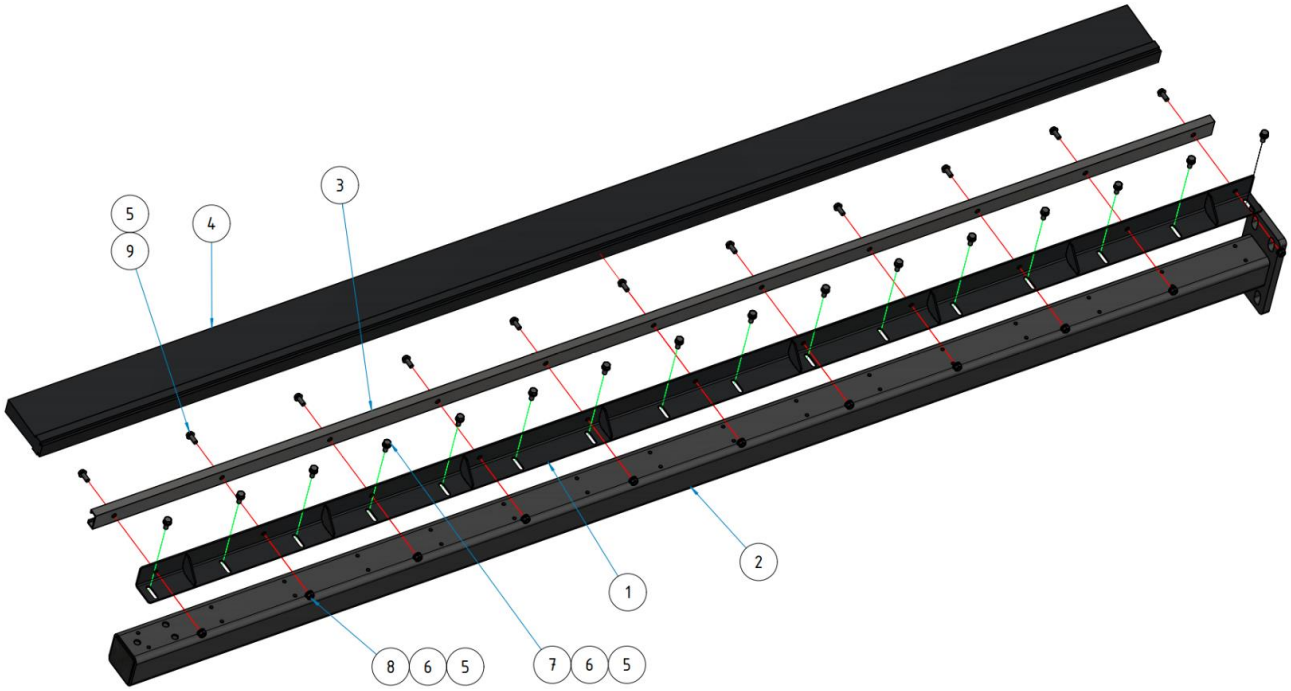
8.1.3 Disassembly wiper



No.	Quantity			Description	Part Number/DIN		
	MD 1000	MD 1250-1500:	MD 2000:		MD 1000	MD 1250-1500:	MD 2000:
1	6		10	Strip_3	02-01-02-06-115_LT	02-01-02-06-015	02-07-02-06-015_LT
2	3		5	Scraper-2	02-01-02-06-116	02-01-02-06-014	02-07-02-06-014_WSS
3	3		5	Scraper-1	02-01-02-06-114	02-01-02-06-016	02-07-02-06-016_WSS
4	48	66	160	Hexagon head screw	DIN 933 - M8 x 20		
5	48	66	160	Washer	DIN 125 - A 8,4		
6	48	66	160	Spring washer	DIN 127 - A 8		

Attention! The number of wipers varies depending on the requirements.

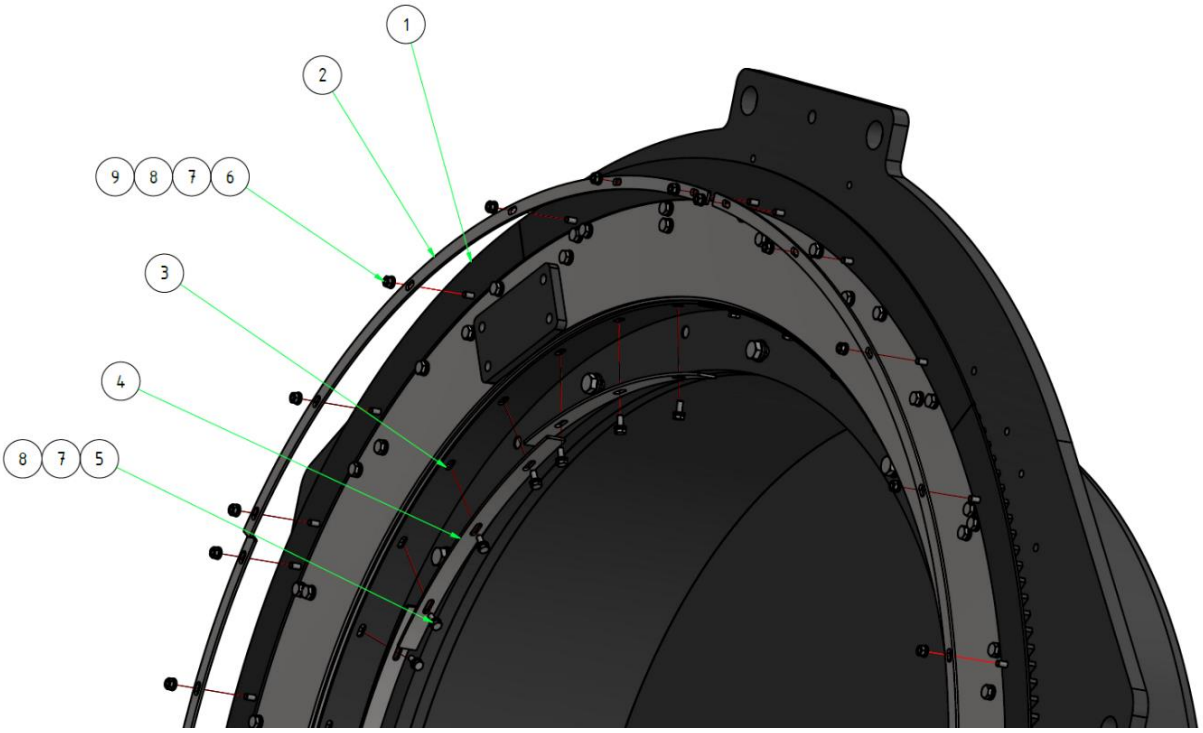
8.1.4 Disassembling the brush wiper



No.	Quantity			Description	Part Number/DIN		
	MD 1000	MD 1250-1500	MD 2000		MD1000	MD1250-1500	MD 2000
1	3		5	Squeegee holder	02-01-02-06-01-11_SBG	02-01-02-06-01-08_SBG	02-07-02-06-01-08_SBG
2	3		5	bar BG	02-01-02-06-12_SBG	02-01-02-06-02_SBG	02-07-02-06-02_SBG
3	3		5	C-rail	02-01-02-06-01-101_NB	02-01-02-06-01-100_NB	02-07-02-06-01-100_NB
4	3		5	Brush bar / fiber height 100 mm	1270 mm	1770 mm	2540 mm
5	60	81	190	Washer	DIN 125 - A 8,4		
6	42	57	135	Spring washer	DIN 127 - A 8		
7	24	33	80	Hexagon bolt	DIN 933 - M8 x 20		
8	18	24	55	Hexagon nut	DIN 934 - M8		
9	18	24	55	Cylinder head screw	DIN 6912 - M8 x 20		

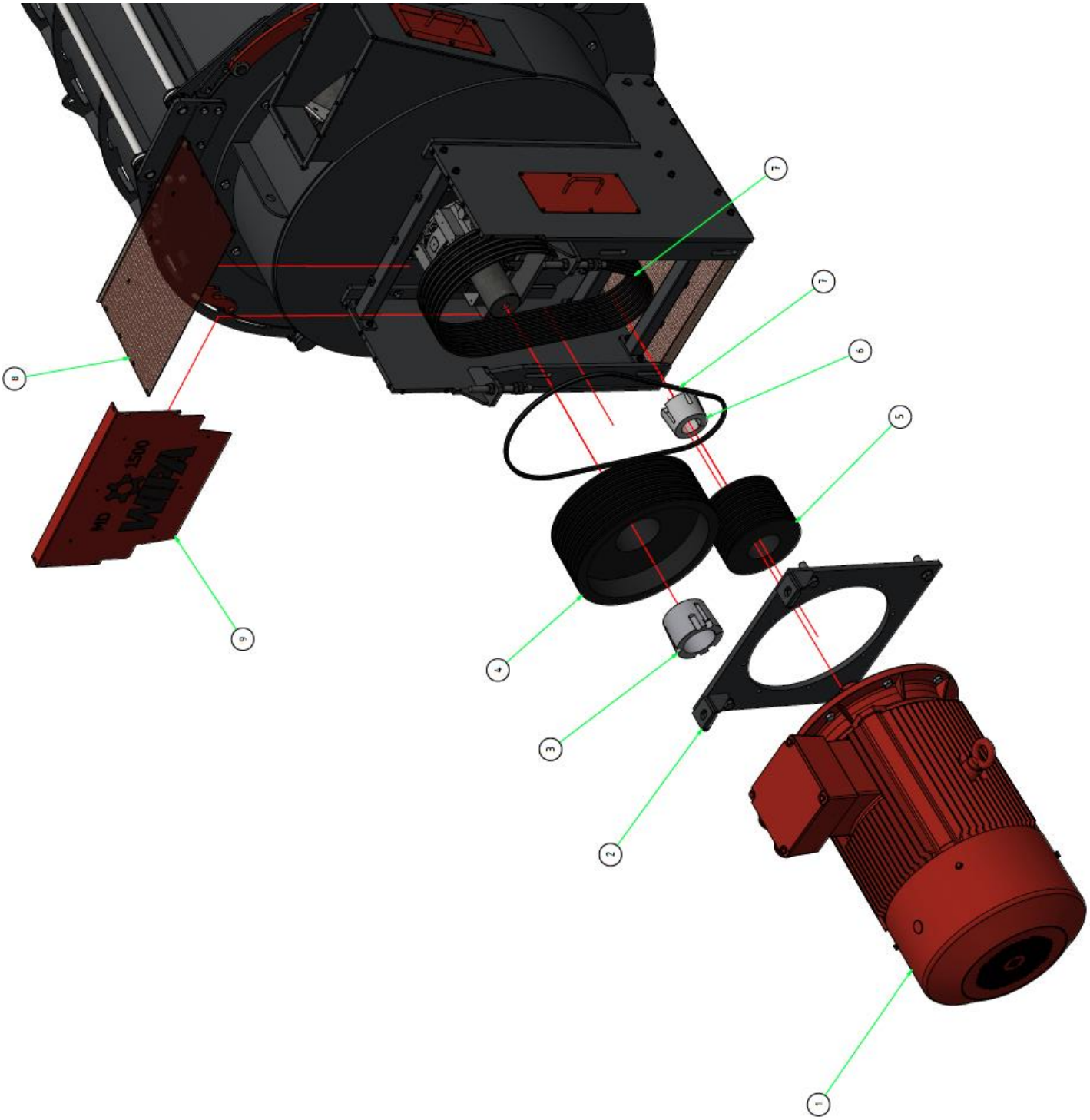
Attention! The number of brush wipers varies depending on the requirements.

8.1.5 Disassembly Turntable Sealing



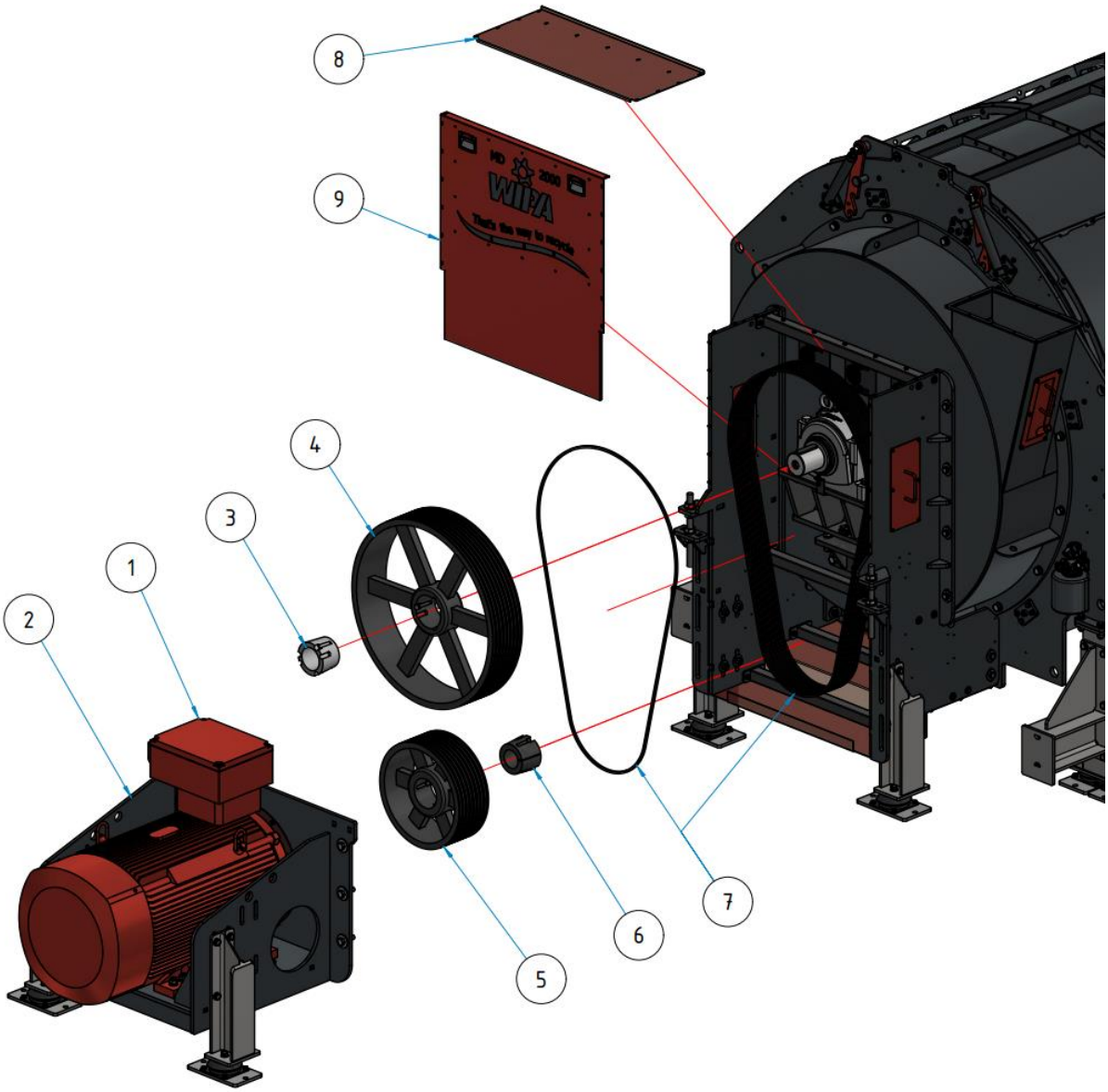
No.	Quantity				Description	Part Number / DIN			
	MD 1000	MD 1250	MD 1500	MD 2000		MD 1000	MD 1250:	MD 1500:	MD 2000:
1	10				Sealing	02-04-05-06-004_WSS	02-05-02-06-004	02-06-02-06-004	02-07-02-06-004
2	10				Strip	02-04-05-06-008_LT	02-05-02-06-008	02-06-02-06-008	02-07-02-06-008
3	4				Sealing-2	02-04-05-06-017_WSS	02-05-02-06-017	02-06-02-06-017	02-07-02-06-017
4	20	24		20	Ledge_2	02-04-05-06-009_WT	02-05-02-06-009	02-06-02-06-009	02-07-02-06-009
5	60	72		80	Hexagon head screw	DIN 933 - M8 x 20 VA			
6	60				Hexagon head screw	DIN 933 - M8 x 25 VA			
7	180	192		200	Washer	DIN 125 - A 8,4 VA			
8	120	132		140	Spring washer	DIN 127 - A 8 VA			
9	60				Hexagon nut	DIN 934 - M8 VA			

8.1.6 Disassembly Actuator



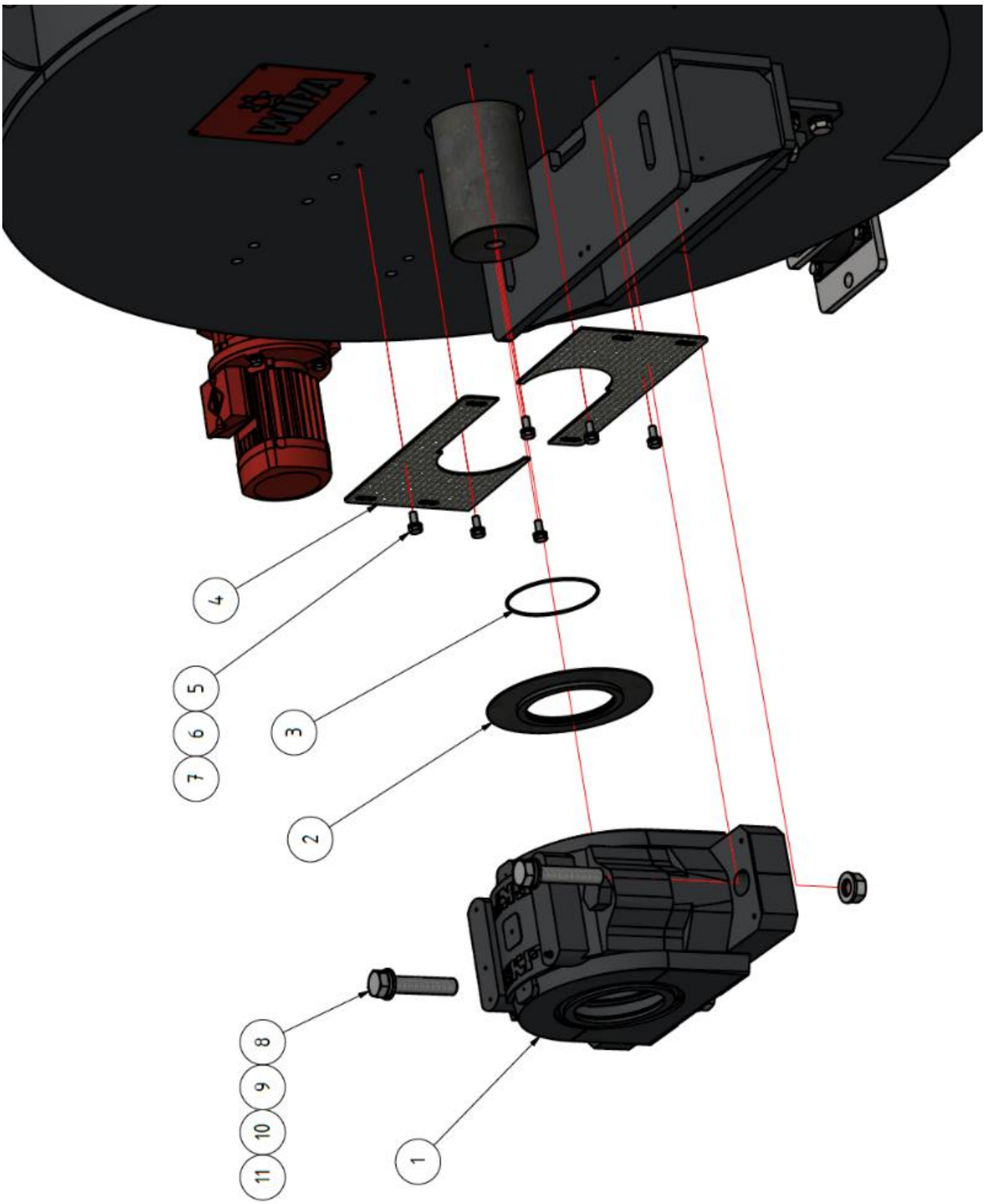
No	Quantity	Description	Part number/ DIN		
			MD1000:	MD1250:	MD1500:
1	1	Motor	55/75 kW, 4 Pol 50 Hz, B5	90/110 kW, 4 Pol; 50Hz; B5	110/132 kW, 4 Pol; 50Hz; B5
2	1	Motor mount _BG	02-01-02-10-13_SBG	02-05-02-10-03_SBG	02-06-02-10-03_SBG
3	1	Taper clamping bush			
4	1	Belt pulley			
5	1	Belt pulley			
6	1	Taper clamping bush			
7	8	V-belts			
8	1	Cover plate (perforated plate)	02-04-05-10-013_KT	02-01-02-10-013_KT	02-01-02-10-013_KT
9	1	Cover plate logo total	02-04-05-10-16_BG	02-05-02-10-06_BG	02-06-02-10-014_KT

8.1.7 Disassembly Actuator MD2000



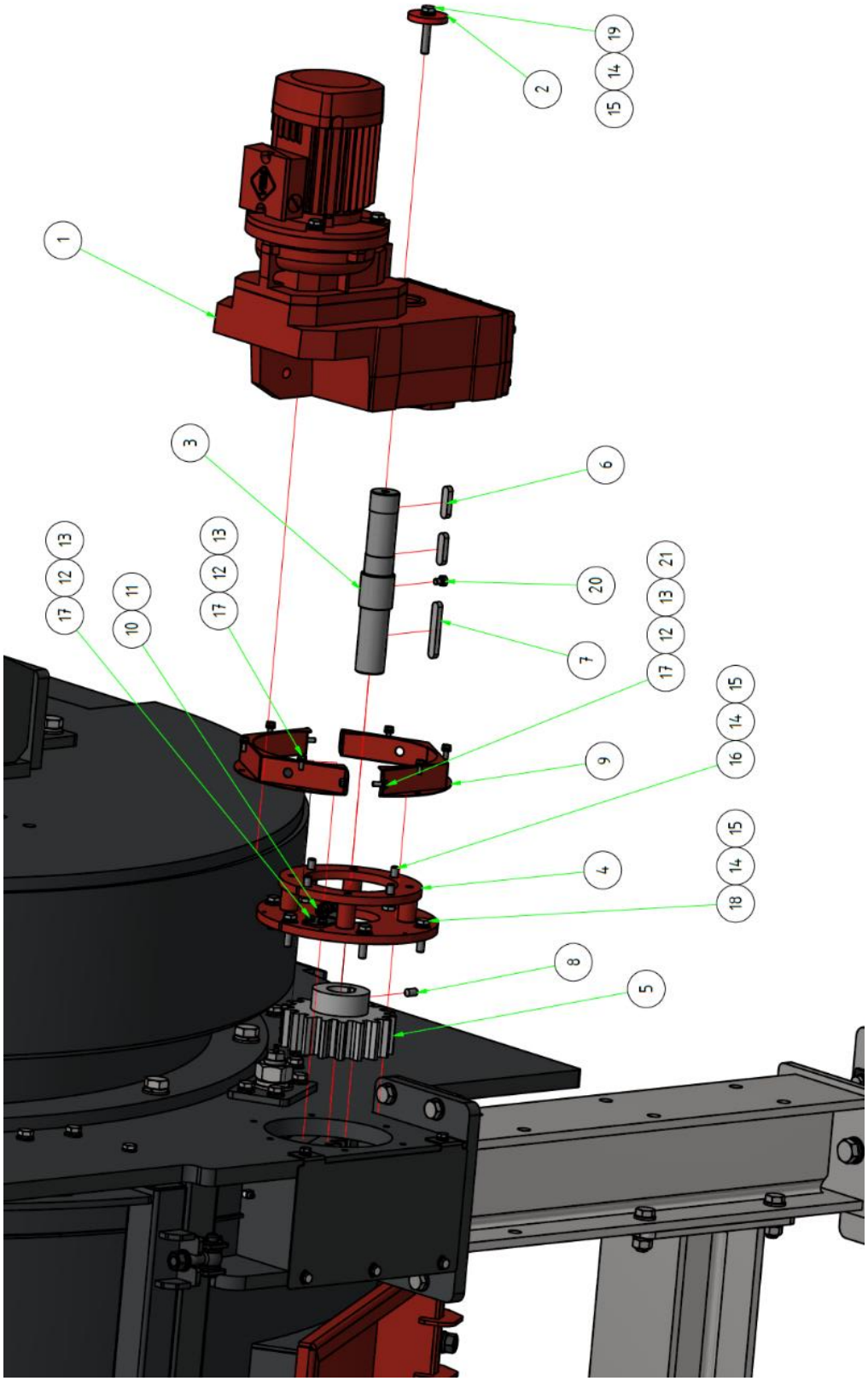
No.	Quantity	Description	Part number / DIN
1	1	Motor	160/200kW B3 6Pol
2	1	Motor mount_BG (B3 motor)	02-07-02-10-21_SBG
3	1	T-bushing	
4	1	Belt pulley	
5	1	Belt pulley	
6	1	T-bushing	
7	8	Narrow V-belt SPC	
8	1	Cover plate (perforated plate)	02-07-02-10-013_KT
9	1	Cover plate logo total	02-07-02-10-06_BG

8.1.8 Disassembly of rotor bearing (only by WiPa qualified personnel)



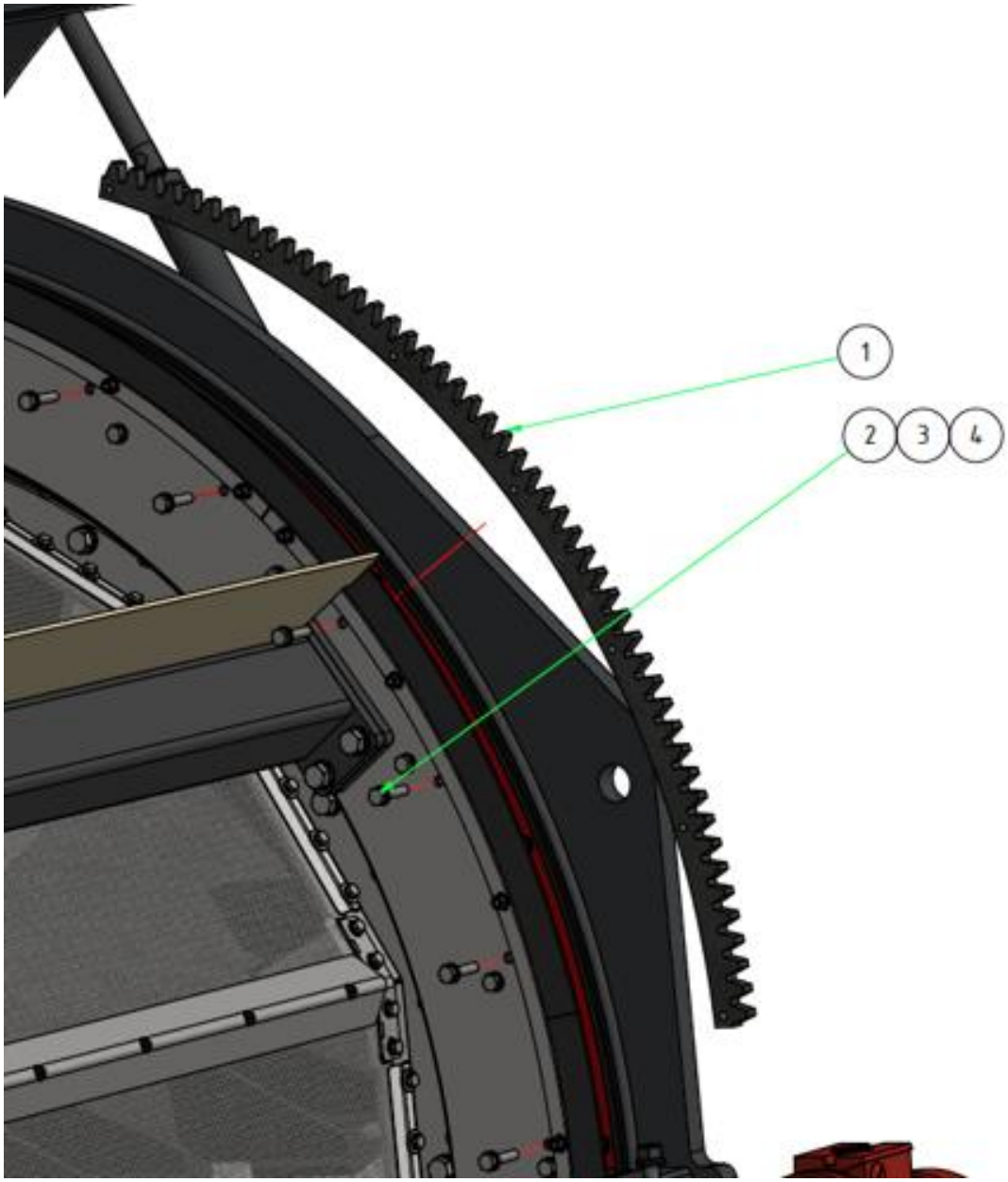
No.	Quantity	Description	Part number/ DIN			
			MD 1000	MD 1250	MD 1500	MD 2000
1	2	Bearing				
2	2	Flinger disc	02-01-02-03-25_SBG	02-01-02-03-15_SBG		02-07-02-03-15_SBG
3	2	O-Ring ID	Ø100 x 3	Ø135 x 3		Ø180 x 3
4	4	Shaft cover	02-01-02-03-138_LT	02-01-02-03-038_LT		02-07-02-03-038_SBG
5	12	Hexagon head screw	DIN 933 - M10 x 25 galv.			
6	12	Spring washer	DIN 127 - A10 galv.			
7	12	Washer	DIN 125 - A10,5 galv.			
8	4	Hexagon head screw	DIN 933 - M24 x 110	DIN 933 - M24 x 120		DIN 933 - M24 x 140
9	4	Spring washer	DIN 127 - A24			
10	8	Washer	DIN 9021 - 26			
11	4	Hexagon nut	DIN 934 - M24			

8.1.9 Disassembly of squeegee drive



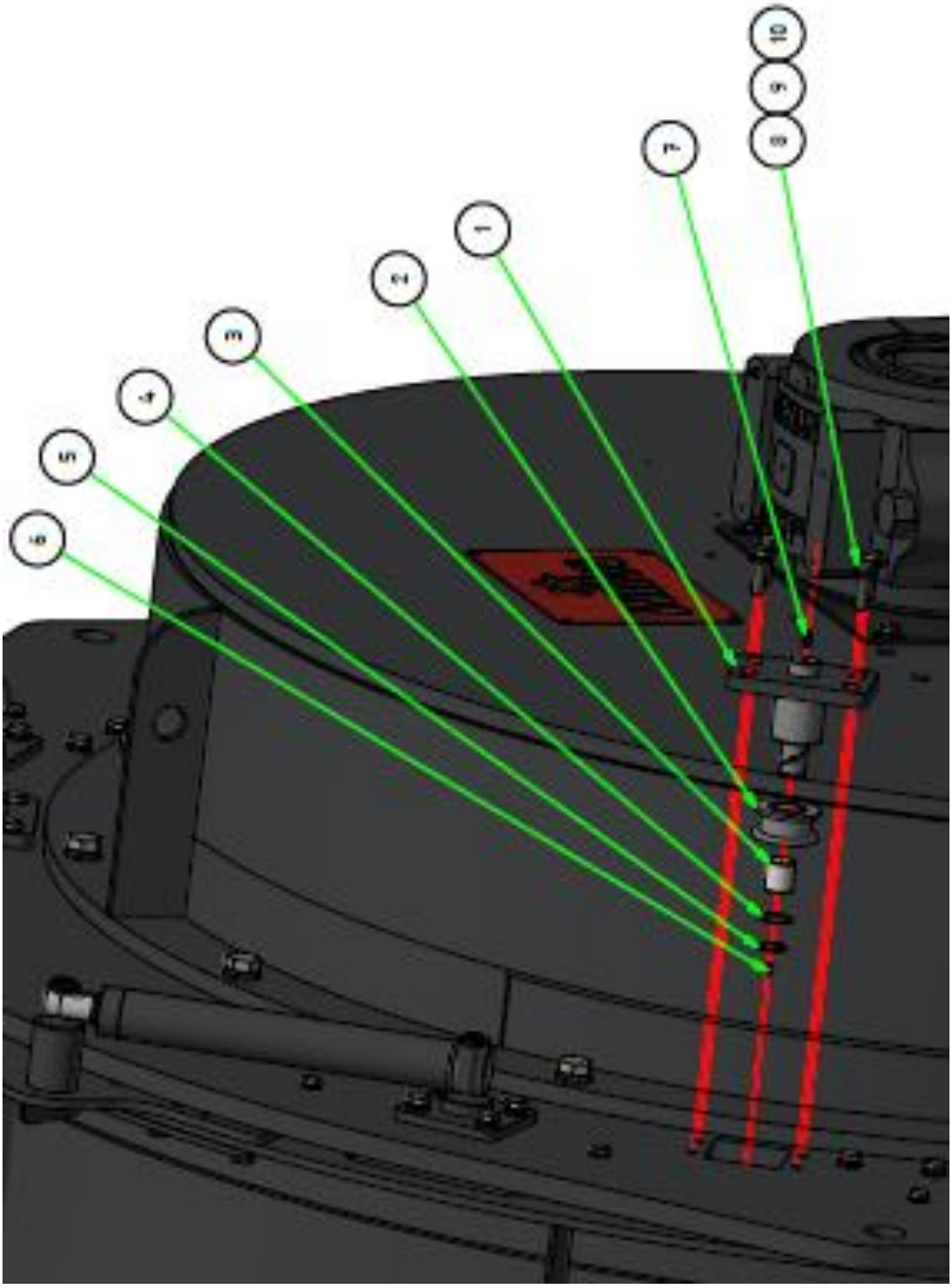
No.	Quantity	Description	Part number/ DIN	
			MD1000-1500	MD2000
1	1	Gear		
	1	Motor	0,75 kW 4-Pol.	1,5 kW 4-Pol.
2	1	Disc	02-01-02-02-020_LT	
3	1	Shaft Gear wheel	02-01-02-02-019_DT	
4	1	Gearbox intermediate piece	02-01-02-02-02_SBG	
5	1	Spur gear, module 8, z=18	02-01-02-02-050_NB	
6	2	Feather key	DIN 6885 - A 12 x 8 x 45	
7	1	Feather key	DIN 6885 - A 12 x 8 x 80	
8	1	Grub screw	DIN 914 - M10 x 20	
9	2	Gearbox cover	02-01-02-02-12	
10	1	Flap Sensor_2	02-01-02-16-014	
11	1	Sensor		
12	12	Washer	DIN 125 - A 6,4	
13	10	Spring washer	DIN 127 - A 6	
14	11	Spring washer	DIN 127 - A 10	
15	11	Washer	DIN 125 - A 10,5	
16	4	Hexagon head screw	DIN 933 - M10 x 30	
17	10	Hexagon head screw	DIN 933 - M6 x 16	
18	6	Hexagon head screw	DIN 933 - M10 x 40	
19	1	Hexagon head screw	DIN 933 - M10 x 60	
20	1	Hexagon head screw	DIN 933 - M8 x 12	
21	2	Hexagon nut	DIN 934 - M6	
22	4	Spring washer	DIN 127 - A 12	
23	4	Washer	DIN 125 - A 13	

8.1.10 Disassembling the gear ring



No	Quantity	Description	Part number/DIN		
			MD1250:	MD1500:	MD2000:
1	5	Slewing ring segment	02-05-02-17-018	02-06-02-17-018	02-07-02-17-035
2	35	Hexagon head screw	DIN 933 - M10 x 45		
3	35	Spring washer	DIN 127 - A 10		
4	35	Washer	DIN 125 - A 10,5		

8.1.11 Disassembly of bearing rollers for squeegee (only by WiPa qualified personnel)



No	Quantity	Description	Part number/DIN
1	10	Shaft for track roller	02-01-02-17-10
2	10	Fixed role or rather role	02-01-02-17-002 bzw. 02-01-02-17-016
3	10	Plain bearing bushing	PTFE- Bushing Ø 28 – 25 – 30 mm
4	10	Shim	DIN 988 – 25 x 35 x 0,5
5	10	Circlip	DIN 471 - 25 x 1,2
6	10	Grub screw	DIN 913 – M6 x 10
7	10	Tapered grease nipple form A	DIN 71412 - AM 6 (tapered short)
8	40	Hexagon head screw	DIN 933 - M12 x 40
9	40	Spring washer	DIN 127 - A 12
10	40	Washer	DIN 125 - A 13

8.2 Supplier documentation

The supplier documentation consists of the following documents:

- AVIA Fluid RSL 46 data sheet
- Datasheet rotation monitoring IFS204
- EMK operation & maintenance manual
- Gearbox Operating Manual
- F-gearbox spare parts list
- Long-life grease LZR 2_data sheet
- Belt drive assembly & maintenance
- Screw adhesive Loctite high strength
- Screw adhesive Loctite medium strength
- Siemens_Safety_Switch_3SE52120QV40

Translation of the operating
Instructions in English

Operating Instructions

Swim-Sink-Tank Type

SST

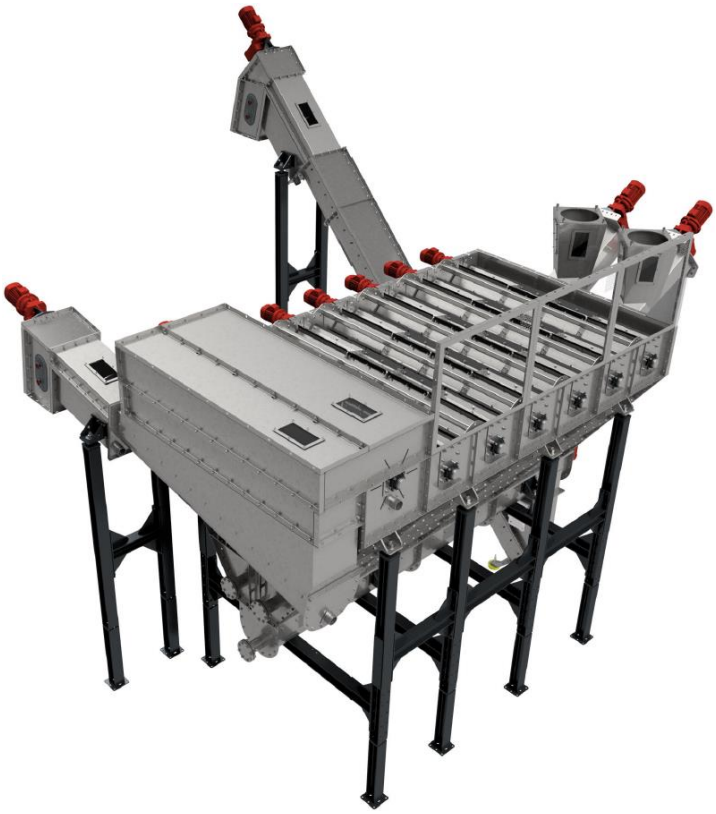


Figure 1 Example SST 2500

WIPA Werkzeug- & Maschinenbau GmbH

Benzstrasse 12

48703 Stadtlohn

Identification data

Tool/machine/system	
Model name:	Swim-Sink-Tank
Type:	SST2500-8
Machine number:	9891
Project/identification number	A374
Year of manufacture:	2022
Customer registration:	
Company name:	Omni Polymers AB Eastmansvägen 23 113 61 Stockholm, Sweden
Order no.:	AB_PH_SWE_20052021_00_Rev_01
Location:	Omni Polymers AB Nordalagatan 1 262 73 Ängelholm, Sweden
Manufacturer's address:	
Company name:	WIPA Werkzeug- & Maschinenbau GmbH
Street:	Benzstrasse 12
Place:	48703 Stadtlohn
Telephone:	+49 2563 20585-0
Fax:	+49 2563 20585-20
E-mail	info@wipa-germany.de
Homepage	www.wipa-germany.de
Document data:	
Version:	1.1
Date of creation:	11.01.2017
Date of change:	29.09.2021

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1 General

1.1 Introduction

These operating instructions are an essential help for the correct and safe operation of the Swim-Sink-Tank.

The operating instructions contain important information to ensure safe, proper and efficient operation of the Swim-Sink-Tank. Their observance will help to avoid danger, reduce repair costs and downtime as well as to increase reliability and the service life of the Swim-Sink-Tank.

The operating instructions must always be available and must be read and applied by any person in charge of carrying out work on or with the Swim-Sink-Tank. This includes amongst other things:

- the operation and elimination of malfunctions in the operation,
- the maintenance (service, maintenance and repair) and/or
- the transport.

1.2 References to intellectual property rights

- These operating instructions must be treated confidentially.
- Only authorized persons shall have access to these operating instructions.
- These operating instructions may only be given to third parties with the written consent of WIPA Werkzeug- & Maschinenbau GmbH.

All documents are protected in the sense of the copyright law. It is forbidden to pass on and copy the documents, even in part, as well as to use and communicate their contents, insofar as this is not expressly conceded in writing.

Violations are punishable and incur an obligatory payment of damages. WIPA Werkzeug- & Maschinenbau GmbH reserves all the rights for the practice of industrial property rights.

1.3 Information for the operator

The operating instructions are a significant component of the Swim-Sink-Tank.

- Make sure that the service personnel have a complete knowledge of these operating instructions.
- These operating instructions are to be supplemented by the operator with instructions based on national regulations for Health and Safety at Work and Environmental Protection, including the information on the responsibilities of supervision and obligations to report for the observance of operational specifics, e.g. concerning work organization, operational sequences and/or appointed personnel.

- Besides these operating instructions and the obligatory regulations for Health and Safety at Work applicable in the country of use as well as in the place of use, the recognized specialist technical regulations for safe and professional work must also be observed.
- Do not make any changes, additions and conversions to the Swim-Sink-Tank that could impair the safety without the prior consent of the WIPA Werkzeug- & Maschinenbau GmbH. This applies to the installation and adjustment of safety devices as well as any welding work on load-bearing components.

All spare parts must meet the technical requirements specified by WIPA Werkzeug- & Maschinenbau GmbH. This is always guaranteed with original spare parts.

- Use only trained or instructed personnel for operation, maintenance, repair and transport of the Swim-Sink-Tank.
- Clearly specify the responsibilities of the personnel for operation, maintenance, repair and transport.

1.4 Instruction and training course assistance

- As a contractor/operator you are obligated to inform and/or instruct the operating personnel about existing provisions of law and accident prevention regulations as well as about existing safety regulations at the Swim-Sink-Tank. This obligation also extends to such safety devices, which are installed around the Swim-Sink-Tank. In doing so the different technical qualifications have to be taken into account.
- Make sure that the operating personnel have understood the training and ensure that the training is adhered to. Only in this way, safety and hazard conscious work of the personnel can be achieved.
- Control the adherence to the training on a regular basis.
- As the contractor/operator you should therefore obtain confirmation of each of the employee’s attendance in writing.

On the following pages you will find examples of the training course topics, as well as a form as a master copy for the confirmation of participation in the training/instruction.

1.5 Example of training course topics

1. For safety
Accident prevention regulations General legal provisions General safety precautions Actions to be taken in an emergency Safety precautions for operating the Swim-Sink-Tank How to handle the safety devices of the Swim-Sink-Tank Safety devices in the area surrounding the Swim-Sink-Tank Definition of symbols and signs _____ _____
2. For the operation of the Swim-Sink-Tank
How to operate the controls of the Swim-Sink-Tank Explanation of the operating instructions for the operating personnel Operator’s special experiences in handling the Swim-Sink-Tank Elimination of malfunctions _____ _____
3. For maintenance and service instructions
Prescribed use of cleaning agents, lubricants Operator’s special experiences in the areas of service, maintenance, cleaning and care of the Swim-Sink-Tank _____ _____

Confirmation of the training received		
Training topic:		
Date:	Instructor:	Signature of the instructor:

No.	Name, first name	Signature
1		
2		
3		
4		
5		
6		
7		
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9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

2 Safety

2.1 General

The Swim-Sink-Tank has been designed and built-in accordance with state-of-the-art technology and the recognized safety rules and regulations.

Nonetheless dangers may arise for the operator and/or cause impairments to the Swim-Sink-Tank and other material assets when using the Swim-Sink-Tank, if:

– it is operated by personnel who are not trained or instructed,
– it is not employed as intended and/or
– it is not properly serviced or maintained.

2.2 Notes on the signs and symbols

The following terms and/or signs are used in these operating instructions for references to particularly important information:

- The bullet is used to identify work and/or operating steps. The steps are to be executed in sequence from top to bottom.

– The hyphen is used to identify lists.

This is a warning of an imminent danger, which could inevitably result in serious injury or death, if the specific instruction is not followed precisely.

Draws attention to a potentially hazardous situation, which could lead to serious injury or death if the specific instruction is not followed precisely.

This is a warning indicating a potentially hazardous situation, resulting in minor or light bodily injuries and/or substantial property damage, if the specific instruction is not followed precisely.

NOTICE

This indicates useful information for the safe and proper handling.

- The instructions and symbols directly mounted on the Swim-Sink-Tank have to be adhered to, such as warning signs, operating signs and component markings. They must not be removed.
- The instructions and symbols must always be kept clean and in well readable condition.

2.3 Intended use

The swim-sink-tank of the type SST is used for the gentle soaking of contaminated plastics, as well as for the separation of impurities (e.g. mixed fraction of pre-shredded plastic packaging).

The maximum size of the material fed in is 50x50mm for foil fractions and 25mmx25mm for hard plastics. The determination of the machines is prescribed in each individual case by the order confirmation and the material specification contained therein. Foreign bodies may only be made of paper, tinplate or aluminum with a maximum size of 1 mm.

The material must be evenly dosed into the swim-sink tank.

NOTICE

- Follow the instructions in section *Technical Data.* Complying with these specifications is imperative.

Intended use also includes observance of the instructions

- on safety,
- operation and control,
- maintenance and service,
- for material composition after order confirmation,

that are described in these operating instructions.

Any other use or use beyond the specifications is considered to be improper use. The operator of the Swim-Sink-Tank shall be solely responsible for any resulting damage. This also applies to any unauthorized modifications to the Swim-Sink-Tank.

2.4 Reasonably foreseeable misuse

Following exemplary processing procedures are considered suspected misuse and are therefore not according to the intended use:

- The use and/or processing of explosive substances.
- The use and/or processing of substances that could be harmful or are subject to the Ordinance on Hazardous Substances.
- The use and/or processing of substances that are subject to mandatory labelling
- Processing of materials other than those named for the intended use.
- Processing materials with fluctuating material properties

Further considered contrary to the intended use:

- The operation of the system in an explosive atmosphere.
- The operation of the system without fully installed protection devices.
- The use by private users, or users without professional instruction and training.
- The storage of explosive or flammable materials in the vicinity of the machine.

In the event of using materials other than those listed in the technical data sheet, safety of the operating personnel and protection of the Swim-Sink-Tank cannot be guaranteed.

- Do not set up the Swim-Sink-Tank in unprotected rooms or halls that are exposed to weathering.

2.5 Residual risk

Even if all safety rules are observed, a residual risk remains when the Swim-Sink-Tank is operated.

- As the contractor/operator you must ensure that all persons working on or with the Swim-Sink-Tank are aware of these residual risks.
- Follow the instructions that will prevent that residual risks lead to accidents or damages.

During set up and fitting work, it may be necessary to remove on site protective devices. This causes various residual risks and potential hazards that each operator must be aware of:

DANGER

Risk of death from electric shock

An electric shock can cause fatal injuries.

- **Before carrying out any repair, set-up and maintenance work, the Swim-Sink-Tank must be disconnected from the main switch.**
- **Secure the Swim-Sink-Tank against unintentional switching-on.**
- **Lock the main switch and set up warning signs.**
- **In addition, actuate an emergency stop button.**

DANGER

Life-threatening injuries during the operation of the Swim-Sink-Tank

Automatic sequences of movements of the Swim-Sink-Tank during the operation could cause persons to be seriously crushed.

Before commissioning the Swim-Sink-Tank, it is absolutely necessary to make sure that all protective devices are installed and functioning.

- **Never access the protected area during automatic operation.**

2.6 Description of the protective devices

The Swim-Sink-Tank is built according to the state-of-the-art and all recognized safety rules.

2.6.1 Location of emergency stop devices

Emergency stop buttons are installed on the control panel and at the control cabinet.

- Have the function of the emergency stop devices checked annually and record this process.
- Check all devices for stopping in an emergency individually and separately.
- Instantly stop the machine in case of defective safety devices.
- Secure the machine against being switched on again.

Function test of the emergency stop devices:

- Switch on the machine
- Actuate the emergency stop devices

The actuation of the emergency stop devices must shutdown all machine functions:

– Start enable
– Motors

2.6.2 Safety devices on the Swim-Sink-Tank

The safety concept provides for movable or fixed separating protective devices – the general rule is:

– Separating protective devices can be removed only with tools.
– Movable separating protective devices that are unsecured do not remain in protective position.
– Fastening means are firmly connected to the protective devices.

Fastening means are chosen so that the removal of switches or actuating means for interlocked protective devices are not possible with tools like:

– objects of everyday usage such as keys, tape, twine or wire; or
– replacement actuating elements or keys for interlocking devices with key transfer systems; or
– needed and easily available tools for machines/systems such as screwdriver and key, hexagonal wrench and pliers

- a reasonably foreseeable circumvention of the protective device can thereby be prevented.

Heavy material discharge screw conveyors

Drive shafts and couplings between motor, gear unit and screw are each secured with fixed separating guards (do not remain in protective position if not secured).

The feed opening of the heavy material discharge screw conveyor is firmly screwed to the Swim-Sink-Tank. Therefore no access is possible. If the pipeline for the conveyor outlet is not supplied by WIPA Werkzeug- & Maschinenbau GmbH, the customer must select and ensure a suitable protective device.

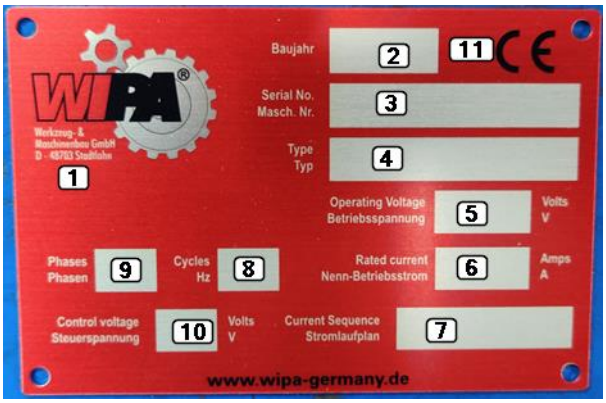
Swim-Sink-Tank / conveyor drives

Swim-Sink-Tank, drive shafts and motors are protected by the housing and by fixed separating guards. There is no interference with the running machine.

The feed opening of the screw conveyor for the discharge of the light fraction is firmly screwed to the pipeline. Therefore no access is possible.

If the pipeline is not supplied by WIPA Werkzeug- & Maschinenbau GmbH, the customer must select and ensure a suitable protective device.

2.7 Markings and signs on the Swim-Sink-Tank



Clearly legible on the Swim-Sink-Tank

Aluminium/adhesive type plate with the following information:

1. name and address of the manufacturer
2. year of manufacture
3. machine no.
4. type / designation
5. operating voltage
6. rated operating current
7. circuit diagram
8. mains frequency in Hz
9. phases
10. control voltage
11. CE marking

Sign	Meaning	Mounting location
	Read and observe the operating instructions and safety instructions before commissioning.	Immediately near the type plate
	Warning of a danger zone	At the maintenance flaps
	Warning of hand injuries from belt/chain drive	On the maintenance flaps of the belt drive/chain drive
	Warning of hazardous electrical voltage	signs on all terminal boxes, control boxes and cabinets for low voltage.
	Wear safety goggles	For maintenance and repair work
	Connection point marking of the external ground conductor	ground conductor terminal

Sign	Meaning	Mounting location
	Ground conductor connection	adjacent to the grounding screws

2.8 Additional necessary markings and signs

- As the operator put up additional necessary markings and signs on the Swim-Sink-Tank and in its surroundings.

Such markings and signs could for example relate to the provision for carrying personal protective equipment.

2.9 Safety instructions for operating personnel

Any person who is responsible for the commissioning, operation and maintenance must have read and understood these operating instructions completely - especially chapter *Safety*. Do not wait reading it until you start working. This applies in particular to personnel who are only occasionally working with the Swim-Sink-Tank.

- Use the Swim-Sink-Tank only in technically perfect condition and as intended, safely and aware of the dangers and with full observance of the operating instructions.
- Malfunctions that could impair the safety must be removed immediately.
- The operating instructions must always be kept to hand at the site of the Swim-Sink-Tank. No liability is assumed for damages and accidents caused due to non-compliance with the operating instructions.
- Observe the relevant accident prevention regulations and the generally accepted safety and occupational health ordinances.

This includes:

- Assign individual responsibilities for different activities as part of servicing and maintenance and comply with them.
- Oblige the operating and maintenance personnel to wear personal protective equipment (safety shoes, goggles, gloves).
- Do not wear open long hair, loose clothing or jewelry! There is the danger of getting stuck, being pulled in or getting caught in moving parts.
- If safety-related changes occur on the Swim-Sink-Tank:
  The Swim-Sink-Tank is to be stopped and secured immediately and the incidence has to be reported to the competent authority/person.
- Follow the instructions for maintenance.
- Observe the maximum permissible number of persons assigned to the machine.
- The statutory minimum age limits must be observed.

Only reliable trained and certified personnel may take action on the Swim-Sink-Tank.

Personnel undergoing training, instruction or persons taking part in general vocational training programs may only take action on the Swim-Sink-Tank under supervision by an experienced person.

2.10 Safety instructions for maintenance and fault elimination on the Swim-Sink-Tank

- Stipulated schedules or those given in the operating instructions for regular checks/inspections are to be observed.

2.10.1 Preparation

Workshop equipment appropriate to the task in hand is absolutely necessary for the execution of maintenance work.

- Set-up, maintenance and repair work as well as troubleshooting may only be carried out when the system is turned off.
- Secure a wide area around the maintenance area as far as is necessary.
- Cordon off the working area with a red and white safety chain and a warning sign.
- Moreover, a warning sign has to be attached.
- Clean especially connections and threaded connections of any traces of contamination or preservatives before commencing maintenance/repair/care.

2.10.2 Implementation

- Never stand under suspended loads.
- Individual components and larger assemblies must be carefully fastened and secured on hoists when making replacements, so that any risk they pose is minimized. Only use suitable and technically sound hoists and load carrying devices with sufficient load-bearing capacity.
- Always tighten loose screw connections during maintenance and repair work. If required, tighten the provided screws by using a torque wrench.
- Do not use any aggressive cleaning agents. Use non-linting cleaning cloths.
- Ensure a safe and environmentally friendly disposal of operating and auxiliary materials as well as replaced parts.

2.11 Instructions regarding special types of dangers

2.11.1 Electrics

Work on the electrical equipment of the Swim-Sink-Tank may only be carried out by a qualified electrician or by instructed persons under the direction and supervision of a qualified electrician in accordance with the electro-technical regulations.

- Switch off the Swim-Sink-Tank with the main switch before opening the control cabinet.
- Secure the Swim-Sink-Tank with a safety lock against being switched on again.

- You must switch off the Swim-Sink-Tank immediately at the main switch if a fault occurs in the power supply.
- Switch off the electrical components on which inspection, maintenance and repair work is carried out.
- Use only original fuses with the prescribed amperage.
- Secure the equipment that was used to disconnect from the mains against accidental or automatic restart (locking away fuses, blocking breakers, etc.).
- First, check the de-energized electrical components for the presence of power and insulate adjacent live components.
- Make sure that in case of repairs changes to the structural and functional characteristics are not detrimental to safety (e.g. creepage and clearance distances as well as gaps are not reduced by insulation).

Where work must be executed on electrically live components (only in exceptional situations!):

- A second person shall be called upon to actuate the emergency stop button or disconnect the main switch in the case of an emergency.
- Use insulated tools only.

Proper grounding of the electrical system must be guaranteed by protective ground conductor systems.

- Regularly check cables for damage.
- Immediately replace defective cables.

2.11.2 Oils, greases and other chemical substances

- When dealing with oil, grease and other chemical substances, observe the applicable instructions and safety data sheets of the manufacturers of these substances with regard to storage, handling, use and disposal and comply with them.

2.11.3 Interfaces between machine components

Linking individual machine components into a functioning system can produce danger locations, which did not exist when viewing the individual components. The danger locations are usually appropriately secured. If this is not possible, these dangers are specifically pointed out.

2.11.4 Interfaces to adjacent system components

The operator of the entire system is responsible for the safety review (protection, training of the staff) of the interfaces to system areas for which the company WiPa is not responsible anymore.

3 Product description

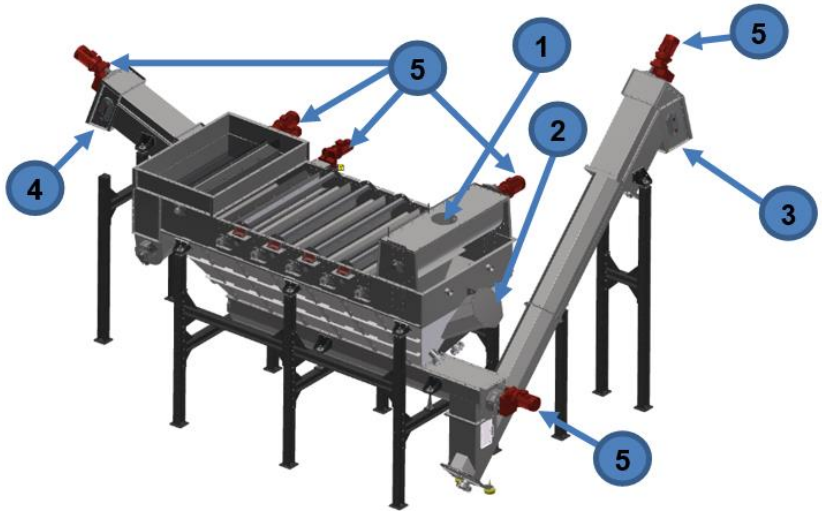


Figure 1 Swim-Sink-Tank example SST

Item	Description
1	Material Inlet
2	Optional Material Inlet
3	Outlet for heavy materials
4	Outlet for light materials
5	Actuators

3.1 General

The plastic fraction is fed into the swim-sink tank via an optional screw conveyor or an upstream system. Due to the density of the input material, the material is divided into two material flows.

The plastic stream with lower density floats on the water surface and is brought to the screw conveyor via conveyor rotors. It is then conveyed by an additional screw conveyor to the downstream plant.

The materials and impurities with higher density sink down in the swim-sink tank and are discharged via two screw conveyors to a downstream plant or container.

3.2 Electrics

The electrical system of the swim-sink tank includes several three-phase motors, rotation monitors for each drive and a pressure sensor for level monitoring.

3.3 Technical Data

Mechanical data	Dimensions (L x W x H)	Depending on machine(mm):
	SST2000	6941 x 5571 x 5049
Electrical data	Operating voltage	400 V/AC (clockwise field of rotation)
	Control voltage	230 V AC / 24 V DC
	Power consumption	Infeed/outfeed screws Per drive 3 kW Conveyor paddles Per drive 0.75 kW
Intended environmental conditions	Air temperature operation	10°C - 30°C
	Humidity operation	65% rel.
Emissions	Noise (sound pressure)	<85 db(A)

4 Transport and assembly

4.1 General

The swim-sink tank must be put into operation by WIPA Werkzeug- & Maschinenbau GmbH in order for a warranty claim to arise.

If modifications to the Swim-Sink-Tank should be made, it can be useful, to get the restructuring, set up and fitting work on the Swim-Sink-Tank done by WIPA Werkzeug- & Maschinenbau GmbH. To do this, it is necessary for the Swim-Sink-Tank to be transported back to WIPA Werkzeug- & Maschinenbau GmbH.

WARNING

Risk of life-threatening crushing injuries when lifting and transporting the Swim-Sink-Tank

Improper lifting and transporting can cause tipping and falling of the Swim-Sink-Tank.

- **Lift and transport the Swim-Sink-Tank only with one fork lift truck. Do not exceed the permissible load capacity of the fork lift truck.**
- **Never stand under suspended loads.**
- **Never transport the swim-sink tank when it is full with water.**

4.2 Transporting with floor conveyor

DANGER

Risk of life-threatening crushing injuries when transporting the system components

Improper lifting and transporting can cause tipping and falling of the components.

- **Lash the components of the Swim-Sink-Tank to the floor conveyor to avoid any risk of tipping over.**
- **Never stand under suspended loads.**
- **Never transport the swim-sink tank when it is full with water.**

The following floor conveyors are allowed for the transport of the system components:

– Roll pallet of transport system with transport vehicle,
– forklift and
– pallet trucks.

NOTICE

- Avoid touching of the components of the Swim-Sink-Tank with the lifting frame of the floor conveyor.
- For this purpose, place spacers between the components and the lifting frame.
- Avoid strong shocks when setting down the Swim-Sink-Tank.

4.3 Installation and assembly

NOTICE

The installation site of the Swim-Sink-Tank must be dry and weather-proof.

The Swim-Sink-Tank may not be exposed to salty air

- Secure the Swim-Sink-Tank against mechanical damage.

On-site lighting of at least 300 lx must exist.

- Make sure that adequate space for movement is available for the forklift or crane at the site of installation of the Swim-Sink-Tank.

NOTICE

Damage to the Swim-Sink-Tank due to yielding of the ground!

- Check load capacity of the installation site before installing the Swim-Sink-Tank!
- If in doubt, get in contact with your architect/construction engineer.

- Set up the Swim-Sink-Tank according to the layout.
- Set up the Swim-Sink-Tank on a horizontal concrete floor that is as even as possible.
- Align the Swim-Sink-Tank carefully.

When planning the installation site, a minimum distance of 2.0 meters to buildings or other machines/systems must be maintained. The ceiling height must be sufficient for the assembly of the Swim-Sink-Tank.

NOTICE

Important notice about the screws/small parts!

Almost all screws and hex nuts required for the assembly of the disc compactor are already mounted to the mounting points.

Washers, spring washers, etc. are mounted onto the screws!

- Disassemble screws and small parts prior to each work step!
- Only then carry out the next assembly step!

4.3.1 Installation

Preparatory work

- Drill the anchor holes for the base frame in the hall floor. Observe the distances for the drill holes from the layout.
- Clean the anchor holes. The dust must be removed from the drill hole.

Installing/aligning the Swim-Sink-Tank

NOTICE

High stress on the feet if the floor underneath the Swim-Sink-Tank is uneven.

- Compensate for any unevenness in the concrete floor with metal plates or similar under the feet.

- Position the Swim-Sink-Tank with the forklift or crane on its standing position.

CAUTION

CAUTION: High damage to property possible!

Long-term damage and increased wear occur when the Swim-Sink-Tank is not aligned exactly.

- **Absolutely take your time for exactly aligning the Swim-Sink-Tank.**

NOTICE

Observe the specifications of the drill anchor manufacturer

- Clean the drill holes thoroughly. The dust must be removed from the drilled hole!
- Slide the mortar cartridges of the composite anchors from the inside through the base frame of the Swim-Sink-Tank in the anchor holes.
- Drive the anchor rods of the composite anchors with rotating and hammering movement (with a drill hammer) through the mortar cartridge down to the base of the drill hole.
- Check the correct installation of the anchor rod! - The ring mark on the anchor rod must be flush with the drill hole edge and - the annular gap around the anchor rod must be filled with mortar.

6 Maintenance

The chapter *maintenance* is divided into the areas of care, maintenance and repair. This is to facilitate the planning of each required maintenance work.

The instructions in this chapter should be understood to be minimum requirements. Depending on operating conditions, further instructions can be required to maintain the Swim-Sink-Tank in optimum condition. The specified intervals refer to single-shift operation. For maintenance instructions on specific assemblies, see the respective documentation of the suppliers in chapter 8.

The maintenance and repair work described in this chapter may only be carried out by the operator's specially trained maintenance personnel.

Maintenance and repair work in specialized areas (for example, hydraulics) may only be carried out by professionals trained in that respective field.

For repairs or spare part orders, please refer to the drawings and part lists of the documentation in chapter *Appendixes*. This also applies to parts purchased by WIPA Werkzeug- & Maschinenbau GmbH.

Any replacement parts to be used must meet the technical requirements specified by WIPA Werkzeug- & Maschinenbau GmbH. This is always guaranteed with original spare parts.

- Read the relevant regulations and safety data sheets by the manufacturer as well as the instructions from the operator's operating instructions regarding storage, handling, deployment and disposal of gases, greases, oils and other chemical substances. Complying with these regulations and instructions is imperative.
- Provide for the safe and environmentally friendly disposal of operating materials and replacement parts.
- Be sure to observe the safety instructions on the following pages.

6.1 Care

Taking care of the Swim-Sink-Tank is essentially limited to periodic cleaning of all surfaces of dust and other deposits.

- Simply dust or wipe off the Swim-Sink-Tank. It is not advised to use an application for sensitive surfaces.

CAUTION

Property damage due to improper cleaning

Improper cleaning of the Swim-Sink-Tank can cause malfunctions or damages.

- **Do not choose aggressive cleaning agents like petrol or thinner, which attack metal and plastic surfaces as well as hose connections.**
- **Never clean sensitive components with rough brushes and strong mechanical pressure. Use lint-free cleaning cloths.**
- **Never clean the Swim-Sink-Tank with a high-pressure cleaner.**
- **All water based industrial cleaning agents can be freely used.**

Proper care helps to maintain the Swim-Sink-Tank in a long-term functional condition.

- Thoroughly clean the Swim-Sink-Tank at least once a week.
- Do not use metal objects such as scrapers or screwdrivers for cleaning bare machine parts such as piston rods or guides.
- Do not use aggressive cleaning agents or solvents (they damage seals) or abrasive paper for cleaning.
- Use only lint-free cleaning cloths for cleaning.

NOTICE

- Do not clean the Swim-Sink-Tank with compressed air. As a result, dust and/or dirt particles can get to seals and sealing surfaces and damage them.

6.2.4 Cleaning the machine interior

The interior can be cleaned using a water hose.

- Do not use chemicals or similar aggressive cleaning agents that attack the stainless steel.
- When cleaning, make sure that the water jet is not held directly on sealing elements.

6.2.5 Lubrication

NOTICE

The lubrication schedule and the maintenance manual or the operating instructions of the installed equipment and components apply to the lubrication of the machine.

- Also note the following points:

- Keep filling and drain caps clean and do not leave the closures open longer than necessary.
- Drain waste oil only at operating temperature.
- Clean oil cavities and oil lubrication points only with lint-free cleaning cloths and low viscosity spindle oil ("flushing oil"). Not permitted are cotton waste, petroleum and benzene.
- Do not mix synthetic lubricating oils with mineral oils or synthetic oils from other manufacturers even if the synthetic oil has equivalent properties.
- Dispose of waste oils properly.

Ser. no.	Unit	Description	Interval [Op. hours]	Lubrication quantity in g
1-7, 12-17, 19,21	Conveyor rotor bearings	Grease the rotor bearings regularly. Refer to supplier documentation.	40	10
8-11, 20,18	Bearing Screw Conveyors	Grease the bearings of the Screw Conveyors regularly. Refer to supplier documentation.	40	10
12-16	Sprocket and chain	Always keep the chain and sprocket lubricated.		

6.2.6 Lubricant

- In the factory, all lubrication points are greased with the long-life grease LZR 2.
- Only use lubricants which are equivalent to the designation according to DIN51502 KU 2 K-30.
- Follow the instructions in the lubrication plan

6.2.7 Gear oil

- After positioning the machine, screw the supplied ventilation screw into the gearbox housing.
- All gear units are sufficiently filled with oil at the factory.
- Check the fill level regularly, top up missing gear unit oil if necessary.
- When topping up gear oil, ensure that it has the same properties (e.g. viscosity).
- All gear units are filled with Shell Tivela Oil S320 at the factory.
- Only the following oils are suitable as alternatives:

– Shell Tivela Oil SV320
– - Aral Degol GS 320
– - IP Telium Oil VSF 320 (or Agip)
– - Klüber Klübersynth GH 6 320
– - Total Carter SY 320
– - Mobile Glygoyle HE 320

6.3 Maintenance plan:

- Carry out maintenance work at the intervals specified below. The time specifications correspond to a single-shift operation. Adjust the time specifications accordingly for multi-shift operation. These tasks ensure a consistent, trouble-free operation of the Swim-Sink-Tank.

Task	Maintenance interval
Check safety devices	Daily / weekly and with every renewed start-up and after any repair of the machine
Check display elements	Daily
Checking the screw conveyors	Daily
Checking the feed rotor	Daily
Checking the material entry	Daily
Checking the chain	Daily
Cleaning of the machine	After termination of the work
Testing the leak tightness of the machine	Daily
Check filter mat on the fan of the control cabinet for soiling.	Daily
Check the motor cooling for soiling.	Daily
Check the bearing of the conveyor rotor	Daily
Bearing Check screw conveyors	Daily
Check all screws for tightness	Daily

6.3.1 Maintenance of supplied equipment components

NOTICE

- Be sure to observe the maintenance instructions in the documentation of the supplied system components.

6.4 Repair

Repair work on the Swim-Sink-Tank may only be carried out by trained and authorized personnel of the operator. The instructions in this chapter are limited to important general information and instructions which must be followed during the repair work.

NOTICE

The following applies for all extension and dismantling work:

- Marking the parts in their shared identity.
- Marking and noting the installation position and location.
- After the repair work, check that all bolted connections are tight.

6.4.1 Chain (Optional)

NOTICE

Only use chains approved by the manufacturer.

The manufacturer's warranty becomes void if chains that have not been approved are used.

Check the chain drive for:

- Sufficient chain tension
- External damage or rust formation
- Pollution
- Noise generation
- Check the condition of the sprockets and pulleys for signs of tarnishing, hooks, etc.
- Wear: Chains have a permissible wear limit of 3%. If this limit is reached, the chain must be replaced. Carry out some chain rotations and check the tension again. Wrongly tensioned V-belts wear prematurely. Therefore, the correct V-belt tension is of enormous importance for the perfect power transmission and attaining the usual V-belt life.

The normal chain sag is about 1% of the centre distance.

The chain drive is considered worn when the tensioning distance has reached 3% of the nominal length. Chain drives with axes lying one above the other must always be tensioned, otherwise chain engagement in the lower wheel is not guaranteed.

Procedure for mounting/dismounting the chains:

- Energise the machine
- Secure the machine against restarting.

- Remove the chain guard.
- Reduce the centre distance by adjusting the chain tensioning wheel until the chain can be easily removed by hand.
- Check the chain pinion for dirt and damage.
- Install the new chain by hand without any effort.
- Tension the chain by adjusting the chain tensioning wheel until the pretensioning force is reached.
- Fit the chain guard.

6.4.2 Stuffing box

Adjusting the new packing:

The stuffing box packing must not seal 100%! For operation and to avoid machine damage, drip leakage is absolutely necessary. Tighten the gland bolts or nuts only slightly by hand and then follow the running-in procedure as follows:

Running-in of the new packing:

Shaft seals are at particular thermal risk during the running-in phase. For this reason, care must be taken to ensure that the shaft and the packing are not overheated during the first running-in. The correct setting or adjustment of a stuffing box is decisive for the lifetime of the packing. Before starting the machine make sure that there is enough water at the packing! Allow plenty of leakage at the beginning, then adjust the gland carefully by gradually tightening the gland nuts until the leakage drops to the desired minimum. If the packing runs too hot, the machine must be stopped. After a short cooling time, a uniform leakage should be obtained. The unit can be put back into operation. This procedure may have to be repeated several times until the necessary operating leakage at the shaft is reached! During this procedure the shaft and the stuffing box must be checked for temperature. If there are signs of overheating, the gland should not be tightened any further, but possibly loosened slightly so that normal temperature is reached again due to increased leakage. Then readjust the goggles slightly (at intervals of 10-15 minutes) until the leakage is under control again.

The customer is responsible for any damage caused by improper retraction of the packing!

7 Disposal

7.1 Environmental protection

CAUTION

CAUTION: Environmental exposure to substances hazardous to water

These substances can burden the soil and groundwater or reach the sewage system.

- **While working at or with the system, the legal responsibilities for waste-avoidance and proper recycling have to be followed.**
- **Be sure to observe the valid legal regulations for disposing of consumables and replacement material during maintenance or decommissioning of the Swim-Sink-Tank.**
- **Ensure that particularly during installation, repair and maintenance substances hazardous to water, such as greases and oils, emulsions and liquids containing petroleum do not burden the soil and groundwater or reach the sewage system.**
- **Ensure that suitable containers are used to store, transport, collect and dispose of these substances.**

7.2 Oil and oily wastes and lubricating greases

Oil and oily waste represent a high risk potential for the environment. Thus disposing of them must be carried out by specialized companies.

- Bring these wastes to the internal company waste disposal so that it can be passed on to the specialist companies.

7.3 Plastics

- As much as possible, get used/processed plastics sorted.
- Dispose of plastics in compliance with the legal requirements.

7.4 Metals

- As much as possible, get used/processed metals separated.
- Have an authorized company dispose of your metals.

7.5 Electrical and electronic scrap

Electrical and electronic scrap

Devices with this logo on the packaging or on the device must be disposed of separately. These devices may not be disposed of with normal household waste.

You are responsible for ensuring that any electrical or electronic waste is disposed of in the appropriate places, e.g. the recycling center.

7.6 Final decommissioning

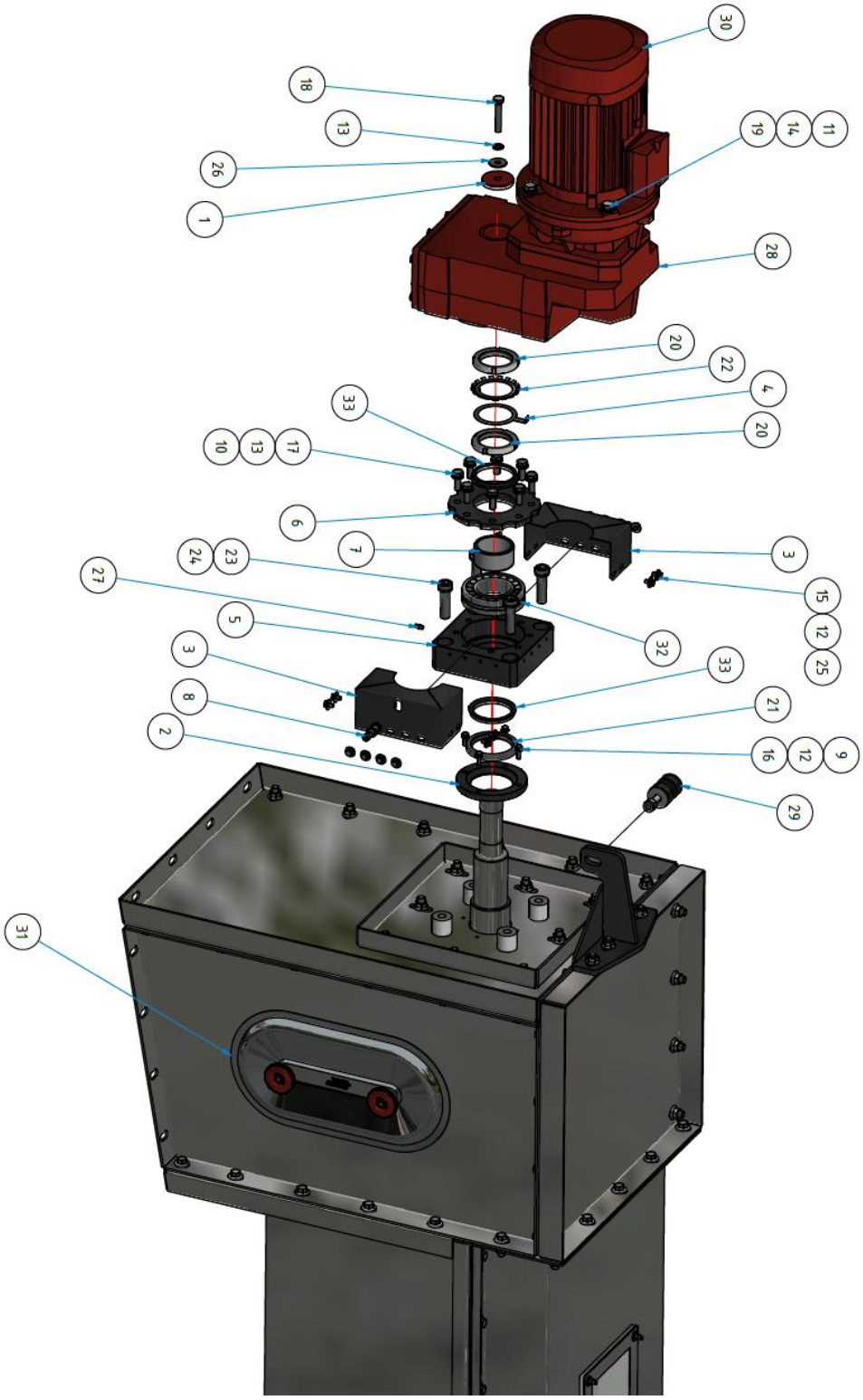
- Check which materials can be recycled and then do so.

8 Appendix

- Assembly drawings
- Parts list with spare parts recommendation/marking
- Supplier documentation

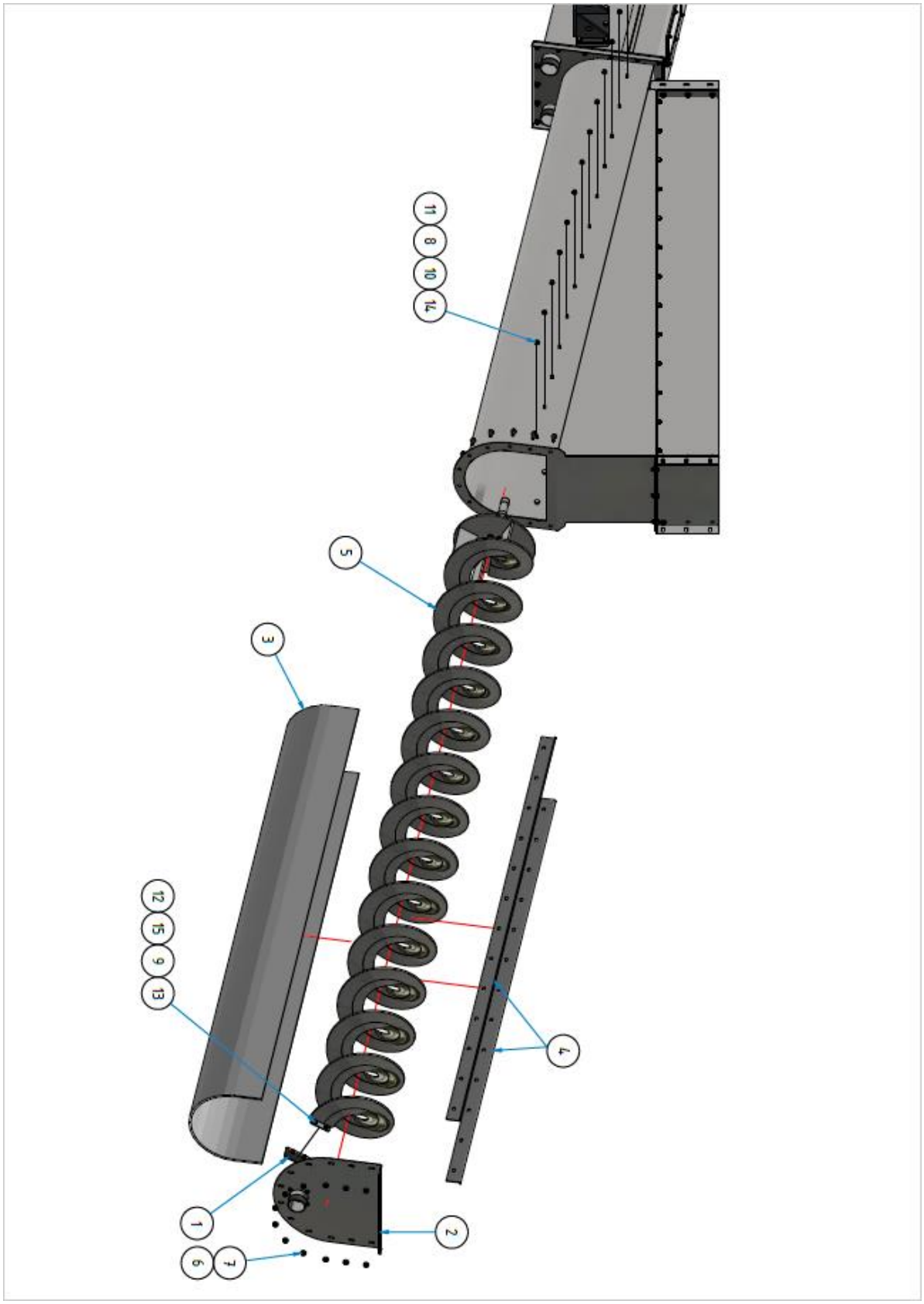
8.1 Parts list with spare parts recommendation/marking

8.1.1 Dismantling the discharge screw drive unit



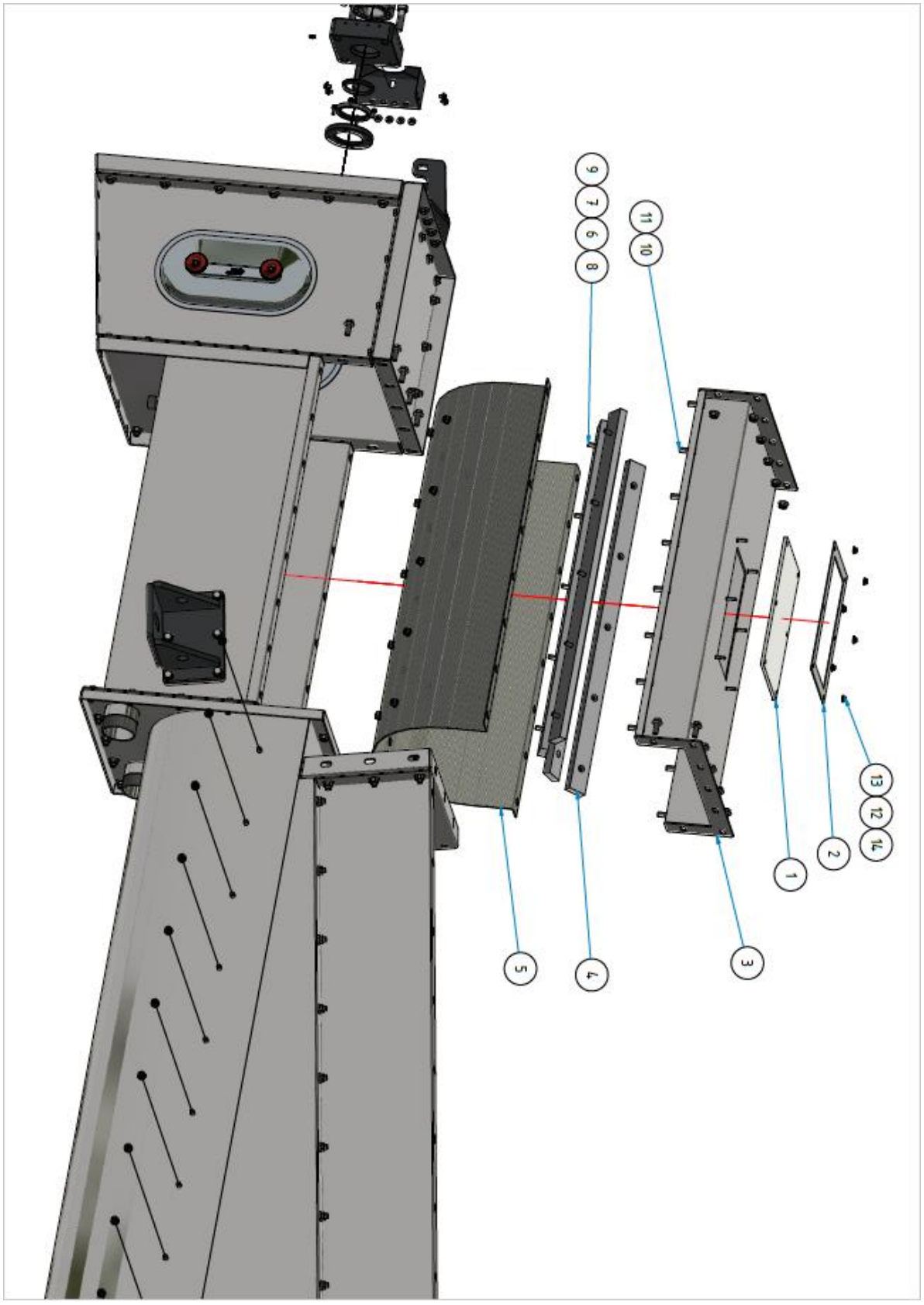
No	Quantity	Part number /DIN	Description
1	1	00-1036_LT	Gear disc
2	1	00-1069_DT	Sealing flange
3	2	23-00-05-022_KT	Mudguard
4	1	23-00-07-017_KT	Sensor transmitter
5	1	23-00-07-050_FT	Bearing housing
6	1	23-00-07-051_FT	Bearing cover
7	1	23-00-07-052_DT	Ring
8	1	Bi4U-M12-RP6X-H1141	Inductive sensor
9	4	DIN 125 - A 6,4	Washer
10	8	DIN 125 - A 10,5	Washer
11	4	DIN 125 - A 13	Washer
12	20	DIN 127 - A 6	Spring washer
13	9	DIN 127 - A 10	Spring washer
14	4	DIN 127 - A 12	Spring washer
15	16	DIN 933 - M6 x 12	Hexagon head screw
16	4	DIN 933 - M6 x 20	Hexagon head screw
17	8	DIN 933 - M10 x 30	Hexagon head screw
18	1	DIN 933 - M10 x 60	Hexagon head screw
19	4	DIN 933 - M12 x 30	Hexagon head screw
20	2	DIN 981 - KM 12	Slotted nut
21	1	DIN 3760 - A - 70 x 90 x 10 - NBR	Shaft sealing ring
22	1	DIN 5406 - MB12	Lock washer - Type MB/MBL
23	4	DIN 6912 - M16 x 60	cylinder head screw
24	4	DIN 7980 - 16	Spring washer
25	16	DIN 9021 - 6,4	Washer
26	1	DIN 9021 - 10,5	Washer
27	1	DIN 71412 - AM 6 (kegelig kurz)	conical grease nipple form A
28	1	F 41 2 H40 47.9 P100 H1	Gearbox
29	1	F41	Rubber buffer
30	1	K21R_100_LX4	3kW Motor
31	2		Access cover 42 galv.
32	1	22212e	Spherical roller bearings
33	2	VA 70	V-Ring type VA

8.1.2 Dismantling the discharge screw conveyor



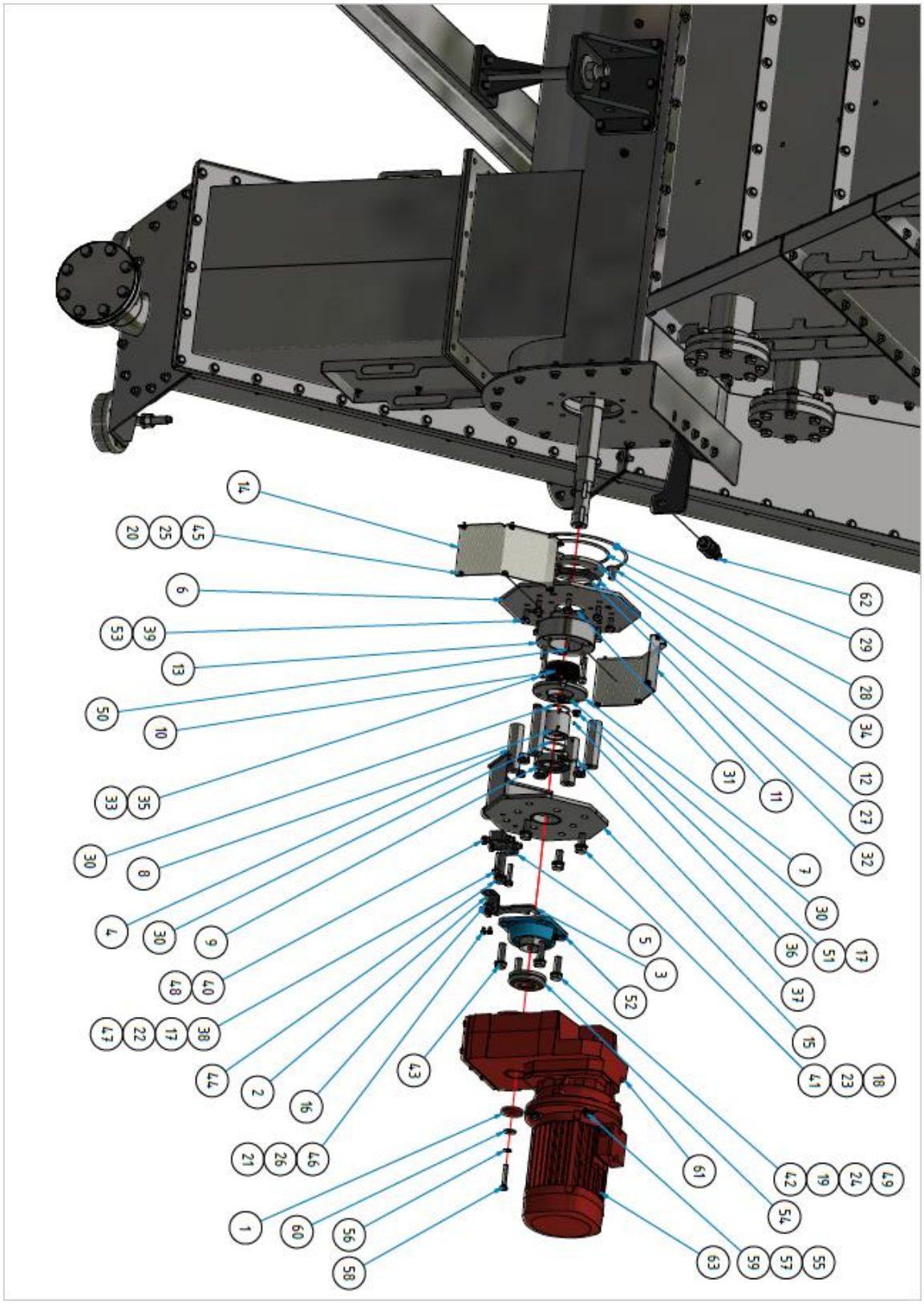
No	Quantity	Part number	Description
1	1	23-00-18-003_WSS	Wiper
2	1	23-00-18-12_SBG	Lid with drain
3	1	23-00-18-037_KT	Plastic trough
4	2	23-00-18-038_KT	Mounting bracket
5	1	23-00-23-33_BG	screw
6	12	similar DIN 6921 - M12 x 25	Hexagon head bolt with flange and serration similar to DIN 6921
7	12	similar DIN 6923 - M12	Hexagon nut with flange and toothing similar to DIN 6923
8	26	DIN 125 - A 10,5	Washer
9	2	DIN 127 - A 8	Spring washer
10	26	DIN 127 - A 10	Spring washer
11	26	DIN 603 - M10 x 35	Cup square screw
12	2	DIN 933 - M8 x 25	Hexagon head screw
13	2	DIN 934 - M8	Hexagon nut
14	26	DIN 934 - M10	Hexagon nut
15	4	DIN 9021 - 7,4	Washer

8.1.3 Dismantling the discharge screw screen unit



No	Quantity	Part number	Description
1	1	00-07-067_SO	Viewing window
2	1	00-07-068_LT	Frame Viewing window
3	1	23-00-08-08_SBG	Cover
4	4	23-00-05-020_FT	Bar
5	1	23-00-18-010_KT	Sieve (perforated plate)
6	20	DIN 125 - A 10,5	Washer
7	20	DIN 127 - A 10	Spring washer
8	20	DIN 7984 - M10 x 25	cylinder head screw
9	20	DIN 934 - M10	Hexagon nut
10	30	Similar to DIN 6921 - M12 x 30	Hexagon head bolt with flange and serration similar to DIN 6921
11	30	Similar to DIN 6923 - M12	Hexagon nut with flange and toothing similar to DIN 6923
12	6	DIN 127 - A 6	Spring washer
13	6	DIN 934 - M6	Hexagon nut
14	6	DIN 9021 - 6,4	Washer

8.1.4 Dismantling the sink screw Drive unit

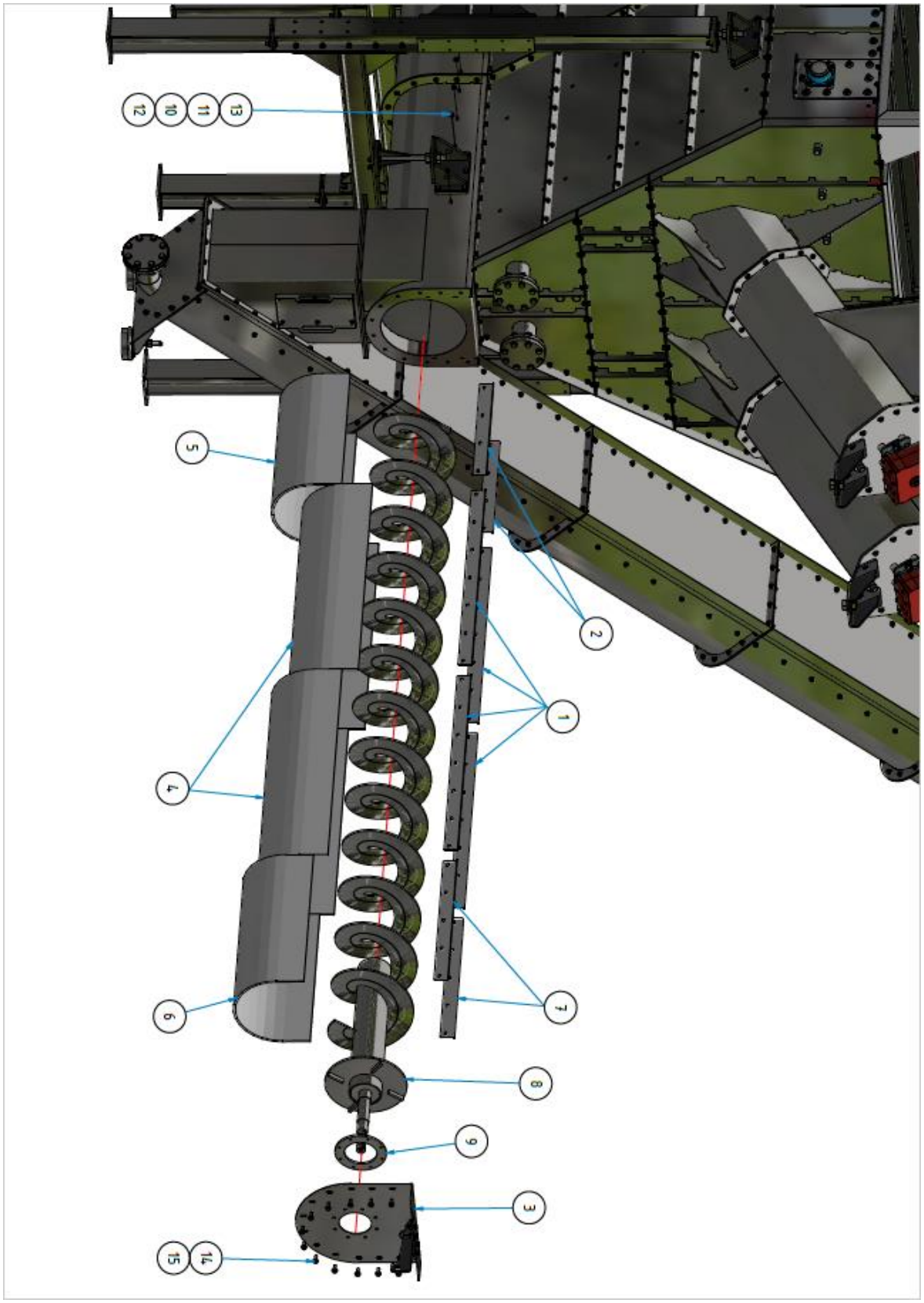


No	Quantity	Part number:	Description:
1	1	00-1036_LT	Gear disc
2	1	00-10-01-017_KT	Mounting bracket Rotation monitoring 50 mm flange bearing
3	1	00-10-01-019_LT	Mounting Rotation monitoring 50 mm flange bearing
4	4	28-00-006_DT	Spacer socket
5	1	28-00-013_FT	Pressure plate_bearing bracket
6	1	28-01-001_FT	Flange Bearing bracket
7	1	28-01-003_FT	Pressure flange_bearing bracket
8	1	28-01-004_FT	Socket_bearing bracket
9	1	28-01-007_FT	Labyrinth Bushing
10	3	28-01-009_NP	Plastic cord seal 10mm
11	1	28-01-012_KT	Perforated plate Bearing bracket
12	1	28-01-014_LT	Ring
13	1	28-01-015_FT	Bearing ring
14	1	28-01-016_KT	Perforated plate Bearing bracket
15	1	28-01-02_SBG	Bearing bracket
16	1	Bi4U-M12-RP6X-H1141	Inductive sensor
17	6	DIN 125 - A 10,5	Washer
18	4	DIN 125 - A 17	Washer
19	8	DIN 125 - A 17	Washer
20	12	DIN 125 - A 5,3	Washer
21	2	DIN 125 - A 6,4	Washer
22	2	DIN 127 - A 10	Spring washer
23	4	DIN 127 - A 16	Spring washer
24	4	DIN 127 - A 16	Spring washer
25	12	DIN 127 - A 5	Spring washer
26	2	DIN 127 - A 6	Spring washer
27	1	DIN 3771 - 136 x 5,3 - N - NBR 70	O-Ring
28	1	DIN 3771 - 165 x 5,3 - N - NBR 70	O-Ring
29	1	DIN 3771 - 258 x 5,3 - N - NBR 70	O-Ring

No	Quantity	Part number:	Description:
30	3	DIN 3771 - 54,5 x 3,55 - N - NBR 70	O-Ring
31	1	DIN 3771 - 90 x 3,55 - N - NBR 70	O-Ring
32	1	DIN 3771 - 92,5 x 5,3 - N - NBR 70	O-Ring
33	3	DIN 7980 – 10	Spring washer
34	4	DIN 7991 - M16x30	countersunk screws with hexagon socket
35	3	DIN 912 - M10 x 60	cylinder head screw
36	6	DIN 914 - M5 x 6	Grub screw
37	3	DIN 914 - M6 x 20	Grub screw
38	2	DIN 933 - M10 x 50	Hexagon head screw
39	8	DIN 933 - M12 x 28	Hexagon head screw
40	2	DIN 933 - M12 x 80	Hexagon head screw
41	3	DIN 933 - M16 x 40	Hexagon head screw
42	2	DIN 933 - M16 x 50	Hexagon head screw
43	2	DIN 933 - M16 x 55	Hexagon head screw
44	1	DIN 933 - M16 x 70	Hexagon head screw
45	12	DIN 933 - M5 x 12	Hexagon head screw
46	2	DIN 933 - M6 x 12	Hexagon head screw
47	2	DIN 934 - M10	Hexagon nut
48	4	DIN 934 - M12	Hexagon nut
49	4	DIN 934 - M16	Hexagon nut
50	3	DIN 976-1 - M10 x 70 - A	Threaded bolt Metric thread
51	3	DIN 985 - M10	Hexagon nut
52	1	UCFE210.N	Bearing
53	8	4692012	Washer with seal M12
54	1	SCO209	Bearing cover
55	4	DIN 125 - A 13	Washer
56	1	DIN 127 - A 10	Spring washer
57	4	DIN 127 - A 12	Spring washer
58	1	DIN 933 - M10 x 60	Hexagon head screw
59	4	DIN 933 - M12 x 30	Hexagon head screw
60	1	DIN 9021 - 10,5	Washer

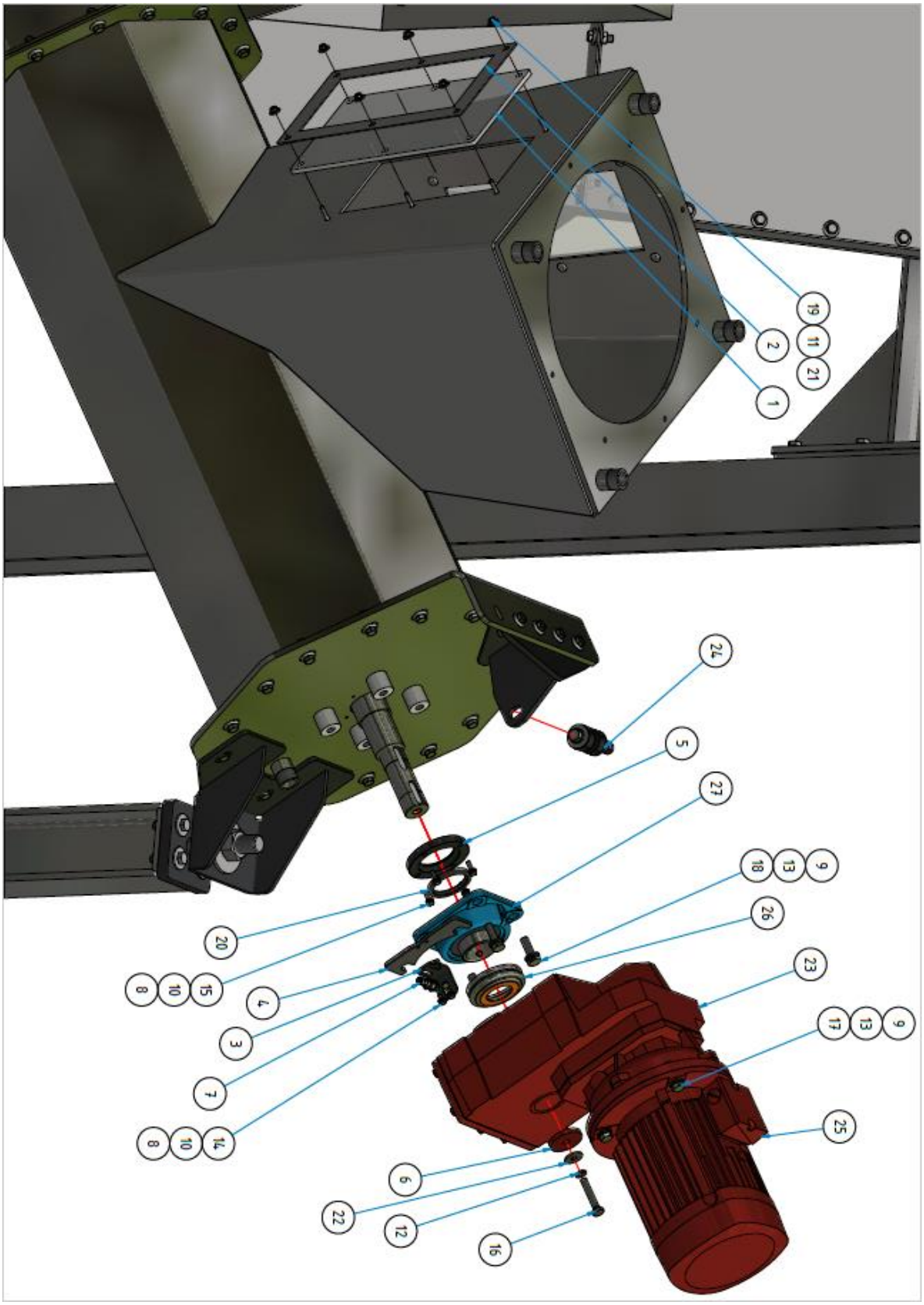
No	Quantity	Part number:	Description:
61	1	F 41 2 H40 47.9 P100 H1	Gearbox
62	1	F41	Rubber buffer
63	1	K21R_100_LX4	3kW Motor

8.1.5 Dismantling the lower screw conveyor



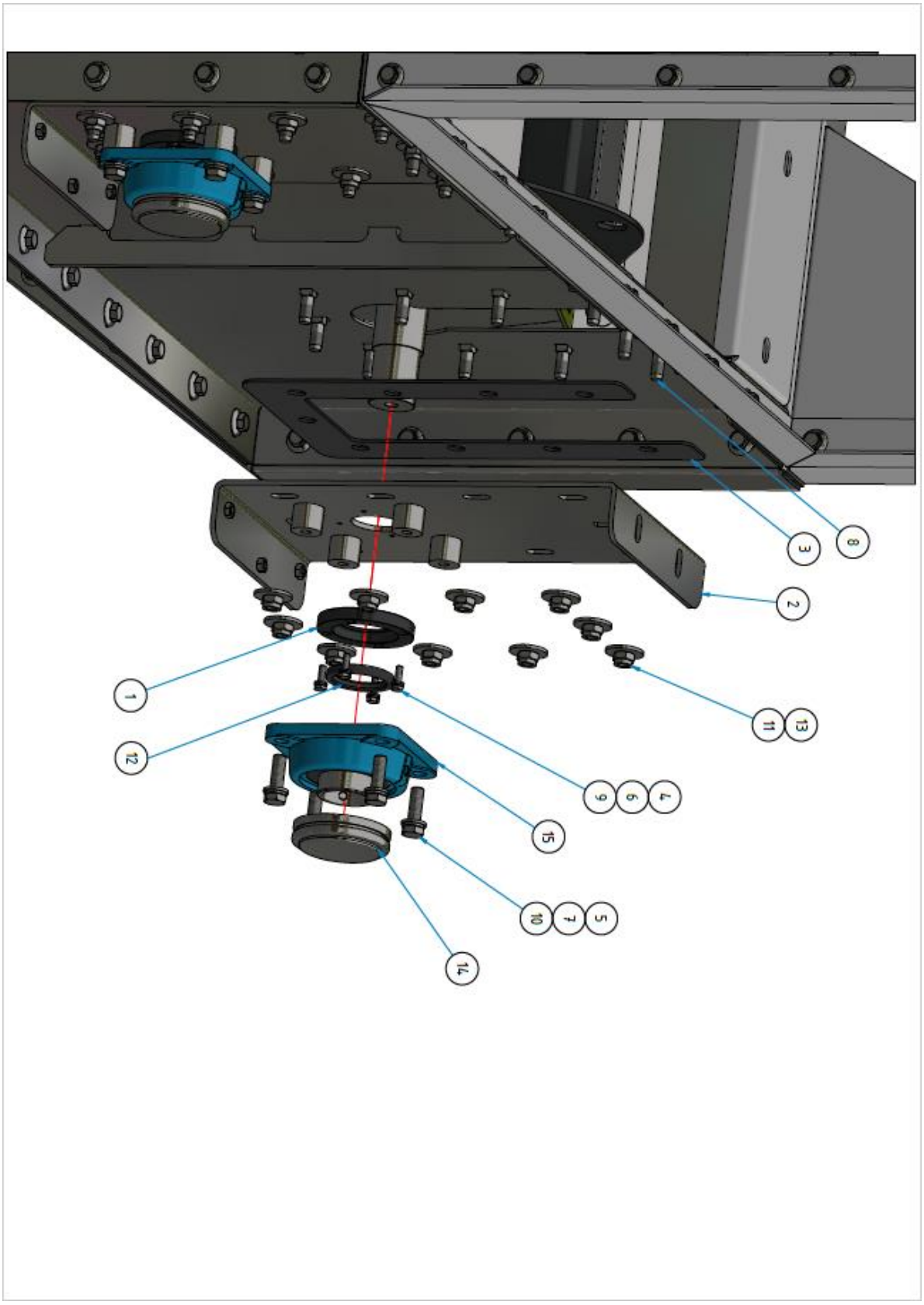
No	Quantity	Part number / DIN	Description
1	4	23-00-16-006_KT	Mounting bracket
2	2	23-00-16-007_KT	Mounting bracket
3	1	23-00-16-008_KT	Trough plate
4	2	23-00-16-012_KT	Plastic trough
5	1	23-00-16-013_KT	Plastic trough
6	1	23-00-16-014_KT	Plastic trough
7	2	23-00-16-016_KT	Mounting bracket
8	1	23-00-16-10_SBG	Screw
9	1	28-01-010_LT	Clamping plate_bearing bracket
10	42	DIN 125 - A 10,5	Washer
11	42	DIN 127 - A 10	Spring washer
12	42	DIN 603 - M10 x 35	cup square screw
13	42	DIN 934 - M10	Hexagon nut
14	12	Similar to DIN 6921 - M12 x 30	Hexagon head bolt with flange and serration similar to DIN 6921
15	12	Similar to DIN 6923 - M12	Hexagon nut with flange and toothing similar to DIN 6923

8.1.6 Dismantling the feed screw drive unit



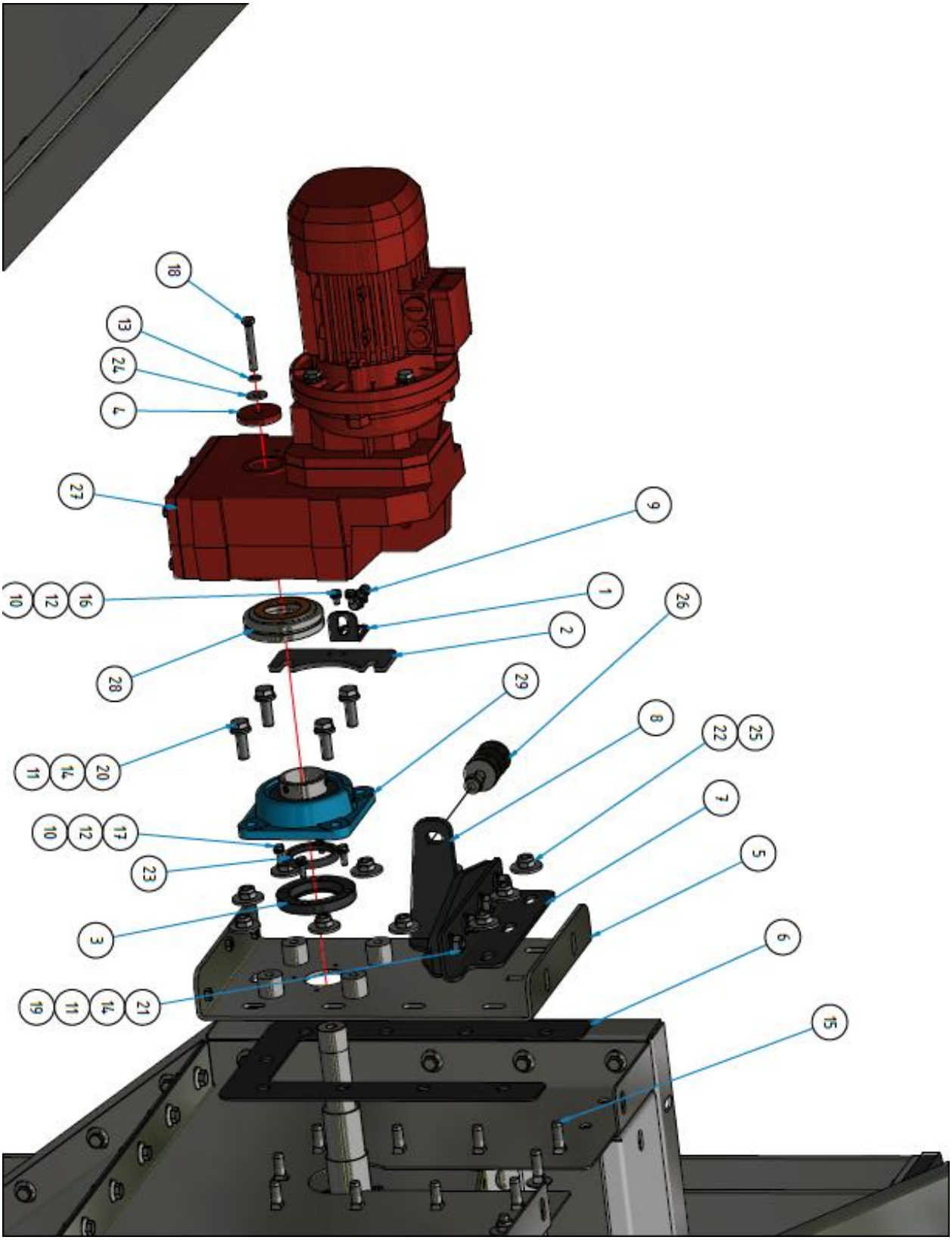
No	Quantity	Part number	Description
1	2	00-07-067_SO	View window
2	2	00-07-068_LT	Frame Viewing window
3	1	00-10-01-017_KT	Mounting bracket Rotation monitoring 50 mm flange bearing
4	1	00-10-01-019_LT	Mounting Rotation monitoring 50 mm flange bearing
5	1	00-12-026_DT	Sealing flange (Wedi 56 x 72 x 8)
6	1	00-1036_LT	Gear disc
7	1	Bi4U-M12-RP6X-H1141	Inductive sensor _1634846
8	4	DIN 125 - A 6,4	Washer
9	4	DIN 125 - A 13	Washer
10	4	DIN 127 - A 6	Spring washer
11	12	DIN 127 - A 6	Spring washer
12	1	DIN 127 - A 10	Spring washer
13	4	DIN 127 - A 12	Spring washer
14	2	DIN 933 - M6 x 12	Hexagon head screw
15	4	DIN 933 - M6 x 20	Hexagon head screw
16	1	DIN 933 - M10 x 60	Hexagon head screw
17	4	DIN 933 - M12 x 30	Hexagon head screw
18	4	DIN 933 - M12 x 40	Hexagon head screw
19	12	DIN 934 - M6	Hexagon nut
20	1	DIN 3760 - A - 56 x 72 x 8 - NBR	Shaft seal
21	12	DIN 9021 - 6,4	Washer
22	1	DIN 9021 - 10,5	Washer
23	1	F 41 2 H40 47.9 P100 H1	Gearbox
24	1	F41	Rubber buffer
25	1	K21R_100_LX4	3kW motor
26	1	SCO209	Bearing cover
27	1	UCFE210.N	Bearing

8.1.7 Disassembly of bearing paddle roller



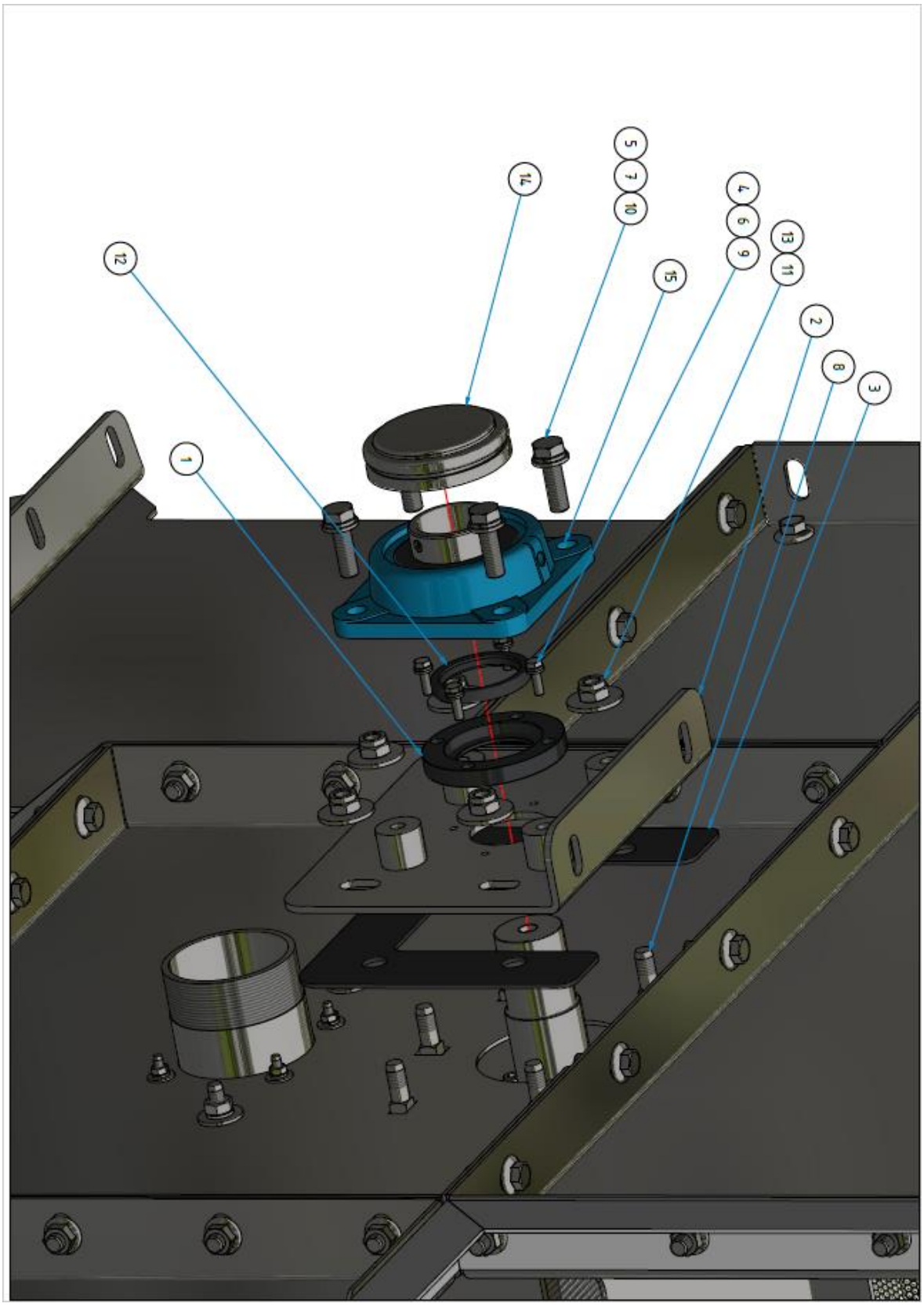
No	Quantity	Part number	Description
1	1	00-12-030_DT	Sealing flange (Wedi 50 x 65 x 8)
2	1	23-00-05-28_SBG	Sheet metal bearing support
3	1	23-00-05-053_WSS	Seal Bearing support
4	4	DIN 125 - A 6,4	Washer
5	4	DIN 125 - A 13	Washer
6	4	DIN 127 - A 6	Spring washer
7	4	DIN 127 - A 12	Spring washer
8	10	DIN 603 - M12 x 35	cup square screw
9	4	DIN 933 - M6 x 20	Hexagon head screw
10	4	DIN 933 - M12 x 40	Hexagon head screw
11	10	DIN 985 - M12	Hexagon nut
12	1	DIN 3760 - A - 50 x 65 x 8 - NBR	Shaft seal
13	10	DIN 9021 - 13	Washer
14	1	SCC209	Bearing cover
15	1	UCFE209.N	Bearing

8.1.8 Disassembly paddle roller drive unit



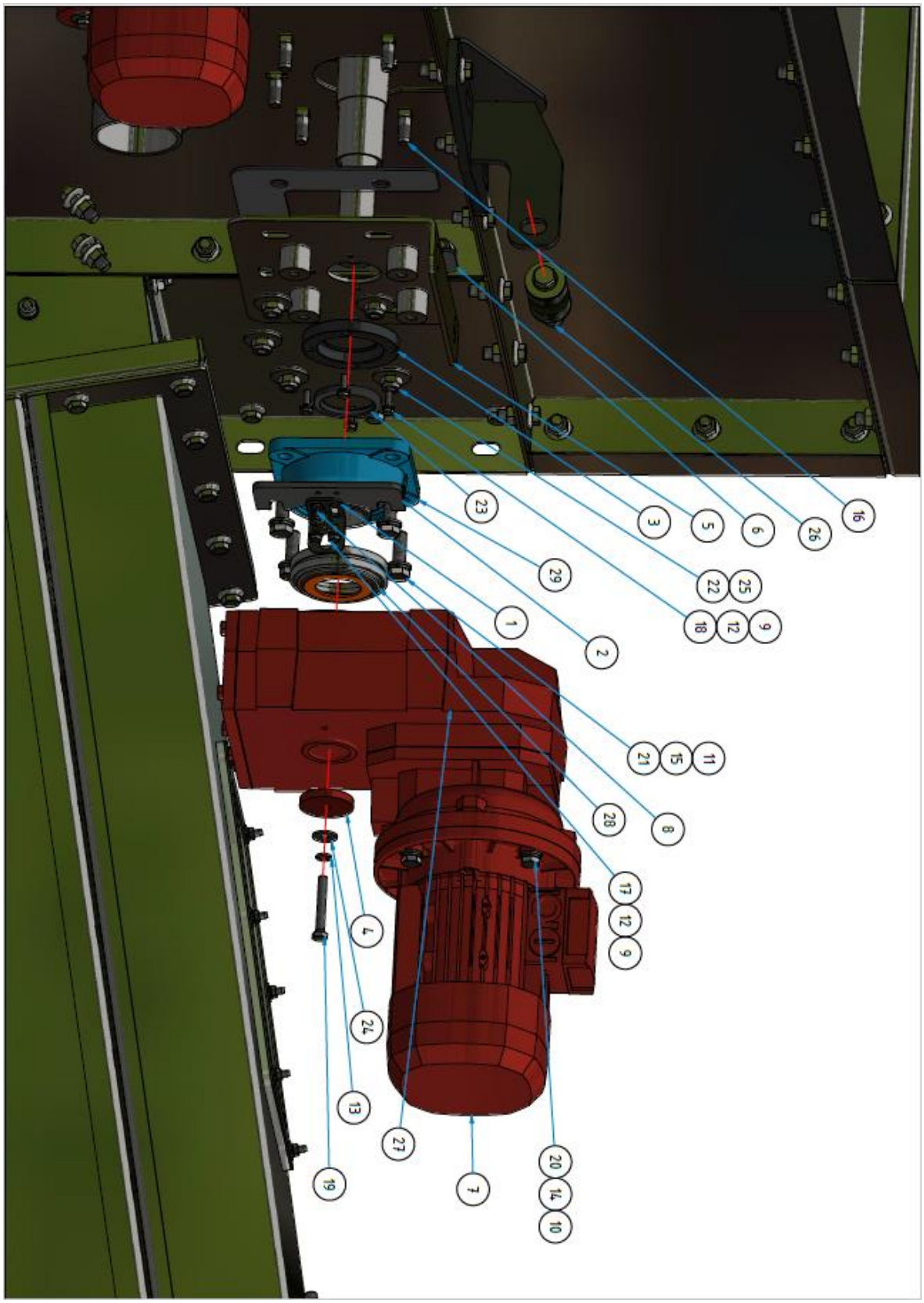
No	Quantity	Part number	Description
1	1	00-10-01-018_KT	Mounting bracket Rotation monitoring FY 40-45 TF
2	1	00-10-01-020_LT	Mounting Rotation monitoring FY 45 TF
3	1	00-12-030_DT	Sealing flange (Wedi 50 x 65 x 8)
4	1	00-1015_LT	Gear disc
5	1	23-00-05-28_SBG	Sheet metal bearing support
6	1	23-00-05-053_WSS	Seal Bearing support
7	1	23-00-07-016_KT	Mounting bracket_torque support
8	1	23-00-07-17_SBG	Torque support
9	1	Bi4U-M12-RP6X-H1141	Inductive sensor _1634846
10	6	DIN 125 - A 6,4	Washer
11	12	DIN 125 - A 13	Washer
12	6	DIN 127 - A 6	Spring washer
13	1	DIN 127 - A 8	Spring washer
14	8	DIN 127 - A 12	Spring washer
15	10	DIN 603 - M12 x 40	cup square screw
16	2	DIN 933 - M6 x 12	Hexagon head screw
17	4	DIN 933 - M6 x 20	Hexagon head screw
18	1	DIN 933 - M8 x 60	Hexagon head screw
19	4	DIN 933 - M12 x 35	Hexagon head screw
20	4	DIN 933 - M12 x 40	Hexagon head screw
21	4	DIN 934 - M12	Hexagon nut
22	10	DIN 985 - M12	Hexagon nut
23	1	DIN 3760 - A - 50 x 65 x 8 - NBR	Shaft seal
24	1	DIN 9021 - 8,4	Washer
25	10	DIN 9021 - 13	Washer
26	1	F31	Rubber buffer F31
27	1	F31 3 H35 112,5 P80 H1	Gearbox
28	1	SCO209	Bearing cover
29	1	UCFE209.N	Bearing

8.1.9 Disassembly of bearing paddle roller



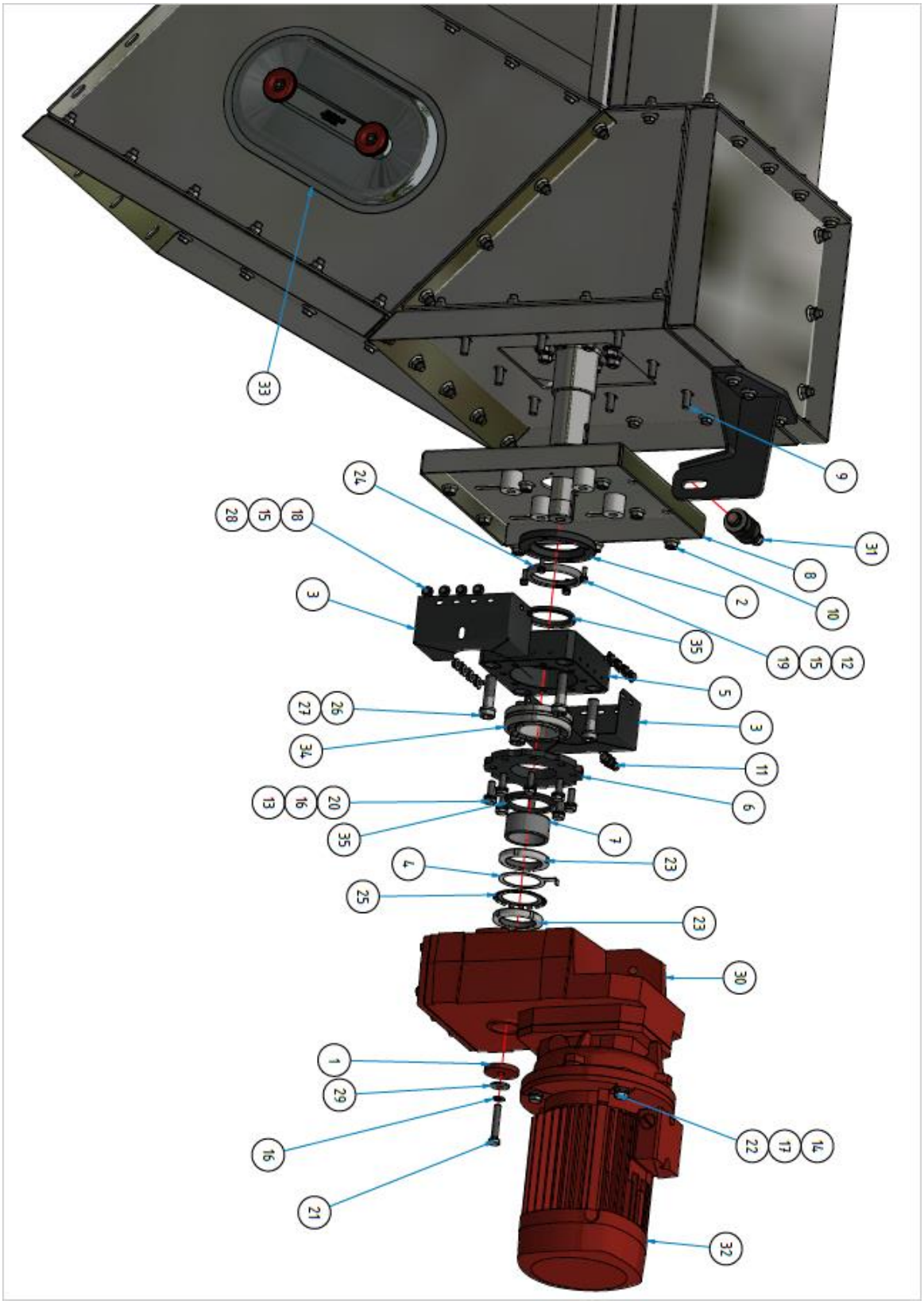
No	Quantity	Part number	Description
1	1	00-12-030_DT	Sealing flange (Wedi 50 x 65 x 8)
2	1	23-00-05-30_SBG	Sheet metal bearing support
3	1	23-00-05-054_WSS	Seal Bearing support
4	4	DIN 125 - A 6,4	Washer
5	4	DIN 125 - A 13	Washer
6	4	DIN 127 - A 6	Spring washer
7	4	DIN 127 - A 12	Spring washer
8	4	DIN 603 - M12 x 35	cup square screw
9	4	DIN 933 - M6 x 20	Hexagon head screw
10	4	DIN 933 - M12 x 40	Hexagon head screw
11	4	DIN 985 - M12	Hexagon nut
12	1	DIN 3760 - A - 50 x 65 x 8 - NBR	Shaft seal
13	4	DIN 9021 - 13	Washer
14	1	SCC209	Bearing cover
15	1	UCFE209.N	Bearing

8.1.10 Disassembly of bearing paddle roller drive unit



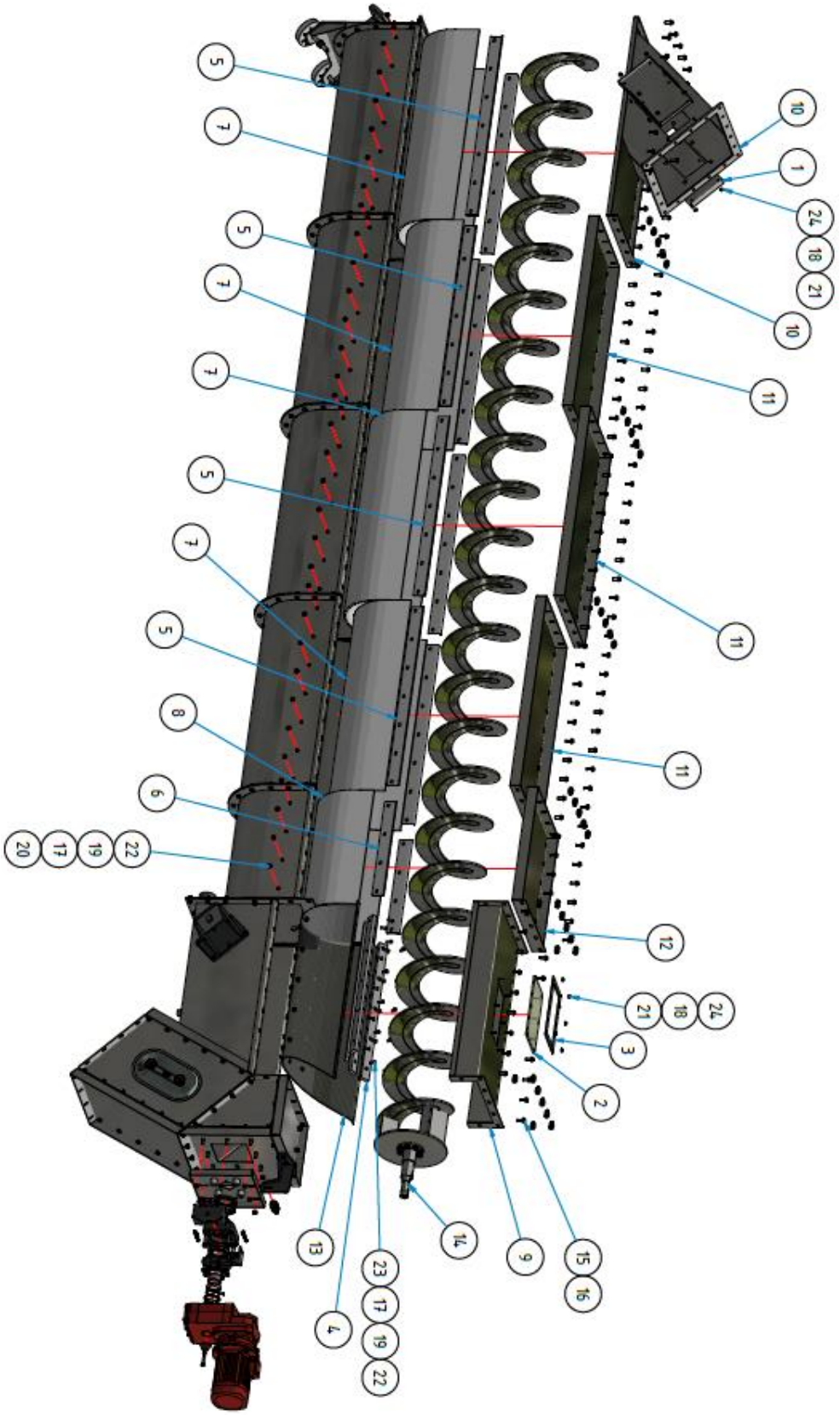
No	Quantity	Part number	Description
1	1	00-10-01-018_KT	Mounting bracket Rotation monitoring FY 40-45 TF
2	1	00-10-01-020_LT	Mounting Rotation monitoring FY 45 TF
3	1	00-12-030_DT	Sealing flange (Wedi 50 x 65 x 8)
4	1	00-1015_LT	Gear disc
5	1	23-00-05-30_SBG	Sheet metal bearing support
6	1	23-00-05-054_WSS	Seal Bearing support
7	1	BE 80 B5 0,75kW	Motor 0,75kW
8	1	Bi4U-M12-RP6X-H1141	Inductive sensor _1634846
9	6	DIN 125 - A 6,4	Washer
10	4	DIN 125 - A 10,5	Washer
11	4	DIN 125 - A 13	Washer
12	6	DIN 127 - A 6	Spring washer
13	1	DIN 127 - A 8	Spring washer
14	4	DIN 127 - A 10	Spring washer
15	4	DIN 127 - A 12	Spring washer
16	5	DIN 603 - M12 x 35	cup square screw
17	2	DIN 933 - M6 x 12	Hexagon head screw
18	4	DIN 933 - M6 x 20	Hexagon head screw
19	1	DIN 933 - M8 x 60	Hexagon head screw
20	4	DIN 933 - M10 x 30	Hexagon head screw
21	4	DIN 933 - M12 x 40	Hexagon head screw
22	5	DIN 985 - M12	Hexagon nut
23	1	DIN 3760 - A - 50 x 65 x 8 - NBR	Shaft seal
24	1	DIN 9021 - 8,4	Washer
25	5	DIN 9021 - 13	Washer
26	1	F31	Rubber buffer F31
27	1	F31 3 H35 112,5 P80 H1	Gearbox
28	1	SCO209	Bearing cover
29	1	UCFE209.N	Bearing

8.1.11 Dismantling the heavy lift screw drive unit

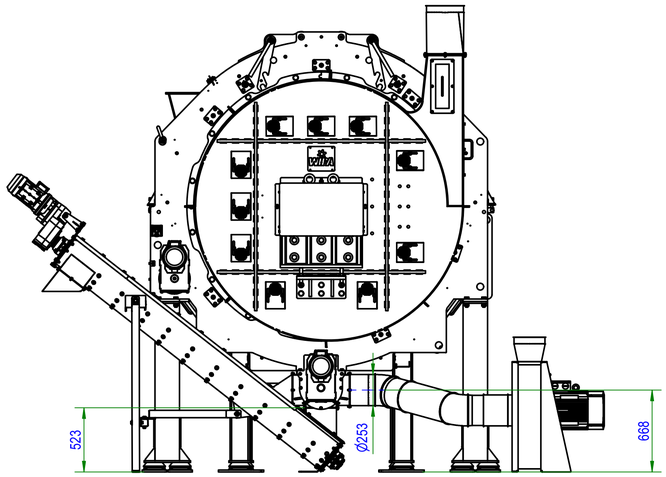


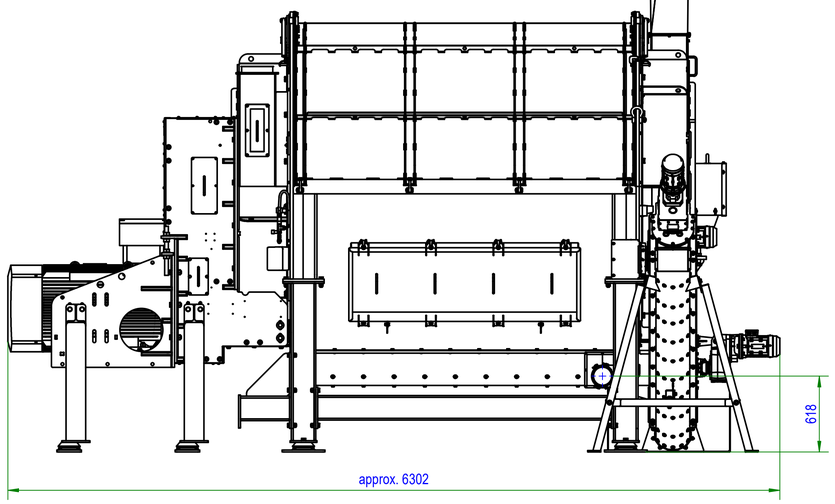
No	Quantity	Part number	Description
1	1	00-1036_LT	Gear disc
2	1	00-1069_DT	Sealing flange (Wedi 70 x 90 x 10)
3	2	23-00-05-022_KT	Mudguard
4	1	23-00-07-017_KT	Sensor transmitter
5	1	23-00-07-050_FT	Bearing housing
6	1	23-00-07-051_FT	Bearing cover
7	1	23-00-07-052_DT	Ring
8	1	23-00-05-32_SBG	Flange plate
9	8	Similar to DIN 6921 - M12 x 30	Hexagon head bolt with flange and serration similar to DIN 6921
10	8	Similar to DIN 6923 - M12	Hexagon nut with flange and toothing similar to DIN 6923
11	1	Bi4U-M12-RP6X-H1141	Inductive sensor _1634846
12	4	DIN 125 - A 6,4	Washer
13	8	DIN 125 - A 10,5	Washer
14	4	DIN 125 - A 13	Washer
15	20	DIN 127 - A 6	Spring washer
16	9	DIN 127 - A 10	Spring washer
17	4	DIN 127 - A 12	Spring washer
18	16	DIN 933 - M6 x 12	Hexagon head screw
19	4	DIN 933 - M6 x 20	Hexagon head screw
20	8	DIN 933 - M10 x 30	Hexagon head screw
21	1	DIN 933 - M10 x 60	Hexagon head screw
22	4	DIN 933 - M12 x 30	Hexagon head screw
23	2	DIN 981 - KM 12	Slotted nut
24	1	DIN 3760 - A - 70 x 90 x 10 - NBR	Shaft seal
25	1	DIN 5406 - MB12	Lock washer - Type MB/MBL
26	4	DIN 6912 - M16 x 60	Cheese-head screw
27	4	DIN 7980 - 16	Spring washer
28	16	DIN 9021 - 6,4	Washer
29	1	DIN 9021 - 10,5	Washer
30	1	F 41 2 H40 47.9 P100 H1	Gearbox
31	1	F41	Rubber buffer
32	1	K21R_100_LX4	3kW motor
33	2	RD_42_SI	Access cover RD 42 Galvanized with SI
34	1	22212e	Spherical roller bearings
35	1	VA 70	V-ring type VA

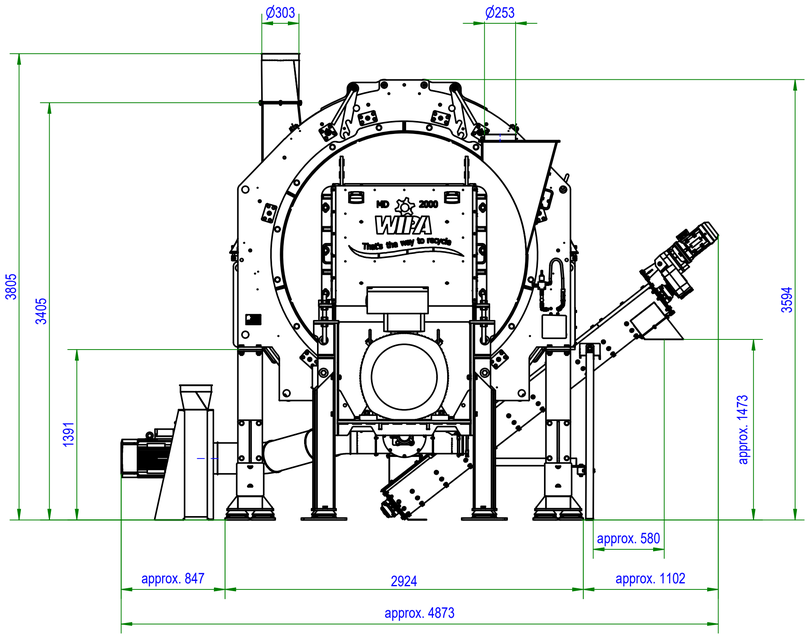
8.1.12 Dismantling heavy lift screw conveyor

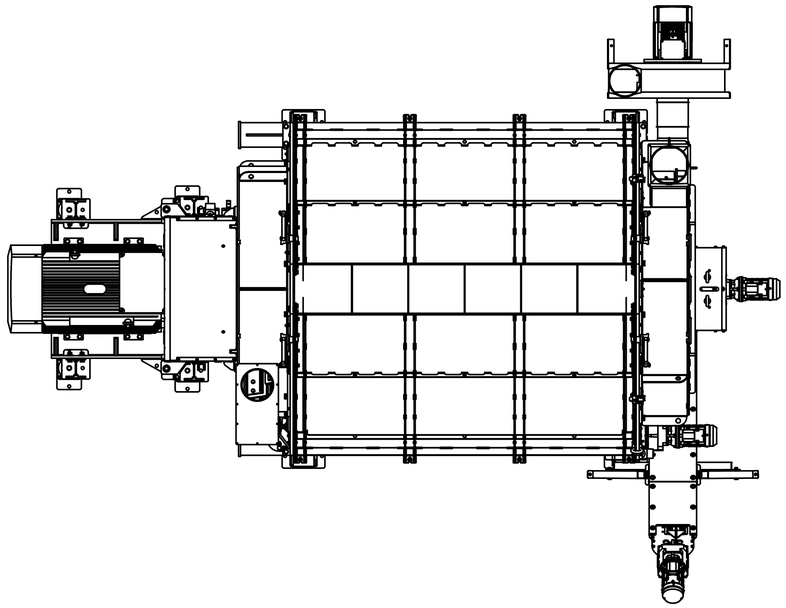


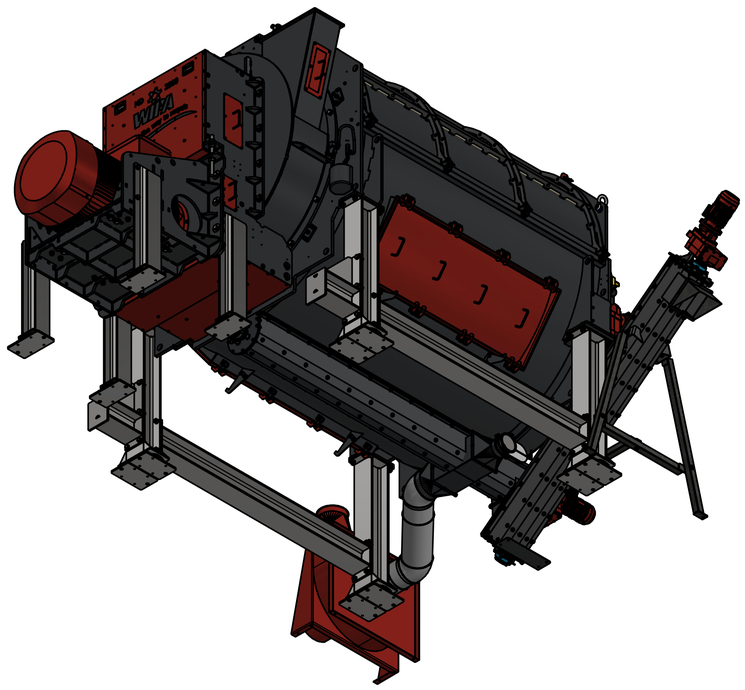
No	Quantity	Part number	Description
1	2	00-07-062_KT	Service flap
2	1	00-07-067_SO	Window
3	1	00-07-068_LT	Frame Viewing window
4	4	23-00-05-021_FT	Bar
5	8	23-00-16-006_KT	Mounting bracket
6	2	23-00-16-007_KT	Mounting bracket
7	4	23-00-16-012_KT	Plastic trough
8	1	23-00-16-013_KT	Plastic trough
9	1	23-00-19-08_SBG	Cover
10	1	23-00-22-05_SBG	Funnel
11	3	23-00-22-009_KT	Cover
12	1	23-00-22-012_KT	Cover
13	1	23-00-22-022_KT	Perforated plate
14	1	23-00-23-36_BG	Soulless screw
15	155	Similar to DIN 6921 - M12 x 30	Hexagon head bolt with flange and serration similar to DIN 6921
16	155	Similar to DIN 6923 - M12	Hexagon nut with flange and toothing similar to DIN 6923
17	84	DIN 125 - A 10,5	Washer
18	18	DIN 127 - A 6	Spring washer
19	84	DIN 127 - A 10	Spring washer
20	64	DIN 603 - M10 x 35	cup square screw
21	18	DIN 934 - M6	Hexagon nut
22	84	DIN 934 - M10	Hexagon nut
23	20	DIN 7984 - M10 x 25	head screw
24	18	DIN 9021 - 6,4	Washer

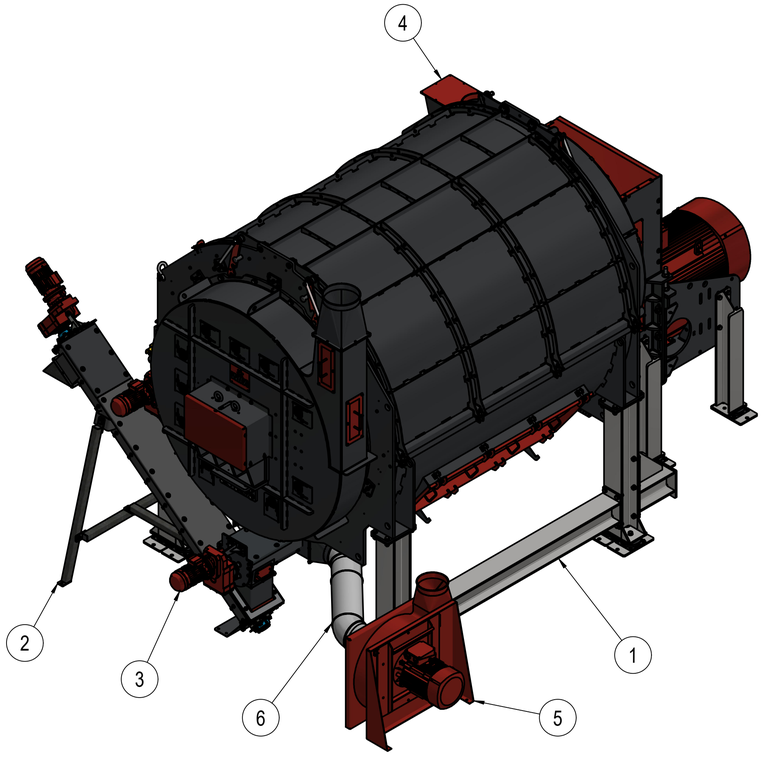












TEILELISTE					
OBJEKT	OBJEKTMENGE	ZEICHNUNGSNUMMER	BESCHREIBUNG	MASSE	MATERIAL
1	1	02-07-02-02_50Hz_A374	MD2000_2 / 50 Hz	15886,252 kg	
2	1	21-18-06_BG_ohne MD	Steigschnecke SMDS 2000	329,491 kg	
3	1	21-23-90-01_BG	Schnecke gesamt	268,702 kg	
4	1	02-01-02-20-18-04_SBG	Einlass MD	4,901 kg	
5	1	Gebläse 75/500	WTG 75/500		
6	1	Rohrleitung MD - WTG	pipeline	13,866 kg	

	Datum	Name
Ges.:30/20	01.10.2021/06.10.2021	ME /ME
Zul.gesp.:	07.10.2021/13:10:20	ma
Zul.gel.:	07.10.2021/13:06:40	ma

Alle unbemaßten Maße gemäß DIN ISO 2768-1 (m) DIN ISO 2768-2 (K)

Maßstab: 1 : 25 | Gewicht: 16562,468 kg

Rohteil: | Material:

MD2000 + SMD + STS / machine no. 3388

A374

Maschinentyp:

Projekt:

Zeichnungsnummer: 02-07-02-90-01_BG_A374

Blatt: 1(1) | A1

Schraubenverbindung Podest - Gestell /
Screw connection pedestal - frame:
20 x DIN 933 - M12 x 45
40 x DIN 125 - A 13
20 x DIN 934 - M12

4 x Zaun / fence
1 x Versteifungsblech / Stiffening sheet
59 x DIN 6923 - M12 x 30
59 x DIN 6921 - M12

4 x DIN 6923 - M12 x 30
4 x DIN 6921 - M12

Seelenlose Schnecke (Austrag) / soulless screw (discharge)

18 x DIN 6923 - M12 x 30
18 x DIN 6921 - M12

C

Austrag / discharge

4 x DIN 934 - M30
4 x DIN 9021 - 33

Gestell Austragsschnecke / frame discharge screw

B
Antrieb Sinkgutschnecke /
drive sinking goods screw

4 x DIN 6921 - M12 x 30
4 x DIN 6921 - M12

1 x Spannblech
1 x Spannblech klein
3 x O-Ringe

A

B

20 x DIN 6921 - M12 x 40
20 x DIN 6921 - M12

40 x DIN 933 - M12 x 45
80 x DIN 6340 - 13
40 x DIN 934 - M12

10 x Fuß / foot

2 x DIN 933 - M20 x 50
4 x DIN 6340 - 21
2 x DIN 934 - M20 x

1 x Fuß Schnecke / foot screw
2 x Maschinenfuß / machine foot

4 x DIN 934 - M30
4 x DIN 9021 - 33

Gestell Austragsschnecke Sinkgut / frame discharge screw sinking goods

A
2 x Zuführschnecke / feed screw

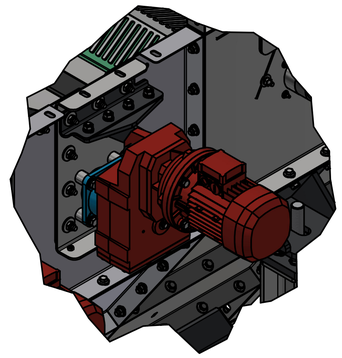
32 x DIN 6923 - M12 x 30
32 x DIN 6921 - M12

2 x Zentrierbolzen / centering bolt
2 x Bundbuchse / collar bushing
2 x DIN 933 - M20 x 45
2 x DIN 127 - A 20
2 x DIN 9021 - 22

2 x Winkel

4 x DIN 933 - M16 x 40
4 x DIN 127 - A 16
4 x DIN 9021 - 17

C
Antrieb Paddelwalzen
drive paddle roller



WIPA®

Diese Zeichnung ist Eigentum der WIPA® GmbH, Benzstr. 12 D 48703 Stadtlohn 02563 / 20585-0 info@wipa-germany.de

	Datum	Name
Gez.: 3D/2D	09.05.2019 / 06.12.2021	EM / HE
Zul.geno:	06.12.2021/14:49:14	me
Zul.gen.:	06.12.2021/13:54:14	me

Alle untolerierte Maße gemäß DIN ISO 2768-1 (m) DIN ISO 2768-2 (K)

SST 2500-8

Montagezeichnung / assembly drawing

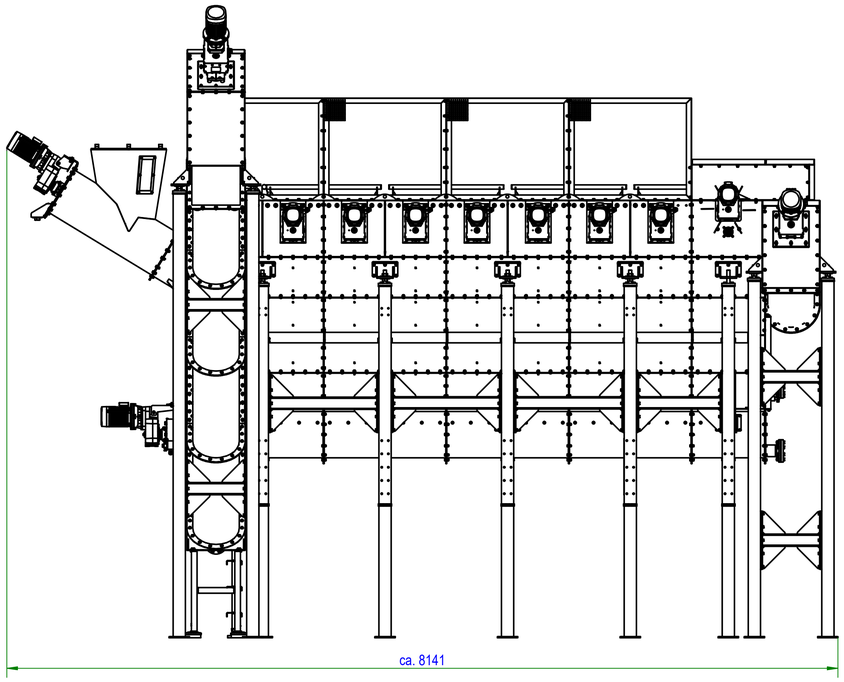
AE-, AB-Nummer: A374

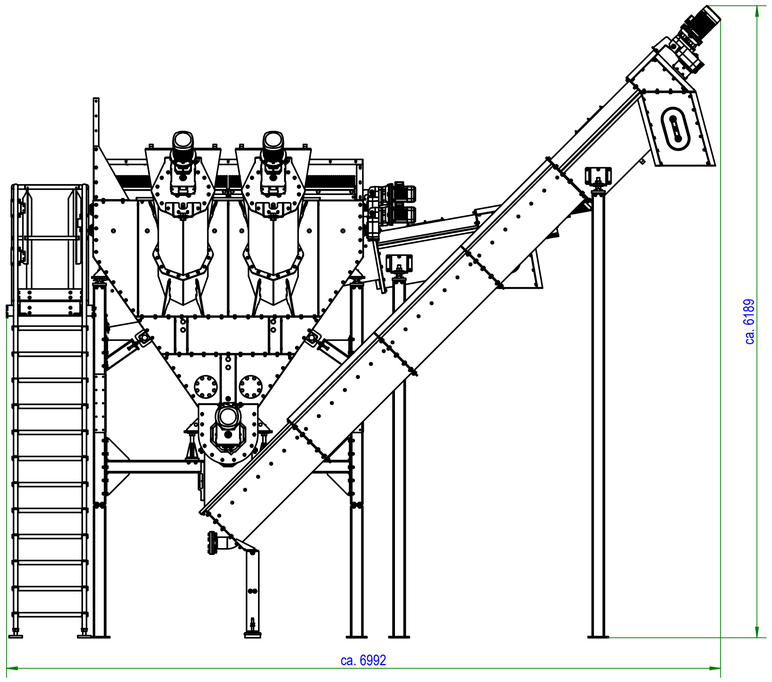
Anlagentyp:

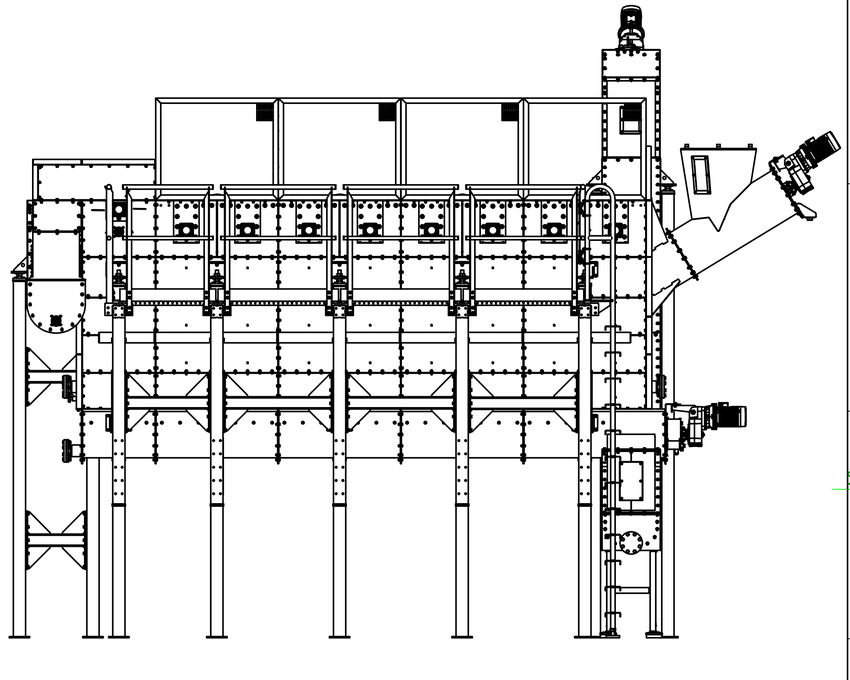
Revisionsnummer:

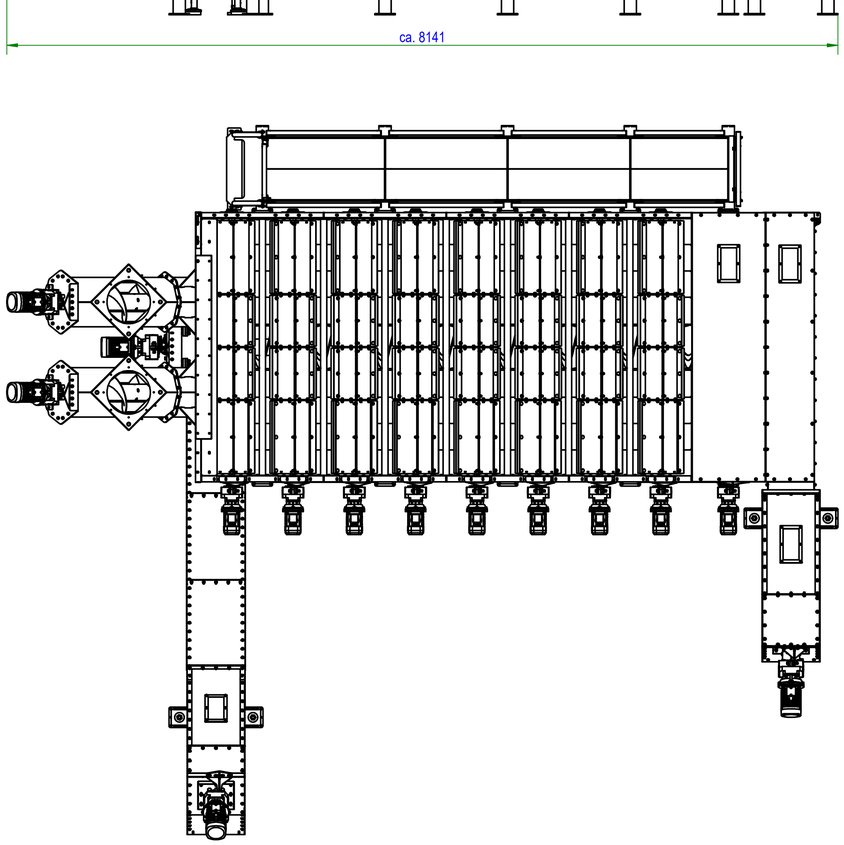
Blatt: 1(2)

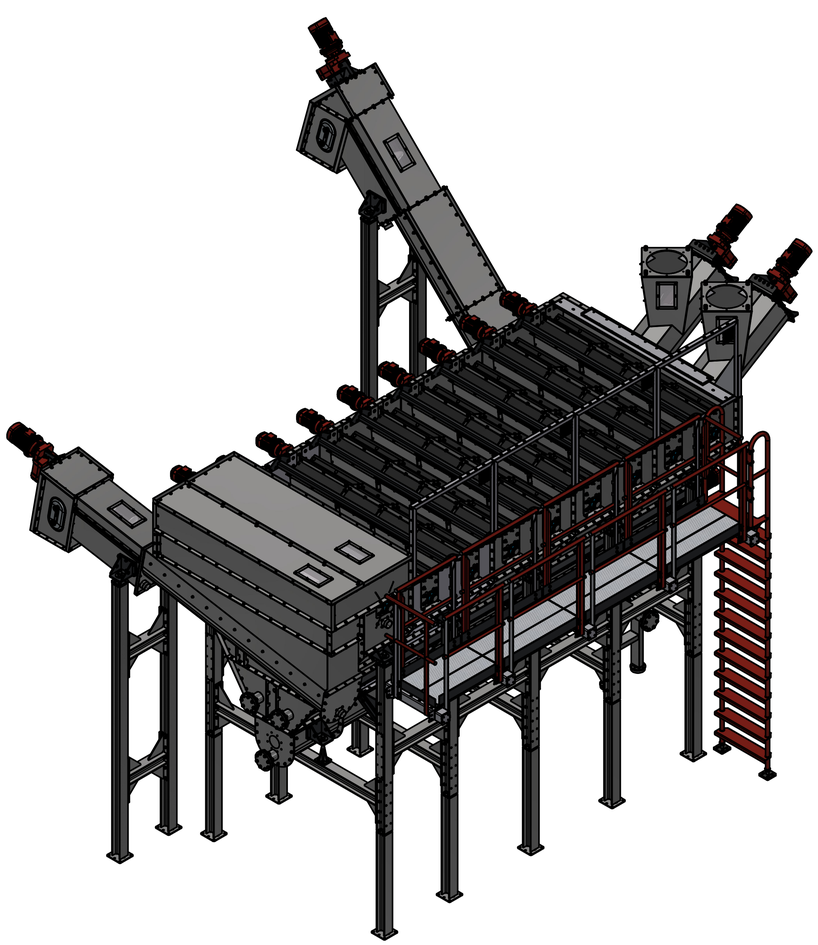
A1

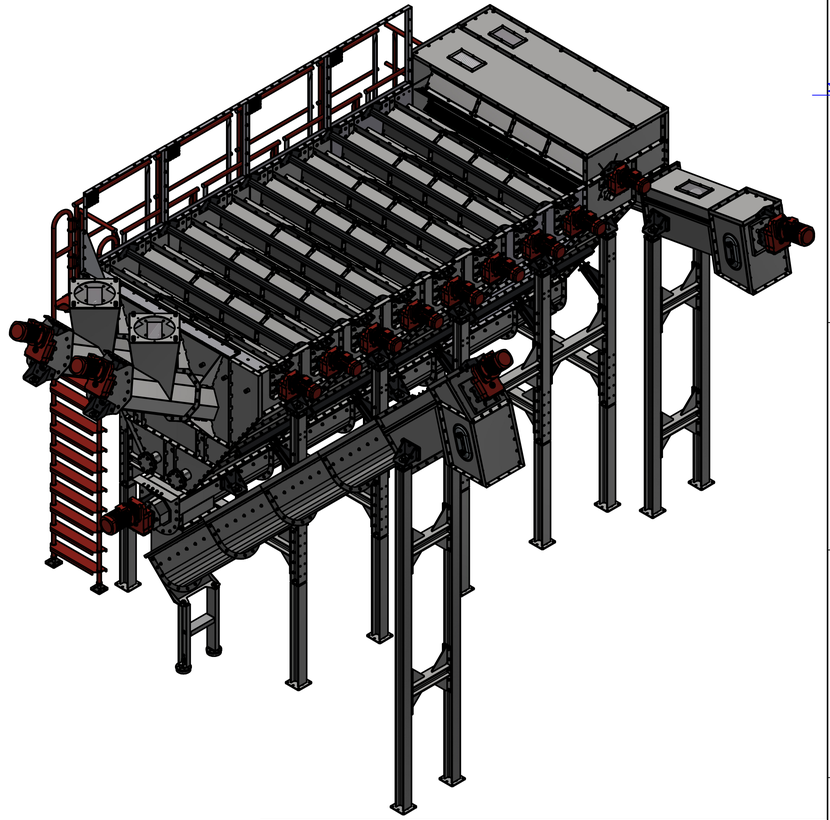












	Datum	Name
Gez.:3D/2D	09.05.2019/06.12.2021	EM/ME
Zul.geg.:	06.12.2021/14:49:14	me
Zul.gen.:	06.12.2021/13:54:14	me

Alle unbetonierte Maße gemäß DIN ISO 2768-1 (m) DIN ISO 2768-2 (K)

SST 2500-8

Montagezeichung / assembly drawing

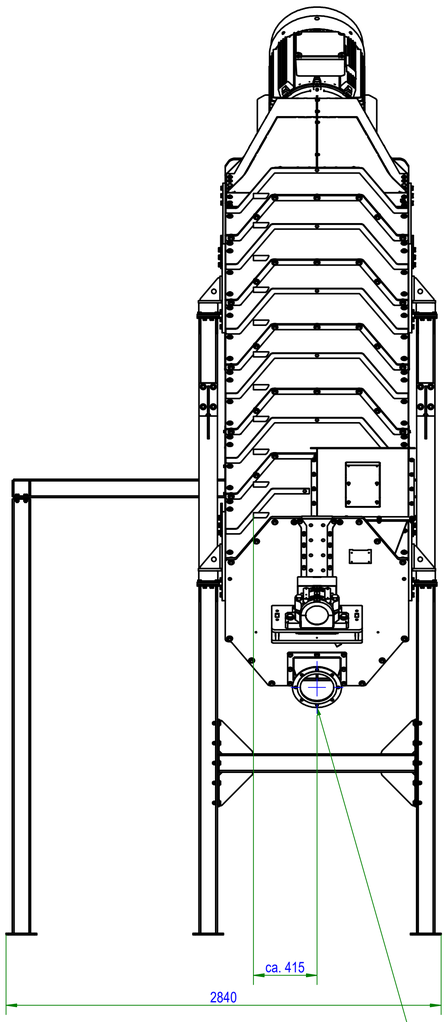
AE-, AB-Nummer: A374

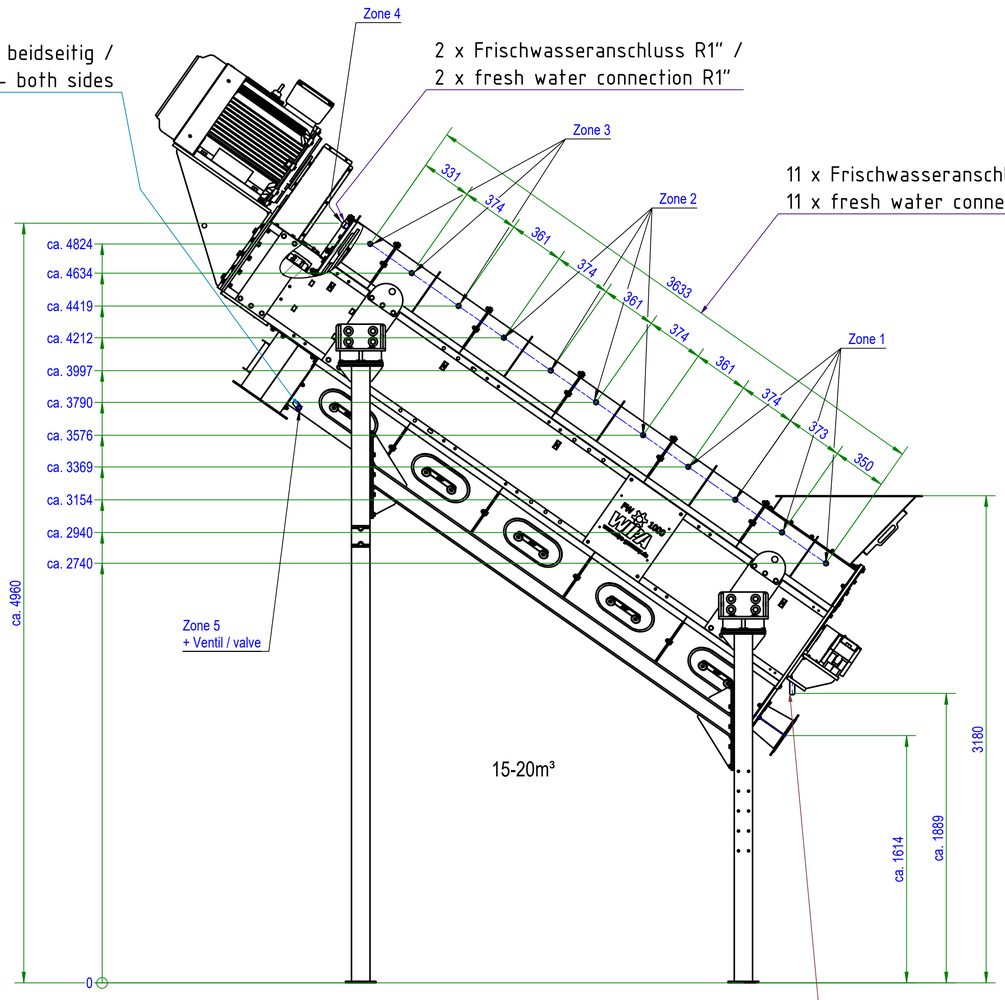
Anlagentyp:

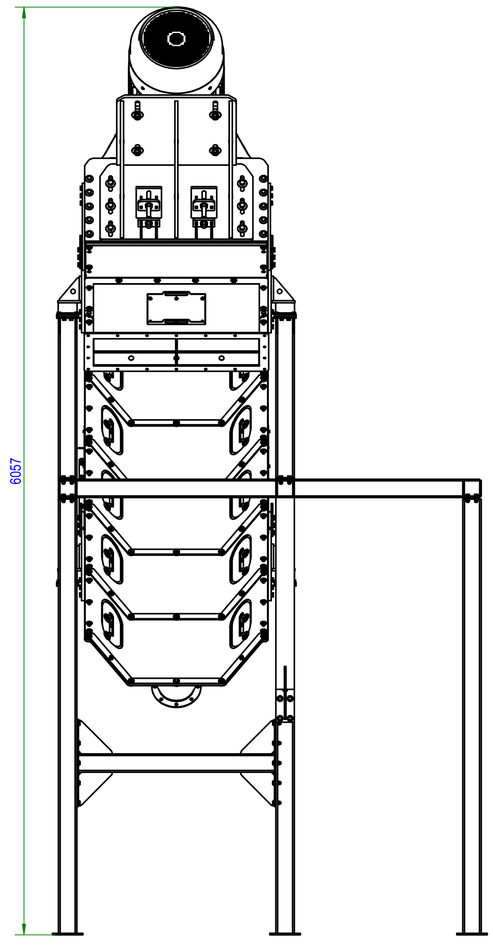
Revisionsnummer:

Blatt: 2(2)

A1







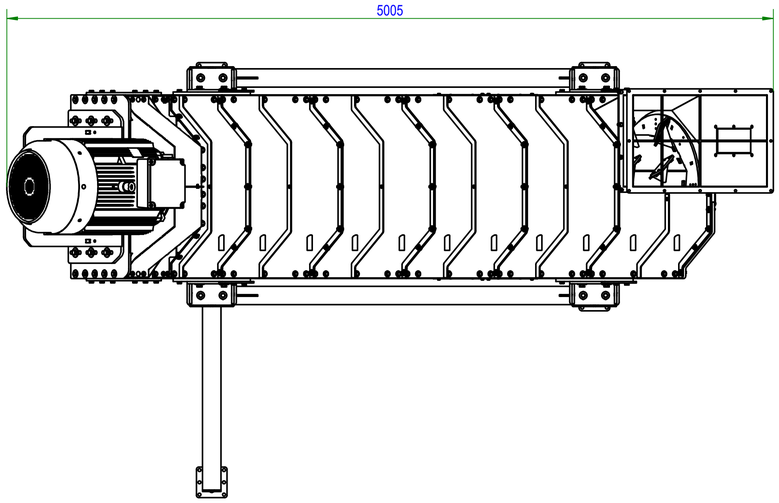
Frischwasseranschluss R1" - beidseitig /
fresh water connection R1"- both sides

2 x Frischwasseranschluss R1" /
2 x fresh water connection R1"

11 x Frischwasseranschluss R1" /
11 x fresh water connection R1"

Schmutzwasser Auslass R1" /
dirty water outlet R1"

Prozesswasser Auslass DN200 - PN6 mit Dichtfläche
process water outlet DN200 - PN6 with sealing surface



	Datum	Name
Gez.:	09.01.2020	FG
Zul.geän.:	29.11.2021/10:44:02	me
Zul.geän.:	29.11.2021/10:25:42	me

Alle unfotolerierte Maße gemäß DIN ISO 2768-1 (m) DIN ISO 2768-2 (K)

Friktionswäscher 1000-4000

Wasseranschlüsse

AE-, AB-Nummer:

Anlagentyp: FW1000_06-2019

Revisionsnummer:

Blatt: 1

A1