OPERATION & MAINTENANCE MANUAL

Dosing control unit plug´n´dose

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1 Introduction

Dear customer,

We are delighted that you have decided to purchase a ViscoTec product. We have no doubt that this product will meet all your requirements. We wish you trouble-free and successful operation.

The dosing system is made up of a master control unit, the plug´n´dose dosing control unit and a dispenser.

This operation manual describes the plug´n´dose dosing control unit. A separate operation and maintenance manual is supplied with the dispenser.

1.1 Delivery package

The scope of supply includes:

- 1 plug´n´dose dosing control unit
- 1 Connecting cable
- 1 Operation & maintenance manual

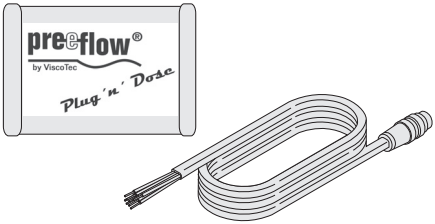

Fig. 1

1.2 Incoming inspection

Damage in transit can lead to malfunctions, and consequently to personal injury and damage to property. Damaged components must not be put into operation.

Check the delivery immediately on receipt for damage in transit and damage to the packaging. Check that the delivery is complete according to the enclosed delivery note. Make sure you have not left any part of the delivery in the packaging.

Compensation for damage during transport may be claimed only if the carrier is notified immediately.

2 Safety

2.1 Explanation of symbols used

The following symbols are used in this manual:

▶	Work step
•	List
Fig. 1	Legend number, reference to a figure
*	Reference to a comment
COMMAND	Designations of buttons/switches, menu items and input dialogs

The following notices indicate safety instructions and must be followed:

⚠ DANGER

indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

indicates a hazardous situation which, if not avoided, may result in death or serious injury.

⚠ CAUTION

indicates a hazardous situation which, if not avoided, may result in minor injury.

NOTE

indicates a technical tip to avoid damage to property or equipment.

This manual is structured so that text and the related figure are on the same page as far as possible. In this way the information can be understood quickly. If reference is made to a component in a figure, the part has a key number.

2.2 Intended use

The dosing control unit plug´n´dose controls the dispensers in order to convey and precisely dispense viscose material.

No liability can be accepted for damage caused by failure to observe this operation manual or due to a lack of maintenance or checks.

Misuse

Any use other than the stipulated intended use shall be considered as misuse.

This includes

- use outside the permissible operating limits
- use in explosive environments
- use underground
- use outdoors

Misuse also includes the following actions carried out without the explicit written approval of the manufacturer:

- Conversions and/or extensions
- Use of non-genuine spare parts
- Repairs carried out by unauthorised companies or persons
- Use of non-approved materials

Misuse is not permissible, and will result in voiding of guarantee, warranty and liability claims.

2.3 Personnel

The operating organisation shall ensure that only appropriately qualified and authorised personnel work on this machine. It is responsible for ensuring that operators and maintenance staff possess the necessary qualifications. Personnel must be at least 15 years old.

All personnel working with or on the machine must have read and understood this operation manual.

The operating company shall document the operators' and maintenance staff's acknowledgement of this manual, and shall ensure their compliance with it by means of regular training.

2.3.1 Operators

Before starting work, the personnel assigned as operators must be adequately instructed regarding the nature and scope of their duties and the potential risks. Training shall be conducted on a regular basis (at least once a year). Training shall be conducted after any technical modifications.

2.3.2 Maintenance staff

The maintenance and repair staff must be authorised and

- adequately trained for the relevant activities
- familiar with and comply with the applicable technical rules and safety regulations

Competent personnel are persons who, by virtue of their training, experience and knowledge of the relevant requirements, standards and safety regulations, can carry out the necessary activities while recognising and avoiding potential hazards.

2.4 Informal safety precautions

The following documents must be read, understood and followed. They must always be available at the machine's operating location, and must be kept in legible condition:

- The operation manual for this product
- Generally applicable and local accident prevention and environmental protection regulations
- Safety data sheets for the conveyed materials, as well as for any cleaning products or lubricants being used

2.5 Preventing damage to equipment

In order to prevent damage to equipment and to ensure precision dosing, note that

- The dispenser connecting cable may only be connected and disconnected when the power supply is switched off.. The electronics in the drive motor could be damaged if this precaution is not taken.
- Only use the original enclosed connection cables between the dispenser and the dosing control. The connecting cables must not be extended or shortened. This can lead to damage to the controller.
- the dispenser must never be operated without material (the stator will be destroyed).

2.6 Organisational safety measures

The necessary personal protective equipment must be provided by the operating organisation. Personal protective equipment must be worn when carrying out all work and procedures.

To ensure the provision of suitable personal protective equipment, the safety data sheet for the conveyed material must be observed. Specifications for e.g. cleaning products and lubricants must also be checked and observed.

All personal protective equipment must be checked to ensure it is working properly before starting work.

Eye protection

Hand protection

Body protection

Foot protection

2.7 Residual risks

Thorough training, observance of the operation manual and compliance with safety regulations are key to permanently accident-free operation.

The following residual risks may occur when operating this machine:

DANGER

Danger to life from electrical voltage

There is a risk of fatal electric shock if equipment covers are removed or cables are defective.

- Work and repairs on live parts may only be carried out by competent maintenance staff. All applicable standards and safety, directives and regulations (e.g. EN 50110-1). EN 50110-1) must be complied with.

2.8 Transport and storage

The following ambient conditions must be observed for transportation and storage:

- Temperature within the range -10 °C to +40 °C (263 K to 313 K)
- Relative air humidity less than 60 % (non-condensing)
- Uniform room climate
- Dry and free of dust
- No exposure to direct sunlight
- No aggressive, corrosive substances (solvents, acids, alkalis, salts, etc.) in the environment

3 Product description

The plug´n´dose dosing control unit controls the dispenser based on the signals generated by a master control unit. The speed of the dispenser (dosing quantity and suck-back) are therefore adjustable.

3.1 General overview

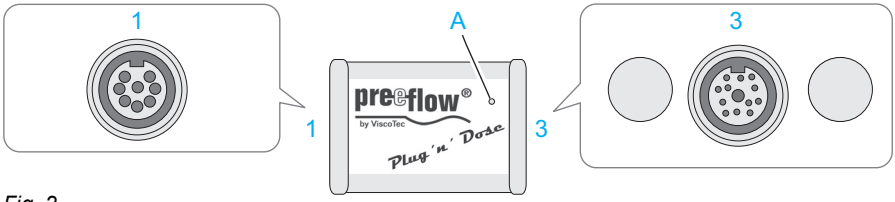

Fig. 2

A	LED	Displays the operating modes • ON – ready for operation • ON - dosing/suck-back running • Flashing – fault
1	Plug 1	Control signal
3	Plug 3	Dispenser

3.2 Cable assignment, system plug 1

1	White	Start dispensing [1] (+24 V)
2	Brown	Start suck-back [2] (+24 V)
3	Pink	Fault, interval 0.5 sec + +24 V / 0 V
6	Green	U_{NSet} (setpoint selection 0–10 V[3])
7	Grey	GND (Ground)
8	Yellow	Power supply (+ +24 V)

Fig. 3

[1] Dispenser motor runs, medium is delivered

[2] Dispenser motor runs in reverse, medium is sucked back in to avoid dripping

[3] Speed of the dispenser

4 Operation

4.1 Start-up

- Set the dispenser (D) to function standby condition as described in the operation and maintenance manual supplied.
- Connect the dispenser (D) connecting cable to plug 3.
- Connect the connecting cable to the master control unit (B).
- Connect the connecting cable to plug 1.
- Fill the dispenser with material as described in the operation and maintenance manual.

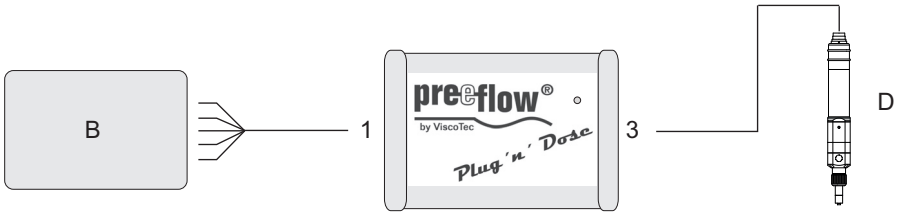

Fig. 4

NOTE
The dispenser connecting cable (plug 3) may only be connected and disconnected when the power supply is switched off. The electronics in the drive motor could be damaged if this precaution is not taken.

NOTE
Only use the original enclosed connection cables between the dispenser (D) and the plug 3. The connecting cables must not be extended or shortened. This can lead to damage to the controller.

The dosing control unit is not ready for operation until the dispenser is connected.

NOTE

The quantity of medium that has been drawn in by the suck-back may only be large enough to prevent dripping.
If more is sucked in, air gets into the dispenser and the medium is dispensed with a delay at the next dosing.

If the suck-back is set higher than the dosing, the dispenser may be damaged by dry running.

4.2 Decommissioning

The unit is decommissioned in reverse order of setting up.

4.3 Operation

Operation of the dosing control unit is based on the control signals from the master control unit applied at plug 1. The dosing quantity depends on the connected dispenser.

5 Maintenance

In the event of a fault, or if there is any doubt that the machine/system is not completely ready for operation, it must be shut down immediately and inspected by competent maintenance staff before operation continues.

⚠ WARNING

Maintenance and cleaning work may only be carried out when the machine has been shut down safely and secured against unauthorised restarting. Otherwise, serious injuries may result.

- Switch off the master control unit
- Disconnect the cable to the master control unit (B)

5.1 Maintenance intervals

In order to ensure problem-free operation, we recommend complying with the following maintenance intervals.

When	Activity	Who
Start of shift/daily	• Visual check for leaks / contamination / damage.	1

1 = Operating staff

2 = Maintenance staff

5.2 Troubleshooting

Fault	Possible cause	Action
Dosing control unit cannot be operated, LED flashing, fault signal is output (PIN 3)	Overcurrent shutdown	Clean the dispenser, if necessary replace the stator. See dispenser operation and maintenance manual
	Faulty motor	

If you have any questions about commissioning, maintenance, repairs or ways to optimise your processes, our Service employees will be happy to help.

You can reach us at: support@preeflow.com

We will respond to your service enquiry in German or English.

6 Cleaning

⚠ WARNING

Cleaning work may only be carried out when the machine has been shut down safely and secured against unauthorised restarting. Otherwise, serious injuries may result.

- Switch off the master control unit
- Disconnect the cable to the master control unit (B)

If the dosing control unit is dirty, clean it using a soft, damp cotton cloth with a few drops of pH-neutral cleaning agent (e.g. washing-up liquid).

Note the following points regarding the use of cleaning agents and the performance of cleaning work:

- Do not use cleaning agents containing abrasive constituents.
- Do not use bleaching agents or heavily acidic or alkaline cleaning agents.
- Check the compatibility of the cleaning agents in an unobtrusive spot.
- Cleaning agents and water must not be allowed to penetrate into electrical or mechanical system components.
- Completely remove all cleaning agent used.
- Do not use steel wool, sponges with a roughened side, or sharp-pointed implements.
- Do not use high-pressure cleaners for cleaning.

7 Technical specifications

7.1 EU Declaration of Conformity

within the meaning of EC Directive 2006/42/EC on machinery Annex II A

ViscoTec Pumpen- u. Dosiertechnik GmbH
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hereby declares, that the machine designated below complies with the relevant underlying safety and health protection requirements of the EU Directive on the basis of its design and type of construction and in the form in which it is sold by us. This declaration loses its validity if any change is made to the machine that had not been agreed to by us.

Product description

Designation	Dosing system
Function	Dosing control unit with dispenser
Model	plug´n´dose with dispenser, eco-PEN300, ecoPEN330, eco-PEN450, eco-PEN600, eco-PEN700

The following EU Directives were applied

2006/42/EC	Directive on machinery, and amending Directive 95/16/EC

The following EU Directives were applied

EN 809:2012-10	Pumps and pump units for liquids – Common safety requirements
EN ISO 12100:2013-08	Safety of machinery - General principles for design - Risk assessment and risk reduction
EN ISO 13857:2008-06	Safety of machinery - Safety clearances
EN 61000-6-3:2011-09	Electromagnetic compatibility (EMC)
EN 61000-6-2:2011-06	Electromagnetic compatibility (EMC) - Immunity

Töging am Inn, 11 February 2020

Martin Stadler
Managing Director and authorised representative

7.2 Technical data

plug´n´dose	
Dimensions (h x w x d)	142x85x50 mm
Mounting	4 holes/5 mm, hole spacing 130x48 mm
Weight	approx. 260 g
Voltage	24 V DC
Voltage of mains adapter	230 V/50/60 Hz
Consumption / rating	100 VA/2,7 A
Operating conditions	+10 ° to +40 °C, air pressure 1 bar, relative humidity less than 60% (non-condensing)
Storage conditions	see page 8

8 Disposal

Disassembly must be carried out by authorised maintenance staff.

Disposal may only be performed in line with the currently applicable, country-specific specifications, standards and legislation.

Ensure environmentally friendly recycling of all materials.

Electrical parts must not be disposed of with household waste (2012/19/EU). They must be taken to the collection points provided for this purpose or disposed of in an environmentally appropriate way.

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Translation of original operation manual

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