# **Instruction Manual**

# DOUBLE PIPE, ICL. INSULATION AND CABLE





# **CONTENTS**

1 DOUBLE STAINLESS STEEL PIPE	3
1.1 Technical description	3
1.2 Integrated piping system composition	3
1.3 Thermal properties	3
1.4 Thermal insulation	3
2 DOUBLE COPPER PIPE	4
2.1 Technical description	4
2.2 Integrated piping system composition	4
2.4 Thermal insulation	4
2.4 Assembly instructions	5
3 Insulation with surface protection	6
2.1 Technical description	6
2.2 Thermal insulation	6

# 1 DOUBLE COPPER PIPE, ICL. INSULATION AND CABLE

#### 1.1 Technical description

Two insulated copper tubes, splitable for easier connection to a collector, solar station, storage etc.



DOUBLE COPPER PIPE	Size	Length	Code
Double copper pipe 12x0.8, 15m long, incl. 14mm insulation and cable	12 × 0.8 mm	15 m	9637
Double copper pipe 15x0.8, 10m long, incl. 14mm insulation and cable	15 × 0.8 mm	10 m	9918
Double copper pipe 15x0.8, 15m long, incl. 14mm insulation and cable	15 × 0.8 mm	15 m	9638
Double copper pipe 18x1.0, 10m long, incl. 14mm insulation and cable	18 × 1.0 mm	10 m	9919
Double copper pipe 18x1.0, 15m long, incl. 14mm insulation and cable	18 × 1.0 mm	15 m	9639
Threaded fittings G 3/4" M / pipe Cu 15	Cu15 × 3/4"	-	9642
Threaded fittings G 3/4" M / pipe Cu 18	Cu18 × 3/4"	-	9643
Threaded fittings for pipe Cu 15	Cu15 × Cu15	-	9920
Threaded fittings for pipe Cu 18	Cu18 × Cu18	-	9921



9642 and 9643



9920 and 9921

# 1.2 Integrated piping system composition

- 2 copper pipes (DIN EN 12449)
- Insulation, made of EPDM
- black PE surface, UV resistant
- sensor cable 2 x 0.75 mm<sup>2</sup>, silicone insulation

# 1.3 Thermal properties

The thermal loss is equal to that of two individually laid pipes complete with 20 mm thick thermal insulation. Excellent insulation properties. Pipes in Cu 15 and Cu 18 have the insulation 14 mm thick.

#### 1.4 Thermal insulation

Thermal insulation is made of EPDM, light, flexible, closed-cell, synthetic rubber; PVC and CFC-free. It is soft and flexible.

Building material class: B2 according to DIN 4102. No embrittlement of copper and stainless steel tubes according to DIN 1988 Part 7; dimensions according to DIN 52 275-2.

Long-term thermal stability up to +125 °C; short-term up to +175 °C (stagnation temperature of collectors). Characteristic value of thermal conductivity at + 40 °C,  $\lambda_{40^{\circ}\text{C}}$  = 0.037 W/mK, at 0 °C,  $\lambda_{0^{\circ}\text{C}}$  = 0.033 W/mK. Very good ozone resistance, UV-resistant, weatherproof.

The tubes are marked in order to avoid any confusion between feed/return.

#### 2 DOUBLE STAINLESS STEEL PIPE, ICL. INSULATION AND CABLE

#### 2.1 Technical description

Two stainless steel corrugated tubes, splitable for easier connection to a collector, solar station, storage etc.



DOUBLE STAINLESS STEEL PIPE	Size	Length	Code
Double stainless steel DN16 pipe, 10m long, incl. insulation and cable	DN16	10 m	9916
Double stainless steel DN16 pipe, 15m long, incl. insulation and cable	DN16	15 m	9619
Double stainless steel DN16 pipe, 50m long, incl. insulation and cable	DN16	50 m	10564
Double stainless steel DN20 pipe, 10m long, incl. insulation and cable	DN20	10 m	9917
Double stainless steel DN20 pipe, 15m long, incl. insulation and cable	DN20	15 m	9620
Double stainless steel DN20 pipe, 50m long, incl. insulation and cable	DN20	50 m	10565
Threaded fittings 2x G 3/4" for stainless steel DN16 pipe - set	DN16	-	9644
Threaded fittings 2x G 1" for stainless steel DN20 pipe - set	DN20	-	9645
Wall bracket for double stainless steel DN16 pipe - set	DN16	-	9641
Wall bracket for double stainless steel DN20 pipe - set	DN20	-	9646



9641 and 9646



9644 and 9645

#### 2.2 Integrated piping system composition

- 2 stainless steel corrugated pipes
- Insulation, made of EPDM
- black PE surface, UV resistant
- sensor cable 2 x 0.75 mm<sup>2</sup>, silicone insulation

#### 2.3 Thermal insulation

Thermal insulation is made of EPDM, light, flexible, closed-cell, synthetic rubber; PVC and CFC-free. It is soft and flexible.

Building material class: B2 according to DIN 4102. No embrittlement of copper and stainless steel tubes according to DIN 1988 Part 7; dimensions according to DIN 52 275-2.

Long-term thermal stability up to +125 °C; short-term up to +175 °C (stagnation temperature of collectors). Characteristic value of thermal conductivity at + 40 °C,  $\lambda_{40^{\circ}\text{C}}$  = 0.037 W/mK, at 0 °C,  $\lambda_{0^{\circ}\text{C}}$  = 0.033 W/mK. Very good ozone resistance, UV-resistant, weatherproof.

The tubes are marked in order to avoid any confusion between feed/return.

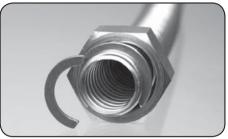
# 2.4 Assembly instructions

# 1. Cut the pipe



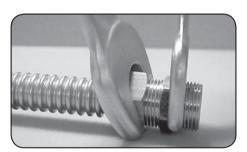
Cut the corrugated pipe at the desired place with a pipe cutter.

## 3. Fit clamping washer



Put the union nut onto the corrugated pipe, insert the clamping washer in the first trough and push together.

## 5. Tighten the double nipple



Tighten the double nipple to close up the existing through to an even sealed position.

# 7. Insert the flat seal



Insert the flat seal and check for proper position of the clamping washer.

# 2. Cut piece free of burrs?



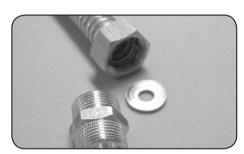
Check cut pipe and remove any possible burrs.

# 4. Insert the large diameter washer



Hold the union nut with tongs or hold lightly in a vice. Insert the large diameter washer into the union nut.

## 6. Remove the double nipple and large diameter washer



Take the double nipple and large diameter washer out again.

# 8. Turning in the appropriate fitting

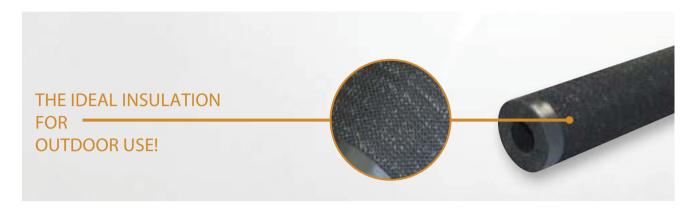


Turn in the appropriate fitting into the connecting nut (for example: fitting external thread x clamping ring fitting).

#### 3 Insulation with surface protection

#### 3.1 Technical description

Thermal insulation covered with polyester wire mesh. Its surface is UV-resistant and weather-proof. It is usually used as insulation exposed to weather. It is gnaw-resistant.



	Size	Length	Code
Insulation diam. 18 - insulation thickness 26 mm, surface protection	inner diam. 18 mm, 26 mm thick	2m	9648
Insulation diam. 22 - insulation thickness 26 mm, surface protection	inner diam. 22 mm, 26 mm thick	2m	9649
Insulation diam. 28 - insulation thickness 25 mm, surface protection	inner diam. 28 mm, 25 mm thick	2m	9650

#### 3.2 Thermal insulation

Thermal insulation is made of EPDM, light, flexible, closed-cell, synthetic rubber; PVC and CFC-free. It is soft and flexible.

Building material class: B2 according to DIN 4102. No embrittlement of copper and stainless steel tubes according to DIN 1988 Part 7; dimensions according to DIN 52 275-2.

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