FROSTSIKRING AV RØR

INSTALLASJONSVEILEDNING

Frostsikring av rør
med GreenAqua

Les denne instruksen nøye før du starter installasjonen.
Du vil alltid finne siste oppdaterte veiledning på vår hjemmeside.

Cenika Varme AS
Joseph Kellers vei 27
2409 Tranby
post@cenikavarme.no
www.cenikavarme.no
T: +47 22505020

Innhold

1. PRODUCT SPECIFICATIONS AND DETAILS

GreenAqua10 are designed for on pipe as well as inpipe applications in domestic and commercial requirement to protect the water from freezing.

These are twin conductor series resistance heating cable available in predetermined lengths with factory terminated connections thoroughly tested.

GreenAqua10 consists of a resistance-heating element insulated with FP (Fluoropolymer) compound having high dielectric strength and high temperature with standability, which makes the heating cable totally safe. A metallic sheath is provided to give additional mechanical strength and provide ground path. A final outer jacket is given to make it sturdier and provide corrosion protection. The hot and cold junction is uniquely designed to make it 100% fool proof. The heating cable consists of a 2M cold lead with a power plug.

GreenAqua10 you brought has the following information:

- **Type of Product**
- **Cable Length**
- **Wattage**
- **Operating Voltage**
- **Serial Number**

The following is the range of GreenAqua10:

To-leder, 10W/M, 230V				
Art.nr	Art.navn	Lengde	Watt	Ω
CVA10420	GreenAqua10 2M 20W	2	20	2645
CVA10422	GreenAqua10 4M 40W	4	40	1322,5
CVA10423	GreenAqua10 6M 60W	6	60	881,7
CVA10424	GreenAqua10 8M 80W	8	80	661,3
CVA10425	GreenAqua10 10M 100W	10	100	529
CVA10426	GreenAqua10 12M 120W	12	120	440,8
CVA10427	GreenAqua10 14M 140W	14	140	377,9
CVA10428	GreenAqua10 16M 160W	16	160	330,6
CVA10429	GreenAqua10 18M 180W	18	180	293,9
CVA10430	GreenAqua10 20M 200W	20	200	264,5
CVA10431	GreenAqua10 24M 240W	24	240	220,4
CVA10432	GreenAqua10 30M 300W	30	300	176,3
CVA10433	GreenAqua10 42M 420W	42	420	126
CVA10434	GreenAqua10 60M 600W	60	600	88,2
CVA10435	GreenAqua10 80M 800W	80	800	66,1
CVA10436	GreenAqua10 105M 1050W	105	1050	50,4
CVA10437	GreenAqua10 135M 1350W	135	1350	39,2

2. SELECTION OF GreenAqua10 FOR YOUR APPLICATION

GreenAqua10 can be used for Metal as well as Plastic pipelines. Selection of required Green Aqua depends upon the size of water pipe, lowest ambient temperature against which freeze protection required and the type of thermal insulation.

The following can be taken as a general guide considering 25mm thick PUF insulation

Pipe Size	Min Ambient Temperature				
	-40°C	-30 °C	-20 °C	-10 °C	0 °C
4″	25W/m	25W/m	16W/m	10W/m	10W/m
3″	25W/m	16W/m	16W/m	10W/m	10W/m
2″	16W/m	16W/m	10W/m	10W/m	10W/m
1″ & Below	10W/m	10W/m	10W/m	10W/m	10W/m

Please note the above-indicated values are meant as a general guide; please consult qualified installer for actual requirement.

3. IMPORTANT INSTRUCTIONS BEFORE INSTALLATION OF THE SYSTEM

1. A qualified electrician should install and connect the heating cable to power source.

2. Installation shall be carried out as per the local statutory regulations.

3. GreenAqua10 should not cross or overlap itself at any point. This could cause the cable to overheat, requiring replacement.

4. Heating cable should not be cut or its length altered in any circumstances. This may cause over heating resulting in damage to the cable.

5. Take precautions to avoid damage to heating cable during installation.

6. Do not use any metal tie wires / binders to install the GreenAqua10.

7. Do not install the cable below -10°C ambient temperature.

8. Do not install the cable on flexible joints of the pipeline.

9. Do not install the cables on pipe along with external heat sources which may cause over heating of pipe and damage to the cable.

10. In case of plastic pipe applications, wrap an aluminum foil around the plastic pipe before installing the cable for even heat dissipation.

11. Never install the cable with bending radius of less than 6 times of cable diameter

12. For inside pipe applications keep the power connection joint about 5cm outside the pipe.

13. Always insulate the pipeline with adequate thermal insulation after installing GreenAqua10 cable.

14. Check the mains voltage and wattage of GreenAqua10 are as per the requirement. These are marked on the label of cable.

15. Check the Resistance and Insulation Resistance of the cable you brought before installing and also after installing. Resistance value of the GreenAqua10 shall match to the value given in product range table. A tolerance of -5% to +10% is allowed. Insulation Resistance shall be more than 10Mohms.

16. GreenAqua10 should be connected to a Ground Fault Circuit Interrupter (GFCI) / Residual Current Device (RCD) / equivalent having a rated residual operating current not exceeding 30mA. Keep the power leads conduit separate from the sensor cable conduit. The metal sheath of the heating cable shall be connected to an earth terminal.

17. Incase GFCI / RCD trips during normal operation, and cannot be reset, there is likely a fault in the cable. No attempt should be made to re-energize the system. GFCI / RCD must not be bypassed in any circumstances.

4. PRE-INSTALLATION PREPARATIONS

1. Turn ON the water and ensure the pipeline joints are leak proof.

2. Identify suitable power supply source location close to the starting point of the pipeline, preferably within 2 M length.

3. Arrange the other accessories as below required for completing the installation of GreenAqua10.

- 48mm wide Self adhesive aluminum foil tape for fixing the cable to the pipe
- Cable Gland/ Pipe adaptor (for INPIPE application) of required size
- Thermal insulation of adequate thickness to apply on the on the pipeline immediately after installing the cable.

4. Ensure the pipe is free from dust, oil, grease or sharp edges. Clean off the dust, oil, grease etc. If sharp edges exist, use heat transfer aids like aluminum foil / heat transfer cement on those edges making them flat to avoid damage to the cable.

5. For in pipe application ensure the cable gland/pipe adaptor fits in the Tee connection of the pipeline.

6. As soon as you remove the GreenAqua10 from its packing

- Check visually and make sure that it is not in a damaged condition.
- Check Voltage & Wattage on the box and ensure it is as per your requirement.
- Check resistance of heating cable and its insulation resistance with a multimeter and megger respectively.
- Resistance value of the GreenAqua10 shall match to the value given in product range table. A tolerance of -5% to +10% is allowed. Insulation Resistance shall be more than 10Mohms. Record it in the control card, format given at the end of this instruction manual.

7. Now you are ready for installing the cable.

5. INSTALLATION OF GreenAqua10

1. Uncoil the cable by rolling out.

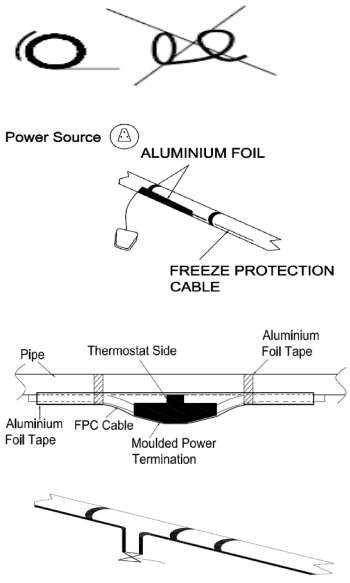
2. **<u>In case of ON PIPE application</u>:**

a. Start installing the Cable from the nearest point on the pipeline to power supply source and with Hot & Cold joint kept on the pipeline.

b. Use Aluminum Foil tape to tie the GreenAqua10 cable to the pipeline.

c. Cable should always be installed on under side of the pipe and secured to the pipeline with aluminium foil tape along its length for good heat dissipation.

d. In case the main pipeline is branching out which is of small length run the cable and return it back to the main pipe. If the branch line is a longer length use another unit of cable as done for main pipeline.

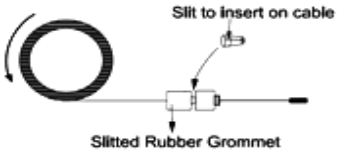


e. Check the Conductor Resistance and Insulation Resistance of the cable. This should be consistent with the value recorded prior to installation. Record values in the control card format given at the end of this manual.

3. **<u>In case of IN PIPE application</u>**

a. Ensure pipe is empty before running the GreenAqua10 into the pipeline.

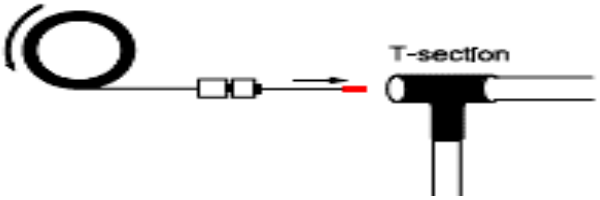
b. Insert the cable END through the cable gland/pipe adaptor into female threaded end of the Tee section of the pipeline.Insert the Red rubber grommet on cable (through the slit provided in the grommet) between male and female connector of the brass adaptor.

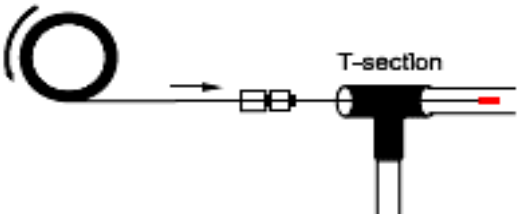


Inserting grommet and tightening of cable gland

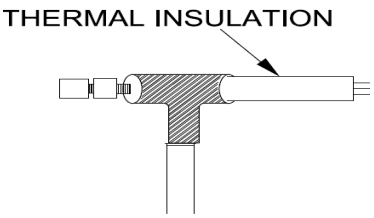
c. If possible check the cable reached the other end of the pipeline up to the point till which freeze protection required.

d. Fix the threaded male connector of cable gland / pipe adaptor to female threaded end of the Tee section.



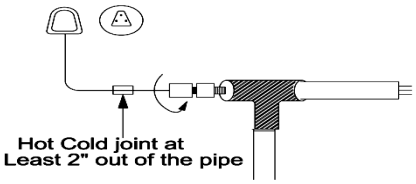


e. Keep Hot Cold Junction about 48mm outside the pipeline and screw the cable gland connector so that the cable is held tightly so that it withstands the water pressure and is leak proof.



4. Check the Resistance and Insulation Resistance of the cable. This should be consistent with the value recorded prior to installation. Record values in the control card, format given at the end of this manual.

5. Now apply the thermal insulation on the Freeze protected pipeline and protect the thermal insulation and ensure it is water proof.



6. Check the Resistance and Insulation Resistance of the cable after thermal insulation. This should be consistent with the value recorded prior to thermal insulation. Record values in the control card.

7. Now you can switch on the power supply for cable to warm-up and protect the pipeline from freezing.

8. Fix a label at power distribution board indicating the location of the heating unit installed.

6. OPERATING TIPS

1. When pipe empty switch OFF power supply to the GreenAqua10.

2. When ambient temperature is above 5°C switch OFF power supply to the Cable.

3. Always insulate the Freeze protected pipeline for an efficient Freeze Protection and low energy consumption.

7. WARRANTY

Cenika Varme AS provides a warranty for the GreenAqua10 Cables for a period of 20 years from date of installation.

In case of defective cable, Cenika Varme AS obligation will be limited to repair or supply a new cable, free of charge to the customer.

The warranty does not cover installations made by unauthorised persons or faults caused by incorrect design by others / misuse / damage caused by others / damage in transit / incorrect installation and any other subsequent damage that may occur. Repair / replacement will be fully chargeable if the damage is because of any of the above reasons.

Cenika Varme AS is under no circumstances liable for consequential damages or losses including without limitations the loss or profit arising from any cause whatsoever. The warranty is a material warranty only for the heating cable and does not cover field labour.

The warranty is void if there is any payment default, details are not entered on Control Card. We recommend the control card is registered online.

8. CONTROL CARD

Sl. No.	Test	Before commencing of installation	After installation of cable but before applying the thermal insulation	After applying thermal insulation
	Kontinuitet			
	Isolasjonsmotstand (M.ohm)			
	Motstand (Ohm)			
Address of Installation				
Date of Installation				
Name & Signature of Qualified Electrician				
Note: Ensure this control card is filled & signed by authorized electrician and safely stored along your floor plan.				

After End of life cycle, the product shall be disposed as per local norms.