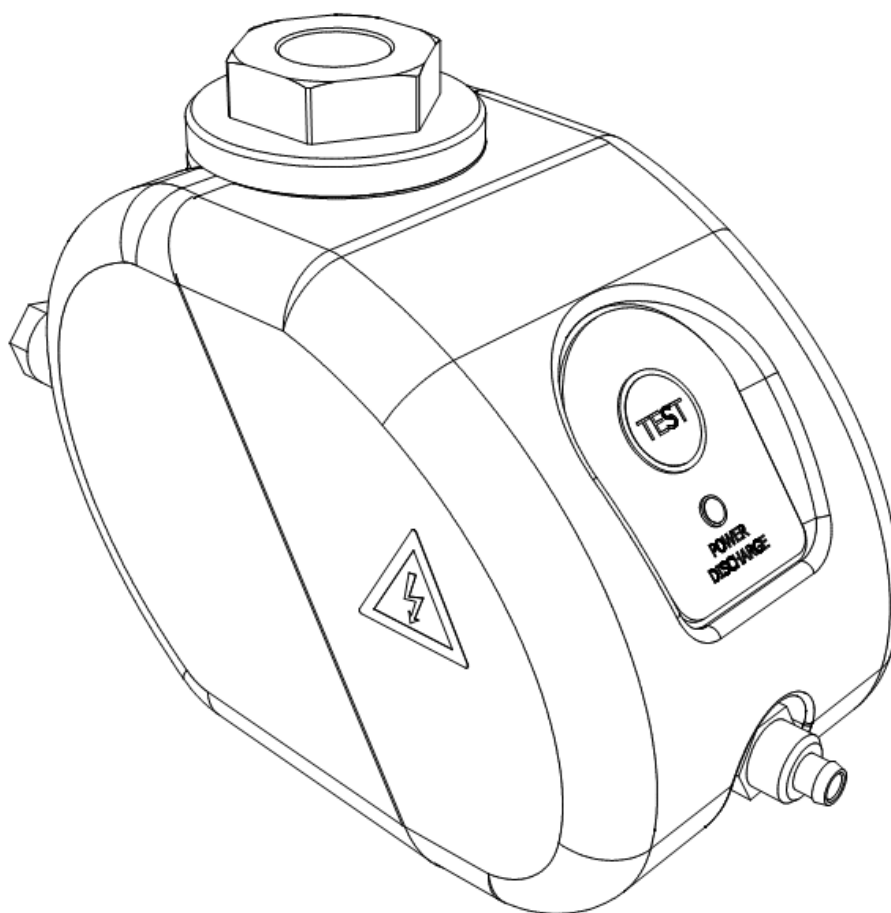




Installation and operating manual

CDi-16B

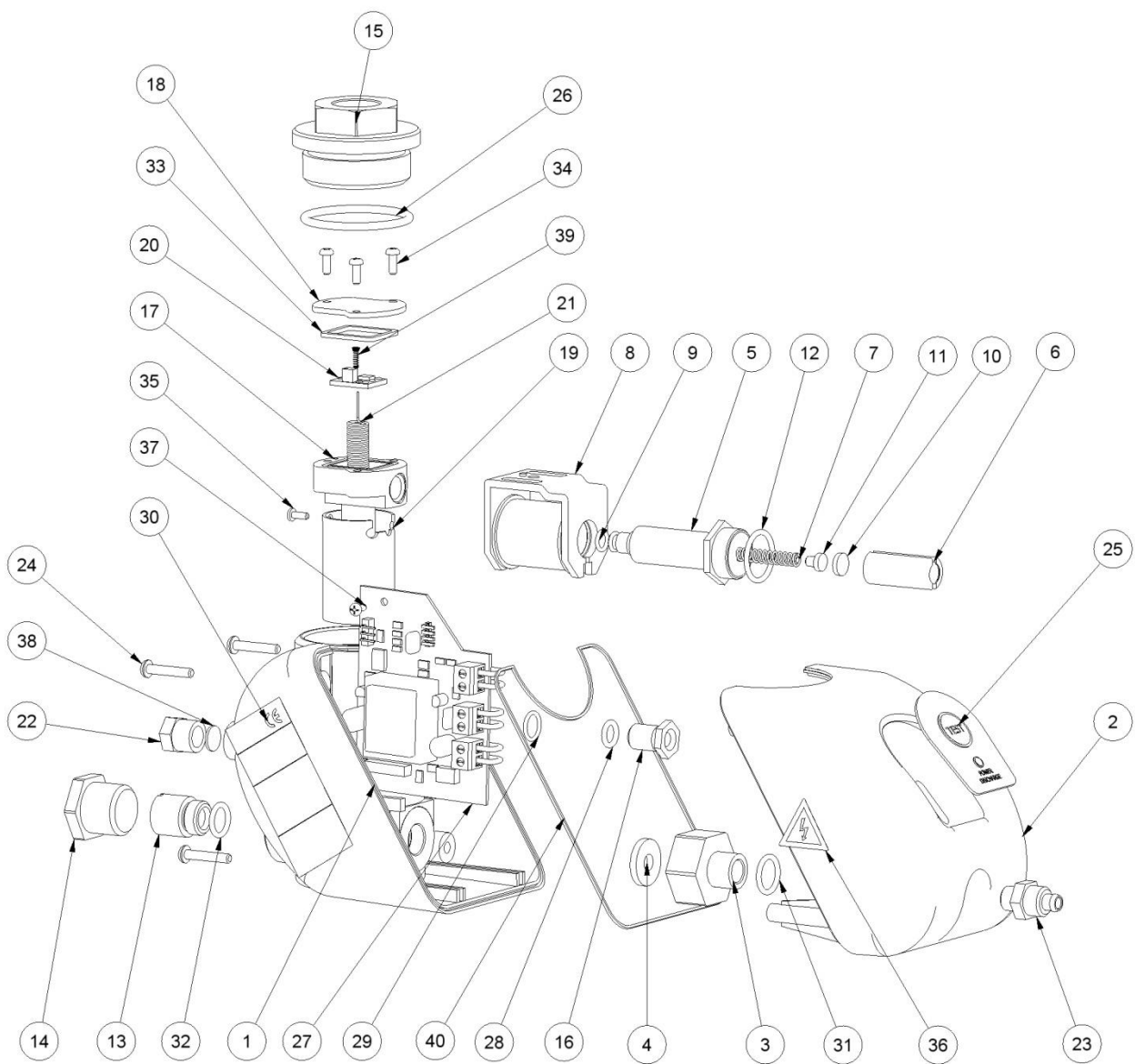


Please read the following instructions carefully before installing electronic drain unit into service. Trouble free and safe operating of the unit can only be guaranteed if recommendations and conditions stated in this manual are respected.



Components

| Part | Part | Part | Part |
|-------------------------|----------------------------|--------------------------------|-------------------------------|
| 1 Housing | 11 Spring base | 21 Sensor | 31 O-ring ϕ 12,0x2,0 |
| 2 Cover | 12 O-ring ϕ 17x2,0 | 22 Cable leader | 32 O-ring ϕ 10,0x2,0 |
| 3 Valve seat | 13 Valve inlet connector | 23 Connection 1/8"- ϕ 8/6 | 33 O-ring ϕ 21,95x1,78 |
| 4 Damper | 14 Screw plug 1/2" | 24 Screw PT KA 35x16 | 34 Screw KA 30x8 |
| 5 Valve housing | 15 Connection AI ϕ 50 | 25 Foil keyboard | 35 Screw KA 30x8 |
| 6 Plunger | 16 Fixing screw 1/8" | 26 O-ring ϕ 38,0x3,0 | 36 High voltage label |
| 7 Spring | 17 Probe holder | 27 Electronic | 37 Screw KA 30x6 |
| 8 Coil | 18 Probe holder cover | 28 O-ring ϕ 7,0x2,0 | 38 Flat seal ϕ 10x1 |
| 9 O-ring ϕ 5,8x1,5 | 19 Probe housing | 29 O-ring ϕ 9,0x1,5 | 39 Contact spring ϕ 2x10 |
| 10 Plunger sealing | 20 Electronic | 30 Data label | 40 Sealing |



Technical data

| | | |
|---|----------------|-----------------------------|
| Voltage | 115 VAC | 115 V; +5, -10% |
| | 230 VAC | 230 V; +5, -10% |
| Power | 115 VAC | 24 VA |
| | 230 VAC | 24 VA |
| Frequency | | 50 – 60 Hz |
| Operation pressure range | | 0 – 16 bar / 0 – 232 psi |
| Drain capacity (7 bar / 101 psi) | | 45 l/h 0,0265 scfm |
| Operating temperature range | | +1,5 – 65°C (35 to 149 °F) |
| Upper Inlet connection | | G 1/2" BSP |
| Lower Inlet connection | | G 1/2" BSP |
| Outlet connection | | G 1/8" BSP |
| Power interface | | 3 x 0,5mm ² |
| Protection class | | IP65 |
| Volume | | 0,1 l |
| Mass | | 0,96 kg |
| Dimensions A x B x C [mm] | | 165 x 115 x 85 |
| Housing material | | ABS, PA6, 30% glass fiber |
| Other housing parts | | Steel, PA6, 30% glass fiber |
| Level sensor | | PP (polypropylene) |
| Valve | | Stainless steel, brass |
| Sealing | | NBR |

| | |
|--|----------|
| Peak Compressor Performance [m³/min] | 34,8 |
| | 27,9 |
| | 17,4 |
| Peak Dryer Performance [m³/min] | 69,6 |
| | 55,8 |
| | 34,8 |
| Peak Filter Performance [m³/min] | 348 |
| | 279 |
| | 174 |
| Compressor power [kW] | Up to 90 |

Please take the relevant climate zone into account when dimensioning yours specific CDi series application.

| |
|---|
| Northern Europe, Canada, Northern USA, Central Asia |
| Central and Southern Europe, Central America |
| South East Asian coastal regions, Oceania, Amazon and Congo regions |

There is Technical datasheet available. For additional technical specification, contact manufacturer.

Safety instructions

- Depressurize the system before carrying out any work on the piping or CDi-16B.
- Installation and maintenance work may only be carried out when the device is not under pressure.
- Installation and maintenance work may only be carried out by trained and experienced staff.
- Disconnect power supply before installation or any maintenance work.
- Electrical work must always be carried out by qualified electrician.
- Do not exceed max. operating pressure or operating temperature range (**see data label**).
- Do not use the device in hazardous areas with potentially explosive atmospheres.
- Use original spare parts only.
- Use the device for the appropriate purpose only.

Appropriate use

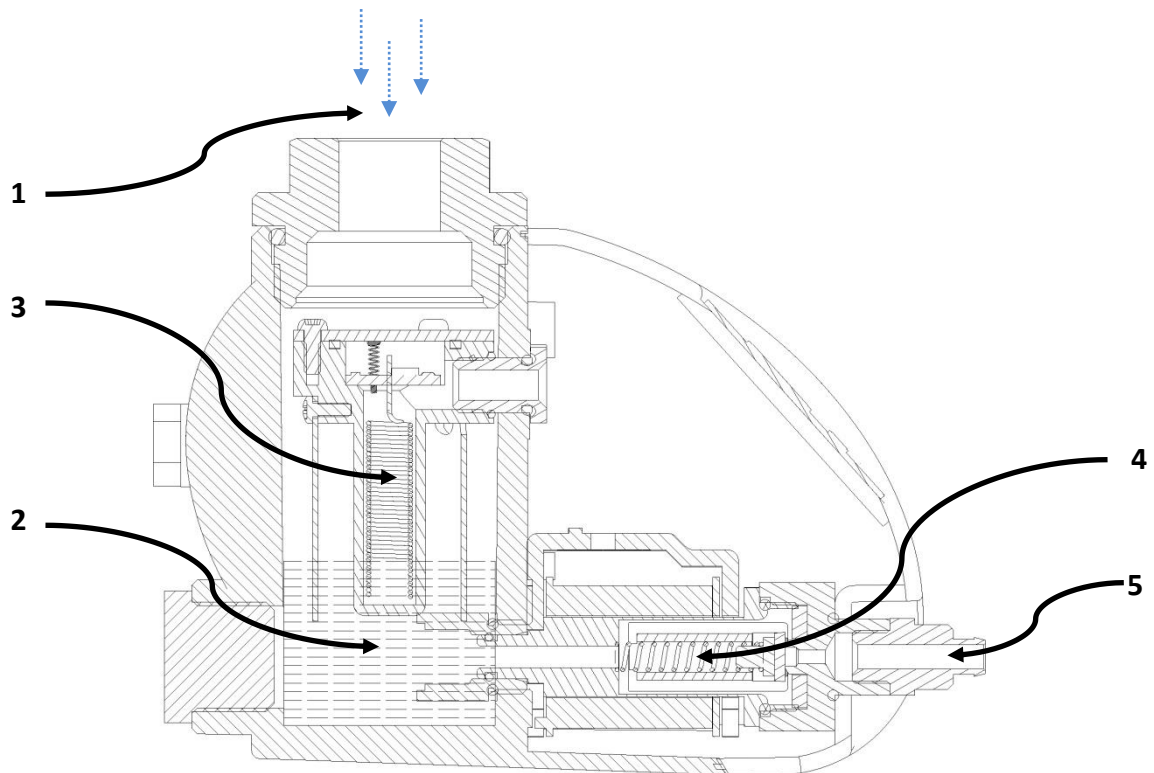


CDi-16B series electronic condensate drains are intended exclusively for draining condensate from compressed air system (air compressors, air receivers/pressure vessels, air dryers and air filters). This appliance must be used only for the purpose for which it was specifically designed. All other uses are to be considered incorrect.

The manufacturer cannot be held responsible for any damage resulting from improper, incorrect or unreasonable use.

Use genuine spare parts only. Any damage or malfunction caused by the use of unguine parts is not covered by Warranty or Product Liability.

Operating

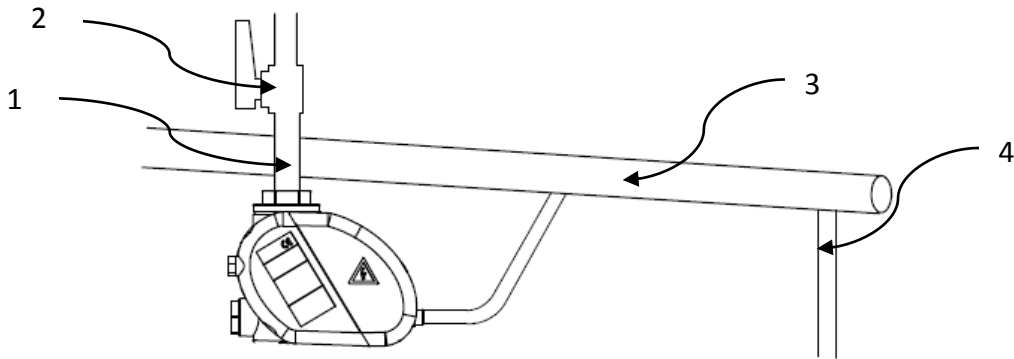


Condensate flows through inlet connection (1) and accumulates in the reservoir (2). Sensor (3) is measuring condensate level. When reservoir (2) is detected full, sensor (3) sends signal to electronic board. Electromagnetic valve (4) is then opened to discharge accumulated condensate through outlet connection (5). When reservoir (2) has been emptied, the valve (4) closes back without any losses of compressed air.

Led signal is indicating status of the device (**see Functions**).

If microcontroller registers faulty operation, device goes to alarm mode. At the same time signal is sent through voltage free contact (**see Functions**).

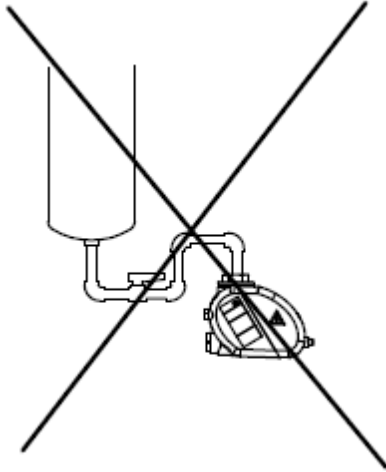
Installation



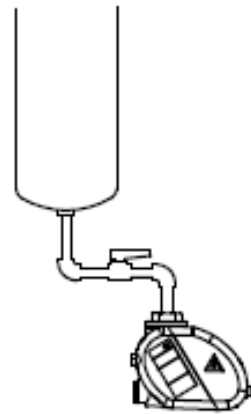
- Inlet pipe (1) size at least $\frac{1}{2}$ " (inner diameter > 13mm).
- Collecting condensate line (3) size at least $\frac{3}{4}$ ".
- At least 1% inlet pipe slope recommended.
- Install ball valves (2) only.
- Recommended connection (4) to water/oil separator.

| | |
|---|-------------------------------|
| <p>1</p> <p>+ / - 5° max.</p> | <p>2</p> <p>+ / - 5° max.</p> |
| <p>The inclination of the unit must not exceed + / - 5° in both axes. If device is not installed correctly it could cause faulty detecting of condensate level.</p> | |
| <p>3</p> | <p>4</p> |
| <p>Connecting several condensate sources to one drain device causes operating problems (3). Make sure that each drain source has its own drain device (4).</p> | |

5

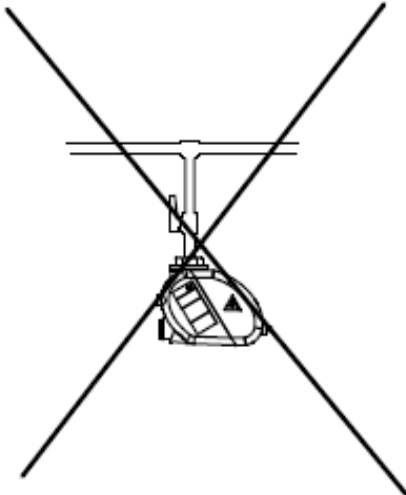


6

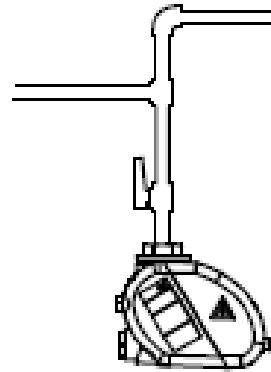


Trapped air prevents the condensate being purged from drain (5). During installation ensure that no water pockets are formed in the piping (6).

7

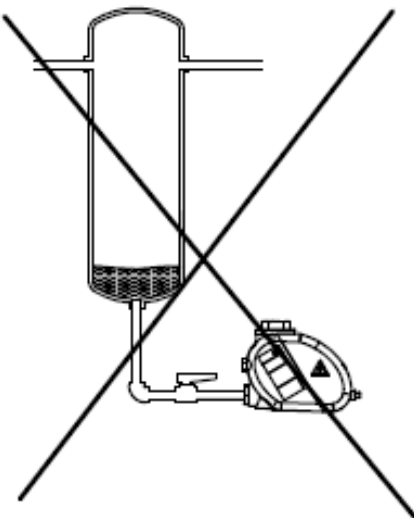


8

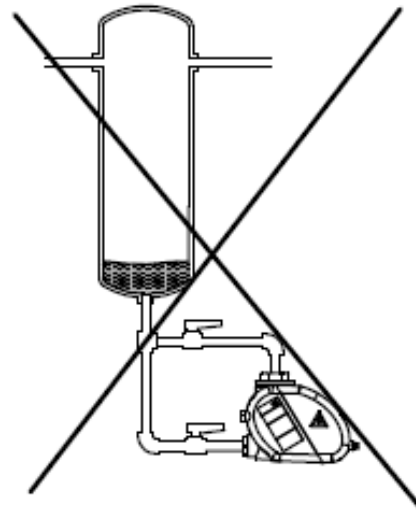


When drainage is to take place directly from a pipeline it is recommended to arrange the piping so that air flow is diverted (8).

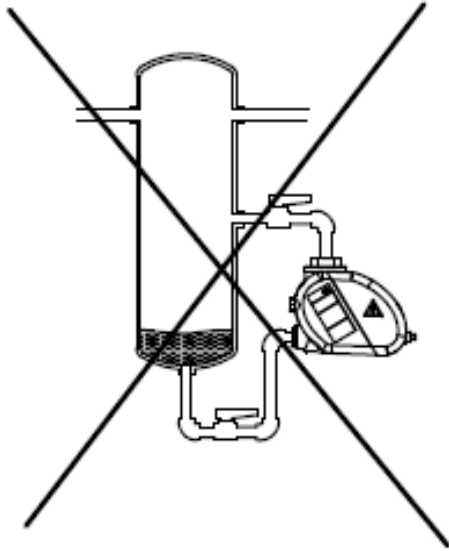
9



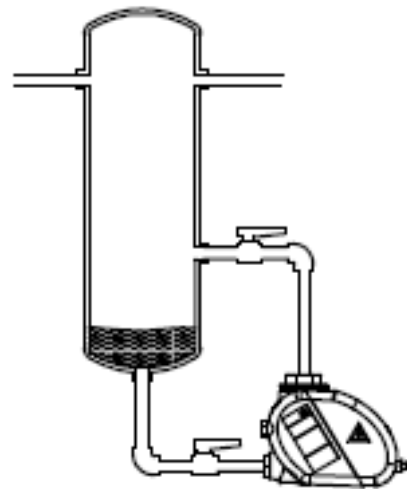
10



11



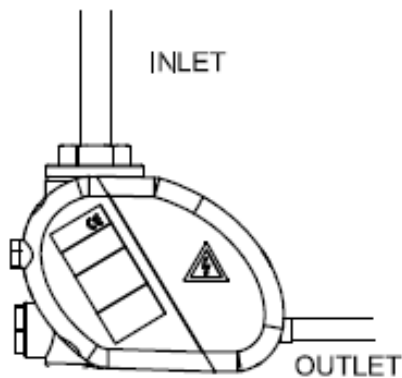
12



In case there are problems with inflow, it is necessary to install a venting line (12). In this case back connection is used as inlet and upper connection is used as air ventilation. Venting line must never be installed as it is on pictures 9, 10 and 11.

Warning: Upper and back connections cannot be used as condensate inlet at the same time.

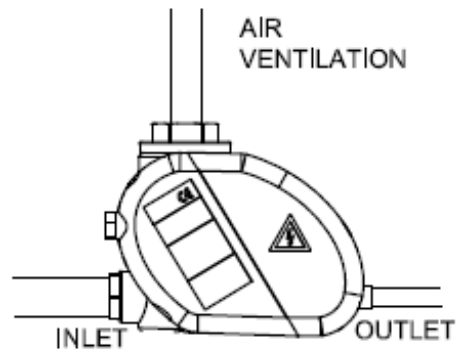
13



STANDARD INSTALLATION

Upper connection = Inlet
Back connection = Closed

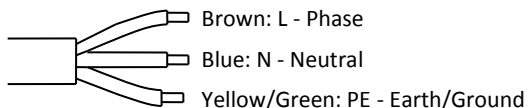
14



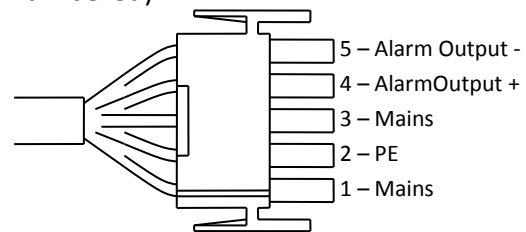
VENTING LINE INSTALLATION

Upper connection = Air vent
Back connection = Inlet

15a STANDARD WIRING



15b WIRING WITH ALARM (wires are numbered)


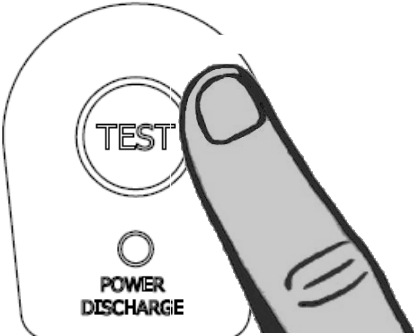


Electrical wiring

Please ensure that the installation is carried out according to the valid regulations

Functions

LED indicator / TEST button

| | |
|---|--|
|  | <p>LED indicator: LED indicates device condition.</p> <ol style="list-style-type: none">1. Green ON: Power on, reservoir empty, waiting condensate to accumulate2. Green FLASHES: Device is discharging condensate3. Red ON: Alarm mode |
|  | <p>TEST button: By pressing TEST button valve opens.</p> |

Operating modes

NORMAL

When sensor detects condensate the valve opens up to one second to discharge. Maximum number of discharges in normal mode is up to 20.

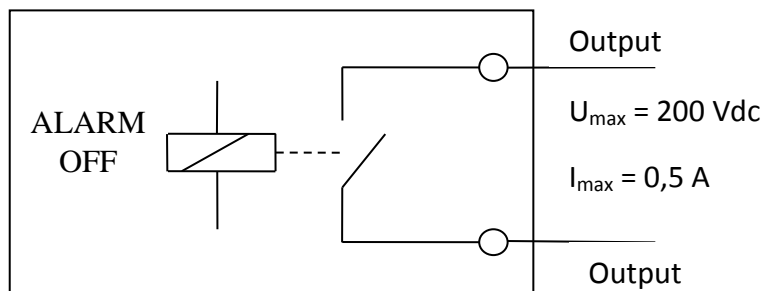
OVERLOAD

If sensor detects condensed water continuously for 100 seconds, drain enters overload mode. In this mode, the valve is opened for two seconds and closed for one second. This cycle repeats for five minutes (up to 100 discharges). In case the reservoir empties during overload mode, device enters normal mode again.

ALARM

If drain was still not able to discharge all condensate it enters alarm mode. In this mode, the valve is opened for three seconds every fifty seconds. In case the reservoir empties during alarm mode, drain enters normal mode again.

Alarm output



The switch is closed when CDi operates normally and it is open when CDi is in alarm mode or when power is disconnected.

Maintenance

Service:

It is recommended to clean the device at least once a year. Sealing and valve elements are subject to wear, which depends on various operating parameters such as pressure, temperature, dirt content, etc.

For trouble free operation it is strongly recommended to change wearing parts every:

- 8000 operating hours of compressor
- 3 years in use regardless compressor operating hours

All parts that are subject to wear are packed in SERVIS KIT CDi 16-B.



Attention

Before beginning maintenance work take the drain out of operation, switch off the power supply and depressurize the unit.

Service kits

Based on type of CDi-16B drain following servis kits can be used:

- SERVIS KIT CDi 16-B 230V
- SERVIS KIT CDi 16-B 115V

Servis procedure

Read complete installation and operating manual before beginning any maintenance or service work.

- Depressurize the unit, take the drain out of operation and switch off the power supply
- Unscrew four screws (24) from drain housing and remove cover (2).
- Remove worn components from the device and replace them with components you will find in SERVICE KIT.
- Put the cover (2) back on and tighten it with four screws (24).
- Before putting the device back to operation check for leakage and test proper operating by pressing TEST button.

Trouble shooting

| Problem | Possible cause | Solution |
|---|---|---|
| LED lights on CDi-16B don't light up | <ul style="list-style-type: none"> System initialisation is not performed Power cut Voltage is not the same as declared for CDi-16B Presence of voltage, time for initialisation passed by | <ul style="list-style-type: none"> After connection wait 2 sec for system initialisation Check for voltage in circuit Check the cable and power connection Connect CDi-16B to proper voltage Mistake must be repaired by authorised representative |
| CDi-16B discharges condense water few times one after another | <ul style="list-style-type: none"> Condense water discharge is partially or completely stopped There's no pressure in the system Valve cannot be opened There's a lot of dirtiness on a probe | <ul style="list-style-type: none"> Clean condense water discharge including discharge pipe Check for possible freezing and unfreeze parts Assure compressed air pressure Clean the valve seat Clean a probe Mistake must be repaired by authorised representative |
| CDi-16B doesn't discharge condense water | <ul style="list-style-type: none"> Critical condense water level is not exceeded Disconnected or faulty connected probe to electronics or faulty PCB | <ul style="list-style-type: none"> Check if the device is clean and no dirt is blocking the valve. Check if air vent is needed Error must be repaired by authorised representative |
| CDi-16B is in alarm mode (red LED signal) | <ul style="list-style-type: none"> The device was not able to discharge all the condensate for longer period of time | <ul style="list-style-type: none"> Check if the device is dimensioned correctly (max. condensate capacity = 45 l/h) Clean the device |

Warranty exclusion

The guarantee shall be void if:

- The installation and operating manual was not followed with respect to installation, initial commissioning and maintenance.
- The unit was not operated properly and appropriately.
- The unit was operated when it was clearly defective.
- Non-original spare parts or replacement parts were used.
- The unit was not operated within the permissible technical parameters.
- Unauthorized constructional changes were made to the unit or if the unit has been opened/disassembled by an unauthorized person.

OMEGA AIR d.o.o. Ljubljana
 Cesta Dolomitskega odreda 10
 SI-1000 Ljubljana, Slovenia
 Tel.: +386 (0)1 200 68 00
 Fax.: +386 (0)1 200 68 50
 E-mail: info@omega-air.si
 www.omega-air.si

