

Instruction Manual

Pneumatic Level Control



Please read this instruction manual carefully, prior to installation and operation. Please read in conjunction with all other relevant equipment manuals.

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CE

Declaration of conformity

Machinery directive 98/37/EC, Annex 2A

Tapflo Uk Ltd declares that:

Product Name: Pneumatic Level Control

Model Name: TPUK-PLS

Is in conformity with the essential health and safety requirements and technical construction file requirements of the EC Machinery directive 98/37/EC with amendments.

Manufacturer: Tapflo (UK) Ltd

Address: Tapflo House,
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Tapflo UK Ltd, 9th October 2008



Michael Barnes
Managing Director

Introduction

Tapflo (UK) pump control systems are designed to offer simple solutions for industrial pumping applications. The systems work in harmony with each pump application utilising similar means of power and methods of construction to give safe, simple and reliable use.

With proper installation, set-up and maintenance Tapflo (UK) systems give efficient and trouble free operation. This manual will familiarise operators with detailed information about installing, operating and maintenance of the system.

Warning symbols

The following warning symbols are present in this instruction manual. The warning information should be observed when either of these symbols is present.



This symbol highlights all safety instructions in this manual where danger to person may occur. Observe these instructions carefully and proceed with the utmost caution in these situations. Inform all users of all safety instructions. In addition to the instructions in this manual, the general safety and accident prevention regulations must be observed.



This symbol highlights points in the instruction manual of particular importance for compliance with regulations and directives, for correct work flow and the prevention of damage to, or destruction of the system or its associate equipment.

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Receiving inspection

Although every precaution is taken when packing and shipping, please carefully check goods on receipt, ensuring all parts listed on the packing note are accounted for. Report any damage or shortages to the delivery company and Tapflo (UK) as soon as possible



Storage

If the equipment is to be stored prior to installation, place in a clean dry location ensuring it is not exposed to extreme temperature or humidity, ideally in original packaging to prevent contaminants entering the system.



Mounting

Tapflo (UK) systems will operate properly without being mounted unless otherwise stated. If the system is to be mounted please ensure the surface is suitable for the load detailed in the specifications and appropriate to the system and application.



Air connections

Please ensure all connections observe the specifications of the system, failure to observe this could result in damage to the system and danger to personnel.



Air preparation

All Tapflo (UK) systems are designed to run on clean, dry air, *lubrication is not recommended*. Maximum pressure is 7 bar (G) unless otherwise stated. An inline filter of 5 micron or finer is recommended to preserve the life of the system.



Health and Safety

Systems must be installed according to local and national safety rules.

The pump with which the system is to be used must be suitable for the application. Failure to do so could result in poor performance and a risk to plant and personnel. Consult Tapflo (UK) if in doubt.

In the interest of health and safety it is essential to wear appropriate PPE when operating and/or working in the vicinity of the application.

PNEUMATIC LEVEL CONTROL

Principle of operation

Tapflo (UK)'s fully pneumatic level control system utilises low pressure air passed through dip tubes to sense the liquid level. The system controls level between the dip tubes and can be configured in either filling or emptying mode.

Recommended installation

For pumps with air inlets of 1/4" BSP or smaller the pump can be connected directly to the 'PUMP' port as shown in fig 1. For pumps with larger air inlets an external relay valve is required as shown in fig 2.

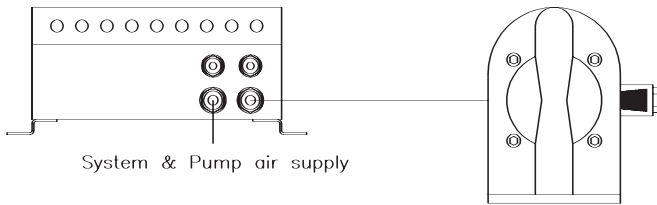


Figure 1.

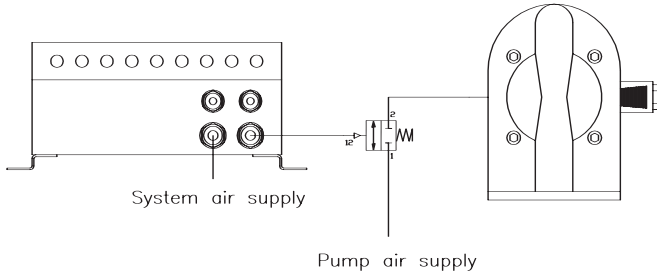
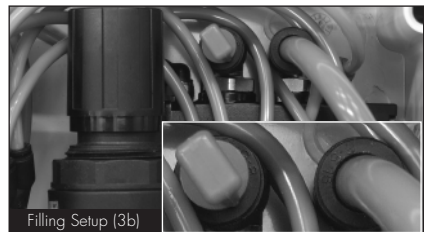
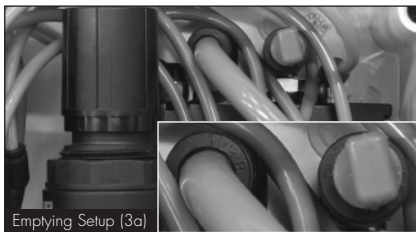


Figure 2.

Configuring Filling or Emptying mode

The system is supplied configured in Emptying mode (fig 3a), to configure to Filling mode swap the pipe and plug as shown in fig.3b.





Calibration and set-up

- Ensure the system is configured correctly.
- Set the air pressure.
- Turn the compressed air supply on.
- Check for leaks. Please note the amplifier used in the system is an 'air bleed' design and discharges a small amount of air during normal use.

Initial set-up

To adjust the sensitivity of the system adjust the internal regulator (see fig.4) to the performance required.

The system is best set by rising pressure therefore firstly lift the regulator control knob to unlock (fig.4) and reduce the pressure by rotating the control knob fully anti-clockwise. Slowly increase the pressure by turning the control knob clockwise until the desired sensitivity is achieved. Lock the control knob by snapping it down.

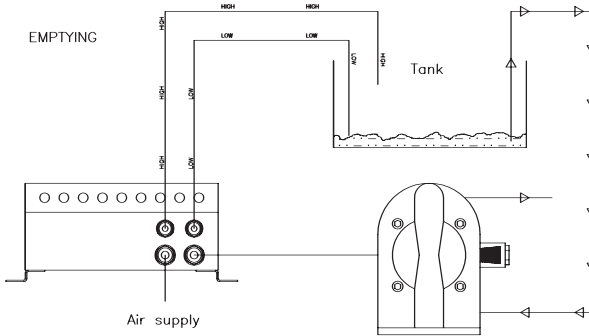


Figure 4.

PNEUMATIC LEVEL CONTROL

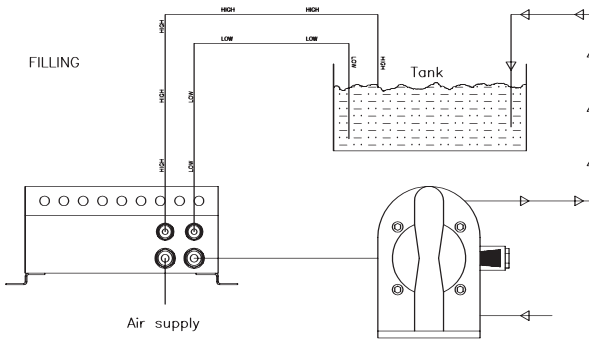
Operation

The system is fully automatic, controlling the pump to control level between the dip tubes (Fig.5a &5b)



Pump starts when high dip tube is immersed and pumps until low dip tube is uncovered.

Fig. 5a



Pump starts when low dip tube is uncovered and pumps until high dip tube is immersed.

Fig. 5b

Maintenance

Routinely check the condition of the dip tubes for blockage or damage.

Routinely check system sensitivity and general functionality.

The system has no user serviceable parts, please consult Tapflo (UK) for service.

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Troubleshooting

Check the system is configured as shown in the recommended configuration then see possible solutions below. If the problem persists consult Tapflo (UK).

System is inoperative	<ul style="list-style-type: none">• Check all connections for kinks, security etc.• Check air supply.• Check incoming air pressure, min/max pressure etc.• Check calibration.• Check pump, follow procedure in pump manual.
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Specifications	
Temperature	-5°C to +50°C
System Pressure	3 to 8 Bar G
Air Consumption	6 l/min
Weight	1.4 Kg

Connections	
1	Low (8mm push-fit)
2	High (8mm push-fit)
3	Air In (8mm push-fit)
4	Pump (8mm push-fit)

Dimensions

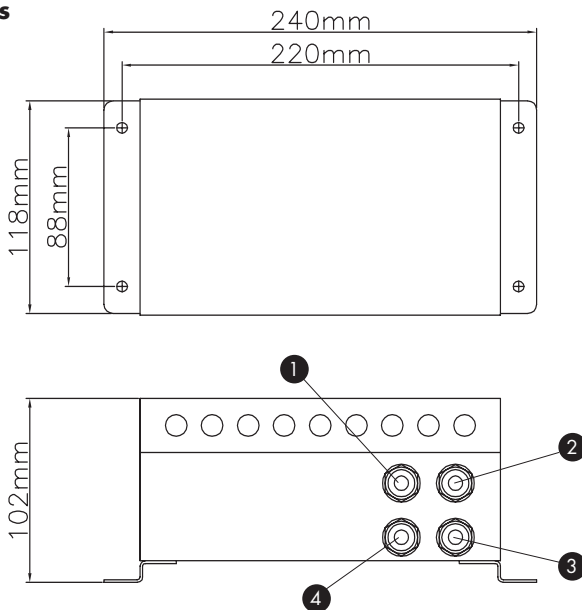


Figure 6.

Returning parts

To return parts to Tapflo (UK) please follow this procedure.

- Consult Tapflo (UK) for shipping instructions
- Cleanse, neutralise and rinse the part making sure the part is completely free from media.
- Provide a certificate of decontamination, where appropriate.
- Complete the Warranty / Returns form on page 9.
- Pack and return articles carefully to prevent any damage during transport

Warranty

Tapflo (UK) warrants products* of its own manufacture will be free from defects in raw material and manufacture under normal use and service period of no more than one year. Tapflo's obligation under this warranty being limited to repair or replacement of its products which shall be returned to Tapflo (UK). Follow the procedures in 'Returning parts' section of this manual. If a part is received defective, report to Tapflo (UK) immediately. Parts returned to our company must have written authorisation from Tapflo (UK). This warranty will not apply to any of our products which shall have been used other than for their intended use.

*Even when products such as diaphragms operate under normal conditions, some parts are subject to wear and may require replacement within the warranty period. Examples of such parts in Tapflo (UK) Guardian systems are diaphragms, valve seals, etc'. This warranty will not apply to these parts being subject to wear.

Whilst every effort has been made to ensure that all the information contained in this document is correct at the time of publication, due to our policy of continuous product improvement, the company reserves its right to change any information contained herein without notice.

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Warranty / Return Form

Company: _____

Contact Name: _____

Telephone: _____ Fax: _____

Address: _____

Country: _____ Post Code: _____

Email: _____

System type: _____ Serial Number: _____

Delivery date: _____ Installation date: _____

Air pressure (bar): _____ Quality of the air (filter, micron?, lubrication?): _____

Description of the fault: _____

Other: _____

Sketch of installation



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