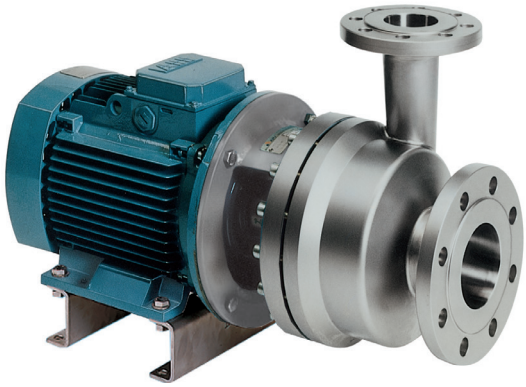
APV®

INSTRUCTION MANUAL

WHP+ High Pressure Centrifugal Pump



Original Instructions

FORM NO.: L381434GB

REVISION: 09/2025

SPXFLOW®

READ AND UNDERSTAND THIS MANUAL PRIOR TO OPERATING OR SERVICING THIS PRODUCT.

Table of Contents

GB

Declaration of Conformity

SPXFLOW®

CE Declaration of Conformity
English original

We, SPX Flow Technology Poland Sp. z o.o.
Ul. Rolbieskiego 2, 85-862 Bydgoszcz
as the **Manufacturer**

and SPX Flow Technology Poland Sp. z o.o.
Ul. Rolbieskiego 2, 85-862 Bydgoszcz
as the **Design Center**,

declare under our sole responsibility that our

Centrifugal Pumps
W+ 10/8, W+ 22/20, W+ 30/80, W+ 25/210, W+ 35/35, W+ 35/55,
W+ 30/120, W+ 50/600, W+ 50/8, W+ 55/35, W+ 55/60, W+ 60/110,
W+ 65/350, W+ 70/40, W+ 80/80, W+ 110/130, W+ 140/50
Wi+, WHP+, Wa+, Ws+

to which this Declaration relates is/are in conformity with the following **EU Regulations and Directives** as well as applicable harmonized standards as per the current valid revision of these norms and statutory instruments:

Machinery Directive (MD)	*2006/42/EC*
Low Voltage Directive (LVD)	*2014/35/EU*
Electromagnetic Compatibility Directive (EMC)	*2014/30/EU*
Safety of machinery — General principles for design — Risk assessment and risk reduction	ISO 12100:2010
Safety of machinery - Hygiene requirements for the design of machinery	EN ISO 14159:2008
Pumps and pump units for liquids - Common safety requirements	EN 809:1998+A1:2009/AC:2010
Liquid pumps - Safety requirements	EN 13951:2012

Bydgoszcz, Poland 1.07.2026	Jacek Goska, Site Leader SPX Flow Technology	Jacek Goska
Place & date of the declaration	Name of the person empowered to draw up the declaration on behalf of the Manufacturer or the Authorized Representative	Signature

1. General Description

This operating manual should be read carefully by the competent operating and maintenance personnel.

It must be pointed out that we will not accept any liability for damage or faults resulting from failing to comply with this operating manual.

Descriptions and data given herein are subject to technical changes.

1.1. Intended Use

The WHP+ centrifugal pump is exclusively intended for pumping liquids, especially in food and beverage installations.

Refrain from using the pump in a manner which exceeds the scope and specifications stated below.

Any use exceeding the margins and specifications set forth is considered to be not intended.

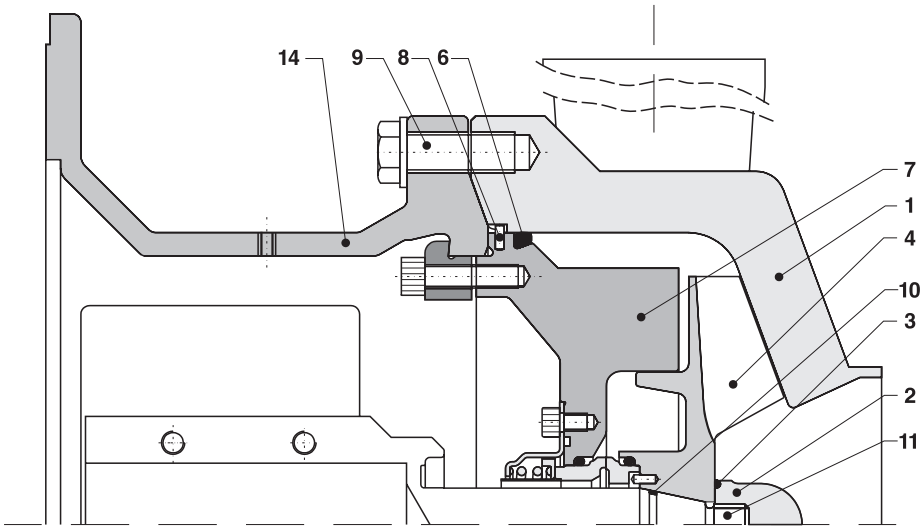
The manufacturer is not liable for any damage resulting from such activities.

The user will bear the full risk.

Caution! Improper use of the pump leads to:
- damage,
- leakage,
- destruction,
- potential failures in the production process.

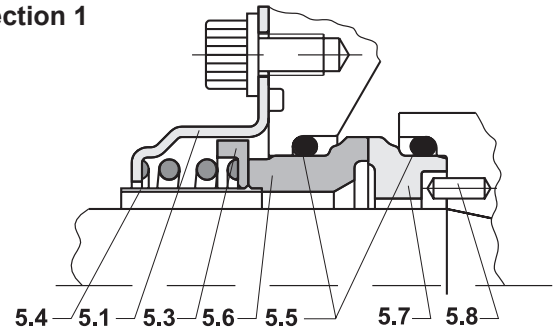
2. Sectional Drawing

1	Pump housing
2	Cap nut
3	O-ring
4	Impeller
6	O-ring
7	Back plate
8	Locating pin
9	Bolt
10	O-ring
11	Shaft
14	Extension frame
5.1	Fastening kit for single mech. seal
5.3	Pressure ring
5.4	Drain pipe
5.5	O-ring
5.6	Stationary seal face
5.7	Rotary seal face
5.8	Pin
5.9	Fastening kit for double mech. seal
5.10	O-ring
5.11	Pressure ring

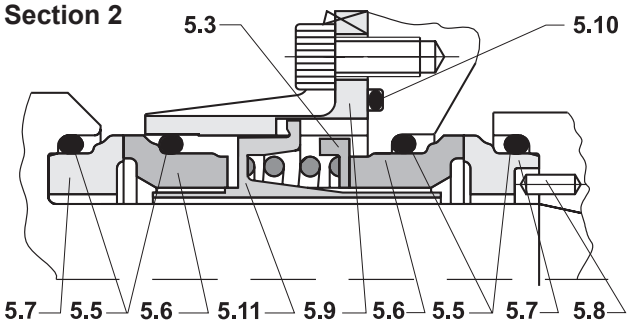


Section 1: Single mechanical shaft seal for shafts of Ø25 and Ø35
Section 2: Double mechanical shaft seal for shafts of Ø25 and Ø35

Section 1



Section 2



3. Introduction

3.1. The WHP+ Range

This manual covers the standard versions of the WHP+ pump. Check the pump's nameplate to determine whether you have one of these models.

3.2. The WHP+ Pump, Standard and Auxiliary Equipment

Standard options:

- With or without motor cover.
- With frame and feet or firm supports.
- With shaft seal in carbon/SiC or SiC/SiC.
- With O-rings in EPDM or FPM (Viton).
- With single mechanical or double mechanical seal.

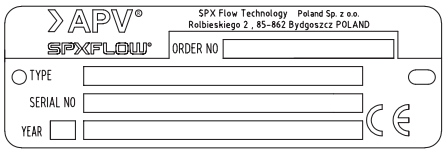
Additional options:

- Sound absorbing motor cover.
- WHP+ pumps can be supplied with all standard welded ferrules, e.g. unions, clamp rings, flanges. Customer is responsible for the selection of fittings type adopted to maximum pressure in the installation.

3.3. Identification of Pump Models

A nameplate as shown in Fig. 1 is fitted on the extension frame.

Fig. 1



Example:

Order no.:	Indicates the SPX Flow Technology order number.
Type:	Indicates the WHP+ type.
Serial no.:	Indicates the unique WHP+ serial number.
Year:	Indicates the year of manufacture.

The empty field can be used to identify the pump within overall system.

3.4. Identification of Motor Models

The motor nameplate is fitted on the motor. The plate indicates the motor type and motor frame size, power, speed, etc.

Caution! Check that the specifications of the motor and motor control unit are correct. This applies in particular to applications which carry a risk of explosion.

4. Safety Precautions

The safety advice listed in this operating manual, the national workplace health and safety regulation as well as internal precautions and practical advice on ways to manage the risks, must be followed. It is strictly forbidden to suspend safety devices or change their mode of working.

The pump fulfils the technical demands, and the function is reliable provided that the pump is operated in compliance with the given instructions.

To avoid injuries to persons and/or damages on machinery this instruction manual will have to be strictly observed by the personnel responsible for the operation of the pump.

Inspection, regular service, and maintenance of the pump play a key role in running the pump and production. Any kind of alarms and faults, leaks etc. during operation and production must be acknowledged and necessary action to be taken to avoid any break down of the production. It is in the responsibility of the user to carry out the service and perform maintenance of the pump.

The requirements for the service media must be always met when the pump is in operation. Power cuts will cause the pump to stop, and a CIP cleaning will be required before production can be resumed.

4.1. Operator Requirements

Operators includes all persons working on or near the equipment. Only skilled, instructed, physically and mentally capable persons can work on and use this pump.

4.2. Recommended Personal Protective Equipment

It is always the operator's responsibility to wear appropriate personal protective equipment (PPE), while operating or working on this machine. This may include, but is not limited to, appropriate clothing, safety shoes, gloves, hearing protection, eye, and face protection depending on the operational circumstances.

4.3. Unexpected Stop during Production and Product Blockage

An unexpected stop during production is usually related to a power failure but may also be caused by other factors, such as blockages. To remove the blockage, check pipe system, clean any filter if necessary.

4.4. Emergency Stop

The emergency stop located on the control panel is an emergency operation intended to stop a process or movement that has become hazardous. The emergency stop must not be used as regular operation stop or shut down procedure. By activating/pressing the emergency stop button the plant/machinery comes to an immediate full stop. The emergency stop must not be used as regular operation stop or shut down procedure.

4.5. Residual Risks

Despite the inherent protective safe design measures, safeguarding, and complementary protective measures, the residual risks remain.

5. Receipt, Storage, Handling and Transport

5.1. Receipt

Check the consignment for damage immediately on arrival. In case of damage, clearly mark upon the carrier's paperwork (with a brief description of the damage) that the goods have been received in a damaged condition.

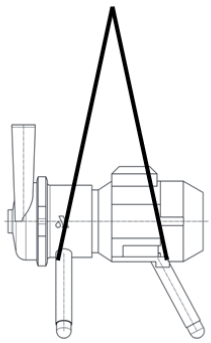
5.2. Storage

After receipt and inspection, if the pump is not to be installed immediately, the pump must be repacked and placed in suitable roofed storage.

The storage location must be clean, dry and free from vibration. Plastic or gasket type port covers must be left in place.

If a moist or dusty atmosphere is used for storage, further protect the pump and unit with a suitable cover.

Fig. 2



5.3. Handling and Transport

Act with caution when lifting the pump. All parts with a weight of more than 20 kg must be handled with a suitable hoisting device. Use a crane, forklift truck or other suitable lifting gear, and always use 2 hoisting belts in conjunction with this. See Fig. 2.

Place the hoisting belts around the rear part of the motor and around the extension frame. Take care that the belts are evenly loaded when the pump is lifted.

Caution! Always use 2 hoisting belts and never fasten at the front of the pump body.

Caution! Never lift the pump at the shroud, as it is not designed to carry the weight of the motor. Remove the shroud before lifting the pump. Always use securely fitted lifting straps when lifting with a crane or similar lifting gear.

Caution! Never go underneath a load that is being lifted!

5.4. Weights

The following weight data is provided in kilograms.

Pump type	132	160	180	200	280
	5.5 kW 7.5 kW	11.0 kW 15.0 kW 18.5 kW	22.0 kW	30.0 kW	75.0 kW
WHP+30/80	92 97	132 142 153	---	---	---
WHP+55/60	106 111	145 154 164	189	244	---
WHP+60/110	114 119	152 161 171	196	245	---
WHP+65/350	---	---	---	---	920

The weights may vary depending on accessories and fittings, and are therefore intended only as a reference value for handling, transport and packaging activities.

6. Installation of the Pump

Caution! Read through the instructions before installing the pump and starting it up. If in doubt, contact your local SPX Flow Technology representative.

6.1. Positioning

Caution! Observe that a pump may be unstable and may tilt to the fore onto its inlet port when having a relatively small motor and being assembled on brackets instead of being equipped with a frame with adjustable feet. Be careful during the installation of such a pump.

The following must be observed:

- The pump must be positioned so that the suction pipe is as short as possible and there is a sloping gradient towards the suction port of the pump.
- Keep the number of valves, bends and tee-pieces on the suction side to an absolute minimum.
- There must be sufficient space around the pump for piping and access for maintenance.

6.2. Lining up the Pipe System

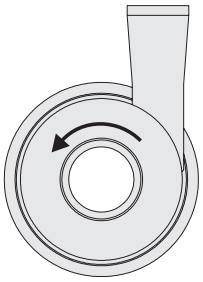
Ensure that the pipe system is adequately underpinned with pipe supports so that the pump body is not subject to strain from or the weight of the pipe system.

Caution! During the suction process, the pump may tend to vibrate. A pipe support should be placed close to the pump suction to prevent pipework vibration creating excessive noise.

6.3. Power Supply

Caution! The installation of all electrical parts must be carried out by qualified personnel.

Fig. 3



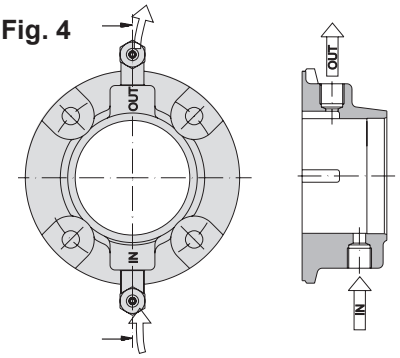
The motor must be connected via a control cabinet to the network in compliance with the local regulations. Moreover, the motor must be connected in accordance with the instructions indicated in the inner side of the connecting box lid of the motor.

The motor should be connected in such a way that the motor and therefore the impeller are anti-clockwise when viewed from the front in the direction of the suction port of the pump body. See Fig. 3.

6.4. Liquid Supply for Flushed Shaft Seal

Pumps with a flushed shaft seal are fitted with two PTFE hose connectors on the sealing flange. The hose connectors are 1/8 inch and fit 6.0 mm hoses. The required flow quantity amounts to 15–30 l/h. The maximum permissible pressure is 7 bar.

Fig. 4



The hose connection should always be positioned vertically with the fluid inlet below and the outlet above. See Fig. 4.

Fluid consumption can be limited by installing a solenoid valve on the supply side. The open/close function of the solenoid valve can be controlled by the pump's start/stop sequence.

Do not use steam or steam condensate on the connection for flushing liquids. If you wish to use steam as a sealant, a special aseptic pipe connector must be used.

For connectors see chapter 6.5.

6.5. Connecting Steam and Steam Condensate for Aseptic Use

When static double seals are used, the connection for steam or steam condensate at the pump body is provided with fittings for 8 mm stainless steel pipes.

Steam of up to 150°C and 5 bar can be used.

7. Start-up and Operation

Before starting the pump, dismantle and clean the suction pipe; see page 13.

Any foreign material in the pump should be removed.

7.1. Checking the Pump for Foreign Material

Remove the pump body as described below. The sectional drawing (page 5) is to be used for reference purposes.

1. Disconnect the power supply.
2. Remove the pump body (item 1) by unscrewing body screws (item 9) and carefully extract from the body.
3. Turn the impeller (item 4) to ensure that there is no foreign material behind it.
4. Remove any foreign material from inside the pump.
5. When the pump body is clean and free of foreign material, reassemble the pump.

   Mount the pump body as described below:

6. Check that the locating pin (item 8), which is installed in the top of the back plate, fits with the detent in the pump body and carefully (to avoid damage to the O-ring) press the pump body (item 1a, 1b) in so it covers the O-ring (item 6). Then fasten with the clamp ring (item 9a) or body screws and apply the correct tightening torque.

M12:	100 Nm (74 ft-lb)
M16:	250 Nm (185 ft-lb)
M20:	470 Nm (347 ft-lb)

7. Check that the pipe unions have been tightened properly and that the pipe supports have been fitted.

To facilitate the fitting of the front cover and pump housing, we recommend that the O-ring is lubricated with a thin layer of food-friendly, acid-free grease or soap.

7.2. Checking the Pump

To check that the pump is working satisfactorily, pour water into the pump and start it momentarily. Check the direction of rotation. See Fig. 3. Listen for any unusual noises.

In pumps with water-flushed or steam-flushed shaft seals, the seal chamber must be filled with water/steam.

Caution! Never allow the pump to run without liquid as this will ruin the shaft seal.

7. Start-up and Operation

7.3. Starting the Pump

Caution! Do not start the pump before all pipe connections have been fitted carefully and tightened. Special precautions must be taken when the pump is used to pump hot and/or hazardous liquids. In such cases follow the local regulations for personal safety when working with these products.

Caution! Do not start the pump before the motor shroud or shaft guard has been securely fitted.

Caution! Always remove all assembly and auxiliary tools from the pump before starting it up.

Check the following before starting the pump:

- That the shaft guard has been fitted properly.
- That there is unobstructed access for liquid and that the pump is primed.
- That the valve on the discharge side is closed.

The valve on the discharge side is closed during start-up to prevent the motor from overloading, but should be opened again as soon as the pump has been started.

Caution! The pump contains rotating parts. Never put your hands, fingers or objects into a pump while it is in operation.

Caution! Never touch the shroud during operation, as it can become very hot.

Caution! Never touch the pump body during operation if the pump is being used for hot media, as there is a risk of being burnt.

Caution! If the pump is operating with liquid media but has no circulation, the liquid will heat up and may turn into vapour, which could cause an explosion.

Note! The pump should not be left running too long without pumping (typically 15 minutes if the pumped liquid is not hot), because it will get warm and the priming liquid will evaporate.

7.4. Flushing Liquid

In pumps with a flushed shaft seal, check that the supply inlet for the flushing medium is open and that the flow of the medium is adequate (approx. 15-30 litres/hour).

8. Service and Maintenance

8.1. Checking the Shaft Seal

Check the pump's shaft seal for leaks on a regular basis. If the shaft seal is leaking, replace it or its relevant parts as described below.

8.2. Replacing the Shaft Seal

The sectional drawing (page 5) shows the position and construction of the shaft seal (applying both to ordinary seals and seals with liquid/steam flushing).

Dismantling the pump

To replace the shaft seal it is necessary to dismantle the pump. Follow the steps described below and refer to the sectional drawing (page 5).

Caution! Never dismantle the pump before the motor has been disconnected from the power supply. Remove the fuses and disconnect the cable from the motor terminal box.

Caution! Never dismantle the pump until the pipe system has been drained. Remember that liquid will always collect in the pump body. If the pump is to be used for hot and/or hazardous liquids, special precautions must be taken. In such cases follow the local regulations for personal safety when working with these products.

1. Disconnect the power supply in the motor isolator by removing the fuses and disconnecting the cables.
2. Turn off the steam and flushing liquid supply.
3. Close the pump suction and discharge point and drain the pump housing. If the pump is used for hot and/or aggressive liquids, special precautions must be taken. In such cases, observe the local regulations for personal protection when working with these products.
4. Unscrew the housing screws (item 9) once the inlet and outlet pipes have been properly isolated. Dismantle the pump housing (item 1) and remove the impeller (item 4).
5. Take the stationary seal face (item 5.6) installed in the back plate (item 7) out with your fingers.

Dismantling the shaft seal

6. Remove the O-ring (item 5.5) from the stationary seal face.
7. Use your fingers to remove the rotary seal face (item 5.7) fitted in the impeller (item 4).
8. Remove the O-ring (item 5.5) from the rotary seal face.
9. Clean the chambers of the stationary and rotary seal face with air or water.

9a The rear stationary seal face (item 5.6) is mounted on the pressure ring (item 5.11). The rotary seal face (item 5.7) is mounted on the shaft (item 11). These are removed in the same way as the front seal components.

Checking parts for wear

10. Check the O-rings for signs of stiffness, lack of elasticity, brittleness and/or chemical corrosion. Replace worn or damaged parts.

11. Check the stationary ring (item 5.6) and rotary ring (item 5.7) for signs of wear. Wear surfaces must be completely free of cracks. If this is not the case, both the stationary ring and the rotary ring must be replaced.

11a In case of water-flushed shaft seals check the rear seal rings (item 5.6, 5.7) for wear, and replace if necessary.

12. Fit the new O-rings on the stationary seal face and rotary seal face.

Fitting

Caution! Remember to moisten these with water.

13. Fit the rotary seal face on the impeller without using tools.

Note! The notch in the rotary seal face must be installed so that it fits with the driving pin (item 5.8) in the impeller hub.

13a In case of double mechanical shaft seals, also fit a rotary seal face (item 5.7) with O-ring (item 5.5) in the location on the shaft – again without using tools.

14. Fit the stationary seal face in the back plate without using tools.

Note! Install the stationary seal face so that it fits with the pin in the back plate. Check that the stationary seal face is positioned so that it slides back and forth easily within the back plate.

14a When fitting new double mechanical shaft seals, remove the drain pipe (item 5.4) before fitting them in the pressure ring (item 5.9) or back plate (item 7).

15. After fitting, clean the surfaces subject to wear.

15a For double mechanical shaft seals, re-mount the back plate (item 7).

16. Fit the impeller (item 4). Remember to use the proper tightening torque:

M14:	70 Nm (52 ft-lb)
M20:	200 Nm (148 ft-lb)

17. Check that the locating pin (item 8) in the top of the back plate fits with the detent in the pump body. To prevent damage to the O-ring, carefully press the pump body (item 1) in so that it covers the O-ring (item 6). Then fasten the body screws (item 9).

Remember to use the proper tightening torque:

M12:	100 Nm (74 ft-lb)
M16:	250 Nm (185 ft-lb)
M20:	470 Nm (347 ft-lb)

8.3. Replacing the Motor

The motor of the WHP+ pump has a reinforced motor bearings. If the motor is replaced, the new motor must also have a double row angular contact bearings.

A “small flange” (B34) for frame sizes 80-132 and a “large flange” (B35) in case of large constructions.

When replacing the motor, follow the instructions below. For the replacement of bearings, see the motor supplier’s service instructions.

Fig. 5

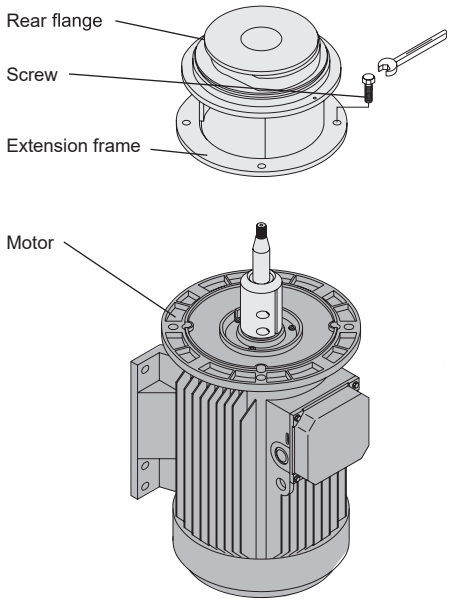


Fig. 6

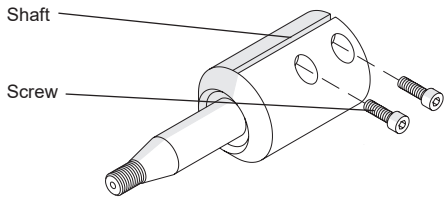
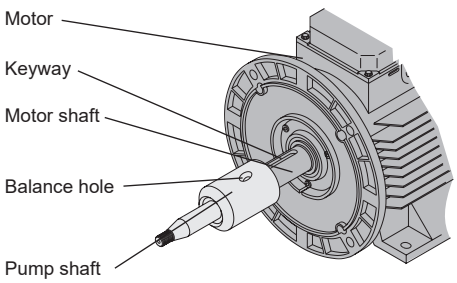


Fig. 7

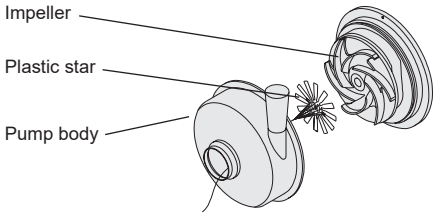


1. Switch off the power supply and disconnect the pump and motor from the system.
2. Remove the pump body. See chapter 8.2, points 1-4.
3. Dismantle the impeller.
4. Remove the motor shroud and, if possible, place the pump vertically on the motor's fan cover. See Fig. 5.
5. Release the four motor flange screws and remove them. See Fig. 5.
6. Lift the back plate (item 7) and extension frame (which are still bolted together) off the shaft. See Fig. 8. Remove the spacer flange (where fitted on the motor).
7. Loosen the screws at the base of the shaft, remove the shaft and replace the motor. See Fig. 6.
8. Before mounting the new pump shaft, remove any dirt and grease from the motor shaft and the base’s internal clamping surfaces. Loosely mount the pump shaft. Position the balance hole over the keyway. See Fig. 7 and 10.
9. Fit the back plate and extension frame over the shaft.
10. Tighten the bolts.
11. Stand the pump back on its legs/brackets.
12. Fit the impeller and secure it with the cap nut/inducer.

Remember to use the proper tightening torque:

M14:	70 Nm (52 ft-lb)
M20:	200 Nm (148 ft-lb)

Fig. 8



13. Place the plastic star against the impeller. See Fig. 8.

14. Fit the pump/screw housing and fasten with body screws.

15. Push the shaft forward until the impeller touches the plastic star. See Fig. 9.

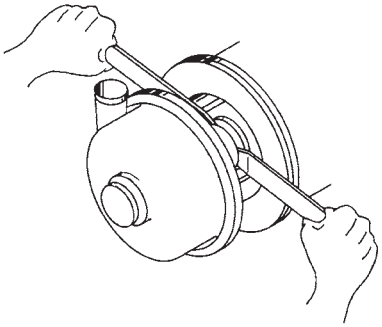
16. Tighten the shaft screws (item 11).

Remember to use the proper tightening torque:

M8:	30 Nm (22 ft-lb)
M10:	55 Nm (41 ft-lb)
M12:	80 Nm (59 ft-lb)

17. Remove the star by pulling it out through the inlet.

Fig. 9



8.4. Recommended Inventory of Spare Parts

Seal kits

The seal kit for the WHP+ pump consists of the wear parts for the pump as specified in the spare parts list.

	Number of pumps in service		
	0–5	5–20	>20
Seal kits	number	number	kits/10 pumps
Normal operation	2	3	1
Special needs	3	6	2

Service kits

The service kit consists of several main pump components which are not considered wear parts but may nevertheless need to be replaced: the shaft, impeller, cap nut and fixing kit.

	Number of pumps in service		
	0–5	5–20	>20
Service kits	number	number	kits/10 pumps
Normal operation	0	1	1
Special needs	1	2	1

9. Technical Data

9.1. Sound Pressure and Sound Effect Level

Measurements have been carried out in accordance with ISO 3743, Grade 2 and ISO 3746, Grade 3. Tolerance: ±3 dB.

LpA in dB refers to the sound pressure level at a distance of one metre from the surface of the pump at a height of 1.6 m above floor level (2006/42/WE Directive).

LwA indicates the sound power level.

Operating conditions A, B and C are defined as follows:

a) Nominal flow and max. permissible operating pressure.
b) Nominal flow and 60% operating pressure.
c) 60% flow and max. permissible operating pressure.

The nominal flow and max. permissible operating pressure in case of WHP+55/60, for example, are 60 m³/hr at an operating pressure of 5.5 bar, and so on.

This information applies only if the motor used is an ABB aluminium motor and the size of the motor matches the power requirement of the pump.

The noise level may increase considerably if reducers (reduction/ expansion fittings) are mounted on the inlet/outlet.

The values shown apply when pumps operate at 2900 rpm and there is a shroud over the motor. If pumps operate at 1450 rpm, the values are reduced by approx. 20 dB.

Operating conditions	LpA			LwA		
	A	B	C	A	B	C
WHP+30/80	75	73	68	89	87	82
WHP+55/60	74	70	68	88	84	82
WHP+60/110	76	74	72	87	85	84
WHP+65/350	86	88	83	101	102	97

Note! The sound emitted by a pump may vary considerably. It depends on the pump design (size/speed/shroud/installation) as well as on the liquid type and pumping conditions.

9.2. Maximum Permissible Outlet Pressure for WHP+ Pumps

The maximum pump outlet pressure specified below must not be exceeded (applies to water at 20°C).

Max. 45 bar: WHP+30/80, WHP+55/60, WHP+60/110, WHP+ 65/350

9. Technical Data

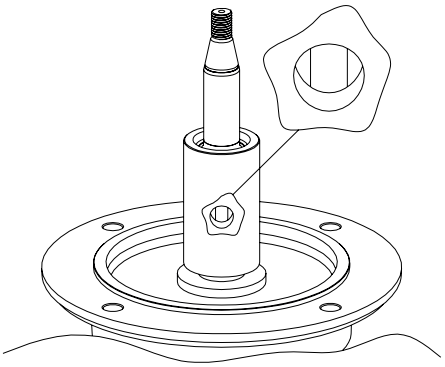
9.3. Tightening Torques

Required torques to tighten the pump shaft on the motor shaft:

M8:	30 Nm (22 ft-lb)
M10:	55 Nm (41 ft-lb)
M12:	80 Nm (59 ft-lb)

Caution! Ensure that the key groove in the motor shaft can be seen through the hole in the stub shaft. See Fig. 10.

Fig. 10



Required torque to tighten the cap nut:

M14:	70 Nm (52 ft-lb)
M20:	200 Nm (148 ft-lb)

Required torque to tighten the clamp connection at the pump body and body cover:

M12:	100 Nm (74 ft-lb)
M16:	250 Nm (185 ft-lb)
M20:	470 Nm (347 ft-lb)

9.4. Motor Bearings Lubrication

The motors are equipped with two double row angular contact ball bearings to accommodate the increased axial forces of the WHP+ pump.

The motors are equipped with grease nipples and must be lubricated regularly. The maintenance intervals and lubricant quantities are described in the motor service manual.

Properties of lubricants for ball bearings

Use special lubricants for ball bearings with the following properties:

- Grease lithium base or lithium complex good quality.
- Viscosity 100-140 cSt at a temperature of 40 °C.
- Consistency NL GI 2 or 3.
- Heat range -30 ° C to +120 °C continuous.

Suitable lubricants are available from the major lubricant manufacturers.

The grease nipple can be accessed by the removal of the cover.

9.5. Cleaning Recommendation

Caution! Never hose down or clean the electric motor directly with water or cleaning fluid.

The parts of the pumps which become wet as a result of media are cleaned using the cleaning agent in the connected pipelines.

Cleaning agents, times and cycles must be modified according to individual application depending on the degree and nature of contamination.

Verify the compatibility of the individually selected cleaning processes and agents with the seal materials being used.

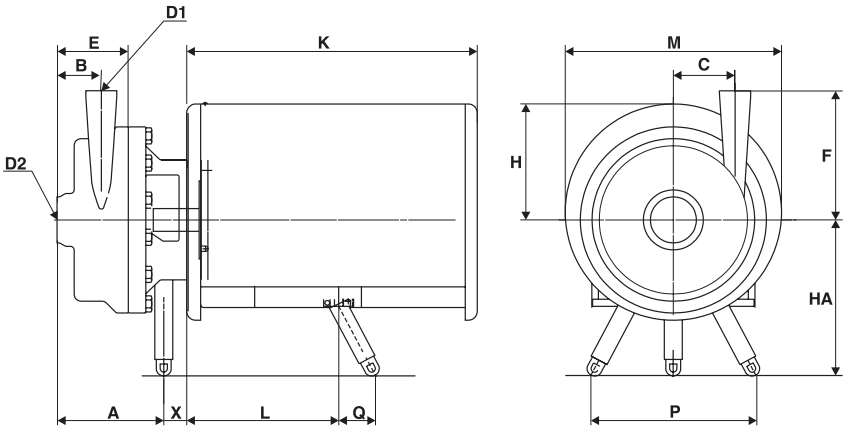
Subject to change.

10. Spare Parts List

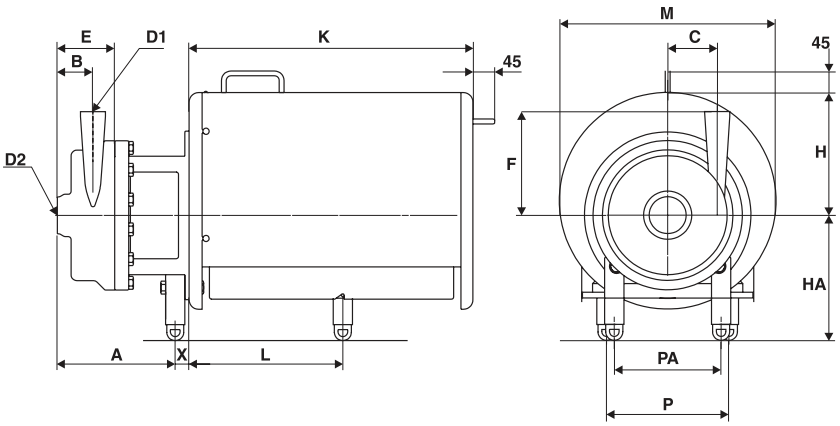
10.1. Pump Dimension

10.1.1 Adjustable Feet

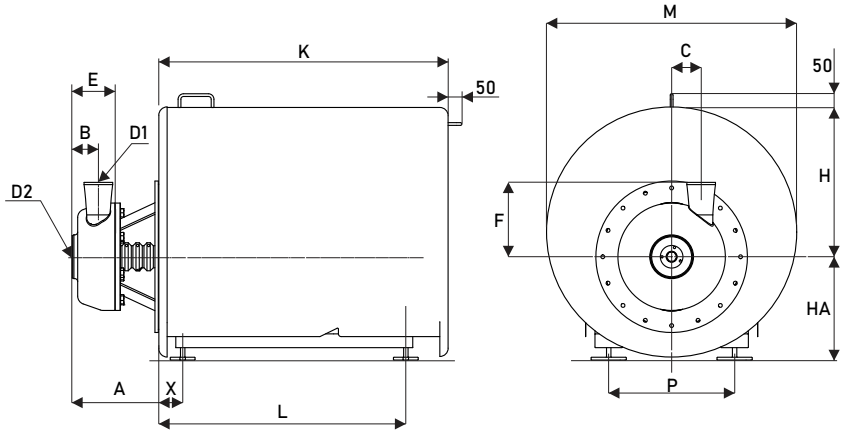
TG.1
Motor 132S-M



TG.2
Motor 160M-200L



TG.3
Motor 280S-280M



10. Spare Parts List

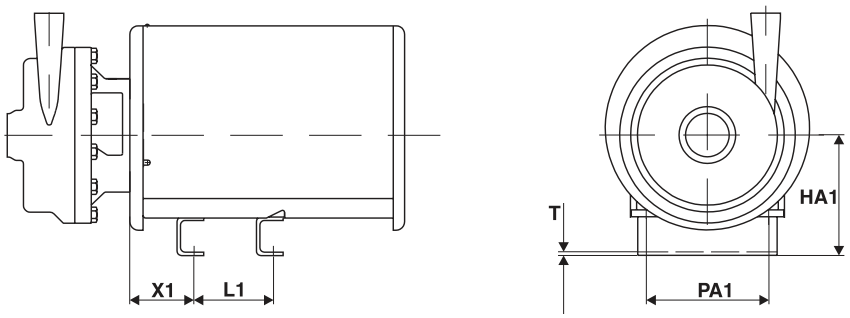
	TG		WHP+30/80	WHP+55/60	WHP+60/110	WHP+65/350
	1		188	178	177	
	2	A	248	232	231	
	3					401
		B	78	74	68	95
		C	70	99.5	106	107
		E	141	119	118	155
		F	215	220	290	270
		D1	76	51	76	104
		D2	102	76	102	154
	1		56	38	38	
	2	X	43	43	43	
	3					86,5
132M	1		260	260	260	
160			260	260	305	
180	2			260	305	
200		HA		305	305	
280	3					375

	Motor								
	Tg.1		Tg.2					Tg.3	
	132S	132M	160M	160L	180M	180L	200L	280S	280M
K	675	675	675	675	688	688	886	1050	1050
M	450	450	480	480	525	525	580	908	908
P	276	276	254	254	279	279	318	457	457
PA			222	222	222	222	222		
Q	62	62							
H	284	284	296	296	320	320	372	464,5	464,5
L									
WHP+ 30/80	252	290	318	362					
WHP+ 55/60					362	400	463		
WHP+ 60/110									
WHP+ 65/350								896,5	896,5

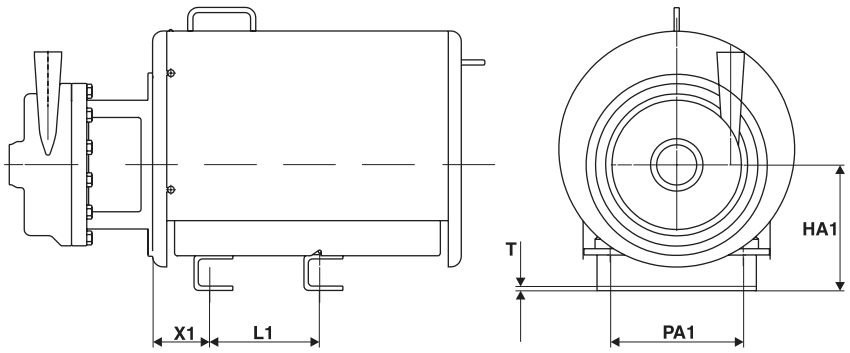
10. Spare Parts List

10.1.2 Bracket Type A

TG.1
Motor 132S-M
Type A



TG.2
Motor 160M-280M
Type A



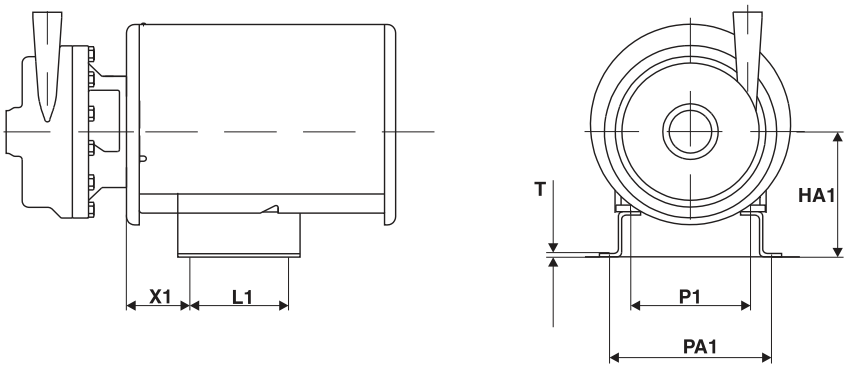
TG.1-2
With bracket type A
Motor 132M - 280M

	Motor								
	132S	**132M**	**160M**	**160L**	**180M**	**180L**	**200L**	**280S**	**280M**
X1	112	112	108	108	121	121	158	192,5	192,5
L1	140	178	210	254	241	279	305	368	419
PA1	216	216	254	254	279	279	318	457	457
T	6	6	6	6	6	6	8	16	16
HA1	212	212	240	240	260	260	280	372	372

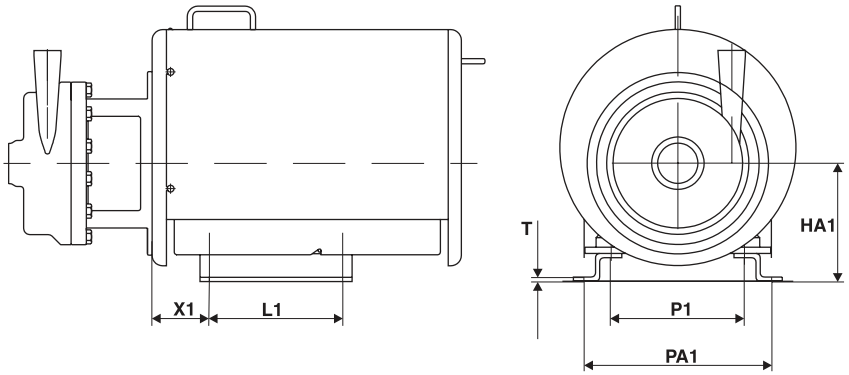
10. Spare Parts List

10.1.3 Bracket Type B

TG.3
Motor 132S-M
Type B



TG.4
Motor 160M-200L
Type B

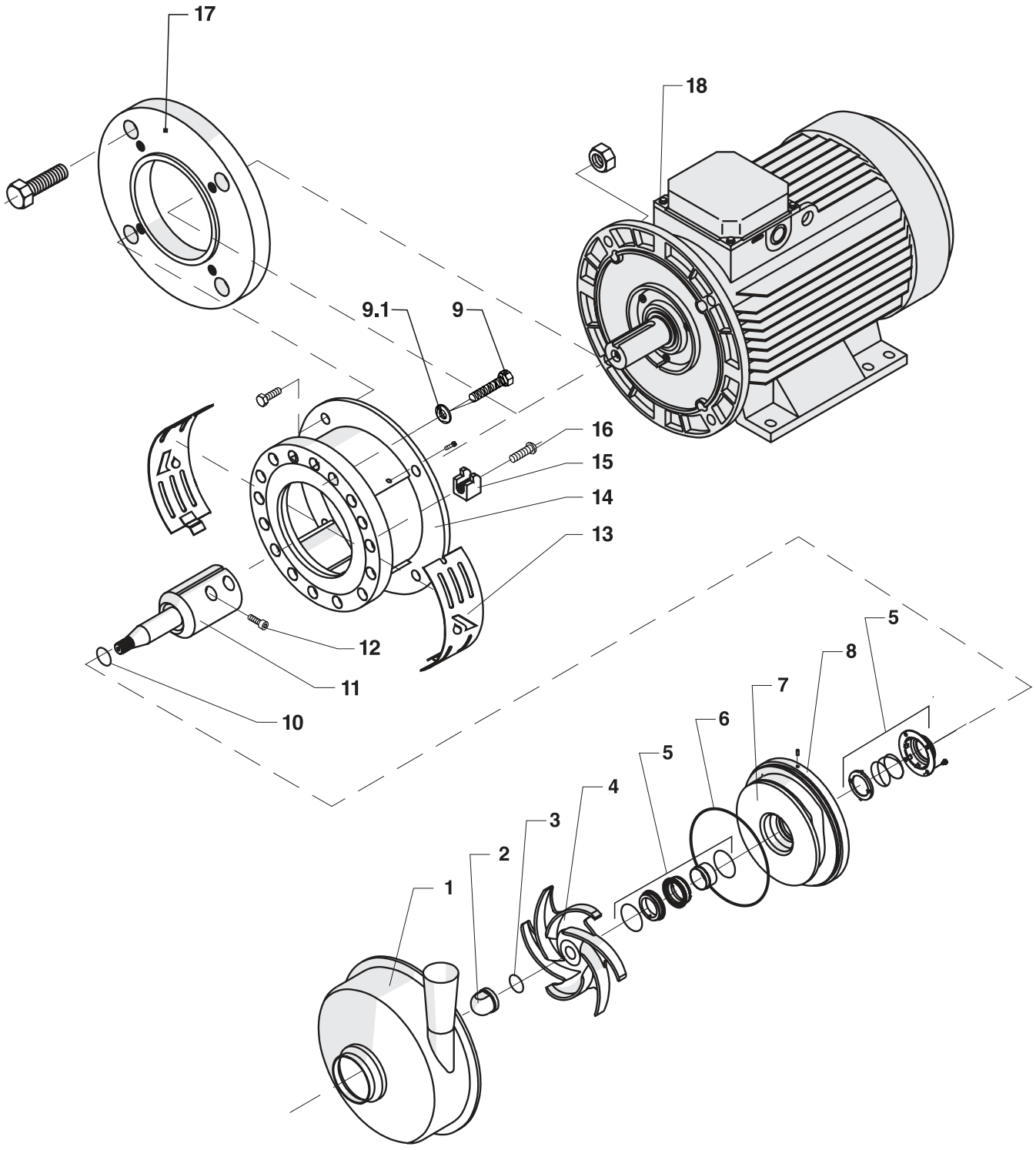


TG.3-4
With bracket type B
Motor 132M - 200L

	Motor						
	132S	**132M**	**160M**	**160L**	**180M**	**180L**	**200L**
X1	112	112	108	108	121	121	158
L1	140	178	210	254	241	279	305
P1	216	216	254	254	279	279	318
PA1	292	292	358	358	379	379	432
T	6	6	6	6	6	6	10
HA1	225	225	225	225	225	225	225

10. Spare Parts List

10.2. Pump



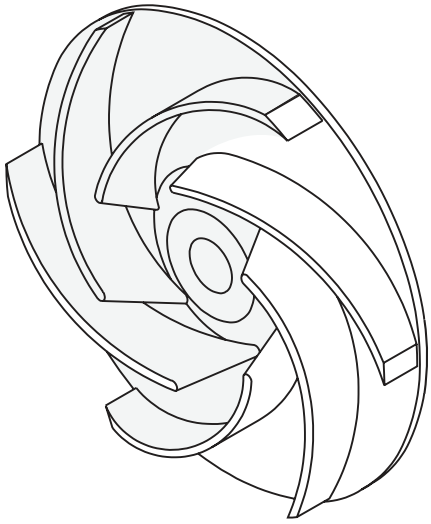
10. Spare Parts List

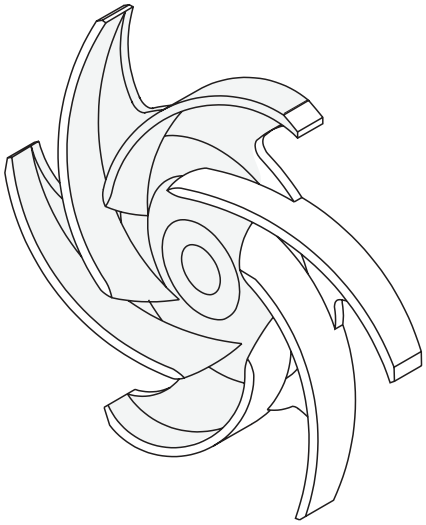
			Pump type			
			WHP+ 30/80	WHP+55/60	WHP+60/110	WHP+65/350
Item	Qty	Description	Part no.			
1	1	Pump housing	L182738	L182734	L182739	L852200
2	1	Cap nut	L260058	L260059	L260059	L260059
3	1	O-ring EPDM	s/p30	s/p30	s/p30	s/p30
		FPM (Viton)	s/p30	s/p30	s/p30	s/p30
4	1	Impeller	s/p25	s/p25	s/p25	s/p25
5	1	Shaft seal	s/p26	s/p26	s/p26	s/p26
6	1	O-ring EPDM	s/p30	s/p30	s/p30	s/p30
		FPM (Viton)	s/p30	s/p30	s/p30	s/p30
7	1	Back plate	L260934	L260900	L260962	L852202
8	1	Pin	L772493	L772493	L772493	L772965
9	6	Screw M16x50 kl.80	--	L771944	L771944	--
-	16	- M12x45 kl.80	L773075	--	--	--
-	8	- M20x50 kl.80	--	--	--	L861407
9.1	8	Spring-lock washer	--	L770779	L770779	L861408
10	1	O-ring EPDM	s/p30	s/p30	s/p30	s/p30
		FPM (Viton)	s/p30	s/p30	s/p30	s/p30
11	1	Shaft	s/p31	s/p31	s/p31	s/p31
12	--	Screw	L771199	L771199	L771199	s/p31
13	2	Shaft guard	s/p32-33	s/p32-33	s/p32-33	s/p32-33
14	1	Extension frame	s/p32-33	s/p32-33	s/p32-33	s/p32-33
15	2	Bracket (screw)	L268499	L268499	L268499	--
16	2	Screw	L701942	L701942	L701942	--
	8		--	--	--	L700234
	8	Washer	--	--	--	L771174
17	1	Washer	s/p32	s/p32	s/p32	s/p32
18	1	Motor	--	--	--	--
--	--	Frame	s/p32/33	s/p32/33	s/p32/33	s/p32/33
--	--	Bracket	s/p37/39	s/p37/39	s/p37/39	s/p37/39
--	--	Shroud	s/p40	s/p40	s/p40	s/p40

s/pxx = see page

10. Spare Parts List

10.3. Impeller





Impeller DIA	Pump type
	WHP+30/80
	Part no.
Ø170	L253738
Ø165	L267469
Ø160	L267470
Ø155	L267471
Ø150	L267472
Ø145	L267473
Ø140	L267474
Ø135	L267475
Ø130	L267476
Ø125	L267477
Ø120	L267478
Ø115	L267479
Ø110	L267480

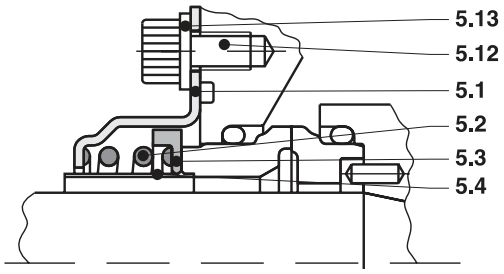
Impeller DIA	Pump type		
	WHP+55/60	WHP+60/110	WHP+65/350
	Part no.		
Ø260			L253750
Ø255			L267716
Ø250			L267717
Ø245			L267718
Ø240			L267719
Ø235			L267720
Ø230		L253745	L267721
Ø225		L267535	L267722
Ø220	L253744	L267536	L267723
Ø215	L267523	L267537	L267724
Ø210	L267524	L267538	L267725
Ø205	L267525	L267539	L267726
Ø200	L267526	L267540	L267727
Ø195	L267527	L267541	L267728
Ø190	L267528	L267542	L267729
Ø185	L267529	L267543	
Ø180	L267530	L267544	
Ø175	L267531	L267545	
Ø170	L267532	L267546	
Ø165	L267533	L267547	
Ø160	L267534	L267548	

10. Spare Parts List

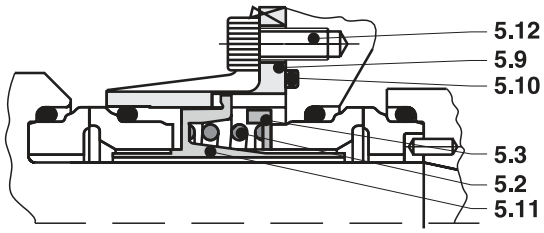
10.4. Shaft Seal

10.4.1 Fixing Kit

A. Single Seal Ø25+Ø35



B. Double Seal Ø25+Ø35

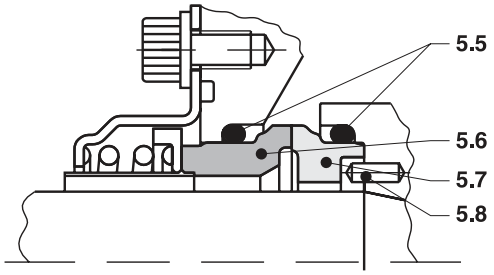


Fixing kit					Shaft size	
					Ø25	Ø35
Seal type		Item	Description	Material	Part no.	
A	Single Seal		**Complete**		L772460	L772465
		5.1	Seal housing	AISI 316		
		5.2	Spring	AISI 316		
		5.3	Pressure ring	AISI 316		
		5.4	Drain pipe	PTFE	(L773100)	(L773101)
B	Double seal		**Complete**		L194448	L194449
		5.2	Spring	AISI 316		
		5.3	Pressure ring	AISI 316		
		5.9	Seal housing	AISI 316		
		5.11	Pressure ring	AISI 316		
			Union elbow	-		
		5.10	O-ring	EPDM	L772470	L771362
		5.12	4 Screws M6x10	AISI 316	L770496	L770496

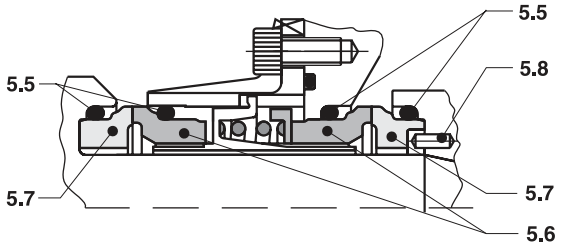
Rebuild from single to double seal: 1x Fixing kit double + 1x Face kit (see page 27) + 1x Item 5.10
Rebuild from double to single seal: 1x Fixing kit single + 1x Item 5.13

10.4.2 Face Kit

A. Single Seal Ø25+Ø35



B. Double Seal Ø25+Ø35



secondary seal primary seal

					Shaft size	
	Item material				Ø25	Ø35
Face kit	**5.5 O-rings x2**	**5.6 Stationary seal**	**5.7 Rotary seal**	**5.8 Pin**	**Part no.**	
Reaction Bonded SiC/Car EPDM	EPDM	Reaction Bonded SiC	Resin Bonded Carbon	AISI 316L	L773063	L773067
Reaction Bonded SiC/Car FPM	FPM	Reaction Bonded SiC	Resin Bonded Carbon	AISI 316L	L773064	L773068
Reaction Bonded SiC/SiC EPDM	EPDM	Reaction Bonded SiC	Reaction Bonded SiC	AISI 316L	L773065	L773069
Reaction Bonded SiC/SiC FPM	FPM	Reaction Bonded SiC	Reaction Bonded SiC	AISI 316L	L773066	L773070
Self Sintered SiC/Car EPDM	EPDM	Self Sintered SiC	Resin Bonded Carbon	AISI 316L	L783063	L783067
Self Sintered SiC/Car FPM	FPM	Self Sintered SiC	Resin Bonded Carbon	AISI 316L	L783064	L783068
Self Sintered SiC/SiC EPDM	EPDM	Self Sintered SiC	Self Sintered SiC	AISI 316L	L783065	L783069
Self Sintered SiC/SiC FPM	FPM	Self Sintered SiC	Self Sintered SiC	AISI 316L	L783066	L783070

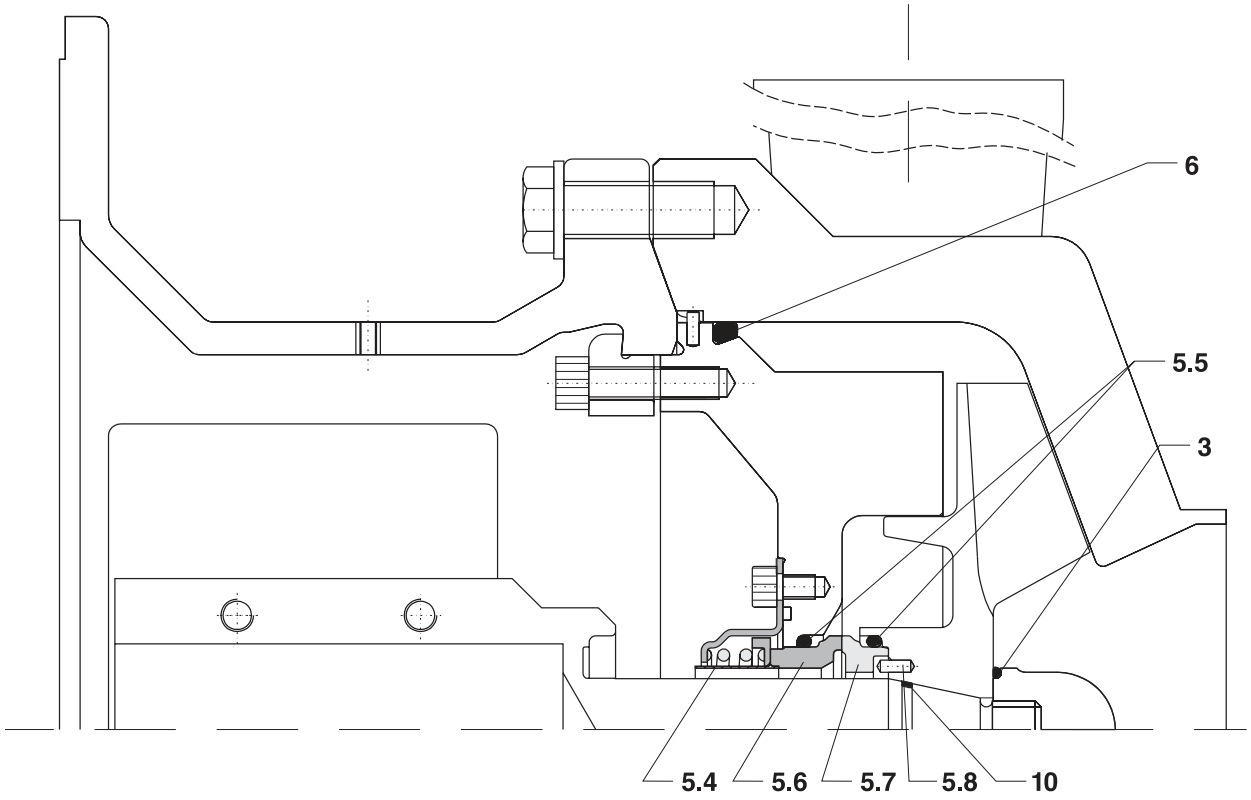
Seal type B: All combinations of materials are available - SPX Flow recommends to use SiC/Car as secondary seal

All seal rings marked as below:
SSwwyyx - SS (Self Sintered SiC) - ww (week of production) - yy (year of production) - x (batch)
RBwwyyx - RB (Reaction Bonded SiC) - ww (week of production) - yy (year of production) - x (batch)

10. Spare Parts List

10.5. Complete Seal Kit

10.5.1 Complete Seal Kit, Single

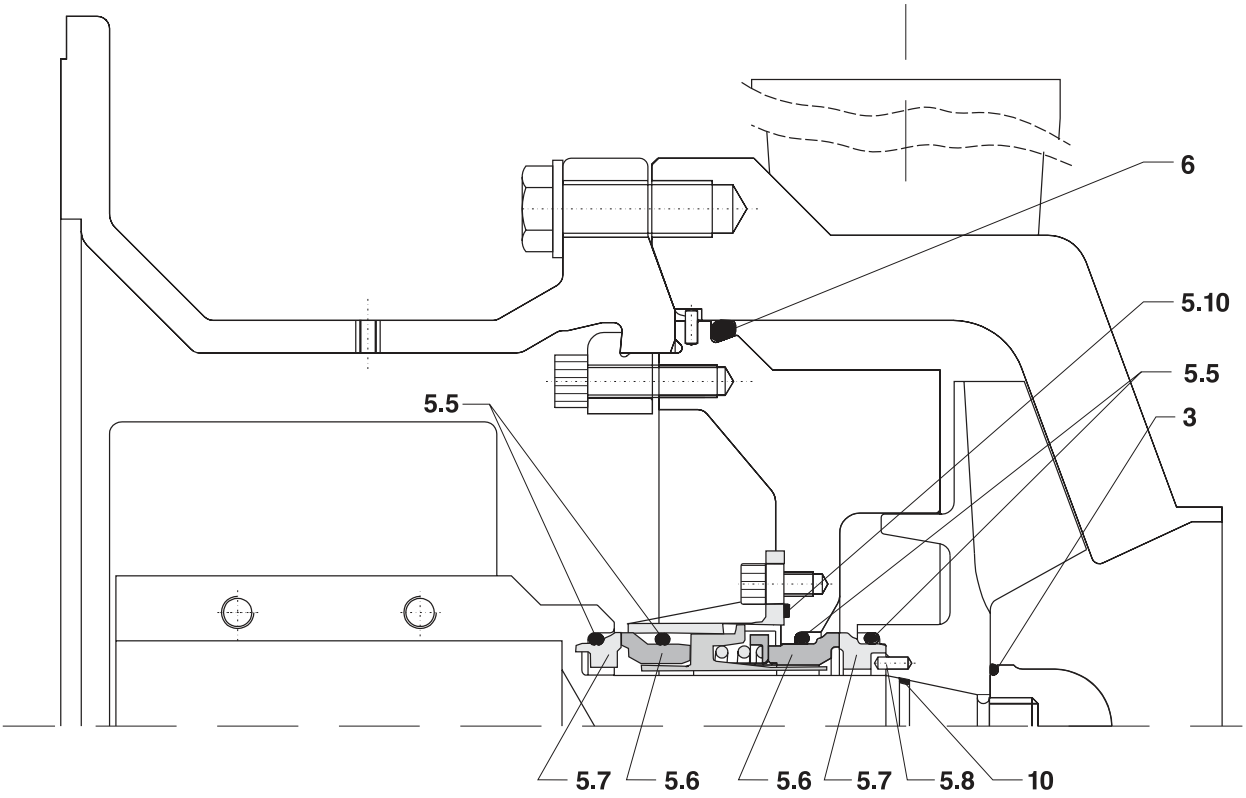


Reaction Bonded SiC		Pump type			
Item	Material	WHP+30/80	WHP+55/60	WHP+60/110	WHP+65/350
		Part no.			
3, 6, 10, 2x 5.5, 5.6, 5.7, 5.8, 5.10	SiC/SiC EPDM SiC/Car EPDM SiC/SiC FPM SiC/Car FPM	L808840 L808843 L808846 L808849	L808841 L808844 L808847 L808850	L808842 L808845 L808848 L808851	L861389 L861390 L861391 L861392

Self Sintered SiC		Pump type			
Item	Material	WHP+30/80	WHP+55/60	WHP+60/110	WHP+65/350
		Part no.			
3, 6, 10, 2x 5.5, 5.6, 5.7, 5.8, 5.10	SiC/SiC EPDM SiC/Car EPDM SiC/SiC FPM SiC/Car FPM	L888840 L888843 L888846 L888849	L888841 L888844 L888847 L888850	L888842 L888845 L888848 L888851	L861393 L861394 L861395 L861396

10. Spare Parts List

10.5.2 Complete Seal Kit, Double

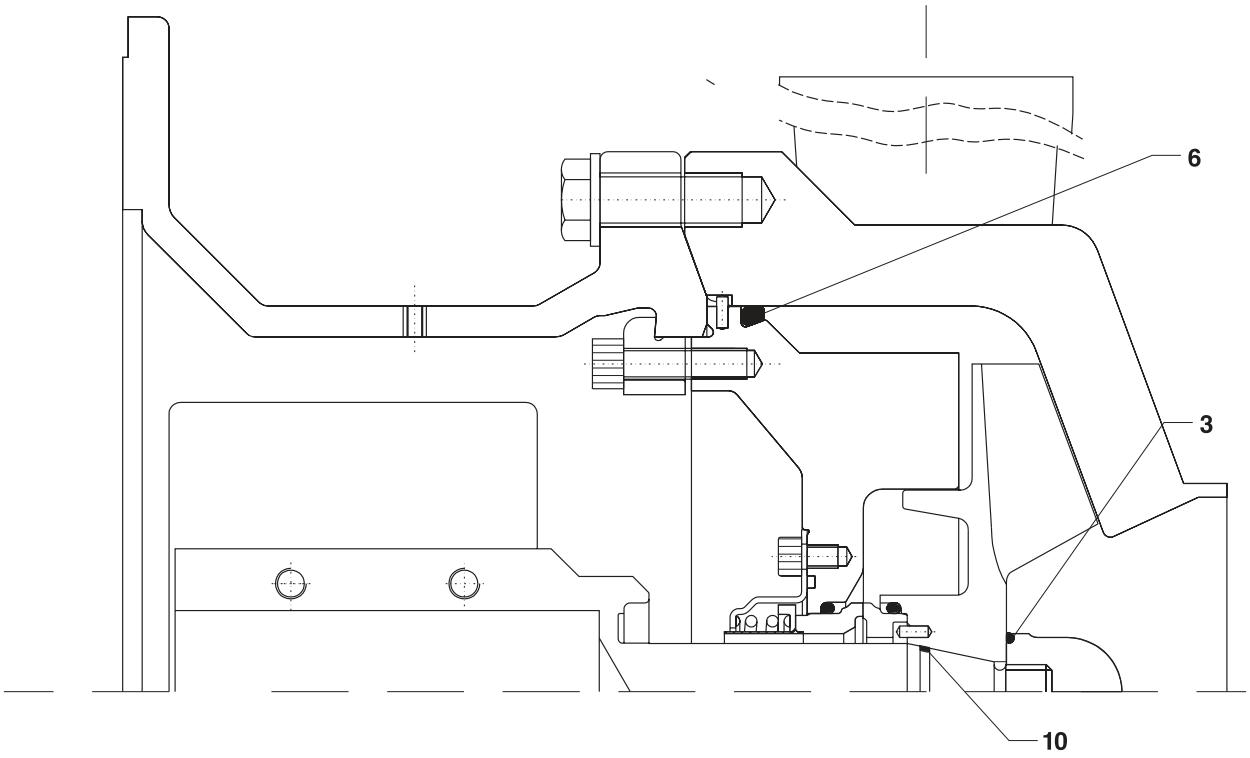


Reaction Bonded SiC		Pump type			
Item	Material	WHP+30/80	WHP+55/60	WHP+60/110	WHP+65/350
		Part no.			
3, 6, 10, 4x 5.5, 2x 5.6, 2x 5.7, 5.8, 5.10	SiC/SiC - SiC/Car EPDM SiC/Car - SiC/Car EPDM SiC/SiC - SiC/Car FPM SiC/Car - SiC/Car FPM	L808852 L808855 L808858 L808861	L808853 L808856 L808859 L808862	L808854 L808857 L808860 L808863	L861397 L861398 L861399 L861400

Self Sintered SiC		Pump type			
Item	Material	WHP+30/80	WHP+55/60	WHP+60/110	WHP+65/350
		Part no.			
3, 6, 10, 4x 5.5, 2x 5.6, 2x 5.7, 5.8, 5.10	SiC/SiC - SiC/Car EPDM SiC/Car - SiC/Car EPDM SiC/SiC - SiC/Car FPM SiC/Car - SiC/Car FPM	L888852 L888855 L888858 L888861	L888853 L888856 L888859 L888862	L888854 L888857 L888860 L888863	L861401 L861402 L861403 L861404

10. Spare Parts List

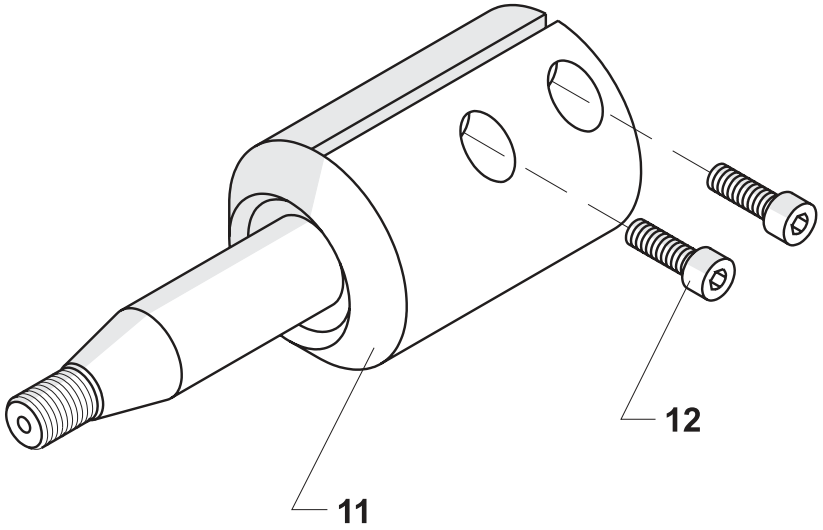
10.6. O-rings Kit



Item	Material	Pump type			
		WHP+30/80	WHP+55/60	WHP+60/110	WHP+65/350
		Part no.			
3, 6, 10	EPDM	L808762	L808765	L808769	L808770
3, 6, 10	FPM (Viton)	L808776	L808779	L808783	L808784

10. Spare Parts List

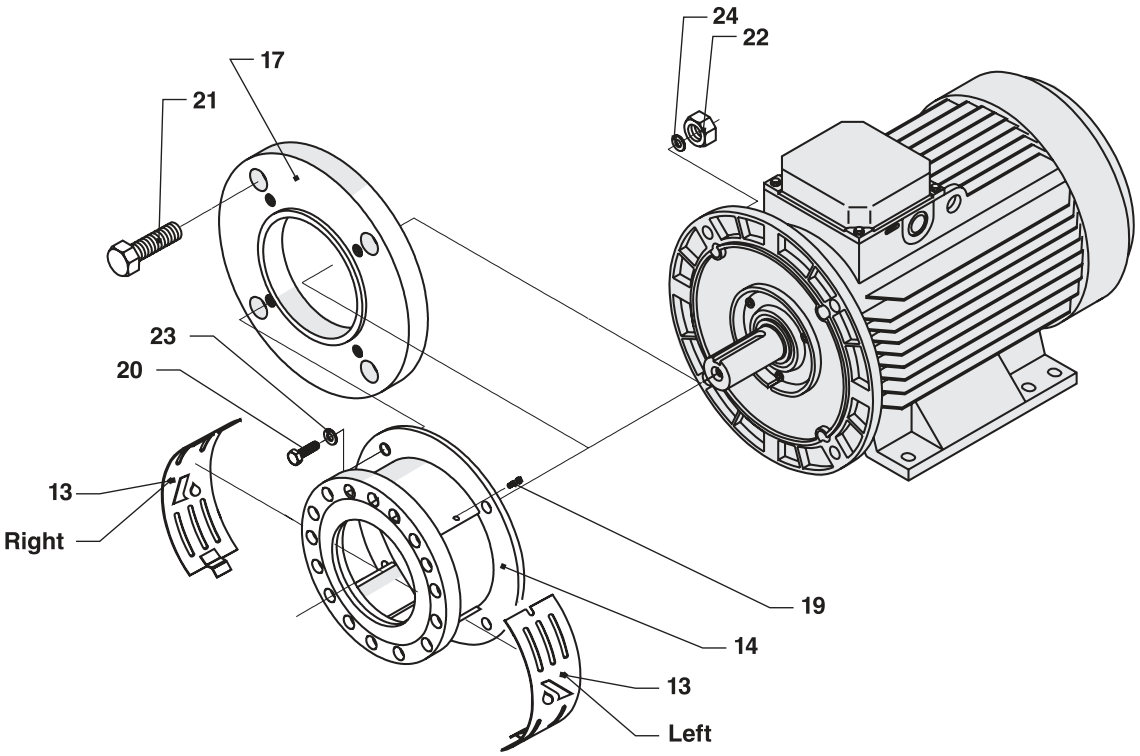
10.7. Shaft



Pump type	Motor				
	132	160	180	200	280
	Shaft Ø25				
WHP+30/80	L261547	L261548			
	Shaft Ø35				
WHP+55/60	L261550	L261551	L261563	L261552	
WHP+60/110	L261550	L261551	L261563	L261552	
WHP+65/350					L261555
	Item 12				
Qty	2	2	2	2	3
Screw	L771199	L771199	L771199	L701231	L701700

10. Spare Parts List

10.8. Extension Frame and Shaft Guard



Item 14
Extension frame

Pump type	Motor				
	132*	160	180	200**	280
	Part no.				
WHP+30/80	L182766	L182767			
WHP+55/60	L182737	L182735	L182735	L182735	
WHP+60/110	L182737	L182735	L182735	L182735	
WHP+65/350					L187570

Item 17
Washer

*	L267665
**	L267666

10. Spare Parts List

Item 13
Shaft guard

Pump type	Qty	Motor				
		132	160	180	200	280
		Part no.				
WHP+30/80	1 R	L188333				
	1 L	L188285				
	2 R/L		L188259			
WHP+55/60	1 R	L188339				
	1 L	L188597				
	2 R/L		L188644	L188644	L188644	
WHP+60/110	1 R	L188339				
	1 L	L188597				
	2 R/L		L188644	L188644	L188644	
WHP+65/350	1 R					L274032
	1 L					L188591
	2 R/L					

R=Right L=Left

Item 19 - 24
Screws, nuts and washers

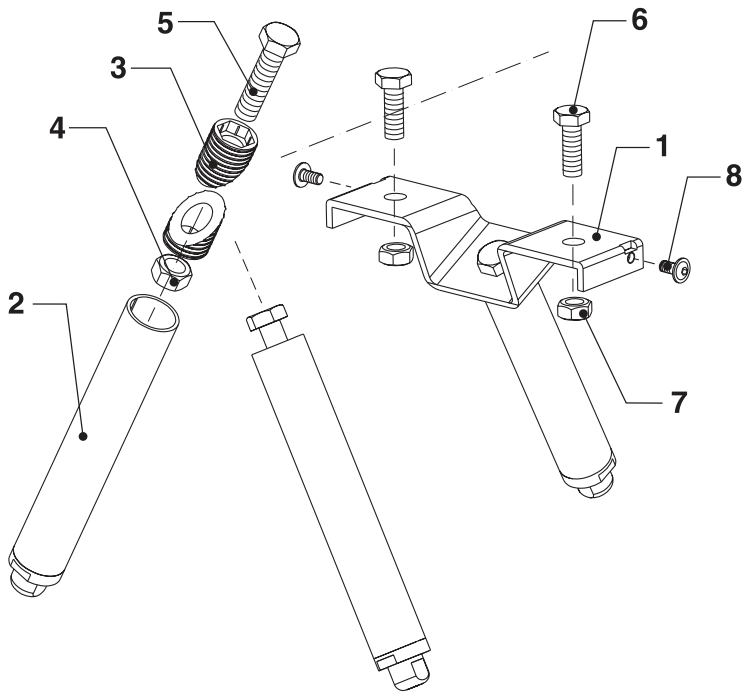
Description	Item	Qty	Motor				
			132	160	180	200	280
			Part no.				
Screw	19	2	L700420	L700420	L700420	L700420	
		8	L700420	L700420	L700420	L700420	L700420
Screw	20	4	L700234	*L771944	*L771944	*L772568	
		8					L770141
Screw	21	4	L701078			L772567	
Nut	22	4		L701387	L701387	L701387	
		8					L701387
Washer	23	4		L771425			
Washer	24	4		L701254	L701254	L701254	
		8					L701254

* 2 off screws for frame

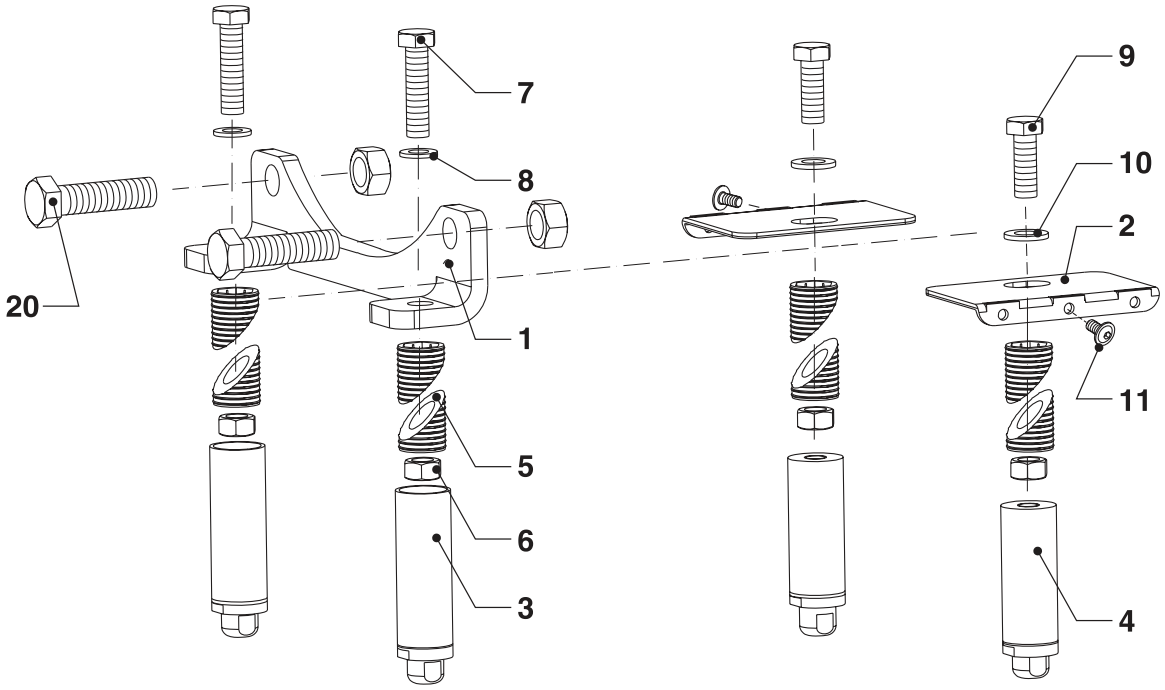
10. Spare Parts List

10.9. Adjustable Feet

TG.1
Motor 132S-M

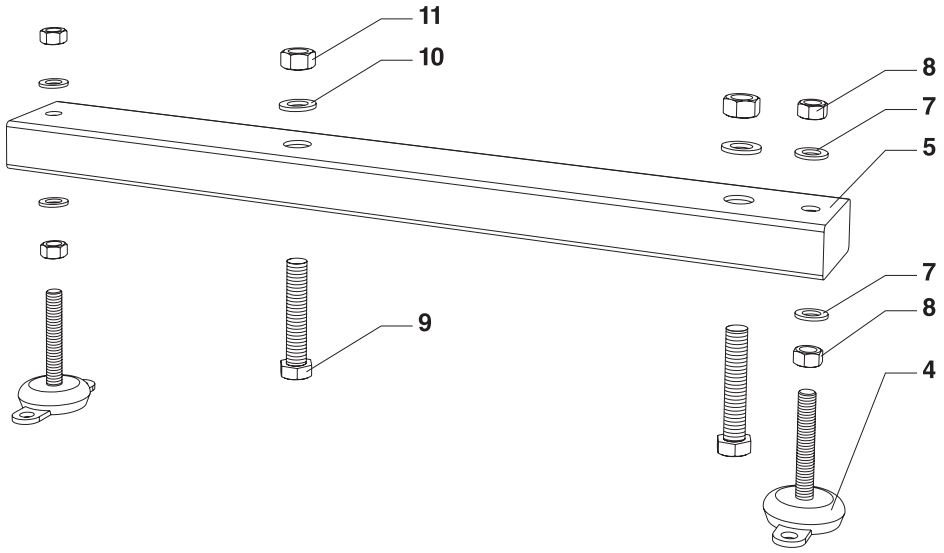


TG.2
Motor 160M - 200L



10. Spare Parts List

TG. 3
With bracket type A
Motor 280



TG.1
Motor 132S-M

			Motor
			132
			Centre height
			260
Item	Qty	Description	Part no.
-	-	Complete - frame	L808805
1	1	Frame	L809058
2	2	Leg, complete	L809061
3	4	Split bushing	L282473
4	2	Nut	L700242
5	2	Screw	L701981
6	2	Screw	L700238
7	2	Nut	L700242
8	2	Screw, flange head	L700420

10. Spare Parts List

TG. 2
Motor 160M - 200L

			Motor							
			160M - 160L			180M - 180L			200L	
			Centre height							
			260	305	350	260	305	350	305	350
Item	Qty	Description	Part No.							
-	-	Complete - frame	L808806	L808807	L808808	L808809	L808810	L808811	L808812	L808813
1	1	Leg	L279962	L279962	L279962	L279962	L279962	L279963	L279963	L279963
2	2	Angle plate	L282488	L282488	L282488	L282488	L282488	L282488	-- -- --	-- -- --
2	1	Angle plate, R	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --	L808709	L808709
2	1	Angle plate, L	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --	L808710	L808710
3	4	Leg, complete	L809063	L809051	L809061	-- -- --	-- -- --	-- -- --	L809065	L809066
3	2	Leg front, compl.	-- -- --	-- -- --	-- -- --	L809063	L809051	L809066	-- -- --	-- -- --
4	2	Leg back, compl.	-- -- --	-- -- --	-- -- --	L809062	L809060	L809049	-- -- --	-- -- --
5	8	Split bushing	-- -- --	L282473	L282473	-- -- --	L282473	L282473	L282473	L282473
6	4	Nut	-- -- --	L700242	L700242	-- -- --	L700242	L700242	L700242	L700242
7	2	Screw	L701265	L703141	L703141	L701265	L703141	L703141	L703141	L703141
8	2	Washer	L701475	L701475	L701475	L701475	L701475	L701475	L701475	L701475
9	2	Screw	L702996	L771697	L771697	L702996	L771697	L771697	L771698	L771698
10	2	Washer	L781058	L781058	L781058	L781058	L781058	L781058	L781058	L781058
11	2	Screw, fl. head	L700420	L700420	L700420	L700420	L700420	L700420	L700420	L700420
20	2	Screw	L701474	L701474	L701474	L701474	L701474	L701474	L701533	L701533

TG. 3
Motor 180 - 315

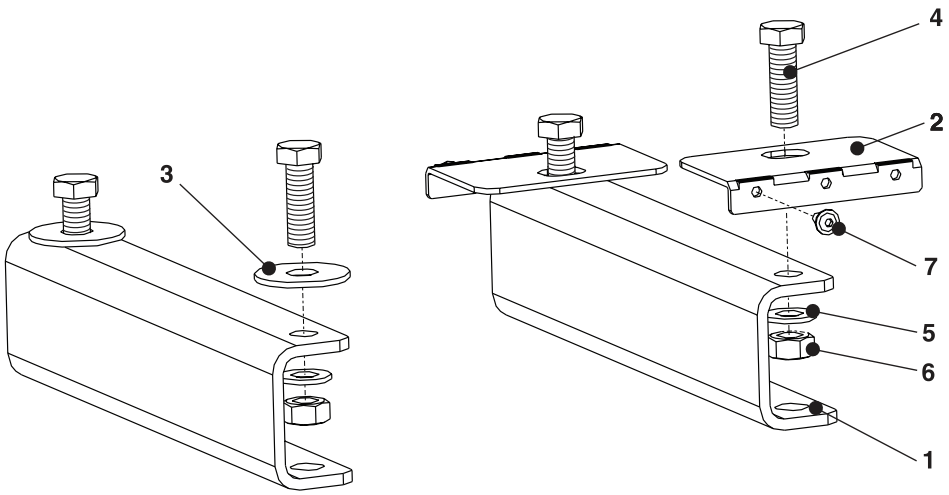
			Motor
			280
			Type 2
			Centre height
			375
Item	Qty	Description	Part no.
-	-	Complete frame	L808744
1	1	Frame	-- -- --
2	1	Fitting	-- -- --
3	2	Leg	-- -- --
4	4	Machine feet	L773875
5	2	Ball type foot	L282449
6	2	Screw	-- -- --
7	2**	Washer	L701254
8	6**	Nut	L701387
9	4	Screw	L773715
10	4	Washer	L773488
11	4	Nut	L701670

** Type 2 Qty = 8

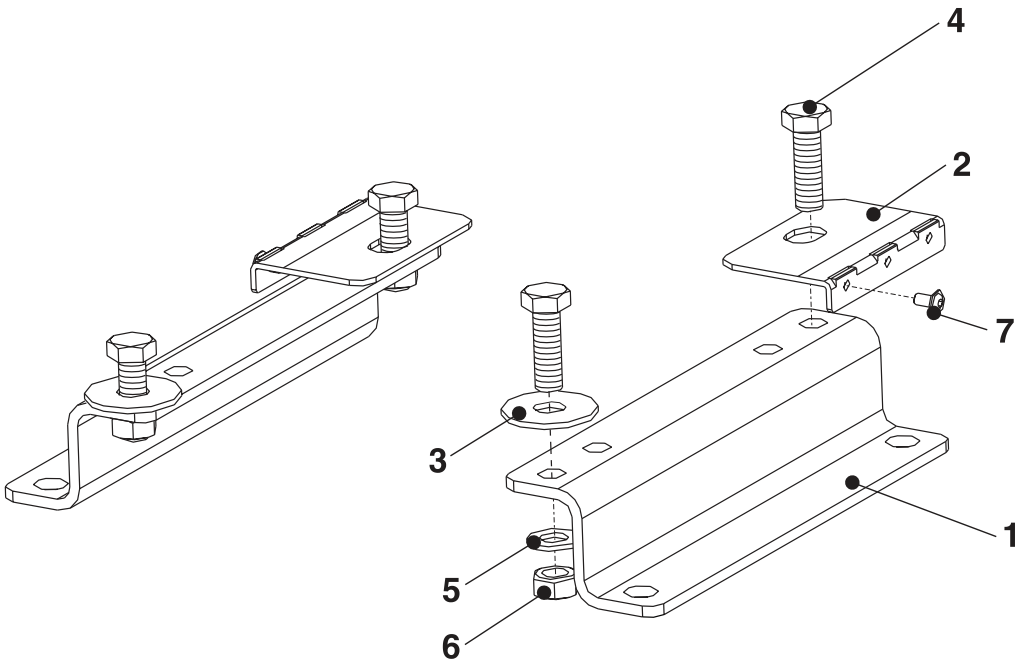
10. Spare Parts List

10.10. Bracket

TG. 1
With bracket type A
Motor 132 - 200L

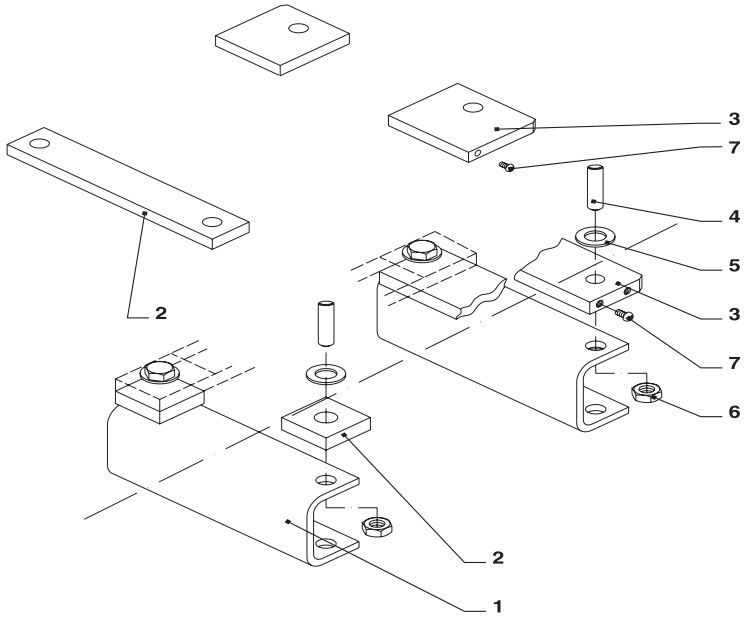


TG. 2
With bracket type B
Motor 132 - 200L



10. Spare Parts List

TG. 3
With bracket type A
Motor 280



TG. 1
With bracket type A
Motor 132 - 180

			Motor		
			132	160M-L	180M-L
			Centre height		
			212	240	260
Item	Qty	Description	Part No.		
-	1	Bracket, complete	L809087	L809088	L809089
1	2	Bracket	L279984	L279985	L279986
2	2	Angle plate	L282503	L282488	L282488
3	2	Washer	L781058	L781062	L781062
4	4	Bolt	L702996	L773643	L773643
5	4	Washer	L701475	L772450	L772450
6	4	Nut	L700242	L772449	L772449
7	2	Screw, fl. head	L700420	L700420	L700420

TG. 1
With bracket type A
Motor 200L

			Motor
			200L
			Centre height
			280
Item	Qty	Description	Part No.
-	1	Bracket, complete	L809091
1	2	Bracket	L267732
2	2	Fitting	L273820
4	4	Threaded rod	L268489
5	8	Washer	L772450
6	8	Nut	L772449
7	2	Screw, fl. head	L700420

10. Spare Parts List

TG.2
With bracket type B
Motor 132 - 200L

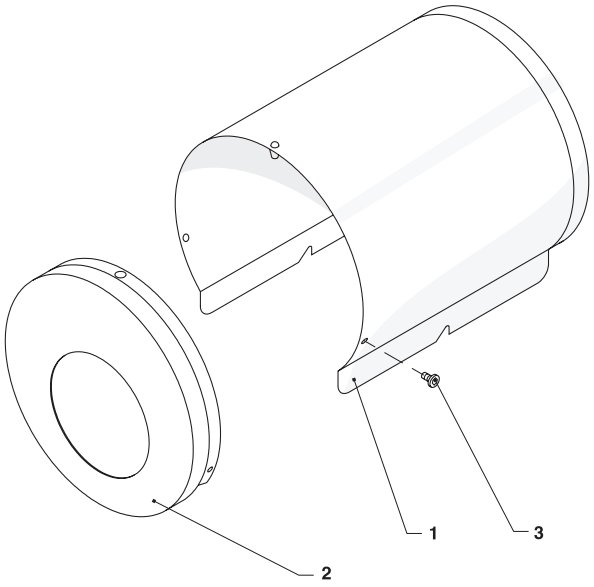
			Motor			
			132	160M-L	180M-L	200L
			Centre height			
			225	225	225	225
Item	Qty	Description	Part No.			
-	1	Bracket, complete	L809101	L809102	L809103	L809104
1	2	Bracket	L279991	L279992	L279993	L182913
2	2	Angle plate	L282503	L282488	L282488	-- -- --
-	2	Fitting, rear L	-- -- --	-- -- --	-- -- --	L268487
3	2	Washer	L781058	L781062	L781062	L781062*
4	4	Bolt	L702996	L773643	L773643	L773868**
-	2	Bolt	-- -- --	-- -- --	-- -- --	L781066
5	4	Washer	L701475	L772450	L772450	L772450
6	4	Nut	L700242	L772449	L772449	L772449
7	2	Screw, fl. head	L700420	L700420	L700420	L700420

* 4 off
** 2 off

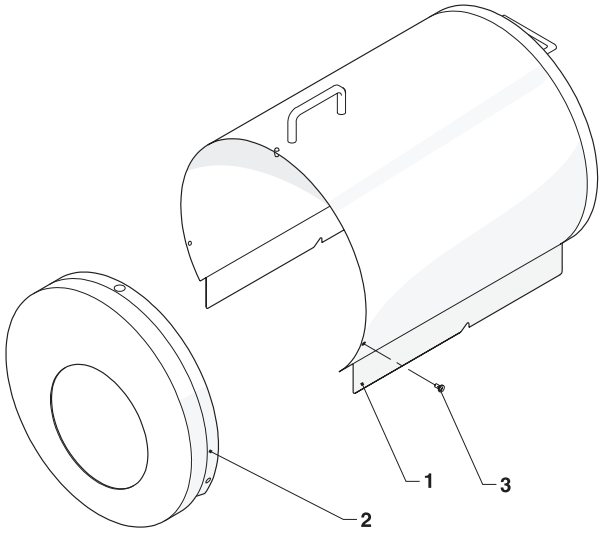
TG.3
With bracket type A
Motor 280

			Motor
			280
			Centre height
			372
Item	Qty	Description	Part no.
-	-	Bracket, complete	L809095
1	2	Bracket	L282423
2	2	Fitting, front	-- -- --
2	1	Fitting, front	-- -- --
3	2	Fitting, rear M	-- -- --
3	2	Fitting, rear L	-- -- --
3	1	Fitting, rear L/M	-- -- --
4	4	Threaded rod	L268489
5	8	Washer	L772450
6	8	Nut	L772449
7	2	Screw, ft. Head	-- -- --

10.11. Collar and Shroud



			Motor
			132
Item	Qty	Description	Part no.
1	1	Shroud	L188448
2	1	Collar	L194473
3	2	Screw	L773113



			Motor			
			160	180	200	280
Item	Qty	Description	Part no.			
1	1	Shroud	L861285	L861291	L188451	L182177
2	1	Collar	L861287	L861293	L194476	L182178
3	4	Screw	L773113	L773113	L773113	L773113

Revision History

Rev.	Description of the change	Date
0	The WHP+ manual has been updated to include the newly introduced pump size WHP+ 65/350, corrections to previously mislisted spare parts, and the replacement of motor shrouds with updated versions. Spare parts were consolidated in this manual.	09/2025

APV®

WHP+ High Pressure Centrifugal Pump

Original Instructions

SPXFLOW®

SPX Flow Technology Poland sp. z o.o.
Rolbieskiego 2
85-862 Bydgoszcz
Poland

P: (+48) 52 566 76 00
F: (+48) 52 525 99 09

www.spxflow.com

Improvements and research are
continuous at SPX FLOW, Inc.
Specifications may change
without notice.

ISSUED 09/2025
Form No.: L381434GB