Freddy®

BOWSER

Clean liquid tank

User Manual

IMPORTANT INFORMATION

Continued safe and reliable operation of this equipment is conditional on all installation, operation and maintenance procedures being carried out in accordance with the manual, by personnel having appropriate qualifications, experience and training.

Failure to observe the requirements of the manual may result in the user being held responsible for the consequences and may invalidate any warranty.

Freddy Products Ltd will accept no liability for unauthorised modifications to Freddy supplied equipment.

Freddy Products Ltd has paid particular attention to Health and Safety throughout this manual. Where special precautions need to be taken due to the nature of the equipment or product, an appropriate safety icon and warning message is shown. Special attention should be made to Section 2 – Safety, where all such messages are summarised.

In line with our continuous policy of research and development, we reserve the right to amend models and specifications without prior notice.

This handbook is accurate at the date of printing, but will be superseded and should be disregarded if specifications or appearance are changed.

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Original instructions.

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1 Introduction

For over 50 years, Freddy has helped reduce health and safety problems in machine workshops. Coolant is a vital part of the machining process, but unless it is treated correctly, it can cause health problems for operators and reduce the efficiency of the machining operation.

The Freddy Bowser is a mobile, easy-to-use machine, designed to provide clean coolant or other liquids to machines in a workshop.

The Bowser is delivered with either a 200 or 300 litre tank, and can be built to your own specification.

The following optional items are available:

- Retractable hose reel to replace the standard hose
- Digital meter to replace the trigger nozzle. This will dispense a set amount of liquid

1.1 About this manual

The following icons are used throughout this manual:

This symbol appears whenever there is a potential hazard to the user or equipment.

This symbol appears whenever there is a potential biological hazard. Be aware of the substances used in the equipment and the potential hazards they pose to the user.

This symbol appears whenever there is a potential chemical hazard. Be aware of the substances used in the Bowser.

This symbol highlights where you must take special care to ensure the Bowser operates efficiently.

Note: *Notes give extra information about the Bowser.*

Hint: *Hints give helpful tips.*

1.2 EC conformance

EC Declaration of Conformity

In accordance with BS EN ISO/IEC 17050-1:2010

We:	Freddy Products Ltd	
Of:	Celsius House, Aintree Road, Pershore, WR10 2JN	
Declare that:		
Equipment:	Liquid bowser	
Model Name/number:	Bowser 200 Litre	Product range: 110v; 240v; Air
	Bowser 300 Litre	Product range: 110v; 240v; Air
2014/30/EU	Conforms with the essential performance requirements of the Electromagnetic Compatibility Directive and its amending directives	
2006/42/EC	Conforms with the essential health and safety requirements of the Machinery Directive and its amending Directives	
2011/65/EC	Conforms with the requirements of the RoHS Directive on the of the use of certain hazardous substances in electrical and electronic equipment	

Has been designed and manufactured to the following specifications:

EN ISO 12100:2010	Safety of machinery. General principles of design. Risk assessment and risk reduction
EN – IEC 60204-1:2018	Safety of machinery - Electrical equipment of machines - Part 1: General requirements

I hereby declare that the equipment named above has been tested and found to comply with the relevant sections of the above referenced specifications. The unit complies with all essential requirements of the Directives.

Signed by:

Name:	S.P HANMER	Position:	MANAGING DIRECTOR
Done at:	FREDDY PRODUCTS LTD	Date:	26/09/2020

2 Safety

Always take care when using the Bowser and be aware of your surroundings.

Always follow the instructions in this manual and any warnings.

In the event of a fire, use fire-fighting equipment suitable for electrical use.

2.1 Warnings

Do not lift the Bowser. Move the Bowser as described in section 4.1.

Do not use the Bowser to transport the following:

- Acids
- Alkalis
- Explosive materials
- Hot liquids over 40°C
- Liquids with a low flashpoint
- Liquids that foam easily or contain detergent

If you have any doubts, contact Freddy Products Ltd.

Do not use the Bowser in areas where there is:

- A danger of fire or explosion
- A corrosive atmosphere
- A high concentration of dust

Create a schedule for regular housekeeping and cleaning to make sure that it is carried out within a specified time. This should include:

- Dealing with spillages immediately
- Disposing of liquid safely and correctly
- Any other points you want to cover

Operators should be trained in:

- The correct use of the Bowser
- The relevant local operating procedures

COSHH requirements.

Provide the correct personal protective equipment (PPE) for all applications, including protective gloves and eye protection to the relevant safety standards.

The sound levels of the Bowser in use are 85 dB (electric version) or 80 dB (compressed air version).

We recommend that ear protection is worn during extensive use of the Bowser.

Misuse of the equipment can cause injury. **DO NOT** use it for any purpose other than that described in this manual.

2.2 Residual risks

As with all machinery, the Freddy Bowser presents a number of residual risks to the user, maintenance engineer and other personnel. These are listed below:

Wear the correct PPE including protective gloves and eye protection and take care when dealing with the used filter bags and all coolant.

Toxic substances such as coolant can cause skin and eye irritation. Wear the appropriate PPE and follow company procedures at all times.

3 Description

The Freddy Bowser is designed to allow you to transport clean liquids to fill machines in situ. The tank holds either 200 or 300 litres of liquid.

The Bowser can be powered either by compressed air, or by an electric pump.

3.1 Operational overview

The Bowser is fitted with an easy-to-use, trigger operated nozzle to transfer the clean liquid to the machines.

To refill the Bowser, simply remove the cap on top of the Bowser and pump or pour in the new liquid (section 4.4).

4 Operation

This section describes how to set up and use the Bowser.

The Bowser must be earthed.

4.1 Moving the Bowser

The Bowser has a handle and 4 castors to allow you to move it to wherever it is needed *(Figure 4-1)*.

The two castors at the back of the Bowser are fixed and the two at the handle end are able to swivel and have toe-push brakes.

To move the Bowser, release both brakes *(section 4.2)*, and use the handle to pull or push the Bowser.

When you are ready to use the Bowser, apply both brakes *(section 4.2)*.

Take care when moving the Bowser. The Bowser 200 weighs 76 kg when empty and 276 kg when full and the Bowser 300 weighs up to 82 kg when empty and up to 382 kg when full. Make sure you are able to move the Bowser and get help if necessary.

Figure 4-1: Freddy Bowser (electric version)

Figure 4-2: Freddy Bowser (compressed air version)

4.2 Using the brakes

The brakes are fitted to the swivel castors at the handle end of the Bowser.

To apply the brake, with your toe, push down the small lever above each small castor wheel.

Apply the brakes to both castor wheels.

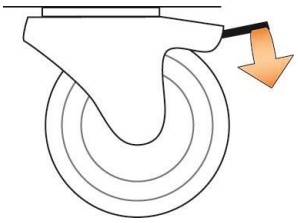


Figure 4-3: Apply the brakes

To release the brakes, with your toe, lift up the small lever above each small castor wheel.

Release both brakes.

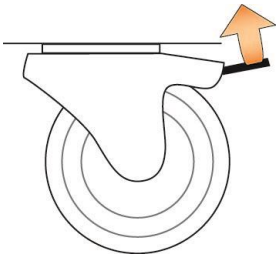


Figure 4-4: Release the brakes

4.3 Switching on and off

4.3.1 Electric pump version

The power switch *(1)* is located on the power box at the handle end of the Bowser.

Connect one end of the power lead to the Bowser and the other end to the power socket on the wall.

Check the voltage rating of the Bowser by looking at the rating label. Make sure that you connect the power lead to the correct supply.

Figure 4-5: Power switch location

To switch on, press the green **I** button.

To switch off, press the red **O** button.

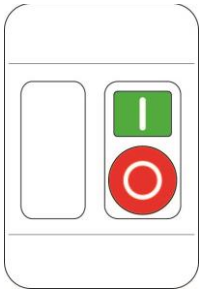


Figure 4-6: Power switch

4.3.2 Compressed air version

The pump starts automatically as soon as the air is connected to the Bowser.

Check the voltage rating of the Bowser by looking at the rating label. Make sure that you connect the power lead to the correct supply.

4.4 Fill the bowser with clean liquid

The liquid that can be used in the bowser should either be neat oil, or a thin emulsion.

1. Unscrew and remove the filler cap *(1)* on top of the bowser.
2. Pour or pump the new liquid into the bowser. The transparent flexi tube on the handle end of the bowser acts as a sight gauge to allow you to see how much liquid is contained in the tank.
3. Refit and tighten the filler cap.

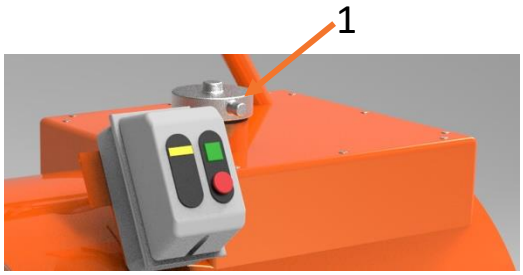


Figure 4-7: Filler cap

4.5 Fill machines

To fill machines in the machine shop:

1. Wheel the bowser to the machine to be filled *(section 4.1)*. Apply the brakes *(section 4.2)*.
2. Connect the bowser to the power supply (110V or 230V) *(section 4.3.1)* or compressed air supply *(section 4.3.2)* and switch on.
3. Use the trigger nozzle to dispense the liquid into the machine.
4. Switch off the power or air supply and disconnect the bowser.
5. Wheel the bowser to the next machine to be filled, or back to be refilled.

Figure 4-8: Trigger nozzle

4.6 Storage

Before storing the Bowser, empty and clean the tank completely *(section 6.2)* and disconnect the Bowser from the power supply.

Store the Bowser inside or under cover and keep it dry.

5 Technical specification

5.1 Physical dimensions

Tank capacity:		200 litres	300 litres
Physical dimensions:	Length:	700 mm	950 mm
	Width:	710 mm	710 mm
	Height:	1020 mm	1170 mm

5.2 Electrical specifications

Voltage	Frequency	# of phases	Load current	Peak starting current	Fuse type
V ac	Hz		A	A	A
110 - 120	50/60	1	5.2	10.4	20 [1]
220 - 240	50/60	1	2.5	5.2	13

5.3 Sound levels

Sound levels: < 85dB

5.4 Operational parameters

Unit type	Weight (200 litre)		Weight (300 litre)		Water flow	
	Empty	Full [2]	Empty	Full [2]	Input [3]	Output [3]
	kg	kg	kg	kg	Litre/min	Litre/min
Electrical	76	276	82	382	260	120
Air	69	269	75	375	260	120

[1] *Fuse values quoted apply for ring mains. Contact Freddy Products for other configurations.*

[2] *Full weight quoted is for the tank full of water.*

[3] *The quoted input and output values for water flow are based on the Bowser operating at the same level as the liquid being vacuumed. If the Bowser is higher than the liquid, the flow rates will be slower than the quoted values.*

5.5 Electric pump

Motor:

Voltage:	3-phase 230 / 110 V ± 10%
Frequency:	50 Hz
Maximum working pressure:	6 bar
Operating temperatures:	
Liquid temperature:	-10°C to +90 °C
Ambient temperature:	Up to 40 °C
Sound pressure:	≤ 85 dB (A)

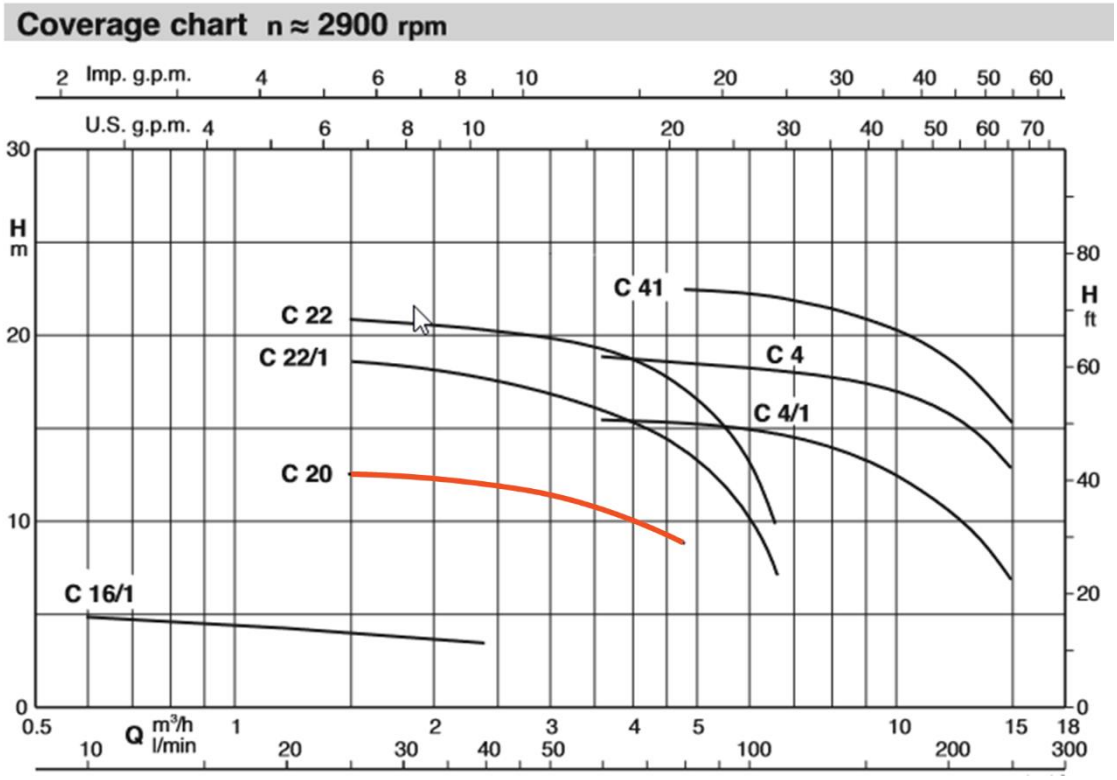


Figure 9: Electric pump operational curves

5.6 Compressed air pump

Operational air pressure:	3 to 10 bar (40 to 140 psi)
Air consumption:	500 NL/min (17.6 cfm) *(maximum air consumption with 7 bar inlet pressure and free delivery)*
Free flow delivery:	35 l/min (9.3 US gpm) *(maximum free delivery at 7 bar)*
Fluid outlet pressure:	30 bar (420 psi) (maximum)
Sound pressure:	80 dB *(maximum noise level measured at 1 m from the pump, 7 bar air pressure and free delivery)*

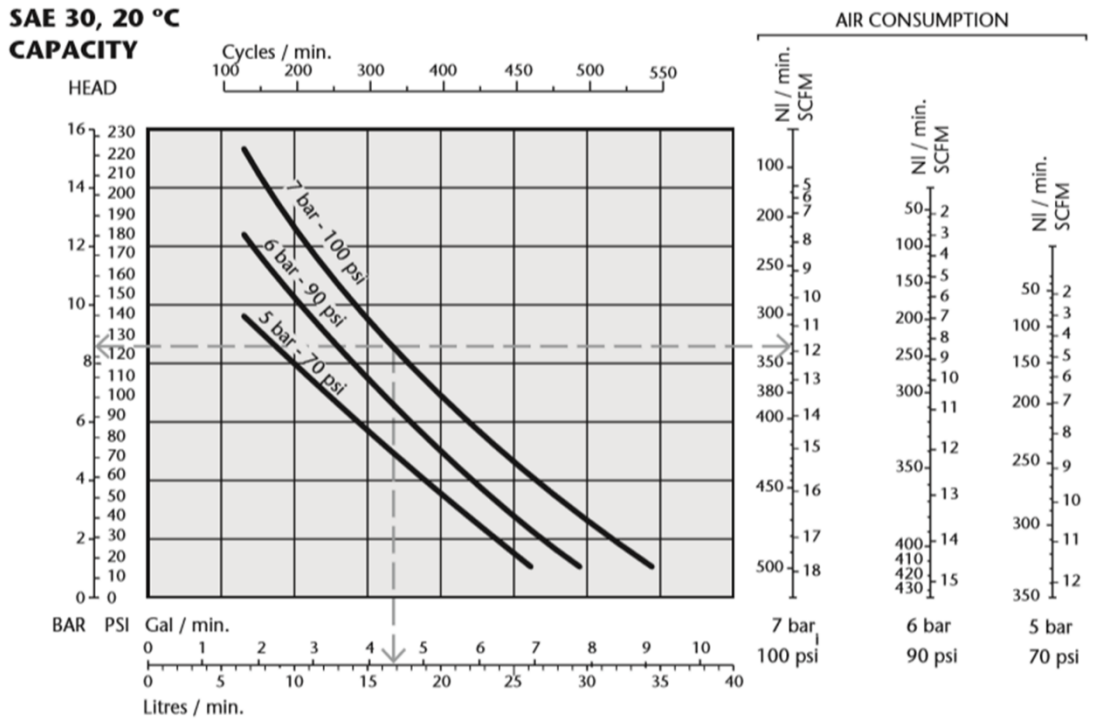


Figure 10: Compressed air pump operational curves

5.7 Operating conditions

Do not use the Bowser in areas:

- where there is a danger of fire or explosion
- with extreme temperatures
- where there is a high degree of dust
- with corrosive atmospheres.

5.8 Storage conditions

Store the Bowser inside or under cover and do not subject it to extreme temperatures.

6 Cleaning and maintenance

This section describes how to clean and maintain the Bowser.

Make sure the Bowser is disconnected from the power supply before you carry out any cleaning or maintenance.

Any water used to clean the Bowser may be contaminated with oil. Dispose of the waste water according to local regulations. Never discard it in the mains drainage system.

Wear the correct PPE including protective gloves and eye protection and take care when dealing with the used filter bags and all coolant.

Toxic substances such as coolant can cause skin and eye irritation. Wear the appropriate PPE and follow company procedures at all times.

6.1 Regular checks

The following checks are recommendations based on an average of 2 hours use per day. If the Bowser is used more heavily, then the weekly and monthly checks should be carried out more often.

6.1.1 Weekly

Clean the tank exterior.	*Section 6.2.1*
Empty the tank.	*Section 6.2.2*
Check the tank for debris and clean if necessary.	*Section 6.2.2*
Check that the discharge hose and sight gauge hose are undamaged and are not kinked.	Straighten or replace the hoses as necessary.
Check that all hose fastenings are tight and secure.	Tighten the fastenings if necessary.

6.2 Cleaning

6.2.1 Tank exterior

Use diluted detergent and a clean cloth to wipe down the outside of the tank.

Dry the outside of the tank after cleaning.

6.2.2 Tank interior

To clean the bowser:

1. Use the trigger nozzle to empty all liquid into a suitable container.
2. Unscrew and remove the 12 screws that attach the flat panel to the top of the bowser. Remove the top panel.
3. Swab out any excess liquid.
4. If required, the tank can be pressure washed when the top panel has been removed from the Bowser.

   Remove the cleaning water by:

   - pumping out via the trigger nozzle,
   - attach a hose to the drain under the tank *(electric model only)* and allow the water to drain into a suitable container.
   - disconnect the bottom end of the sight gauge allow the water to drain into a suitable container.

   Any water used to clean the Bowser may be contaminated with oil. Dispose of the waste water according to local regulations. Never discard it in the mains drainage system.

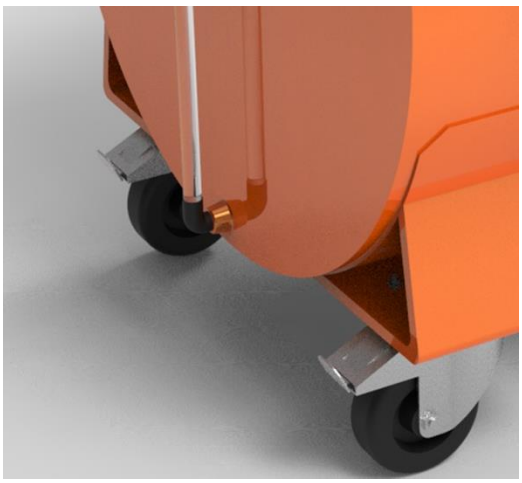


Figure 6-1: Sight gauge connector

7 Troubleshooting

The Bowser is designed for simple operation. However, if you do experience problems, this section will help. The table lists possible problems and their solutions.

If you still have problems, please contact Freddy Products Ltd on +44 (0) 1386 551944.

Problem	Cause	Solution
The Bowser does not switch on.	The power cable is not connected to the supply.	Connect the power cable to the Bowser and the correct power supply.
	The tank is full.	Empty the tank and try again.
	The fuse in the plug has blown.	Replace the fuse.
	The power cable is damaged.	Replace the power cable that connects to the Bowser. If the problem remains, call Freddy Products.
Coolant or liquid is coming out of the air exhaust.	The tank float cut-off has not operated.	Switch off the Bowser and call Freddy Products.
The Bowser is making unusual noises and/or leaks.		Switch off the Bowser and call Freddy Products.

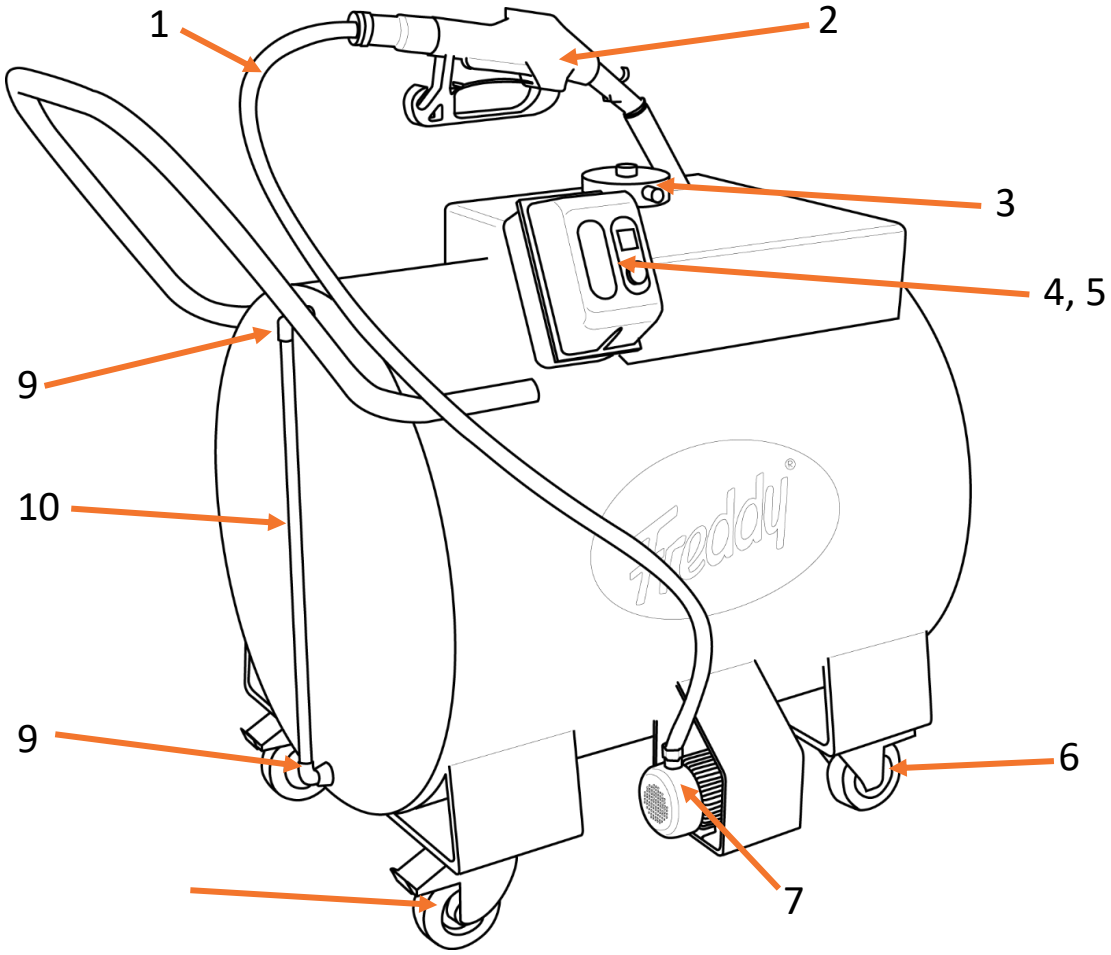
If you still have a problem after following the troubleshooting guide, or if you have any concerns, we have a team of service engineers ready to help you. We offer breakdown call-outs, service visits and service agreements on all of our machinery.

Call **+44 (0) 1386 551944** to speak to our service team.

8 Spares list

This section shows all spares that you can purchase from Freddy Products.

To purchase a spare part, contact Freddy Products and quote the number from Figure 8-1 for general and electric version, or Figure 8-2 for the compressed air version.



8 Figure 8-1: Bowser spare parts: electric version

Item	Description		Item	Description
1	Clear hose: 25 mm diameter		6	Castor: Fixed, 125 mm
2	Discharge nozzle		7	Discharge pump: 240 V
3	Drip cap: 3”, stainless steel		8	Castor: Swivel, 125 mm
4	Starter: 240 V		9	Elbow: 10 mm (x 2)
5	Overload: 2.5 – 4 A		10	Sight tube: 10 mm diameter

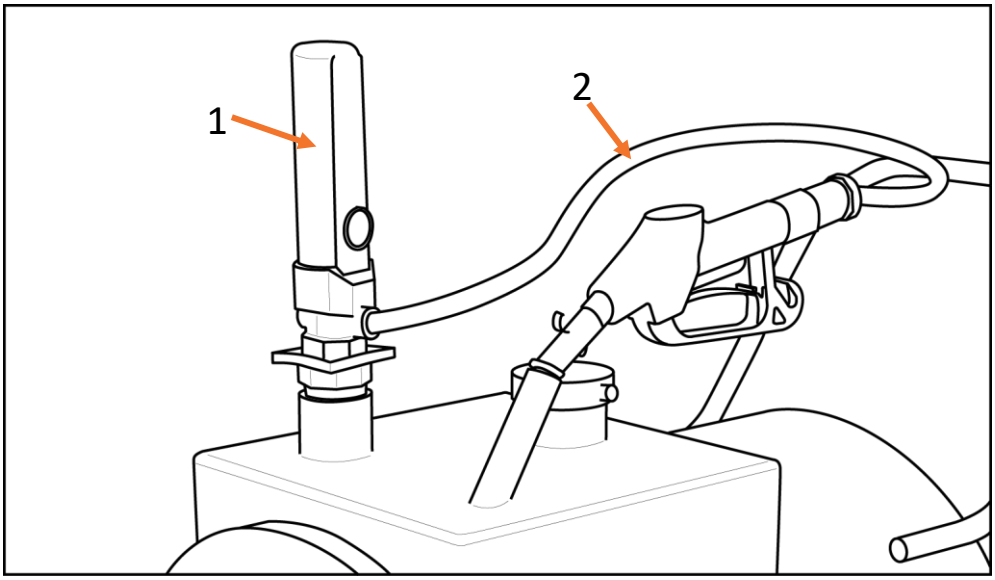
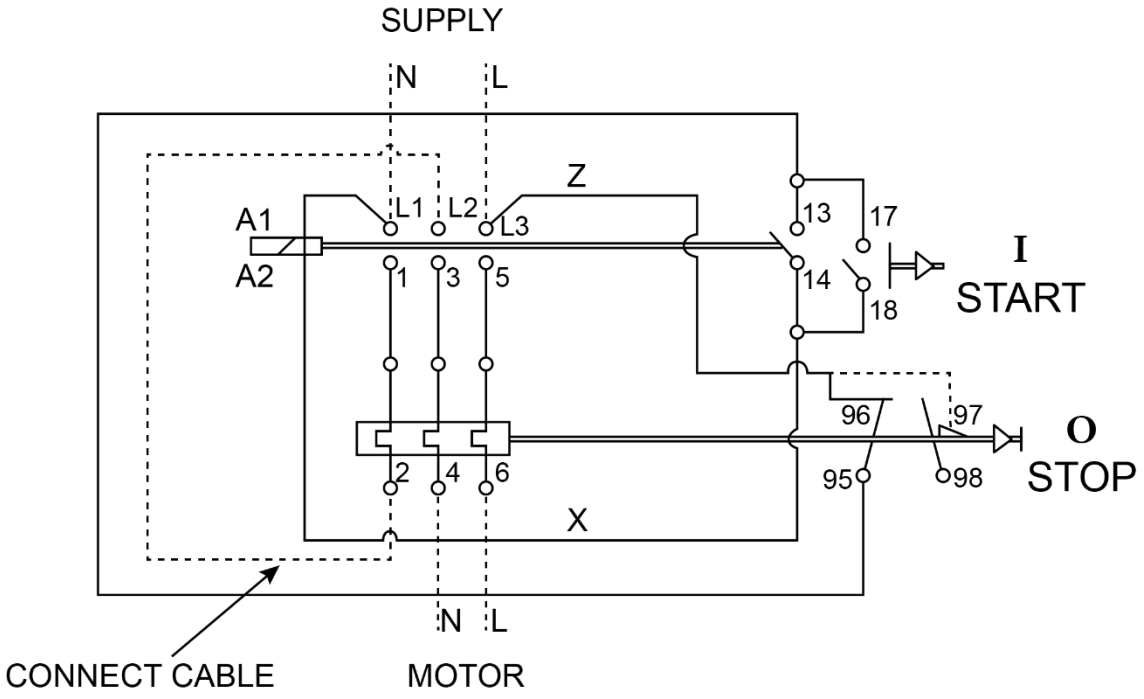


Figure 8-2: Bowser spare parts: compressed air version

Item	Description
1	Pump: Stubby
2	Discharge nozzle

9 Circuit diagrams



Notes:
Connect supply to 1 and 5.
Connect motor to 4 and 6, and insert a cable of cross-sectional area equal to the supply cables between 2 and 3 as shown.

Figure 9-1: Bowser circuit diagram: electric version

10 Warranty

All Freddy Products are carefully designed, manufactured and inspected. We will replace or repair any part found to be defective in material or workmanship within one year of delivery to the original purchaser free of charge, as long as the following conditions have been met:

- The unit must be correctly installed and be used in accordance with the instructions in this user manual.
- The unit must have been serviced by a Freddy Service Engineer or Freddy authorised agent.
- The unit must not have any unauthorised modifications or repairs.
- The unit must not have been used without filter bags fitted.

We do not accept liability for defects arising from neglect, misuse or accidents.

This warranty does not affect your legal rights.

11 End of life

At the end of its life, dispose of the Bowser in accordance with current environmental and waste regulations.

Do not dispose of the Bowser in the domestic refuse.

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