

Atlas Copco Instruction Manual



Instruction Manual
for Atlas Copco WEDA Dewatering Pump
English

WEDA S04N
WEDA S08N

Atlas Copco

**Instruction Manual
for Atlas Copco WEDA Dewatering Pump**

**WEDA S04N
WEDA S08N**

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ATLAS COPCO - PORTABLE ENERGY DIVISION
www.atlascopco.com

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Use only authorized parts.

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The manufacturer does not accept any liability for any damage arising from modifications, additions or conversions made without the manufacturer's approval in writing.

Neglecting maintenance or making changes to the setup of the machine can result in major hazards.

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Preface

Please read the following instructions carefully before starting to use your pump.

It is a solid, safe and reliable machine, built according to the latest technology. Follow the instructions in this booklet.

Always keep the manual available near the machine.

In all correspondence always mention the pump type and serial number, shown on the data plate.

The company reserves the right to make changes without prior notice.

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General description

WEDA dewatering pumps are electrical submersible pumps for dewatering applications in construction sites, industry, mining, tanks, pools etc. The range consists of several dewatering pumps, all designed for tough pumping in demanding applications. The compact design and light weight make the pumps very versatile and easy to install.

The design with motor protector keeps the pump running safely under various conditions. The triple shaft seal assures a long life time and the vortex wet end minimizes maintenance.

Features:

- Dry running capability. Motor protector.
- Plug and pump. Built-in high torque capacitor.
- Double mechanical shaft seals in silicon carbide.
- Additional lip seal for extended life time of the primary seal.

WEDA S04N is a light weight sludge pump, tough against sand and mud. Designed with a vortex cast iron impeller and triple seal system. Particles and debris up to Ø25 mm will go through the pump housing with a minimum of wear.

WEDA S08N is a light weight sludge pump, tough against sand and mud. Designed with a vortex cast iron impeller and triple seal system. Particles and debris up to Ø25 mm will go through the pump housing with a minimum of wear.

The motor is equipped with a 2 fold motor protection that automatically stops the pump in case of over heating or over load/current. The pump automatically restarts after cooling down.

With just 3 bolts to loosen, the impeller and pump housing are easily accessed.

HOUSING AND SEAL CASING

The housing is made of cast iron and the seal casing is made of die cast aluminium.

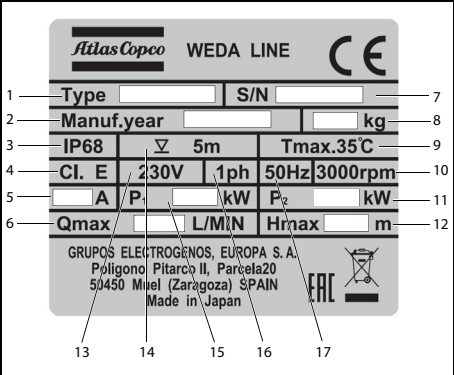
IMPELLER

The pump is equipped with a cast iron vortex impeller.

OVERLOAD PROTECTION

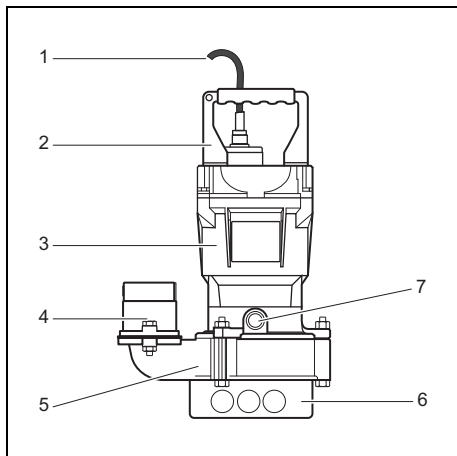
The pump is supplied with an automatically resetting overload protection.

DATA PLATE



Reference	Name
1	Pump Type
2	Production Date
3	Protection Class
4	Motor Insulation Class
5	Rated Current
6	Max. Flow
7	Serial Number
8	Weight
9	Max. Fluid Temperature
10	Rated rpm
11	Rated Power Output
12	Max. Head
13	Rated Voltage
14	Max. Submersed Depth
15	Rated Power Input
16	Phases
17	Frequency

Main parts



Reference	Name
1	Power cable
2	Handle
3	Housing
4	Hose coupling
5	Pump casing
6	Strainer
7	Oil plug

Operating instructions

TRANSPORT



Always use the handle to lift the pump. Never use the power cable to lift or transport the pump. Always be careful not to let it fall or bump it against the wall or other equipment.

STARTING



The pump may not be used in an explosive / inflammable environment or used to pump inflammable liquids!



If the pump is being used for pumping water out of a swimming pool:

- nobody is allowed to be in the pool during pumping,
- the pump must be connected via a residual current device having a rated residual operating current not exceeding 30 mA.

Check the power cable with mains plug for damage before every use. If the power cable is damaged, exchange it immediately.

Check whether the power supply matches the rating on the **General description**.

Check whether the fluid to be pumped matches the characteristics mentioned in section **Technical details**.



Never operate the pump without the strainer.

Attach a suitable hose to the outlet and make sure it is thoroughly tightened. Avoid making excessive bends in delivery hoses or piping, as this may cause reduced flow.

Run the electric cable so that sharp bends are avoided and there is no danger of the cable being pinched or otherwise being damaged.

Take care that the pump is submerged before putting the plug in the socket. Never install the pump directly on a weak soil layer or muddy ground. The pump may sink and mud/soil may enter the pump and reduce the flow. Check that the pump is pumping.

In case the motor stops due to overload or a blocked impeller, first pull the plug out of the socket before removing the pump from the pump site to check for why the pump has stopped. Remove the blockage, let the pump cool down and resume pumping.



For continuous operation please take care that the pump is constantly kept under water level.

STOPPING



Be aware that the casing of the pump may get very hot. Let it cool down and/or wear safety gloves when handling a pump that has just been switched off.

Take the plug out of the socket and take the pump out of the pump site. If the pump has been operating in dirty water, allow it to run in clean water for a short period or flush clean water through the discharge port. If clay, cement or other sticky dirt remain in the pump this may clog the impeller and seal area.

Maintenance

PREVENTIVE MAINTENANCE SCHEDULE

Item (refer to separate paragraphs)	Every month	Every 3 months	Every 6 months
External damage, loose parts	Check		
Motor insulation resistance	Measure		
Oil		Check	Change
Impeller	Check		
Power cable	Check		
Cable entry	Check		

EXTERNAL DAMAGE, LOOSE PARTS

Make sure that all screws, bolts and nuts are tight. Check the condition of the pump lifting handle and replace if damaged or worn. Replace any external part that appears worn or damaged.

MOTOR INSULATION RESISTANCE

Use a 500 V DC Megger and measure the insulation between the phases and between any phase and ground. Resistance values should be over 1 M ohm. If abnormal readings are obtained, immediately hand the pump in for repair.

Also observe any local requirement regulations. The stricter one will prevail.

OIL

Check the condition of the oil to see if any water leakage has occurred. Remove the oil plug. Take an oil sample using a pipette. Check for impurities and emulsification. (Oil must be clear.) If water intrusion has occurred, check the seal and replace if necessary. Refill the seal chamber with fresh oil. Refer to section **Technical details** for type and quantity of oil.

IMPELLER

Inspect the impeller by removing the strainer and pump casing. Replace the impeller if it is damaged or severely worn.

POWER CABLE

Inspect the cable for cuts, scrapes or sharp bends. If the outer jacket is damaged, replace the cable. Do not make splices within wet wells.

CABLE ENTRY

Make sure that the cable entry flange and strain relief clamp are tight. If the cable entry is showing signs of leakage replace the cable.

Troubleshooting

Problem	Cause	Action
Pump will not run	<ol style="list-style-type: none">1. Fuse blown or circuit breaker tripped2. Broken cable3. Power failure4. Impeller jammed5. Stator winding burnt-out	<ol style="list-style-type: none">1. Replace fuse or reset circuit breaker2. Replace cable3. Restore power supply4. Clean impeller5. Replace pump
Pump starts and stops	<ol style="list-style-type: none">1. Strainer blocked2. Insufficient water level3. Voltage too low when using an extra cable4. Water too hot	<ol style="list-style-type: none">1. Clean strainer2. Raise water level3. Use a cable with larger section4. Let the water cool down
Pump's capacity is too low	<ol style="list-style-type: none">1. Delivery hose is squeezed2. Total pumping head is too high3. Strainer is blocked4. Impeller is worn	<ol style="list-style-type: none">1. Straighten delivery hose2. Review pumping situation3. Clean strainer4. Replace impeller

Technical details

Description	Unit	WEDA S04N	WEDA S08N
Discharge, hose and ISO-G	inch	2"	2"
Max. Head (50Hz)	m	10.5	13
Max. Flow (50Hz)	l/min	270	317
	m ³ /h	16.2	19
Max. Head (60Hz)	ft	32.8	48.6
Max. Flow (60Hz)	US gpm	58.1	76.6
	m ³ /h	16.2	19
Weight	kg/lb	11/22.1	13/28.7
Max. solids handling	mm/inch	25/1"	25/1"
Cable length	m/ft	10/33	10/33
Max submersed depth	m/ft	5/16	5/16
Impeller type		vortex	vortex
Impeller material		cast iron	cast iron
Shaft seals		silicon carbide	silicon carbide
Motor protection		thermal protection	thermal protection
Motor insulation class		E	E
pH range		6.5 - 8	6.5 - 8
Max. fluid temperature	°C/F	35/95	35/95



The pump is designed to pump water that meets the specifications in the table above.

The pump is not to be used in explosive or inflammable environments or for pumping flammable liquids.

Motor Rating 50Hz	Unit	WEDA S04N	WEDA S08N
Rated output	kW	0.4	0.75
Max. power input	kW	0.65	1.2
Rated current (230V)	A	2.8	5.2
Shaft speed	rpm	2900	2900

Motor Rating 60Hz	Unit	WEDA S04N	WEDA S08N
Rated output	hp	0.5	1.0
Max. power input	kW	0.65	1.2
Rated current (115V)	A	5.8	10.3
Rated current (230V)	A	3.2	5.1
Shaft speed	rpm	3600	3600

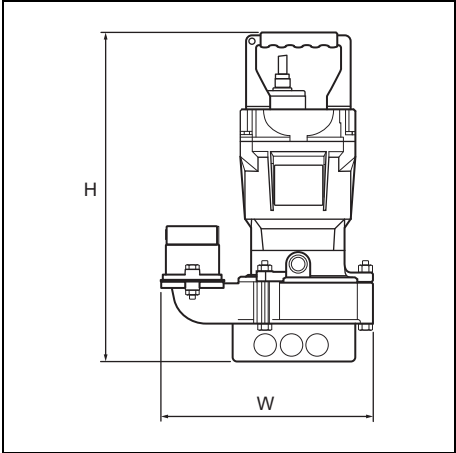
OIL SPECIFICATION

Oil type: Turbine oil #32 (32 cSt / 40 °C)

Oil capacity: 0,15 liter

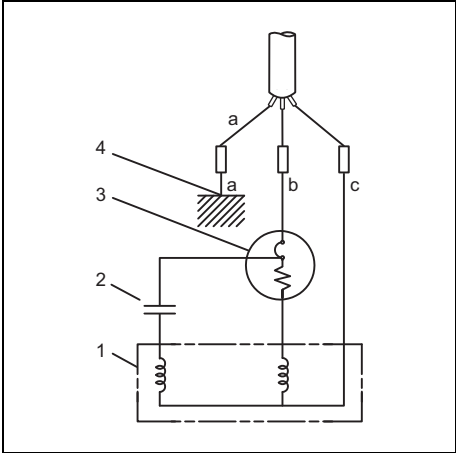
Atlas Copco order number: 1605 2255 00 (0,5 L)

DIMENSIONS



	H (mm/in)	W (mm/in)
WEDA S04N	375/14.7	277/10.9
WEDA S08N	416/16.4	277/10.9

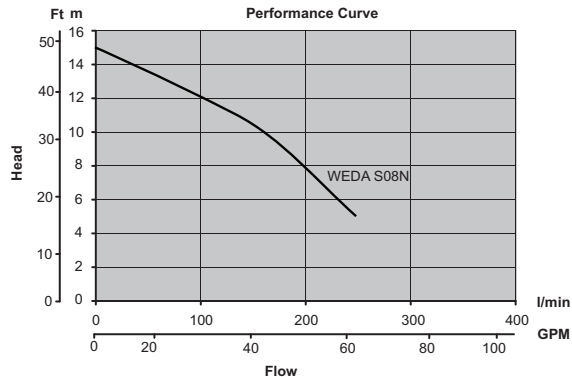
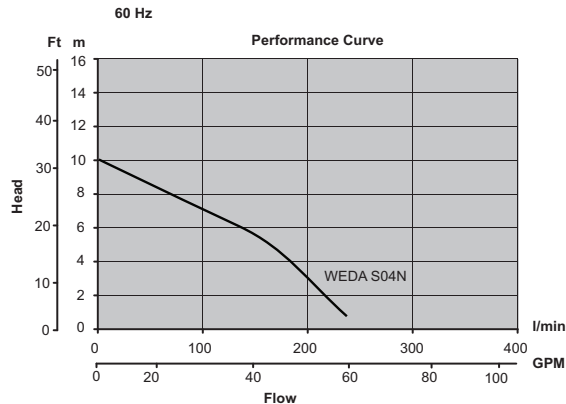
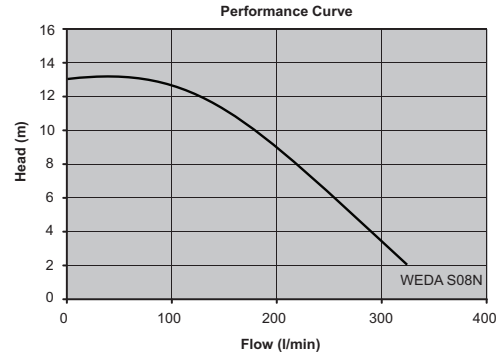
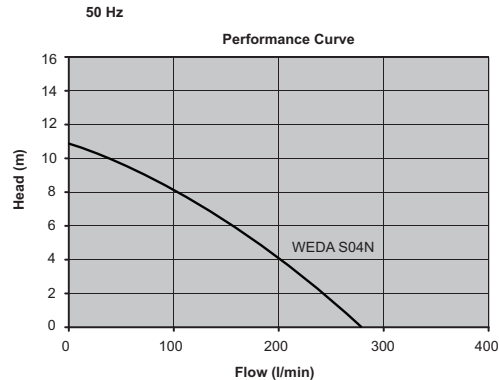
WIRING DIAGRAM



Reference	Name
1	Stator
2	Capacitor
3	Motor Protector
4	Ground

Color code
a = green/yellow
b = red
c = white

FLOW CHARACTERISTICS



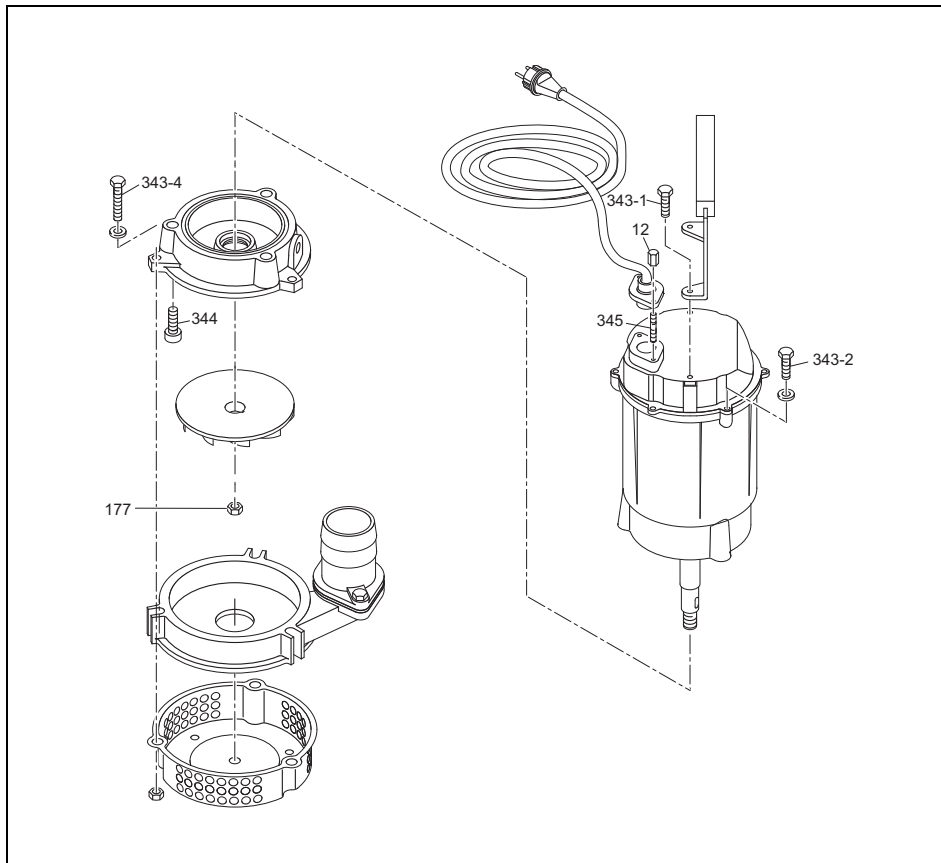
Spare parts

ORDERING SPARE PARTS

To avoid errors in delivery, please give the following information when ordering spare parts:

1. Pump type
2. Pump serial number
3. Quantity required
4. Part number
5. Part description

TORQUE



Part	Torque Nm
12	3.4 - 3.9
177	9.8 - 11.8
343-1	9.8 - 11.8
343-2	3.9 - 5.9
343-4	9.8 - 11.8
344	3.9 - 5.9
345	3.4 - 3.9

