

Control units

Installation and operating instructions

Series: DP-Control

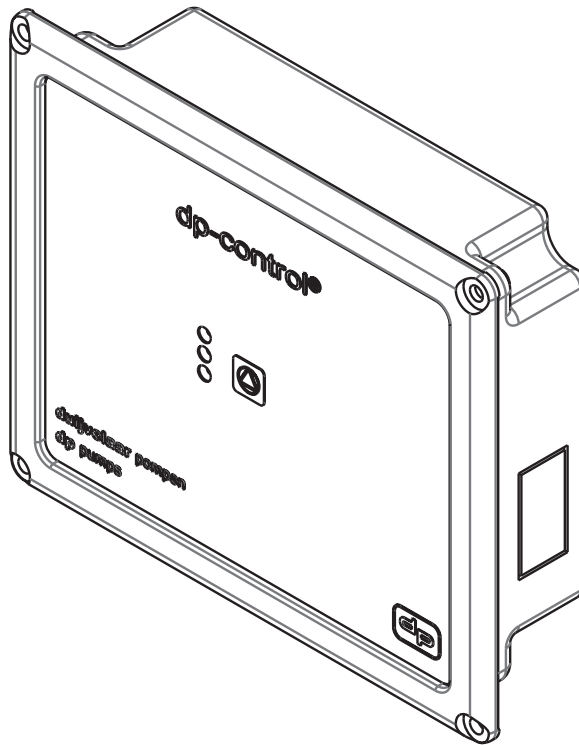


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1 Manual introduction

1.1 Preface

This manual contains important information for reliable proper and efficient operation. Compliance with the operating instructions is of vital importance to ensure reliability and a long service life of the product and to avoid any risks.

The first chapters contain information about this manual and safety in general. The following chapters provide information about normal use, installation, maintenance and repairs of the product. The annexes contain the technical data, the parts drawings and the declaration(s) of conformity.

- Make yourself familiar with the content.
- Accurately follow the directions and instructions.
- Never change the sequence of the operations to be carried out.
- Keep this manual or a copy of it together with the logbook in a fixed place near the product which can be accessed by all personnel.

1.2 Icons and symbols

In this manual and in all accompanying documentation the following icons and symbols are used.



WARNING

Danger of electric tension. Safety sign according to IEC 417 - 5036



WARNING

Operations or procedures, if carried out without caution, may cause personal injury or damage to the product. General hazard sign according to ISO 7000-0434



ATTENTION

Is used to introduce safety instructions whose non-observance may lead to damage to the product and its functions.



ENVIRONMENTAL INSTRUCTION

Remarks with respect to the environment.

2 Identification, service and technical support

2.1 Identification, service and technical support

The system is identified based on the text “DP-Control®” as given on the front of the system.

Indication	Meaning
DP-Control®	Type of control unit

The following address data are available for service and technical support:

DP-Pumps Kalkovenweg 13 2401 LJ Alphen a/d Rijn The Netherlands	Tel: +31 172 488325 Fax: +31 172 468930 Internet: www.dp-pumps.com E-mail: dp@dp-pumps.com
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2.2 Supplementary documentation

Apart from this manual, the documentation given below is also available:

Document	Date/version	Code
General terms of delivery	10-1998	119 / 1998
Manual WSD-Sensor	11-2006	BE00000250
Technical documentation		
Documentation		

See also: www.dp-pumps.com

3 Warranty

3.1 Terms of warranty

The warranty period is settled by terms of your contract or at least by the general terms and conditions of sales.



ATTENTION

Modifications or alterations of the product supplied are only permitted after consultation with the manufacturer. Original spare parts and accessories authorized by the manufacturer ensure safety. The use of other parts can invalidate any liability of the manufacturer for consequential damage.



ATTENTION

The warranty relating to the operating reliability and safety of the product supplied is only valid if the product is used in accordance with its designated use as described in the following sections of this manual. The limits stated in the data sheet must not be exceeded under any circumstances.

The warranty becomes invalid if one or more of the points below occur.

- The buyer makes modifications himself.
- The buyer carries out repairs himself or has these carried out by a third party.
- The product has been handled or maintained improperly.
- The product has non original DP-Pumps spare parts fitted.

DP-Pumps remedies defects under warranty if the points below are observed.

- Defects are caused by flaws in the design, the materials or the production.
- The defect has been reported within the warranty period.

Other terms of warranty have been included in the general terms of delivery, which are available upon request.

4 Safety and environment

4.1 General

This DP-Pumps product has been developed using state-of-the-art technology; it is manufactured with utmost care and subject to continuous quality control. DP-Pumps does not accept any liability for damage and injury caused by not observing the directions and instructions in this manual. This also applies in cases of carelessness during the installation procedure, use and maintenance of the product.

Non-compliance with safety instructions can jeopardize the safety of personnel, the environment and the product itself. Non-compliance with these safety instructions will also lead to forfeiture of any and all rights to claims for damages.

For example, in particular non-compliance can result in:

- failure of important pump/system functions,
- failure of prescribed maintenance and servicing practices,
- injury to persons by electrical, mechanical and chemical effects,
- hazard of the environment due to leakage of hazardous substances,
- explosions.

Depending on specific activities, extra safety measures may be required. Contact DP-Pumps if a potential danger arises during use.



ATTENTION

The owner of the product is responsible for compliance with the local safety regulations and internal company guidelines.



ATTENTION

Not only must the general safety instructions laid down in this chapter on "Safety" be complied with, but also the safety instructions outlined under specific headings

4.2 Users

All personnel involved in the operation, maintenance, inspection and installation of the product must be fully qualified to carry out the work involved.

Personal responsibilities, competence and supervision must be clearly defined by the operator. If the personnel in question is not already in possession of the required know-how, appropriate training and instruction must be provided. If required, the operator may commission the manufacturer / supplier to take care of such training. In addition, the operator is responsible for ensuring that the contents of the operating instructions are fully understood by the responsible personnel.

4.3 Safety provisions

The product has been designed with the greatest possible care. Original parts and accessories meet the safety regulations. Modifications in the construction or the use of non-original parts may lead to a safety risk.



ATTENTION

Make sure that the product operates within its working range. Only then the product performance is guaranteed.

4.3.1 Labels on the product

The icons, warnings and instructions applied to the product are part of the safety provisions. The labels may not be removed or covered. Labels must remain legible during the entire life of the product. Replace damaged labels immediately.

4.4 Safety precautions

4.4.1 During normal use

- Contact the local electricity company for questions about the power supply.
- Shield parts that can become hot in such a way, that direct contact is not possible.
- Always close the switch box.

4.4.2 During installation, maintenance and repair

Only authorised personnel may install, maintain and inspect the system and repair electrical components. Observe the local safety regulations.

4.5 Environmental aspects

4.5.1 General

This product of DP-Pumps is designed to function in an environmentally friendly way during their entire life.



ENVIRONMENTAL INSTRUCTION

Always act according to the laws, by-laws regulations and instructions with respect to health, safety and the environment.

4.5.2 Dismantling

Dismantle the product and dispose of it in an environmentally friendly way. The owner is responsible for this.



ENVIRONMENTAL INSTRUCTION

Ask at the local government about the re-use or the environmentally friendly processing of discarded materials.



ENVIRONMENTAL INSTRUCTION

All components of the DP-Control® are manufactured in accordance with RoHS directive 2002/95/EC.

5 Introduction

5.1 General



Control units of the type DP-Control®

Control units of the type DP-Control® are manufactured by DP-Pumps.

5.2 Intended use

The control unit is suitable for controlling a Hydro-Unit® consisting of 1, 2 or 3 pumps within the indicated working range (see “Working range”).

Any other or further use of the control unit is not in conformity with its intended use. DP-Pumps does not accept any liability for any damage or injury resulting from this. The control unit has been produced in accordance with the current standards and guidelines. Use the control unit exclusively in a perfect technical state, in conformity with the intended use described below.

The *Intended use* as laid down in EN 12100-1 is the use for which the technical product is intended according to the specifications of the manufacturer. The use of the product has been described in the available documentation / information. Always observe the instructions given in the installation and operating instructions. When in doubt the product must be used as becomes evident from its construction, version and function.

5.3 Working range

The working range of the control unit can be summarized as follows:

Table 1: Working range of the DP-Control®

Type	DP-Control®
Maximum ambient temperature [°C]	50
Relative atmospheric humidity [%]	20 - 90 (no condensation)
Voltage [V]	1 x 230 (± 10%)
Frequency [Hz]	50 (+5%/-6%) 60 (+5%/-6%)

Table 2: Specific applications of the DP-Control®

Type	Application area
DP-Control®	Building possible in the installations listed below: <ul style="list-style-type: none">• Hydro-Unit® with 1, 2 or 3 pumps• Break-Unit with 1, 2 or 3 pumps• Fire-Unit with 1, 2 or 3 pumps

5.3.1 WSD-Sensor (option)

The working range of the WSD-Sensor can be summarized as follows:

Table 3: Working range of the WSD-Sensor

Type	WSD-Sensor
Maximum ambient temperature [°C]	30
Relative atmospheric humidity [%]	-
Voltage [V]	-
Frequentie [Hz]	-
Medium temperature [°C]	5 - 30
Switching flow [l/min]	± 14

Table 4: Specific applications WSD-Sensor

Type	Applications
WSD-Sensor	Installations with a maximum of 3 membrane tanks.

5.4 Functioning

5.4.1 Standard operation

The required system pressure is sensed by a pressure sensor on the outlet side of the installation.

When as a result of a decreasing water volume the pressure drops below the switch-on pressure, a pump will be switched on. For fixing the pressure set point see: "Fixing the pressure set point".

When the required system pressure has been reached, the pumps are switched off one at a time. The switch-off delay is optimized constantly, which results in a considerable energy saving.

5.4.2 Number of operating hours per pump

The current number of operating hours of a pump determines which pump will be switched on or off next. The pump with the fewest operating hours will be switched on first and the pump with the most operating hours will be switched off first. This makes sure that all pumps have an equal number of operating hours, including the backup pump.

5.4.3 Test run

In order to prevent pumps from standing still for a longer period of time, an automatic test run procedure is provided as a standard.

5.4.4 Custom made settings

The service port provides access to the parameters of the program which can be used to optimize the functionality of the installation, (see: "Parameter list").



WARNING

For access to the parameters of the program using the service port, always use the special service port cable!

The special service port cable (Art. nr. 6147117698) can be ordered separately.

5.4.5 Functioning WSD-Sensor (option)

In combination with the DP-Control®, the WSD-Sensor can generate a failure message when, during a (adjustable) period of time, insufficient refreshment of the membrane switch vessel occurs.

The failure message is generated when:

- Insufficient refreshment occurs;
- The membrane of the membrane switch vessel is defective;
- There is no air left in the membrane switch vessel;
- The installation is not set / installed correctly.

5.4.6 Temperature-sensor (option)

When the DP-Control® is fitted with a temperature sensor, it can generate a temperature-dependent failure message.

6 Transport

6.1 Transport and storage

1. Transport the control unit in the position as indicated on the pallet or packaging.
2. Check if the control unit is stable.
3. Observe the instructions on the packaging (if present).



ATTENTION

Store the control unit in a dry and dust-free place.

7 Installation

7.1 Mechanical install



ATTENTION

Contact the supplier if parts are missing or damaged.

Build in the control unit using suitable fastening material. Consult the annex "Build-in diagram" for the correct overall dimensions.

7.2 Electrical install



WARNING

Only authorized personnel is allowed to connect the control unit electrically in accordance with the local regulations.

Electrical connections

- Make sure that the electric control unit specifications correspond with the power supply to which is connected.
- Consult the annex "Electrical diagram" for a list of all electrical power points.


7.3 Commissioning

The control unit is fully programmed and preset with factory default settings, (see: "Factory default settings").

The service port provides access to the parameters of the program which can be used to optimize the functionality of the installation, (see: "Parameter list").

8 Operation

8.1 Basic operation

The basic operation of the DP-Control® is controlled by one multifunctional button . The status traffic light (three vertical LED lights) gives the actual operation- and failure information.



front-dp-control 20022008



WARNING

When the installation is switched on using the main switch, all LED's will simultaneously light up for 2 seconds (LED test).

8.1.1 Multifunctional button

- Manual operation of the pumps.
- Acknowledgement of pending failures.
- Fixing the pressure set point.

8.1.2 Status traffic light



The status traffic light shows the operating status:

- Red, for urgent alarms.
- Orange, for non urgent alarms.
- Green, for normal operation.

The LED's will blink several times to indicate the operating status or failure type.


For explanation of the blinking rhythm see "Failure table".

8.2 Manual operation of the pumps


Pump 1, 2 and 3 can be started manually by pushing button  1, 2, or 3 times and to keep button  pressed. The pump will run as long as the button is pressed. The green LED is blinking respectively 1, 2 or 3 times during manual operation.

This function is only active when the green operation light is on continuously (panel alive / no failures).

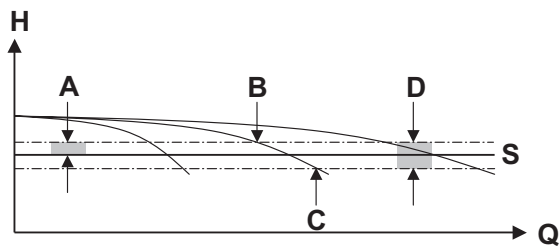
8.3 Fixing the pressure set point

When the main power supply is switched on and the multifunctional button  is pressed simultaneously, the actual pressure in the system will be set as pressure set point.

To set or change the pressure set point (S) proceed in the following sequence:

- Start a pump manually until the system pressure is above the required set point (read from the pressure gauge)
- Isolate the pressure sensor and gauge from the main header by closing the shut-off valve located between the sensor and the header.
- Drain-off some water until the required set point is reached (read from the pressure gauge).
- Switch-off the main power supply.
- Push the multifunctional button  and switch-on the main power supply simultaneously.
- The pressure set point is now programmed.


8.3.1 Pressure set points



Hysteresis

- S = Set point
- A = Hysteresis (see: "Factory default settings")
- B = Cut-out
- C = Cut-in
- D = Pressure differential

8.4 Acknowledgement of pending failures

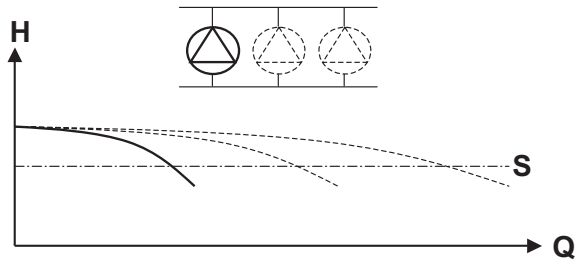
When a failure occurs the multifunctional button  can be pressed to acknowledge the pending failure, and to deactivate the failure output. When the failure is not solved the LED will still light-up until the failure is resolved completely.

8.5 Failure outputs

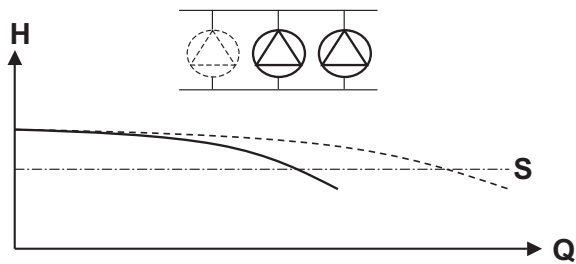
Optionally the control panel can be equipped with two potential free contacts for the failure messages "urgent" and "Non Urgent". The red (urgent) or orange (Non Urgent) failure LED will light up at each failure message. For details see "Failure table".

9 Hydro-Unit® configuration

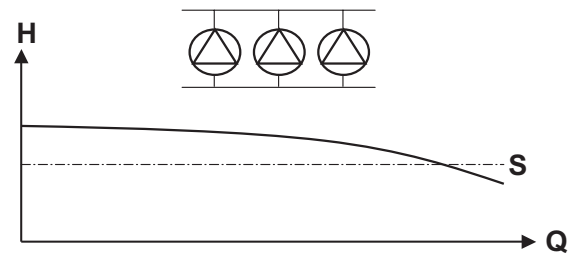
9.1 Standard configuration



1 pump operation

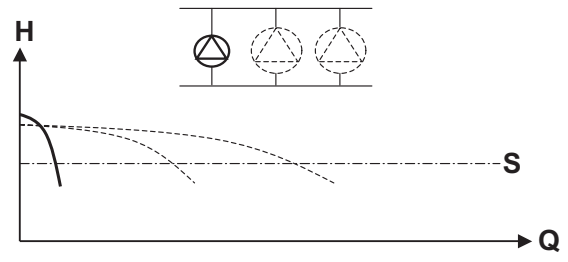


2 pump operation

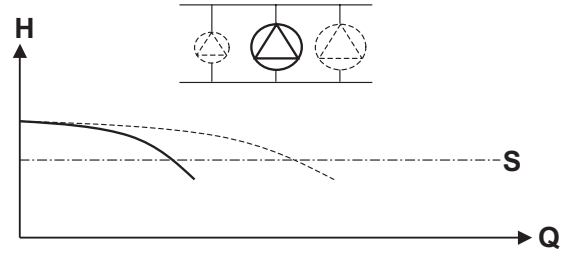


3 pump operation

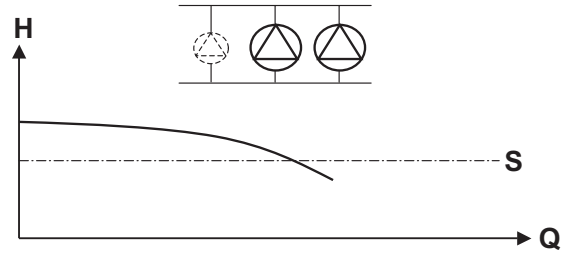
9.2 Jockey pump operation



1 jockey pump operation



1 main pump operation



2 main pumps operation

9.3 Explanation parameters

9.3.1 Pressure setpoints

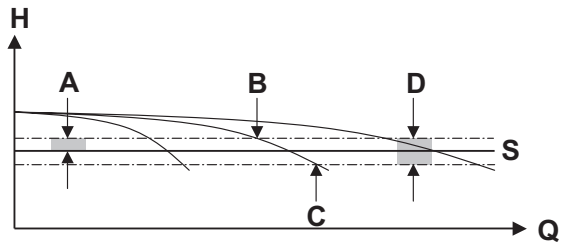
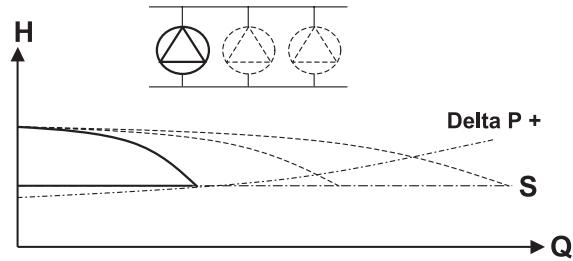


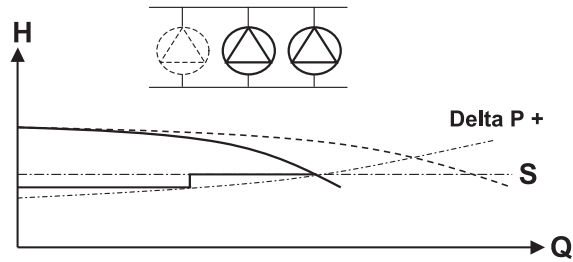
Table 5: Parameters pressure setpoints

ID	
S	Setpoint
A	Hysteresis
B	Cut-out
C	Cut-in
D	2 x hysteresis

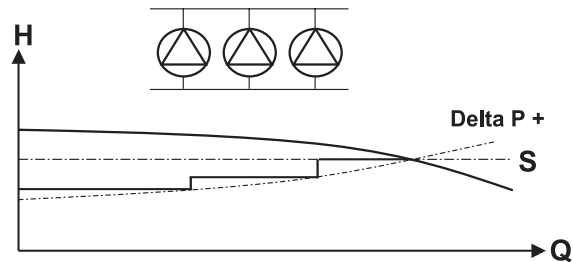
9.3.2 Delta P + correction



1 pump operation



2 pump operation



3 pump operation

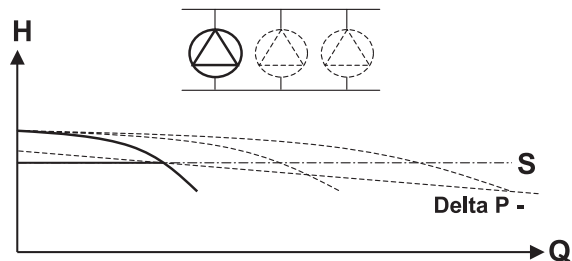
Table 6: Parameters pressure setpoints

ID	Parameter	
S	3-5-1	Setpoint
+	3-5-10	Delta P

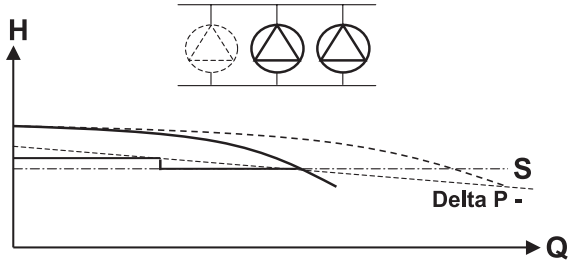
$$y = \frac{\Delta p}{(n^2-1)} x^2 + SP - \frac{\Delta p}{(n^2-1)}$$

- SP = Setpoint
- y = New setpoint
- Δp = Delta P (always positive)
- n = Total number of pumps of the installation
- x = Number of pumps switched on

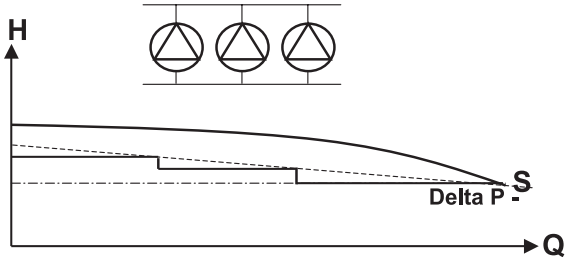
9.3.3 Delta P - correction



1 pump operation



2 pump operation



3 pump operation

Table 7: Parameters pressure setpoints

ID	Parameter	
S	3-5-1	Setpoint
-	3-5-10	Delta P

$$y = \frac{\Delta p}{(1-n)} x + SP - \frac{\Delta p}{(1-n)}$$

- SP = Setpoint
- y = New setpoint
- Δp = Delta P (always positive)
- n = Total number of pumps of the installation
- x = Number of pumps switched on

10 Failures

10.1 Failure table DP-Control®

Discription of the failure	Pulses / continous	Failure output
Start-up / LED test	All LED's short ON	
Pump(s) thermal failure (no stand-by pump left).	Continous ON	Urgent
No refreshment on WSD channel 1	1 pulse, 2 sec OFF	Urgent
No refreshment on WSD channel 2.	2 pulses, 2 sec OFF	Urgent
No refreshment on WSD channel 3.	3 pulses, 2 sec OFF	Urgent
No water supply (manual reset required).	4 pulses, 2 sec OFF	Urgent
Average room temperature too high.	5 pulses, 2 sec OFF	Urgent
Sensor failure discharge side out of range.	6 pulses, 2 sec OFF	Urgent
System pressure. to high (system shut down).	7 pulses, 2 sec OFF	Urgent
System pressure. to low (system shut down).	8 pulses, 2 sec OFF	Urgent
Broken wire sensor discharge	9 pulses, 2 sec OFF	Urgent
Other failure.	ON, short OFF, ON	Urgent
Pump 1 thermal failure (stand-by pump left).	1 pulse, 2 sec OFF	Non Urgent
Pump 2 thermal failure (stand-by pump left).	2 pulses, 2 sec OFF	Non Urgent
Pump 3 thermal failure (stand-by pump left).	3 pulses, 2 sec OFF	Non Urgent
No water supply (automatic reset).	4 pulses, 2 sec OFF	Non Urgent
Current room temperature too high.	5 pulses, 2 sec OFF	Non Urgent
Temperature sensor failure.	6 pulses, 2 sec OFF	Non Urgent
System pressure. to high (warning only).	7 pulses, 2 sec OFF	Non Urgent
System pressure. to low (warning only).	8 pulses, 2 sec OFF	Non Urgent
Inspection required.	Continous pulses	Non Urgent
Panel alive / no failures	Continous ON	
Pump 1 manual operation / Check-run	1 pulse, 2 sec OFF	
Pump 2 manual operation / Check-run	2 pulses, 2 sec OFF	
Pump 3 manual operation / Check-run	3 pulses, 2 sec OFF	
Panel alive / no failures (refreshment tank 1)	1 pulse, 2 sec OFF, then normal operation	
Panel alive / no failures (refreshment tank 2)	2 pulses, 2 sec OFF, then normal operation	
Panel alive / no failures (refreshment tank 3)	3 pulses, 2 sec OFF, then normal operation	
Panel alive / no failures (refreshment tank 1+2)	1 pulse, 2 sec OFF, 2 pulses, 2 sec OFF, then normal operation	
Panel alive / no failures (refreshment tank 2+3)	2 pulses, 2 sec OFF, 3 pulses, 2 sec OFF, then normal operation	
Panel alive / no failures (refreshment tank 1+3)	1 pulse, 2 sec OFF, 3 pulses, 2 sec OFF, then normal operation	
Panel alive / no failures (refreshment tank 1, 2 + 3)	1 pulse, 2 sec OFF, 2 pulses, 2 sec OFF, 3 pulses, then normal operation	

10.2 Failure table WSD-Sensor (option)



WARNING

Observe the general safety precautions for installation, maintenance and repair.

Problem	Possible cause	Possible solution	Checkpoints
There is no input signal when a pump is started.	Shut-off valve to the WSD-Sensor is closed.	Open the shut-off valve.	Shut-off valve should always be opened.
	Pump is operating against the maximum pressure of the unit and does not deliver.	Adjust the switch-on pressure of the pump to at least 80 kPa below the maximum pressure of the unit.	Adjust the pressure set point.
	Pressure in the membrane switch vessel(s) is too high.	Adjust the air pressure in the membrane switch vessel to the correct values.	Make sure maintenance is performed regularly.
	Pressure in the membrane switch vessel(s) is too low, or there is no pressure at all.	Adjust the air pressure in the membrane switch vessel to the correct values.	Check if the membrane switch vessel is not leaking, if so, replace the membrane switch vessel.
	Reed contact on the WSD-Sensor defective.	Replace the reed contact.	Adjust the reed contact.
	Magnet in the WSD-Sensor is stuck.	Replace / clean the interior of the WSD-Sensor.	Deposits / dirt.
Input signal remains active.	Magnet in the WSD-Sensor is stuck.	Replace / clean the interior of the WSD-Sensor.	Deposits / dirt.
	Short circuit on the input signal.		Check the wiring.
	Reed contact defective.	Replace the reed contact.	
Nothing responds	There is no voltage on the DP-Control®.	Fuse defective.	Check the correct voltage.

11 Annexes

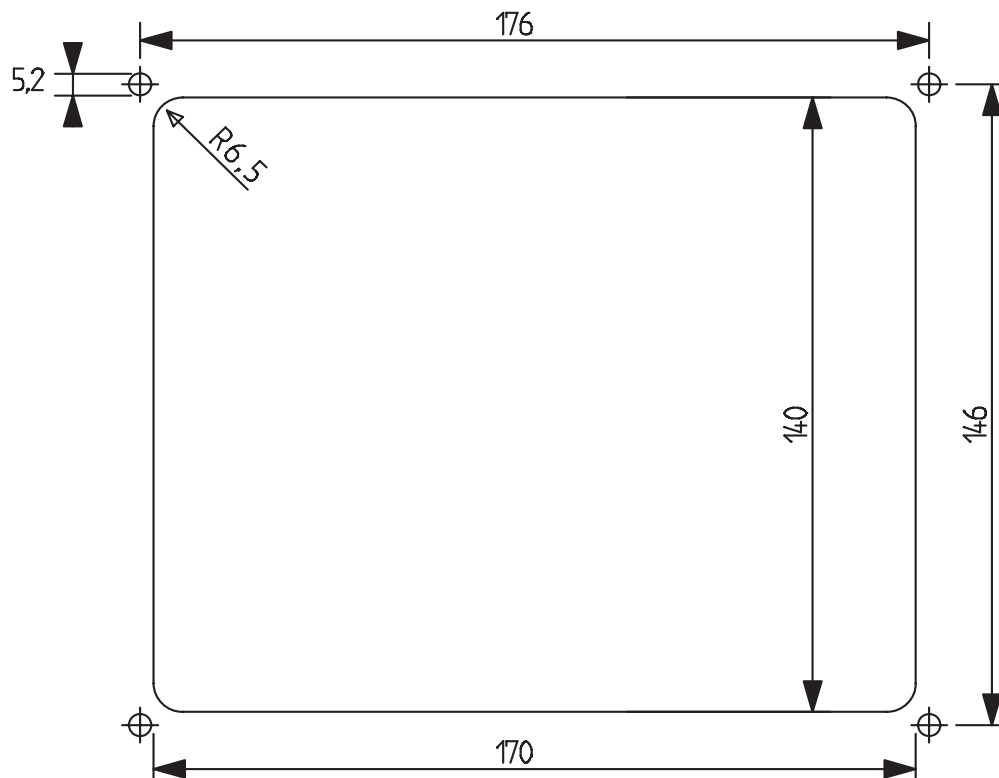
11.1 DP-Control®

Table 8: Technical data DP-Control®

Item	Value
Type of control	DP-Control®
Article number	77870040
Dimensions HxWxD [mm]	157 x 187 x 51
Connecting voltage [V]	1 x 230 ± 10%
Frequency [Hz]	50 - 60 ± 5%
Relay outputs [A]	5 max.
Safety class ¹	IP55
Ambient temperature [°C]	50 max.
Atmospheric humidity [%]	20 - 90 (no condensation)
Fuse [mA]	500 (250V)

1. When build into a IP55 control panel.

11.2 Build-in diagram



11.3 Electrical connections

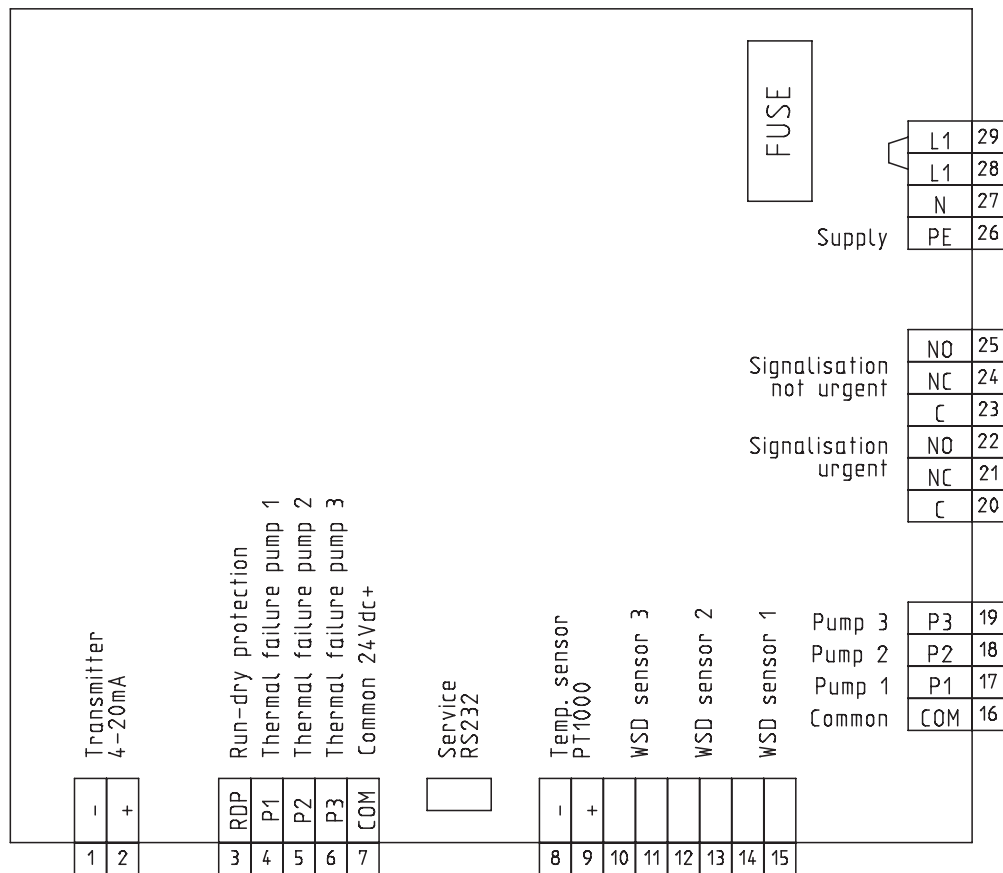
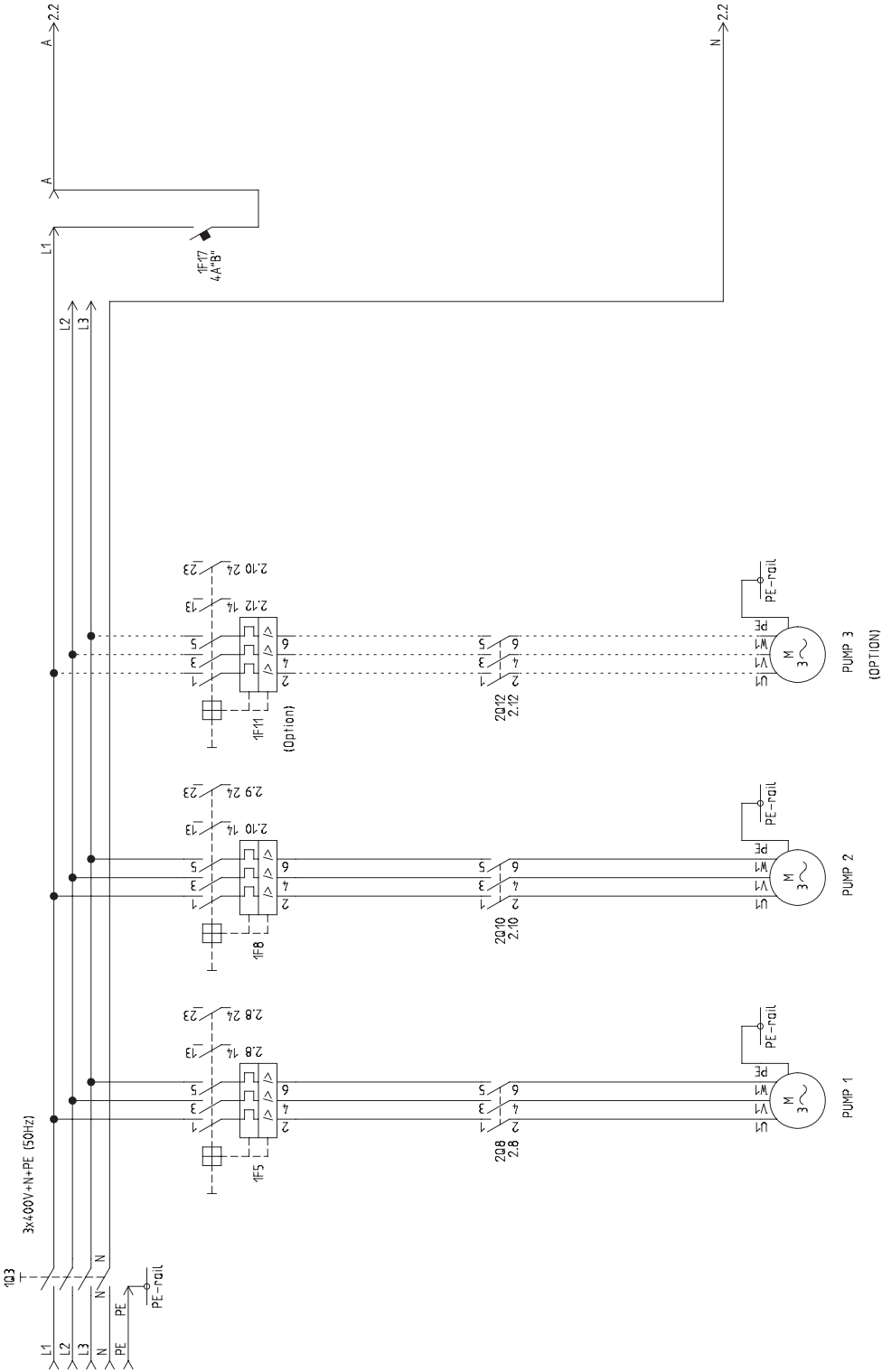


Table 9: Electrical connections

Nr:	Code:	Connection:
1	-	Pressure transmitter 4-20mA
2	+	
3	RDP	Run-dry protection
4	P1	Thermal failure pump 1
5	P2	Thermal failure pump 2
6	P3	Thermal failure pump 3
7	COM	Common 24V dc+
		Service port
8	-	Temp. sensor PT100
9	+	
10		WSD sensor 3
11		
12		WSD sensor 2
13		
14		WSD sensor 1
15		

Nr:	Code:	Connection:
16	COM	Common
17	P1	Pump relay 1
18	P2	Pump relay 2
19	P3	Pump relay 3
20	C	"Urgent" failure messages
21	NC	
22	NO	
23	C	"Non Urgent" failure messages
24	NC	
25	NO	
26	PE	Power supply
27	N	
28	L1	
29	L2	
	FUSE	Fuse

11.4 Electrical schemes



11.5 Parameter list



ATTENTION

The parameters mentioned below are only visible or accessible when using the DP-Control® service tool.



ATTENTION

The standard (default) values of the DP-Control® mentioned in the table below are indicated as bold text. For unit-specific values see “Factory default settings”.

11.5.1 Settings

Parameter	Value (default)	Range	Explanation	Level (read)	Level (write)
Settings					
Configuration					
Number of Pumps	1. 1 Pump 2. 2 Pumps 3. 3 Pumps		Total number of pumps in the system.	All	Service
Discharge	1. Fixed Speed 2. One Jockey 3. Two Jockey		Fixed speed Fixed speed + 1 jockey Fixed speed + 2 jockey	All	Service
WSD	1. Off 2. One tank 3. Two tanks 4. Three tanks 5. One tank + temp. 6. Two tanks + temp. 7. Three tanks + temp. 8. Temperature			All	Service
Main					
Inlet					
Automatic RDP reset	0. Manual 1. Automatic		Reset mode after run-dry protection (pressure or level) shut down.	All	User
Discharge					
Sensor press. 4 mA	0		Calibration value of the sensor while 4 mA is sent.	All	Service
Sensor press. 20 mA	1000		Calibration value of the sensor while 20 mA is sent.	All	Service
Pumps ON sensor fail	2				
Max.power	300		Limitation of the maximum power (1 pump is 100%).	All	Service
WSD					
Nr. of refreshments	30			All	Service
Refresh time span	24			All	Service
Average room temp.	25			All	Service
Room temp. time span	24			All	Service
Pressure					
Set point	400		System pressure set point	All	User

Parameter	Value (default)	Range	Explanation	Level (read)	Level (write)
Hysteresis	30		Bandwidth above and below the setpoint pressure at which the pump(s) is(are) switched on and off.	All	User
High pressure alarm	1000		Upper limit value for the system pressure to shut down or notice (signal).	All	User
Low pressure alarm	0		Under limit value for the system pressure to shut down or notice (signal).	All	User
Timers					
Opt. pump starts/h	10		The optimum number of pump starts per hour. The minimum run time will be automatically corrected.	All	Service
Min.run time	180		The minimum time of the pump to run. (the run time correction will not drop below this value).	All	Service
Min.run time corr.	10		Adapting the Min.run time to optimize the required number of pump starts per hour.	All	Service
Max. run time	86400		Maximum continuous run time of the pump. After this time the pump will be forced to change over.	All	Service
Start delay	5		Start delay to switch the pumps on when pressure remains low.	All	Service
Stop delay	2		Stop delay to switch the pumps off when pressure remains high.	All	Service
RDP delay	30		Delay time after run-dry protection to shut down the system.	All	Service
High/low alarm delay	2		Permittable time of setpoint pressure deviation > High or Low pressure.	All	User
WSD 1 pulse length	0			All	Service
WSD 2 pulse length	4			All	Service
WSD 3 pulse length	4			All	Service
Clock					
Check-run mode	1. OFF 2. Interval based		Choose how a checkrun should be performed.	All	User
Check-run interval	86400		The number of seconds the interval time consists.	All	User
Check run duration	30		The check-run time per pump (one at a time and alternating).	All	Service
Maintenance interval	0			All	Service

11.6 Factory default settings

Installation type	Parameter											
	Number of pumps	WSD mode	Pumps ON sensor fail	Max. power	Set point	Hysteresis	Opt. pump starts / h	Min. run time	Min. run time corr.	RDP delay	WSD 1 pulse length	Maintenance note
HU2	2	1	1	200	380	30	10	90	10	30		47304000
HU3	3	1	2	300	380	30	10	90	10	30		47304000
HU2 PLUS/HR	2	1	1	200	380	50	30	1	10	30		47304000
HU3 PLUS/HR	3	1	2	300	380	50	30	1	10	30		47304000
HU2 + 1 WSD + TEMP	2	5	1	200	380	30	10	90	10	30	0	47304000
HU3 + 1 WSD + TEMP	3	5	2	300	380	30	10	90	10	30	0	47304000
HU2 PLUS + 3 WSD + TEMP	2	7	1	200	380	50	30	1	10	30	0	47304000
HU3 PLUS + 3 WSD + TEMP	3	7	2	300	380	50	30	1	10	30	0	47304000
HU2 + 1 WSD	2	2	1	200	380	30	10	90	10	30	0	47304000
HU3 + 1 WSD	3	2	2	300	380	30	10	90	10	30	0	47304000
HU2 PLUS + 3 WSD	2	4	1	200	380	50	30	1	10	30	0	47304000
HU3 PLUS + 3 WSD	3	4	2	300	380	50	30	1	10	30	0	47304000
HU2 + TEMP	2	8	1	200	380	30	10	90	10	30		47304000
HU3 + TEMP	3	8	2	300	380	30	10	90	10	30		47304000
HU2 PLUS/HR + TEMP	2	8	1	200	380	50	30	1	10	30		47304000
HU3 PLUS/HR + TEMP	3	8	2	300	380	50	30	1	10	30		47304000
HU2 HR + 1 WSD + TEMP	2	5	1	200	380	50	30	1	10	30	4	47304000
HU3 HR + 1 WSD + TEMP	3	5	2	300	380	50	30	1	10	30	4	47304000
HU2 HR + 1 WSD	2	2	1	200	380	50	30	1	10	30	4	47304000
HU3 HR + 1 WSD	3	2	2	300	380	50	30	1	10	30	4	47304000

11.7 Declaration of conformity (IIB)

Factory declaration (2.1) according to NEN-EN-10204

Undersigned:

DP-Pumps
Kalkovenweg 13
2401 LJ Alphen aan den Rijn, The Netherlands
Tel: (+31)(0)-172-48 83 21
Fax: (+31)(0)-172-46 89 40

Declares as manufacturer entirely on his own responsibility, that the product(s):

Product: Control units
Type: DP-Control®

to which this declaration refers, is in accordance with the following standards:

EN-IEC-61000-6-1/3, EN-IEC-61000-3-2
EN-1010 and EN-60204-1

according to the provisions of (when applicable):

EMC directive 89/336/EEC
Low voltage directive 73/23/EEC
RoHS directive 2002/95/EC

If the control unit is used as a stand-alone product, it is subject to this declaration of conformity.

If the control unit is built in an appliance or is assembled together with other equipment in certain installations, then it should not be put into operation until a declaration has been given with respect to the appliance concerned that it complies with the directives listed above.



Alphen aan den Rijn,
01-11-2006

Responsible person:
W. Ouwehand, technical director

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