



**SPR 90**

**User manual**

**Tehnika tn 10  
50104 Tartu, Estonia  
+372 738 0594  
+372 501 8519  
[www.spraytec.ee](http://www.spraytec.ee)  
[info@spraytec.ee](mailto:info@spraytec.ee)**

## Mixer Pump SPR 90 User Manual

The SPR 90 mixer pump is designed for mixing and pumping plaster and grout mixtures with up to 4mm grain size, as well as floor leveling compounds. The mixing occurs via a continuous flow mixer, and the pumping is performed using a screw pump. To spray the mixture, the device requires compressed air of 400-800 L/min at a pressure of 3-6 bar. The pumping capacity of the device can be adjusted either by a variator reducer or a frequency converter. Follow the mixing technology guidelines for the mixture being prepared when using the device. Ensure it is permissible to mix the mixture with a continuous flow mixer.

### 1. Technical Data

<b>Total power of the device</b>	11.5 kW
<b>Pump</b>	7.5 kW
<b>Mixer</b>	4 kW
<b>Supply voltage</b>	380 V, 3 phase
<b>Fuse</b>	32 A
<b>Pump rotation speed</b>	50 – 255 rpm
<b>Capacity</b>	5 – 60 l/min
<b>Pump pressure</b>	Max 25 bar
<b>Pump container volume</b>	175 l
<b>Screw pump</b>	2L6, 2L6MV, 2L88
<b>Mixing hose</b>	ID 38, WP40 bar, max length 60 m
<b>Mixer capacity</b>	40 l/min
<b>Water connection</b>	Hose ID 16, pressure min 3 bar
<b>Dimensions</b>	
<b>Length</b>	3105 mm
<b>Width</b>	820 mm
<b>Height</b>	1260 mm
<b>Mass</b>	435 kg

- **Device Dimensions:**
  - **Length:** 3105 mm
  - **Width:** 820 mm
  - **Height:** 1260 mm
- **Device Weight:** 435 kg

### 2. Completeness

- Device
- Material hose ID38mm, 20m long
- Air hose ID10mm, 20m long
- Remote control switch with 22m cable
- Standard gun, 1 pc.
- Nozzles: 12mm, 14mm, 16mm, 18mm
- Cleaning balls, 2 pcs.
- User manual

### **3. Safety Instructions**

3.1 Only employees who have received proper training and are familiar with the user manual may operate the device.

3.2 No unauthorized persons should be near the device during operation.

3.3 It is prohibited to operate the device without the container safety grates.

3.4 Place the device on a stable base. Install support legs.

3.5 Position the material hose to prevent it from being run over. Secure vertical sections of the hose firmly to scaffolding.

3.6 Use proper electrical cables and regularly check the electrical system's condition. Maintenance and repair of the device's electrical system should only be performed by a qualified technician.

3.7 Regularly check hose connections and conditions.

3.8 Before connecting the remote control cable to the device (pos. 11, figure 3), set the remote switch to the off position (view A, figure 7) (the switch handle should be pointed towards the opening in the switch body), and turn the rotary switch on the electrical panel DIST-HAND (pos. 2, figure 3) to the neutral position.

3.9 Always disconnect the device from the power supply before cleaning and maintenance.

3.10 In an emergency, press the emergency stop button (pos. 6, figure 3).

3.11 Do not put your hand into the container while the device is operating.

3.12 To clean the hoses, release the pressure from the hoses (see section 7.6).

3.13 Follow the recommendations in section 7.6 in case of blockages.

3.14 When cleaning the device with a high-pressure washer, cover the motor and electrical panel securely; do not direct the water jet at the motors or electrical panel.

3.15 Do not aim the spray gun at people.

#### **4. Device Preparation for Operation and Start-Up**

4.1 Place the device on a horizontal, flat, and clean surface. Adjust the support legs of the device (pos. 39, figure 2).

4.2 Visually inspect the device for proper condition.

4.3 If possible, place the air compressor in another room or at the maximum distance from the work area.

4.4 Position the material hose to avoid damage.

4.5 Secure the vertically positioned hose firmly to the scaffolding.

4.6 Connect the compressor hose to the plaster sprayer air hose.

4.7 Ensure that the switches on the device's electrical panel (pos. 1 and 2, figure 3) are in the neutral position.

4.8 Connect the power cable (5 x 2.5 mm<sup>2</sup>, 32A) to the socket on the device's panel (pos. 9, figure 3). A white indicator light (pos. 3, figure 3) will illuminate on the panel.

4.9 Pour a light solution of wallpaper paste, about 20 liters, into the pump container of the device.

4.10 Turn the rotary switch (pos. 2, figure 3) on the electrical panel to the HAND position, and the rotary switch (pos. 1, figure 3) to position 1. By pressing the green START button (pos. 4, figure 3), start the device. The device will operate as long as you hold down the button; releasing the button stops the device. Observe the rotation direction of the cardan (pos. 25, figure 2). When standing behind the device, if the cardan rotates clockwise, the pump pumps; if it rotates counterclockwise, it pulls the mixture back into the container through the hose. To change the rotation direction, turn the rotary switch (pos. 1, figure 3) to position 2.

4.11 Ensure the remote switch is in the off position. In the off position, the switch handle is directed towards the opening in the remote switch body (view A, figure 7). Connect the plug of the device's remote cable to the socket on the electrical panel (pos. 11, figure 3).

4.12 Turn the rotary switch (pos. 2, figure 3) on the electrical panel to the DIST position; now you can start the device with the remote switch.

4.13 Start the pump and pump the wallpaper paste solution through the hose.

4.14 Check the rotation direction of the mixer shaft; standing behind the device, the mixer shaft (pos. 14, figure 1) should rotate counterclockwise. Pressing the MIXER ON switch (pos. 7, figure 3) on the device's electrical panel starts the device; pressing the MIXER OFF switch (pos. 7, figure 3) stops the device. To change the rotation direction of the mixer shaft, stop the device, disconnect the plug of the cable going to the flow-through mixer motor from the socket on the electrical panel (pos. 10, figure 3). The plug at the end of the cable is reversible. You can change the position of the pins in the plug using a screwdriver, changing the direction of rotation of the mixer shaft.

4.15 Check the water system's condition. First, turn the water system taps (pos. 3 and 10, figure 4) to the closed position. Disconnect the end of the short hose going to the mixer pipe (pos. 24, 25, figure 1). Slightly open the regulating needle valve for the water amount (pos. 11, figure 4). By pressing the WATER VALVE switch (pos. 8, figure 3), water should flow from the open outlet hose of the water system. During operation, water supply opens automatically when the reducer motor starts. The water amount can be adjusted with the needle valve (pos. 11, figure 4). The flow meter (pos. 13, figure 4) shows the water amount. The float in the flow meter rises higher when the needle valve opens more, and the flow rate is read from the top edge

of the float. Adjust the needle valve to a level of 800 l/h. To achieve the correct mixture viscosity, a test mixing must be performed to determine the necessary water adjustment.

4.16 Close the connection of the hose going to the mixer pipe (pos. 24, 25, figure 1).

4.17 Adjust the device's speed to the minimum. The variator can only be adjusted while the device is operating. To reduce the device speed (to decrease the pump output), turn the variator wheel (pos. 33, figure 2) counterclockwise. To increase the pump output, turn the variator wheel clockwise. Before adjusting the variator, loosen the lock nut and tighten the lock nut after the adjustment.

4.18 Connect the plaster gun to the hose. Ensure that the gun's taps are closed. Connect the air hose. Install the nozzle on the gun.

4.19 Fill the mixer container (pos. 9, figure 1) with dry mix. Only use mixes designed for pumping and suitable for mixing with a continuous flow mixer. Ensure that the particle size of the mixture does not exceed the size allowed by the manufacturer. For uniform mixing,

constantly fill the mixer container with dry mix, avoiding air entering the mixer pipe. Air entering the mixer pipe immediately changes the viscosity of the mixture.

4.20 To achieve the required mixture viscosity, a test mixing must be performed. Place a mixing box under the mixer outlet. Previously, the flow rate was adjusted to 800 l/h. Start the mixer by pressing the green button MIXER ON (pos. 7, figure 3) on the electrical panel. After a short time, the mixture will begin to flow from the mixer outlet. Adjust the viscosity of the mixture by turning the needle valve (pos. 11, figure 4). Turning clockwise decreases the water amount, resulting in a drier mixture. Turning counterclockwise results in a more liquid mixture. The change in mixture viscosity takes some time. Once the desired mixture viscosity is achieved, stop the device by pressing the red button MIXER OFF (pos. 7, figure 3).

4.21 To begin work, first prepare a mixture amounting to approximately half of the mixing pump container's volume.

4.22 Start the air compressor and build up pressure until the compressor stops.

4.23 Start the device. The rotary switch REVERSE (pos. 1, figure 3) on the electrical panel must be in position 1 or 2, according to the correct rotation direction found. The rotary switch HAND-AUTO (pos. 2, figure 3) should be in the AUTO position so that the device can be started with the remote switch. Open the air valve on the plaster gun (pos. 9, figure 5 or pos. 5, figure 6) and also the mixture valve (pos. 4, figure 6). Compressed air flows out of the gun nozzle. By pressing the remote switch (pos. 5, figure 7), the pump starts. It takes time for the mixture to reach the gun until the mixture hose is filled with the mixture.

4.24 To adjust the spray of the standard gun, the gun air tube (pos. 5, figure 5) can be moved relative to the nozzle opening. The end of the air tube should be about 1 cm inside the nozzle plane. The spray can be adjusted by using different nozzles and changing the compressed air pressure.

4.25 Start the mixing mixer by pressing the green button MIXER ON (pos. 7, figure 3). The cooperation between the mixer and the mixing pump can be adjusted by changing the speed of the mixing pump. When stopping the device, you must separately stop the mixing pump and the mixer.

4.26 When stopping the device, first turn off the device from the remote switch, then after a few seconds of waiting, close the material valve and finally the air valve. To stop the mixer, press the red button MIXER OFF (pos. 7, figure 3). When leaving the device, turn the switches on the electrical panel to the neutral position and disconnect the device from the power network.

## 5. Cleaning the Device

5.1 Clean the device immediately after use. This is especially important when working with rapidly hardening mixtures. For the SPR 90 device, the mixer and screw pump must be cleaned separately. It is advisable to start with the mixer.

5.2 Disconnect the device from the power supply.

Loosen the nuts on the end plate of the mixer tube (pos. 4, figure 1) and remove the end plate (pos. 20, figure 1) from the mixer tube (pos. 13, figure 1).

Clean the inner surface of the mixer tube (pos. 13, figure 1) and the mixer shaft (pos. 14, figure 1). When washing the shaft, ensure that water does not enter the dry material screw opening.

5.3 After washing the parts, reassemble the device. Install the mixer tube and end plate. It is advisable to lubricate the threads of the nuts (pos. 4, figure 1).

Make sure that the fastening nuts (pos. 4, figure 1) are securely tightened.

5.4 Cover the dry material container to prevent water from entering the container.

5.5 In the event of a risk of freezing, the water system of the device must be drained. To do this, open the drain valves of the water system (pos. 3, 6, 10, figure 4).

5.6 Cleaning the screw pump:

- Pump the container empty of the mixture;
- Disconnect the device from the power supply, remove the container guard (pos. 27, figure 2), pour water into the container, and scrub the sides of the container clean of the mixture with a brush;
- Remove the spray gun from the hose and clean it;
- Connect the device to the power supply, add water to the container, and pump the container empty. Repeat if necessary. Remove the drain plug from the container (pos. 34, figure 2) and clean the bottom of the container of any mixture residues;
- Close the drain plug. Disconnect the material hose from the device, insert a cleaning ball into the hose connection (pos. 3, figure 2), and reconnect the hose to the device. Add clean water to the container, start the device, and pump until the ball exits the hose. Repeat until the ball exits the hose with clean water;
- Disconnect the device from the power supply and clean the exterior surfaces of the device and hose.

When cleaning with a high-pressure washer, securely cover the motor and electrical panel; do not direct the washer jet at the motor or electrical panel;

- Depending on the mixture, it may occasionally be necessary to disconnect the connection (pos. 3, figure 2) and clean the inner surfaces;

5.7 In the event of a risk of freezing, the device must be drained of water.

## **6. Maintenance**

6.1 The space behind the seals of the screw pump reducer drive shaft (pos. 8, figure 2) and rubber seals (pos. 5, figure 2) must be filled with grease. The grease fitting is located under the electrical panel of the device on the frame flange. Using a grease gun, pump grease until it oozes out between the drive shaft and the rubber seal. Grease daily. Use waterproof greases.

6.2 The inline mixer has two lubrication points: the reducer drive shaft seal housing (pos. 3, figure 1) and the end support of the mixer shaft (pos. 21, figure 1).

Fill with grease daily.

6.3 Monitor the wear of the rubber seal (pos. 5, figure 2). If water and mixture leak through the rubber seal, the seal must be replaced.

6.4 Check the condition and fittings of all the device's components.

6.5 If the pump pressure drops, the pump can be tightened with a tension clamp (pos. 20, figure 2). Tighten the clamp bolts half a turn at a time. Avoid over-tightening, as excessive tension quickly wears out the pump and hinders the motor's operation.

6.6 Occasionally remove the connection (pos. 26, figure 2) and clean the inner surfaces of the connection.

6.7 Keep the device housing, motor reducer, and electrical panel clean. When cleaning the device with a high-pressure washer, securely cover the motor and electrical panel. Do not direct the water jet at the motor or electrical panel.

## **7. Recommendations**

7.1 Choose the correct pump feed rate. The smaller the nozzle of the gun, the smaller the pump feed rate must be. Feed rate adjustment (see section 4.17).

7.2 Always clean the device in a timely and proper manner.



7.3 Before starting work, wet the hoses using wallpaper paste or finishing putty solutions.

7.4 If there is a risk of debris or water entering the pump container, cover the container with plastic.

7.5 In the event of the pump seizing, try starting the device in the reverse direction of pumping. If possible, reduce the pump speed. Remove the material hose, first ensuring that the hose is not under pressure. If the motor cannot turn the seized pump, the pump must be removed, and the screw pressed out. Contact the seller's company.

7.6 In the event of a hose blockage, stop the device immediately, reverse the pump rotation direction (see section 4.10). Start the device and pull the mixture back from the hose into the container. Stop the device, remove the hose. Locate the blockage in the hose (hard spot). Bend and knead the blocked spot until you feel the mixture starting to move. Do not tap the hose with metal objects. Lift the blocked spot and try to shake the mixture out of the hose.

A very effective way to clear blockages is to insert a water hose into the material hose and flush the material out of the blocked spot.

Once the blockage is removed, reconnect the hose to the device and try pumping. Repeat the above steps if necessary.

7.7 Clean and lubricate the pump clamp, stator end bolts, and also the mixer tube fastening nuts.

7.8 Grease the threads of the spray guns and the air tube of the standard gun.

7.9 Avoid freezing of the pump. Store the device in heated rooms, or remove all water from the container, water system, pump, and hose of the idle device.

## 8. Faults and Their Remedies

<b>Fault</b>	<b>Cause</b>	<b>Remedy</b>
When starting a new device, the motor cannot turn the pump	The new pump is tight, and over time the screw adheres to the stator	Pour water into the container. Try starting the device in both directions. If necessary, remove the pump and try to move the screw. Using a lubricating fluid can facilitate pump rotation.
When starting the device, the pump	Check the device's power supply voltage	

Fault	Cause	Remedy
does not rotate, the motor hums		
Pump is stuck	Electrical repairs can be performed by a qualified electrician. Open the pump clamp bolts, clean the pump	
The electric motor of the device runs, but the drive shaft does not rotate	The variator belt is broken	Contact the device seller.
It is difficult to close the device's hose connections	There is mixture between the connection parts	Clean the connections
Mixture drips under the device	The rubber seals of the drive shaft are worn out	Contact the device seller. Replace the damaged seals
The pump is working, but no mixture comes out of the gun	The gun nozzle or gun is clogged	Stop the device. Start briefly in the reverse direction. Remove the gun and clean it. Act according to section 7.6.
When switching the distance switch, the device does not start	<p>The remote control cable plug is not in the socket.</p> <p>The rotary switch on the electrical panel is not in the DIST position</p> <p>Faulty remote switch or cable</p>	<p>Insert the plug into the socket (pos. 11, figure 3)</p> <p>Turn the rotary switch to the DIST position</p> <p>Find the fault and fix it</p>

<b>Fault</b>	<b>Cause</b>	<b>Remedy</b>
The pump works but does not provide the required pressure	The pump is worn	Tighten the pump clamp. If tightening does not work, replace the pump rotor and stator.

## **6. Warranty**

The manufacturer provides a 1 (one) year warranty from the date of sale. The warranty covers defects caused by manufacturing errors. The warranty does not cover:

- Parts that wear out due to abrasion (mixer shaft, scraper)
- Mechanical damages
- Malfunctions caused by improper cleaning of the device
- Damage caused by foreign objects entering the container
- Freezing damage
- Other malfunctions caused by non-compliance with the instructions by the user

**Device Serial Number:**

**Date of Sale:**

Figure 1

## Continuous mixer SPR 40

Part no	Item no	Description	Quantity
1	40.00.001	Driven shaft	1
2	40.00.002	Fixing ring	1
3	40.00.003	Housing	1
4	40.00.004	Nut	4
5	40.00.008	Wiper 55 x 70 x 7/10	1
6	40.00.009	Simmerling 55 x 72 x 8	1
7	40.00.010	Gearmotor SK25F-112M/4	1
8	40.00.011	Bearing	1
9	40.01.000	Container	1
10	40.02.000	Frame	1
11	40.02.100	Axle	2
12	10602	Wheel	2
13	40.03.000	Mixer chamber	1
14	40.04.000	Mixer axle	1
15	40.05.000	Flange	1
16	40.06.000	Protection grid	1
17	40.07.000	Fixing handle	1
18	40.08.000	Motor cover	1
19	40.09.000	Scraper	1
20	40.10.000	Plate	1
21	40.10.100	Mixer axle support	1
22	40.11.000	Electrical system	1
23	40.12.000	Water system	1
24	40.12.001	Coupling 1/2"	2
25	40.12.015	Coupling 16 mm	1

Figure 1

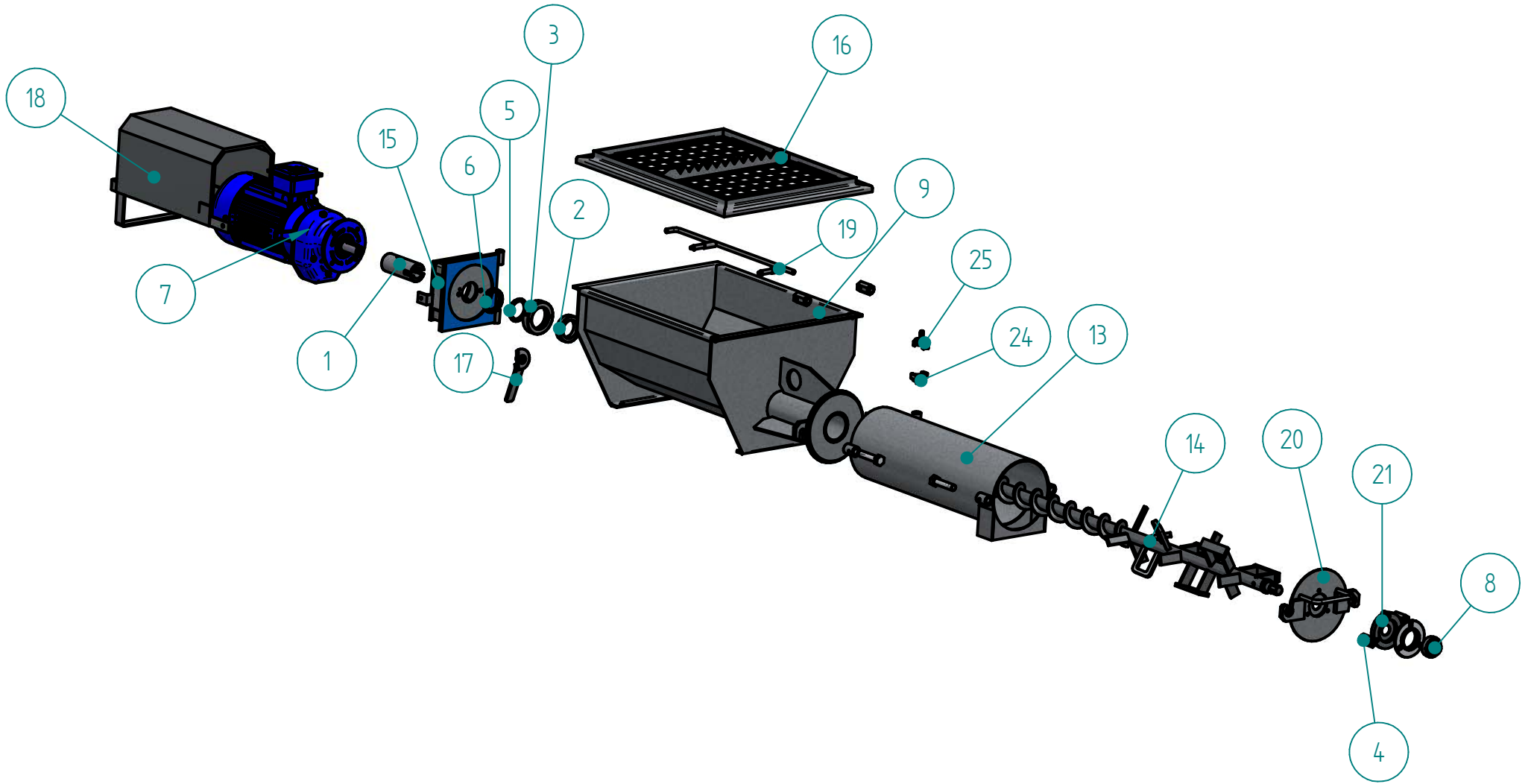


Figure 2

<b>Pos.</b>	<b>Det. nr.</b>	<b>Name</b>	<b>Quantity</b>
1	75.00.001	cardan joint	1
2	75.00.002	stud	2
3	75.00.003	nut	2
4	75.00.004	guard plate	1
5	50.00.002	rubber plate	2
6	50.00.003	pressure plate	1
7	50.00.003-01	pressure plate	1
8	50.00.004	driven shaft	1
9	50.00.006	fixing ring	2
10	50.00.007	support	1
11	50.00.008	holding plate	1
12	50.00.009	O-ring	1
13	50.00.012	stud	2
14	50.00.013	guard plate	1
15	50.00.020	rotor	1
16	50.00.021	stator	1
17	50.00.025	wheel	2
18	10601	fixing	2
19	50.00.029	tightening bolt	4
20	50.00.030	bolt	2
23	75.01.000	frame	1
24	75.02.000	wheel axel	1
25	75.03.000	cardan shaft	1
26	75.04.000	stator housing	1
27	75.05.000	protection grid	1
29	75.07.000	handle	1
32	75.12.000	support wheel	1
33	75.13.000	motor drive	1
34	50.05.000	outlet plug	1
35	90.01.000	base frame	1
36	90.02.000	control panel	1
37	90.03.000	water system	1
38	90.00.001	cover	1
39	90.00.100	support	2

Figure 2

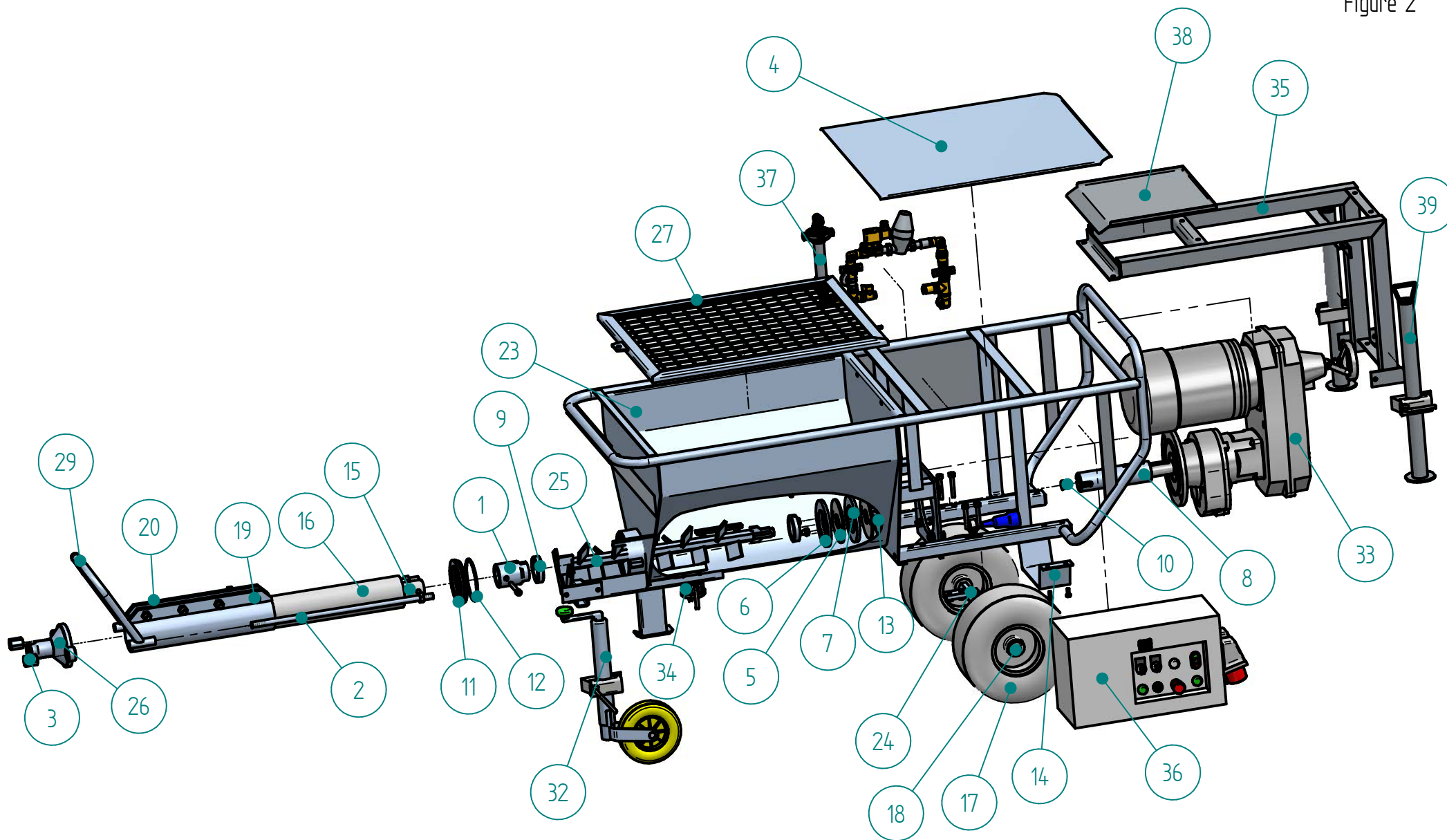
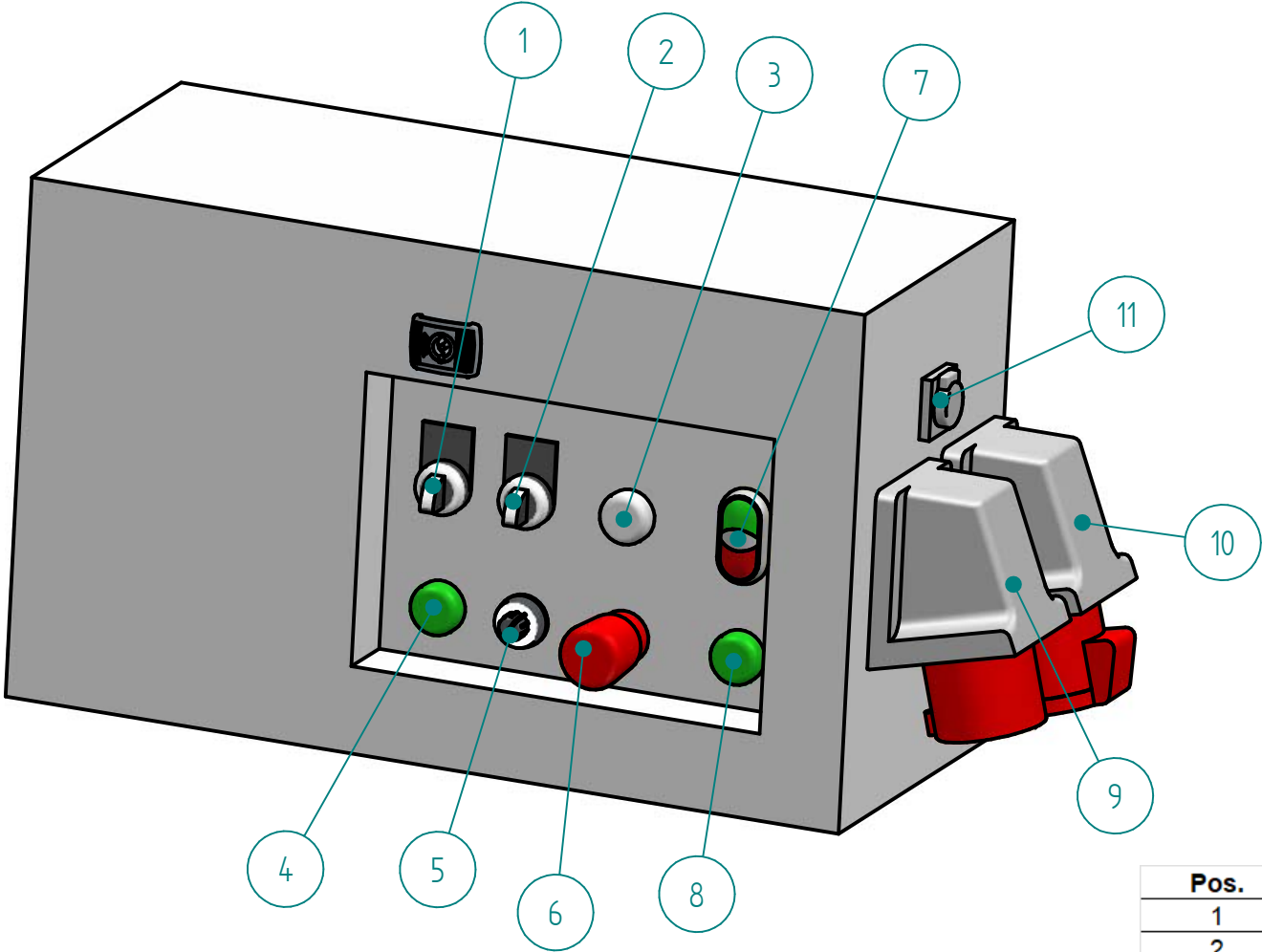




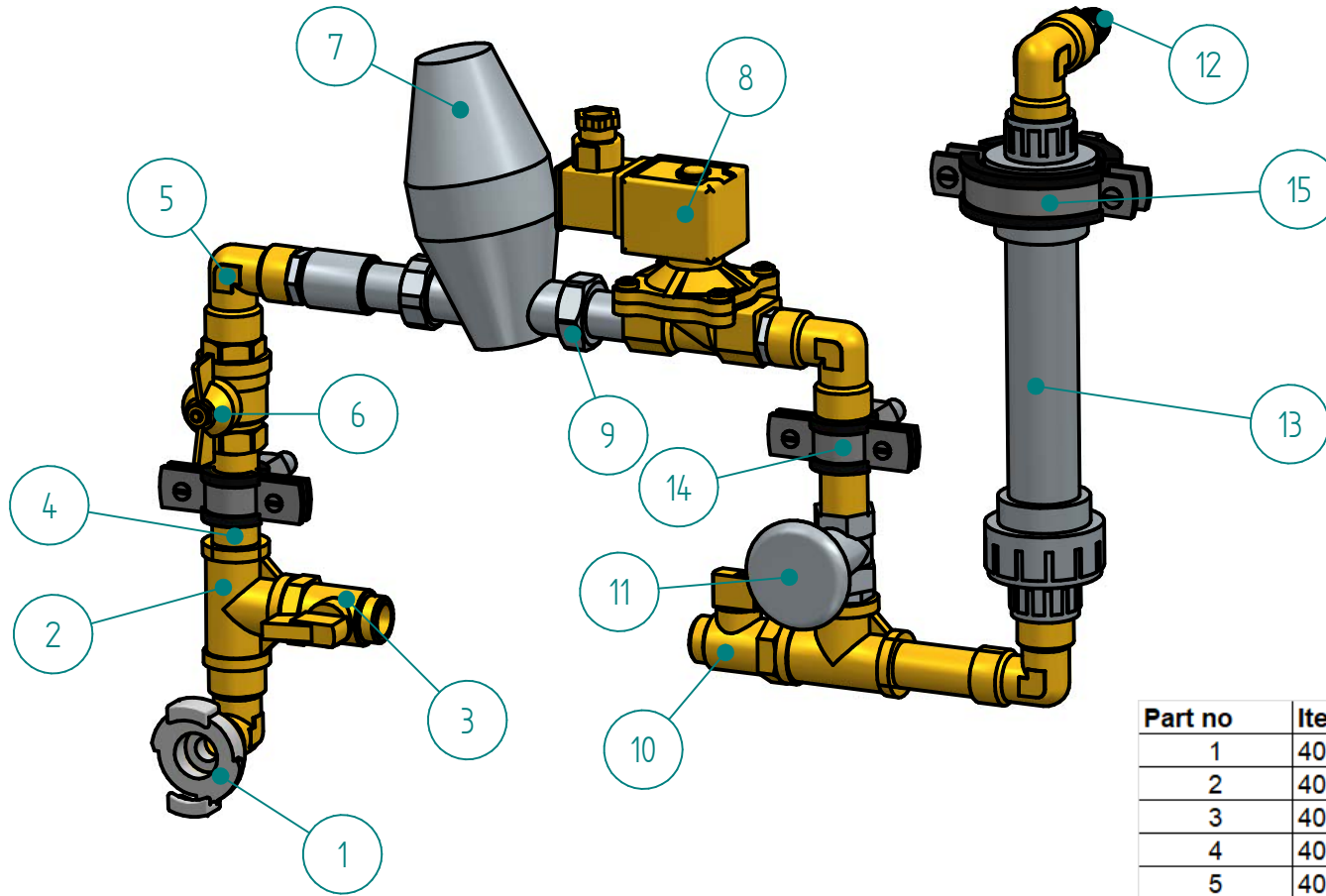
Figure 3



Electrical box 90.02.000

Pos.	Name
1	reversing switch with green lamp
2	DIST-HAND control switch
3	white indicator lamp
4	START button
5	speed adjustment knob
6	emergency STOP button
7	START – STOP switch
8	water valve switch
9	plug
10	mixer power socket
11	plug socket for distance control unit

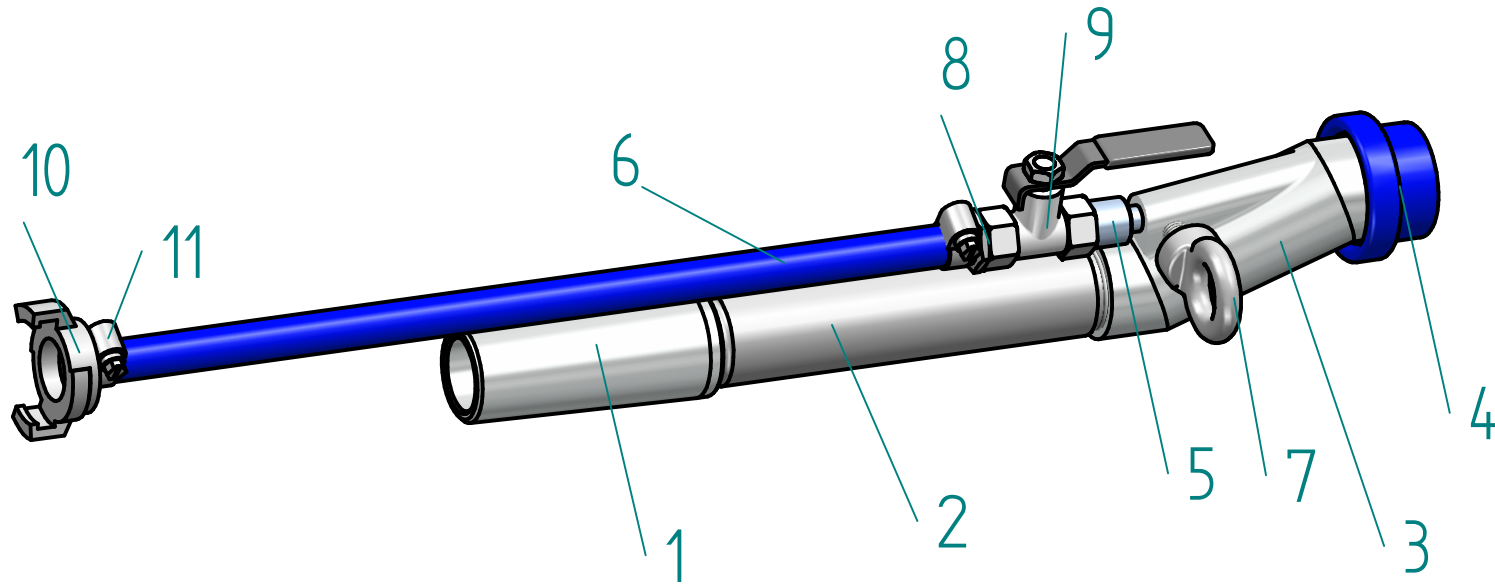
Figure 4



Water system 90.03.000

Part no	Item no	Description	Quantity
1	40.12.001	Coupling 1/2"	2
2	40.12.002	Three way 1/2"	2
3	40.12.003	Valve 1/2"	1
4	40.12.004	Nipple 1/2" 65 mm	3
5	40.12.005	Elbow coupling 1/2"	4
6	40.12.006	Valve 1/2"	1
7	40.12.009	Pressure reducing valve	1
8	40.12.010	Solenoid valve	1
9	40.12.011	Nut	1
10	40.12.012	Valve mini 1/2"	1
11	40.12.013	Gate valve	1
12	40.12.014	Coupling 1/2" 16 mm	1
13	40.12.025	Flow meter	1
14	40.12.020	Clamp 20-26 mm	2
15	40.12.022	Clamp 54-62 mm	1

Figure 5

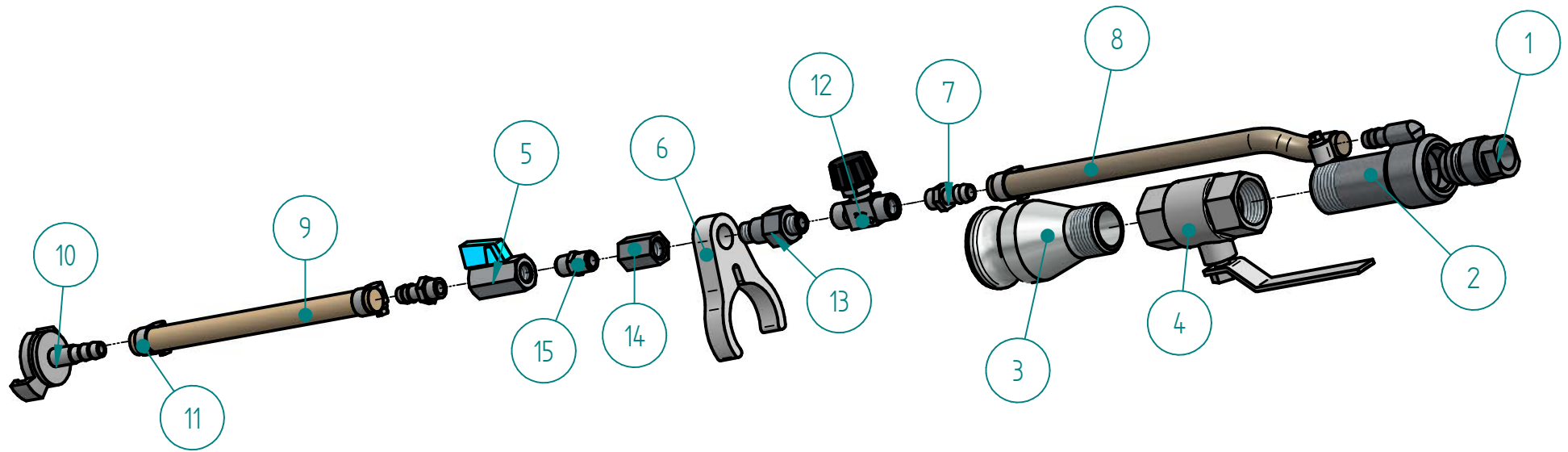


Standard gun 50.10.000

Pos.	Det. nr.	Name
1	50.10.001	couplin
2	50.10.002	tube
3	50.10.003	spray gun head
4	50.10.004	spray gun nozzle
5	50.10.005	air pipe
6	A22.440	air hose
7	50.10.007	eye bolt
8	A22.404	coupling 1/4"
9	A22.430	air valve
10	A22.090.015	brass coupling
11	A22.507	clamp

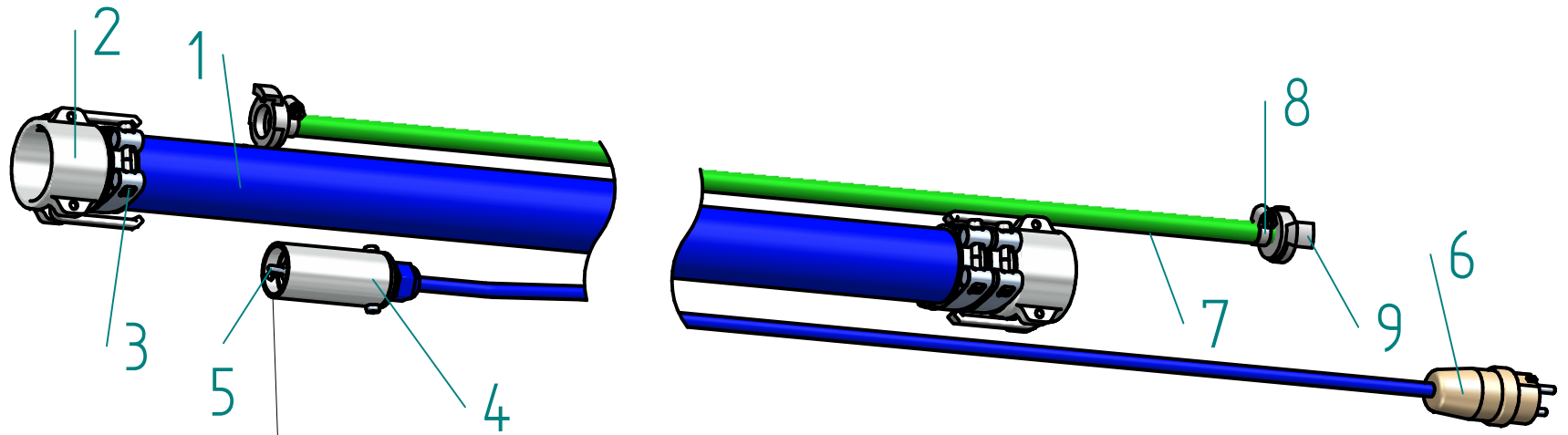
# Texture gun RV 50.15.000

Figure 6

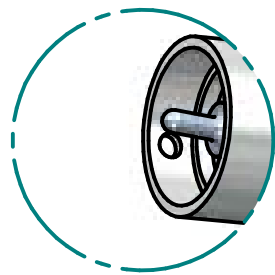


Pos.	Det. nr.	Name
1	50.15.001	Nozzle
2	50.15.100	Gun body
3	50.15.002	Hose connector G 1" 1/2"
4	50.15.003	Valve
5	A22.430	Valve 1/4"
6	50.15.005	Hose holder
7	A22.404	Connection 1/4" – 10 mm
8	50.15.007	Air hose front
9	50.15.008	Air hose back
10	A22.090.015	Connection 10 mm
11	A22.507	Clamp
12	A22.450	Air regulator
13	50.15.009	Air coupling
14	50.15.010	Bushing 1/4"
15	50.15.011	Coupling 1/4"

Figure 7



Hose 50.09.000  
Distance control A22.600



View A

Pos.	Det. nr.	Name
1	50.09.001	material hose ID38
2	50.09.002	coupling CAM-AL-C-38
3	50.09.005	clamp
4	A22.600	distance control unit
5	A22.610	distance switch
6	A22.630	plug
7	A22.505	air hose
8	A22.507	clamp
9	A22.090.015	brass coupling