

Operating instructions
IP Series
Peristaltic pump

realAx

ALL THE HOSE PUMP YOU'LL EVER NEED

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Congratulations! **And welcome to the world of relax** **hose pumps.**

Drawing on extensive interaction with real users of peristaltic pumping technology and examining applications as diverse as food, water and wastewater, chemicals and pharmaceuticals, construction and mining, we have tried to tailor our range of pumps more precisely to your needs.

Our range of hoses and accessories reflect what hose pump customers really need and use – after all, best is what you want, second best should never be an option.

We hope you'll find using your relax pump simple, trouble-free and that it makes a positive contribution to the success of your process. If you have any questions you can't find answers to in these pages, check our website or call your local representative on the number on the contact page of this guide.

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*Of course this manual is available in your language.
Please download it from the attached USB flash drive.*

TABLE OF CONTENTS

1	Introduction	4
2	Safety	6
3	Functional description	11
4	Description.....	12
5	Construction	13
6	Pump hose	14
7	Transport & storage	14
8	Assembly, commissioning & installation	16
9	Maintenance	26
10	Troubleshooting	34
11	Spare parts.....	36
12	End of life	58
13	Declaration of Conformity	59
14	Warranty	60
15	Where to buy	61

1 INTRODUCTION

This instruction manual must accompany the pump at all times for as long as it is in use.

The IP series peristaltic pump is a machine for fluid handling intended to be used in industrial areas, as such the instruction manual is part of the legislative provisions for the safe and correct use of the pump.

This instruction manual does not substitute any installation standard or any additional future standard.

1.1 How to use this manual

This manual is intended as a reference book by means of which qualified users are able to install, commission and maintain the hose pumps mentioned on the front cover.

1.2 Original instructions

The original instructions for this manual have been written in English. Other language versions of this manual are a translation of the original instructions.

1.3 Other supplied documentation

Documentation of components such as motors and inverters is normally not included in this manual. However, if additional documentation is supplied, you must follow the instructions in this additional documentation.

1.4 Service and support

For information with respect to specific adjustments, installation, maintenance or repair jobs which fall beyond the scope of this manual, contact your AxFlow representative. Make sure you have the serial number of the hose pump at hand.

1.5 Environment and disposal of waste

Enquire with your local government about the possibilities for reuse or environment friendly processing of packaging materials, (contaminated) lubricant.



CAUTION

Always observe the local rules and regulations with respect to processing (non reusable) parts of the hose pump.

2 SAFETY

2.1 Explanation of the safety information

In this manual the following symbols are used:



This symbol identifies the instructions of this manual, which must be observed to avoid failure to meet safety standards.



This symbol identifies the instructions of this manual, which must be observed to avoid compromising electrical safety.



This symbol identifies the instructions of this manual, which must be observed to guarantee the correct operation of the pump.

2.2 Intended use

The hose pump is exclusively designed for pumping suitable products. Every other or further use is not in conformance with the intended use. In case of doubt it is the use which appears to be its intended use judging from the construction, execution and function of the product. Observing the instructions in the user's documentation also belongs to intended use. Only use the pump in conformance with the intended use described above. The manufacturer cannot be held responsible for damage or harm resulting from use that is not in conformance with the intended use. If you want to change the application of your hose pump, contact your AxFlow representative first.

2.3 Responsibility

The manufacturer does not accept any responsibility for damage or harm caused by not (strictly) observing the safety regulations and instructions in this manual and the also supplied documentation, or by negligence during installation, use, maintenance and repair of the hose pumps mentioned on

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the front cover. Depending on the specific working conditions or accessories used, additional safety instructions can be required.

2.4 User qualifications

Pumps are machines that can present dangers due to moving parts and the presence of a pressurised fluid within the hose.

THE FOLLOWING CAN CAUSE SERIOUS DAMAGE AND INJURY

- Improper use
- Removal of the protections and/or disconnection of protective devices
- Lack of inspections and maintenance

The person responsible for safety should therefore guarantee that the pump is transported, installed, put in service, used, maintained and repaired by qualified personnel who should possess:

- Specific training and sufficient experience for the tasks.
- Knowledge of the technical standards and applicable laws.
- Knowledge of the national and local safety and installation standards.

Any work carried out on the electrical part of the pump should be authorized by the person responsible for safety.

Given that the pump is intended to form part of a system, it is the responsibility of whoever supervises the installation of the entire system to guarantee absolute safety, adopting the necessary measures of additional protection.

2.5 General safety information



Live parts

Possible consequence: fatal or very serious injuries.

- Risk mitigation: the device must be disconnected from the power supply before it is opened.
- Isolate damaged, faulty or manipulated devices from the mains in order to de-energise.



Lack of emergency stop switch

Possible consequence: fatal or very serious injuries.

- An emergency stop switch must be connected for the entire system. This should enable the entire system to be shut down in the event of an emergency in such a way that the overall system can be brought into a safe condition.



Unauthorized access

Possible consequence: fatal or very serious injuries.

- Risk mitigation: ensure that there can be no unauthorized access to the pump or to the system.



Hazardous media/contamination of persons and equipment

Possible consequences: fatal/serious injuries. Material damage.

- Ensure that the pump hoses are chemically resistant against the media being handled.
- Always observe the safety data sheets for the media to be handled. The system operator must ensure that these safety data sheets are available and that kept up-to-date.
- The safety data sheets for the fluid being handled are always decisive for initiating countermeasures and/or first aid in the event of leakage of the fluid.
- Observe the general restrictions in relation to viscosity limits, chemical resistance and density.
- Always switch the pump off before exchanging the pump hose.

CAUTION**Incorrect and improper use**

Possible consequence: fatal or very serious injuries.

- The unit is not intended to convey or regulate gases or solid media
- Do not exceed the rated pressure, speed or temperature for the pump
- Maximum pressure on suction/inlet side is 3 bar (45 psi approx.).
- The unit may only be used in accordance with the technical data and specifications provided in these operating instructions and in the operating instructions for the individual components.
- This pump is NOT supplied for use in areas of risk from explosion. ATEX versions of Relax pumps are available and they are supplied with a special ATEX version of the instruction manual.
- Only switch the pump on if it has been properly fastened to the floor.
- Only switch the pump on if the front cover has been attached.
- Do not carry out any maintenance operations or dismantle the pump without first making sure that the pipes are not under pressure and are empty or isolated.
- In the case of the hose becoming stuck during extraction or fitting it is necessary to reverse the direction of the pump, re-lubricate, and then repeat the operation.
- As the peristaltic pump is volumetric and its functioning is positive displacement, it is necessary to prevent a possible overload of pressure, due to for example the accidental closure of a valve. For this reason it is advisable to fit a safety device such as: a safety valve, pressure limiter, etc.

CAUTION**Operational lifetime of the pump hoses**

Possible consequence: fatal or very serious injuries.

- The hose has an indeterminate life and due to the possibility of its breakage or deterioration, the user is responsible for the prevention of a possible

- (although most unlikely) incorporation of particles from the hose into the product being pumped. This can be achieved by means of filtration, a hose rupture alarm or other means suitable for the respective process.



CIP cleaning

- In the event of CIP cleaning, it is necessary to obtain information from the manufacturer about correct installation of the pump (a special installation is required) as well as regarding the compatibility of the cleaning agents with the pump hoses and the hydraulic connections.
- Cleaning should be undertaken at the recommended maximum temperature.



Direction of rotation/flow direction

Possible consequence: material damage, destruction of the unit.

- The pump's direction of rotation in relation to the desired flow direction must be checked prior to every start.



Disconnect the pump from the mains

Possible consequence: personal injury.

- Work may only be carried out on the pump after it has previously been switched off and disconnected from the mains.



Environmental influences

Possible consequence: material damage up to destruction of the unit.

- The device is suitable for outdoor operation once it is covered and protected from rain and direct sunlight. Ambient conditions must also be respected (*see section 8.1*).
- Take suitable measures to protect the device from environmental influences such as: UV rays | moisture | frost | etc.

3 FUNCTIONAL DESCRIPTION

The IP Series is a positive displacement pump. The feed liquid is conveyed by the rotor squeezing the hose in the direction of flow. No valves are needed for this. This ensures gentle handling of the metered media.

Maximum pressure on suction/inlet side is 3 bar (45 psi approx.)

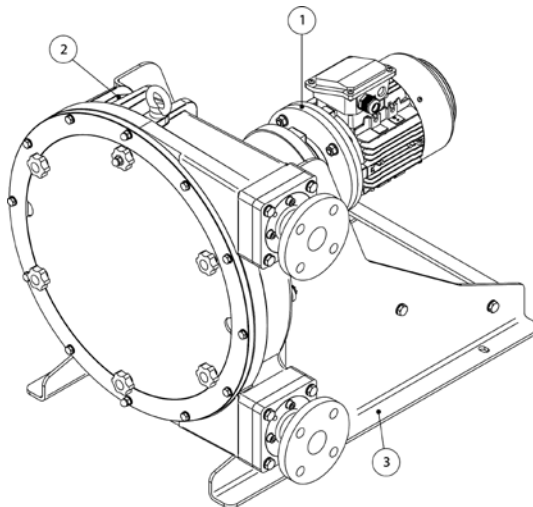
The IP Series has been designed for safe and uncomplicated operation, as well as straightforward maintenance.

The IP Series can be used for many different media. However, this pump type is often the optimal solution for abrasive, shear-sensitive and viscous media.

Typical areas of use include processes where only a low discharge pressure is required (max. 8 bar).

3.1 Main modules

1. Drive unit | 2. Pump housing | 3. Base frame



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Key performance data and noise levels

DESCRIPTION	UNIT	IP 30	IP 40	IP 50	IP 60	IP 70	IP 80
Max. Capacity Continuous Duty	m ³ /h	1.55	3	7	9.5	16	28.08
	GPM	6.82	13.2	30.82	41.83	70.45	123.63
Max. Capacity Intermittent Duty	m ³ /h	2.05	4.1	5.2	8	20	42.12
	GPM	9.03	18.05	22.89	35.22	88.06	185.45
Capacity per Revolution	l/rev	0.43	0.86	1.47	2.69	6.72	11.7
	Gal/rev	0.11	0.23	0.39	0.71	1.78	3.09
Max. Permissible Working Pressure	bar	8					
Permissible Ambient Temperature	°C	-40 to +40					
Permissible Product Temperature	°C	-10 to +80					
Sound Level at 1m	dB (A)	70					

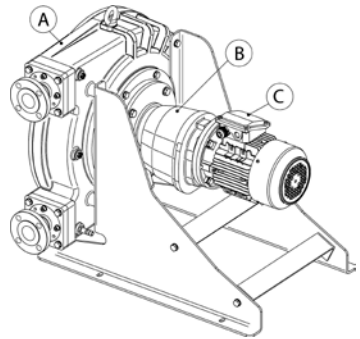
4 DESCRIPTION

4.1 Identification of the product

A: Pump head

B: Gearbox

C: Electric motor



4.2 Identification of the pump

MOD: Type number

N°: Serial number

YEAR: Year of manufacture



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4.3 Identification of the gearbox (B)

The gearbox has an identity plate with the model, serial number and manufacturer's details as well as information relevant to its' function such as reduction ratio.

4.4 Identification of the electric motor (C)

The motor has an identity plate with the model, serial number and manufacturer's details as well as information relevant to its' function such as electric power.

5 CONSTRUCTION

The pump housing is closed off with a bolted front cover in order to avoid the risk of injury.

The motor serves to drive the rotor. Two rollers attached to the rotor serve to press the pump hose against the pump housing.

The rotary movement of the rotor alternately presses and releases the rollers against the pump hose. This serves to suck the media and convey it into the metering line

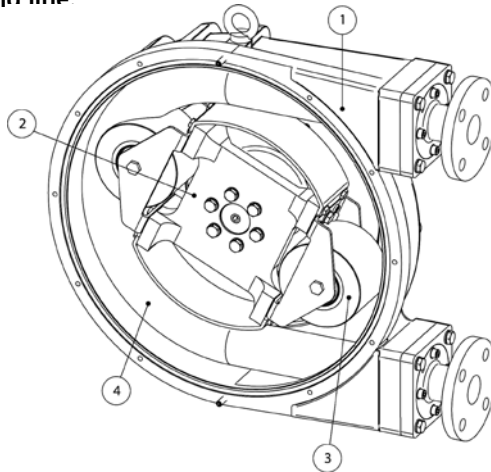


Fig. 1: Diagram of functional principle
1. Pump housing | 2. Rotor | 3. Roller | 4. Hose

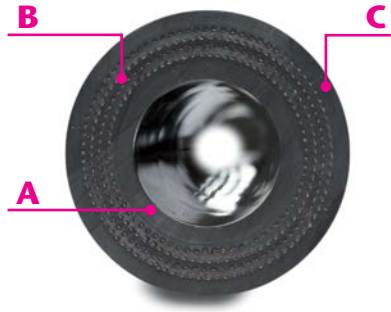
6 PUMP HOSE

6.1 General description

A: Inner layer

B: Nylon reinforcement layers

C: Outer layer



The pump hose liner material should be chemically resistant with the product to be pumped. Dependent on the specific requirements of your application a corresponding pump hose must be selected. For each pump model various hose types are available.

The material of inner layer is the part in contact with the media.

HOSE TYPE	MATERIAL INNER LAYER	COLOUR STRAP
NR	Natural rubber	No one (black)
NBR	Nitrile rubber	Red
EPDM	EPDM	Blue
CSM	Hypalon	Green
NBR-A	Nitrile rubber (food grade)	White
NR-A (Available for IP 50, IP 60 and IP 70)	Natural rubber (white)	Black

TUBE TYPE	TUBE MATERIAL	COLOUR STRIPE
NORPRENE (Available for IP 30, IP 40, IP 50 and IP 60)	Norprene (food)	N/A

7 TRANSPORT AND STORAGE

7.1 Transport

- The pump is protected by cardboard packaging or a wooden crate.
- The packaging materials are recyclable.

7.2 Storage for less than 1 month

- The pump should be in a resting position, rotor in horizontal position.
- Avoid areas open to harsh weather or excessive humidity and temperatures lower than 0 °C or higher than 30 °C.
- Spare hoses should be stored in a dry place away from direct light.

7.3 Storage for more than 1 month

- Avoid areas open to harsh weather or excessive humidity and temperatures lower than 0 °C or higher than 30 °C.
- **IMPORTANT!** Disassemble one of the rollers (*see also section 9.4.1 for instructions*):
 - Remove the front cover
 - Remove the roller that is not touching the pump hose
 - Mount back the front cover
 - Turn the rotor with the help of the motor so that the remaining roller is not pressing against the pump hose
- For storage periods of longer than 30 days, protect the coupling surfaces (clamps, reducers, motors) with adequate anti-rust protection
- For storage periods longer than 6 months rotate the rotor a few turns to prevent damage to bearings and oil seals and to prevent grease migration.
- Spare hoses should be stored in a dry place away from direct light.

7.4 Elevation

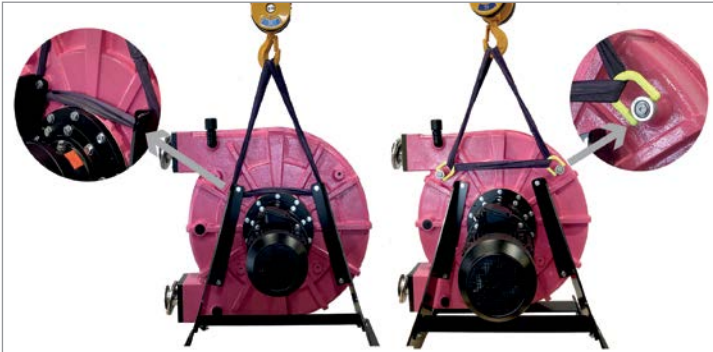
Models IP 30, IP 40 and IP 50: Use the eye bolt to elevate the pump.

WEIGHTS	IP 30	IP 40	IP 50
Total pump weight	82 kg 108 lbs	122 kg 268 lbs	182 kg 401 lbs
Max rating of the lifting point	170 kg 374 lbs		240 kg 529 lbs
Safety factor	> 6		6



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Models IP 60, IP 70 and IP 80:
Use lifting equipment to elevate the pump.



WEIGHTS	IP 60	IP 70	IP 80
Total pump weight	253 kg 557 lbs	574 kg 1,265 lbs	1,150 kg 2,535 lbs
Max rating of the lifting point	400 kg 881 lbs	750 kg 1,653 lbs	1,150 kg 2,535 lbs
Safety Factor	> 6		6

8 ASSEMBLY, COMISSIONING AND INSTALLATION

8.1 Ambient conditions

Assembly is to be carried out in the following order.

If the pump has to be installed outdoors, then it is to be equipped with protection against sunlight and weather influences.

When positioning the pump, ensure that sufficient room for access is provided for all types of maintenance work.

Limit values for hose temperature and pressure

Material Hose	Min. Temp. (°C) Feed liquid	Max. Temp (°C) Feed liquid	Min. Temp (°C) Environment	Max. Pressure (bar)
NR, NBR, EPDM, CSM, NBR-A, NR-A	-10	80*	-20	8
NORPRENE ¹		90*		2

¹ Only available for IP 40.

* At max. temperature., the life of hose is drastically reduced. Please contact authorized distributor for applications in temperature range higher than 60 °C.

8.2 Commissioning

8.2.1 Testing prior to commissioning the pump

The following tests are to be carried out:

- Check that the rollers are correctly fitted and fastened.
- Check that the drive and the pump housing are properly lubricated. The specially formulated lubricant can be obtained from the authorized distributor.
- Only switch the pump on if the front cover has been properly attached.
- Check that the mains voltage is suitable for the motor.
- Check that the thermal overload protection (not included in the delivery scope) corresponds to the value specified on the motor type plate.
- Confirm that pump has been properly earthed
- Connect the electric motor according to local applicable rules and regulations. The electrical installation work must be carried out by qualified personnel.
- Check that the optional electrical components are connected and are working properly.
- Check whether the direction of rotation is correctly adjusted.

8.3 Correct installation of the pump

- Ensure that the pump has not been damaged during transportation or storage. Immediately report any damage to the supplier.
- Ensure that all the packaging has been removed.
- Check that the information printed on the identification plate corresponds with the order.
- Check the operating instructions in order to ensure that the flow values, pressures & power consumption of the motor do not exceed rated values.
- Ensure that the hose is suitable for the fluid to be conveyed and that it is not damaged.
- Make sure that the temperature of the liquid does not exceed the recommended temperature range.
- Ensure that there is enough space for free airflow around the motor.
- Ensure that no nearby objects or direct sunshine radiate additional heat to the motor.

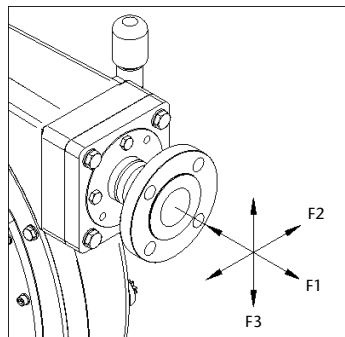
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8.3.1 Suction side

- Install a manometer in the pressure line if the back-pressure value is unknown. Maximum pressure on suction/inlet side is 3 bar (45 psi approx.).
- The pump is to be positioned as near as possible to the liquid container, so that the suction side is kept as short and straight as possible.
- The suction line must be absolutely airtight and made of a suitable material, so that it does not collapse under vacuum.
- The diameter must correspond to the rated diameter of the pump hose. A larger diameter is recommended in the event of viscous liquids.
- The pump is self-priming and does not require an admission valve.
- The pump is reversible and the suction side can be connected to either hydraulic connection of the pump. Normally the option is selected which is best suited to the physical conditions of the rest of the installation.
- It is recommended to use flexible piping between the fixed pipes and the hydraulic connections of the pump, in order to avoid the transmission of vibrations.

8.3.2 Maximum permissible loads on the pump flange

Pump must be bolted to floor before applying loads to connections/flanges.



Maximum permissible loads on the pump flange

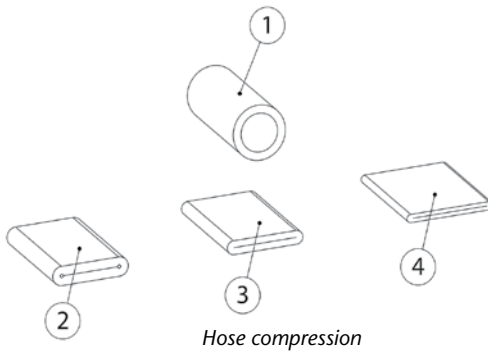
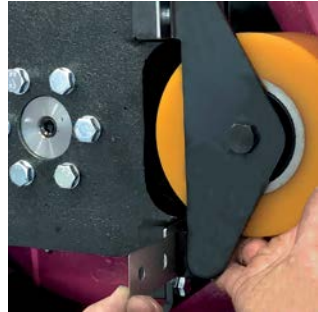
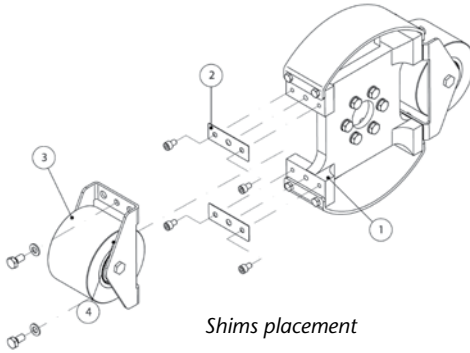
FORCE	UNIT	IP 30	IP 40	IP 50	IP 60	IP 70	IP 80
F1	N	600		1,000	1,200	1,300	1,500
	lb-f	135		225	270	292	337
F2	N	300		500	550	600	750
	lb-f	67		112	123	135	168
F3	N	300		500	550	600	750
	lb-f	67		112	123	135	167

8.3.3 Discharge side

- The discharge line is to be kept as straight and short as possible, in order to avoid performance reduction.
- The diameter must correspond to the rated diameter of the pump hose. Larger diameter is recommended in the event of viscous liquids.
- It is recommended to use flexible piping between the fixed pipes and the hydraulic connections of the pump, in order to avoid the transmission of vibrations.
- Install a pressure relief valve or a pressure switch (or similar device) in the pressure line in order to protect the pump in the event that a valve is unintentionally closed off or the line is blocked in another way.

8.4 Adjusting the roller pressure

- The peristaltic pump is equipped with shims, in order to adjust the precise distance from the axis of rotation to the roller for correct hose compression (also dependent on speed and operating pressure).
- In order to achieve optimal life of the pump hose, the compression force of the pump hose can be adjusted by placing a number of shims under the pressing rollers. The shims (2) are fitted between the rotor (1) and the pressing roller (3). The number of shims will vary for each counter pressure situation.



- 1 Hose without compression
- 2 Insufficient compression (back flowing media in the cavity will destroy the hose within a short period of time)
- 3 Optimum compression
- 4 Excessive compression (increased wear and tear to the pump and the hose)

The shims are fitted in the factory. The number of shims can be adapted to the actual operating conditions according to the following tables. Slight variations in colour of polyurethane rollers is normal.

8.4.1 Model IP 30

Hose materials – NR, NBR, EPDM, CSM and NBR-A:

Number of shims of 0.5 mm thickness (part number AX107.00.07) in each location (i.e. multiply by 4 for total quantity).

NOTE: for fluid temperatures > 60 °C: reduce shim quantities by 1.

Bar	Revolutions/minute and shim thickness					Number of shims
	0-19	20-39	40-59	60-79	80-99	
	0.5 mm	0.5 mm	0.5 mm	0.5 mm	0.5 mm	
0.5	2	2	1	1	1	
2.0	2	2	2	2	2	
4.0*	3	2	2	2	2	
6.0	3	3	3	2	N/A	
8.0	4	3	3	N/A	N/A	

*Factory default setting if working pressure is not specified. N/A: Outside standard operating range of pump.

Hose materials – NORPRENE:

Number of shims of 0.5 mm thickness (part number AX107.00.07) in each location (i.e. multiply by 4 for total quantity).

NOTE: for fluid temperatures > 60 °C: reduce shim quantities by 1.

Bar	Revolutions/minute and shim thickness					Number of shims
	0-19	20-39	40-59	60-79	80-99	
	0.5 mm	0.5 mm	0.5 mm	0.5 mm	0.5 mm	
0.5	8	8	8	8	8	
2.0*	8	8	8	8	8	

*Factory default setting if working pressure is not specified. N/A: Outside standard operating range of pump.

8.4.2 Model IP 40

Hose materials – NR, NBR, EPDM, CSM and NBR-A:

Number of shims of 4 mm thickness (part number AX106.00.49) and of 0.5 mm thickness (part number AX106.00.83) in each location (i.e. multiply by 4 for total quantity).

NOTE: for fluid temperatures > 60 °C: reduce shim quantities by 1.

Bar	Revolutions/minute and shim thickness										Number of shims
	0-19		20-39		40-59		60-79		80-99		
	4 mm	0.5 mm	4 mm	0.5 mm	4 mm	0.5 mm	4 mm	0.5 mm	4 mm	0.5 mm	
0.5	1	0	1	0	1	0	1	0	0	6	
2.0	1	2	1	0	1	0	1	0	1	0	
4.0*	1	2	1	2	1	2	1	0	1	0	
6.0	1	4	1	2	1	2	N/A	N/A	N/A	N/A	
8.0	1	4	1	4	N/A	N/A	N/A	N/A	N/A	N/A	

*Factory default setting if working pressure is not specified.

N/A: Outside standard operating range of pump.

Hose materials – NORPRENE:

Three shims of 4 mm thickness (part number AX106.00.49) and four shims of 0.5 mm thickness (part number AX106.00.83) in each location (i.e. multiply by 4 for total quantity).

NOTE: for fluid temperatures > 60 °C: reduce shim quantities by 1.

Bar	Revolutions/minute and shim thickness										Number of shims
	0-19		20-39		40-59		60-79		80-99		
	4 mm	0.5 mm	4 mm	0.5 mm	4 mm	0.5 mm	4 mm	0.5 mm	4 mm	0.5 mm	
0.5	3	4	3	4	3	4	3	4	3	4	
2.0*	3	4	3	4	3	4	3	4	3	4	

*Factory default setting if working pressure is not specified.

N/A: Outside standard operating range of pump.

8.4.3 Model IP 50

Hose materials – NR, NBR, EPDM, CSM, NBR-A and NR-A:

Number of shims of 0.5 mm thickness (part number AX108.00.69) in each location (i.e. multiply by 4 for total quantity).

NOTE: for fluid temperatures > 60 °C: reduce shim quantities by 1.

Bar	Revolutions/minute and shim thickness					Number of shims
	0-19	20-39	40-59	60-79	80-99	
	0.5 mm	0.5 mm	0.5 mm	0.5 mm	0.5 mm	
0.5	2	2	2	0	0	
2.0	4	2	2	2	2	
4.0*	4	4	4	4	4	
6.0	6	6	6	6	N/A	
8.0	8	6	N/A	N/A	N/A	

*Factory default setting if working pressure is not specified.

N/A: Outside standard operating range of pump.

Hose materials – NORPRENE:

Eight shims of 0.5 mm thickness (part number AX108.00.69) in each location (i.e. multiply by 4 for total quantity).

NOTE: for fluid temperatures > 60° C: reduce shim quantities by 1.

Bar	Revolutions/minute and shim thickness					Number of shims
	0-19	20-39	40-59	60-79	80-99	
	0.5 mm	0.5 mm	0.5 mm	0.5 mm	0.5 mm	
0.5	8	8	8	8	8	
2.0*	8	8	8	8	8	

*Factory default setting if working pressure is not specified.

N/A: Outside standard operating range of pump.

8.4.4 Model IP 60

Hose materials – NR, NBR, EPDM, CSM, NBR-A and NR-A:

Number of shims of 6 mm thickness (part number AX110.00.58) and 0.5 mm thickness (part number AX110.00.77) in each location (i.e. multiply by 4 for total quantity).

NOTE: for fluid temperatures > 60 °C: reduce shim quantities by 1.

Bar	Revolutions/minute and shim thickness										Number of shims
	0-19		20-39		40-59		60-79		80-99		
	6mm	0.5mm	6mm	0.5mm	6mm	0.5mm	6mm	0.5mm	6mm	0.5mm	
0.5	1	0	0	10	0	10	0	10	0	10	
2.0	1	0	1	0	1	0	1	0	0	10	
4.0*	1	0	1	0	1	0	1	0	1	0	
6.0	1	2	1	0	1	0	1	0	1	0	
8.0	1	2	1	2	1	2	1	2	N/A	N/A	

*Factory default setting if working pressure is not specified.

N/A: Outside standard operating range of pump.

Hose materials – NORPRENE:

Two shims of 6 mm thickness (part number AX110.00.58) in each location (i.e. multiply by 4 for total quantity).

NOTE: for fluid temperatures > 60 °C: reduce shim quantities by 1.

Bar	Revolutions/minute and shim thickness					Number of shims
	0-19	20-39	40-59	60-79	80-99	
	6 mm	6 mm	6 mm	6 mm	6 mm	
0.5	2	2	2	2	2	
2.0*	2	2	2	2	2	

*Factory default setting if working pressure is not specified.

N/A: Outside standard operating range of pump.

8.4.5 Model IP 70

Hose materials – NR, NBR, EPDM, CSM, NBR-A and NR-A:

Number of shims of 0.5 mm thickness (part number AX112.00.65) in each location (i.e. multiply by 4 for total quantity).

NOTE: for fluid temperatures > 60 °C: reduce shim quantities by 1.

Bar	Revolutions/minute and shim thickness					Number of shims
	0-19	20-39	40-59	60-79	80-99	
	0.5 mm	0.5 mm	0.5 mm	0.5 mm	0.5 mm	
0.5	2	2	0	0	0	
2.0	2	2	2	0	0	
4.0*	4	4	4	2	2	
6.0	6	6	4	N/A	N/A	
8.0	8	6	6	N/A	N/A	

*Factory default setting if working pressure is not specified.

N/A: Outside standard operating range of pump.

8.4.6 Model IP 80

Hose materials – NR, NBR, EPDM (CSM and NBR-A):

Number of shims of 0.5 mm thickness (part number AX117.00.11) in each location (i.e. multiply by 4 for total quantity).

NOTE: for fluid temperatures > 60 °C: reduce shim quantities by 1.

Bar	Revolutions/minute and shim thickness			Number of shims
	0-19	20-39	40-59	
	0.5 mm	0.5 mm	0.5 mm	
0.5	4	4	3	
2.0	4	4	3	
4.0*	5	5	4	
6.0	6	5	N/A	
8.0	7	6	N/A	

*Factory default setting if working pressure is not specified.

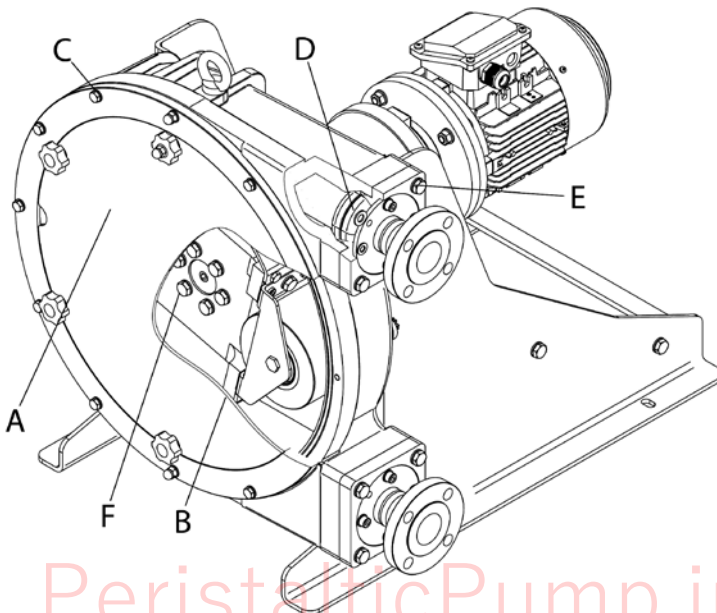
N/A: Outside standard operating range of pump.

9 MAINTENANCE

9.1 Components weights

DESCRIPTION	IP 30	IP 40	IP 50	IP 60	IP 70	IP 80
Total weight	82 kg 108 lbs	122 kg 268 lbs	182 kg 401 lbs	253 kg 557 lbs	574 kg 1,265 lbs	1,150 kg 2,535 lbs
Pump cover	7.8 kg 17 lbs	11.7 kg 25 lbs	11.2 kg 24 lbs	18.5 kg 40 lbs	31.2 kg 68 lbs	42.8 kg 94 lbs
Roller subassembly	1.7 kg 3,8 lbs	2.9 kg 6.4 lbs	4.1 kg 9.0 lbs	8.1 kg 17.9 lbs	14.7 kg 32,4 lbs	32 kg 70.6 lbs
Connection	0.4 kg 0.88 lbs	0.5 kg 1.1 lbs	1.4 kg 3.1 lbs	1.9 kg 4.2 lbs	3.2 kg 7.1 lbs	5.4 kg 11.9 lbs
Press flange	1.25 kg 2.8 lbs	1.6 kg 3.5 lbs	2.0 kg 4.4 lbs	3.9 kg 8.6 lbs	5.5 kg 12.1 lbs	9.0 kg 19.8 lbs
Hose	1.7 kg 3.7 lbs	2.5 kg 5.5 lbs	3.1 kg 6.8 lbs	6.3 kg 13.9 lbs	11.2 kg 24.7 lbs	19 kg 42 lbs

9.2 Torque values



DESCRIPTION		UNITS	IP 30	IP 40	IP 50	IP 60	IP 70	IP 80
A	Plastic Cover		Manual, no bolts	Manual, no bolts	Manual, no bolts	Manual, no bolts	Manual, no bolts	Manual, no bolts
B	Roller support bolts	Nm	29 M8 13 mm Spanner	43 M10 17 mm Spanner	43 M10 17 mm Spanner	46 M12 19 mm spanner	46 M12 19 mm spanner	49 M14 22 mm Spanner
C	Cover bolts	Nm	18 M8 13 mm Spanner	18 M8 13 mm Spanner	18 M8 13 mm Spanner	23 M12 19 mm spanner	23 M12 19 mm spanner	49 M14 22 mm spanner
D	Hose clamp		Manual, no bolts	Manual, no bolts	Manual, no bolts	Manual, no bolts	Manual, no bolts	Manual, no bolts
E	Flange bracket bolts	Nm	18 M8 13 mm spanner	21 M10 17 mm spanner	21 M10 17 mm spanner	23 M12 19 mm spanner	23 M12 19 mm spanner	49 M14 22 mm spanner
F	Drive shaft bolts	Nm	29 M8 13 mm spanner	29 M8 13 mm spanner	43 M10 17 mm spanner	43 M10 17 mm spanner	46 M12 19 mm spanner	53 M16 24 mm spanner

9.3 Lubrication and cooling

IP pumps only require a thin film of grease to reduce the friction between the roller and the outer surface of the hose or tube. No other lubrication is necessary.

Lubricant quantity table

	UNIT	IP 30	IP 40	IP 50	IP 60	IP 70	IP 80
Lubricant	-	realax	realax	realax	realax	realax	realax
Required quantity	gram	150	200	250	400	500	600
	ounce	5.3	7.1	8.8	14.1	17.6	21.2

9.3.1 Changing oil in gearbox

The instructions manual of the gearbox is delivered separately attached to this realax manual.

Some models of gearbox are lubricated for life, other models of gear reducers require regular maintenance according to the instructions manual of the gear reducer manufacturer.

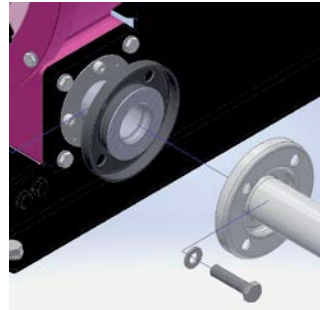
In case of doubt, please contact the gearbox manufacturer or their authorised distributor in your country.

9.4 Exchanging the pump hose

9.4.1 Dismantling

Close off all valves, in order to prevent leakage of the feed liquid.

1. Dismantle the pipes from both discharge and suction sides.



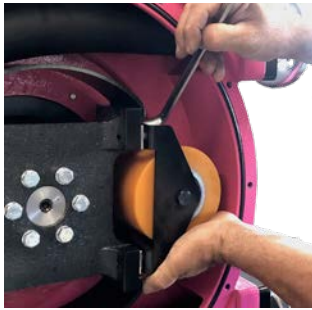
2. Remove the front cover.

Front covers of IP 30, IP 40, IP 50 and IP 60 can be removed manually (< 20 kg).

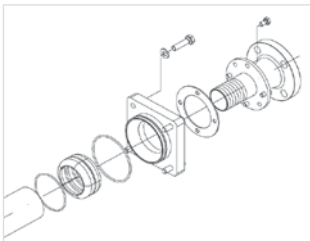
Lifting equipment must be used to remove the front covers of IP 70 and IP 80.



3. Remove the roller incl. the shims (the roller that is not touching the hose). Check the roller. Ensure that the roller surfaces are not damaged. Otherwise, please substitute the roller.



4. Remove the press flange and hydraulic connections from pump housing.



Flange connection



5. Mount back the front cover.
6. Turn the rotor with the help of the motor so that the hose is pushed out through one of the openings.
7. Remove the pump hose to be exchanged.
8. Dismount the front cover.



9.4.2 Installation of the new hose

1. Rotate the rotor 180° so that the roller that is still assembled no longer presses the hose.
2. Clean the interior surfaces of the pump housing with a clean dry cloth.
3. Lubricate with our original lubricant the hose and the internal surfaces of the pump housing at the contact surfaces between the pump hose and the external part of the new hose.



4. Mount front cover.

5. Lay the pump hose into the pump housing through the connection holes. The hoses of the IP pumps must be manually inserted through the lower opening up to the point where the hose begins to be compressed by the rotor. Turn the rotor with the help of the motor until the hose has been pulled through the lower opening and until the end of the hose is correctly positioned in the upper opening. The rotor must only have one roller attached to safely perform this operation.



6. Lay the press rings. Between the end of the hose and the press ring, there must be a specific distance (see fig. 1 and fig. 2).

realax model	Approximate distance outside press ring
IP 30	3–7 mm
IP 40	3–7 mm

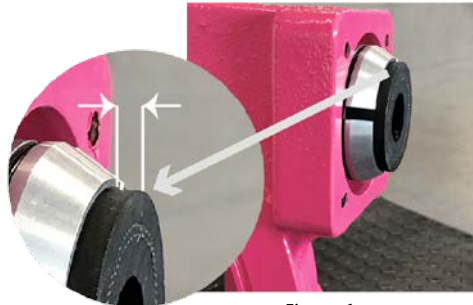


Figure 1

realax model	Approximate distance inside press flange
IP 50	5 mm
IP 60	6 mm
IP 70	7 mm
IP 80	10 mm

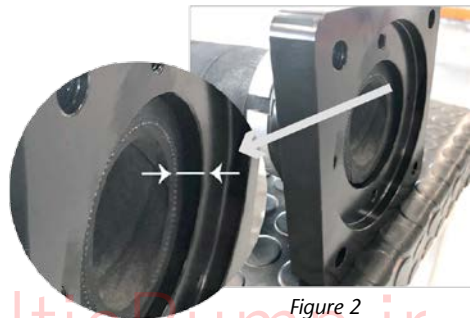
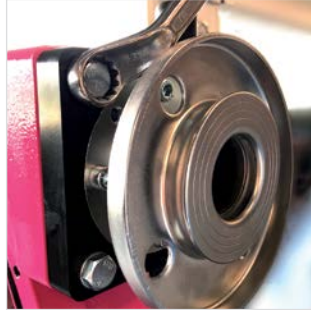
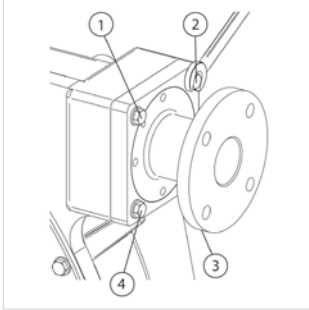


Figure 2

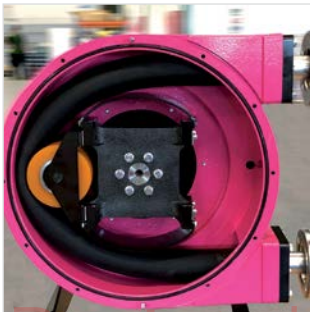
7. Push the shaft of the connection into the hose (apply a little grease on the shaft if there is too much interference). Tighten the four allen bolts.



Way to proceed with the screws tightening

Fasten the press flange and the connections to the pump casing and tighten progressively the bolts in a star pattern (1, 3, 2, 4 & 1, 3, 2, 4, etc.), until the flange is fully tightened.

8. Mount the front cover.
9. Turn the rotor with the help of the motor so that the remaining roller presses against the pump hose.
10. Dismount the front cover.
11. Re-attach the second roller with shims back onto the rotor.



12. Check that the lower drain plug is assembled correctly.
13. Attach the front cover to the pump housing.
14. Mount the pipes from both discharge and suction sides.
15. Open all of the valves.



9.5 Replacement of electric motor and/or gear reducer

For repair or replacement of the electric motor and the gear reducer they could be disassembled from the pump housing. The pump is stable on its baseplate and will not fall over when the electric motor and gear reducer are disassembled. No support set is necessary.

Follow the picture sequence from left to right (1, 2, 3):

1. Unbolt and separate motor from gear reducer
2. Unbolt the gear reducer from the pump's shaft
3. Unbolt and separate gear reducer from pump housing



9.6 Addition of leak detection sensor

The standard drain plug supplied with the IP pump should be removed from the pump housing.

Assemble T-fitting and elbow to the pump housing.

Screw electro-optical detector to cap, then attach cap to elbow.



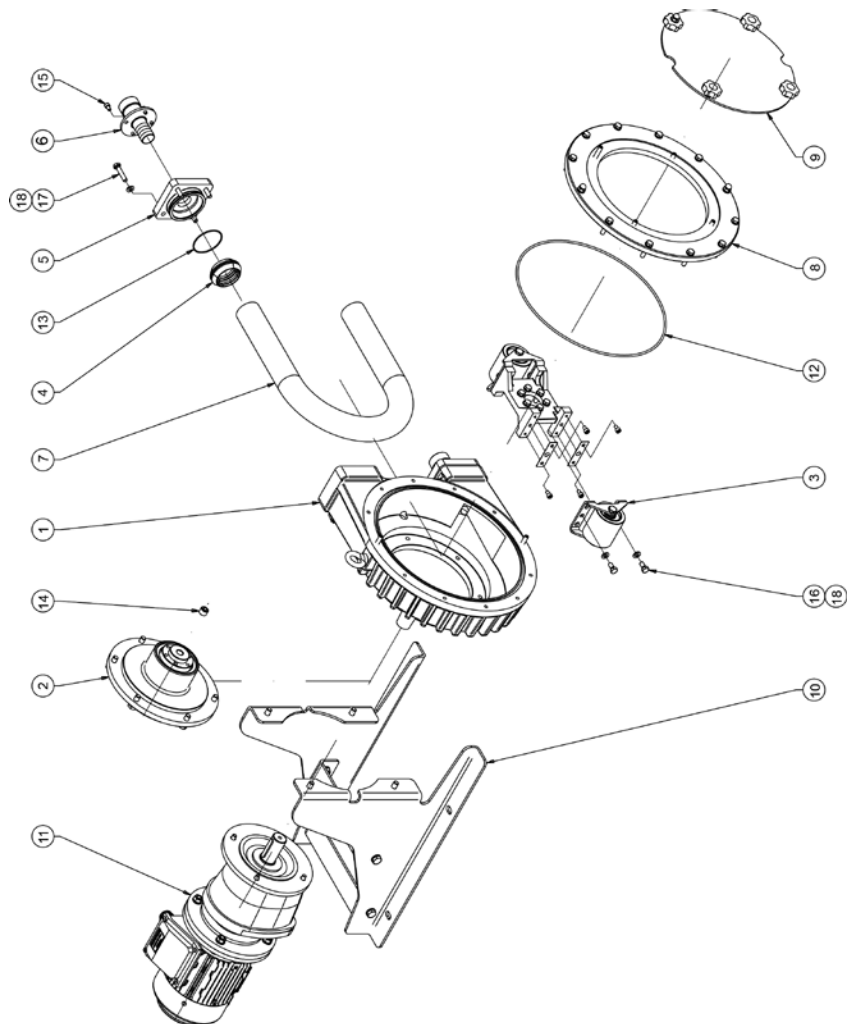
10 TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Increased pump temperature	Pump hose has no lubricant	Lubricate pump hose
	Increased product temperature	Reduce product temperature
	Insufficient or poor suction conditions	Check suction line condition
	Pump speed too high	Reduce pump speed
Reduced flow or pressure	Valves on discharge and or suction side completely or partially closed	Open valves
	Pump hose insufficiently compressed	Check number of shims
	Pump hose rupture (the product leaks out into the housing)	Exchange pump hose and clean pump
	Partial blockage of the suction line	Clean pipe
	Insufficient product quantity in storage container	Fill storage container or exchange pump
	Insufficient diameter on the suction side	Increase the diameter on the suction side, as far as possible
	Suction line too long	Shorten the suction line, as far as possible
	High viscosity of medium	Reduce viscosity, as far as possible
	Air introduction in the suction connections	Check connections and accessories for air tightness
	High pulsation on suction	Tighten connections and accessories Mount anti-pulsation equipment Reconsider application (speed, etc.)

PROBLEM	POSSIBLE CAUSE	SOLUTION
Vibrations on pumps and pipelines	The pipes are not correctly fastened	Fasten pipes correctly (e.g. wall brackets)
	Pump speed too high	Reduce pump speed
	Insufficient nominal width of the pipes	Increase nominal width
	Pump base plate loose	Fasten base plate
	Pulsation dampers insufficient or missing	Install pulsation dampers on suction and / or discharge side
Short operational lifetime of the hoses	Chemical exposure	Check the compatibility of the hose with the liquid being conveyed, the cleaning fluid and the lubricant
	High pump speed	Reduce pump speed
	High conveying temperature	Reduce product temperature
	High operating pressure	Reduce operating pressure
	Pump cavitation	Check the suction conditions
	Abnormal elevation of temperature	Check number of shims
	Unsuitable lubricant	Use realax lubricant
Insufficient quantity of grease	Reapply lubricant	
Pump hose pulled into the pump housing	High inlet pressure (> 3 bar)	Reduce inlet pressure
	Pump hose filled with deposits	Clean or replace the pump hose
	Holder (press flange) insufficiently tightened	Re-tighten holder (press flange)
	Insufficient grease	Reapply lubricant
The pump does not start up	Insufficient motor performance	Check motor and replace if necessary
	Insufficient output from frequency converter	The frequency converter must match the motor
	Blockage in the pump	Check voltage. Start occurs at minimum 10 Hz
Check if the suction or discharge side is blocked. Rectify blockage		

11 SPARE PARTS

11.1 Spare parts exploded view IP 30 Model

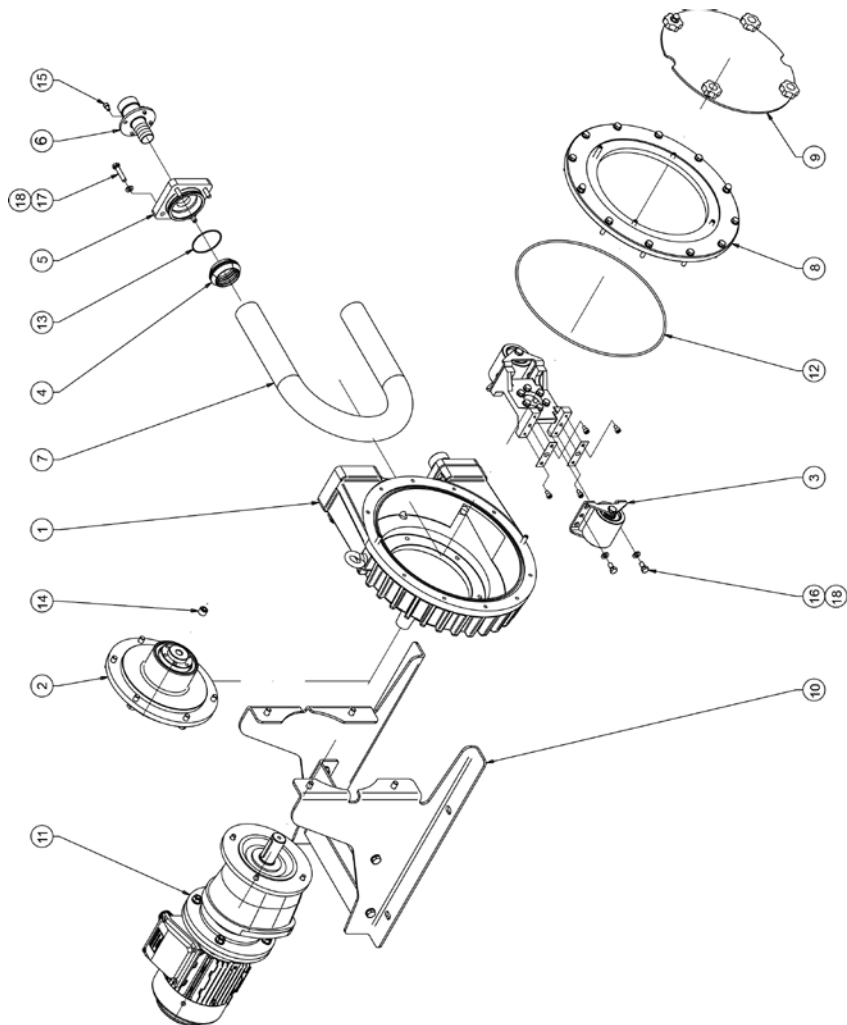


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POS.	DESCRIPTION	QUANTITY	REFERENCE
1	Pump housing	1	AX100.01.01
2	Bearing Housing Kit IP 30	1	AX100.99.05
3	Roller Kit IP 30	2	AX107.99.01
4	Press Ring	2	AX100.02.05
5	Press Flange	2	AX107.00.15
6	Connection S.S. BSP 1 ¼" IP 30	2	AX107.00.17
	Connection P.P. BSP 1 ¼" IP 30	2	AX107.00.39
	Connection PVDF BSP 1 ¼" IP 30	2	AX107.00.48
	Connection S.S. NPT 1 ¼" IP 30	2	AX107.00.34
	Connection PVC NPT 1 ¼" IP 30	2	AX107.00.51
	Connection PVDF NPT 1 ¼" IP 30	2	AX107.00.58
	Connection S.S. DIN 2566 DN32 IP 30	2	AX107.00.37
	Connection P.P. DIN 2576 DN32 IP 30	2	AX107.00.49
	Connection PVDF DIN 2576 DN32 IP 30	2	AX107.00.68
	Connection S.S. ANSI 1 ¼" IP 30	2	AX107.00.38
	Connection PVC ANSI 1 ¼" IP 30	2	AX107.00.57
	Connection PVDF ANSI 1 ¼" IP 30	2	AX107.00.67
	Connection S.S. TRI-CLAMP 1 ½" IP 30	2	AX107.00.36
Connection S.S. DIN 11851 NW32 IP 30	2	AX107.00.35	
7	Peristaltic Hose NR IP 30	1	AX107.00.18
	Peristaltic Hose NBR IP 30	1	AX107.00.20
	Peristaltic Hose NBR-A IP 30	1	AX107.00.21
	Peristaltic Hose EPDM IP 30	1	AX107.00.22
	Peristaltic Hose CSM IP 30	1	AX107.00.45
8	Metallic cover	1	AX107.01.13
9	Polycarbonate cover	1	AX107.00.14
10	Base plate	1	Contact relax distributor
	Base plate S.S.	1	Contact relax distributor
11	Drive	1	
12	O-Ring front Cover IP 30	1	AX100.00.17
13	O-Ring Press Ring IP 30	2	AX106.01.16COM
14	DIN 913 Socket Set Screw Flat Point M16x12 Grade 8.8	1	AXTORDIN913M16X12PAV
15	DIN 912 Socket Cap Screw M6x10 Grade 8.8	8	AXTORDIN912M6x10
16	DIN 933 Hexagonal Head Cap Screw M8x16 Grade 8.8	4	AXTORDIN933M8X16
17	DIN 933 Hexagonal Head Cap Screw M8x40 Grade 8.8	8	AXTORDIN933M8X40
18	DIN 125A Flat Washer M8 Grade 8.8	12	AXARANDIN125AM8

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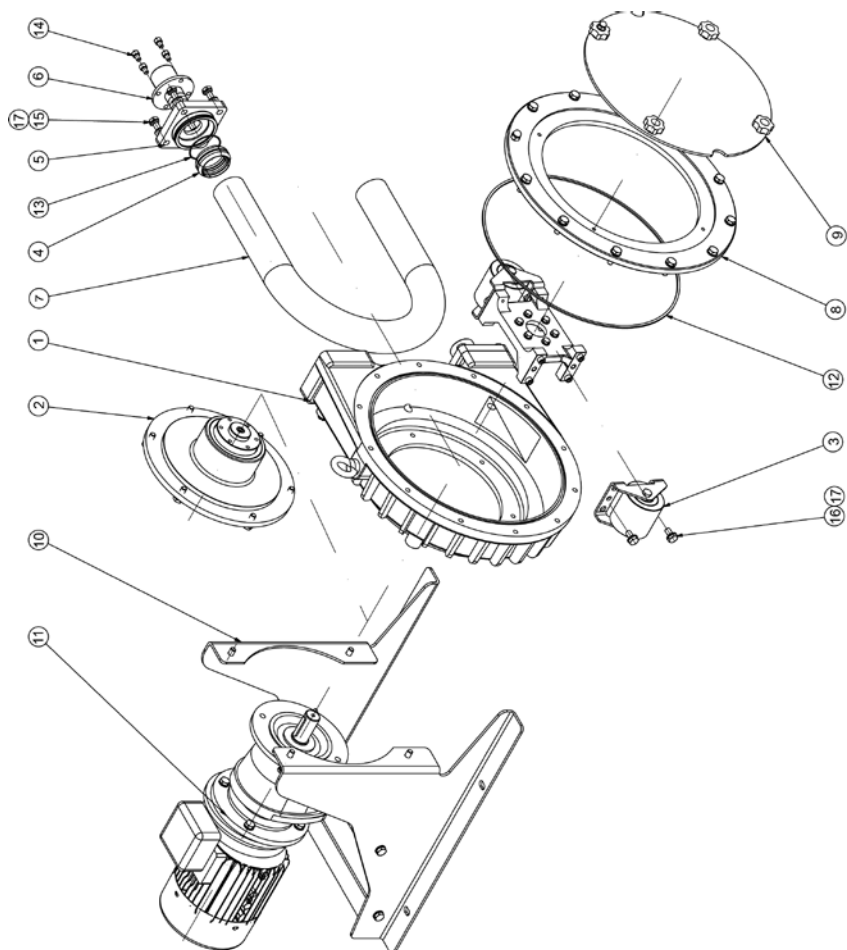
11.2 Spare parts exploded view IP 30 Model - NORPRENE



POS.	DESCRIPTION	QUANTITY	REFERENCE
1	Pump housing	1	AX100.01.01
2	Bearing Housing Kit IP 30	1	AX100.99.05
3	Roller Kit IP 30	2	AX107.99.01
4	Press Ring	2	AX100.02.05
5	Press Flange Norprene	2	AX107.00.65
6	Connection S.S. BSP 1 ¼" IP 30 Norprene	2	AX107.00.53
	Connection P.P. BSP 1 ¼" IP 30 Norprene	2	AX107.00.64
	Connection S.S. NPT 1 ¼" IP 30 Norprene	2	AX107.00.66
	Connection S.S. TRI-CLAMP 1 ½" IP 30 Norprene	2	AX107.00.56
	Connection S.S. DIN 11851 NW32 IP 30 Norprene	2	AX107.00.52
7	Peristaltic Hose Norprene IP 30	1	AX107.00.54
8	Metallic cover	1	AX107.01.13
9	Polycarbonate cover	1	AX107.00.14
10	Base plate	1	Contact relax distributor
	Base plate S.S.	1	Contact relax distributor
11	Drive	1	
12	O-Ring front Cover IP 30	1	AX100.00.17
13	O-Ring Press Ring IP 30	2	AX106.01.16COM
14	DIN 913 Socket Set Screw Flat Point M16x12 Grade 8.8	1	AXTORDIN913 M16X12PAV
15	DIN 912 Socket Cap Screw M6x10 Grade 8.8	8	AXTORDIN912M6x10
16	DIN 933 Hexagonal Head Cap Screw M8x16 Grade 8.8	4	AXTORDIN933M8X16
17	DIN 933 Hexagonal Head Cap Screw M8x40 Grade 8.8	8	AXTORDIN933M8X40
18	DIN 125A Flat Washer M8 Grade 8.8	12	AXARANDIN125AM8

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11.3 Spare parts exploded view IP 40 Model

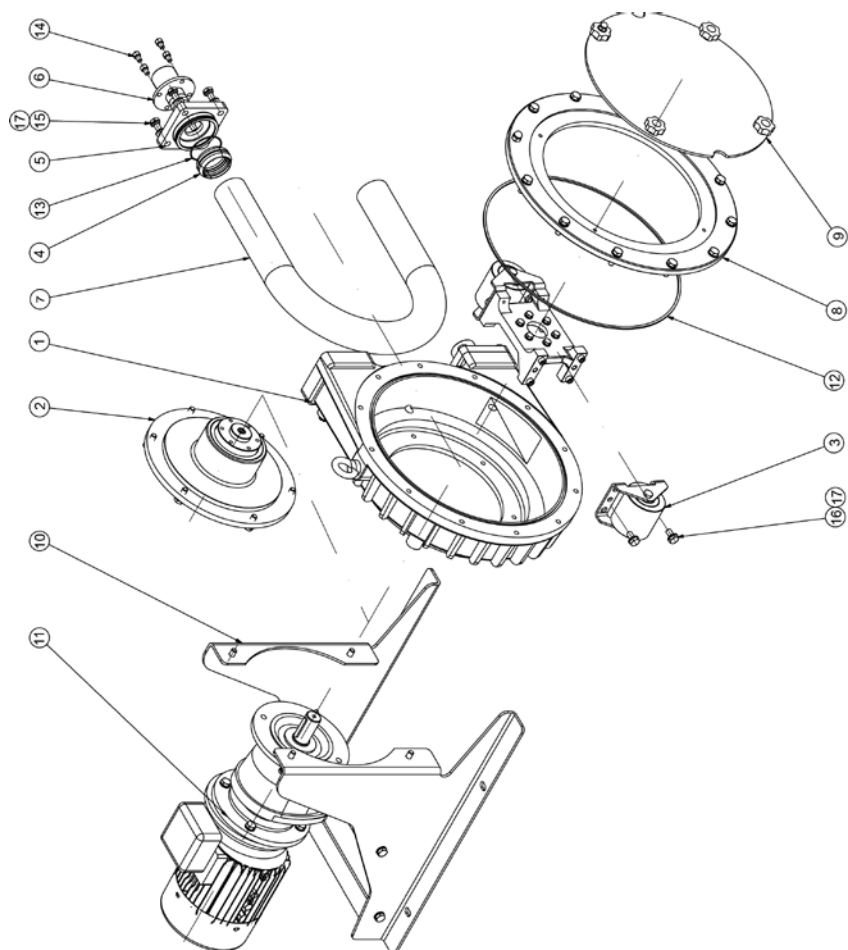


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POS.	DESCRIPTION	QUANTITY	REFERENCE
1	Pump housing	1	AX106.00.01
2	Bearing Housing Kit IP 40	1	AX106.99.05
3	Roller Kit IP 40	2	AX106.99.01
4	Press Ring IP 40	2	AX106.01.16
5	Press Flange IP 40	2	AX106.00.15
6	Connection S.S. BSP 1 ½" IP 40	2	AX106.00.17
	Connection P.P. BSP 1 ½" IP 40	2	AX106.00.39
	Connection PVDF BSP 1 ½" IP 40	2	AX106.00.41
	Connection S.S. NPT 1 ½" IP 40	2	AX106.00.34
	Connection PP NPT 1 ½" IP 40	2	AX106.00.47
	Connection PVDF NPT 1 ½" IP 40	2	AX106.00.61
	Flange Connection S.S. DIN DN40 IP 40	2	AX106.00.67
	Flange Connection P.P. DIN DN40 IP 40	2	AX106.00.58
	Flange Connection PVDF DIN DN40 IP 40	2	AX106.00.57
	Flange Connection S.S. ANSI 1 ½" IP 40	2	AX106.00.38
	Flange Connection PP ANSI 1 ½" IP 40	2	AX106.00.75
	Flange Connection PVDF ANSI 1 ½" IP 40	2	AX106.00.64
	Connection S.S. TRI-CLAMP 1 ½" IP 40	2	AX106.00.36
Connection S.S. DIN 11851 NW40 IP 40	2	AX106.00.35	
7	Peristaltic Hose NR IP 40	1	AX106.00.18
	Peristaltic Hose NR-A IP 40	1	AX106.00.19
	Peristaltic Hose NBR IP 40	1	AX106.00.20
	Peristaltic Hose NBR-A IP 40	1	AX106.00.21
	Peristaltic Hose EPDM IP 40	1	AX106.00.22
	Peristaltic Hose CSM IP 40	1	AX106.00.48
8	Metallic cover	1	AX106.01.13
9	Polycarbonate cover	1	AX106.01.14
10	Base plate	1	Contact relax distributor
	Base plate S.S.	1	Contact relax distributor
11	Drive	1	
12	O-Ring front Cover IP 40	1	AX104.00.17
13	O-Ring Press Ring IP 40	2	AX106.01.16COM
14	DIN 912 Socket Cap Screw M8x12 Grade 8.8	8	AXTORDIN912M8X12
15	DIN 933 Hexagonal Head Cap Screw M10x40 Grade 8.8	8	AXTORDIN933M10X40
16	DIN 933 Hexagonal Head Cap Screw M10x20 Grade 8.8	4	AXTORDIN933M10X20
17	DIN 125A Flat Washer M10 Grade 8.8	12	AXARANDIN125AM10

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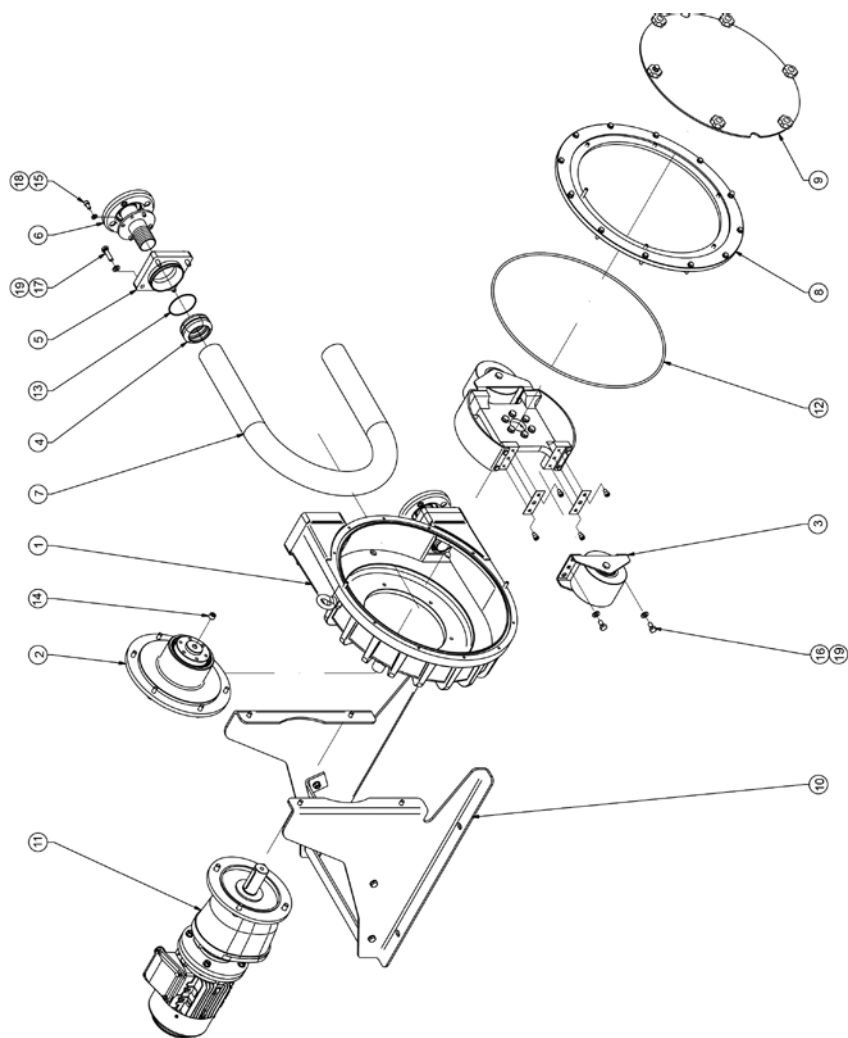
11.4 Spare parts exploded view IP 40 Model - NORPRENE



POS.	DESCRIPTION	QUANTITY	REFERENCE
1	Pump housing	1	AX106.00.01
2	Bearing Housing Kit IP 40	1	AX106.99.05
3	Roller Kit IP 40	2	AX106.99.01
4	Norprene Press Ring IP 40	2	AX106.00.51
5	Press Flange IP 40	2	AX106.00.15
6	Connection S.S. DIN DN40 IP 40	2	AX106.00.67
	Connection S.S. ANSI 1 ½" IP 40	2	AX106.00.38
	Connection PP ANSI 1 ½" IP 40	2	AX106.00.75
	Connection S.S. BSP 1 ½" IP 40	2	AX106.00.17
	Connection P.P. BSP 1 ½" IP 40	2	AX106.00.39
	Connection PVDF BSP 1 ½" IP 40	2	AX106.00.41
	Connection S.S. NPT 1 ½" IP 40	2	AX106.00.34
	Connection P.P. NPT 1 ½" IP 40	2	AX106.00.47
	Connection PVDF NPT 1 ½" IP 40	2	AX106.00.61
	Connection S.S. TRI-CLAMP 1 ½" IP 40	2	AX106.00.36
	Connection S.S. DIN 11851 NW40 IP 40	2	AX106.00.35
7	Peristaltic Hose NorprenE IP 40	1	AX106.00.50
8	Metallic cover	1	AX106.01.13
9	Polycarbonate cover	1	AX106.01.14
10	Base plate	1	Contact realax distributor
	Base plate S.S.	1	Contact realax distributor
11	Drive	1	
12	O-Ring front Cover IP 40	1	AX104.00.17
13	O-Ring Press Ring IP 40	2	AX106.01.16COM
14	DIN 912 Socket Cap Screw M8x12 Grade 8.8	8	AXTORDIN912M8X12
15	DIN 933 Hexagonal Head Cap Screw M10x40 Grade 8.8	8	AXTORDIN933 M10X40
16	DIN 933 Hexagonal Head Cap Screw M10x20 Grade 8.8	4	AXTORDIN-933M10X20
17	DIN 125A Flat Washer M10 Grade 8.8	12	AXARANDIN125AM10

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11.5 Spare parts exploded view IP 50 Model

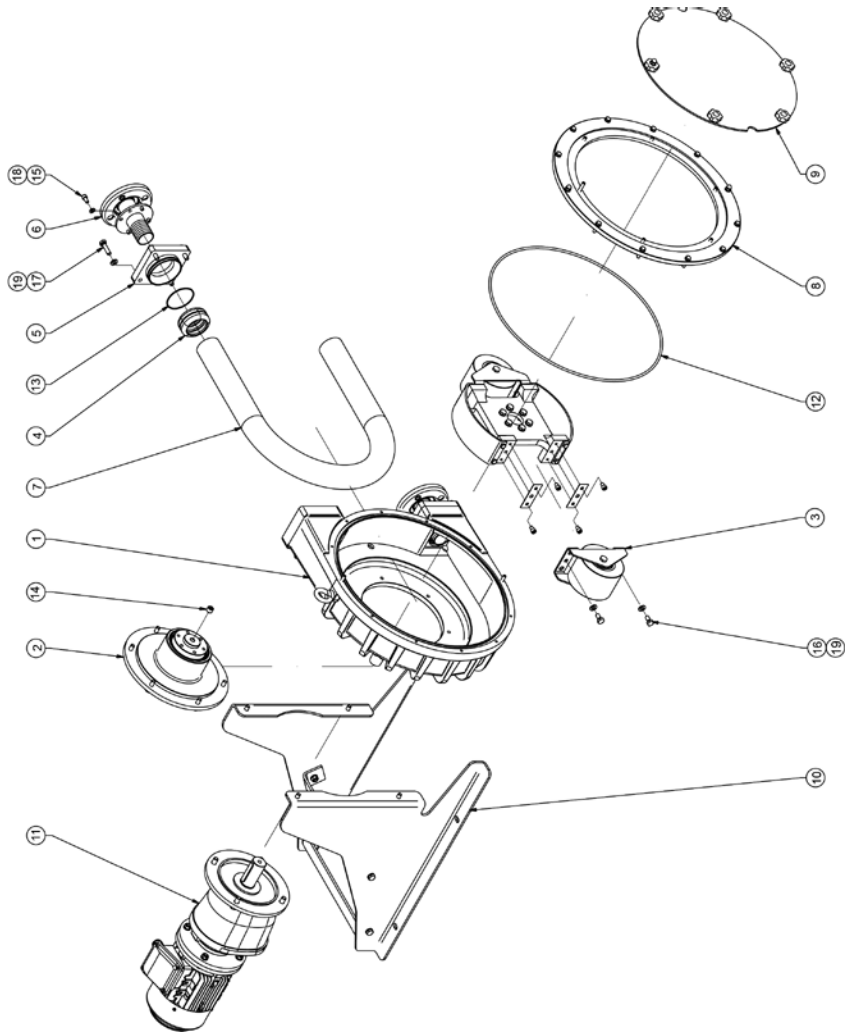


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POS.	DESCRIPTION	QUANTITY	REFERENCE
1	Pump housing	1	AX108.01.01
2	Bearing Housing Kit IP 50	1	AX108.99.05
3	Roller Kit IP 50	2	AX108.99.01
4	Press Ring IP 50	2	AX108.01.12
5	Press Flange IP 50	2	AX108.00.11
6	Flange Connection S.S. DIN DN40 IP 50	2	AX108.00.13
	Flange Connection P.P. DIN DN40 IP 50	2	AX108.00.16
	Flange Connection PVDF DIN DN40 IP 50	2	AX108.00.18
	Flange Connection S.S. ANSI 1 1/2" IP 50	2	AX108.00.14
	Flange Connection PVC ANSI 1 1/2" IP 50	2	AX108.00.67
	Flange Connection PVDF ANSI 1 1/2" IP 50	2	AX108.00.19
	Connection S.S. TRI-CLAMP 2" IP 50	2	AX108.00.40
	Connection S.S. DIN 11851 NW50 IP 50	2	AX108.00.15
7	Peristaltic Hose NR IP 50	1	AX108.00.20
	Peristaltic Hose NR-A IP 50	1	AX108.00.21
	Peristaltic Hose NBR IP 50	1	AX108.00.22
	Peristaltic Hose EPDM IP 50	1	AX108.00.24
	Peristaltic Hose CSM IP 50	1	AX108.00.25
8	Metallic cover	1	AX108.01.10
9	Polycarbonate cover	1	AX108.00.39
10	Base plate	1	Contact realax distributor
	Base plate S.S.	1	Contact realax distributor
11	Drive	1	
12	O-Ring front Cover IP 50	1	AX108.00.35
13	O-Ring Press Ring IP 50	2	AX108.00.64
14	DIN 913 Socket Set Screw Flat Point M16x12 Grade 8.8	1	AXTORDIN913 M16X12PAV
15	DIN 912 Socket Cap Screw M8x16 Grade 8.8	8	AXTORDIN912M8X16
16	DIN 933 Hexagonal Head Cap Screw M10x20 Grade 8.8	2	AXTORDIN933 M10X20
17	DIN 933 Hexagonal Head Cap Screw M10x40 Grade 8.8	8	AXTORDIN933 M10X40
18	DIN 125A Flat Washer M8 Grade 8.8	8	AXARANDIN125AM8
19	DIN 125A Flat Washer M10 Grade 8.8	12	AXARANDIN125AM10

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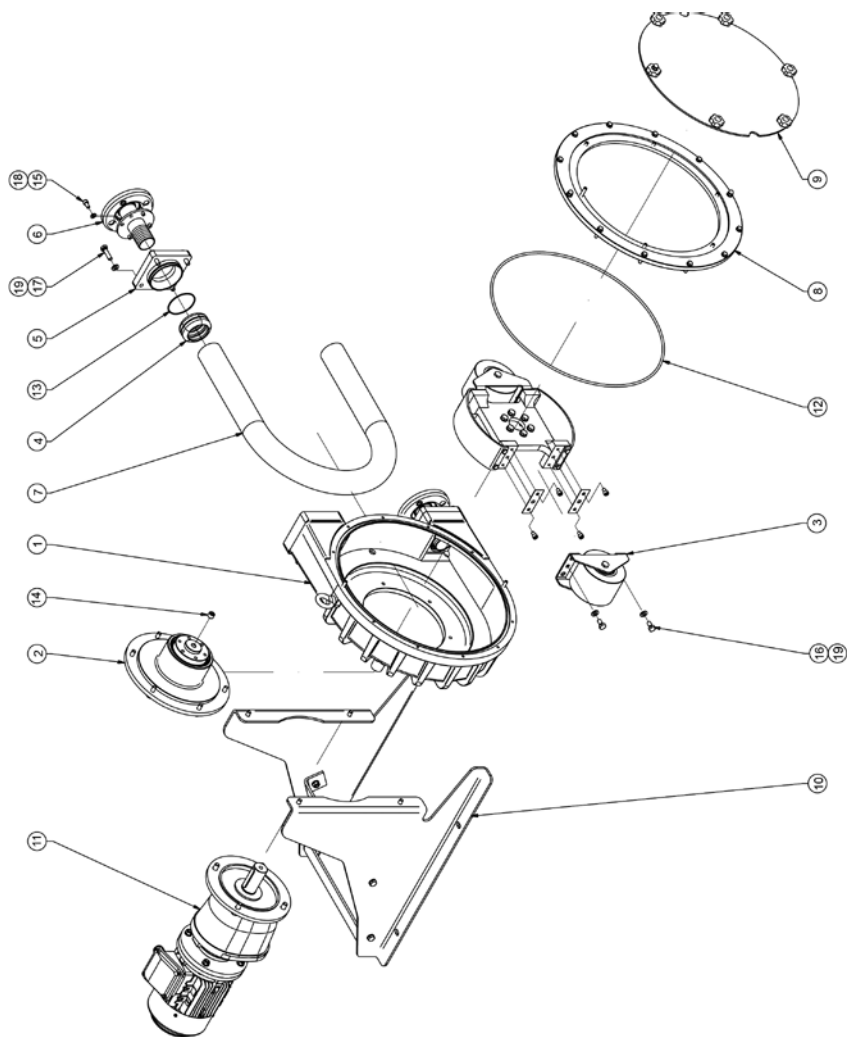
11.6 Spare parts exploded view IP 50 Model - NBR-A



POS.	DESCRIPTION	QUANTITY	REFERENCE
1	Pump Housing	1	AX108.01.01
2	Bearing Housing Kit IP 50	1	AX108.99.05
3	Roller Kit IP 50	2	AX108.99.01
4	Press Ring IP 50	2	AX108.01.12
5	Press Flange IP 50	2	AX108.00.11
6	Connection S.S. TRI-CLAMP 2" IP 50 NBR-A	2	AX108.00.53
	Connection S.S. SMS 51 IP 50 NBR-A	2	AX108.00.56
	Connection S.S. DIN 11851 NW50 IP 50 NBR-A	2	AX108.00.52
7	Peristaltic Hose NBR-A IP 50	1	AX108.01.23
8	Metallic cover	1	AX108.01.10
9	Polycarbonate cover	1	AX108.00.39
10	Base plate	1	Contact relax distributor
	Base plate S.S.	1	Contact relax distributor
11	Drive	1	
12	O-Ring front Cover IP 50	1	AX108.00.35
13	O-Ring Press Ring IP 50	2	AX108.00.64
14	DIN 913 Socket Set Screw Flat Point M16x12 Grade 8.8	1	AXTORDIN913 M16X12PAV
15	DIN 912 Socket Cap Screw M8x16 Grade 8.8	8	AXTORDIN912M8X16
16	DIN 933 Hexagonal Head Cap Screw M10x20 Grade 8.8	2	AXTORDIN933 M10X20
17	DIN 933 Hexagonal Head Cap Screw M10x40 Grade 8.8	8	AXTORDIN933 M10X40
18	DIN 125A Flat Washer M8 Grade 8.8	8	AXARANDIN125AM8
19	DIN 125A Flat Washer M10 Grade 8.8	12	AXARANDIN125AM10

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11.7 Spare parts exploded view IP 50 Model - NORPRENE

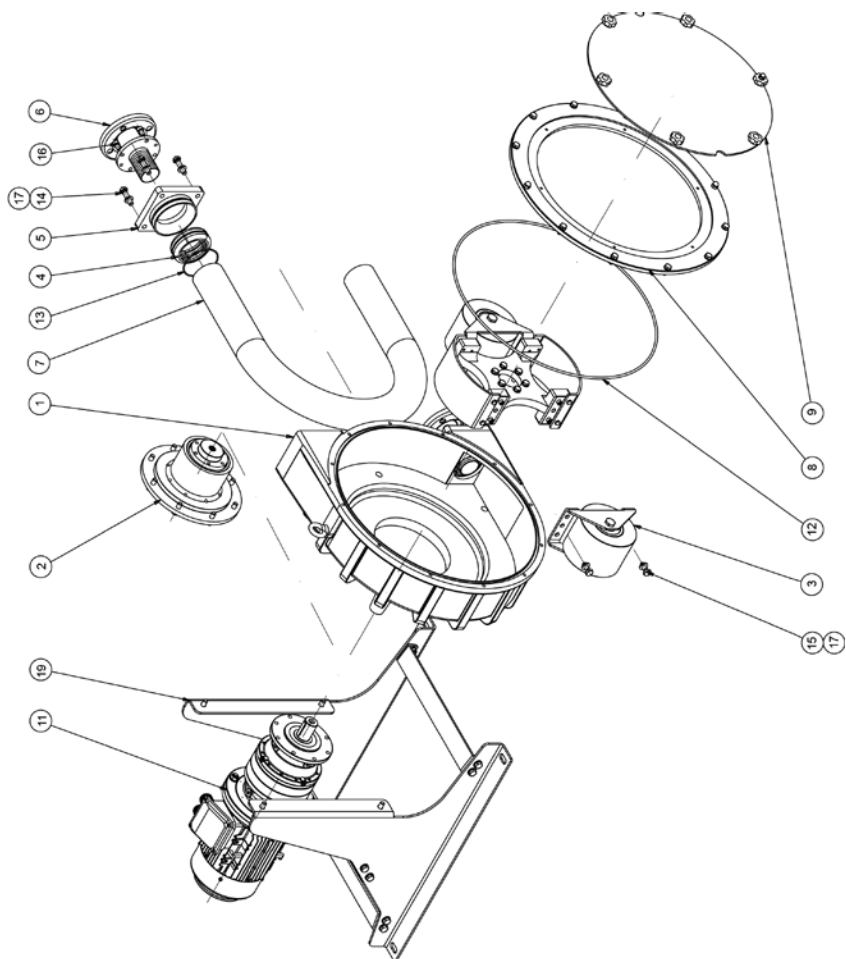


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POS.	DESCRIPTION	QUANTITY	REFERENCE
1	Pump Housing	1	AX108.01.01
2	Bearing Housing Kit IP 50	1	AX108.99.05
3	Roller Kit IP 50	2	AX108.99.01
4	Press Ring Norprene IP 50	2	AX108.00.58
5	Press Flange IP 50	2	AX108.00.11
6	Connection S.S. TRI-CLAMP 2" IP 50 Norprene	2	AX108.00.68
	Connection S.S. DIN 11851 NW50 IP 50 Norprene	2	AX108.00.57
7	Peristaltic Hose Norprene IP 50	1	AX108.00.45
8	Metallic cover	1	AX108.01.10
9	Polycarbonate cover	1	AX108.00.39
10	Base plate	1	Contact relax distributor
	Base plate S.S.	1	Contact relax distributor
11	Drive	1	
12	O-Ring front Cover IP 50	1	AX108.00.35
13	O-Ring Press Ring IP 50	2	AX108.00.64
14	DIN 913 Socket Set Screw Flat Point M16x12 Grade 8.8	1	AXTORDIN913 M16X12PAV
15	DIN 912 Socket Cap Screw M8x16 Grade 8.8	8	AXTORDIN912M8X16
16	DIN 933 Hexagonal Head Cap Screw M10x20 Grade 8.8	4	AXTORDIN933 M10X20
17	DIN 933 Hexagonal Head Cap Screw M10x40 Grade 8.8	8	AXTORDIN933 M10X40
18	DIN 125A Flat Washer M8 Grade 8.8	8	AXARANDIN125AM8
19	DIN 125A Flat Washer M10 Grade 8.8	12	AXARANDIN125AM10

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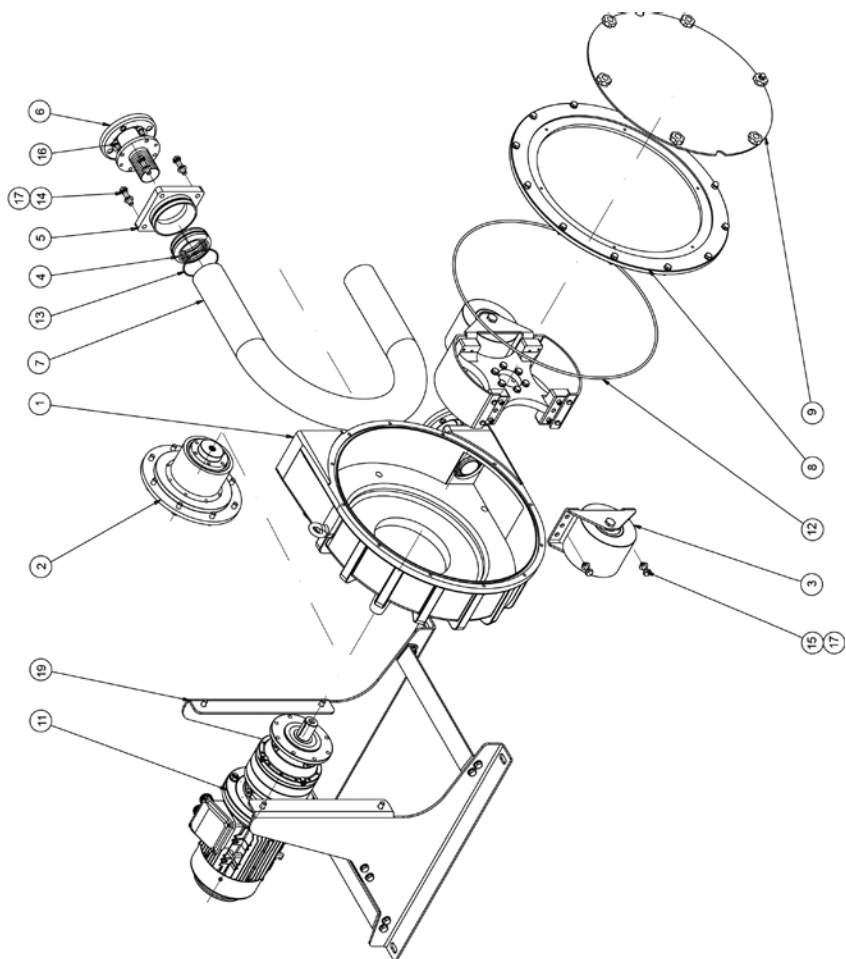
11.8 Spare parts exploded view IP 60 Model



POS.	DESCRIPTION	QUANTITY	REFERENCE
1	Pump housing	1	AX110.01.01
2	Bearing Housing Kit IP 60	1	AX110.99.05
3	Roller Kit IP 60	2	AX110.99.02
4	Press Ring IP 60	2	AX110.01.16
5	Press Flange IP 60	2	AX110.01.15
6	Connection S.S. DIN DN50 IP 60	2	AX110.01.17
	Flange Connection P.P. DIN DN50 IP 60	2	AX110.01.64
	Flange Connection PVDF ANSI 2" IP 60	2	AX110.01.65
	Flange Connection S.S. ANSI 2" IP 60	2	AX110.01.41
	Flange Connection P.P. ANSI 2" IP 60	2	AX110.01.63
	Flange Connection PVDF DIN DN50 IP 60	2	AX110.01.72
	Flange Connection S.S. TRI-CLAMP 2 ½" IP 60	2	AX110.01.42
	Flange Connection S.S. DIN 11851 NW50 IP 60	2	AX110.01.43
7	Peristaltic Hose EPDM IP 60	1	AX110.00.22
	Peristaltic Hose NBR-A IP 60	1	AX110.00.21
	Peristaltic Hose NBR IP 60	1	AX110.00.20
	Peristaltic Hose NR-A IP 60	1	AX110.00.19
	Peristaltic Hose CSM IP 60	1	AX110.00.54
	Peristaltic Hose NR IP 60	1	AX110.00.18
8	Metallic cover	1	AX110.01.13
9	Polycarbonate cover	1	AX110.00.14
10	Base plate	1	Contact realax distributor
	Base plate S.S.	1	Contact realax distributor
11	Drive	1	
12	O-Ring front Cover IP 60	1	AX110.00.33
13	O-Ring Press Ring	2	AX114.00.13
14	DIN 933 Hexagonal Head Cap Screw M12x50 Grade 8.8	8	AXTORDIN933 M12X50
15	DIN 933 Hexagonal Head Cap Screw M12x30 Grade 8.8	4	AXTORDIN933 M12X30
16	DIN 912 Socket Cap Screw M10x20 Grade 8.8	8	AXTORDIN912 M10X20
17	DIN 125A Flat Washer M12 Grade 8.8	12	AXARANDIN125AM12

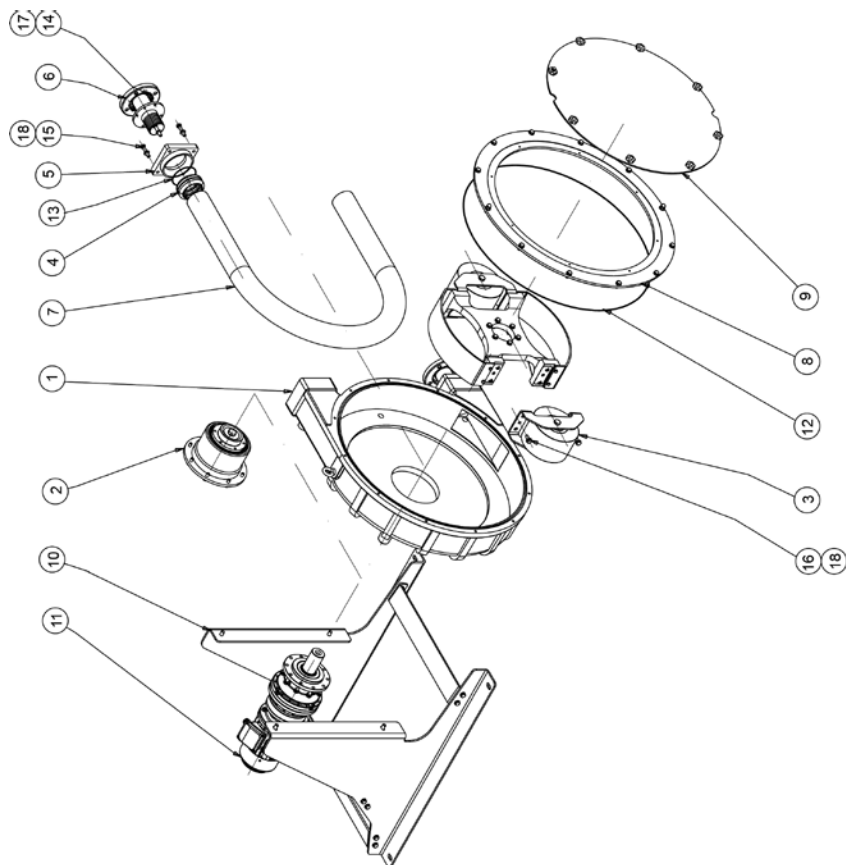
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11.9 Spare parts exploded view IP 60 Model - NORPRENE



POS.	DESCRIPTION	QUANTITY	REFERENCE
1	Pump housing	1	AX110.01.01
2	Bearing Housing Kit IP 60	1	AX110.99.05
3	Roller Kit IP 60	2	AX110.99.02
4	Press Ring Norprene IP 60	2	AX110.00.82
5	Press Flange IP 60	2	AX110.01.15
6	Flange Connection S.S. DIN DN50 IP 60	2	AX110.01.17
	Flange Connection P.P. DIN DN50 IP 60	2	AX110.01.64
	Flange Connection PVDF DIN DN50 IP 60	2	AX110.01.72
	Flange Connection S.S. ANSI 2" IP 60	2	AX110.01.41
	Flange Connection P.P. ANSI 2" IP 60	2	AX110.01.63
	Flange Connection PVDF ANSI 2" IP 60	2	AX110.01.65
	Flange Connection S.S. TRI-CLAMP 2 ½" IP 60	2	AX110.01.42
	Flange Connection S.S. DIN 11851 NW50 IP 60	2	AX110.00.81
7	Peristaltic Hose Norprene IP 60	1	AX110.00.67
8	Metallic cover	1	AX110.01.13
9	Polycarbonate cover	1	AX110.00.14
10	Base plate	1	Contact realax distributor
	Base plate S.S.	1	Contact realax distributor
11	Drive	1	
12	O-Ring front Cover IP 60	1	AX110.00.33
13	O-Ring Press Ring	2	AX114.00.13
14	DIN 933 Hexagonal Head Cap Screw M12x50 Grade 8.8	8	AXTORDIN933 M12X50
15	DIN 933 Hexagonal Head Cap Screw M12x30 Grade 8.8	4	AXTORDIN933 M12X30
16	DIN 912 Socket Cap Screw M10x20 Grade 8.8	8	AXTORDIN912 M10X20
17	DIN 125A Flat Washer M12 Grade 8.8	12	AXARANDIN125AM12

11.10 Spare parts exploded view IP 70 Model

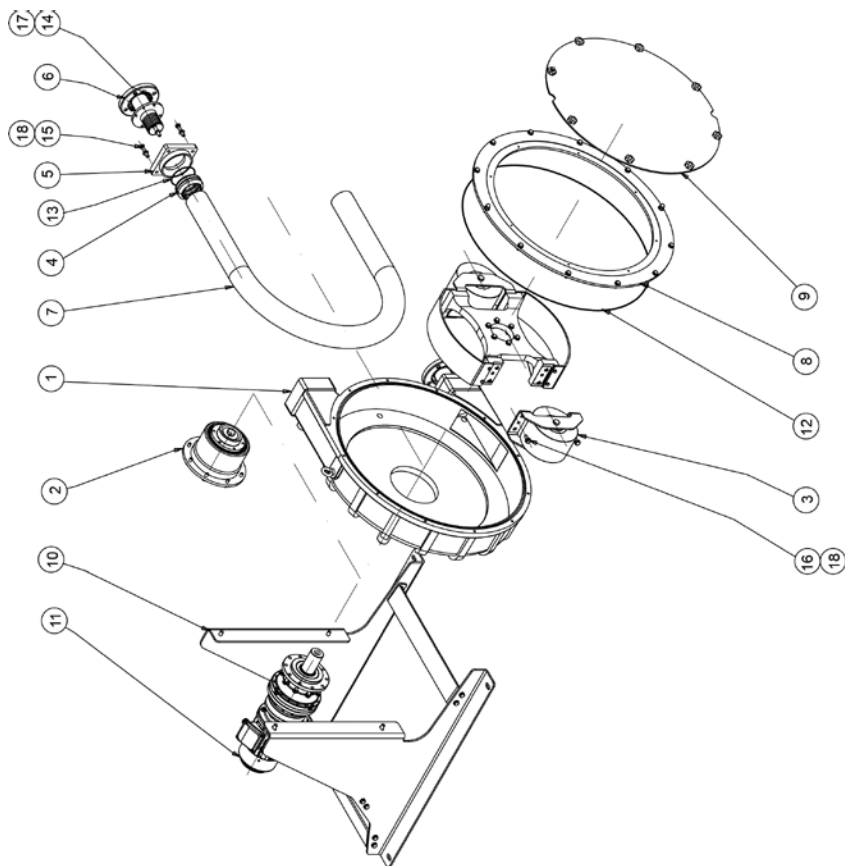


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POS.	DESCRIPTION	QUANTITY	REFERENCE
1	Pump housing	1	AX112.01.01
2	Bearing Housing Kit	1	AX111.99.05
3	Roller Kit IP 70	2	AX112.99.02
4	Press Ring IP 70	2	AX112.00.10
5	Press Flange IP 70	2	AX114.00.05
6	Flange Connection S.S. DIN DN65 IP 70	2	AX112.00.11
	Flange Connection P.P. DIN DN65 IP 70	2	AX112.00.14
	Flange Connection PVDF DIN DN50 IP 70	2	AX112.00.16
	Flange Connection S.S. ANSI 2 ½" IP 70	2	AX112.00.12
	Flange Connection P.P. ANSI 2 ½" IP 70	2	AX112.00.15
	Flange Connection PVDF ANSI 2" IP 70	2	AX112.00.17
	Connection S.S. DIN 11851 NW65 IP 70	2	AX112.00.13
	Connection S.S. TRI-CLAMP 3" IP 70	2	AX112.00.43
7	Peristaltic Hose NR IP 70	1	AX112.00.18
	Peristaltic Hose NBR IP 70	1	AX112.00.20
	Peristaltic Hose EPDM IP 70	1	AX112.00.22
	Peristaltic Hose CSM IP 70	1	AX112.00.23
	Peristaltic Hose NR-A IP 70	1	AX112.00.19
8	Metallic cover	1	AX112.00.40
9	Polycarbonate cover	1	AX112.00.41
10	Base plate	1	Contact realax distributor
	Base plate S.S.	1	Contact realax distributor
11	Drive	1	
12	O-Ring Front Cover IP 70	1	AX112.00.35
13	O-Ring Press Ring	2	AX114.00.10
14	DIN 912 Socket Cap Screw M10x20 Grade 8.8	8	AXTORDIN912 M10X20
15	DIN 933 Hexagonal Head Cap Screw M12x60 Grade 8.8	8	AXTORDIN933 M12X60
16	DIN 933 Hexagonal Head Cap Screw M12x30 Grade 8.8	4	AXTORDIN933 M12X30
17	DIN 125A Flat Washer M10 Grade 8.8	8	AXARANDIN125AM10
18	DIN 125A Flat Washer M12 Grade 8.8	12	AXARANDIN125AM12

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11.11 Spare parts exploded view IP 70 Model - NBR-A



POS.	DESCRIPTION	QUANTITY	REFERENCE
1	Pump Housing	1	AX112.01.01
2	Bearing Housing Kit	1	AX111.99.05
3	Roller Kit IP 70	2	AX112.99.02
4	Press Ring IP 70	2	AX112.00.10
5	Press Flange IP 70	2	AX114.00.05
6	Connection S.S. DIN 11851 NW65 IP 70 NBR-A	2	AX112.00.58
	Connection S.S. TRI-CLAMP 3" IP 70 NBR-A	2	AX112.00.59
7	Peristaltic Hose NBR-A IP 70	1	AX112.01.21
8	Metallic cover	1	AX112.00.40
9	Polycarbonate cover	1	AX112.00.41
10	Base plate	1	Contact relax distributor
	Base plate S.S.	1	Contact relax distributor
11	Drive	1	
12	O-Ring front Cover IP 70	1	AX112.00.35
13	O-Ring Press Ring	2	AX114.00.10
14	DIN 912 Socket Cap Screw M10x20 Grade 8.8	8	AXTORDIN912 M10X20
15	DIN 933 Hexagonal Head Cap Screw M12x60 Grade 8.8	8	AXTORDIN933 M12X60
16	DIN 933 Hexagonal Head Cap Screw M12x30 Grade 8.8	4	AXTORDIN933 M12X30
17	DIN 125A Flat Washer M10 Grade 8.8	8	AXARANDIN125AM10
18	DIN 125A Flat Washer M12 Grade 8.8	12	AXARANDIN125AM12

12. END-OF-LIFE



WARNING! Danger from hazardous substances!
Possible consequence: Fatal or very serious injuries.
Customer must decontaminate the pump with suitable agents (refer to the material safety data sheet for the fluid).

12.1 Recycling

Once cleaned the following components can be scrapped/recycled:

- Pump housing
- Rotor and rollers
- Baseplate
- Drive - Some specialist disassembly may be required.

12.2 Recycling and/or Repurposing

The following components even when cleaned must still be prepared for special waste disposal.

Customer is responsible to follow local legislation for reuse or environmentally friendly processing of packaging materials, (contaminated) lubricant, oil and the following components.

- Hose
- Plastic

Once the hose has been cleaned it may be disposed of using the same methods as car tyre disposal – *follow local regulations.*

13 DECLARATION OF CONFORMITY

- Original -
EC Declaration of Conformity

We hereby declare,

AxFlow Holding AB
Sveavägen 151, floor 5
SE-113 46 Stockholm
Sweden

That the following designated product complies with the pertinent fundamental safety and health requirements of the EC Directive in term of its design and construction and in term of the version marketed by us.

This declaration loses its validity in the event of a modification to the product not agreed with us.

Description of the product: Peristaltic pump RealAx IP
Product Type: IP30, IP40, IP50, RP60/B, IP70/B, IP80
Serial no: Refer to nameplate on the device
Pertinent EC Directives: CE Declaration of Conformity (Ann. II. A 2006/42/CE):
The pump is conformity to the safety requirements according to the 2006/42/CE norms and amendments.

Manufacture Declaration (Ann. II. B 2006/42/CE): The pump cannot be operated before the machine in which is assembled the pump, will be declared in conformity with the safety requirements according to the 2006/42/CE norms and requirements.

Signature:



Details of the signatory:

David Lindquist

PLC Peristaltic Pumps, AxFlow Holding AB

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14 WARRANTY

We guarantee against all manufacturing defects and guarantee the materials that compose the relax pump for two years from the date of delivery. This guarantee does not cover the hose or the lubricant as these are elements that have a normal function wear, irrespective of their duration.

This guarantee is valid as long as the equipment is operated in accordance with this document.

This guarantee includes materials and work but not the cost for transportation of the equipment to the authorized repair shop or its return to the customer.

AT

Für weitere Informationen über realax Schlauchpumpen und für Service und Support kontaktieren Sie bitte:

AxFlow GesmbH
Seering 2/2. OG
8141 Premstätten, Österreich
Tel.: +43 316 68 35 09-0
Fax: +43 316 68 34 92
E-mail: office@axflow.at
www.axflow.at

BG

For more information about realax hose pumps please contact:

AxFlow Ltd.
27 Prof. Kiril Popov Street, ground floor
Sofia city
Tel.: +359 (0) 879 380 202
E-mail: service.bulgaria@axflow.hu

CH

Für weitere Informationen und umfassenden Service wenden Sie sich bitte an:

AxFlow GmbH
Vertriebsbüro Schweiz
Eptingerstrasse 41
4132 Muttenz, Schweiz
Tel.: +41 61 4619691
E-mail: info@axflow.ch

CRO

Za servisiranje i podršku vaših realax peristaltičkih pumpi sa obratite se na adresu:

VIP Tehnika d.o.o.
– Member of AxFlow Group
Zgornji Duplek 30e
2241 Spodnji Duplek
Tel.: +386 2 684 00 60
Fax: +386 2 681 01 62
E-Mail: vip.tehnika@siol.net
www.vip-tehnika.si/

DE

Für weitere Informationen und umfassenden Service wenden Sie sich bitte an:

Beratung, Verkauf und Service
AxFlow GmbH
Theodorstrasse 105
40472 Düsseldorf, Deutschland
Tel.: +49 211 23806-0
E-mail: info@axflow.de

Service-Stützpunkt und Werkstatt

AxFlow Service Süd
Kiryat-Shmona-Straße 11
87700 Memmingen, Deutschland
Tel. +49 8331 3309
service.sued@axflow.de

DK

For service og support til dine realax slangepumper kontakt venligst:

AxFlow A/S
Omstillingen: +45 7010 3550
Bestillinger, forespørgsler og almene spørgsmål kan mailes til os på:
axflow@axflow.dk

Kontor og lager:

AxFlow A/S
Kong Svends Vej 65A
DK-2765 Smørum
www.axflow.dk

FR

Pour plus d'informations sur les pompes péristaltiques realax, contactez :

AxFlow SAS
87, rue des Poiriers
ZA Sainte Apolline
78 372 PLAISIR CEDEX
Tél: +33 (0) 1 30 68 41 41
E-mail: info@axflow.fr
www.axflow.fr

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HU
A realax tömlőszivattyúkkal kapcsolatos további információkért forduljon:

AxFlow Kft.
 Bilk Centre, B1 ép.
 Európa utca 6.
 1239 Budapest
 Tel.: +36 1 454-3080
 Email: axflow@axflow.hu

IE
For more information about realax hose pumps please contact:

AxFlow Ltd.
 Unit 33, Western Parkway Business Centre
 Ballymount Road
 Dublin 12
 Tel : +353 1 4504522
 Fax : +353 1 4504887
 www.axflow.ie

IT
Per assistenza tecnica e/o maggiori informazioni sulle pompe realax contattare:

AxFlow S.r.l.
 Via Montefeltro 4
 20156 Milano (MI)
 Telefono: +39 02 484801
 E-mail: info@axflow.it
 www.axflow.it

PL
Aby uzyskać więcej informacji na temat pomp realax węża prosimy o kontakt:

AxFlow Sp. z o. o.
 ul. Floriana 3/5
 04-664 Warszawa
 Telefon centrala: +48 613 00 12

Wsparcie techniczne Pompy:

wewn. 223 lub kom. +48 691 978 211,
 wewn. 254 lub kom. +48 667 856 565

Wsparcie techniczne części zamienne:

wewn. 218 lub kom. +48 667 808 878
 Pompy rejon Północ: +48 601 816 003
 Pompy rejon Centrum: +48 601 358 507
 Pompy rejon Południe: +48 605 737 091

Serwis:

wewn. 253, lub kom: +48 601 91 27 72

Realizacje dostaw:

wewn. 229, 240
 Fax: +48 815 31 16
 E-mail: biuro@axflow.pl
 www.axflow.pl

RO
Pentru mai multe informații despre pompele cu furtun realax vă rugăm să contactați:

AxFlow SRL
 Str. Henri Barbusse, Nr. 19
 RO 400616 Cluj-Napoca
 Tel.: +40 733072124
 E-mail: axflow.romania@axflow.hu

SE

För mer information om realax slangpumpar vänligen kontakta:

AxFlow AB
Ostmästargränd 12
120 40 Årsta
(Box 90162, 120 22 Stockholm)
Telefon: +46 8-602 22 00
Fax: +46 8-91 66 66
E-post: kundservice@axflow.se
www.axflow.se

SLO

Za servisiranje i podršku vaših realax peristaltičkih pumpi sa obratite se na adresu:

VIP Tehnika d.o.o.
– Member of AxFlow Group
Zgornji Duplek 30e
2241 Spodnji Duplek
Tel.: +386 2 684 00 60
Fax: +386 2 681 01 62
E-Mail: vip.tehnika@siol.net

SER

Za više informacija o realax peristaltičkim pumpama obratite se na adresu:

Regionalni menadžer prodaje
Ognjen Nešović
Mob: +381 64/84 07 079
E-mail: ognjen.nesovic@axflow.rs
www.axflow.rs

UK

For service and support to your realax hose pumps please contact:

AxFlow Services
Phone: +44 1484 543649
Fax: +44 1484 512608
E-mail: service@axflow.co.uk

For more information about realax hose pumps please contact:

AxFlow London head office
Orion Park, Northfield Ave, Ealing,
London, W13 9SJ
Phone: +44 20 85792111

AxFlow Scotland

Unit 3, Harlaw Centre, Howe Moss
Crescent, Kirkhill Industrial Estate,
Dyce, Aberdeen, AB21 OGN
Phone: +44 1224 729367

AxFlow Huddersfield

Unit 9a, Fieldhouse Business Park,
Old Fieldhouse Lane,
Huddersfield, HD2 1FA
Phone: +44 1484 543649

AxFlow Durham

Unit 31, Evans Business Centre,
Aycliffe Business Park, Newton
Aycliffe, County Durham, DL5 6ZF
Phone: +44 1325 327322

AxFlow Windsor

Unit 5, Millside Park, Crouch Lane,
Winkfield, Windsor,
Berkshire, SL4 4PX
Phone: +44 1344 886633
www.axflow.co.uk





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CUSTOMER:		PHONE:	
CONTACT:		FAX:	

INTENTION:	Repair	<input type="checkbox"/>	Warranty	<input type="checkbox"/>	Return	<input type="checkbox"/>
MATERIAL DELIVERED:	Pump only	<input type="checkbox"/>	Complete unit	<input type="checkbox"/>	Spare part	<input type="checkbox"/>
UNITS:						

PUMP TYPE:	
PUMP REFERENCE:	
SERIAL NUMBER:	
OPERATION TIME (Years):	
OPERATING HOURS (h/day):	

APPLICATION DATA (* Indicate units):						
PRODUCT						
VISCOSITY *						
DENSITY *						
FLOW *						
DANGEROUS	Corrosive	<input type="checkbox"/>	Flammable	<input type="checkbox"/>	Toxic	<input type="checkbox"/>
SPEED (rev/min)	Min.		Max.			
SUCTION PRESSURE (BAR)						
DISCHARGE PRESSURE (BAR)						
TEMPERATURE (°C)						

MEDIA AND WARNINGS	   							
	Medium / Concentration	Identification	Flammable	Toxic	Corrosive	Harmful / Irritant	Other*	Harmless
Process Medium								
Medium for process cleaning								
Returned part cleaned with...								

*Explosive; Oxidising; Dangerous for the environment, Biological Risk, Radioactive. Please tick if one of the above is applicable, include MSDS and, if necessary, special handling instructions.

DESCRIPTION OF FAILURE:	

PHOTOS AVAILABLE:	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-------------------	-----	--------------------------	----	--------------------------

The pump(s) should be emptied and cleaned of any contamination before it is sent. In case of a corrosive, flammable or toxic, product the pumps must be accompanied by a certificate of decontamination. Make sure the cleaning product you use is compatible with the materials that make up the pump and do not cause damage. In case of default we reserve the right to charge the costs of cleaning or returning the pump if necessary. By signing this form you confirm that you have cleaned the pump(s) in accordance with our recommendation.

**We hereby certify that the parts have been carefully cleaned.
To the best of our knowledge they are free from any residues in dangerous quantities.**

COMPANY/STAMP:		
DATE:	NAME:	SIGNATURE:

realax

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www.realaxpumps.com

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