





### GENERAL

For safety during installation and later use it is very important that installation, operating and maintenance instructions are carefully followed.

If any doubt should arise with regard to the content of these instructions, please contact the distributor.

#### **Liability provisions**

Each user must handle and use the system in a responsible manner.

It is therefore of great importance that this instruction manual is available to the sanitation employee concerned at all times.

#### Warranty conditions

For a period of 24 months from the date of delivery, your dealer will honour a warranty on parts that do not function properly due to material defects or manufacturing faults. The warranty does not cover wearing parts (described in the section on spare parts). The warranty will cover replacement or repair of the defective part. Costs with regard to dismantling, forwarding and reassembly are defrayed by the purchaser. Any return shipments from System Cleaners A/S following completed repairs are defrayed by System Cleaners A/S. The defective parts remain the property of System Cleaners A/S. Claims that may be made for legal reasons, ordinary wear and tear, as well as damage to parts that can be attributed to negligent or improper handling are not covered by the warranty. The warranty will be void if the system has been exposed to frost. The warranty will also be void if modifications or repairs have been carried out by unauthorised personnel. Warranty claims will only be accepted if they are reported to System Cleaners A/S immediately after damage has been discovered. The warranty is terminated if there is a change of ownership of the machine. System Cleaners A/S and its dealers cannot be held liable for personal injury, damage to equipment, loss of earnings, including production losses, losses to stock or similar that may have arisen as a result of defects or delayed delivery of the sold product, irrespective of the cause, including manufacturing faults or material defects. In addition, please refer to our general terms and conditions of sales and delivery.

### **General information**

Manufacturing tolerances on nozzles, pressure gauges and pumps can in certain cases lead to minor deviations from specified values. This has, however, no impact on the cleaning efficiency.

#### **Protection against frost**

The machine must not be exposed to frost unless it has been emptied of water (frost protected). Even brief periods of exposure to frost may cause damage to the equipment.

#### Storage

You are requested to keep this instruction manual at a location where it will be available at all times, and it should be submitted to the person who is responsible for this product. In the event that the instruction manual is lost, you are welcome to order a new one from your dealer.

#### **Future-proofing**

Should you desire functions on your system that have not been included from the start, this can be done by purchasing and installing one of our kits.

#### Safety

Safety during operation of the equipment.

Version 1 (10.2017. EN)

The equipment may only be used by personnel who have received detailed instruction in the correct use of the equipment and safety risks during operation.

When the equipment is used, suitable personal protective equipment such as protective goggles, gloves, safety footwear and protective overalls designed to protect the user against chemicals and hot water under high pressure should always be worn.

- It is recommended that suitable working clothes be worn, e.g. as protection against 70°C hot water. Always use protective goggles, respiratory protective equipment and rubber gloves.
- The system should not be started up before the operators that are to use the system have been instructed in the correct use, adjustment and maintenance hereof.
- Never direct the water jet at other persons.
- Only use original System Cleaners hoses and couplings.
- Check that couplings "lock" when hoses and nozzles are fitted. If possible, practise this procedure before operation.
- Always relieve the pressure in the rinsing hose by opening the low-pressure valve/gun (AFTER the water supply has been shut off) before dismantling the couplings and removing the hose.
- During operation of the system, ensure that the low pressure gun/valve is closed before releasing the handle.
- When the low-pressure gun/valve is opened, the water jet will result in a certain amount of counter-pressure. Therefore make sure that you hold the handle firmly and have a firm foothold.
- It is recommended that non-slip footwear be worn since the floor can sometimes be slippery due to the presence of water and foam.
- When using detergents, it should be remembered that certain types of detergent can produce toxic gases when mixed.

Further information can be obtained from the chemical supplier.

- The noise level of the machine itself is less than 70 dB(A). However, when rinsing, the operator will be exposed to the noise of the jet of water hitting the floor, walls, and equipment.
  When rinsing stainless steel surfaces with a 25/40 System rinsing nozzle (25 bar), a noise level of 88 dB(A) can be registered.
- The actual noise level depends on factors such as the size and layout of the room, the machines to be cleaned, etc., as well as the type of nozzle used. In general, the noise increases with greater quantities of water and smaller spray angles. In any event, hearing protection should be worn when rinsing.
- The hand-arm vibration level, measured on the lowpressure gun fitted with a rotating nozzle, is less than 2.5 m/s<sup>2</sup>.
- Never direct the water jet at electrical equipment.
- Avoid water in electrical plugs or sockets.
- Never insert or remove a plug from an electrical socket unless the power has been switched off.

#### Safety precautions

The design of the system complies with generally accepted technical regulations and provisions concerning the working environment and accident prevention. Despite this, risks can occur during use that can lead to physical inconvenience for the user or a third party or have an impact on the machine or other equipment. The system must therefore be in prime technical condition before use and may only be used in accordance with its purpose and with strict observance of the safety requirements and operating instructions. In particular, malfunctions and irregularities that can affect safety must be remedied immediately.

### **Proper use**

System Cleaners' Booster system is exclusively designed to transport and pressure-increase of water to satellite stations. All other forms of application or use not within the scope of the above are considered to be improper and inconsistent with the requirements and regulations, and may lead to hazardous situations.

System Cleaners A/S cannot be held liable for

consequential damage resulting from improper use of the equipment.

Proper use includes the following:

- The instructions, regulations and recommendations concerning the system stated in the instruction manual
- Observance of the specified inspection and maintenance intervals
- Correct maintenance of good operating condition of the system
- Observance of the specified environmental and operating conditions
   Proper use also includes observance of all information

Proper use also includes observance of all information that is stated in this instruction manual. This applies in particular to the specified safety instructions.

### Safety instructions during operation

- It is recommended that suitable working clothes be worn. For protection against certain types of detergents, always use protective goggles, respiratory protective equipment and rubber gloves.
- It is recommended that non-slip footwear be worn since the floor can be slippery due to the presence of water and foam.
- This system may only be operated, maintained and not least - repaired by persons who are familiar with the system and properly trained to carry out the job concerned.
- It is the customer's responsibility that these installation and operating instructions are supplemented by inhouse instructions concerning inspection and reporting, industrial management, personnel training, etc.
- Do not carry out any work if you are unsure of the consequences or are insufficiently skilled to carry it out. If in doubt, you should contact your superior or your agent in advance.
- Never direct the water jet at other persons.
- Never direct the water jet at electrical installations.
- Check that couplings "lock" when hoses and nozzles are fitted. If possible, practise this procedure before operation. Always relieve the pressure in the rinsing hose by opening the low-pressure gun/valve (AFTER the water supply has been shut off) before dismantling the couplings and removing the hose.
- During operation of the system, ensure that the lowpressure gun/valve is closed before releasing the handle.
- When the low-pressure gun/valve is opened, the water jet will result in a certain amount of counter-pressure. Therefore make sure that you hold the handle firmly and have a firm foothold.
- Before removing the cabinet, the power supply MUST be switched off.
- Safety precautions and safety devices must comply with national regulations applicable at any time (e.g. Power current regulations, EN 60204 or EN 50178).
- Requisite safety precaution: earthing of unit.
- Requisite safety device: Overload protection (fuses)
- Internally, protection corresponds to IP 55. On a number of components hazardous voltages can occur. During operation the cabinet must always be closed.
- Never insert or remove a plug from an electrical socket unless the power has been switched off.

System Cleaners low-pressure systems may only be used in conjunction with soaps and chemicals that are approved for cleaning within the food or transport industries.

Soaps and chemicals that are classified as highly corrosive, toxic or which pose a health risk to humans or animals may not be used.

The system must not be used together with solvents or volatile liquids that pose a health risk or are inflammable. In the event that the system is used with non-approved soaps, chemicals or solvents, System Cleaners A/S disclaims all liability.

If in doubt, please contact your soap or chemical supplier and read the supplier manual.

In the event that you use the system with chemicals that require mandatory labelling, or if the water temperature exceeds 50°C, a low-pressure gun with an automatic closing device must be used.

In the event that you use the system without a gun with an automatic closing device together with chemicals that require mandatory labelling, or water with a temperature that exceeds 50°C, System Cleaners A/S disclaims all liability.

### Disposal

Please be aware of the following applicable provisions: the equipment must be disposed of according to its nature and applicable requirements, e.g. electrical scrap, synthetic material, stainless steel, brass, etc.

### Labelling

The system is equipped with a type plate containing technical data.

The type plate is located on a fixed part of the system.

### **Declaration of conformity**

We declare that this product is in conformity with the following directives:

2006/42/EF Directive on Machinery 2014/35/EU Low Voltage Directive 2014/30/EU EMC Directive

Per Kjøller Development Manager

### INSTALLATION

#### Location

Place the equipment in a frost-free room, well protected from the sun and place it on a hard surface.

#### Piping

The piping should be made from materials suitable for the media in the pipes, the maximum pressure and temperature.

It is the fitter's responsibility to ensure that the pipe routing conforms to the authority's requirements and is performed in accordance with local regulations.

The installation must be performed such that forces from pipes etc. are not transferred to the equipment during and after fitting, as this may result in leaks or damage the equipment.

Note that certain types of pistols are equipped with valves that quickly shut off the water. This can cause pressure strokes in the pipe conduits. Pipes, fixtures and fittings must be dimensioned for this. Alternatively, membrane holders can be fitted in the pipeline to reduce the pressure strokes.

**RECOMMENDATION:** Select a pipe size so that the flow velocity in the pipe is about 3 m/s (10 ft/sec). This gives a normally accepted pressure loss and low noise from the flow.

#### **Fixtures**

Always use fixtures designed for the medium and the maximum working pressure and temperature.

**IMPORTANT!** : Always mount shut-off fixtures in the inlets for water. These shut-off fixtures must be closed when the device is not in use.

Local conditions may necessitate fitting backflow protection etc. to prevent the pressure intensified water from penetrating into the water supply.

**RECOMMENDATION:** In order to facilitate maintenance of the equipment, it is recommended to fit a shut-off valve in the pipelines immediately at the connections for water.

### Mounting of the system

The floor material must be of solid quality and once properly located and aligned the booster must be bolted to the floor.

**IMPORTANT:** If a shut-off valve is fitted in the outlet of the system, the valve must remain open during operation in order to ensure that the system stops automatically.

#### COMMISSIONING

Before commencing operation on the unit or following repair work, the unit must be flushed thoroughly to remove any impurities or foreign bodies. The preliminary filter in the inlet for water must be cleaned following flushing.

Prior to starting the system for the first time and following any interruption to the water supply, the pump and pipelines must be bled thoroughly.

**TIP!:** Note that local specifications may require disinfection of the wetted parts before use.

#### OPERATION

Start

The system starts automatically by flow.

Stop

The system stops automatically shortly after water is no longer being used.

Leaks

If there are leaks in the system's non-return valve, pipelines and satellites, the pump will start although there is no water being used.

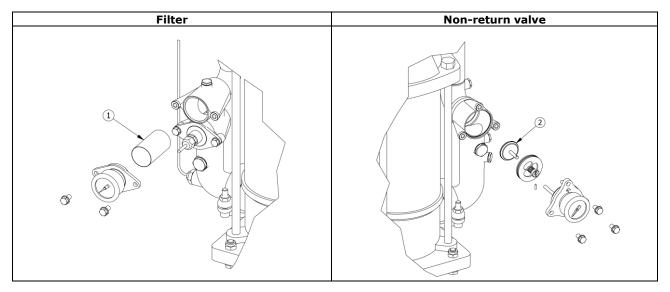
## MAINTENANCE

### **Maintenance intervals**

Regular maintenance of the pump station is the best safeguard against breakdowns. We recommend following the plan below:

Monthly	Any leaks must be sealed
Monthly	Filter should be cleaned
Yearly	Non-return valves should be replaced Tighten all threaded joints
Whenever necessary	Remove any scale residues in equipment

## **Replacement or cleaning**



Pos.	Part no.	Description	Material
1	20-510040	Filter insertion 1.1/2" 800 µm	AISI 304
2	20-200201	Piston Non-return valve	AISI 316/EPDM

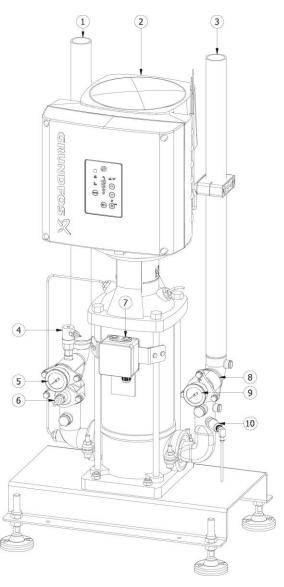
## TROUBLESHOOTING

Fault	Cause	Remedy
	The ball valve on the device's outlet is closed	Open the ball valve
The device will not start	Inlet pressure under 1.5 bar (22 psi)	Increase inlet pressure to between 1.5 (22 psi) and 10 bar (145 psi)
	Fault in power supply	The fault must be corrected by a specialist
The device will not stop	Defect flow-switch	Check flow-switch
The preset pressure cannot be achieved	Water consumption too high	Reduce water usage
	Inlet pressure under 1.5 bar (22 psi)	Increase inlet pressure to between 1.5 (22 psi) and 10 bar (145 psi) or reduce water usage.
Red lamp lights	Water temperature exceeding 90 ° C (194 F)	Reduce water temperature below 70°C (160 F)
	Fault in motor	The fault must be remedied by a specialist

## **RECOMMENDED SPARE PARTS**

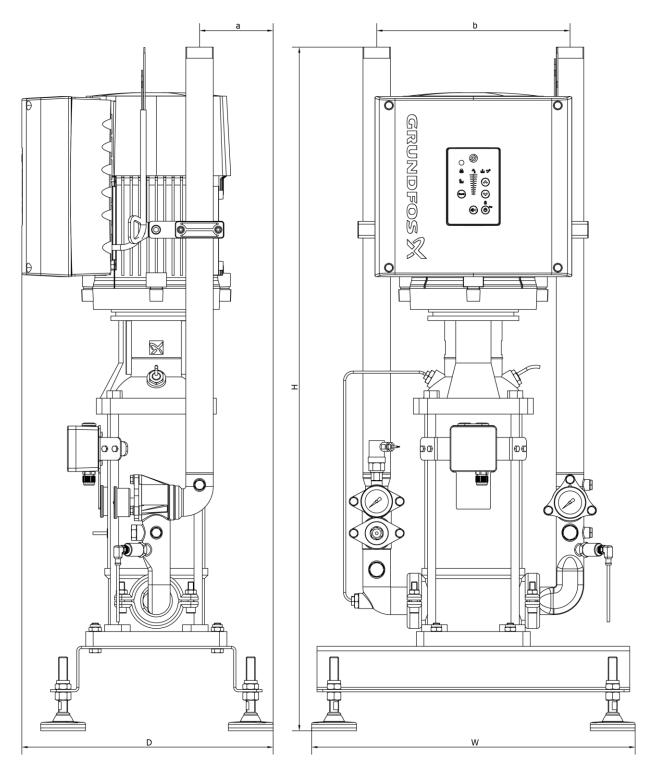
Pos.	Part no.	Description	Material	Version
C	20-200201	Piston Non-return valve	AISI 316/EPDM	All
616	32-300010	Shaft seal cartridge 1/3/5 M3	-	BS1, 3, 5
6.6	32-100020	Shaft seal cartridge	-	BS7, 10

## **Functional elements**



Pos.	Description
1	Inlet 1.1/2"
2	Pump
3	Outlet 1.1/2"
4	Pressure switch, Input pressure
5	Input pressure
6	Flow switch
7	ON/OFF, RESET
8	Non-return valve
9	Outlet pressure
10	Pressure transmitter

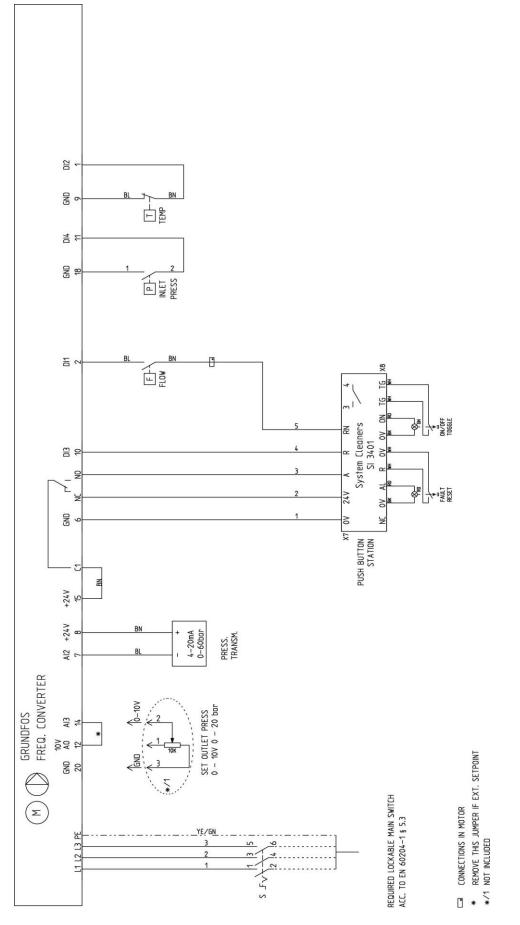
# Dimensions



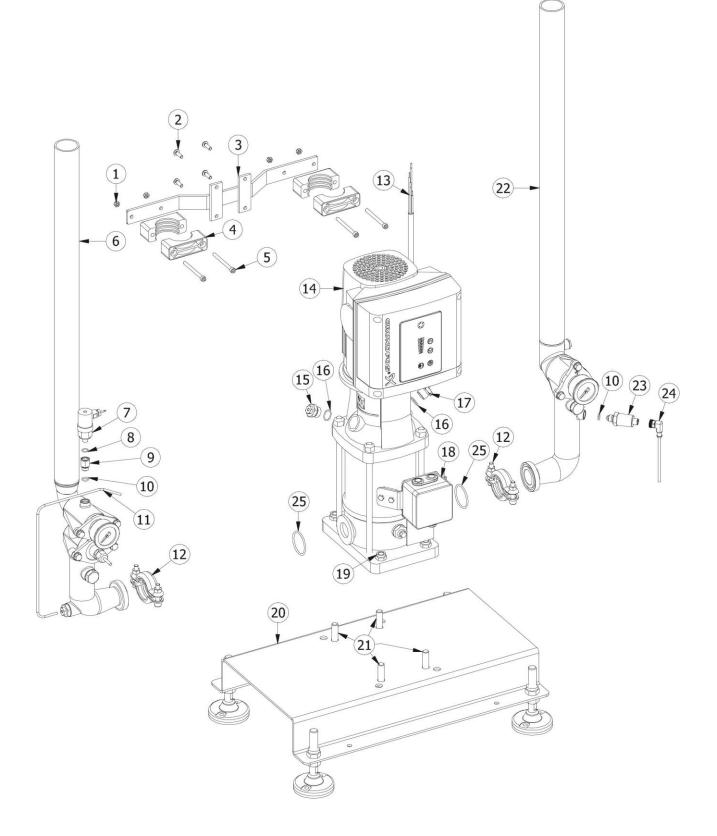
## **TECHNICAL SPECIFICATIONS**

Model	BS1	BS3	BS5	BS7	BS10
Pump					
Pump type	CRNE 3-9	CRNE 3-9	CRNE 5-14	CRNE 10-9	CRNE 15-9
Frequency drive	0		egrated in pump m		0
	2.2 kW	4.0 kW	6.0 kW	7.5 kW	11 kW
Motor power	3 HP	5,4 HP	7 HP	10 HP	15 HP
Connections					
Inlet	1½″ BSP or NPT	1½″ BSP or NPT	1½" BSP or NPT	1½" BSP or NPT	2" BSP or NPT
Outlet	1½" BSP or NPT	1½″ BSP or NPT	1½" BSP or NPT	1½" BSP or NPT	2" BSP or NPT
Water, inlet					
Minimum pressure	1.5 bar 23 psi	1.5 bar 23 psi	1.5 bar 23 psi	1.5 bar 23 psi	1.5 bar 23 psi
Maximum pressure	10 bar 150 psi	10 bar 150 psi	10 bar 150 psi	10 bar 150 psi	10 bar 150 psi
Minimum temperature	3°C 37 F	3°C 37 F	3°C 37 F	3°C 37 F	3°C 37 F
		<u> </u>	70°C		
Maximum temperature	160 F	160 F	160 F	160 F	160 F
Minimum recommended flow	3.0 m <sup>3</sup> /h 13.2 USgal/min	7.5 m³/h 33 USgal/min	12 m <sup>3</sup> /h 52.8 USgal/min	15 m³/h 66 USgal/min	22.5 m³/h 99 USgal/min
Maximum pump cut-out	1.5 bar	1.5 bar	1.5 bar	1.5 bar	1.5 bar
pressure	23 psi	23 psi	23 psi	23 psi	23 psi
Minimum pump cut-out	90°C	90°C	90°C	90°C	90°C
temperature Water, outlet	190 F	190 F	190 F	190 F	190 F
	15 20 hav	15 20 hav	15 20 hav	15 20 hav	15 20 hav
Setpoint adjustable between	15-20 bar 218-290 psi	15-20 bar 218-290 psi	15-20 bar 218-290 psi	15-20 bar 218-290 psi	15-20 bar 218-290 psi
Maximum flow at 20 bar (290 psi) (including 4.0 bar (58 psi) inlet pressure)	30 liters/min 7 USgal/min	90 liters/min 23 USgal/min	150 liters/min 39 US gal/min	210 liters/min 55 USgal/min	300 liters/min 79 USgal/min
Electrical 400 and 460V			<u> </u>		
Voltage	3x380-500V +/- 10%	3x380-500V +/- 10%	3x380-500V +/- 10%	3x380-500V +/- 10%	3x380-500V +/- 10%
Frequency	50-60Hz	50-60Hz	50-60Hz	50-60Hz	50-60Hz
Current	4,5 – 3.4 A	7.6 – 6.2 A	11.5 – 9.0 A	14.1 – 11.2 A	22.5 -18.8 A
Recommended pre- fusing	10 A	10 A	20 A	32 A	50 A
Recommended cable cross section	4 x 1.5 mm² 4 x AWG16	4 x 1.5 mm² 4 x AWG16	4 x 1.5 mm² 4 x AWG16	4 x 2.5 mm² 4 x AWG14	4 x 4 mm² 4 x AWG12
Dimensions					
Height (H)	1210 mm 47.6 in	1210 mm 47.6 in	1210 mm 47.6 in	1210 mm 47.6 in	1550 mm 61 in
Width (W)	570 mm 22.4 in	570 mm 22.4 in	570 mm 22.4 in	570 mm 22.4 in	578 mm 22.8 in
Depth (D)	410 mm 16.1 in	410 mm 16.1 in	410 mm 16.1 in	410 mm 16.1 in	445 mm 17.5 in
Weight	90 kg 198 lbs	100 kg 220 lbs	130 kg 287 lbs	150 kg 331 lbs	210 kg 463 lbs
a	145 mm 5.7 in	145 mm 5.7 in	145 mm 5.7 in	130 mm 5.1 in	130 mm 5.1 in
b	340 mm 13.4 in	340 mm 13.4 in	340 mm 13.4 in	340 mm 13.4 in	450 mm 17.7 in

## WIRING DIAGRAM BS1, 3, 5, 7, 10

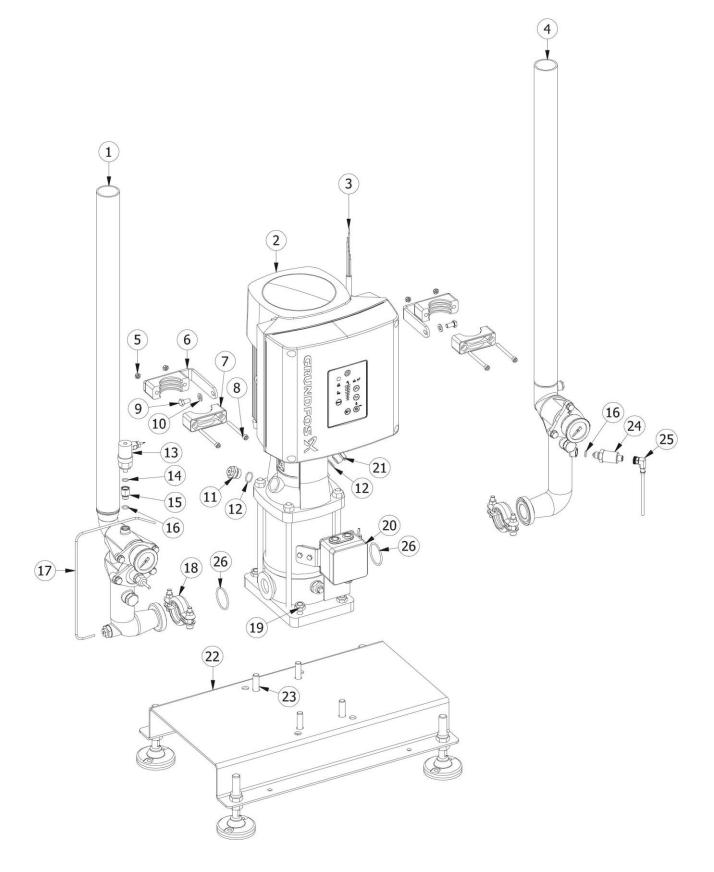


*Please note: We reserve the right to make alterations to the technical specifications without notice.* 



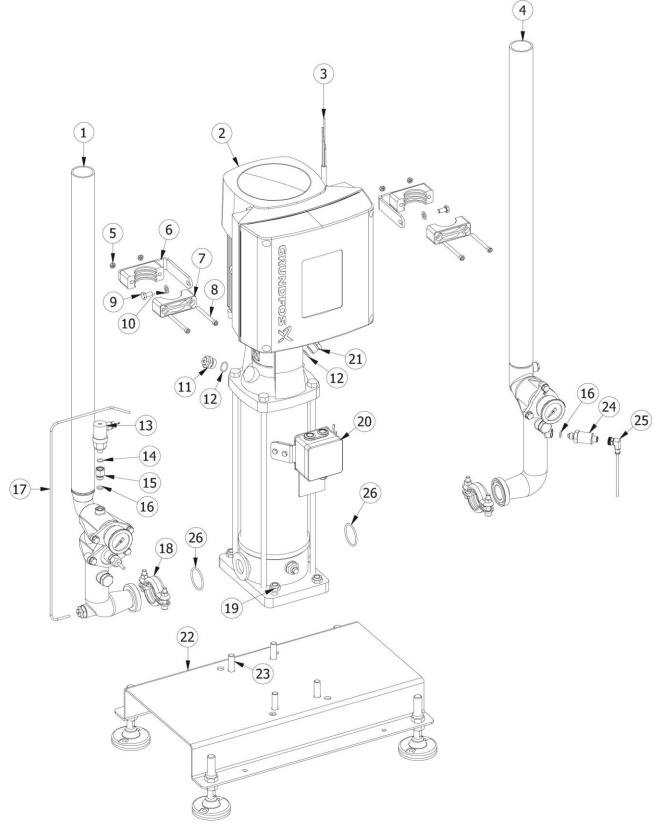
Item	Qty.	Part Number	Description	Material	Model
1	4	08-000602	Lock nut M6	A2	All
2	4	08-100607	Screw M6x20 Taptite	A2	All
3	1	42-300281	Bracket for pipe clamp	AISI 304	All
4	4	14-400483	Pipe clamp ø48,3 green	Plastic	All
5	4	08-100023	Allen screw M6x70 CH RF	A2	All
6	1	02-110040	Inlet pipe 1.1/2" BSP	-	BSP
6	1	02-110041	Inlet pipe 1.1/2" NPT	-	NPT
7	1	35-600064	Pressure switch 1/8" 0,1-2bar NO	-	All
8	1	17-000032	O-ring 10,1x1,6 NBR 70 shore	NBR	All
9	1	15-200082	Socket 1/4"x1/8"	AISI 316	All
10	2	17-020055	O-ring 10x2 70 shore	EPDM	All
11	1	26-100111	Vent pipe model 2	AISI 304	All
12	2	03-900000	Flexi clamps 5M <sup>3</sup> complete	-	All
13	3	35-410011	Cable 4x1,5mm <sup>2</sup> PVC CE UL CSA	-	All
14	1	06-000315	Pump CRNE 3-9 2,2 kW clamps	-	All
15	1	26-100100	Clamping ring fitting 1/2"x4	AISI 303	All
16	2	17-020080	O-ring 18x2 70 shore	EPDM	All
17	1	32-000090	Temperature switch 88°C 1/2"NC	AISI 304	All
18	1	03-900010	Push button assembly 5m <sup>3</sup>	-	All
19	4	08-001201	Lock nut M12	A2	All
20	1	03-900020	Pump fundation BS complete	-	All
21	4	08-201207	Set screw M12x40	A2	All
22	1	02-120040	Outlet pipe 1.1/2" BSP	-	BSP
22	1	02-120041	Outlet pipe 1.1/2" NPT	-	NPT
23	1	36-100090	Pressure transmitter 60 bar	-	All
24	1	21-000102	Angle connector M12x5m	-	All
25	2	17-010010	O-ring 46x3	NBR	All

# Part list BS1 (No. 5100-0010 and 5100-0011)



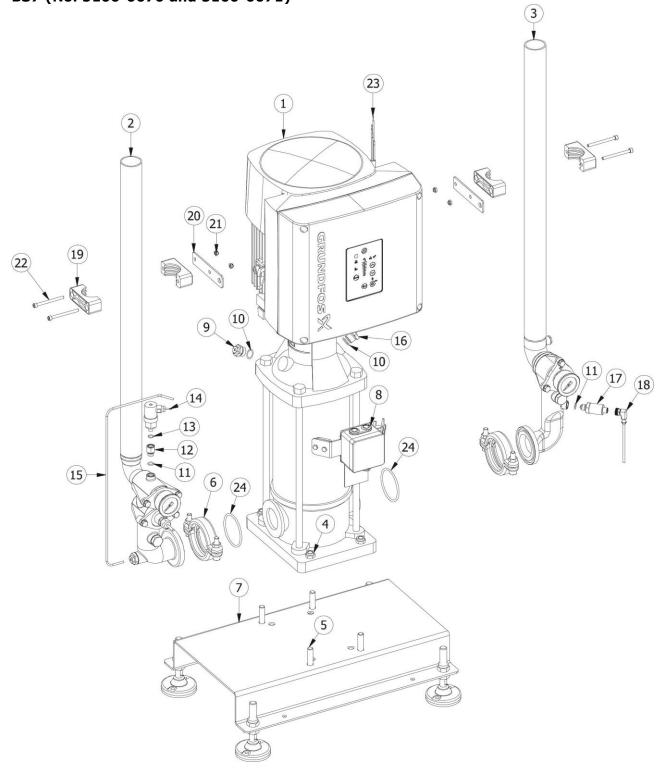
# Part list BS3 (No. 5100-0030 and 5100-0031)

Item	Qty.	Part Number	Description	Material	Model
1	1	02-110040	Inlet pipe 1.1/2" BSP	-	BSP
1	1	02-110041	Inlet pipe 1.1/2" NPT	-	NPT
2	1	06-000600	Pump CRNE 3-9 4 kW clamps	-	All
3	3	35-410011	Cable 4x1,5mm <sup>2</sup> PVC CE UL CSA	-	All
4	1	02-120040	Outlet pipe 1.1/2" BSP	-	BSP
4	1	02-120041	Outlet pipe 1.1/2" NPT	-	NPT
5	4	08-000602	Lock nut M6	A2	All
6	2	42-300291	Bracket for pipe clamp BS3	AISI 304	All
7	4	14-400483	Pipe clamp ø48,3 green	Plastic	All
8	4	08-100023	Allen screw M6x70 CH RF	A2	All
9	2	08-200808	Set screw M8x16	A2	All
10	2	08-300803	Plane washer ø8	A2	All
11	1	26-100100	Clamping ring fitting 1/2"x4	AISI 303	All
12	2	17-020080	O-ring 18x2 70 shore	EPDM	All
13	1	35-600064	Pressure switch 1/8" 0,1-2bar NO	-	All
14	1	17-000032	O-ring 10,1x1,6 NBR 70 shore	NBR	All
15	1	15-200082	Socket 1/4"x1/8"	AISI 316	All
16	2	17-020055	O-ring 10x2 70 shore	EPDM	All
17	1	26-100111	Vent pipe model 2	AISI 304	All
18	2	03-900000	Flexi clamps 5M <sup>3</sup> complete	-	All
19	4	08-001201	Lock nut M12	A2	All
20	1	03-900010	Push button assembly 5m <sup>3</sup>	-	All
21	1	32-000090	Temperature switch 88°C 1/2"NC	AISI 304	All
22	1	03-900020	Pump fundation BS complete	-	All
23	4	08-201207	Set screw M12x40	A2	All
24	1	36-100090	Pressure transmitter 60 bar	-	All
25	1	21-000102	Angle connector M12x5m	-	All
26	2	17-010010	O-ring 46x3	NBR	All



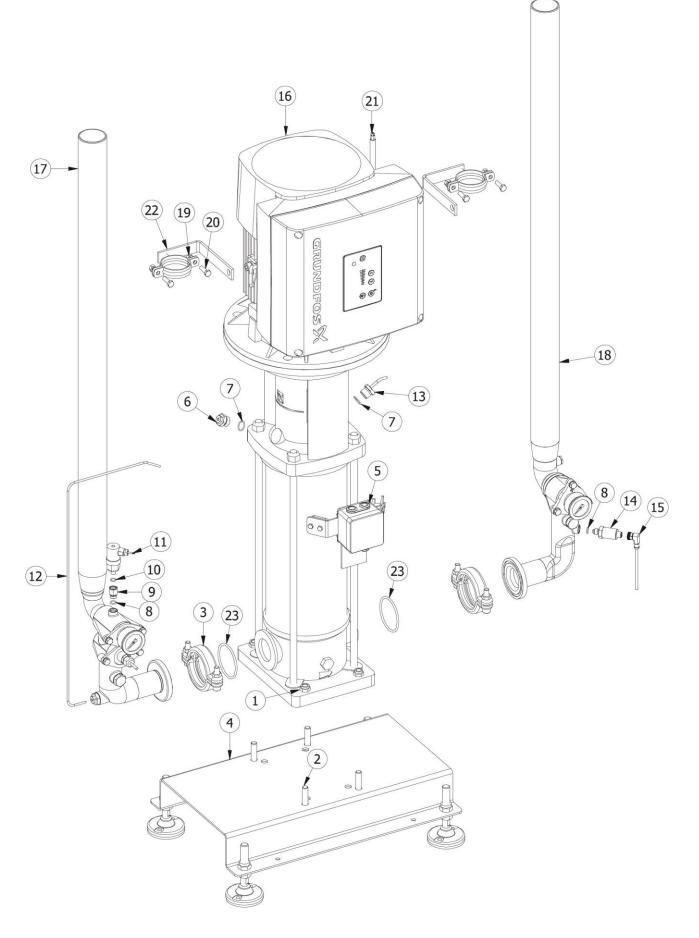
# Part list BS5 (No. 5100-0050 and 5100-0051)

Item	Qty.	Part Number	Description	Material	Model
1	1	02-110040	Inlet pipe 1.1/2" BSP	-	BSP
1	1	02-110041	Inlet pipe 1.1/2" NPT	-	NPT
2	1	06-000525	Pump CRNE 5-14 5,5 kW clamps	-	All
3	1	35-410011	Cable 4x1,5mm <sup>2</sup> PVC CE UL CSA	-	All
4	1	02-120040	Outlet pipe 1.1/2" BSP	-	BSP
4	1	02-120041	Outlet pipe 1.1/2" NPT	-	NPT
5	4	08-000602	Lock nut M6	A2	All
6	2	42-300291	Bracket for pipe clamp BS3	AISI 304	All
7	4	14-400483	Pipe clamp ø48,3 green	Plastic	All
8	4	08-100023	Allen screw M6x70 CH RF	A2	All
9	2	08-200808	Set screw M8x16	A2	All
10	2	08-300803	Plane washer ø8	A2	All
11	1	26-100100	Clamping ring fitting 1/2"x4	AISI 303	All
12	2	17-020080	O-ring 18x2 70 shore	EPDM	All
13	1	35-600064	Pressure switch 1/8" 0,1-2bar NO	-	All
14	1	17-000032	O-ring 10,1x1,6 NBR 70 shore	NBR	All
15	1	15-200082	Socket 1/4"x1/8"	AISI 316	All
16	2	17-020055	O-ring 10x2 70 shore	EPDM	All
17	1	26-100121	Vent pipe model 5	AISI 304	All
18	2	03-900000	Flexi clamps 5M <sup>3</sup> complete	-	All
19	4	08-001201	Lock nut M12	A2	All
20	1	03-900010	Push button assembly 5m <sup>3</sup>	-	All
21	1	32-000090	Temperature switch 88°C 1/2"NC	AISI 304	All
22	1	03-900020	Pump fundation BS complete	-	All
23	4	08-201207	Set screw M12x40	A2	All
24	1	36-100090	Pressure transmitter 60 bar	-	All
25	1	21-000102	Angle connector M12x5m	-	All
26	2	17-010010	O-ring 46x3	NBR	All



Item	Qty.	Part Number	Description	Material	Model
1	1	06-000005	Pump CRNE 10-9 7,5 kW clamps	-	All
2	1	02-110050	Inlet pipe 1.1/2" BSP	-	BSP
2	1	02-110051	Inlet pipe 1.1/2" NPT	-	NPA
3	1	02-120050	Outlet pipe 1.1/2" BSP	-	BSP
3	1	02-120051	Outlet pipe 1.1/2" NPT	-	NPT
4	4	08-001201	Lock nut M12	A2	All
5	4	08-201211	Set screw M12x45	A2	All
6	2	03-900005	Flexi clamps 10M <sup>3</sup> complete	-	All
7	1	03-900020	Pump fundation BS complete	-	All
8	1	03-900015	Push button assembly 10m <sup>3</sup>	-	All
9	1	26-100100	Clamping ring fitting 1/2"x4	AISI 303	All
10	2	17-020080	O-ring 18x2 70 shore	EPDM	All
11	2	17-020055	O-ring 10x2 70 shore	EPDM	All
12	1	15-200082	Socket 1/4"x1/8"	AISI 316	All
13	1	17-000032	O-ring 10,1x1,6 NBR 70 shore	NBR	All
14	1	35-600064	Pressure switch 1/8" 0,1-2bar NO	-	All
15	1	26-100131	Vent pipe model 7	AISI 304	All
16	1	32-000090	Temperature switch 88°C 1/2"NC	AISI 304	All
17	1	36-100090	Pressure transmitter 60 bar	-	All
18	1	21-000102	Angle connector M12x5m	-	All
19	4	14-400483	Pipe clamp ø48,3 green	Plastic	All
20	2	42-300292	Bracket for pipe clamp BS7	AISI 304	All
21	4	08-000602	Lock nut M6	A2	All
22	4	08-100023	Allen screw M6x70 CH RF	A2	All
23	1	35-410031	Cable 4x2,5mm <sup>2</sup> PVC CE UL CSA	-	All
24	2	17-010011	O-ring 70x4	NBR	All

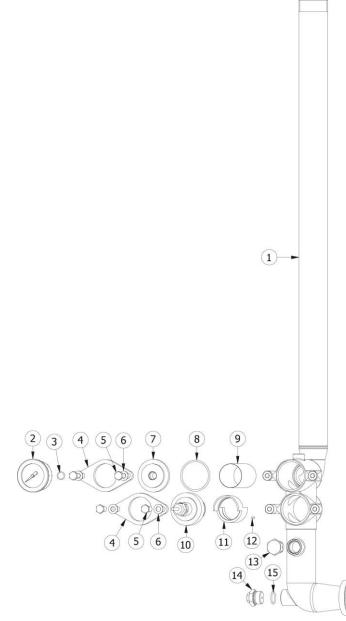
# Part list BS7 (No. 5100-0070 and 5100-0071)



# Part list BS10 (No. 5100-0100 and 5100-0101)

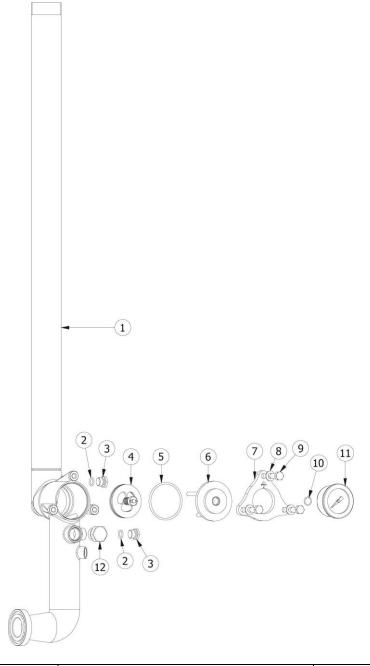
Item	Qty.	Part Number	Description	Material	Model
1	4	08-001201	Lock nut M12	A2	All
2	4	08-201211	Set screw M12x45	A2	All
3	2	03-900005	Flexi clamps 10M <sup>3</sup> complete	-	All
4	1	03-900020	Pump fundation BS complete	-	All
5	1	03-900015	Push button assembly 10m <sup>3</sup>	-	All
6	1	26-100100	Clamping ring fitting 1/2"x4	AISI 303	All
7	2	17-020080	O-ring 18x2 70 shore	EPDM	All
8	2	17-020055	O-ring 10x2 70 shore	EPDM	All
9	1	15-200082	Socket 1/4"x1/8"	AISI 316	All
10	1	17-000032	O-ring 10,1x1,6 NBR 70 shore	NBR	All
11	1	35-600064	Pressure switch 1/8" 0,1-2bar NO	-	All
12	1	26-100144	Vent pipe model nVBS 25-15 2"	AISI 304	All
13	1	32-000090	Temperature switch 88°C 1/2"NC	AISI 304	All
14	1	36-100090	Pressure transmitter 60 bar	-	All
15	1	21-000102	Angle connector M12x5m	-	All
16	1	06-000200	Pump CRNE 15-9 11 kW clamps	-	All
17	1	02-110080	Inlet pipe 2" BSP	-	BSP
17	1	02-110081	Inlet pipe 2" NPT	-	NPT
18	1	02-120080	Outlet pipe 2" BSP	-	BSP
18	1	02-120081	Outlet pipe 2" NPT	-	NPT
19	4	08-000801	Nut M8	A2	All
20	4	08-100808	Set screw M8x25	A2	All
21	3	35-411002	Cable 4x4mm <sup>2</sup> CE 3 m	-	All
22	2	42-300286	Bracket for pipe clamp BS 10	AISI 304	All
23	2	17-010011	O-ring 70x4	NBR	All

## Details No. 02-110040 and 02-110041



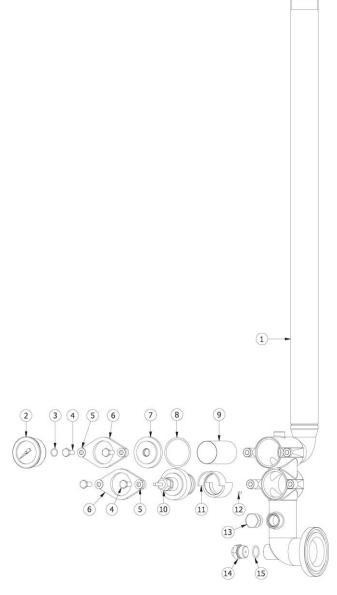
Item	Qty.	Part Number	Description	Material	Model
1	1	25-000740	Inlet pipe 1.1/2 BSP	AISI 304	BSP
1	1	25-000741	Inlet pipe 1.1/2 NPT	AISI 304	NPT
2	1	22-000044	Gauge ø50, -1-16 bar SS	AISI 304/brass/glycerine	All
3	1	17-020056	O-ring 11x1,5 70 shore	EPDM	All
4	2	20-010009	Flange for Filter	AISI 303	All
5	4	08-200805	Set screw M8x20	A2	All
6	4	08-300803	Plane washer ø8	A2	All
7	1	20-010008	Cap for Filter	AISI 303	All
8	1	17-020004	O-ring 47,29x2,62 EPDM 70 sh	EPDM	All
9	1	20-510040	Filter insertion 1.1/2" 800 µm	AISI 304	All
10	1	21-000025	Flow switch 1.1/2"	-	All
11	1	21-000022	Insert for flow-switch	AISI 303	All
12	1	08-105020	Spring pin ø3x8 RF	A2	All
13	1	16-501200	Plug 1/2"	AISI 304	All
14	1	26-100100	Clamping ring fitting 1/2"x4	AISI 303	All
15	1	17-020080	O-ring 18x2 70 shore	EPDM	All

## Details No. 02-120040 and 02-120041



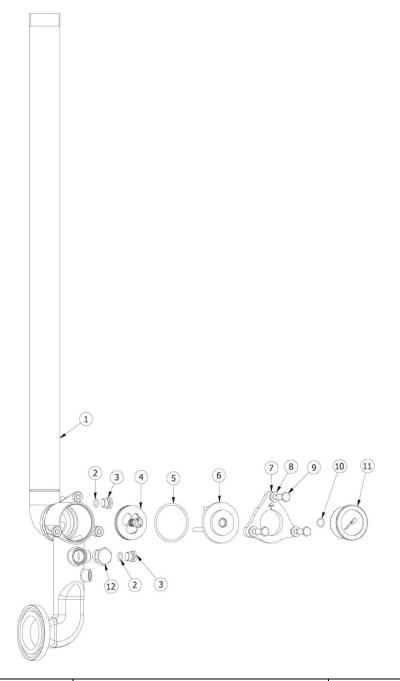
Item	Qty.	Part Number	Description	Material	Model
1	1	25-250023	Outlet pipe 1.1/2" BSP	AISI 316	BSP
1	1	25-250024	Outlet pipe 1.1/2" BSP	AISI 304	NPT
2	2	17-020055	O-ring 10x2 70 shore	EPDM	All
3	2	16-501403	Plug 1/4" 9mm	AISI 316	All
4	1	20-200200	Non-return valve 1.1/2"	AISI 304/NBR	All
5	1	17-020017	O-ring 55,2x3 EPDM	EPDM	All
6	1	20-010006	Cap for Non-return valve	AISI 303	All
7	1	20-010007	Flange for Non-return valve	AISI 303	All
8	3	08-300803	Plane washer ø8	A2	All
9	3	08-200805	Set screw M8x20	A2	All
10	1	17-020056	O-ring 11x1,5 70 shore	EPDM	All
11	1	22-000042	Gauge ø50 0-60 bar SS	AISI 304/brass/glycerine	All
12	1	16-501200	Plug 1/2"	AISI 304	All

## Details No. 02-110050 and 02110051



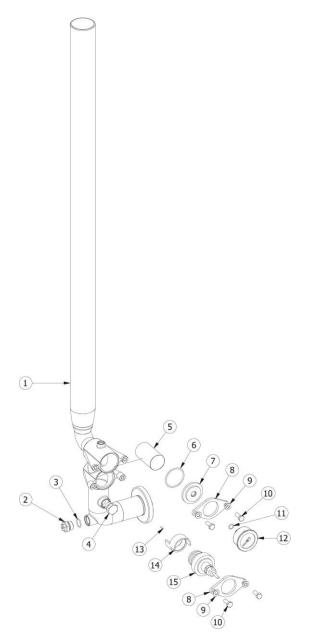
Item	Qty.	Part Number	Description	Material	Model
1	1	25-000750	Inlet pipe 1.1/2 BSP	AISI 304	BSP
1	1	25-000751	Inlet pipe 1.1/2 NPT	AISI 304	NPT
2	1	22-000044	Gauge ø50, -1-16 bar SS	AISI 304/brass/glycerine	All
3	1	17-020056	O-ring 11x1,5 70 shore	EPDM	All
4	4	08-200805	Set screw M8x20	A2	All
5	4	08-300803	Plane washer ø8	A2	All
6	2	20-010009	Flange for Filter	AISI 303	All
7	1	20-010008	Cap for Filter	AISI 303	All
8	1	17-020004	O-ring 47,29x2,62 EPDM 70 sh	EPDM	All
9	1	20-510040	Filter insertion 1.1/2" 800 µm	AISI 304	All
10	1	21-000025	Flow switch 1.1/2"	-	All
11	1	21-000022	Insert for flow-switch	AISI 303	All
12	1	08-105020	Spring pin ø3x8 RF	A2	All
13	1	16-501200	Plug 1/2"	AISI 304	All
14	1	26-100100	Clamping ring fitting 1/2"x4	AISI 303	All
15	1	17-020080	O-ring 18x2 70 shore	EPDM	All

### Details No. 02-120050 and 02-120051



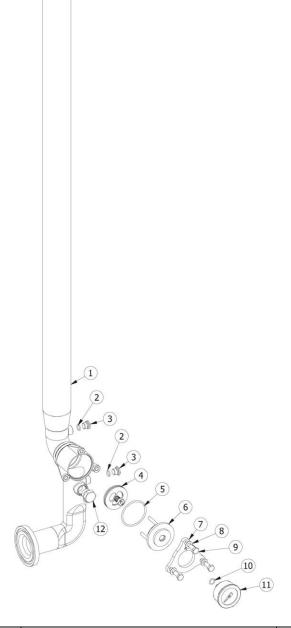
Item	Qty.	Part Number	Description	Material	Model
1	1	25-250024	Outlet pipe 1.1/2" BSP	AISI 304	BSP
1	1	25-250029	Outlet pipe 1.1/2" NPT	AISI 304	NPT
2	2	17-020055	O-ring 10x2 70 shore	EPDM	All
3	2	16-501403	Plug 1/4" 9mm	AISI 316	All
4	1	20-200200	Non-return valve 1.1/2"	AISI 304/NBR	All
5	1	17-020017	O-ring 55,2x3 EPDM	EPDM	All
6	1	20-010006	Cap for Non-return valve	AISI 303	All
7	1	20-010007	Flange for Non-return valve	AISI 303	All
8	3	08-300803	Plane washer ø8	A2	All
9	3	08-200805	Set screw M8x20	A2	All
10	1	17-020056	O-ring 11x1,5 70 shore	EPDM	All
11	1	22-000042	Gauge ø50 0-60 bar SS	AISI 304/brass/glycerine	All
12	1	16-501200	Plug 1/2"	AISI 304	All

## Details No. 02-110080 and 02-110081



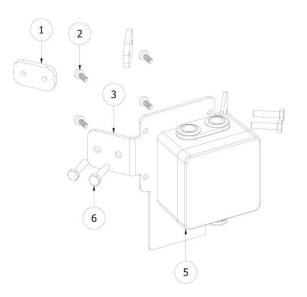
Item	Qty.	Part Number	Description	Material	Model
1	1	25-000762	Inlet pipe 2" BSP	AISI 304	BSP
1	1	25-000763	Inlet pipe 2" NPT	AISI 304	NPT
2	1	26-100100	Clamping ring fitting 1/2"x4	AISI 303	All
3	1	17-020080	O-ring 18x2 70 shore	EPDM	All
4	1	16-501200	Plug 1/2"	AISI 304	All
5	1	20-510040	Filter insertion 1.1/2" 800 µm	AISI 304	All
6	1	17-020004	O-ring 47,29x2,62 EPDM 70 sh	EPDM	All
7	1	20-010008	Cap for Filter	AISI 303	All
8	2	20-010009	Flange for Filter	AISI 303	All
9	4	08-300803	Plane washer ø8	A2	All
10	4	08-200805	Set screw M8x20	A2	All
11	1	17-020056	O-ring 11x1,5 70 shore	EPDM	All
12	1	22-000044	Gauge ø50, -1-16 bar SS	AISI 304/brass/glycerine	All
13	1	08-105020	Spring pin ø3x8 RF	A2	All
14	1	21-000022	Insert for flow-switch	AISI 303	All
15	1	21-000025	Flow switch 1.1/2"	-	All

# Details No. 02-120080, 02-120081



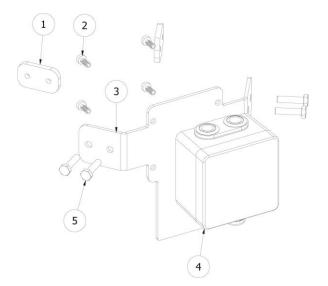
Item	Qty.	Part Number	Description	Material	Model
1	1	25-250060	Outlet pipe 2" BSP	AISI 304	BSP
1	1	25-250061	Outlet pipe 2" NPT	AISI 304	NPT
2	2	17-020055	O-ring 10x2 70 shore	EPDM	All
3	2	16-501403	Plug 1/4" 9mm	AISI 316	All
4	1	20-200200	Non-return valve 1.1/2"	AISI 304/NBR	All
5	1	17-020017	O-ring 55,2x3 EPDM	EPDM	All
6	1	20-010006	Cap for Non-return valve	AISI 303	All
7	1	20-010007	Flange for Non-return valve	AISI 303	All
8	3	08-300803	Plane washer ø8	A2	All
9	3	08-200805	Set screw M8x20	A2	All
10	1	17-020056	O-ring 11x1,5 70 shore	EPDM	All
11	1	22-000042	Gauge ø50 0-60 bar SS	AISI 304/brass/glycerine	All
12	1	16-501200	Plug 1/2"	AISI 304	All

### Details No. 03-900010

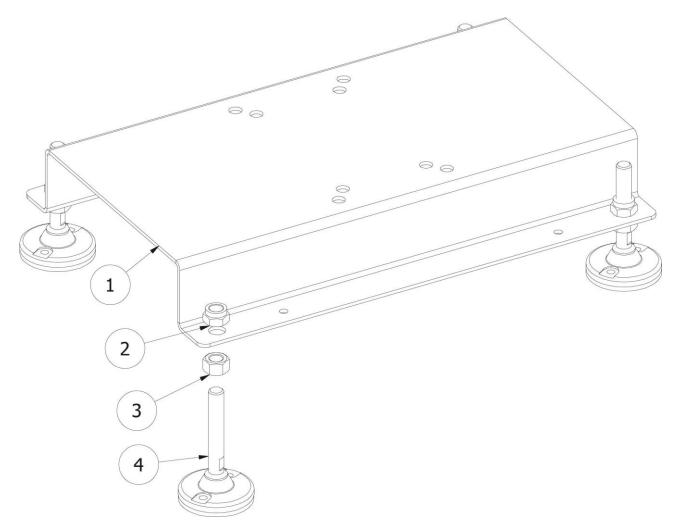


Item	Qty.	Part Number	Description	Material
1	2	42-300110-02	Bracket for control	AISI 304
2	4	08-104015	Screw for plastic 5x12	A2
3	1	42-300261	Bracket for control 3/5m <sup>3</sup> BS	AISI 304
5	1	36-800015	On/off buttons G5	-
6	4	08-200607	Set screw M6x25	A2

# Details No. 03-900015

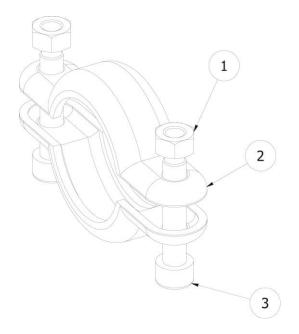


Item	Qty.	Part Number	Description	Material
1	2	42-300110-02	Bracket for control	AISI 304
2	4	08-104015	Screw for plastic 5x12	A2
3	1	42-300271	Bracket for control 10/15m <sup>3</sup> BS	AISI 304
4	1	36-800015	On/off buttons G5	-
5	4	08-200607	Set screw M6x25	A2



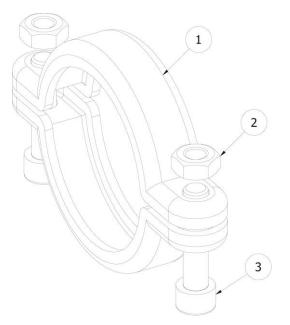
Item	Qty.	Part Number	Description	Material
1	1	46-200100	Pump fundation RBS 25-5/25-10	AISI 304
2	4	08-001602	Lock nut M16	A2
3	4	08-001601	Nut M16	A2
4	4	45-400030-01	Machine shoe ø80xM16 H=100mm	-

### Details No. 03-900000



Item	Qty.	Part Number	Description	Material
1	2	08-000801	Nut M8	A2
2	1	30-740483	Flexi clamps ø48,3	-
3	2	08-800803	Cheese-head screw M8x40	A2

# Details No. 03-900005



Item	Qty.	Part Number	Description	Material
1	1	30-740761	Flexi clamps ø76,1	-
2	2	08-001001	Nut M10	A2
3	2	08-801003	Cheese-head screw M10x45	A2

