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Backwater valves HL710.2EPC, HL712.2EPC, HL715.2EPC
Version Hardware: V12.0, Version Software: V10.3

version 03/2023

Installation and operation manual

Application

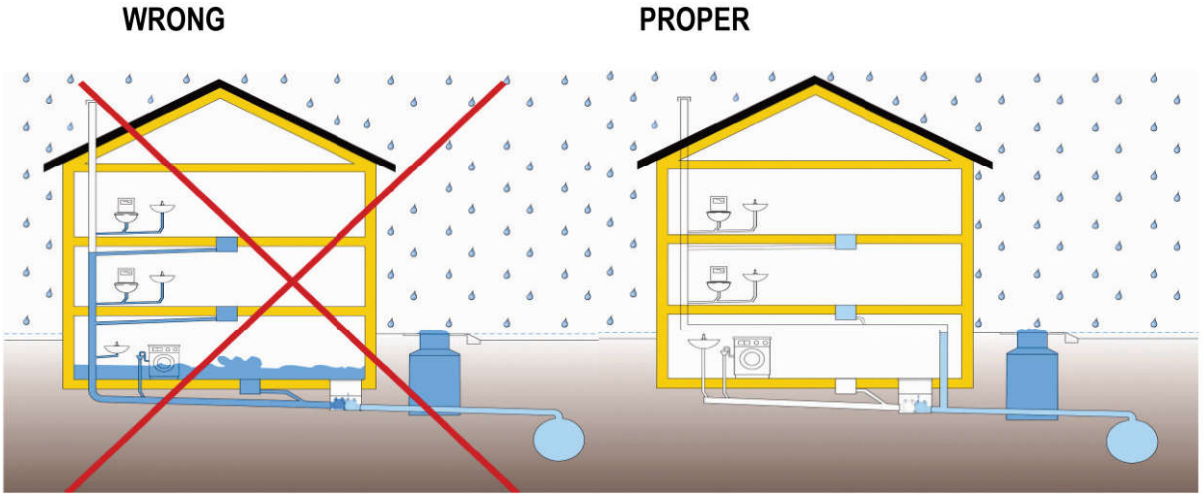
Backwater valves according to DIN EN 13564-1 are used in buildings for drainage of sewage with or without excrements, positioned below the level of backflow according DIN EN 12056-1 and DIN 1986-100.

Operating mode

A sensor, which is installed inside the valve, reacts on wetting with water and closes the flap with an shaft driven by an electric motor. The integrated emergency power supply guarantees function for several days, also when the normal 230V power supply drops out.

Design and installation

a) There has to be an incline to the sewer.
b) Rooms below the level of backflow should be only used for inferior purposes.
c) There should be only a small quantity of users, and there should be a toilet above the level of backflow.
d) Please contact our technical staff – we help you with the right planning.
→ **www.hutterer-lechner.com -> contacts**



Notice

The electronic backwater valve must not be used in an explosive atmosphere.

Before and after the position of the valve there has to be minimum 1m of sedation.

There is an integrated altitude difference between inlet and outlet inside the valve. Therefore the valve has to be installed lengthwise and in cross direction only horizontally.
Minimum decline to the sewer is 1%.

Choose the right position of the valve to protect all outlets. Only in exceptional cases it is tolerable to drain devices above the level of backflow (e. g. reconstruction).

In the moment of backwater devices should not be used. Do not drain rain water. Devices, which are necessary for servicing must be accessible for test of function acc. DIN 1986-3 (please see attached check list).
Ambient air temperature must be between -3°C and +40°C.
Maximum length of the connecting cable is 44m (diameter 1,5mm2).

1. Installation of the electronic control unit

Danger: Switch off power

1.1. remove transparent cover of the unit (17).
1.2. Install the unit visible inside the building on a wall, with cable plugs down. LED signals must be visible. Temperature between 0°C and +40°C.
1.3. If needed, connect to building control system (remove rubber protection).

2. Initial startup

Note: Check battery damages

Warning: Do not reach into moving parts! Risk of crushing/cutting

2.1 In case of installation, operation or maintenance the accident prevention regulations, applicable standards and the regulations of the local power supplier must be observed.
2.2 Before installation check the condition of the electronics, connectors and cables. Damaged components must not be installed.
2.3 It is important to ensure that the permanent access to the hand-locker, the electronic unit and the sensor is possible.
2.4 Connect green plug (16) of control line (5) to the connector (18).
2.5 Connect cable of accumulator with plug (21) to the control unit. Display flashs (appr. 10 sec.).
2.6 Positioning of accumulator (19) horizontally below the transformer (20 – black box).
2.7 Put on and close cover of control unit (17).
2.8 Connect power plug (8) to the socket. Display Accu. Should flash. If not, see chapter 5.2
2.9 Functional check:
Press Pushbutton (9) shortly (max. 2 sec.). Reaction: Display "CLOSED" and acoustic signal. Flap closes and opens again. If no mistake occurs, display CLOSED and acoustic signal stop. If not, see chapter 5.2.
2.10 Leak tightness test see chapter 8.8
2.11 If operation is faultless please fill in the reply card and return the card
2.12 To protect the plugs put the protective cover on top of the motor unit.

Initial startup is possible immediately after connection to 230V power supply, if no power supply is available, it is necessary to charge the accumulator before (appr. 6 hours) by connecting the electronic control unit to power supply 230V.
The emergency power supply with the accumulator works after appr. 6 hours, full charge after 44 hours. During 1st charge the LED "Error ACCU" might flash.

Functional check has to be repeated every month by a competent person.

Warning: Risk of crushing/cutting

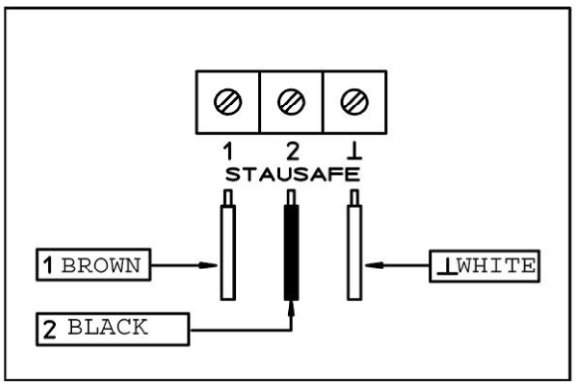
Check of the sensor (by wetting) and leak tightness test is explained in chapter 8.

Non- observance of the installation and operating instructions may cause property damage and personal injury!
Do not open sealed screws of the motor cover, otherwise the guarantee is cancelled!
Before opening the valve or the electrical unit disconnect the power supply!
While an expected backflow or in case of a backflow do not carry out any maintenance or repair work!
During the installation and maintenance do not reach into the pipe ends, danger of pinching!

Backwater
During backwater the valve closes. Display CLOSED, acoustic signal and zero-potential contact are activated.

Notice:
By pressing the pushbutton (1x appr. 2 sec.) the acoustic signal and the zero-potential contact are deactivated. Display remains.

Attention when extending the control line(5)
Wrong connection of the control line (5) may destroy the electronic control unit or the sensor (14) or may cause malfunction. -> No guarantee!!



3. Building control system/zero-potential contact

In case of error the zero-potential contact (230V/ 0,5A) is activated (3 sec. signal, 17 sec. break). This contact may be used as an external signaller or for the building control system.

3.1. Connection of external devices (BCS – building control system)

- ✓ Pull power plug (8)
- ✓ Remove transparent cover (17)
- ✓ Remove accumulator (19)
- ✓ Remove yellow plug
- ✓ Connect a cable with required diameter (2 pole line)
- ✓ Install device. Signal CLOSED is transmitted (horn, flashlight…)

4. Acoustic signaller

By removing the rubber plug (10) of the pushbutton you may increase the volume – attention – wetness protection is reduced in this case to IP54! We recommend to connect an external signaller to the zero-potential contact.

4.1. Horn / Information on function and error

In case of error, horn blows every 20 seconds.

5. Errors

Normally the green LEDs should flash and the acoustic signal is off. In case of other display there is an error.

5.1. LED CLOSED / Acoustic signal on, - no backwater. The reason might be pipe congestion. In this case the waste water comes back and the valve closes. Remove the sensor from the valve to avoid damage. When the valve opens after a short while, it is most likely, that there is a congestion. In this case remove top of the valve and clean the pipe. In case of a partly congestion, the valve may close and open periodically. Please also clean the pipe

5.2. Display of function and error

Display			
LED display		**Diagnosis**	**Recommended action**
POWER	green flash	230V power supply o.k.	
	no LED	230V power supply not o.k.	Check power supply or plug
ACCU	green flash	Accu Charge o.k.	
	Yellow flash	Accumulator charge low	Check/replace accumulator
	red flash	Accu. Charge not o.k. No emergency power supply!	Replace Accu/ery
CLOSED	yellow flash	Motor moves	
	yellow flash	Flap closed – Backwater!	Finish leak tightness test / Check backwater
Error Sensor	red flash	Error sensor or line between motor and Accu.	Check line or plug
Error Motor	red flash	Error Motor	Check line or plug

Notice:

In case of an error display (empty accumulator, closed flap, motor error or sensor error) the acoustic signal and the zero-potential contact are activated periodically.

Disposal of batteries:

The disposal of batteries should not be made through the municipal waste but a collection center.

5.3 Accept of error display

By pushing the pushbutton the acoustic signal and the zero-potential contact is deactivated. Display error remains visible. If there is an additional error later on, the acoustic signal and the zero-potential contact are activated again.

Warning: Do not reach into moving parts! Risk of crushing/cutting

5.4 Spare parts:

Spare parts on request.

The mechanical backflow preventers HL710.2 and HL715.2 may be modified in electronic devices HL710.2EPC and HL715.2EPC.

Note:
When handling with motorized units be careful because of moving parts. Danger of pinching!

5.5 Enclosure:

maintenance contract
maintenance protocol
Reply card
CE Declaration of Conformity

5.6 Explanation warning and notice texts

DANGER!
Warns of possible life-threatening injuries.

NOTICE!
Warns of possible damage to property.

5.7 Safety instructions

DANGER!
An electric shock can lead to burns and serious injuries or even death.

- Work on the electrical system may only be carried out by a specialist electrical dealer.
- Before opening the control unit, it must be disconnected from the power supply or switched off.

WARNING!
Persons, including children, who, due to their

- physical, sensory or mental abilities or
- inexperience or lack of knowledge

are not able to operate the device safely, must not use the device without supervision or instruction by a responsible person.

6. Technical data

Power supply	230V / 50Hz
Sicherung Netz (im Elektroniksteuergehäuse)	Glasrohrsicherung 250V / 1A träg
Accumulator	Only use original accumulator (10 x 1,2NiMh Cells)
Emergency power supply	max. 4 days
Zero-potential contact	230V AC max. 0,5A
Ambient temperature a) Electronic control, b) Sensor	a) 0° bis +40°C , b) -3° bis +40°C
Water protection a) Electronic control, b) valve (motor, sensor)	a) IP65 (IP54), b) IP67
Check of backwater	Every 3 seconds
Check of power supply	All time
Check of accumulator	Every 25 seconds
Check of motor	At the initial startup, at functional check and during service mode.
Check sensor	Every 3 seconds
Maximum length of the control line (5)	44 m (1,5mm²)

7. Manual

1. Operating closure
2. Emergency closure
3. Cover screw connection
4. Manual locking
5. Connecting cable
6. Ductwork
7. Electronics box protection type IP65
8. Power connector for 230 V/50 Hz
9. Multi-function button
10. Water protection plug alarm
11. Water protection plug multi-function button
12. Connection (GLT)
13. Audible warning alarm
14. Sensor
15. Check plug
16. Connector
17. Electronics cover
18. Installation bushing
19. Battery
20. Transformer
21. Battery connector
22. Protection cover

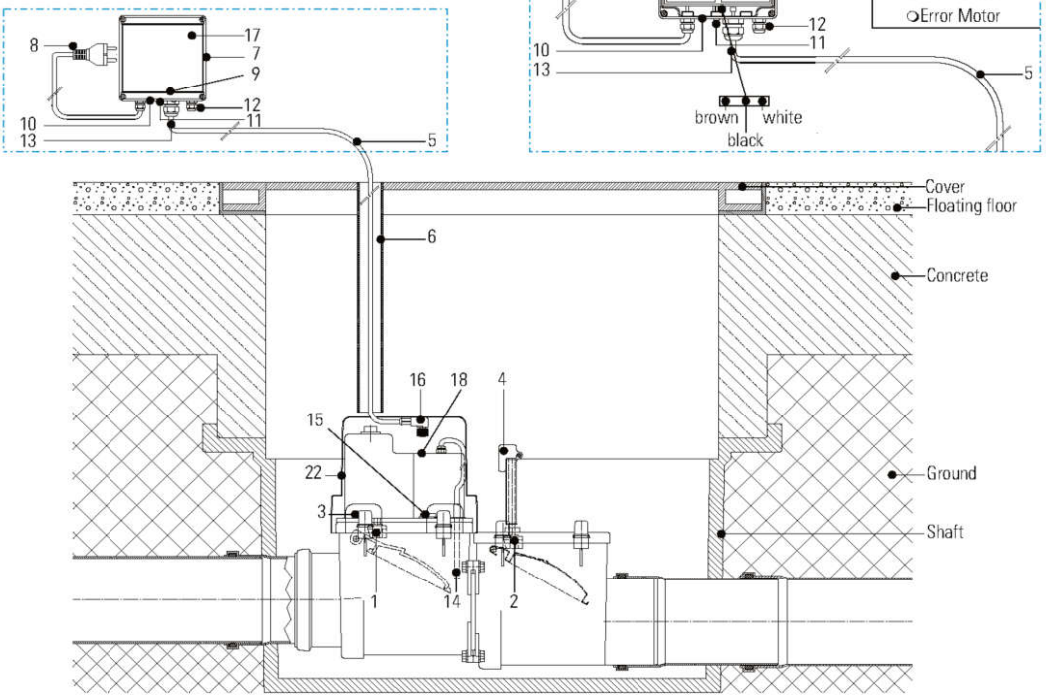


Figure 5.1: Installation situation

Note: The control unit must be disconnected from the mains before opening the control unit housing (electronics box).

8. Service according DIN 1986-3 :2004-11; Tab.1/13

8.1 Removal of dirt and sediments

8.2 Check cover gasket, remove in case of malfunction

Cover gasket	DN 110/125	Nr. HL01078D
Cover gasket	DN 160	Nr. HL01081D

8.3 Check flap gasket, remove in case of malfunction

Flap motor closure	DN110/125	Nr. HL0710E.1E
Flap emergency closure	DN110/125	Nr. HL0710E.7E
Flap motor closure	DN160	Nr. HL0715E.1E
flap emergency closure	DN160	Nr. HL0715E.7E

8.4 Check gasket of manual closure

Simmering Nr. HL0710.36E

8.5 Check accumulator (Pull power plug) 3x functional check acc. manual initial startup, cpt. 2

8.6 Accumulator (emergency supply) Nr. HL0710EN.A

8.7 Check of sensor by wetting with water.

Take out the sensor (14) and wet one time with water. Valve has to close and after a while reopen again. Afterwards put the sensor back by screwing. If there is any plaque on the sensor, clean with water. Take care while cleaning the sensor!

8.8 Leak tightness check

Accessories: Pipe for check Nr. HL0710.0E

Press pushbutton minimum 5 seconds. Display CLOSED and acoustic signal start. Valve closes. Close emergency flap (4) by hand. Open test plug (15) and insert pipe. Fill in water to the top. Observe level of water at least 10 minutes and, if necessary, refill to the original level. The valve proofs to be tight, if within this time a maximum of ½ lt. of water has to be refilled.

Reopen the valve by pressing again the pushbutton. Open emergency flap and insert test plug!

Attention!

If the valve stays closed longer than 1 hour, the acoustic signal and the zero-potential contact will be activated periodically. By pressing the pushbutton, you may stop the alarm. To open the valve, press pushbutton again.

Service has to be done every 6 months by an expert!

Proper working to safe the guarantee by:

- Initial startup by experts
- Before planning and for startup contact an HL service man
- Sending the startup-report to HL
- Function check every month
- Service every 6 months

Service contract (proposal)
for HL Hutterer & Lechner – backwater valves
for drainage of sewage with excrements acc. DIN EN 13564

1. Owner

Surname First name

ZIP/Place Steet

2. Installer company

Name

ZIP/Place Street

3. According to DIN EN 13564 / DIN 1986
the installed valve has to be services and controlled two times a year. This maintenance has to be done acc. to HL service instructions.

Place Street / No.

installed quantity

Order.-No.: Device-No.:

Article:

4. Total amount per year:

EURO

5. Start of this contract

Place Date

Signature (Owner) Signature (Installer)

Service report for HL Hutterer & Lechner Backwater valves

Date	Name	Installer

HL Hutterer & Lechner GmbH, A-2325 Himberg, Brauhausgasse 3-5
TEL 0043-(0)2235-86291-0, FAX 0043-(0)2235-86291-52, www.hl.at

9. Disposal

Electronic components as well as batteries or rechargeable batteries must not be disposed of in household waste, but must be disposed of properly in accordance with the WEEE Directive 2012/19/EU.