The World Best
ENERPIA Co.,Ltd.

Installation instructions

Heating X-L Pipe

Before installation, carefully read this manual and prepare the required products.

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Heating X-L Pipe Installation instructions

1 General instructions

1) Application scope This specification is about the installation of the electric pipe for heating, and it is applied to the installation construction.

2) Applied rules Power connection construction of electric pipe for heating: Electric work

3) Related specifications The details other than those mentioned in this specification, which are related to the construction, follow the housing construction special specifications.

2 Materials

Heating X-L Pipe

Check box

Thermostat

Temperature sensor

Insulation

Wire mesh

1) General instructions

① Use product with electric heat generation wire and heat medium filled inside X-L pipe that are easy for post management and repair.

2) Pressure absorption device and water leakage prevention

① Heating X-L Pipe shall not freeze up to -20℃.
② Use product that can absorb the pressure inside the hot water pipe.
③ Heating X-L Pipe sealing device

3) Check box

① Check box shall be nonconductor if possible.
② Check/repair shall be easy after the construction.

4) Thermostat

① Use Thermostat product that can set the max. temp.
② Temperature sensor shall have water leakage prevention function and temp. detection function.

5) Accessories

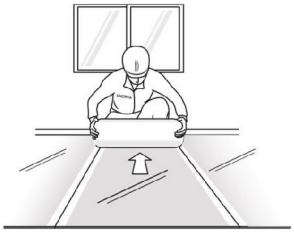
① Cross linked polyethylene (X-L pipe), fixing support clip bar, and fixing plate (U pin) Cross linked polyethylene support manufactured with PVC product or galvanized plate 0.7mm or more, #20 iron wire (locking wire) or PVC cable tie and wire mesh.

3 Construction

Precheck: Check insulation status

Over 50mm of Compressed styrofoam should be laid over 50mm of Buble Concrete or in case of general plaster

1) Insulation installation



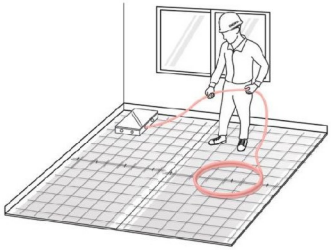
① Cover the existing floor or concrete floor with 3~5 mm foaming insulation.

② Leave space for the insulation about 5~10 cm from the wall to be boned to the floor when you construct with mortar.

2) Wire mesh installation

① Spread wire mesh on the entire floor on top of the insulation material, and fix the connection firmly with tie or wire.

3) Check box installation

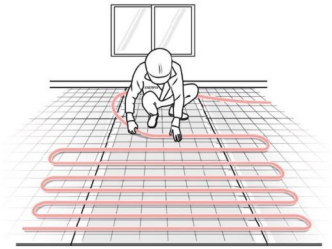


① Check box shall be installed horizontally. There should be installed the height of the plaster to coincide with the top of the check box.

② For the gap between Check box and wall, considering the finish thickness of the wall, install to secure the space for easy opening of the Check box cover after the construction.

③ Firmly fix so that the Check box does not move.

4) Heating X-L Pipe installation



① Both ends of X-L pipe should be placed in check box.

② Install X-L Pipe as the following specification and recommend bending X-L Pipe smoothly to prevent malfunction.
The Heating X-L Pipe shall maintain the horizontality.

Bending distance	Bending diameter
800mm	220mm

5) Fix with coil support (clip bar) and fixing pin (U pin). (If floor finish is bubble finish)

① For coil part straight pipe, 1 fixing pin at every 0.8m, and for other straight pipe part, 1 fixing pin at every 0.5m

② Completely fix at 2 or more locations for 90° bending pipe part without loose part, and prevent lifting of coil.

③ If floor finish is insulation materials (styrofoam) finish, spread wire mesh and install Heating X-L Pipe. During the plastering, to prevent pipe being pushed, fix to the wire mesh closely with cable tie.

④ Place the Heating X-L Pipe with 250~300mm gap from the wall.

6) Wiring work

① Connect the lead wire of the Heating X-L Pipe in parallel with the wire of thickness of the marked wire or more and connect to the output connector of temp. controller.

7) Temperature sensor installation

① Attach temperature sensor on the surface of Heating X-L Pipe and fix with cable tie or locking wire.

8) Cover up the check box

① Cover up(OPP TAPE - blue tape) the check box to do not allow moisture when at plaster's work.

9) Plastering work

① During the plastering work, it shall not cover electricity distribution box.

② If the thickness of the plastering work is thicker than the thickness of the electricity distribution box, the heating effect decreases rapidly.

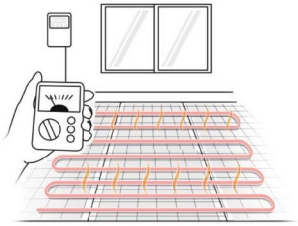
- Mortar thickness: 40mm-monoryum, deco-tile, ondol floor

10) Thermostat installation

① Install thermostat vertically and horizontally. To prevent connection problem (malfunction), sensor need to be installed firmly.

② Install thermostat(individual heating type) on the wall of 1-2m height from the floor not to be covered by furniture etc., and if it is close to the electric switch, have 200mm gap from the switch center horizontally.

11) Check the performance and test



① After the plastering is completely dried, power shall be supplied after finally checking the existence of electric leakage at the output side wire (load side).

② Check it the thermostat performs normal function at the set value of the thermostat (space occurrence between Heating X-L Pipe and mortar)

③ Use load (current) meter to check the output status according to the specification.

④ Check the set status of the thermostat.

※ Note

1. During the floor finish, construct the electricity distribution box part for possible checking (open/close).
2. Power supply work, switch box installation, and electric wire work are electric works.
3. Expose the electric wire connected to the electricity distribution box by 1m or more from the point exposed on the floor.
4. Electricity distribution box / Heating X-L pipe installation location can be changed.
5. During the power supply work, for the wire thickness, refer to the power amount for each room marked in the drawing.
6. During the power supply work, install earth leakage breaker for each temp. controller.
7. Construct the product with heat expansion pressure absorption device inserted.

Heating X-L Pipe construction cross-sectional diagram