

Ray Tech®

Leader in Quality

Stop Ice

Pre-assembled constant power heating kit
for anti-freezing use on pipes



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Raytech Stop-Ice is a new pre-assembled kit made up of a 12 W/m constant power cable with contact thermostat (at the end of the heating cable) and supply cable with plug.

Stop-Ice is especially suitable to protect pipes, valves and flange from frost, preventing them from being damaged by low temperatures.

It can be installed both on metal and plastic pipes.

Quick and easy to install, it does not need any separate temperature check system since the heating cable is equipped with a contact thermostat.



Stop-Ice is available in the following models:

Code	Model	Power (W/kit)	Specific power (W/m)	Length (m)
stopice212	Stop Ice 2/12	24	12	2
stopice512	Stop Ice 5/12	60	12	5
stopice1012	Stop Ice 10/12	120	12	12
stopice1812	Stop Ice 18/12	216	12	18

Technical features:	
Power:	12 W/m
Power supply:	230 V ~ 50/60 Hz
Cable dimensions:	~ 5 x 7 mm
Min. installation temperature:	+ 5°C
Max. working temperature:	+ 70°C
Cold cable (power supply):	length 1,5 metres 3x0,75 mm ² with plug
Heating cable type:	2 conductors, screened cable
Insulation:	XLPE
External sheath:	PVC
Min. bending radius:	3,5 D
Temperature check:	integrated bimetal thermostat
ON	+3°C
OFF	+ 10°C
Protection degree:	IP X7
Marking:	CE

Installation

Introduction

In order to properly select Stop-Ice kit, the following data are necessary:

- Length (m) of the pipe to be heated
- Pipe diameter (mm)
- Insulator thickness (mm)
- Min. ambient temperature (°C)

Once data have been collected, use the table below to properly select the calculation coefficient:

Pipe diameter		Insulator thickness					
Inner part DN (mm)	Inches	10 mm			20 mm		
		Min. ambient temperature					
		-10°C	-15°C	-25°C	-10°C	-15°C	-25°C
		Coefficient					
8	1/4	1	1	1	1	1	1
15	1/2	1	1	1	1	1	1
20	3/4	1	1	1.1	1	1	1
25	1	1	1	1.3	1	1	1
32	1 1/4	1	1.1	1.5	1	1	1
40	1 1/2	1.1	1.2	1.8	1	1	1.1
50	2	1.2	1.3	2.1	1	1	1.3

Heating cable length = Pipe length x coefficient

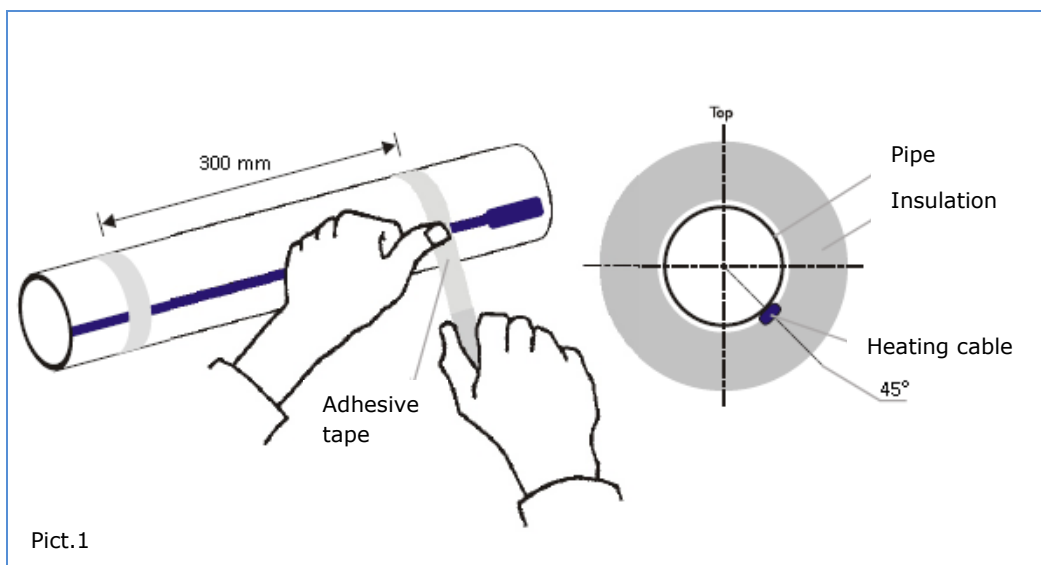
Example: for 2 meter long DN 8 pipe, with 10 mm insulation (e.g. mineral wood) which is located in an area with min.ambient temperature of -25°C, the calculation coefficient is 1 (see table).

Heating cable length = 2 metres (pipe length) x 1 (coefficient) = 2 metres; this length require the use of one 2/12 Ice Stop kit (see table on page 2).

Step 1

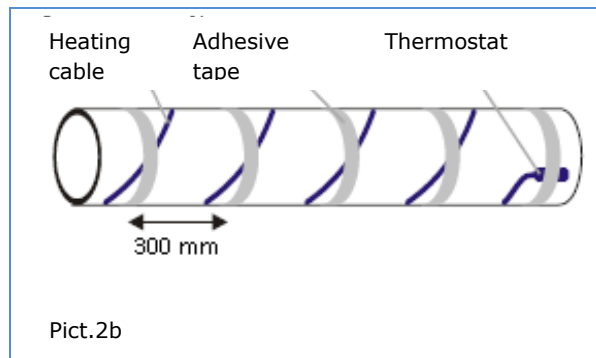
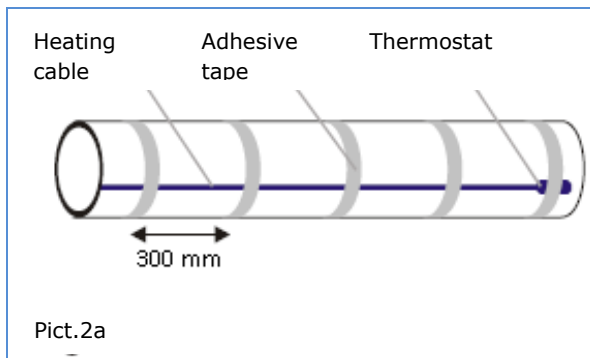
Start fixing the heating cable on the pipe installing the thermostat at the end of the cable as shown in picture 1.

It is advisable to install the thermostat at the end of the cable since this is the area which is most exposed to low temperatures.



Step 2

Fix the heating cable in straight position, below the pipe, at 45° to the vertical (Pict. 2a), 1 metre of cable is necessary for each pipe meter, or fix the cable in spiral position around the pipe (Pict. 2b).



Fix the cable to the pipes by means of the supplied adhesive tape.

To fix the cable in spiral position, it is necessary to calculate its pitch; this value allows to find out the exact distance to be kept between the heating cable passages.

$$P = \frac{\pi(D + d)L_R}{\sqrt{L_P^2 + L_R^2}}$$

P - pitch
 D - pipe external diameter
 d - heating cable dimensions
 L_P - heating cable length
 L_R - pipe length

Example

DN32 pipe (external diameter 42 mm)

Length: 12 metres

Insulator thickness: 10 mm

Min. ambient temperature: -25°C

Heating cable length = Pipe length x coefficient = 12 x 1,5 = 18 metres

The heating cable to be used is Stop Ice 18/12 which is 18 metre long. The cable installation pitch is calculated by using the formula indicated above

P - pitch

D - 0,42 cm

d - 0,7 cm

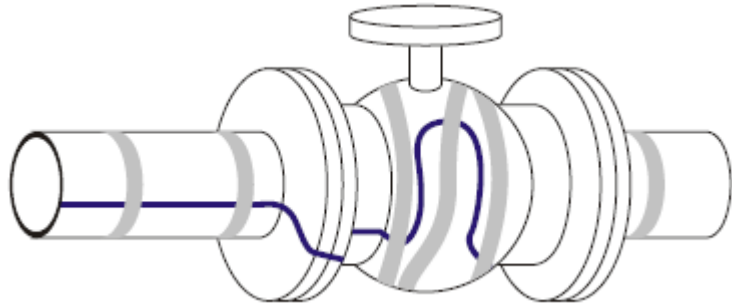
L_P - 1800 cm

L_R - 1200 cm

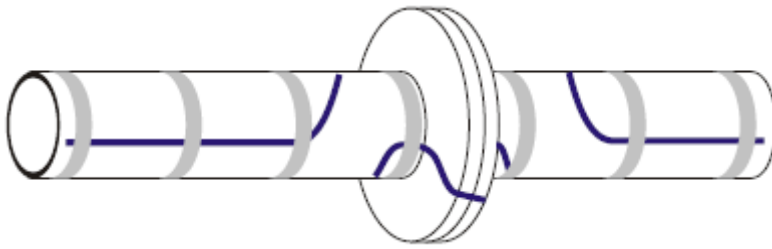
$$P = \frac{\pi(4,2 + 0,7)1200}{\sqrt{1800^2 + 1200^2}} = \frac{18473}{1342} = 13,8 \text{ cm}$$

Installation diagrams

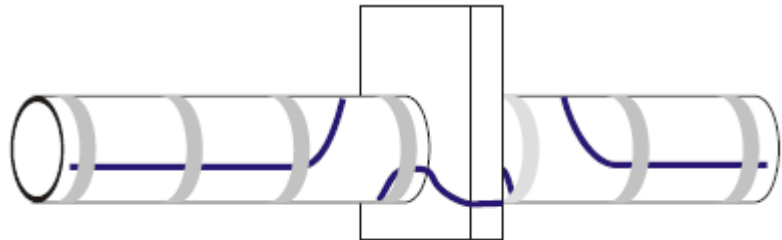
Valves



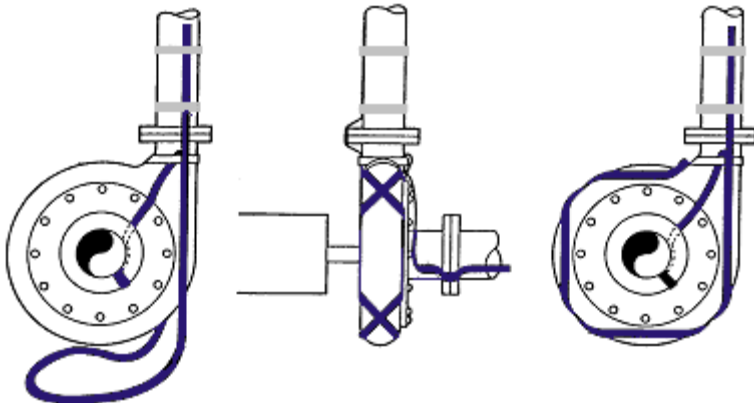
Flanges





Supports



Pumps



-  Heating cable
-  Adhesive tape

Raytech Srl

Via Enrico Fermi 11/13/17

20019 - Settimo Milanese (MI) - Italy

Tel. +39.0233500147 - Fax +39.0233500287

Info: info@raytech.it - Web: www.raytech.it

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