

# AAO100

## Dosing pump



Measurement made easy

—  
AAO100  
Dosing pump

### Introduction

The AAO100 dosing pump is used to introduce a cleaning solution to the jetwash of an AP200 pH system at preset intervals. The timing, duration and amount of cleaning is controlled by an AX400 pH analyzer.

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## 1 Introduction

The AAO100 dosing pump is used to introduce a cleaning solution to the jetwash of an AP200 pH system at preset intervals. The timing, duration and amount of cleaning is controlled by the AX400 pH analyzer.

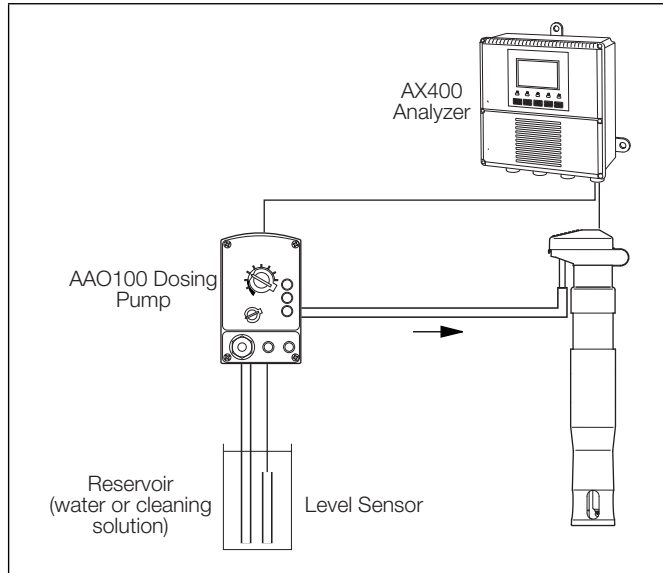


Fig. 1.1 Jetwash Schematic

The AP200 jetwash system enables automatic cleaning of both the measuring element and the reference junction by spraying water or a cleaning solution at them in situ, thus reducing system maintenance requirements.

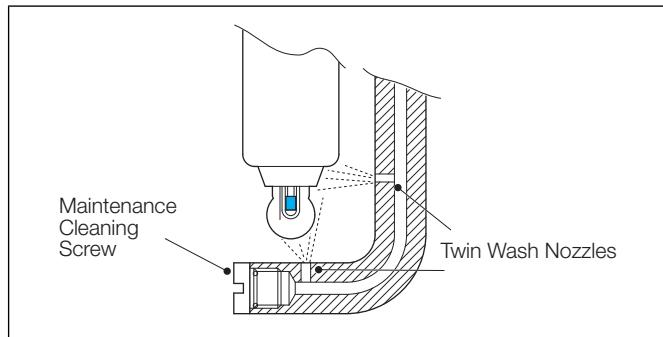


Fig. 1.2 Location of the Jetwash Nozzles

## 2 Installation

**Note.** Installation must be carried out in accordance with local water company and council by-laws.

### 2.1 Fitting the Pump to the Reservoir

Referring to Fig. 2.1, secure the pump to the reservoir using the two screws (A) provided.

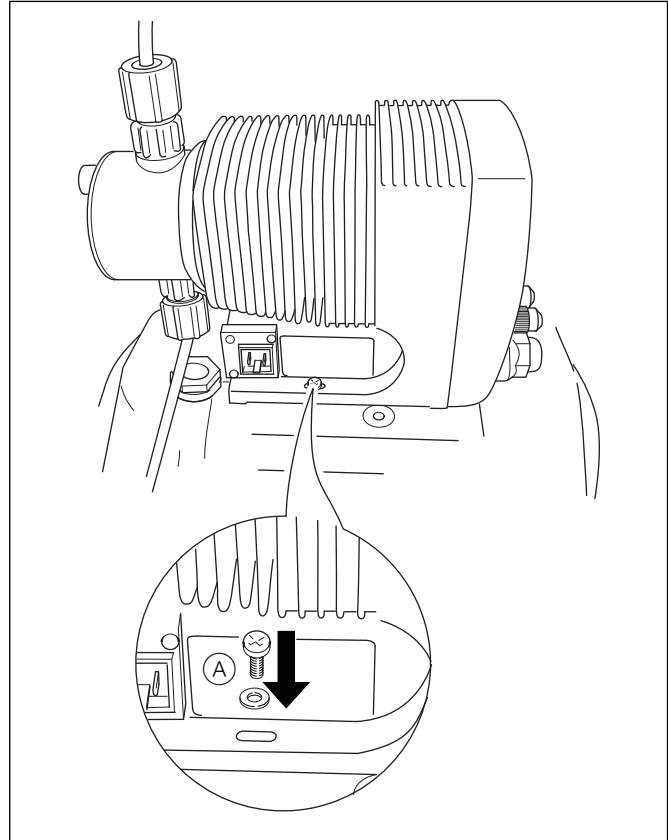


Fig. 2.1 Fitting the Pump to the Reservoir

## 2.2 Electrical Connections

### 2.2.1 Dosing Pump Mains Connections

The power supply range is 100 to 230 V AC.

**Caution.** Before making any electrical connections, ensure that the power supply is switched off.

Referring to Fig. 2.2:

1. Connect the mains plug (A).
2. Push the mains plug into the pump socket (B).
3. Fasten the mains plug cover (C).

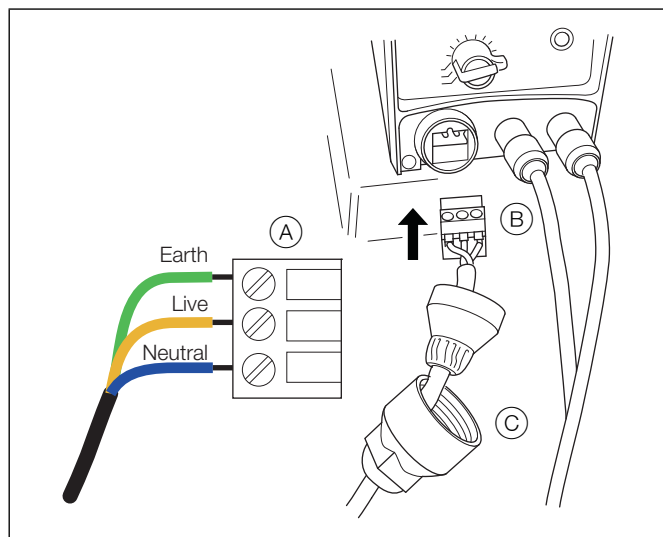


Fig. 2.2 Dosing Pump Mains Connections

### 2.2.2 Analyzer Connections

Referring to Fig. 2.3:

1. Plug the controller cable into the dosing pump (A).
2. Cut the controller cable's Blue wire back to the outer insulation.
3. Remove the analyzer's terminal cover plate – see Section 6.4.1. of the analyzer's User Guide (IM/AX4PH).
4. Twist the controller cable's Black and Brown wires together and connect to terminal A10 (B).
5. Twist the controller cable's White and Grey wires together and connect to terminal A12 (C).
6. Refit the analyzer's terminal cover plate – see Section 6.4.1. of the analyzer's User Guide (IM/AX4PH).

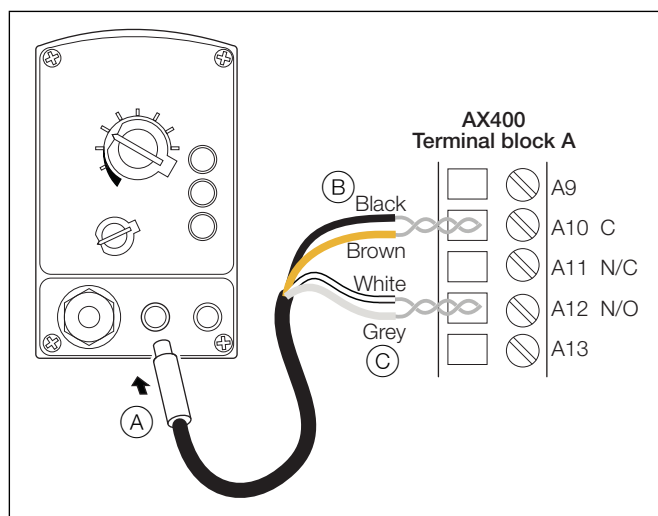


Fig. 2.3 Analyzer Connections

## 2.3 Dosing Pump Settings

For optimum cleaning, set the dosing pump to:

Stroke Length **100**

Multifunction Switch **External** – the AX400 pH Analyzer controls the frequency and duration of the cleaning cycle.

Refer to Section 3, page 6 for analyzer configuration instructions.

## 2.4 Pump Tubing Connections

### 2.4.1 AP200 Connection

**Note.** Wash tubing is not supplied. Use 6mm OD semi-rigid polyethylene tube (part no. 0212035).

Referring to Fig. 2.4:

1. Remove jetwash port sealing nut (A) and retain for further use.

**Note.** The sealing nut must be refitted if the jetwash tubing is removed.

2. Slide the connector (B) and the ferrule (C) onto the tubing.
3. Push the tubing onto the jetwash port (D) and tighten the connector to a torque of 0.6 Nm.

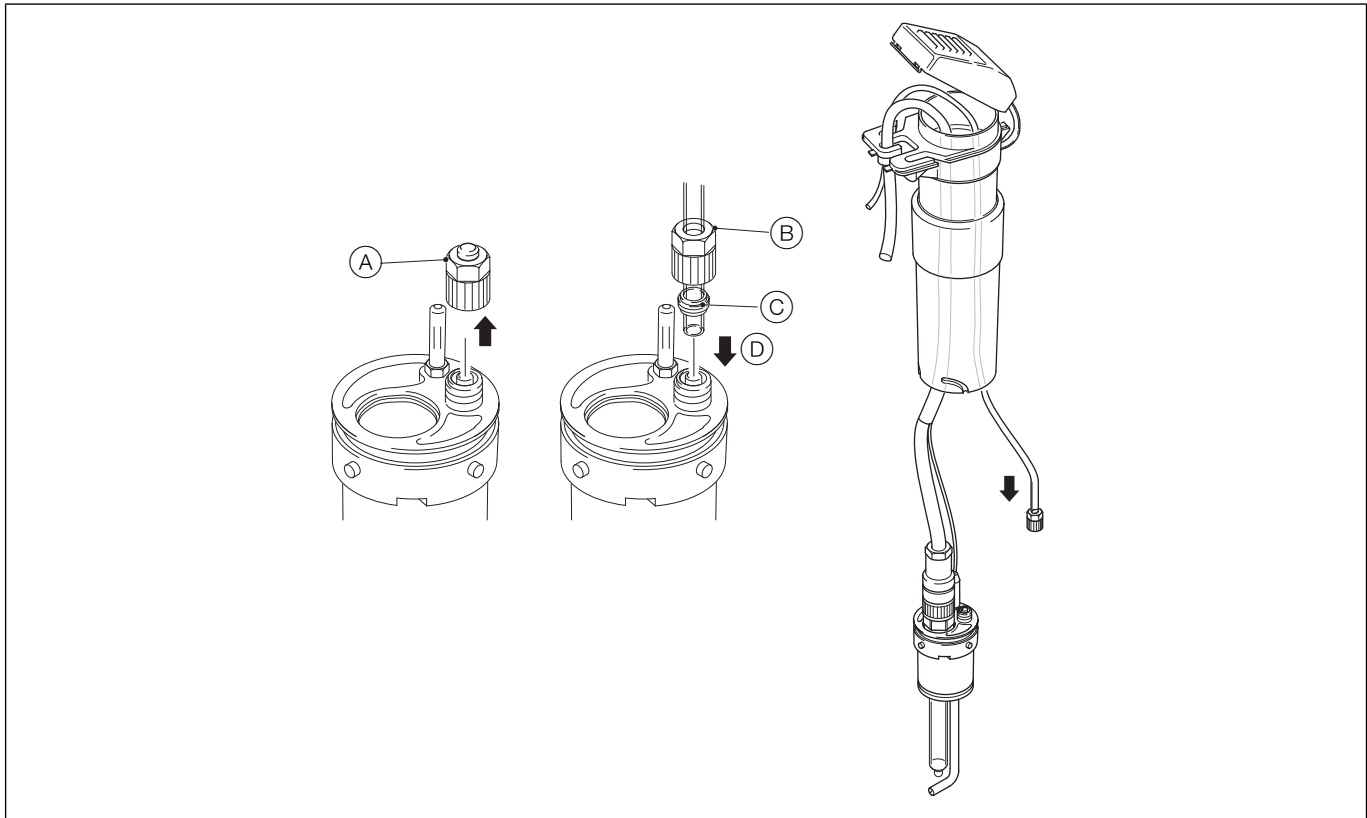


Fig. 2.4 AP200 Connection

### 2.4.2 Connecting the Tubing to the Pump

Referring to Fig. 2.5:

1. Cut the end of the tubing straight across.
2. Slide union nut (A) and circlip (B) over the tubing.
3. Push the end of the tubing over nozzle (C).
4. Ensure that O-ring (D) is seated correctly.
5. Fasten the union nut to valve (E) while pushing the tube onto the nozzle.

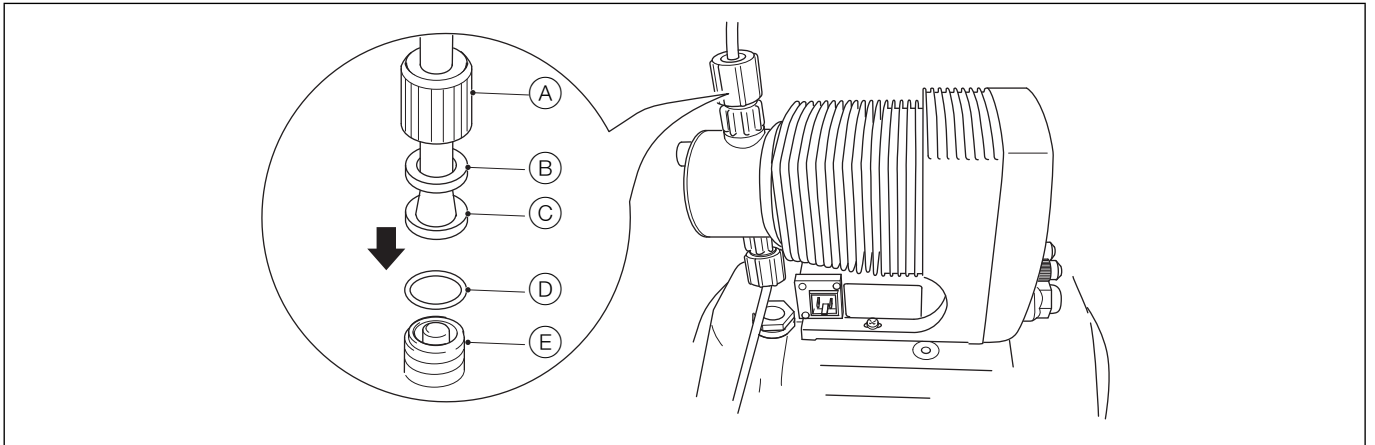
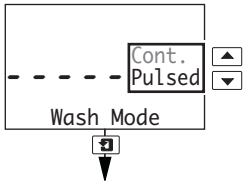


Fig. 2.5 Connecting the Tubing to the Pump

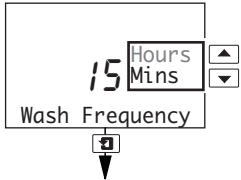
### 3 Analyzer Settings

Access the Wash Cycle Configuration menu – see Section 5 of the AX400 pH analyzer's User Guide (IM/AX4PH).



#### Wash Mode

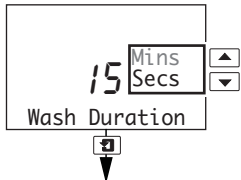
Set to **Cont.** (continuous) for use with the dosing pump.



#### Wash Frequency

Set the wash frequency required.

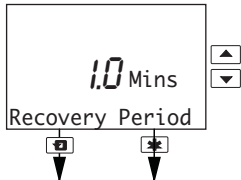
Wash frequency is set in 15 minute increments between 15 and 45 minutes, then in 1 hour increments between 1 and 24 hours.



#### Wash Duration

Set the wash duration required.

Wash duration is set in 15 second increments between 15 and 45 seconds, then in 1 minute increments between 1 and 10 minutes.



#### Recovery Period

Set the recovery period required, between 0.5 and 5.0 minutes in 0.5 minute increments.

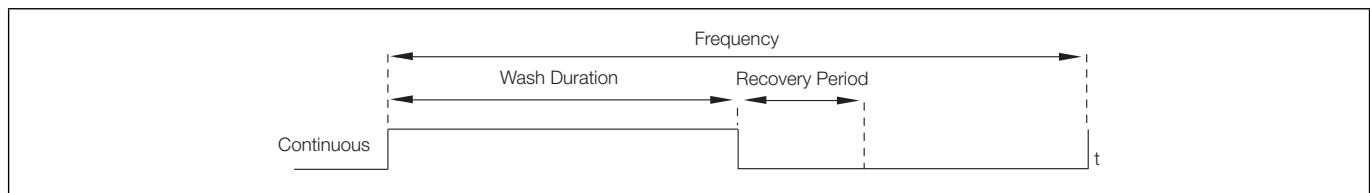


Fig. 3.1 Wash Cycle Frequency



## 4 Cleaning Solutions

The AP200 spray jet tube is constructed in 316 stainless steel. Possible contaminants together with recommended cleaning solutions are shown in Table 4.1.

| Contaminant              | Cleaning Solution  |
|--------------------------|--|
| Grease and oil           | Alkaline detergents or water-soluble solvents such as alcohols |
| Resins                   | Dilute alkalis   |
| Limestone and carbonates | 1M nitric acid   |
| Metal hydroxides         | 1M sulphuric or nitric acid                                    |
| Cyanides                 |  |
| Heavy biological         |  |
| Proteins                 | Mixture of 1M sulphuric or nitric acid and pepsin (saturated)  |
| Fibres                   | Pressurized water with or without wetting agents               |
| Light biological         | Pressurized water  |
| Latex                    | Pressurized cold water   |
| Potable water            | Citric acid  |

Table 4.1 Recommended Cleaning Solutions

## 5 Dimensions

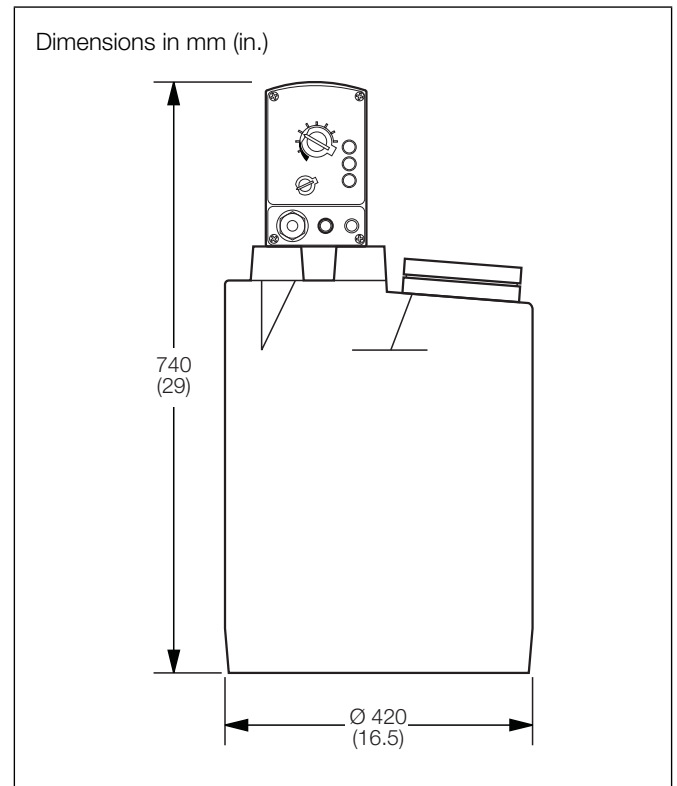


Fig. 5.1 Overall Dimensions

## Notes

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