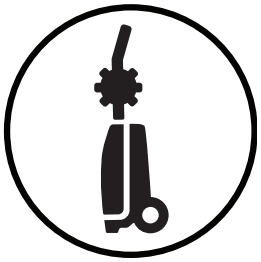
Husqvarna®

Workshop manual

PW 345C, PW 350, PW 360



English

Workshop Manual

PW 345C, PW 350, PW 360

Contents

1 Introduction and safety regulations

1.1 General

This workshop manual gives a full description of how to do troubleshooting, repair and test of the high pressure washer. It also gives safety instructions that the personnel must obey during repair work.

1.2 Revisions

If there are changes to the product, these are gradually introduced into ongoing production. These changes can have an effect on servicing and/or spare parts. This can cause sections of the workshop manual to become out of date. Servicing information is sent out for each change. To make sure that the repair and servicing instructions are complete and up to date, always read the workshop manual together with all servicing information applicable for the high pressure washer.

1.3 Target group

This workshop manual is written for personnel with a general knowledge of how to repair and do servicing on high pressure washers.

All personnel that repair or do servicing on the high pressure washer must read and understand the workshop manual.

1.4 Safety instructions

WARNING: All personnel that repair or do servicing on the high pressure washer must read and understand the safety instructions.

1.4.1 General safety instructions

The service center that repairs the high pressure washer must have safety devices that comply with local regulations.

Warnings and cautions are used to point out specially important parts of the workshop manual.

WARNING: Used if there is a risk of injury or death if the instructions are not followed.

CAUTION: Used if there is a risk of material damage if the instructions are not followed.

1.4.2 Special safety instructions

WARNING: Inhalation of aerosols can be hazardous to health. Where applicable use a device in order to avoid or reduce aerosols production, e.g., a shield covering the nozzle. For protection against aerosols use a respiratory mask of class FFP 2 or higher.

WARNING: Always unplug the power plug before cleaning or maintenance and when replacing parts or converting the machine to another function.

WARNING: Observe the national safety regulations issued, for example, by the employers liability insurance association, social security institutions, occupational safety and health authorities or other organizations.

WARNING: Hold the spray lance firmly with both hands. The spray lance is affected by a thrust of up to 16,4N during operation.

WARNING: The operator and anyone in the immediate vicinity of the site of cleaning should take action to protect themselves from being struck by debris dislodged during operation. Wear goggles dur-ing operation.s.

WARNING: Disconnect from electrical power supply before carrying out user maintenance.

WARNING: To ensure the appliance safety only use original spare parts from the manufacturer or approved by the manufacturer.

WARNING: High pressure hoses, fittings and couplings are important for the safety of the appliance. Only use hoses, fittings and couplings recommended by the manu facturer.

WARNING: Do not use the appliance if a supply cord or important parts of appliance are damaged, e.g. safety device, high pressure hose and trigger gun.

WARNING: The appliance is only intended for cleaning outdoors.

WARNING: Appropriate ear protection must be used.

WARNING: Never use the machine in an environment where there could be a danger of explosion. If any doubt arises, contact the local authorities.

WARNING: It is not allowed to clean asbes-tos containing surfaces with high pressure.

WARNING: This high pressure washer must not be used at temperatures below 0°C.

WARNING: Voltage and frequency of the machine (see rating plate) must match the voltage of and fre-quency of the mains supply.

WARNING: Only connect the machine to electrical installation made by a certified electrician and comply with IEC 60364-1.

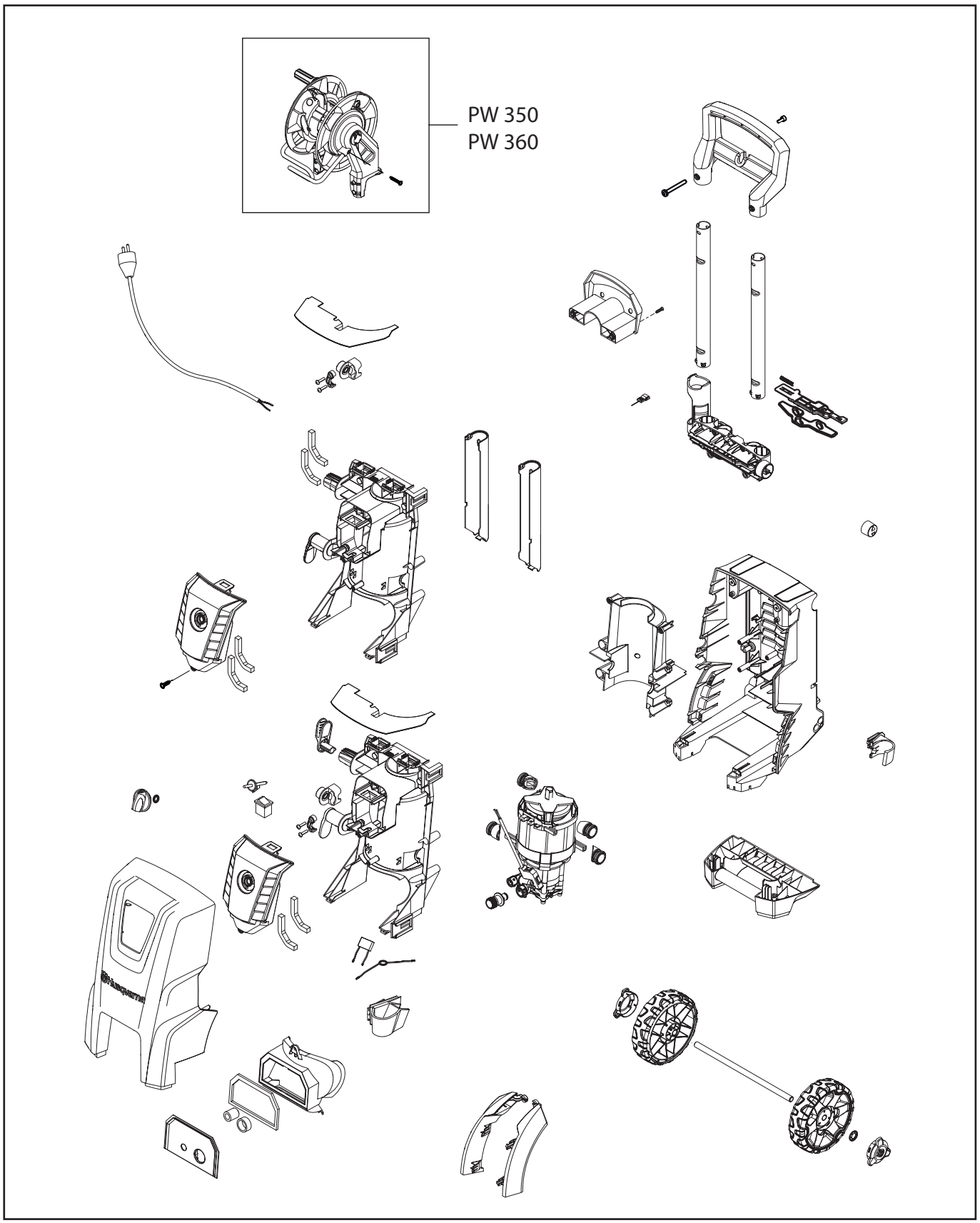
WARNING: It is recommended that the electrical supply to the machine should include a residual current device that will interrupt the supply if the leakage current to earth exceeds 30 mA for 30 ms.

2 Repair instructions

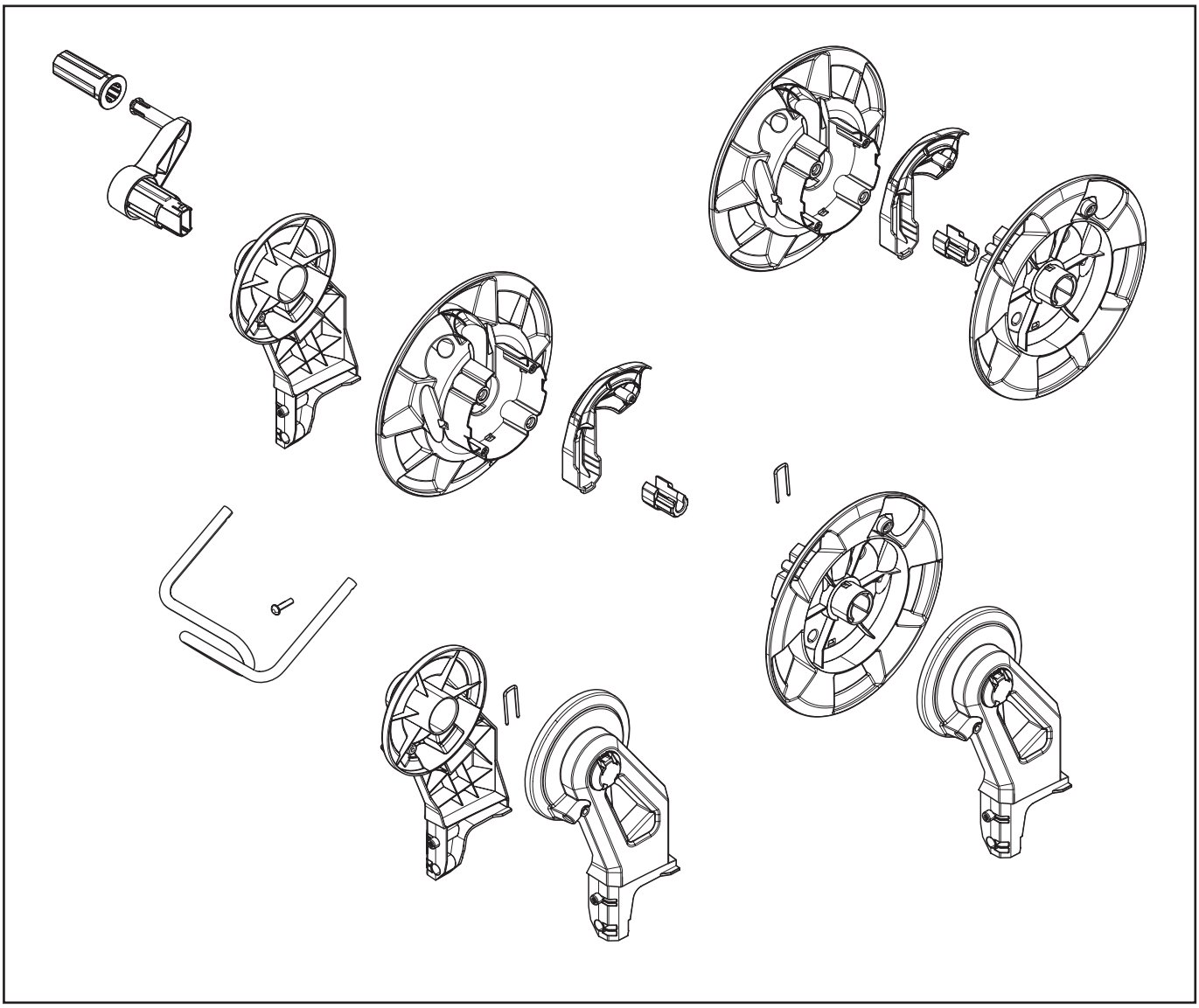
2.1 Product overview

2.1.1 Cabinet parts overview, PW 345C, PW 350, PW360

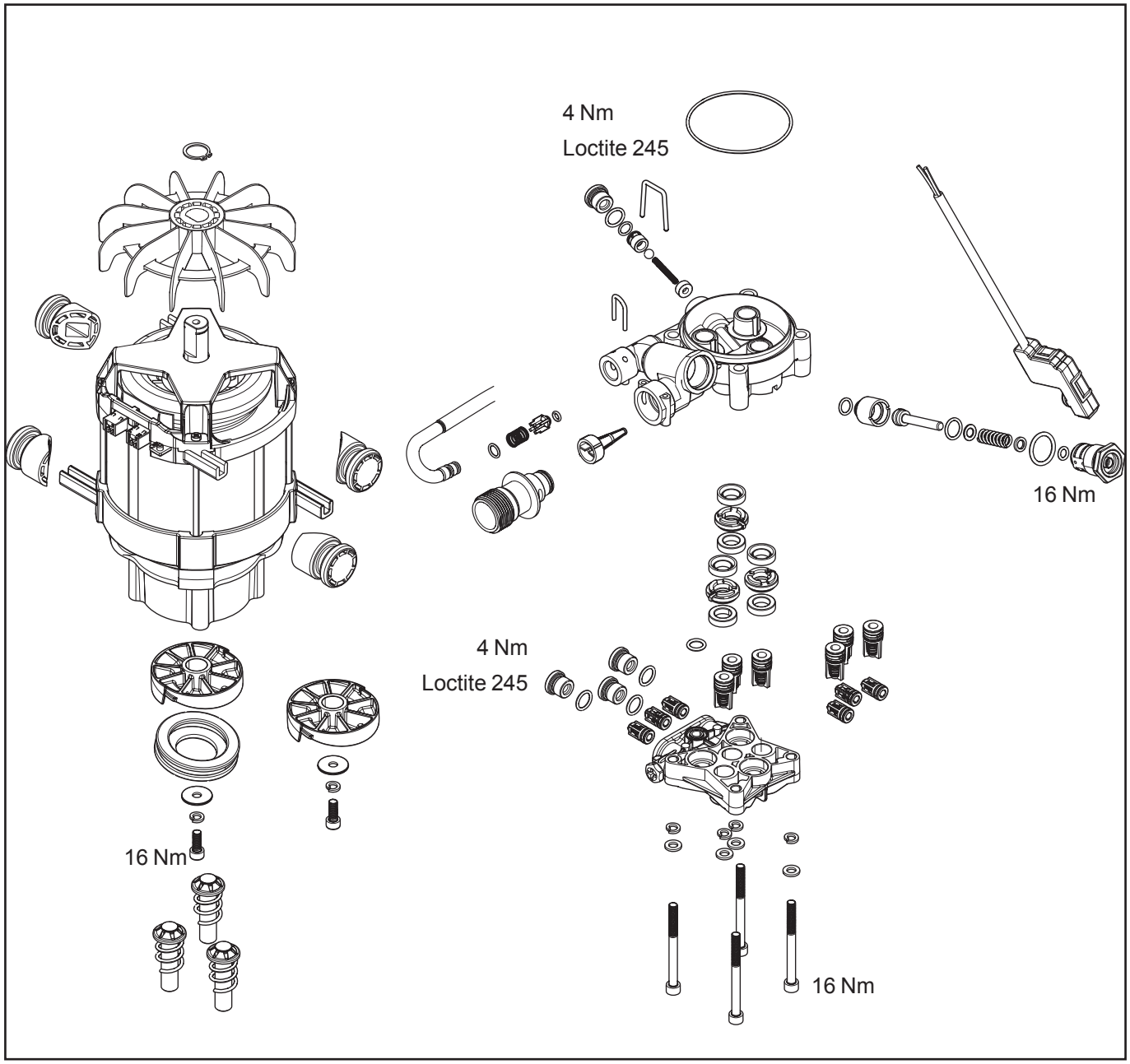
Max. Torque for plastic screws: 2,0 Nm



2.1.2 Hose reel overview

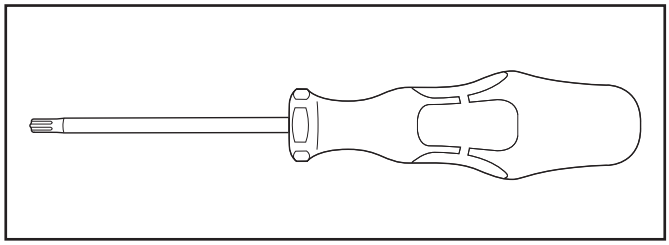


2.1.3 Motor/pump unit overview

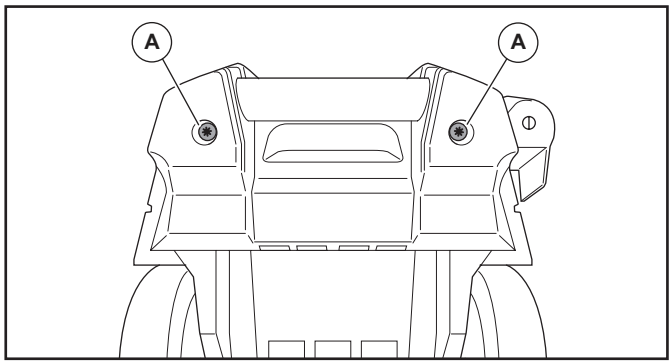


2.2 To disassemble/assemble the front cabinet

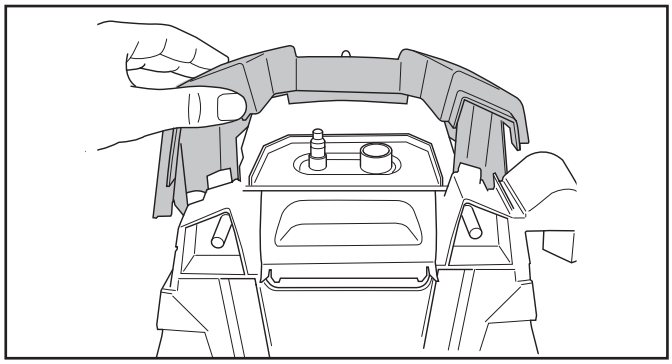
1. Tools: Torx 20 screwdriver.



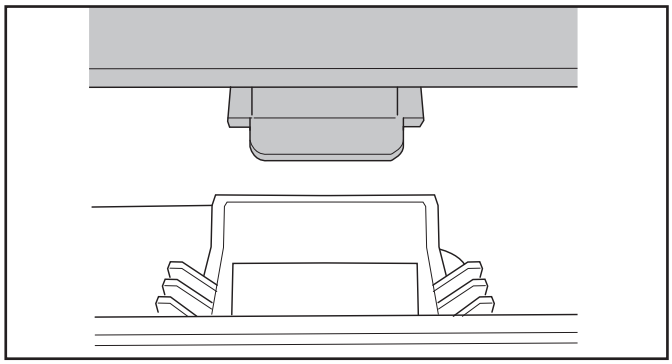
2. Remove the 2 torx TX20 screws (A) from the bottom. Then remove the feet.



3. Remove the cover by hand.

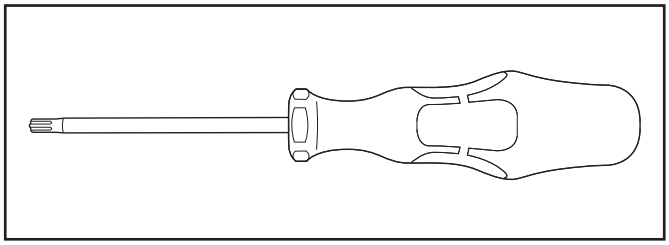


4. Assembly: Make sure that the 2 hooks in the top of the cabinet are in the correct position.



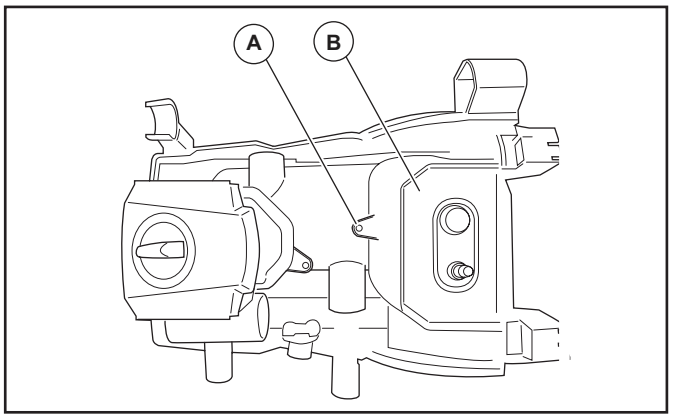
2.3 To disassemble/assemble the pump cover

1. Tools: Torx 20 screwdriver.

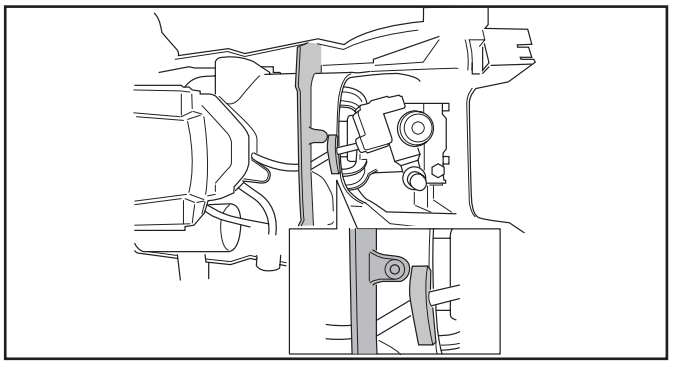


2. Remove 1 torx TX20 screw (A).

3. Remove the motor/pump unit floating cover (B).

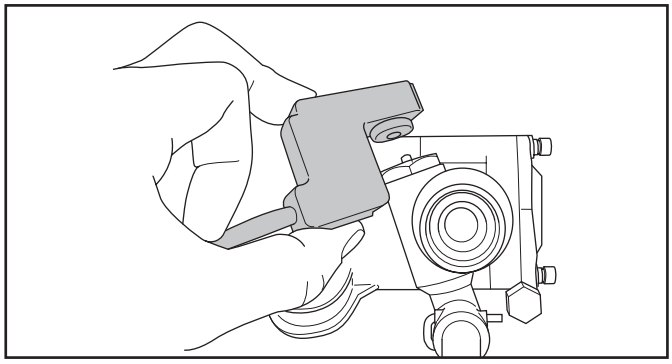


4. Assembly: Make sure that the foam and the air barrier are installed correctly.



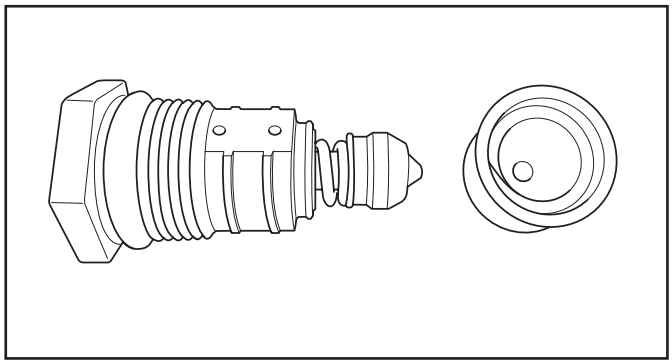
2.4 To disassemble/assemble the start/stop system

1. Remove the micro switch box by hand. Now you have free access to the start/stop valve.



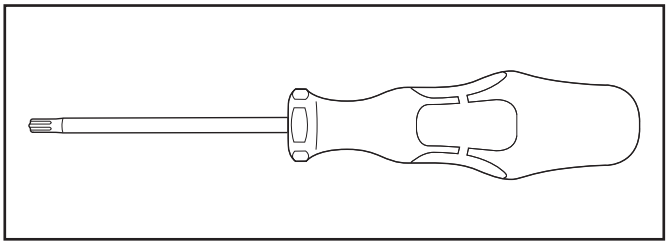
2. Remove the start/stop valve with a 25 mm spanner.

3. Assembly: Check that all parts are correctly assembled, see figure below. Install the start/stop valve.

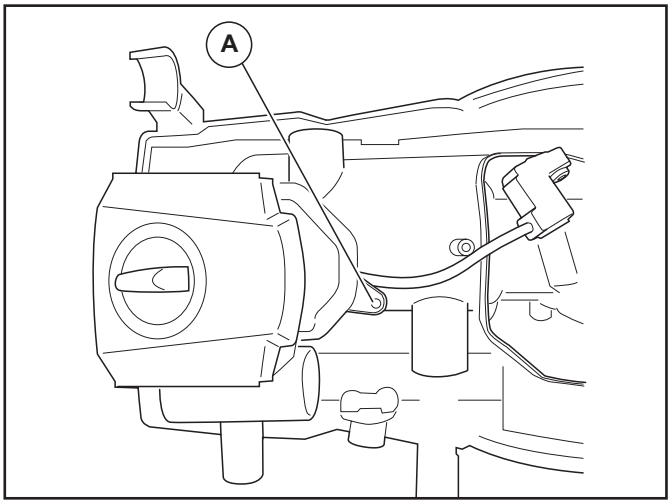


2.5 To disassemble/assemble the switch box cover

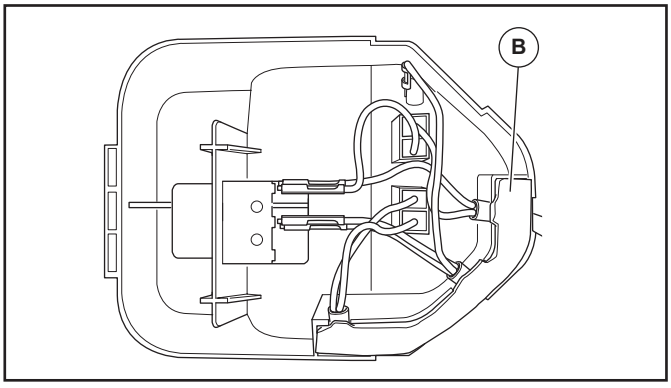
1. Tools: Torx 20 screwdriver.



2. Remove 1 torx TX20 screw (A).

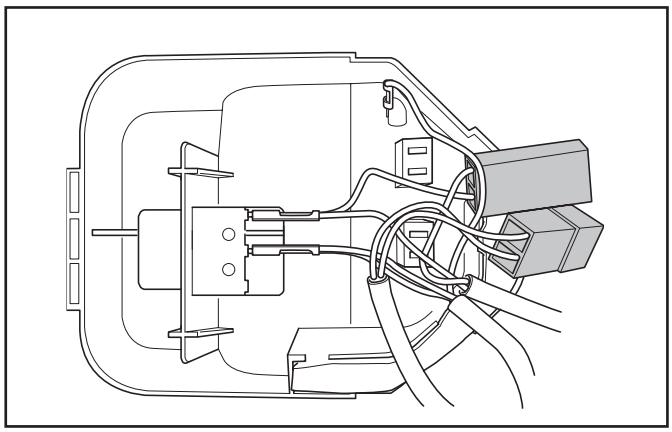


3. Note how the wires are installed. Remember to install the foam (B) during assembly.

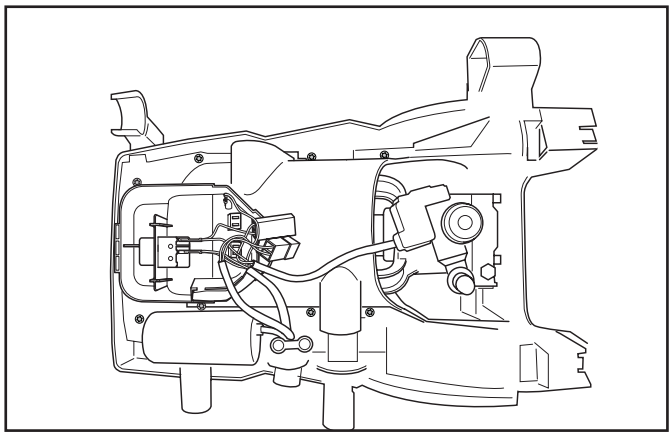


2.6 To disassemble/assemble the motor/pump unit, PW 345C

1. Remove all wires from the motor. The wires can remain on the switch.

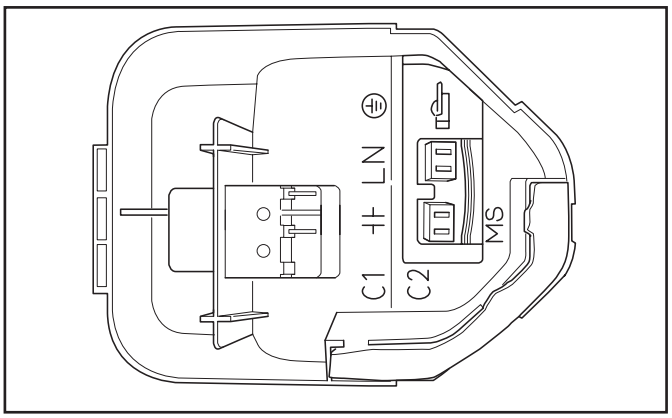


2. Remove 8 torx TX20 screws. The structural front can now be removed without dismounting the capacitor and power cable.

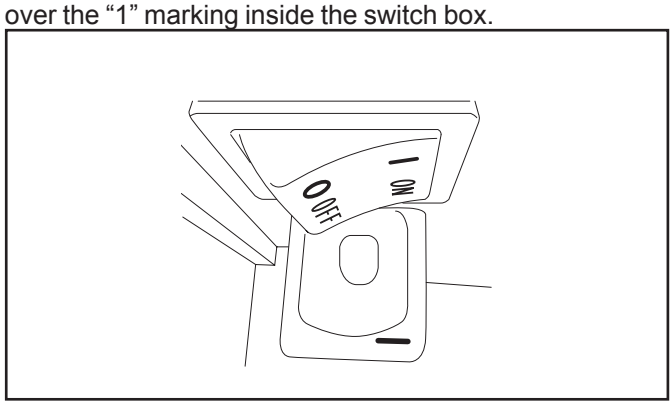


2.7 To disassemble/assemble the switch

1. Remove all wires from the switch.

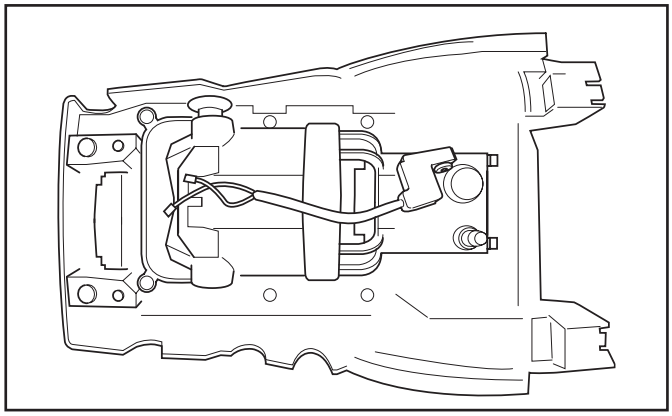


2. Note that the 1/ON position of the switch is placed over the “1” marking inside the switch box.

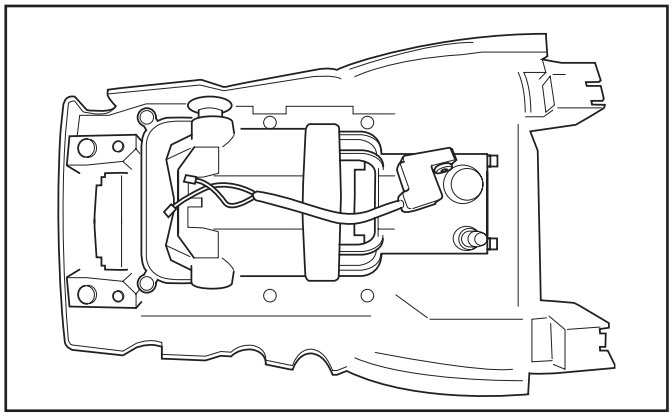


2.8 . To disassemble/assemble the motor/pump unit, PW 350, PW 360

1. Disassemble parts until there is free access to the motor/pump unit.



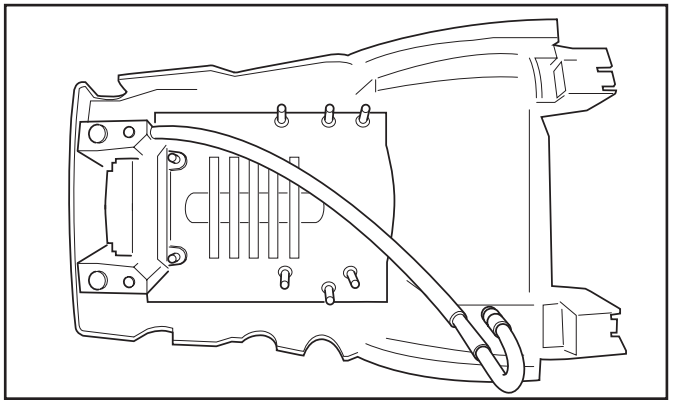
2. Remove the internal hose from the pump by removing the U-pin. Make sure that you do not loose the spring and the Non Return Valve (NRV) from the water outlet!



2.9 To disassemble/assemble the hose reel/internal hose PW 350, PW 360

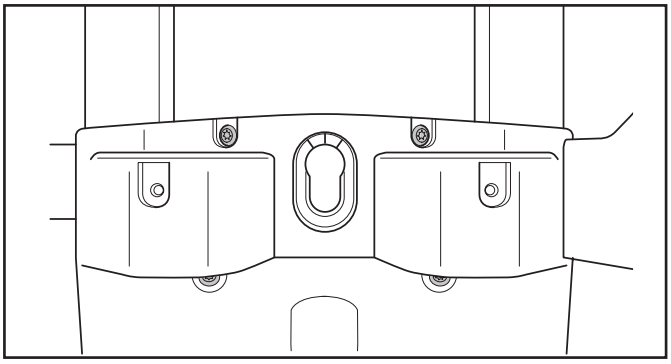
1. Remove 1 torx TX20 screw to remove the motor/pump unit back cover.

2. Now you have access to the internal hose.

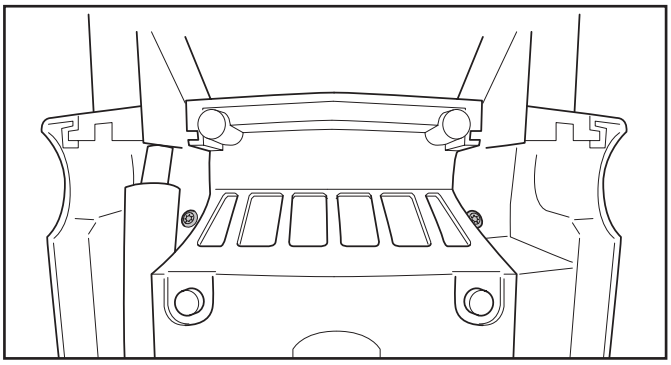


2.10 To disassemble/assemble the hose reel, PW 350, PW 360

1. Remove 4 torx TX20 screws to remove the telescopic handle.

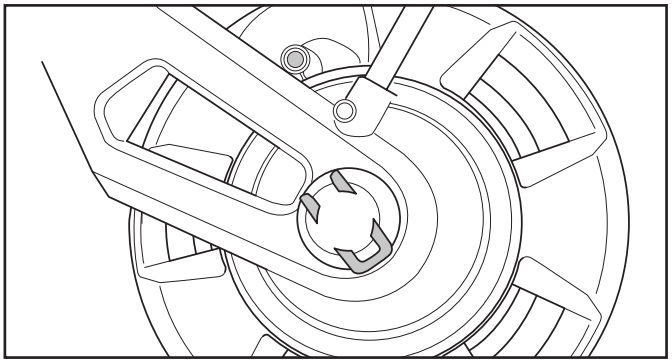


2. Remove 2 torx TX20 screws from the rear side.
3. Remove the hose reel from the cabinet.

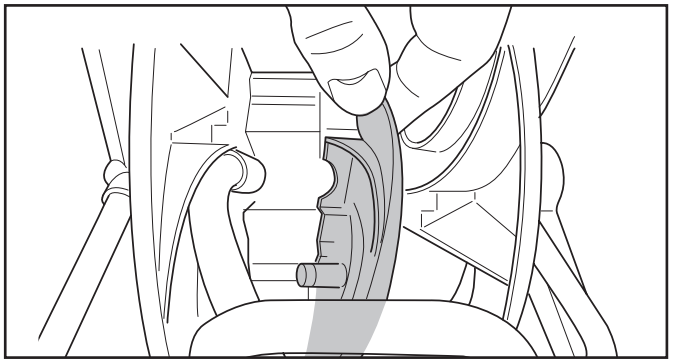


2.11 To disassemble/assemble the high pressure hose, PW 350, PW 360

1. Remove the torx TX20 screw and the u-pin.

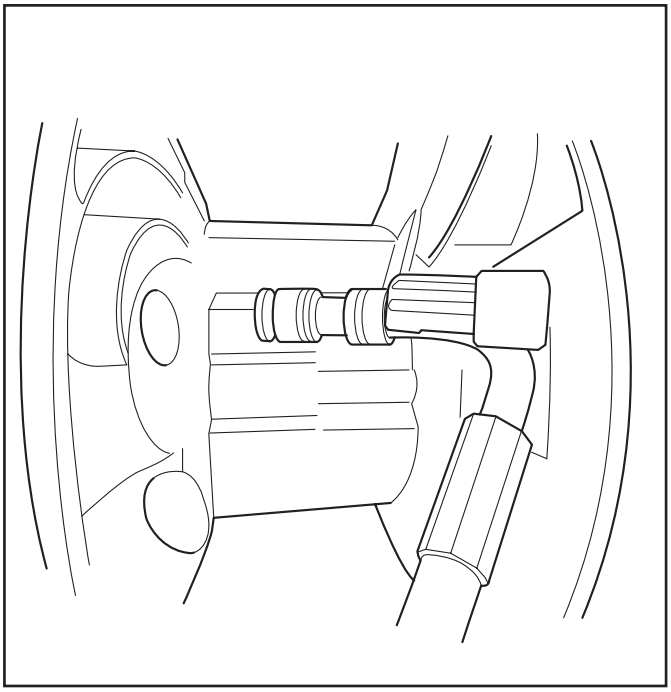


2. Remove the hose router.

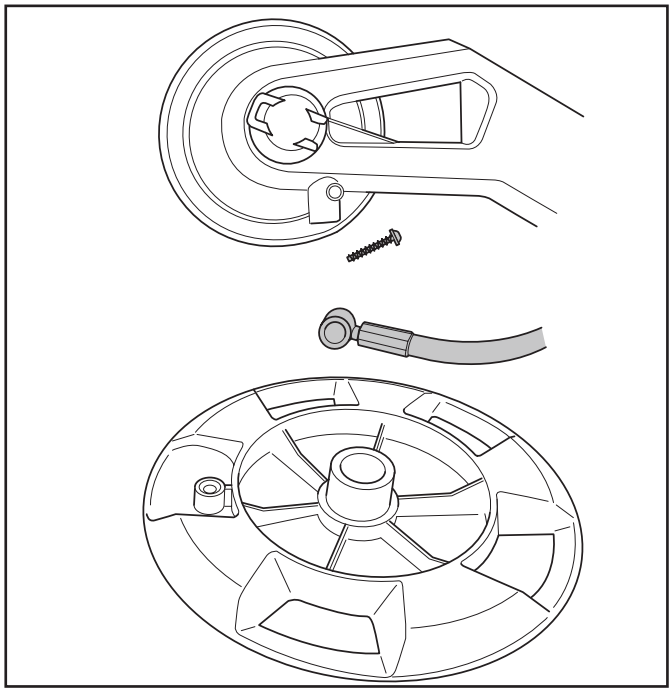


2.12 To disassemble/assemble the hose reel, PW 350, PW 360

1. Remove the hose from the internal hose.

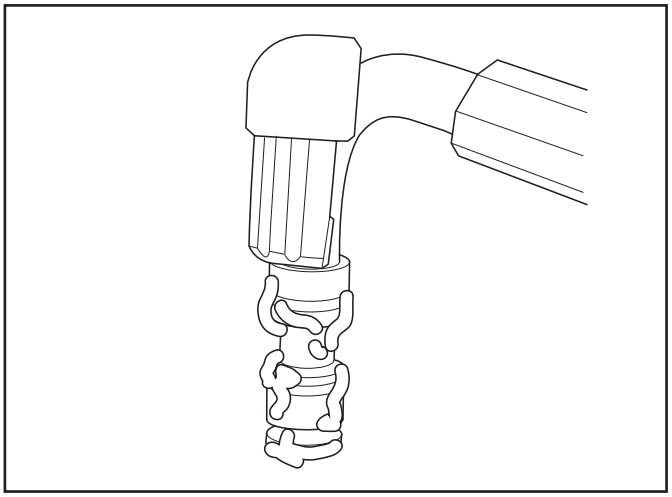


Remove the 2 torx TX20 screw (1 on each side) from the aluminium hose guide.
Note: The length of the 2 screws are longer than all other screws.

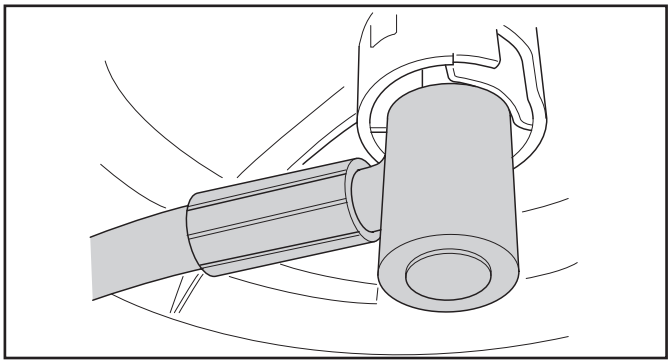


2.13 To assemble the hose reel, PW 350, PW 360

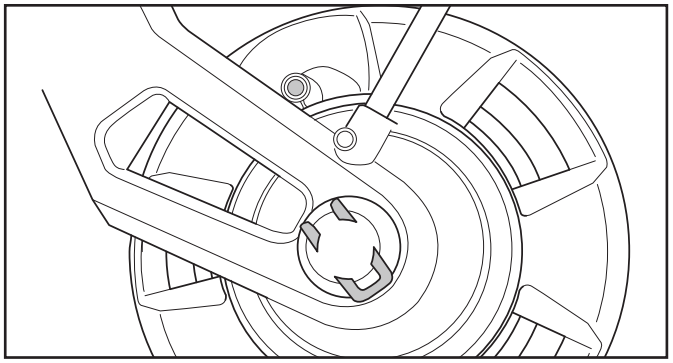
1. Make sure that the hose nipple is correctly greased before assembly.



2. Install the hose into the hose reel. Connect to the brass part from the internal hose.

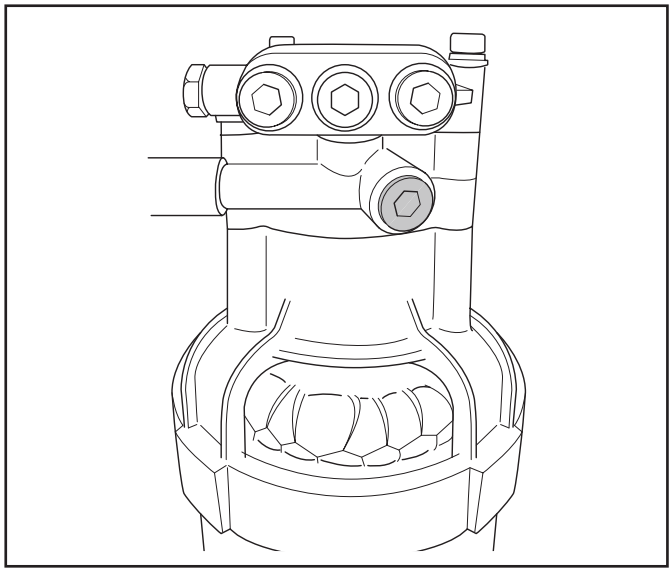


3. Install the hose reel holder. Make sure to install the lock clamp correctly. It MUST be installed through both the plastic hose reel holder AND the brass parts.

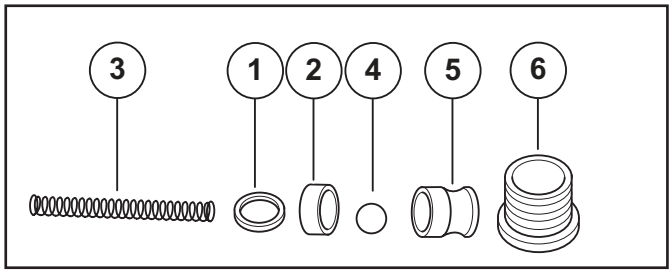


2.14 To disassemble/assemble the easy start valve

1. Put the pump on a table.
2. Disassemble the easy start valve.

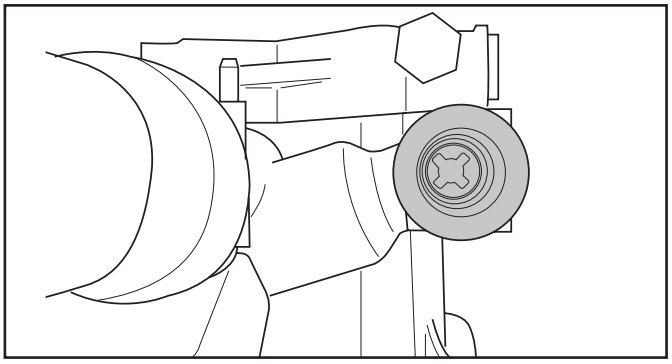


3. Assemble in the following order:
   - 1. O-ring.
   - 2. Easy start insert.
   - 3. Spring.
   - 4. Ball.
   - 5. Ball guide.
   - 6. Plug.

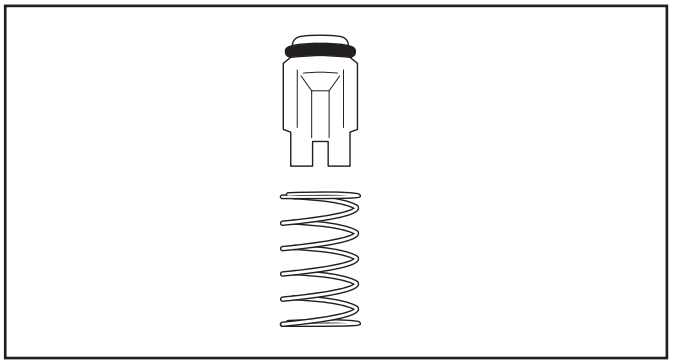


2.15 To disassemble/assemble the Non Return Valve (NRV)

1. The NRV is placed behind the water outlet.



2. First install the NRV, then the spring.
Note: Make sure that the spring is placed correctly before you install it in the water outlet.



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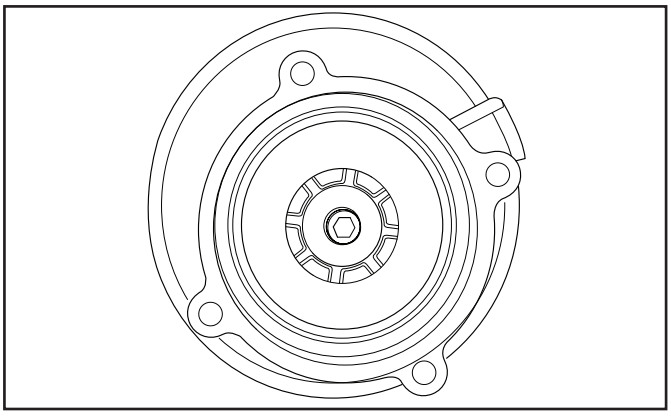
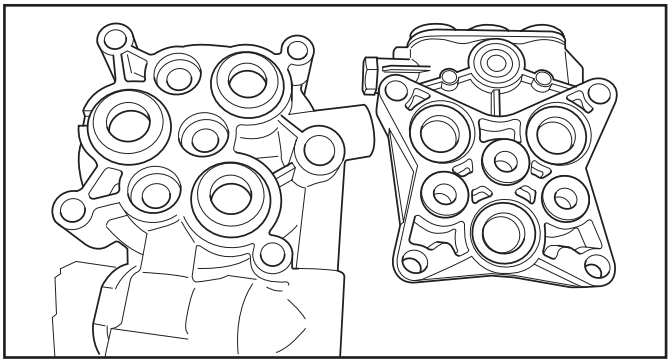
2.16 To disassembly/assemble the pump

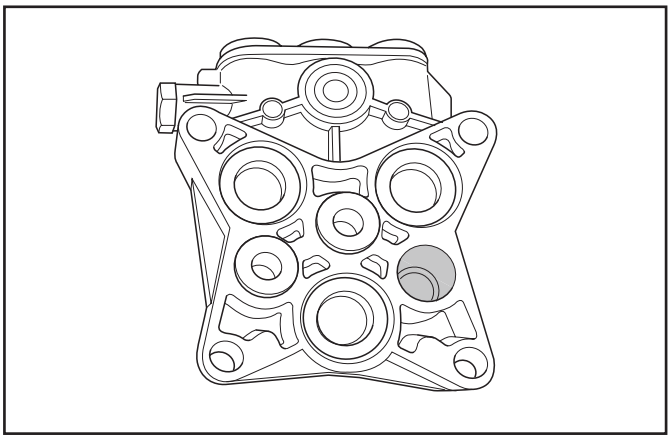
1. The bearing system can only be installed in one direction. The ball ring can be installed in both directions. Oil level: 60 ml.



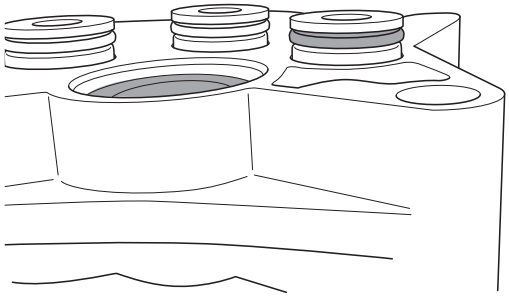
2. The figure below shows the pump after opening the cylinder head from the cylinder block.
Note: The pressure valves must be placed correctly!



3. In the bottom of the hole for the suction valve there is a guidance (rotation lock). The legs of the suction valves MUST be placed on each side of this guidance!



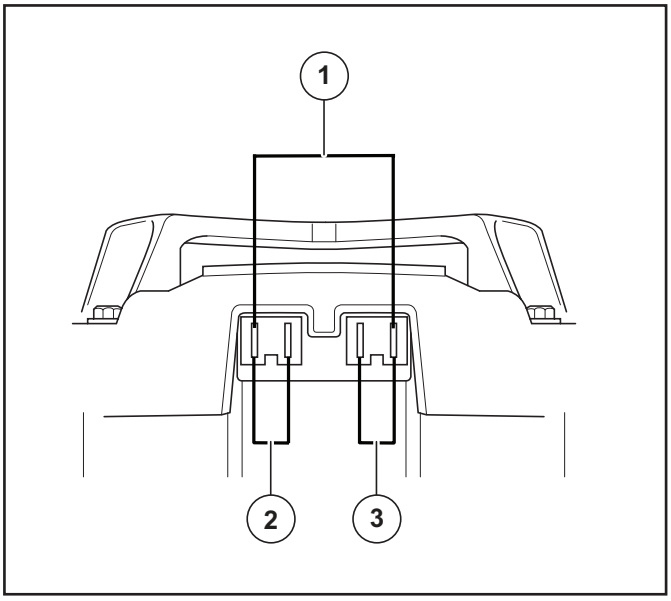
4. Before assembly of the pump:
   - Make sure that the suction valves are installed correctly.
   - Verify the level of the valves. One O-ring must be completely under the surface.

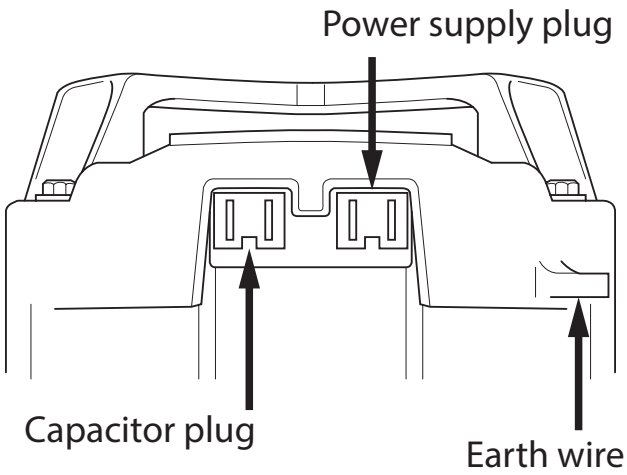


2.17 To measure the resistance of the electrical motor

On a 2.1 kW Motor:

1. 7.0 Ω +-10%
2. 8.8 Ω +-10%
3. 1.74 Ω +-10%.





3 Specifications

3.1 Technical data

Value	Unit	PW 345C	PW 350	PW 360[1]	PW 360[2]
Max pressure	bar	145	150	160	160
Voltage	V	230	230	230	230-240
Frequency	Hz	50	50	50	50
Rated current	A	10	9.5	10	9.6
Power consumption	kW	2.4	2.1	2.3	2.3
Motor speed	min^{-1}	17.500-18.000	2800	2800	2800
Flow rate, HP	l/min	7	7	6.8	7
Pump pressure	bar	122 ±9	122 ±9	160	160
Nozzle pressure	bar	115 ±9	115 ±9	115 ±9	115 ±9
Standby pressure	bar	15-35	15-35	15-35	15-35
Retaining time	min	5	5	5	5
Oil contents	ml	60	80	80	80
Oil type	-	LHM32	LHM32	LHM32	LHM32
Max water inlet temperature	°C	40	40	40	40
Max water inlet pressure	bar	10	10	10	10
High pressure hose length	m	8-10m	9-10	9-10	9-10
Suction height	m	1	1	1	1
Electric cable	m	5	5	5	5
Insulation class	-	F	F	F	F
Tightness	-	IPX5	IPX5	IPX5	IPX5

1 = 230V / 50Hz

2 = 230-240V / 50Hz

4 Appendices and schedules

4.1 Operating supplies

4.1.1 Recommended oil types

The pump is filled with 60 ml LHM 32 from the production.

In case of service where the oil must be changed, Husqvarna recommends to use 60 ml Bartram HV 46.

Alternative oil types that are allowed:

- BP, Bartram HV 46
- Shell, Tellus T 46
- Exxon, Statoil Univis N 46
- Mobil Oil Mobil DTE 25.

4.1.2 Recommended lubrication

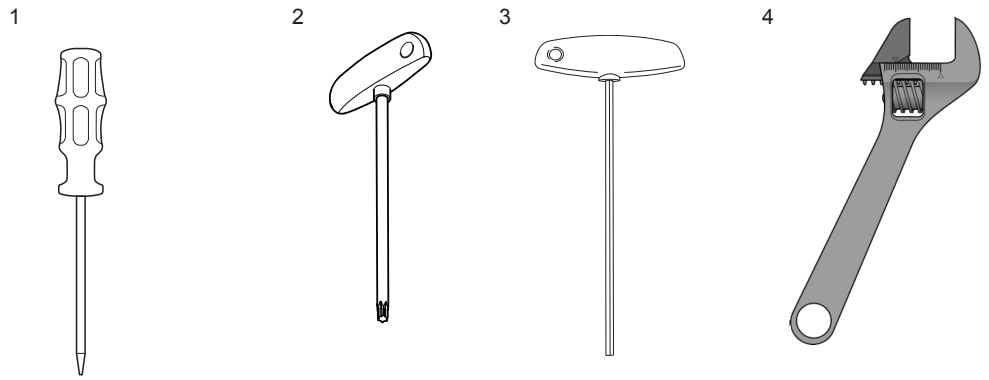
White grease for o-rings, sealing etc.:

- Silicone grease,
  Unisilkon L250 for all moveable parts and O-rings
- Gardena
- Silicone grease,
  DOW CORNING(R) M 55 O-RING LUBRICANT for all stationary O-rings.

4.1.3 Recommended glue

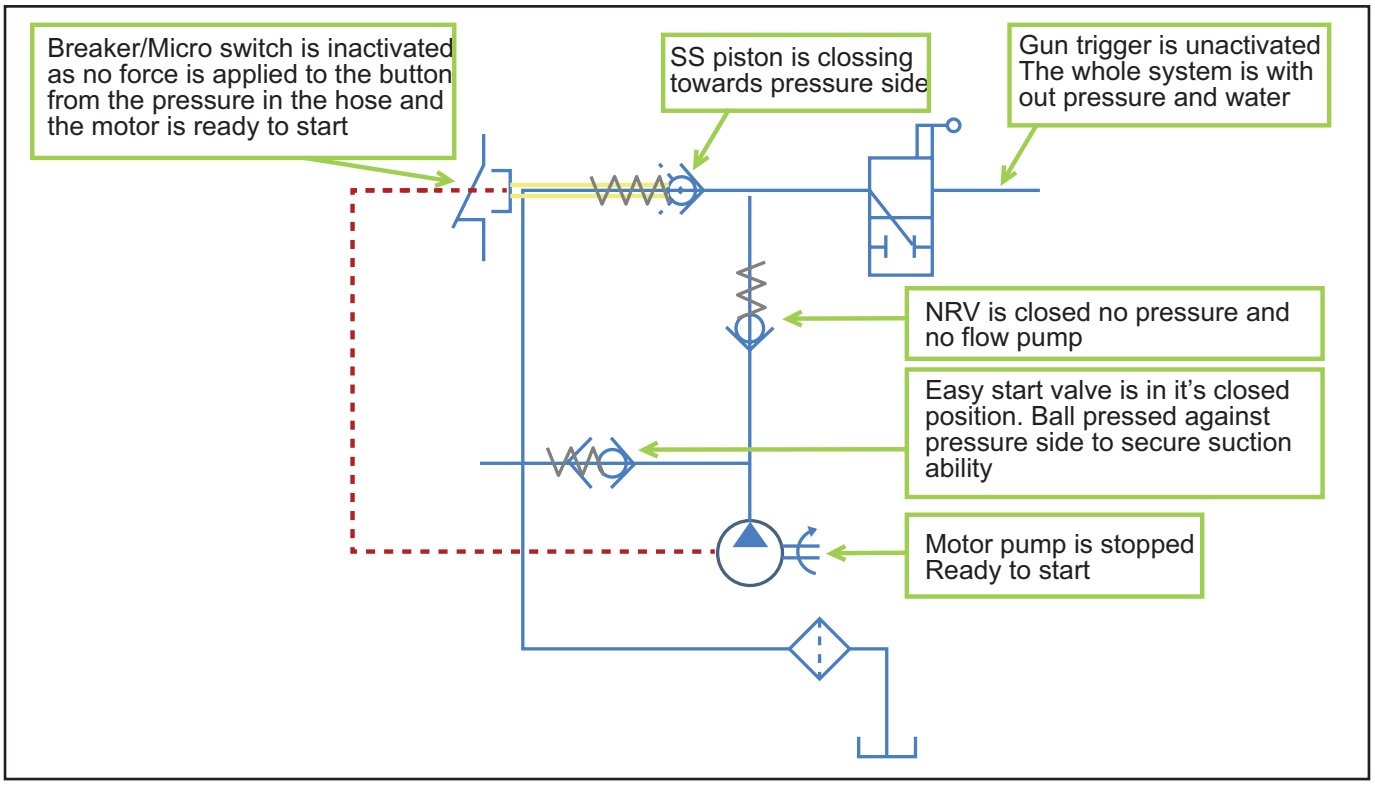
- Loctite 245, alternatively Loctite 243 (to lock the 4 pcs aluminum plugs in the pump).

4.1.4 Tools

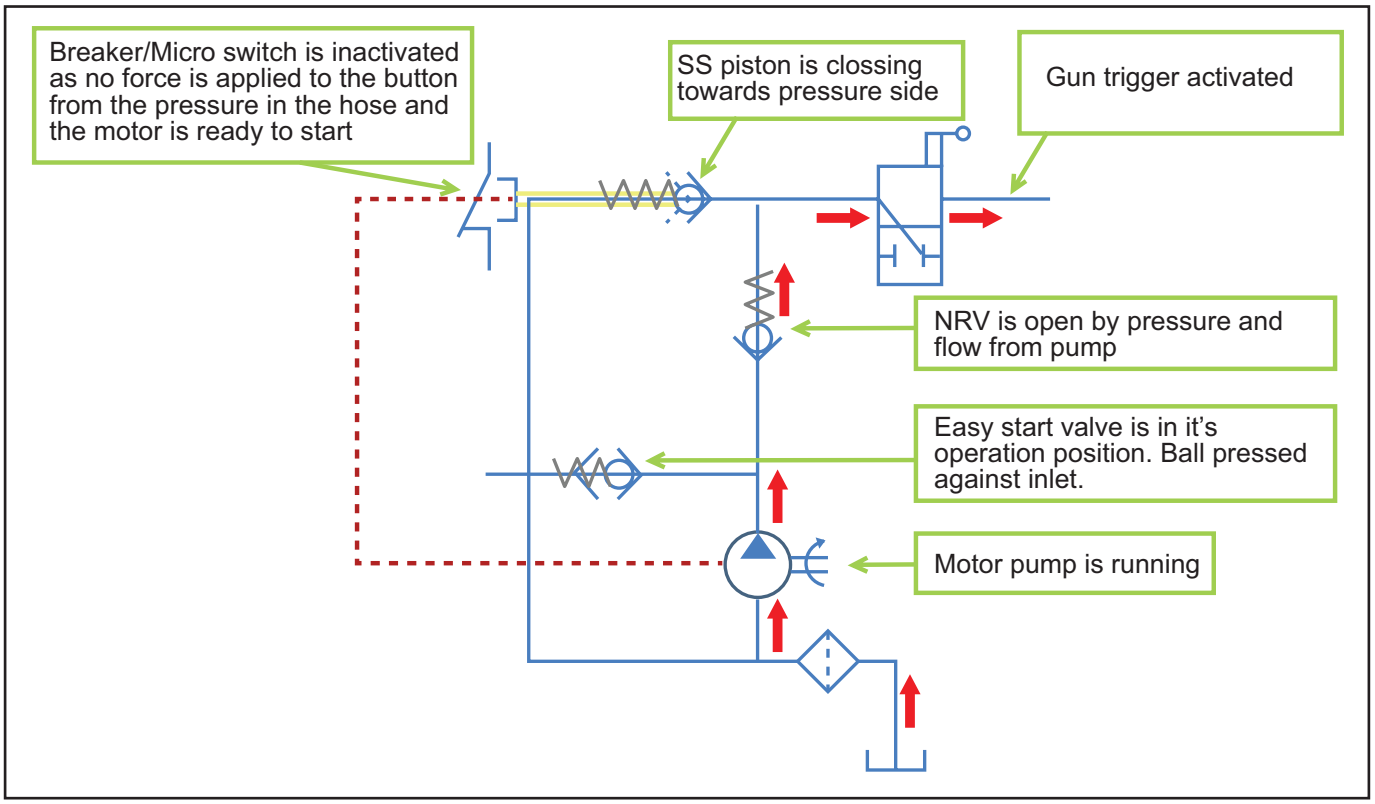


Item	Description	Used for	Article number
1	Screw driver, Flat	For lock clamps	N/A
2	T-handle Torx T20	For screws with torx head	588 59 85-01
3	T-handle Allen key, 5 mm	For screws with hexagonal socked head	502 50 64-01
3	T-handle Allen key, 6 mm	For screws with hexagonal socked head	504 90 00-01
4	Spanner	For pump bolts and nuts	N/A

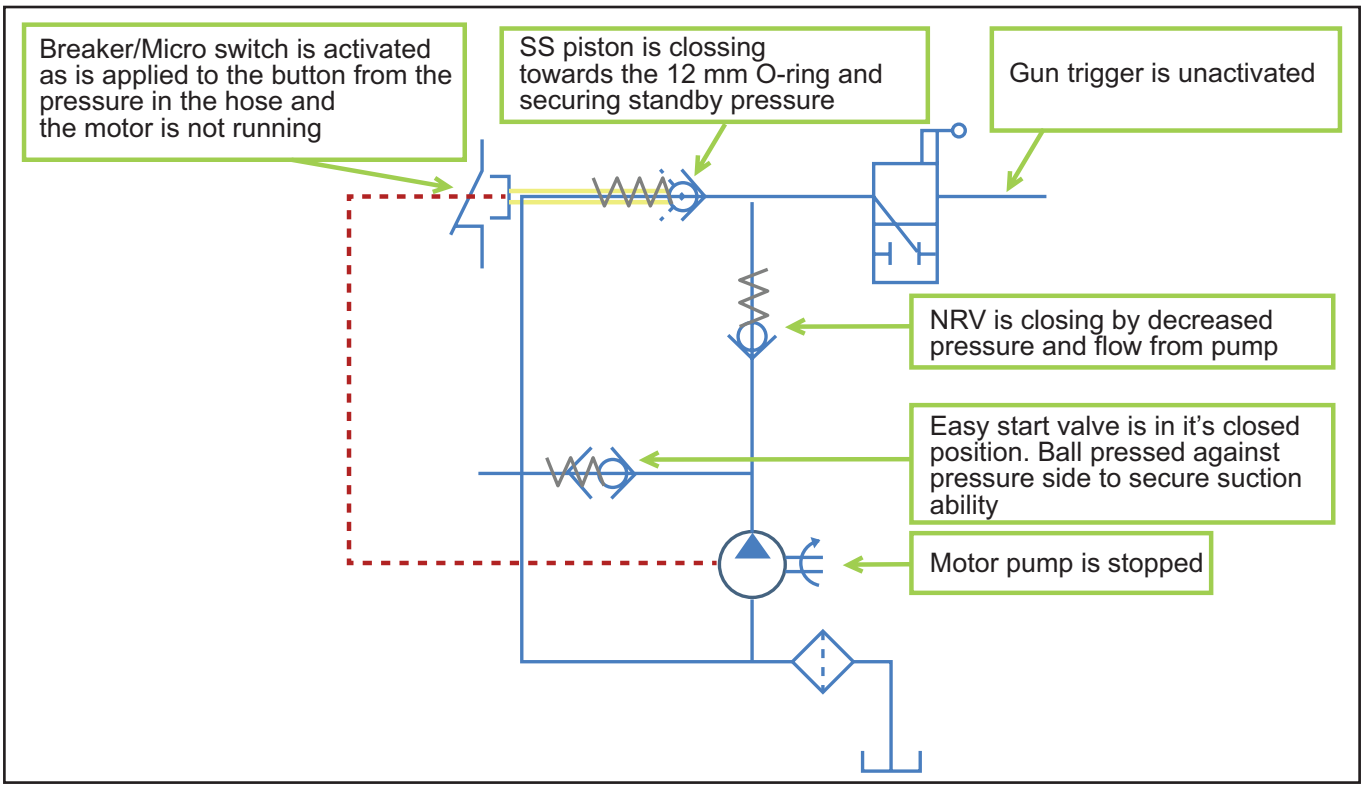
4.2 Motor pump function <Machine stopped and hose emptied>, PW 345C only



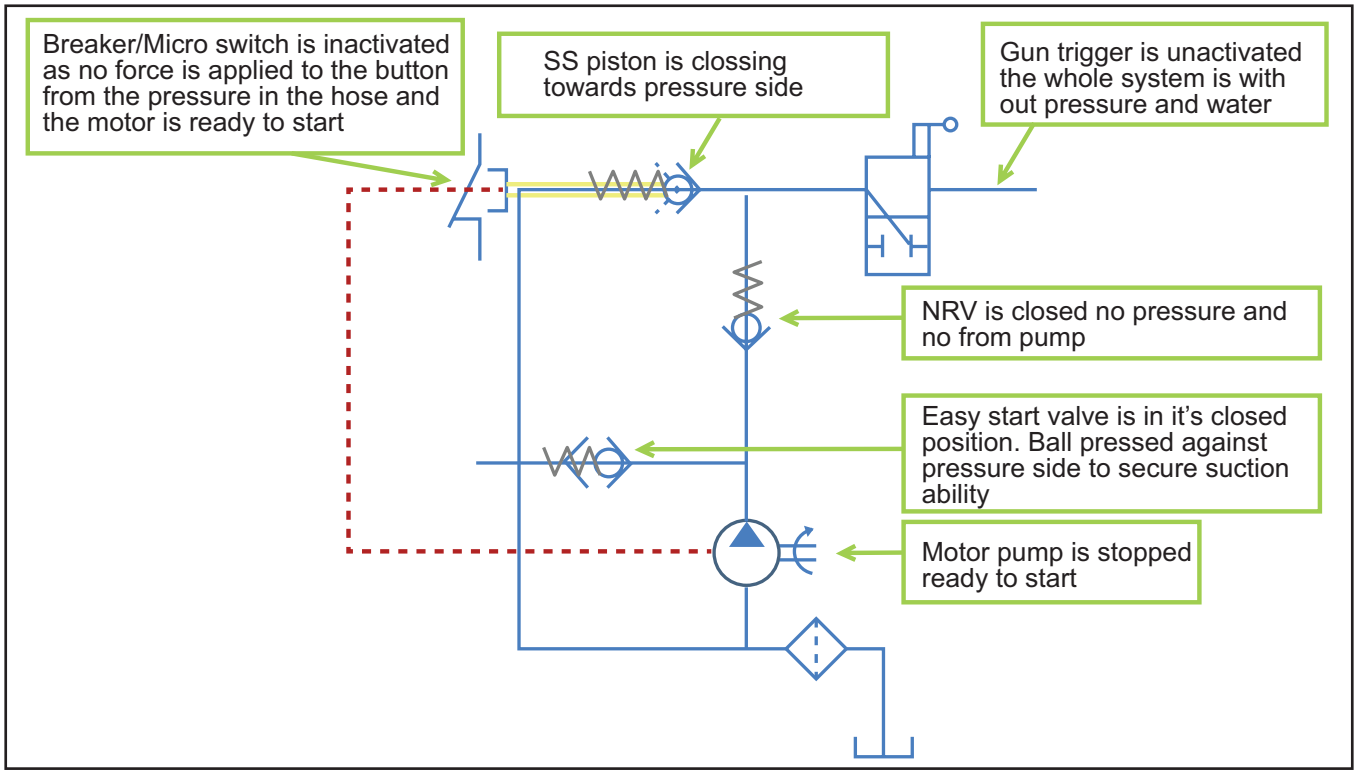
4.3 Motor pump function <Machine operation>, PW 345C only



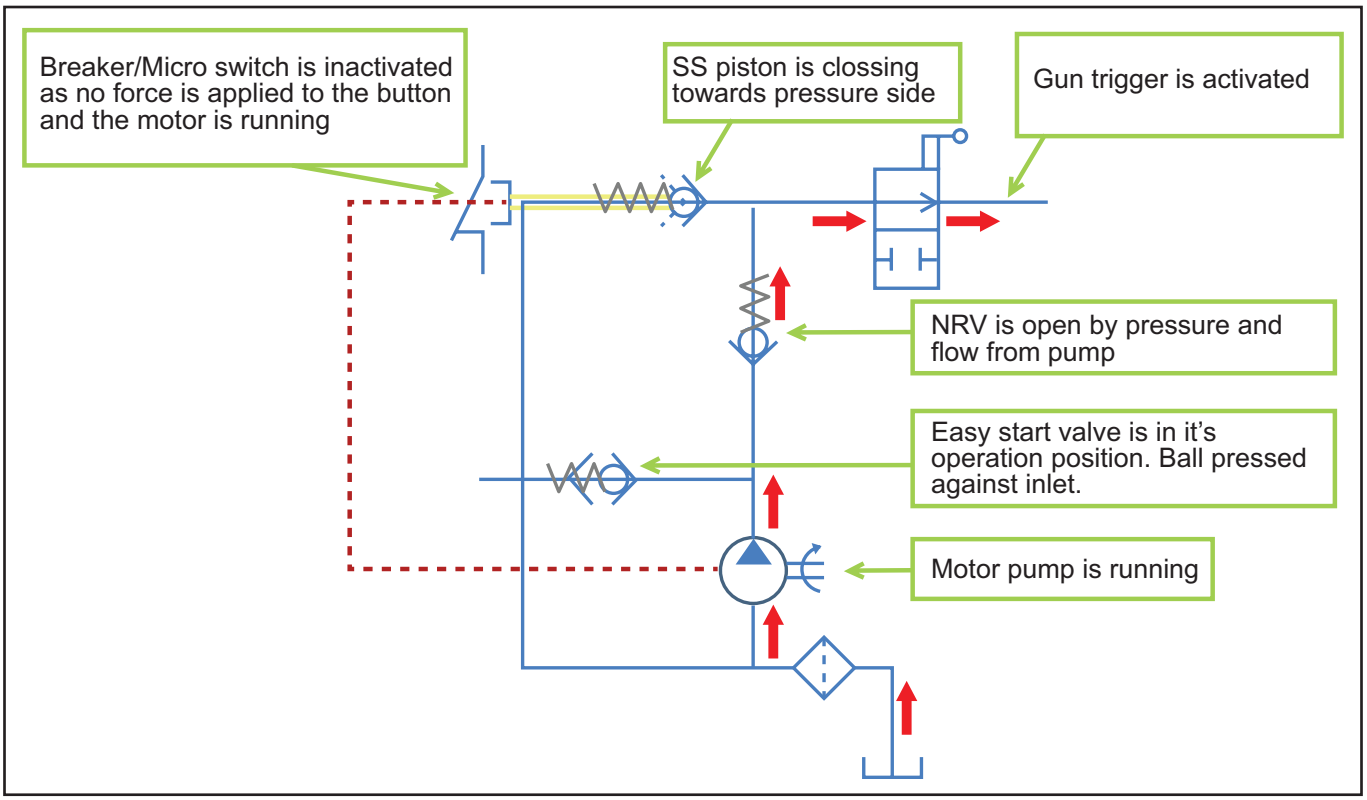
4.4 Motor pump function <Machine standby>, PW 345C only



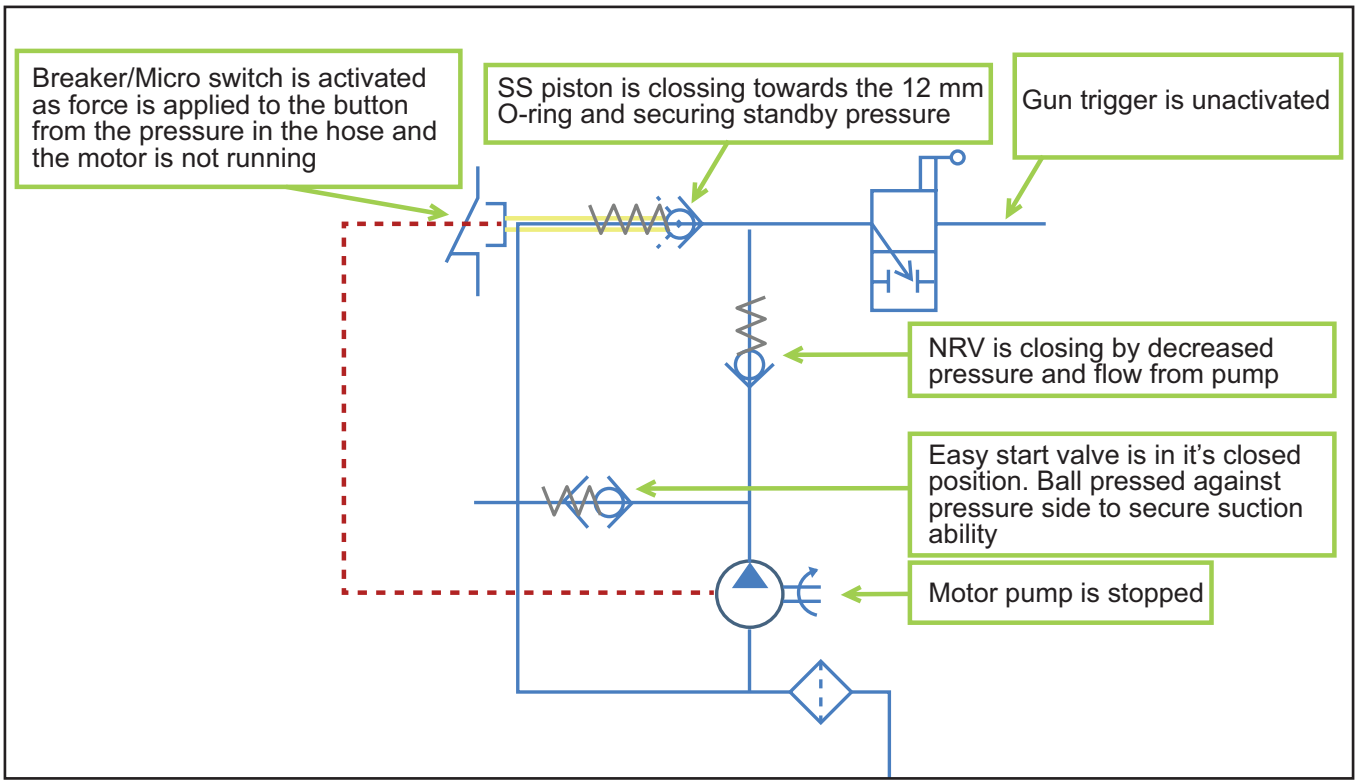
4.5 Motor pump function <Machine stopped and hose emptied>, PW 350, PW 360 only



4.6 Motor pump function <Machine operation>, PW 350, PW 360 only

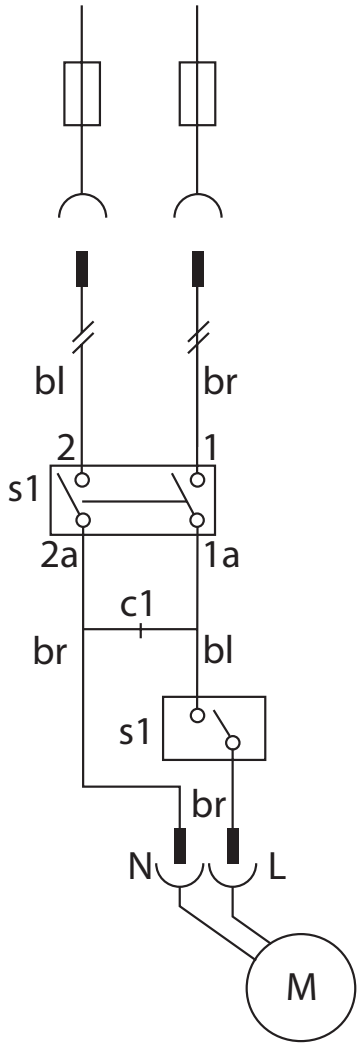


4.7 Motor pump function <Machine standby>, PW 350, PW 360 only



4.8 Wiring diagram, PW 345C

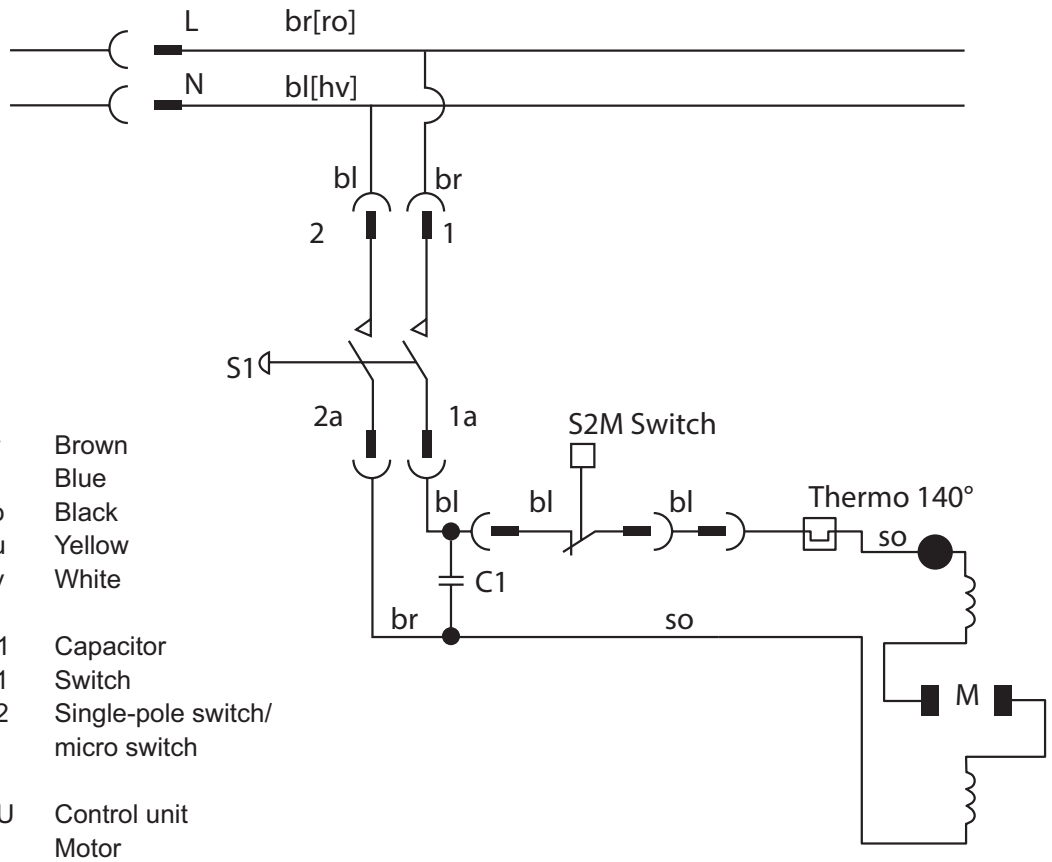
Wiring diagram



br	Brown
bl	Blue
so	Black
gu	Yellow
hv	White
C1	Capacitor
S1	Switch
S2	Single-pole switch/ micro switch
CU	Control unit
M	Motor
WU	Wireless unit

4.9 Circuit diagram , PW 345C

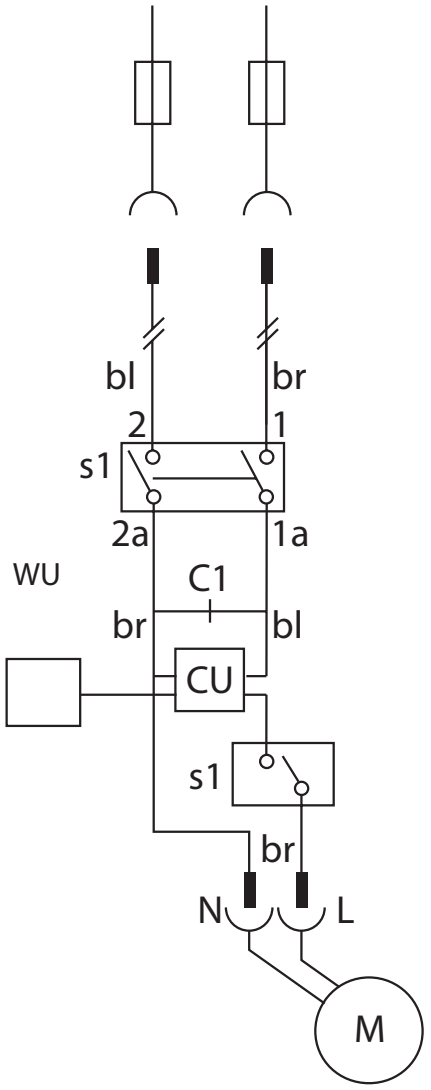
Circuit diagram



br	Brown
bl	Blue
so	Black
gu	Yellow
hv	White
C1	Capacitor
S1	Switch
S2	Single-pole switch/ micro switch
CU	Control unit
M	Motor
WU	Wireless unit

4.10 Wiring diagram, PW 345C

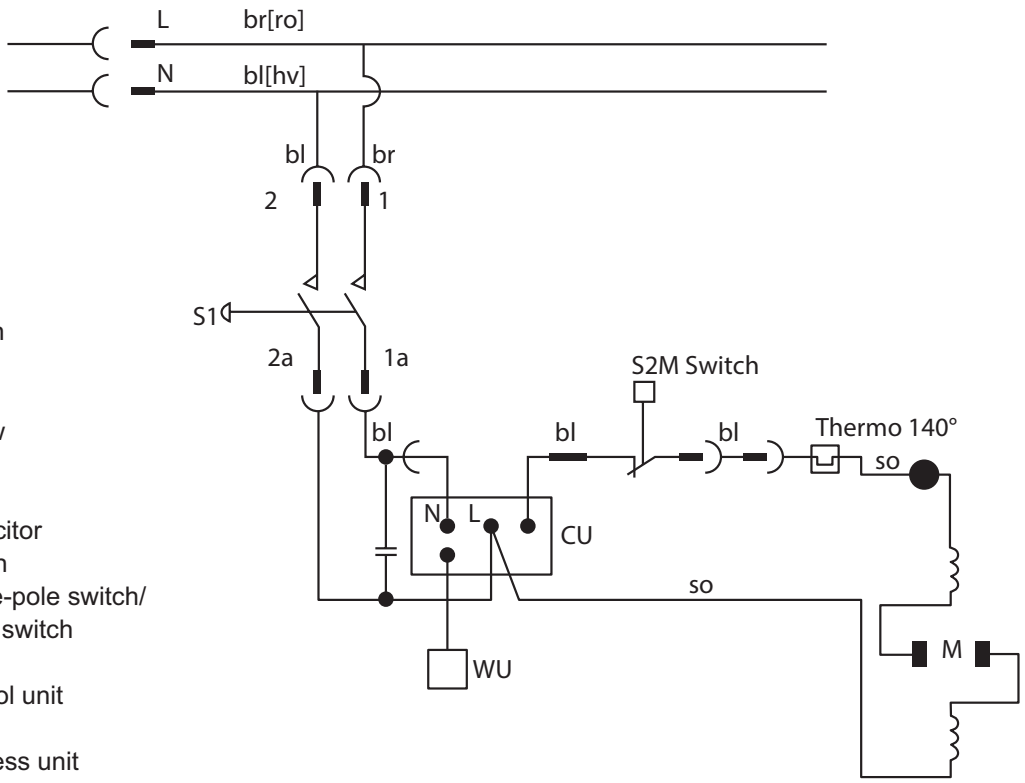
Wiring diagram



br	Brown
bl	Blue
so	Black
gu	Yellow
hv	White
C1	Capacitor
S1	Switch
S2	Single-pole switch/ micro switch
CU	Control unit
M	Motor
WU	Wireless unit

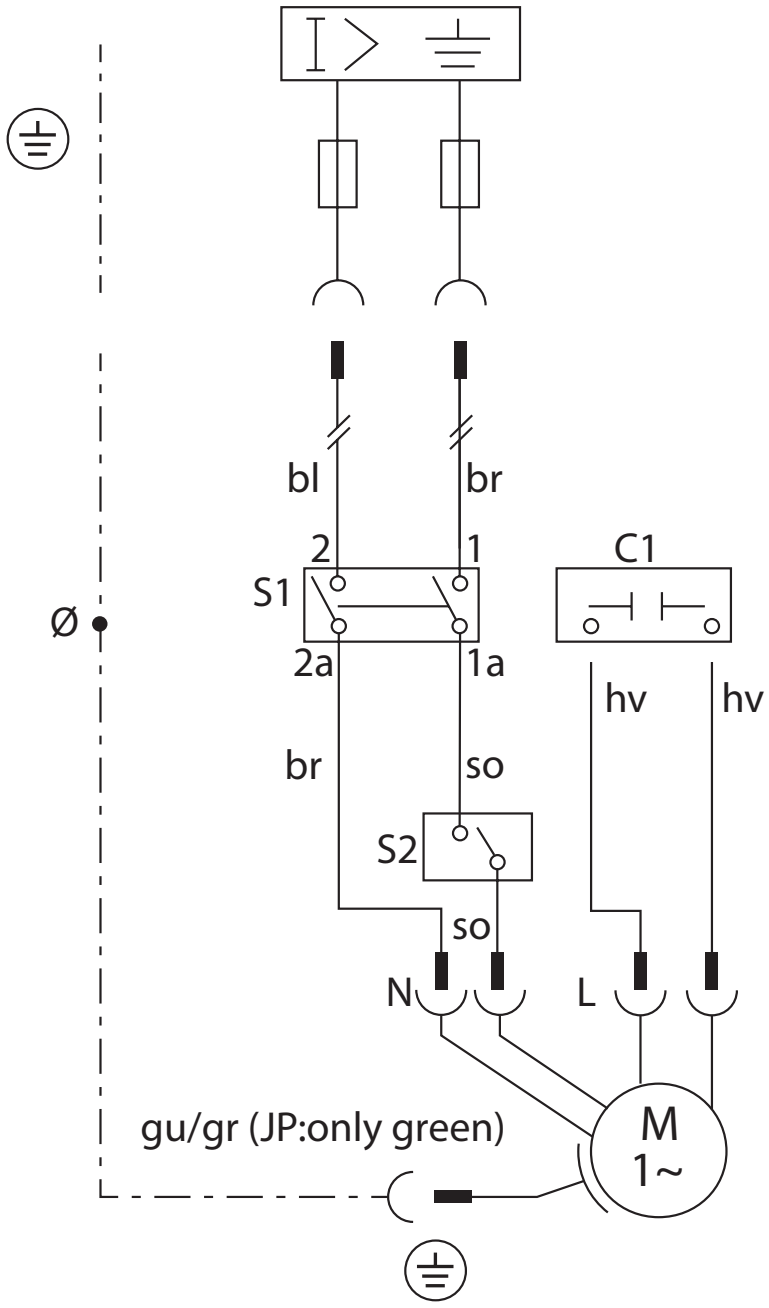
4.11 Circuit diagram, PW 345C

Circuit diagram



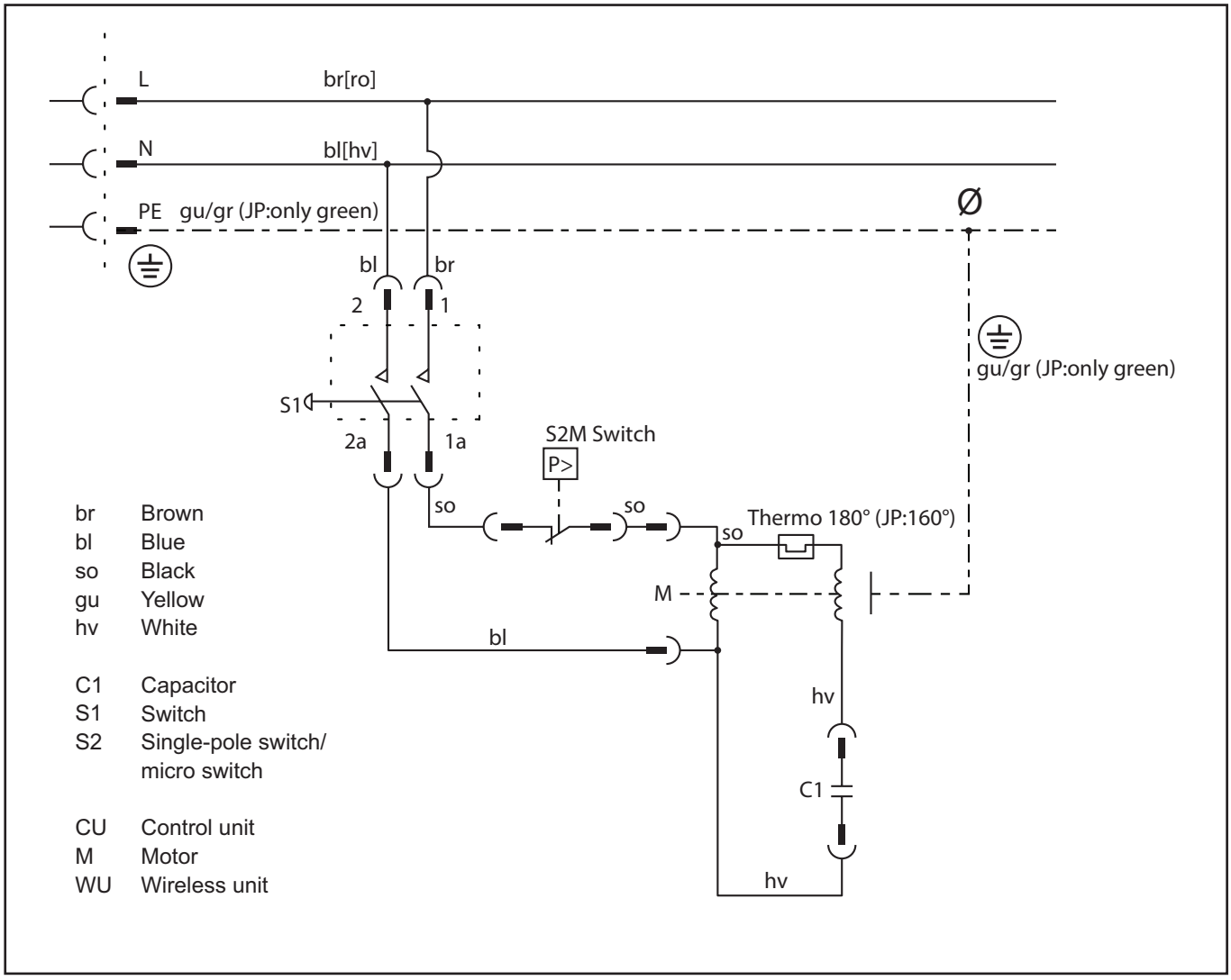
br	Brown
bl	Blue
so	Black
gu	Yellow
hv	White
C1	Capacitor
S1	Switch
S2	Single-pole switch/ micro switch
CU	Control unit
M	Motor
WU	Wireless unit

4.12 Wiring diagram, PW 350, PW 360



br	Brown
bl	Blue
so	Black
gu	Yellow
hv	White
C1	Capacitor
S1	Switch
S2	Single-pole switch/ micro switch
CU	Control unit
M	Motor
WU	Wireless unit

4.13 Circuit diagram, PW 350, PW 360



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