

# UNODOS + / FLOCDOS +

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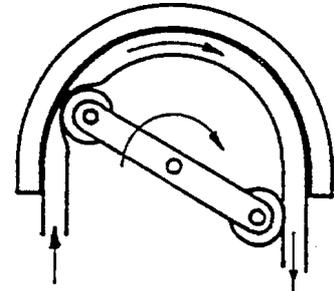
**Pic. : FLOCDOS +**

## 1. Technical description

### 1.1 The function

This type of peristaltic pump will reliably meter a chemical solution to the injection point particularly when low dosing rates are required with products which 'gas off' (i.e. self priming). The advancing roller occludes the tube which, as it recovers, draws in fluid that then becomes trapped by the next roller and later expelled from the pump. The technique offers the following advantages:

- No contamination of the fluid or the pump as the fluid is contained in the tube
- Gentle pumping action with accurate flow rates
- The pump is self priming and can run dry
- The pump is quiet running and very simple to handle



The used dosing hose is resistant against most chemicals: not hydrochloric acid

### 1.2 Technical details

#### **FLOCDOS +**

- peristaltic dosing pump SA with special hose Ph
- rpm-control DS-0
- leakage monitoring
- empty report
- monitoring of the filter circuit (option)
- fault remote control potential-free or 24V/DC 80mA
- suction lance with level switch

#### **UNODOS +**

- peristaltic dosing pump SA with special hose Ph
- rpm-control DS-2
- leakage monitoring
- empty report
- monitoring of the filter circuit (option)
- fault remote control potential-free or 24V/DC 80mA
- suction lance with level switch

#### **options**

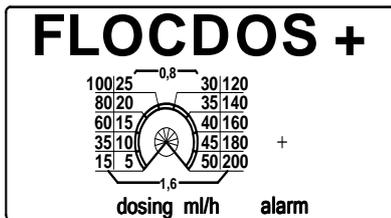
- injection valve 1SK- 4x1-S
- monitoring of the dosing pressure with switch-off of the dosing
- leakage monitoring

**1.3 The dosing performance**

The dosing performance of the FLOCDOS +/ UNODOS+ depends on the diameter of the hose used and can be adjusted as follows:

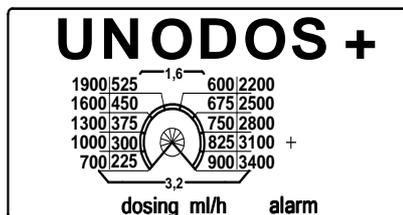
<u>Hose diameter</u>	<u>Dosing performance</u>
0,8x1,6	5ml/h – 50ml/h
1,6x1,6	15ml/h - 220ml/h

The dosing rate can be directly read on the front panel of the pump



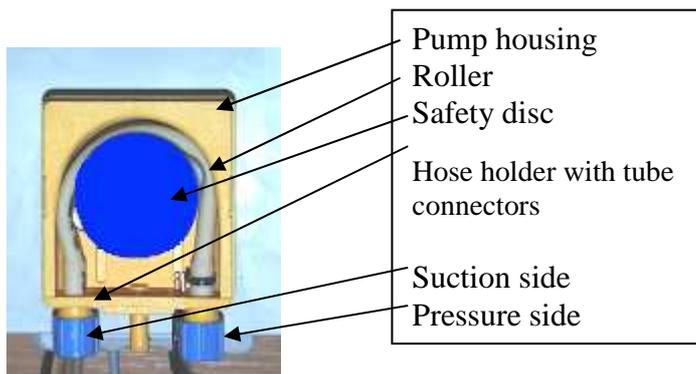
**UNODOS +**

<u>Hose diameter</u>	<u>Dosing performance</u>
1,6x1,6	200ml - 1000ml/h
3,2x1,6	700ml - 3300ml/h



**1.4 Dosing head of FLOCDOS/ UNODOS dosing pump**

For transport and storage, the peristaltic hose kit is not fitted into the pump to prevent deformation of the hose. For fitting push in the hose holder into the slides at bottom of the pump housing, turn the roller so that the hose comes to the flat part, push the hose into the housing by turning through the roller. After some turns the hose is in the right working position. Then fit the safety disc onto the shaft and the protection cover onto the housing



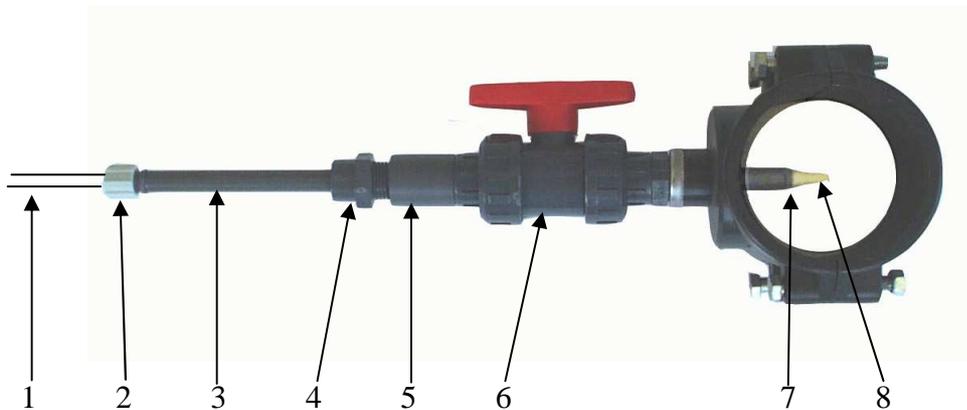
**Note**  
Do not twist the hose during assembly

For the change of the dosing tube remove the cable strap carefully from the tube nozzle and push on the ends of the new hose to the nozzles. Pay attention that the marks at the ends of the hose are in front of the hose kit and not twisted! Fix again the hose ends by means of the new cable straps. Fit the hose kit as described above.

## 2. The injection valve

The injection valve consists of a plastic ball valve (6) with the connected sealing socket (5) through which the dosing lance (3) fits with the hose valve (8) at the front end and the injection tube connector (2) at the other end. The dosing lance can be pulled out of the tapping point without release of water: loosen the sealing screw (4) until water drops out, then you pull out the lance till the stopper (7) reaches the seal inside the socket (5). Close the ball valve now, unscrew the sealing screw (4) completely and pull out the lance.

For service, the hose valve (8) has to be positioned at centre of the pipe. Please note, that the injection nozzle (7 + 8) is screwed into the dosing lance (3) and can be unscrewed for cleaning or replacing.



## 3. Installation

Mount the pump on wall in a suitable position so that the container of flocculant may be positioned directly below. The supply carboy lance will hang vertically downward and into the container. For power supply a plug socket interlocked into filter circulation is needed and if supplied a pressure switch should be fitted in the outlet pipework from the filter to cut off the output to the pump in the event of main circulation failure.

For transport and storage, the peristaltic hose kit is not fitted into the pump to prevent deformation of the hose, see 3.1.

The injection point should be between circulation pump and filter as early as possible after the pump/s and after the sampling point for controller, see installation diagram. Chlorine and acid injection has to be post filter otherwise it will impair the performance of the Flocculant.

**Attention: The back pressure of the non-return valve might not be higher than 0,5bar.**

**Use only original WDT injection valves.**

**Don't crack the dosing tube!**

**Only use PTFE dosing tubes when you inject chlorine solution!**

## **4. Adjustment of the dosing performance**

### **Example for pump setting:-**

The pool has a filtration flow rate of 200m<sup>3</sup>/h with a dosing rate of 0,3ml/m<sup>3</sup> a dosing performance of 200m<sup>3</sup>/h x 0,3ml/m<sup>3</sup> = 60ml/h has to be set at the pump.

Please note that all performance tables do not give exact values as the dosing output depends on service data, especially the counter pressure at pump or supply voltage which normally is not exactly known. If exact dosing is important, dosing performance must be adjusted under working conditions, which can vary dramatically from pool to pool.

It is recommended to start with a dosing setting found as described above and review it after at least 2 weeks in operation to a larger or lower dosing rate: if no reduction in combined chlorine has been noted increase dosing rate, if filter pressure raised too much, lower the dosing rate. So find your optimum working point for your special filtration conditions by trial and error within few weeks.

## **5. Maintenance**

### **5.1 Dosing pump**

The pump head should be checked frequently to assess condition of the peristaltic hose and the roller springs (i.e. no corrosion/wear), if so change peristaltic hose and if necessary roller too.

At least once a year the peristaltic hose should be replaced. If not checked, leakage could occur and damage the pump.

For exchange cut off suction and injection tube at tube connector, fit the new ends to the connectors of the new peristaltic hose and fit it as described above.

### **5.2 Injection valve**

To check the valve first stop the dosing pump and release the pressure on the dosing tube by opening the locker of the pump head and take out the dosing lance. Pull off the valve hose (8) and see whether the valve bores are blocked. If so clean the valve mechanically and/or maybe with weak hydrochloric acid. It is recommended, to use a second dosing lance, which can be fitted whilst the blocked one is cleaning itself in a weak acid solution.

#### **Attention!!!**

Within the dosing tube there is a certain amount of chemical, which flows out if the valve bores are open, pay attention and see for appropriate protection (i.e. safety wear should be worn at all times when dismantling unit.

When you take the unit out of operation we recommend to dose water for app. one hour do clean the pump hoses.

**Attention!! At different flocculants this measure leads to a negative effect: flocculation of the flocculant in the dosing tube and plugging of the dosing valve!**

## 6. Connector/ Wiring Diagram/ Controllers

In each pump housing a wiring diagram is inserted..

### **DS - 0 (no Jumper)**

Controller for Floccdos, no external control, little rpm ( 0 – 10 %)

2 dosing performances with pump hose 1,6 and 3,2

connectors (inlet) 1+2 - 3+4 for fault indication

connectors (output) 5+6 for fault indication 24 V/DC 80 mA max.

connectors (output) 7+8 for dosing motor

connectors (inlet) 9+10 for voltage supply 12 to 24 V/DC-AC

### **DS - 1 (one Jumper, first one from the outside)**

Controller Unodos 1

external control, little rpm ( 0 – 10 %)

2 dosing performances with pump hose 1,6 and 3,2

connectors (inlet) 1+2 for fault indication

connectors (inlet) 3+4 for control with external volt-free contact

connectors (output) 5+6 for fault indication 24 V/DC 80 mA max.

connectors (output) 7+8 for dosing motor

connectors (inlet) 9+10 for voltage supply 12 to 24 V/DC-AC

### **DS - 2 (one Jumper, second one from the outside)**

Controller Unodos 2

external control, high rpm ( 0 – 10 % ) ( 10 – 50 % )

2 dosing performances with pump hose 1,6 and 3,2

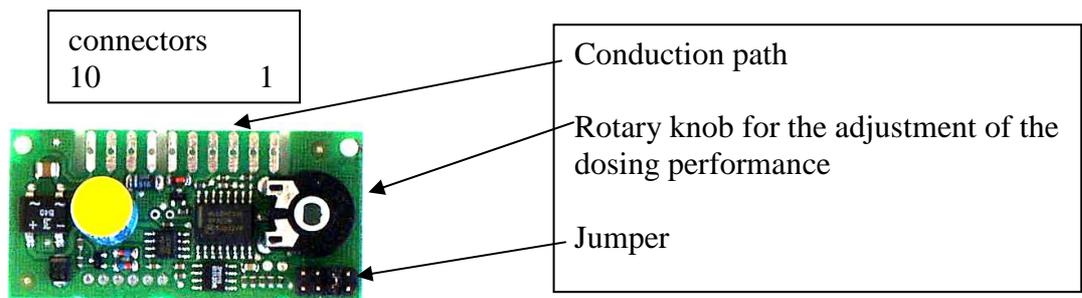
connectors (inlet) 1+2 for fault indication

connectors (inlet) 3+4 for control with external volt-free contact

connectors (output) 5+6 for fault indication 24 V/DC 80 mA max.

connectors (output) 7+8 for dosing motor

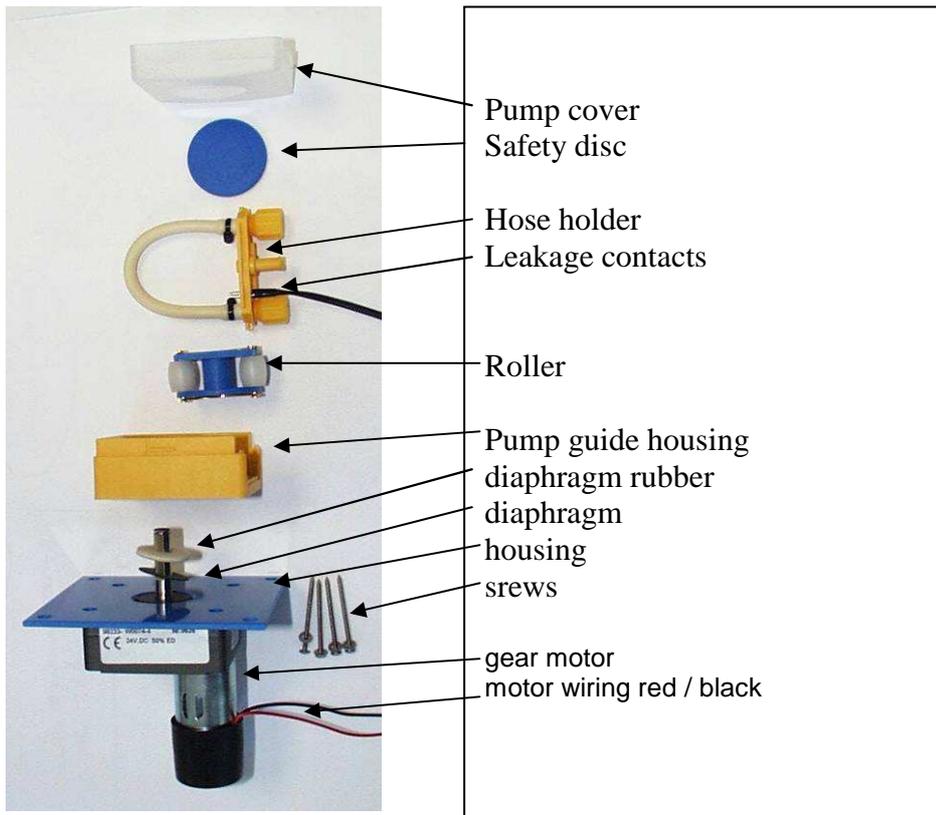
connectors (inlet) 9+10 for voltage supply 12 to 24 V/DC-AC



### **external control only DS-1 and DS-2**

At the connectors 3-4 a external control with a volt-free on/off- contact can be connected. Therefore the bridge from 3 to 4 has to be removed and the external contact has to be connected. If the external control contact is closed the dosing pump will run with the adjusted dosing performance.

**7. Spare parts**



<u>description</u>	<u>code</u>
Gear motor Sa	13557
Pump housing Sa	14140
Roller Sa blue	13039
Safety disc blue	13633
Hose holder 3,2 with break detector	16344
Hose holder 1,6 with break detector	16345
Hose holder 0,8 with break detector	16346
Hose kit 3,2x1,6 (2 pieces)	13413
Hose kit 1,6x1,6 (2 pieces)	13412
Hose kit 0,8x1,6 (2 pieces)	13482
Leakage contacts	16146
Diaphragm	12709
Diaphragm rubber	14166
Control plate DS-0	14337
transformer board WDT21-B	15626