



WINTER.pumpen



# TYPE SERIES WHA TYPE SERIES HA



SEWAGE WATER PUMPS



# CONTENTS

1	Winter.group	Page 03
2	General	Page 04
3	Constructions	Page 06
4	Free Passage of impeller	Page 06
5	Materials	Page 07
6	Exploded view	Page 07





# WINTER.group

From the initial idea to the finished product: Through internal manufacturing in our facilities, we have full control over the entire production process. From material selection to final machining and the ultimate measurement on our test bench. This enables us to be flexible in addressing individual customer requirements and providing customized solutions.



## DEVELOPMENT, DESIGN, AND PATTERN MAKING

Our team has extensive experience in designing components and assemblies for various applications. In our model-making department, models are manufactured for the foundry.



## HOUSING PARTS FROM OUR FOUNDRY

At **Eisengießerei Kronach Thomas Winter GmbH**, housing parts are cast and mechanically processed. For consistently high quality, state-of-the-art equipment and our experienced staff are essential.



## STATE-OF-THE-ART SHEET METAL AND STEEL WORK

At our metalworking facility, **Krauss Lüftungsbau GmbH** in Langenzenn, various frames and sheet metal parts are manufactured using state-of-the-art welding robots, laser cutting, and bending machines.



## MACHINING AND MANUFACTURING

Our turning shop and milling shop at the plant in Hilpoltstein enable the machining of all cutting components and manufacturing processes, ensuring consistent high precision and control.

## CONTROL CABINET CONSTRUCTION

We also design and manufacture control cabinets for complex pump systems such as sprinkler units or vacuum systems. These control cabinets are essential for the control and monitoring of the systems and are manufactured according to strict technical standards.

## ASSEMBLY AND MEASUREMENTS

Our assembly department is responsible for the careful and precise assembly of all components. Finally, the performance of our pumps is verified through our in-house test bench to ensure consistently outstanding quality for our customers.



**EISENGIEßEREI  
KRONACH**  
THOMAS WINTER GmbH



**KRAUSS**  
LÜFTUNGSBAU

## TYPE SERIES WHA / HA



Sewage pumps type series WHA and HA are single-stage, end-suction centrifugal pumps specifically designed for the conveyance of sewage water and other solid-laden fluids. They are characterized by their robust construction and high efficiency. These pumps feature impellers with a large free passage, allowing solids to be transported through the pump without causing clogging.

The applications of sewage pumps type series WHA and HA are diverse and extend across various industries and applications. A common application area is municipal sewage disposal, where these pumps are used in sewage treatment plants and pumping stations to efficiently convey and treat sewage water.

### FIELDS OF APPLICATION

- ▶ Sewage treatment
- ▶ Ship building
- ▶ Industry
- ▶ Plant installation
- ▶ Agriculture
- ▶ Construction industry
- ▶ Civil protection
- ▶ Recycling

### BENEFITS

- ▶ Sealing with rotation independent high-quality mechanical seal. Other kinds of sealing on request.
- ▶ Flange following ISO 7005
- ▶ Long-lasting and robust, therefore less susceptible to failure and lower follow-up costs
- ▶ Perfected construction

### INSTALLATION

Units normally to be installed in a horizontal position. A vertical position is possible, but it depends on construction. Vertical installation with the motor below is not permitted. Complete venting of the pump installed in a vertical position must be assured. When ordering please indicate position of installation.

## CONVEYING MEDIUM

Depending on selection of materials, the pumps are suitable for pumping clean and contaminated liquids, cold and hot water, condensate, oils, brine, thermal oil, seawater, lyes, acids and so on...

## DIRECTION OF ROTATION

Clockwise looking onto motor fan.

## PAINTING

Waterthinnable acrylic varnish top coating colour RAL 010, (blue). Special varnish on request.

## SERVICE DATA

Capacity	Q up to 150 m <sup>3</sup> /h
Pressure head	H up to 40 m
Liquid temperature <sup>1)</sup>	t from 0°C up to +80°C
System pressure <sup>2)</sup>	p up to 10 bar
Speed	50 Hz: n ~1000/1500/3000 min <sup>-1</sup> 60Hz: n ~1200/1800/3600 min <sup>-1</sup>

<sup>1)</sup> Liquid temperature depends on material, liquid and construction. Further information and other liquid temperatures on request.

- <sup>2)</sup>
- Operating pressure = inlet pressure + max. pressure of the product
  - Higher pressure on request

## SHAFT SEAL

Normally used is a single-acting, service-free, independent of direction of rotation bellows type mechanical seal according to EN12756.

## FLANGES

Flanges of the sewage pumps are designed according to ISO 7005-PN10.

## POSITION OF CONNECTIONS

In all pump constructions, the suction inlet is placed axial. In the standard execution, the pressure outlet is placed radial upwards. Other arrangements are available upon request.

## BEARINGS / LUBRICATION

The bearing of the electric motor consists of standard lifetime lubricated ball bearings.

## DRIVE

Low-noise IEC standard three-phase motor, in efficiency class IE3. Other versions and types of motors available upon request.

## MOTOR

Surface cooled three phase electric motor according to IEC-Norm





Motor-construction	WHA – construction M1 - IM B5 with standard shaft HA – construction M1, M2, M3, M4 - IM B5 or IM B35 with special shaft
Protection	IP 55
Frequency	50 Hz 60 Hz
Synchronousspeed	1000 / (1200) min <sup>-1</sup> 1500 / (1800) min <sup>-1</sup> 3000 / (3600) min <sup>-1</sup>
Voltage	50 Hz: up to 2,2 kW 230 V Δ 400 V ▲ from 3,0 kW 400 V Δ 60 Hz: up to 2,6 kW 265 V Δ 460 V ▲ from 3,6 kW 460 V Δ
Insulation class	F
Operating mode	S1, continuous operation
Ambient temperature	max. 40°C

Motors in both direct current (DC) and alternating current (AC) versions are available upon request.

# TYPE SERIES WHA / HA

## CONSTRUCTIONS

Pump and motor are one single unit with a common standard- or special shaft.

	Construction	Execution	Foot mounting
	M1 <sup>1)</sup>	Stub shaft / Block	► Motor stool
	M2	Stub shaft / Block	► Motor
	M3 <sup>1)</sup>	Stub shaft / Block	► Casing
	M4	Stub shaft / Block	► Casing ► Motor

<sup>1)</sup> The constructions with motor without foot are standardly available up to the motor frame size of 132. Special executions on request.

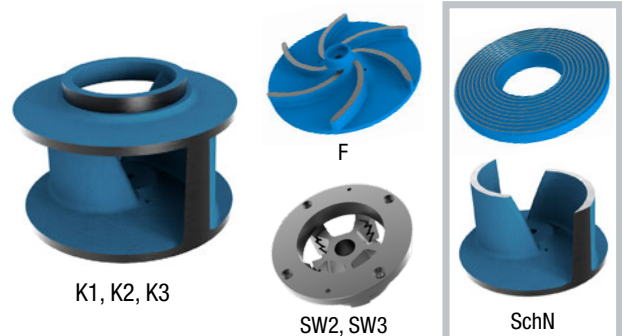
## FREE PASSAGE OF IMPELLER

Sewage pumps are available in different sizes.

Pump	Free Ball passage [mm]	K1	K2	K3	F	SW2	SW3	SchN
25/110	15	x	x					x
50/130	35	x	x					x
80/160	80	x						
80/200	80		x		x	x		
80/250	80	x						
80/315	80			x			x	
100/200	100		x					x

Other executions on request.

- K1 Single-channel impeller
- K2 Double-channel impeller
- K3 Three-channel impeller
- F Free-flow impeller
- SW2 Double-channel impeller with cutting wheel
- SW3 Three-channel impeller with cutting wheel
- SchN Fiber cutting device

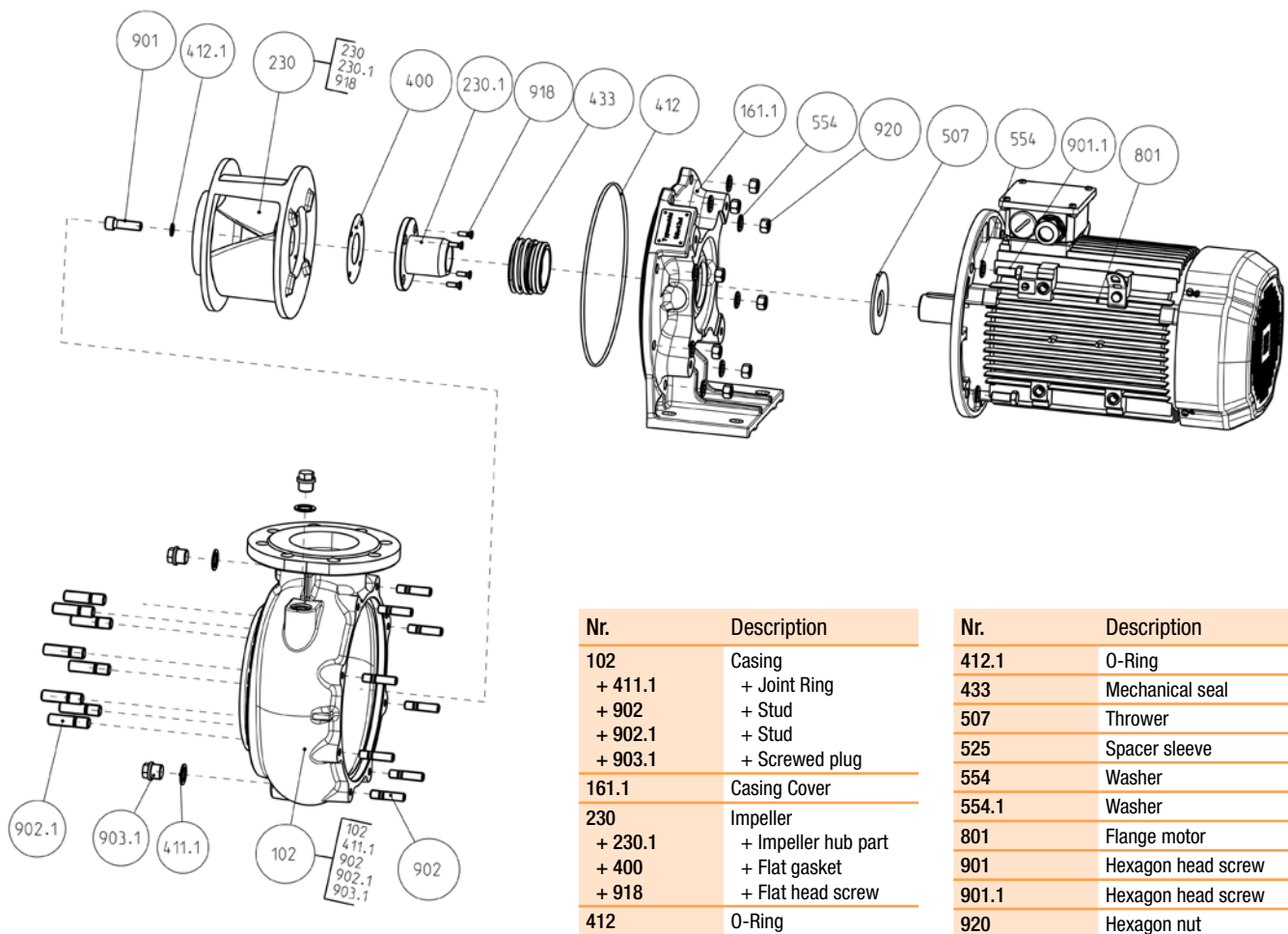


## MATERIALS

Sewage pumps are available in different material combinations, depending on the application. Below you find a table with the standard materials. Other materials on request.

Parts	Material codes for pumps						
Materials	11 Standard	05	07	08	09	12	20
Casing parts	EN-GJL-250 (EN-JL1040)	CuSn10-C (CC480K)	GX5CrNi- Mo19-11 (1.4408)	CuAl10Fe- 5Ni5-C (CC333G)	X2CrNi- MoN22-5-3 (1.4462)	EN-GJL-250 (EN-JL1040)	EN- GJS-400-15 (EN-JS1030)
Impeller	EN-GJL-200 (EN-JL1030)	CuSn10-C (CC480K)	GX5CrNi- Mo19-11 (1.4408)	CuAl10Fe- 5Ni5-C (CC333G)	X2CrNi- MoN22-5-3 (1.4462)	CuSn10-C (CC480K)	EN-GJL-200 (EN-JL1030)
Shaft	X2CrNi- MoN22-5-3 (1.4462)	X2CrNi- MoN22-5-3 (1.4462)	X2CrNi- MoN22-5-3 (1.4462)	X2CrNi- MoN22-5-3 (1.4462)	X2CrNi- MoN22-5-3 (1.4462)	X2CrNi- MoN22-5-3 (1.4462)	X2CrNi- MoN22-5-3 (1.4462)
Motor stool	EN-GJL-200 (EN-JL1030)	EN-GJL-200 (EN-JL1030)	EN-GJL-200 (EN-JL1030)	EN-GJL-200 (EN-JL1030)	EN-GJL-200 (EN-JL1030)	EN-GJL-200 (EN-JL1030)	EN-GJL-200 (EN-JL1030)

## EXPLODED VIEW (IMPELLER)



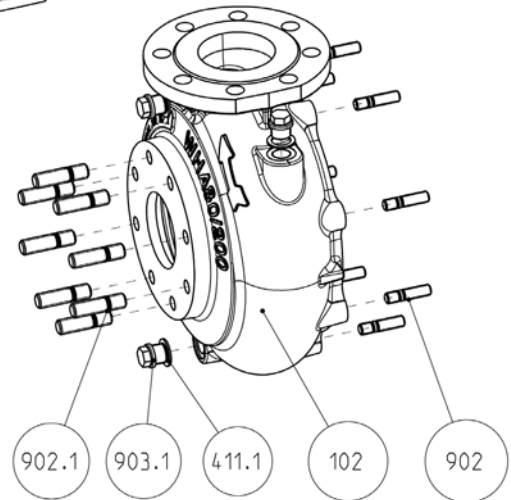
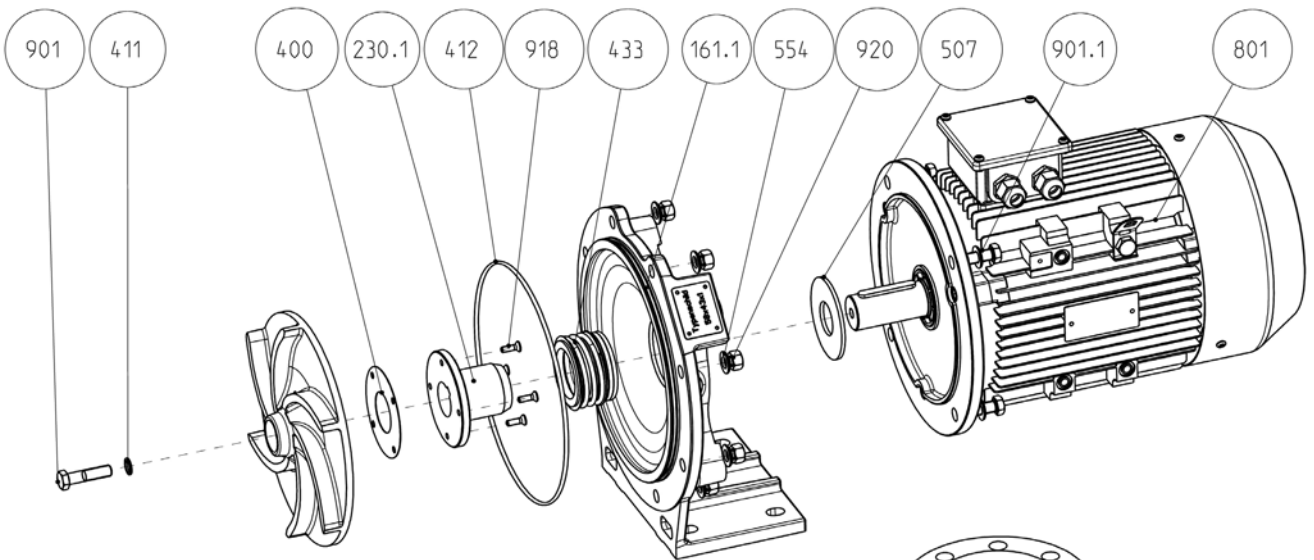
Nr.	Description
102	Casing
+ 411.1	+ Joint Ring
+ 902	+ Stud
+ 902.1	+ Stud
+ 903.1	+ Screwed plug
161.1	Casing Cover
230	Impeller
+ 230.1	+ Impeller hub part
+ 400	+ Flat gasket
+ 918	+ Flat head screw
412	O-Ring

Nr.	Description
412.1	O-Ring
433	Mechanical seal
507	Thrower
525	Spacer sleeve
554	Washer
554.1	Washer
801	Flange motor
901	Hexagon head screw
901.1	Hexagon head screw
920	Hexagon nut



# TYPE SERIES WHA / HA

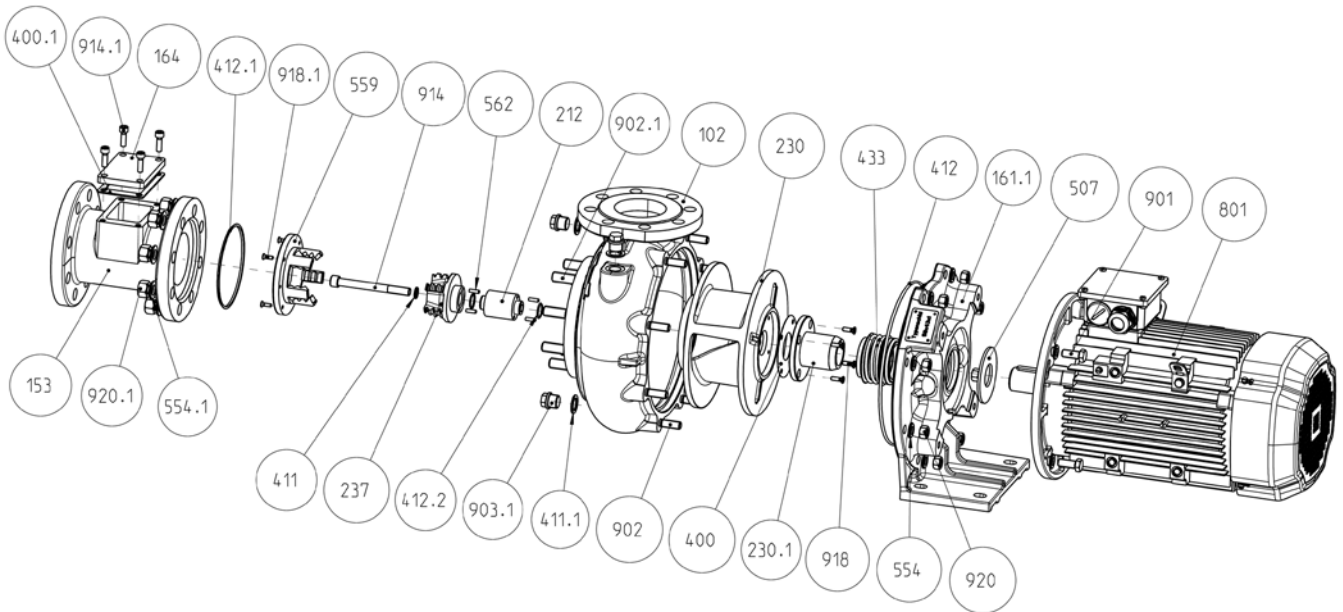
## EXPLODED VIEW (FREE-FLOW IMPELLER)



Nr.	Description
102	Casing
+ 411	+ Screw sealing ring
+ 411.1	+ Joint Ring
+ 902	+ Stud
+ 902.1	+ Stud
+ 903.1	+ Screwed plug
161.1	Casing Cover
230	Free-flow impeller
+ 230.1	+ Impeller hub part
+ 400	+ Flat gasket
+ 918	+ Flat head screw
412	O-Ring
433	Mechanical seal
507	Thrower
554	Washer
801	Electric motor
901	Hexagon head screw
901.1	Hexagon head screw
920	Hexagon nut



## EXPLODED VIEW (IMPELLER WITH CUTTING WHEEL)

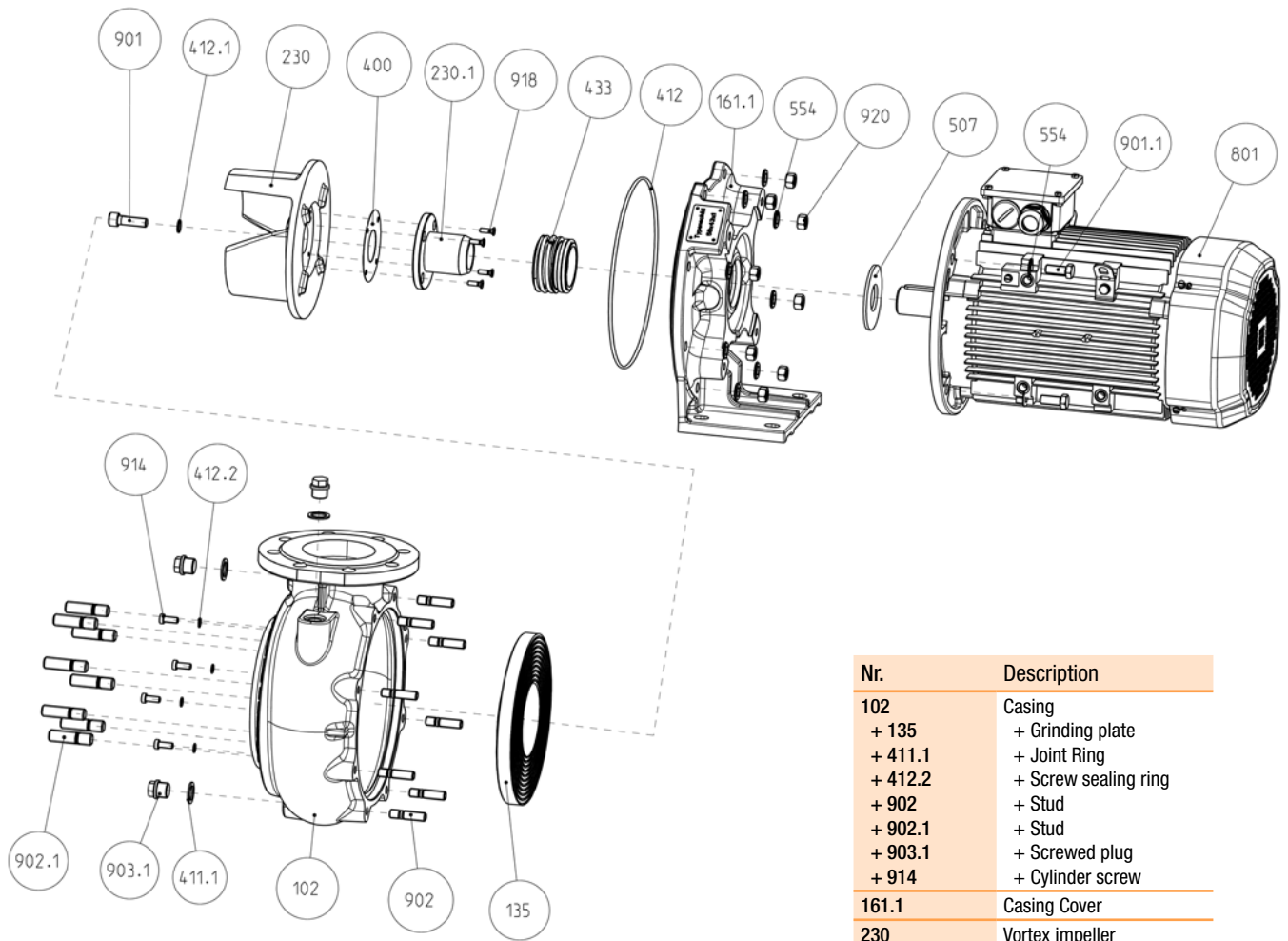


Nr.	Description
102	Casing
+ 411	+ Screw sealing ring
+ 411.1	+ Joint Ring
+ 902	+ Stud
+ 902.1	+ Stud
+ 903.1	+ Screwed plug
153	Suction pipe with inspection opening
+ 164	+ Cover with inspection opening
+ 400.1	+ Flat gasket
+ 554.1	+ Disc
+ 920.1	+ Hexagon nut
161.1	Casing Cover
212	Connecting shaft
230	Impeller
+ 230.1	+ Impeller hub part
+ 400	+ Flat gasket
+ 918	+ Flat head screw

Nr.	Description
237	Cutting wheel
412	O-Ring
412.1	O-Ring
412.2	O-Ring
433	Mechanical seal
507	Thrower
554	Washer
554.1	Washer
559	Cutting ring
801	Electric motor
901	Hexagon head screw
901.1	Hexagon head screw
918.1	Countersunk screw
920	Hexagon nut
920.1	Hexagon nut

# TYPE SERIES WHA / HA

## EXPLODED VIEW (FIBER CUTTING DEVICE)



Nr.	Description
102	Casing
+ 135	+ Grinding plate
+ 411.1	+ Joint Ring
+ 412.2	+ Screw sealing ring
+ 902	+ Stud
+ 902.1	+ Stud
+ 903.1	+ Screwed plug
+ 914	+ Cylinder screw
161.1	Casing Cover
230	Vortex impeller
+ 230.1	+ Impeller hub part
+ 400	+ Flat gasket
+ 918	+ Flat head screw
412	O-Ring
412.1	Screw sealing ring
433	Mechanical seal
507	Thrower
554	Washer
801	Electric motor
901	Hexagon head screw
901.1	Hexagon head screw
920	Hexagon nut

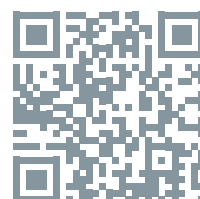




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