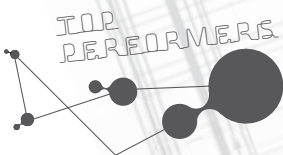




**jaga**

**TECHNICAL MANUAL**  
**MICRO CANAL**



WWW.  
**THE RADIATORFACTORY**  
.COM



MICRO CANAL\_reference





This brochure is produced for:

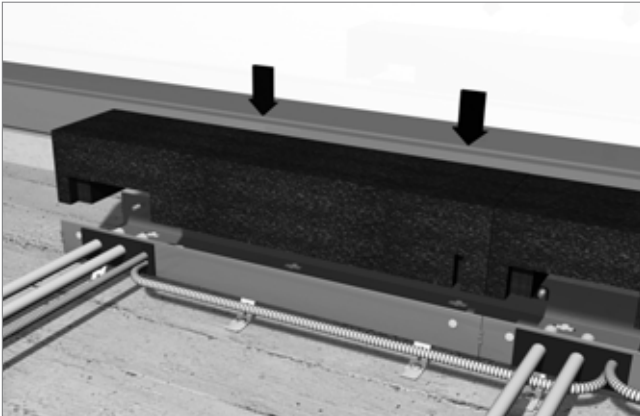
- specifiers
- installers
- engineers
- after sales controllers

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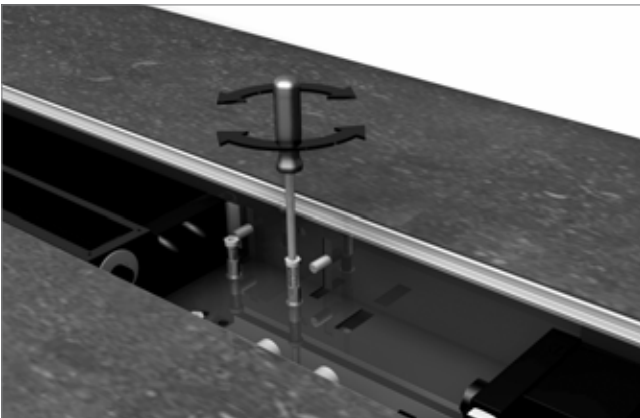
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**Assembly / protection block**

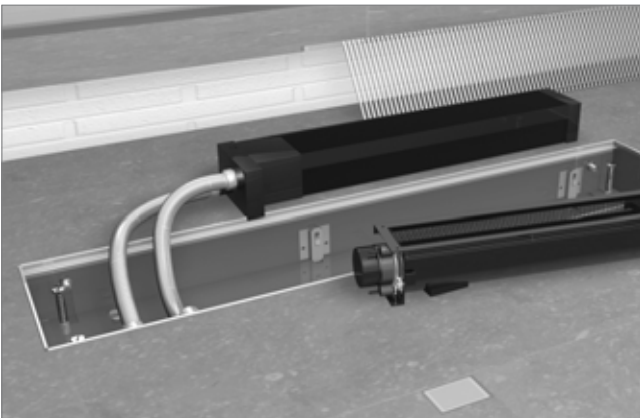
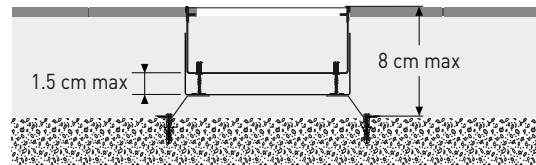
- polyethylene protection block
- to keep the duct clean when pouring concrete on the floor of the building
- can be used as protection for the outer duct during completion of the building constructor



**Height adjustment**

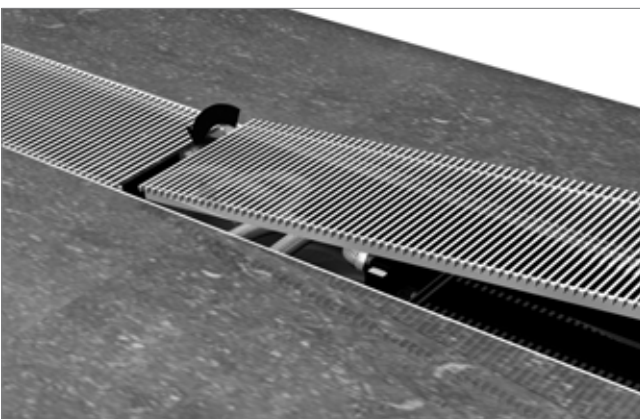
Advanced height adjustment from 6 cm to 8 cm

- outer duct with height control / anchor
- inner duct with fine tuning of height



**Fully detachable internal mechanism**

- 2 SS flexibles 15 cm, 1/2"
- for easy cleaning of the duct and fan filter

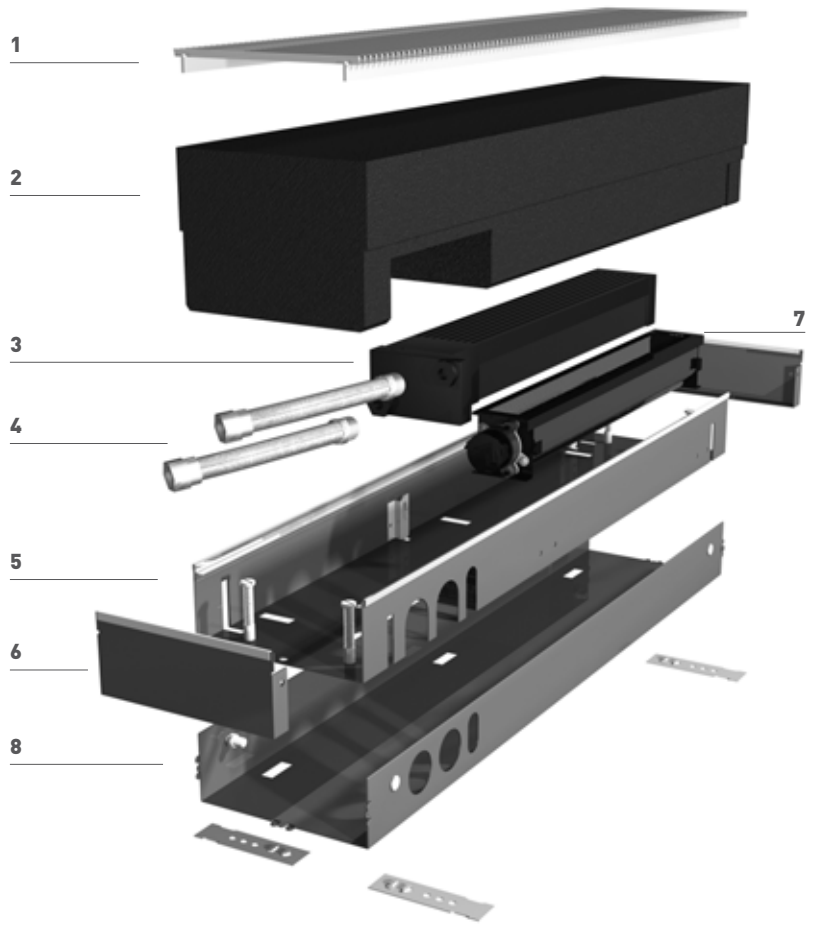


**Continuous Stainless Steel grill**

- SS grille(s)
- SS grille(s) painted in colours starting with code 4 and colour 006 (see colour chart)
- material AISI 316

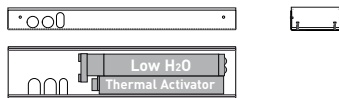
**Standard parts**

- 1 continuous stainless steel grill
- 2 mounting / protection block(s)
- 3 Low-H<sub>2</sub>O heat exchanger
- 4 2 x SS flexibles 15 cm 1/2"
- 5 inner duct with fine tuning of height and SS grille carrier
- 6 start and end piece with SS grille carrier and 2 aluminium countersunk head rivets
- 7 thermal activator(s), (tangential mini activator)
- 8 outer duct with height adjustment stand-ard / anchor

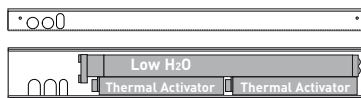


**Range**

**Length 60 cm: art.nr. MIRF.00606014./SSS**  
 - 1 LowH<sub>2</sub>O Heat Exchanger  
 - 1 Thermal Activator (tangential)



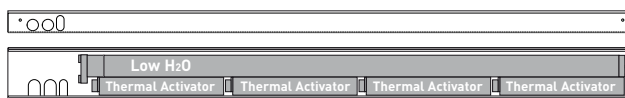
**Length 95 cm: art.nr. MIRF.00609514./SSS**  
 - 1 LowH<sub>2</sub>O Heat Exchanger  
 - 2 Thermal Activators (tangential)



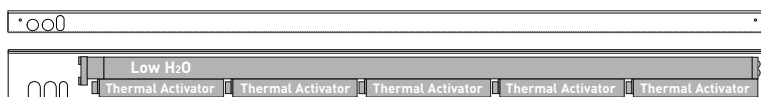
**Length 130 cm: art.nr. MIRF.00613014./SSS**  
 - 1 LowH<sub>2</sub>O Heat Exchanger  
 - 3 Thermal Activators (tangential)



**Length 165 cm: art.nr. MIRF.00616514./SSS**  
 - 1 LowH<sub>2</sub>O Heat Exchanger  
 - 4 Thermal Activators (tangential)



**Length 200 cm: art.nr. MIRF.00620014./SSS**  
 - 1 LowH<sub>2</sub>O Heat Exchanger  
 - 5 Thermal Activators (tangential)





- sound-pressure 22.8 dB(A) (MIRF.00613014)
- the thermal activators operate from supply water of 30 °
- can be installed as a continuous product, open spaces can be filled with empty ducts
- continuous Stainless Steel grill
- width 13 cm
- advanced height adjustment from 6 cm to 8 cm
- assembly / protection block standard
- self-regulation: no controls needed
- flexible connection tubes
- thermal Activators: 12 VDC

**Options**

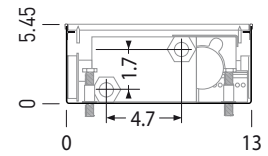
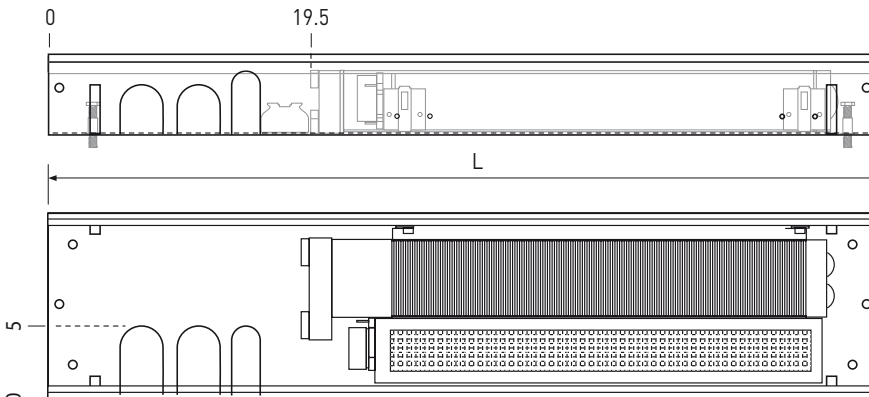
- duct with valve unit and 12 VDC motor, SS grille (L 35 cm)
- empty duct with grille
- corner piece with painted steel cover
- adjustable feet for construction floor, 1 set per duct

**Accessories**

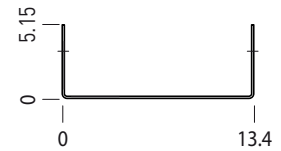
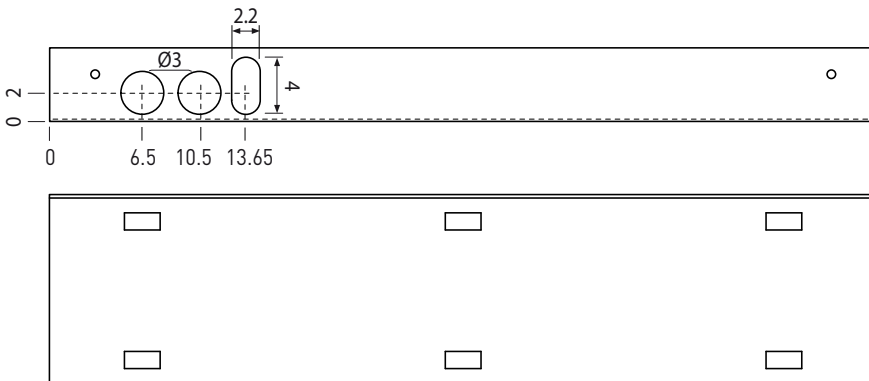
- Power Supply 12VDC
- Jaga Valve and 230 Volt motor

**Dimensions**

**Inner duct**



**Outer duct**



	MIRF.00606014	MIRF.00609514	MIRF.00613014	MIRF.00616514	MIRF.00620014
L	60	95	130	165	200

L = full length (cm)

## Stainless steel grille \_\_\_\_\_

/SSS



CODE	Length	Output
MIRF.00606014/ <b>SSS</b>	60	390
MIRF.00609514/ <b>SSS</b>	95	780
MIRF.00613014/ <b>SSS</b>	130	1170
MIRF.00616514/ <b>SSS</b>	165	1560
MIRF.00620014/ <b>SSS</b>	200	1950

Length in cm, Output (W) at 75/65/20.

## Stainless steel grille painted \_\_\_\_\_

colour code /SSS



CODE	Length	Output
MIRF.00606014. ... /SSS	60	390
MIRF.00609514. ... /SSS	95	780
MIRF.00613014. ... /SSS	130	1170
MIRF.00616514. ... /SSS	165	1560
MIRF.00620014. ... /SSS	200	1950

colour code: painted in colours starting with code 4 and colour 006 (see colour chart)

## Standard delivery \_\_\_\_\_

- Outer duct with height adjustment
- Inner duct with height adjustment (finetuning) en SS grille supports
  - start and end piece with SS grille carrier and 2 aluminium countersunk head rivets
- Low H2O heat exchanger
- Thermal Activator(s), (tangential mini activator)
- SS grill(s), material AISI 316
- 2x flexibles 15 cm 1/2"
- polyethylene mounting - protection block(s)





**OPTIONS & ACCESSORIES**  
**MICRO CANAL**

## 8

### Empty ducts

- open spaces can be filled with empty ducts
- all lengths (60 / 95 / 130 / 165 / 200)
- inner and outer duct
- advanced height adjustment from 6 cm to 8 cm
- SS grille(s) painted in colours starting with code 4 and colour 006 (see colour chart)
- assembly / protection block standard



### Valve duct

- duct with valve unit and 12 VDC motor
- inner and outer duct length 35 cm
- advanced height adjustment from 6 cm to 8 cm
- SS grille(s) painted in colours starting with code 4 and colour 006 (see colour chart)
- assembly / protection block standard



### Corner piece

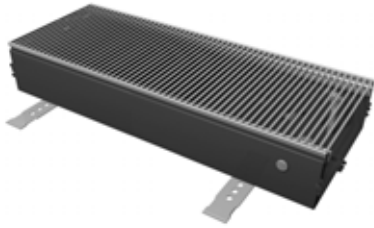
- continuous duct and finishing of corners
- one model (order code) for left or right corner
- inner and outer duct lengths
- advanced height adjustment from 6 cm to 8 cm
- with painted steel plate
- assembly / protection block standard



### Adjustable feet for construction floor

- for construction floor
- 1 set = 2 voetjes
- adjustable from 5 cm to 7 cm
- adjustable from 8 cm to 13 cm
- adjustable from 13 cm to 23 cm
- adjustable from 23 cm to 33 cm





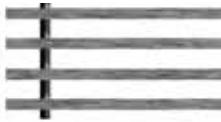
- all lengths (60 / 95 / 130 / 165 / 200)
- inner and outer duct
- to fill open spaces for a continuous installation
- SS grill / SS grill painted in colours starting with code 4 and colour 006 (see colour chart)
- advanced height adjustment from 6 cm to 8 cm

### Standard delivery

- outer duct with height regulation
- inner duct with fine adjustment and stainless steel grille support
- 2 head ends with stainless steel grille support and 3 aluminum rivets with countersunk heads
- stainless steel grille(s) / stainless steel grille(s) painted in colours starting with code 4 and colour 006 (see colour chart)
- protective mounting block (s) in polyethylene

### With Stainless Steel grill

/SSS



CODE	Length (cm)
7522.00606014/SSS	60
7522.00609514/SSS	95
7522.00613014/SSS	130
7522.00616514/SSS	165
7522.00620014/SSS	200

### With Stainless Steel grill painted

colour code /SSS



CODE	Length (cm)
7522.00606014. .../SSS	60
7522.00609514. .../SSS	95
7522.00613014. .../SSS	130
7522.00616514. .../SSS	165
7522.00620014. .../SSS	200

colour code: painted in colours starting with code 4 and colour 006 (see colour chart)

### Product description

Empty ducts, all lengths (60 / 95 / 130 / 165 / 200) to fill open spaces for a continuous installation

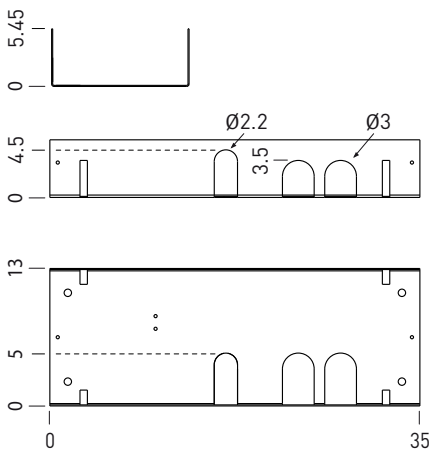
- empty ducts, comprising a 1 mm-thick inner duct of Sendzimir galvanized steel plate, coated with a charcoal-grey scratch-proof epoxy-polyester paint, RAL 7024, well glossiness 10%. There are grooves in the side for anchoring to the outer duct. There are riveted joints in the floor for (finely) adjusting the height by means of bolts. The sides are equipped with a stainless steel grille support. Two head ends are supplied, equipped with a stainless steel grille support and aluminium rivets with countersunk heads for finishing the ends of the inner duct.

- outer duct of 1.5 mm Sendzimir galvanized steel plate, coated with a charcoalgrey scratch-proof epoxy-polyester lacquer, RAL 7024, well glossiness 10%. Rivets are fitted in the sides for securing the inner well. Anchoring strips are supplied with the duct (also adjustable in height, max. 15 mm), which enable the duct to be anchored in the (pouring) concrete. Two head ends are supplied, equipped with a stainless steel grille support and aluminium rivets with countersunk heads for finishing the ends of the inner duct.

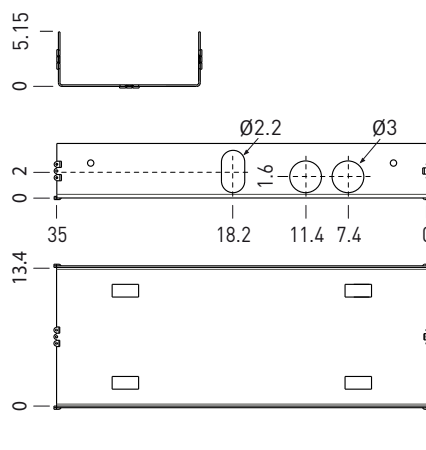
- the total height is adjustable between 6 and 8 cm, which guarantees that the unit fits flush with the finished floor. The total recess depth is a minimum of 6cm.
- Stainless steel floor grille composed of triangular panels fitted in the width and welded support panels fitted in the length.
- SS grill / SS grill painted in colours starting with code 4 and colour 006 (see colour chart)
- profile: 4.5 x 2 – 124.5mm.
- mutual distance 2mm.
- length profiles: 10 x 2mm
- material: AISI 304
- protective mounting block (s) in polyethylene

### Dimensions

Inner duct



Outer duct





**Standard delivery**

- outer duct (35 cm) with height regulation
- inner duct with fine adjustment and stainless steel grille support
- stainless steel grille(s) / stainless steel grille(s) painted in colours starting with code 4 and colour 006 (see colour chart)
- protective mounting block (s) in polyethylene
- 2 SS flexible connections
- valve set
  - 1 thermostat valve
  - 1 return valve
  - 1 12 VDC motor driven valve

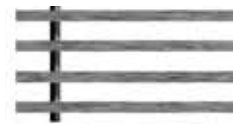
**Productdescription**

Valve duct:

- inner duct of 1 mm Sendzimir galvanized steel plate, coated with an charcoal-grey scratch-proof epoxy-polyester lacquer, RAL 7024, well glossiness 10%. There are 3 connection openings in the inner duct for the passage of the hydraulic pipes and electric cables (running through to the side and base). There are grooves in the side for anchoring to the outer duct. There are riveted joints in the floor for (finely) adjusting the height by means of bolts. The sides are equipped with a stainless steel grille support. Two head ends are supplied, equipped with a stainless steel grille support and aluminium rivets with countersunk heads for finishing the ends of the inner duct.

**With Stainless Steel grill**

/SSS



**CODE**  
7522.00603514/SSS

**With Stainless Steel grill painted**

colour code /SSS



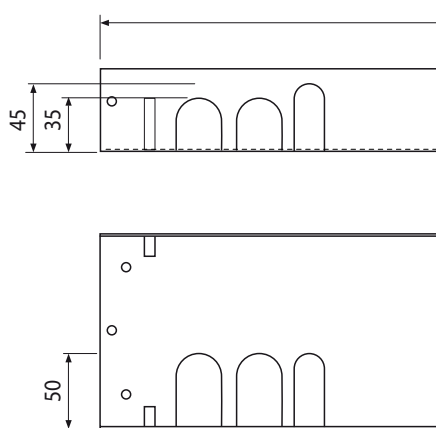
**CODE**  
7522.00603514. .../SSS

colour code: painted in colours starting with code 4 and colour 006 (see colour chart)

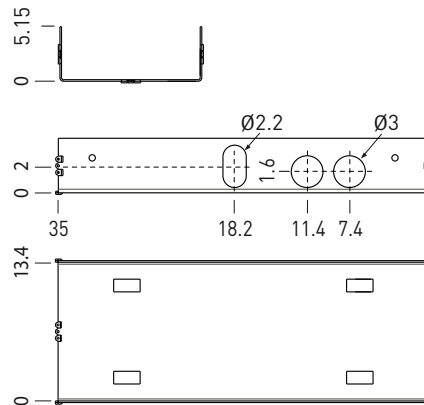
- outer duct of 1.5 mm Sendzimir galvanized steel plate, coated with a charcoalgrey scratch-proof epoxy-polyester lacquer, RAL 7024, well glossiness 10%. There are 3 connection openings in the outer duct for the passage of the hydraulic pipes and electric cables. These openings - in the side - are sealed with black insulation tape. Rivets are fitted in the sides for securing the inner well. Anchoring strips are supplied with the duct (also adjustable in height, max. 15 mm), which enable the duct to be anchored in the (pouring) concrete.

**Dimensions**

Inner duct



Outer duct

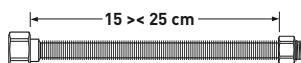


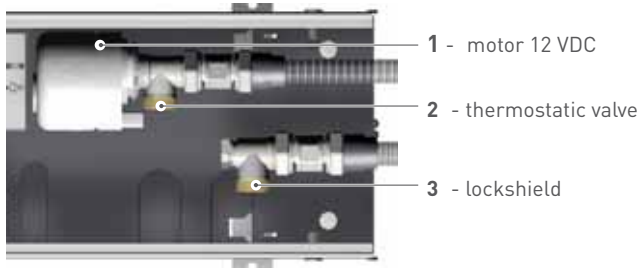
- the total height is adjustable between 6 and 8 cm, which guarantees that the unit fits flush with the finished floor. The total recess depth is a minimum of 6cm.
- SS grill / SS grill painted in colours starting with code 4 and colour 006 (see colour chart)
  - profile: 4.5 x 2 - 124.5mm.
  - mutual distance 2mm.
  - length profiles: 10 x 2mm
  - material: AISI 304
- protective mounting block (s) in polyethylene
- connection set: 1 lock-shield, 1 thermostat valve and 1 motor 12 VDC
- 2 SS flexible connections, length adjustable from 15 to 25 cm

**Flexible connection**

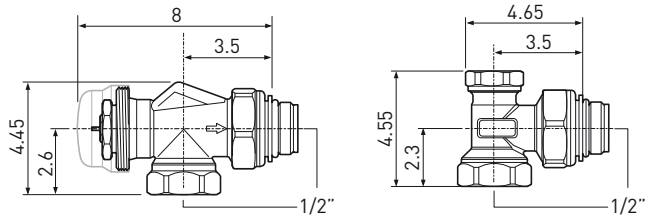


- Stainless Steel
- length adjustable from 15 to 25 cm

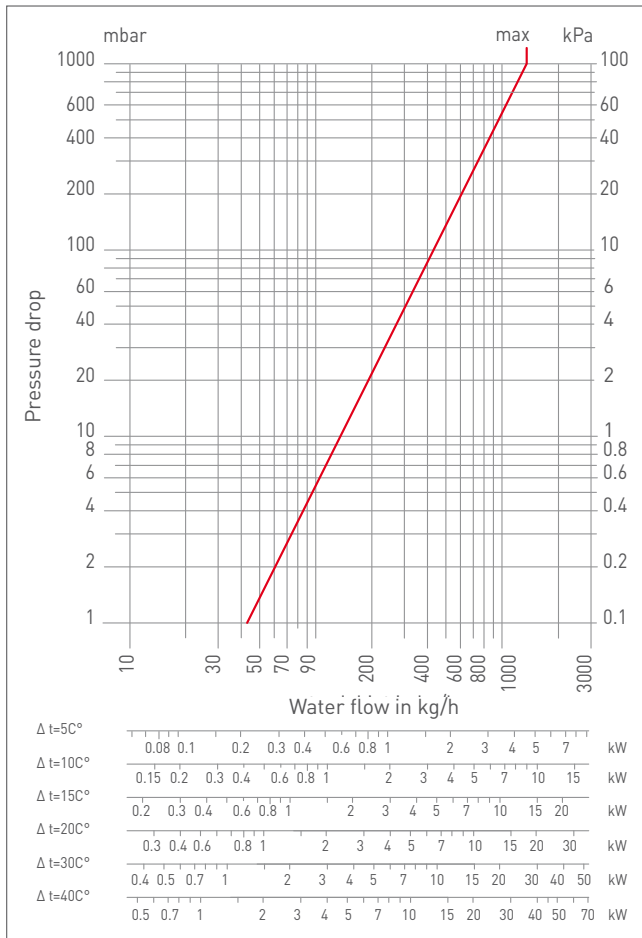




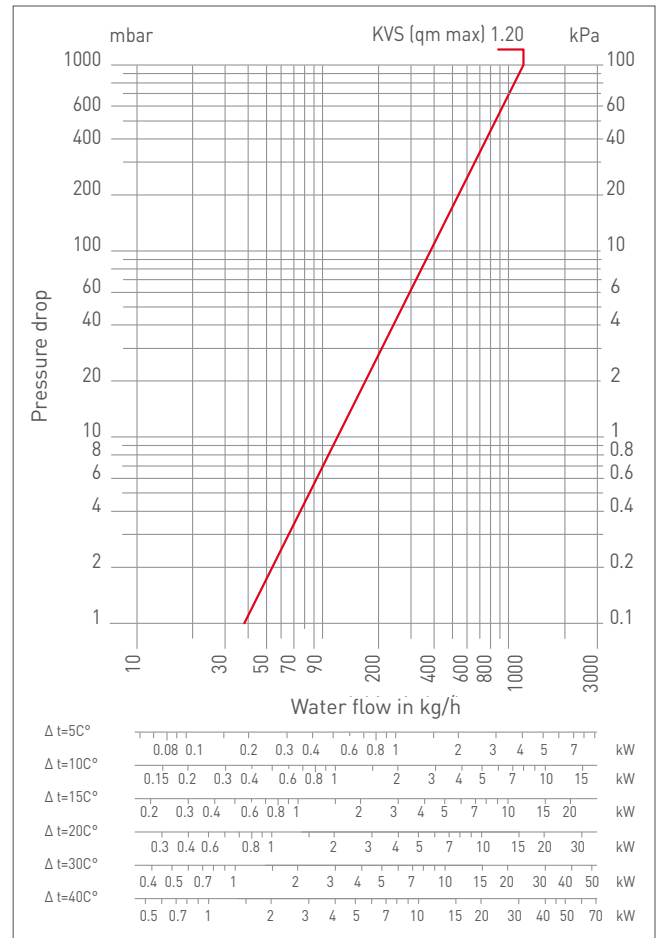
### Dimensions valve / lockshield



### Pressure drop valve

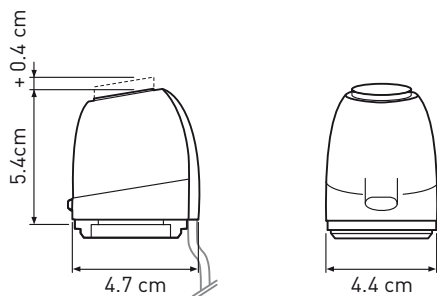


### Pressure drop lockshield



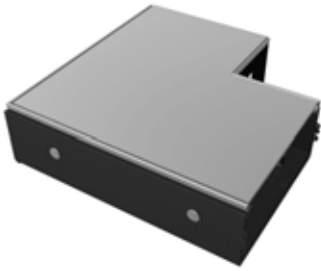
### 12 VDC motor

#### Dimensions



#### Technical data

- function: normal closed
- control: two-position
- operating voltage: 12 VDC
- short-time peak: 300 mA
- constant flow: 9 mA
- continuous power: 2 W
- start up power: 6 W
- closing / opening time: ca. 6 min
- strip: ca. 3 mm.
- resilience: 90 N
- protection: IP 40
- cable: 2 x 0,5 mm 2/1000 mm
- ambient temperature: 50 ° C max

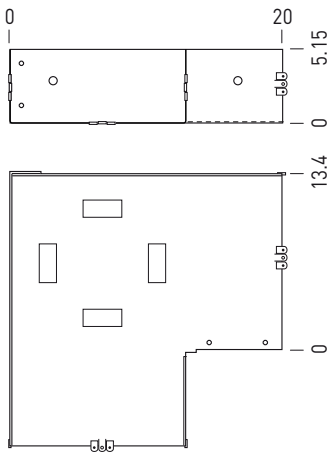


- for finishing angles
- one model (order code) for left or right corner with full cover plate, galvanized steel from Sendzimir, painted in colours starting with code 4 and colour 006 (see colour chart)

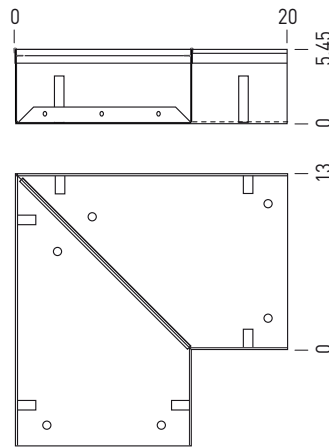
CODE: 7522.00602014

**Dimensions**

Inner duct



Outer duct



**Standard delivery**

- outer duct with height regulation
- inner duct with fine adjustment and stainless steel grille support
- full cover plate, galvanized steel from Sendzimir, painted in colours starting with code 4 and colour 006 (see colour chart)
- protective mounting block(s) in polyethylene

**Product description**

Corner Pieces for finishing Micro Canal angles comprising:

- inner duct of 1 mm Sendzimir galvanized steel plate, coated with an charcoal-grey scratch-proof epoxy-polyester lacquer, RAL 7024, well glossiness 10%. There are grooves in the side for anchoring to the outer duct. There are riveted joints in the floor for (finely) adjusting the height by means of bolts. The sides are equipped with a stainless steel grille support.
- outer duct of 1.5 mm Sendzimir galvanized steel plate, coated with a charcoalgrey scratch-proof epoxy-polyester lacquer, RAL 7024, well glossiness 10%.
- rivets are fitted in the sides for securing the inner well. Anchoring strips are supplied with the duct (also adjustable in height, max. 15 mm), which enable the duct to be anchored in the (pouring) concrete.
- the total height is adjustable between 6 and 8 cm, which guarantees that the unit fits flush with the finished floor. The total recess depth is a minimum of 6cm.
- full cover plate, galvanized steel from Sendzimir, painted in colours starting with code 4 and colour 006 (see colour chart)
- protective mounting block (s) in polyethylene





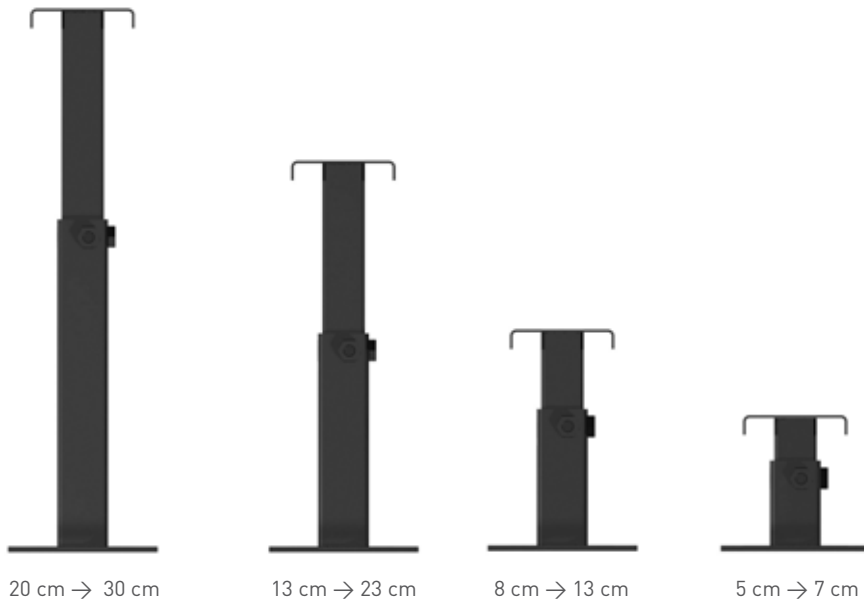
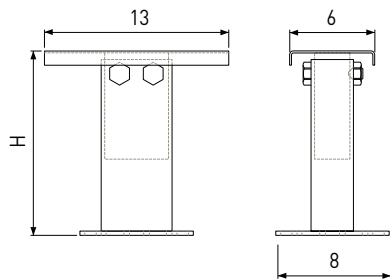
## MICRO CANAL\_option\_ height-adjustable feet



- for construction floor
- colour grey RAL 7024
- easy installation using stainless steel spring system

CODE	H
5207.05070000	6 cm → 8 cm
5207.08130000	8 cm → 13 cm
5207.13230000	13 cm → 23 cm
5207.20300000	20 cm → 30 cm

### Dimensions



### Standaard levering

- one Kit includes two adjustable telescopic feet
- stainless steel spring system (4)

### Productdescription

- adjustable telescopic feet of 1 mm Sendzimir galvanized steel plate, coated with an charcoal-grey scratch-proof epoxy-polyester lacquer, RAL 7024, well glossiness 10%.
- T5: adjustable from 5 cm to 7 cm
- T8: adjustable from 8 to 13 cm
- T13: adjustable from 13 cm to 23 cm
- T20: adjustable from 23 cm to 33 cm
- assembly through SS spring system
- 1 set = 2 feet



- minimal installation depth
- Safety: UL1310 Class 2
- convection cooling
- DIN-rail or wall mounting

**Standard delivery** \_\_\_\_\_

- 1 power supply

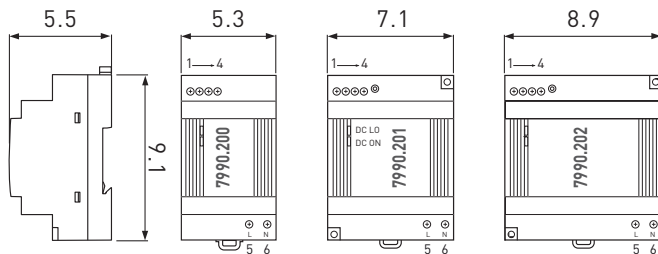
**Required power = number of activators x 2,5 W**



The warranty is only valid when using the original Jaga Power supply

CODE	Power
7990.200	25 W
7990.201	52 W
7990.202	72 W

**Dimensions** \_\_\_\_\_



**Technical information** \_\_\_\_\_

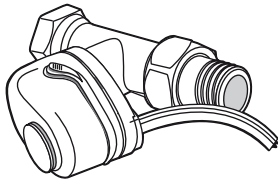
	7990.200	7990.201	7990.202
Phases:	1	1	1
Output voltage (variable):	12 VDC	12 VDC	12 VDC
Output voltage between:	12-14 VDC	12-14 VDC	12-14 VDC
Output current:	2,1 A	4,5 A	6 A
Power (W):	25 W	54 W	72 W
Input:	230 VAC	230 VAC	230 VAC
Weight:	200 g	250 g	320 g
Connections:	Screw Connection		
Overcurrent Protection:	120 - 145%		
LED Display:	Green LED = On, Red LED = DC output Low		
Operating Temperature:	-25 to +71 ° C		

**Cable length i.f.o. number of motors** (max. lose of tension 5%)

Cable thickness	Motors 5	10	15	20	25	30	35	40	45	50
2.5 mm <sup>2</sup>	171	86	57	43	34	29	24	21	19	17
1.5 mm <sup>2</sup>	103	51	34	26	21	17	15	13	11	10
1.0 mm <sup>2</sup>	69	34	23	17	14	11	10	9	8	7
0.75 mm <sup>2</sup>	51	26	17	13	10	9	7	6	6	5
0.5 mm <sup>2</sup>	34	17	11	9	7	6	5	4	4	3

\* Consumption: 1.2 watts per Activator (Motor)

dimensions in meter



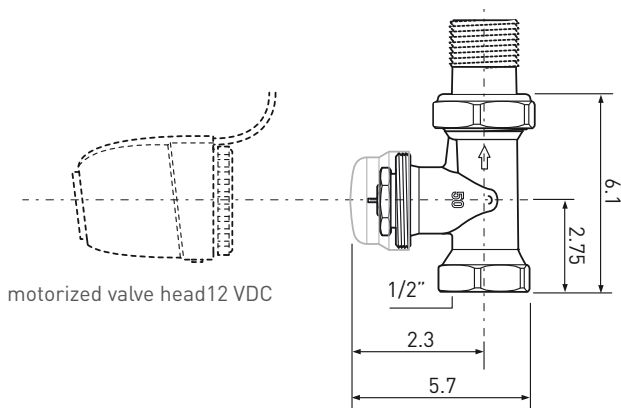
- with varistor to protect against overvoltage
- with position indicator (open/closed)

**Standard delivery**

- 1 Jaga valve
- motor 230V

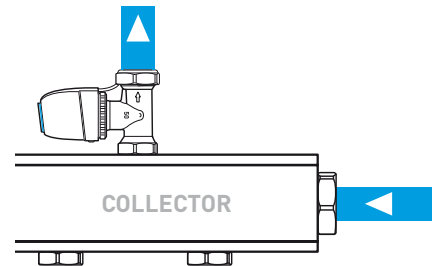
CODE	Description
7990.409	180°-G 1/2" F / NG 230 Volt 2 Watt
7990.411	180°-G 3/4" F / NG 230 Volt 2 Watt

**Valve dimensions**



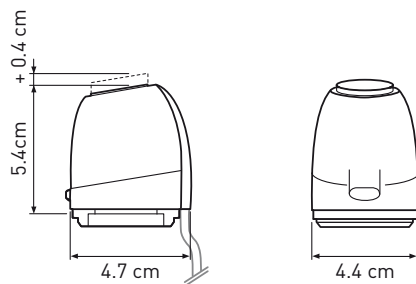
**Mounting**

**!** Only for installation on distributor  
Not for connection in to the duct!



**Motor**

**Dimensions**



**Technical data**

- function: normal closed
- control: two-position
- operating voltage: 230 V AC/DC
- Short-time peak: 300 mA
- constant flow: 9 mA
- continuous power: 2 W
- start up power: 6 W
- closing / opening time: ca. 6 min
- strip: ca. 3 mm.
- resilience: 90 N
- protection: IP 40
- cable: 2 x 0,5 mm mm2/1000
- ambient temperature: 50 ° C max

Manual: see page 42

- The manual is on the inside of the packaging, unfold the packaging.

### Micro Canal unit

Pre-assembled heating unit for building into the floor, comprising a 1 mm-thick inner duct and a 1.5 mm-thick outer duct of Sendzimir galvanized steel plate, coated with a charcoalgrey scratch-proof epoxy-polyester lacquer, RAL 7024, well glossiness 10%.

There are 3 connection openings in the outer duct for the passage of the hydraulic pipes and electric cables. These openings – in the side – are sealed with black insulation tape. Rivets are fitted in the sides for securing the inner well.

Anchoring strips are supplied with the duct (also adjustable in height, max. 15 mm), which enable the duct to be anchored in the (pouring) concrete.

There are 3 connection openings in the inner duct for the passage of the hydraulic pipes and electric cables (running through to the side and base). There are grooves in the side for anchoring to the outer duct. There are riveted joints in the floor for (finely) adjusting the height by means of bolts. The sides are equipped with a stainless steel grille support.

Standard delivered with: Polyethylene protective mounting block(s)

Two head ends are supplied, equipped with a stainless steel grille support and aluminium rivets with countersunk heads for finishing the ends of the inner duct.

The total height is adjustable between 6 and 8 cm, which guarantees that the unit fits flush with the finished floor. The total recess depth is a minimum of 6cm. All components are secured with special spring steel suspension hooks, so all the parts can be removed extremely quickly and easily for regular cleaning and maintenance without hydraulic or electrical disconnection.

#### Stainless steel continuous grille

Stainless steel floor grille composed of triangular panels fitted in the width and welded support panels fitted in the length.

- profile: 4.5 x 2 – 124.5mm.
- mutual distance 2mm.
- length profiles: 10 x 2mm
- material: AISI 304

#### Low H2O heating element

Round, seamless circular pipes in pure copper, connected to pure aluminium panels with a mutual distance of 2mm and an integrated brass collector for 3/8" connection.

- including deaerator.
- the heat exchanger is electrostatically painted with black epoxy polyester powder, glossiness 70%.
- element pressure test: 25 bar.
- operating pressure: max 10 bar.
- standard connection left.

### Activators

One or more virtually noiseless tangential activators, 12 VDC, with Sendzimir galvanized steel plate cover and integrated stainless steel air filter.

Colour black, glossiness 70%.

Normal operation should be virtually inaudible at the given nominal capacity.

### Electrical connection

Integrated electric connection box with manual tension spring system.

- standard connection left.

### Models

To be selected according to the manufacturer specified power output tables.

- model 60: 1 module comprising an inner duct of 600mm x 130mm with 1 activator and an outer duct, 600mm x 134mm.
- model 95: 1 module comprising an inner duct of 950mm x 130mm with 2 activators and an outer duct, 950mm x 134mm.
- model 130: 1 module comprising an inner duct of 1,300mm x 130mm with 3 activators and an outer duct, 1,300mm x 134mm.
- model 165: 1 module comprising an inner duct of 1,650mm x 130mm with 4 activators and an outer duct, 1,650mm x 134mm.
- model 200: 1 module comprising an inner duct of 2,000mm x 130mm with 5 activators and an outer duct, 2,000mm x 134mm.

Manufacturer: Jaga

Type: Micro Canal

### Options

- empty housing, comprising a 1 mm-thick inner duct and a 1,5mm-thick outer duct of Sendzimir galvanized steel plate, coated with an charcoal-grey scratch-proof epoxy-polyester lacquer, RAL 7024, well glossiness 10%, with stainless steel grille. Polyethylene protective mounting block (s)
- valve duct 12 VDC, length 350mm comprising a 1 mm thick inner duct and a 1,5mm-thick outer duct of Sendzimir galvanized steel plate, coated with an charcoal-grey scratch-proof epoxy-polyester lacquer, RAL 7024, well glossiness 10%, with stainless steel grille.- 2 SS flexible connections. Polyethylene protective mounting block (s)
- Valve set:
  - 1 thermostat valve
  - 1 return valve
  - 1 12 VDC motor driven valve
- 90° corner piece comprising a 1 mm-thick inner duct and a 1,5mm-thick outer duct of Sendzimir galvanized steel plate, coated with an charcoal-grey scratch-proof epoxy-polyester lacquer, RAL 7024, well glossiness 10%, with stainless steel grille. Polyethylene protective mounting block (s)

- telescopically adjustable feet for raised or sunken floors:

- T5: adjustable between 5cm and 7cm
- T8: adjustable between 8cm and 13cm
- T13: adjustable between 13 cm and 23 cm
- T20: adjustable between 23 cm and 33 cm

### Accessories

- Micro Canal\_voeding 25 W / 54 W / 72 W
- low Profile for Building Automation
- output 12 VDC
- Class II Double Insulation
- Operation -25 to +71°C
- convection cooled
- DIN Rail or Chassis Mount
- Jaga motorised valve 230 Volt.
  - 180)-G 1/2" F/NG 230 Volt 2 Watts
  - 180)-G 3/4" F/NG 230 Volt 2 Watts

### How to install

The fitter suggests the heating elements, taking the following requirements into account:

- heat loss calculation made in accordance with the standard
- heat emission and measurement tables in compliance with the tables and Micro Canal fitting instructions supplied by the manufacturer
- the heating elements are connected to a two-pipe system with single-sided connection
- the elements are fitted with brass collectors with 3/8" connections + flexibles
- install the Micro Canal with the convector side towards the exterior side of the room
- the distance between the Micro Canal and the window should allow for any pelmets (the distance between the curtain and the Micro Canal should be at least 15 cm). Curtains should never be hung above the Micro Canal. The heating element should be accessible at all times for maintenance.

**TECHNICAL INFORMATION**  
**MICRO CANAL**

Type >	MIRF.00606014	MIRF.00609514	MIRF.00613014	MIRF.00616514	MIRF.00620014
Length (cm)	60	95	130	165	200
Width (cm)	13	13	13	13	13
Minimal build-in height (cm)	6	6	6	6	6
Advanced height adjustment (cm)	6 > 8	6 > 8	6 > 8	6 > 8	6 > 8
Number of activators	1	2	3	4	5
Output 75/65/20 (Watt)	390	780	1170	1560	1950
Thermal activators operate from supply water of	30°C	30°C	30°C	30°C	30°C
Sound pressure db(A)	18	21	22.8	24	25
Control	automatic	automatic	automatic	automatic	automatic
Electrical connection (VDC)	12	12	12	12	12
Flow (m3/h)	27,5	55	82,5	110	137,5
Water Content Low-H <sub>2</sub> O Heat Exchanger (l)	0,118	0,228	0,338	0,448	0,558
Hydraulic and electrical connection	always left	always left	always left	always left	always left
Hydraulic connection	1/2"	1/2"	1/2"	1/2"	1/2"
Netto weight (kg)					
Height-adjustable feet (sets) (option)	1	1	1	2	2



\* Because the noise depends very strongly on the influence of the acoustics of the room and not just the Micro Canal, the measured values will be different in practice.



## Calculating heating

The outputs in this price list are calculated at 75/65/20°C.  
At other temperatures the correction factor must be calculated as follows:

$$\frac{\frac{T_a + T_r}{2} - T_l}{50}$$

T<sub>a</sub> = flow temperature  
T<sub>r</sub> = return temperature  
T<sub>l</sub> = room temperature

### Calculation:

$$\frac{\frac{70 + 50}{2} - 20}{50} = 0.8$$

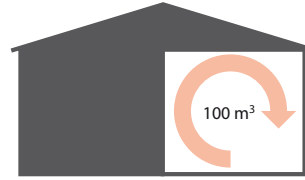
### Example

T<sub>a</sub> = 70°C  
T<sub>r</sub> = 50°C  
T<sub>l</sub> = 20°C

In these circumstances one 800 Watts unit will still provide 800 x 0.8 = 640 Watts..

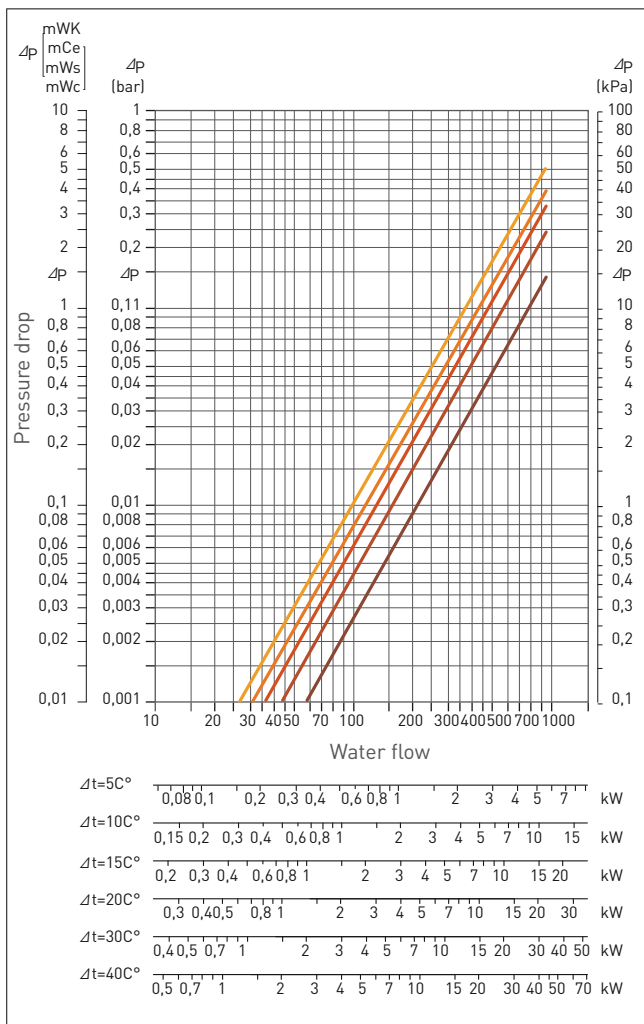
## Calculating air circulation

Example: a device with an airflow of 100 m<sup>3</sup>/h gives 1 air circulation in a room of 100 m<sup>3</sup>.



The number of air circulation in a room (m<sup>3</sup> / h) should be e.g.:  
- bedroom: minimal 3 circulations /h  
- living room 4 - 5 circulations /h (high level of comfort)  
i.e. (see example) 300 - 500 m<sup>3</sup> / h total per room for all the devices together.

## Pressure drop



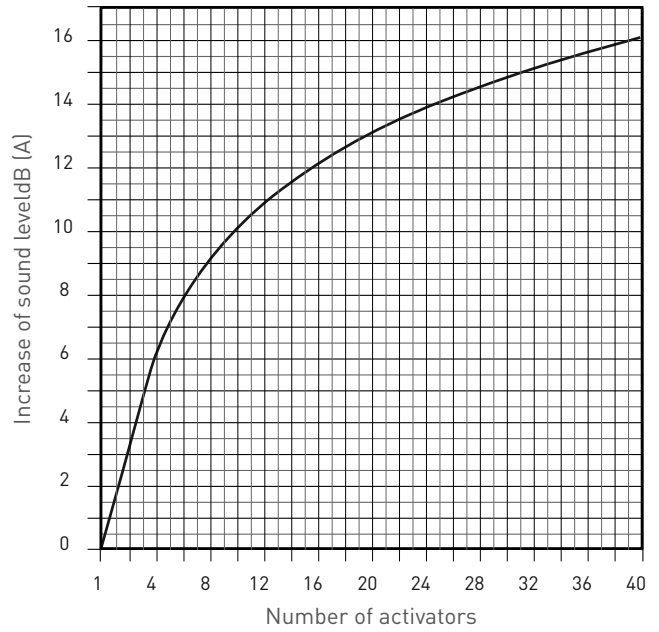
20 Noise level in function of speed

Speed RPM >1550 Size	db(A)
L60	18,0
L95	21,0
L130	22,8
L165	24,0
L200	25,0

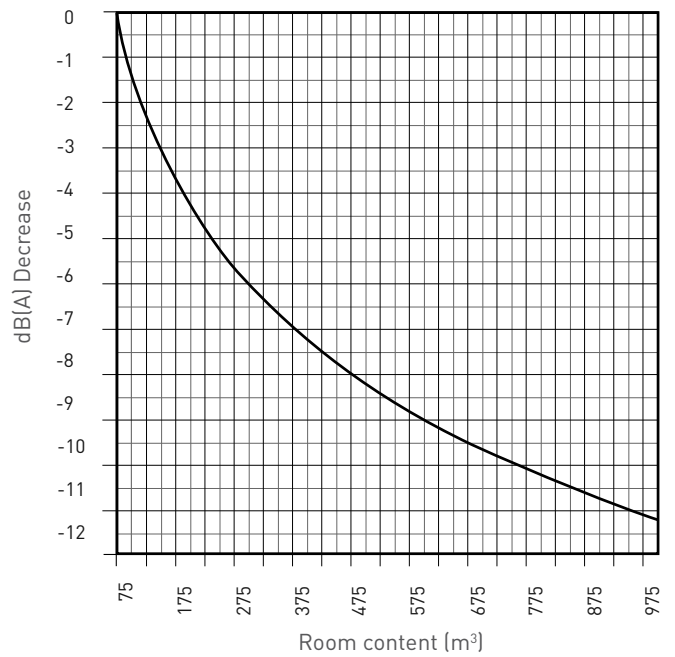
Air flow per unit in function of speed

Speed RPM >1550 Size	m <sup>3</sup> /h
L60	27,5
L95	55,0
L130	82,5
L165	110,0
L200	137,5

Combined sound level of multiple activators

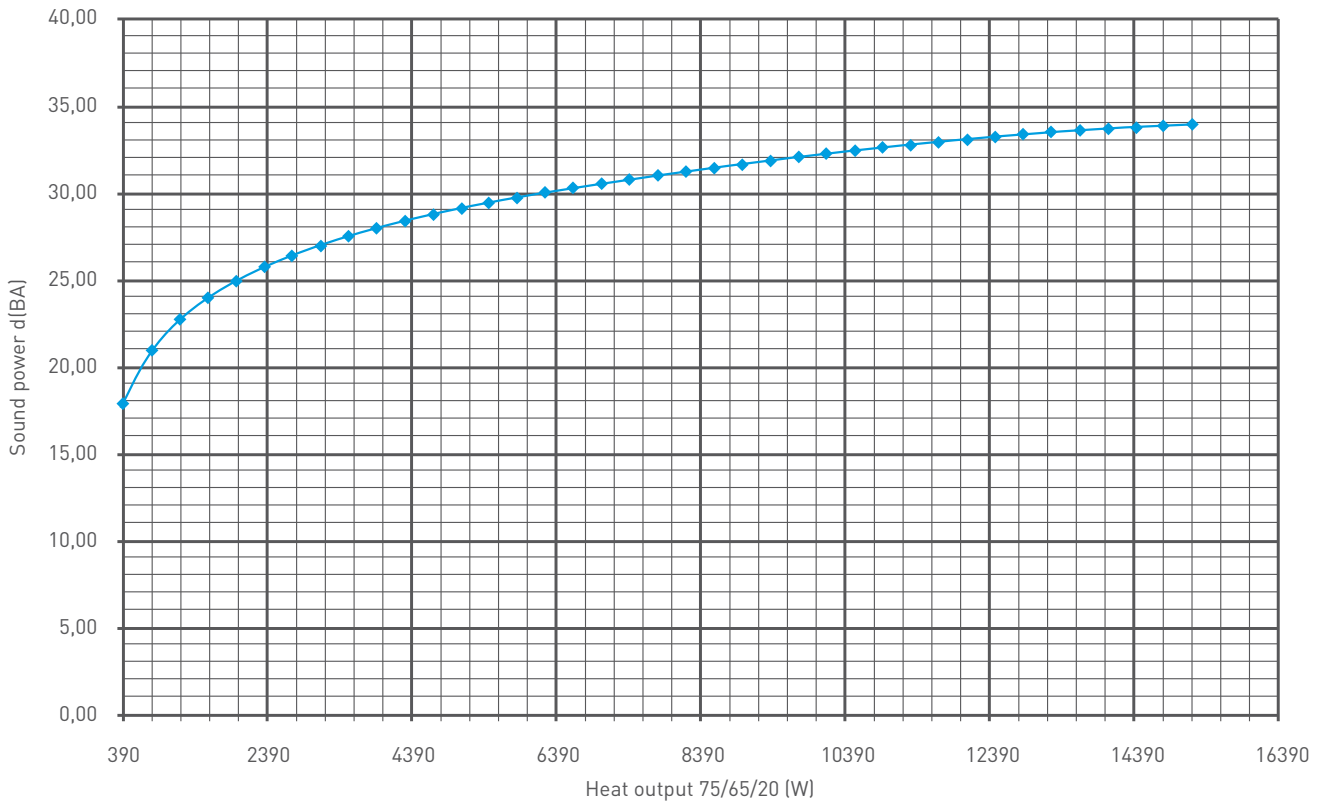


Reduction sound level depending on the content of the room



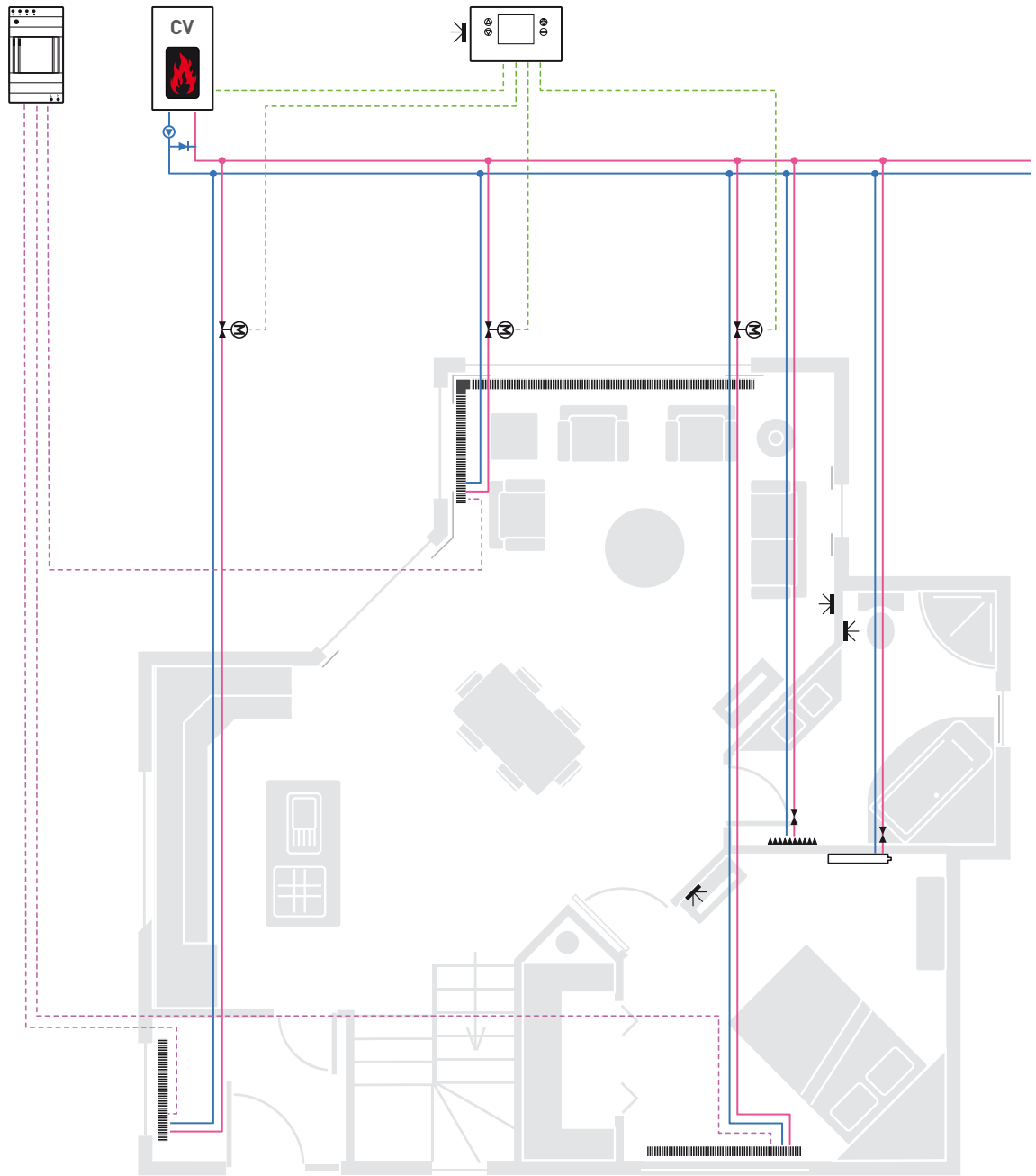



Noise calculation in function of output




supply  
12 VDC

room thermostat



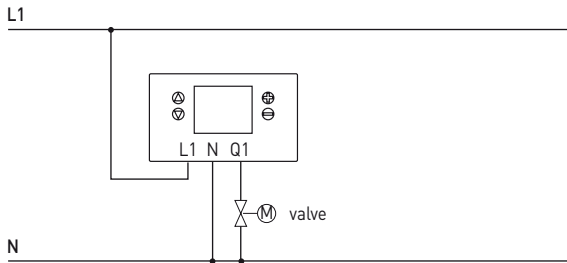
 Jaga Micro Canal

 Jaga "LowH2O" radiator

 Jaga Deco radiator

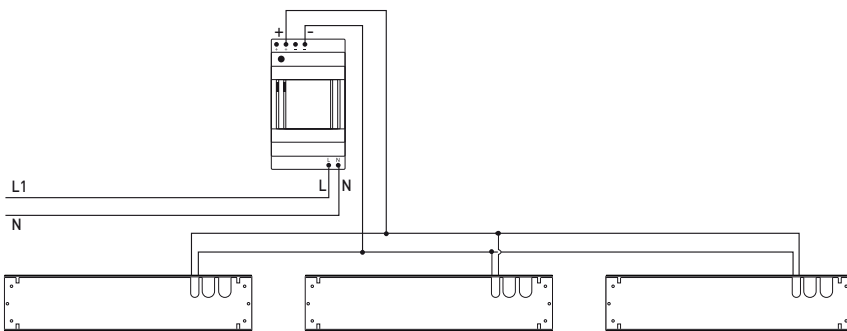
Control diagram example 2-way valve

**Note: Use a thermostat equipped with a floating contact to open a valve, 12 VDC**



L1 - Supply thermostat  
 N - Neutral  
 Q1 - Potential free heating contact

Diagram-example connecting one or more Micro Canals



**Cable length dependent upon number of motors (max. loss of tension 5%)**

Cable thickness	Motors 5	10	15	20	25	30	35	40	45	50
2.5 mm <sup>2</sup>	171	86	57	43	34	29	24	21	19	17
1.5 mm <sup>2</sup>	103	51	34	26	21	17	15	13	11	10
1.0 mm <sup>2</sup>	69	34	23	17	14	11	10	9	8	7
0.75 mm <sup>2</sup>	51	26	17	13	10	9	7	6	6	5
0.5 mm <sup>2</sup>	34	17	11	9	7	6	5	4	4	3

\* Consumption: 1.2 watts per Activator (Motor)

dimensions in meter

### 24 **Cleaning the filters**

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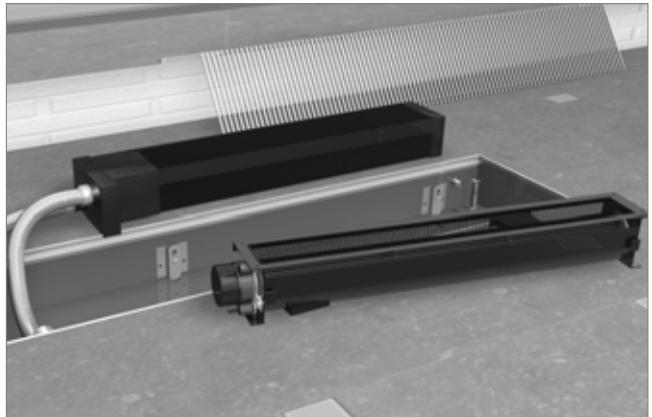
- A dirty filter obstructs airflow to the fan.
- Cleaning at regular intervals depending on the use and function of the room.
- the filter must not be dismantled for maintenance and is easily cleaned with a vacuum cleaner



### **Cleaning the duct**

---

- the interior is completely removable
- cleaning at regular interval is important, (at least once a year), depending on the use and function of the room



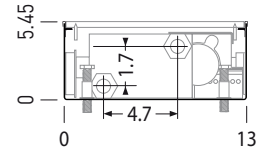
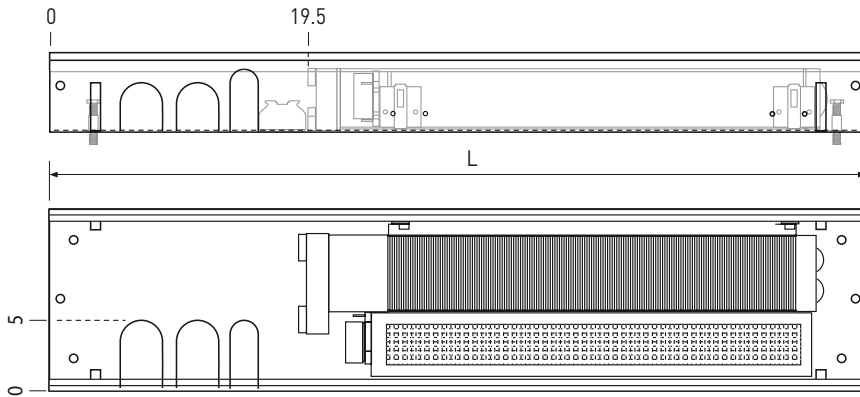


**INSTALL MANUALS**  
**MICRO CANAL**

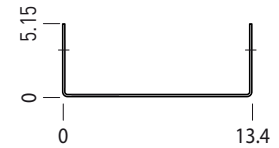
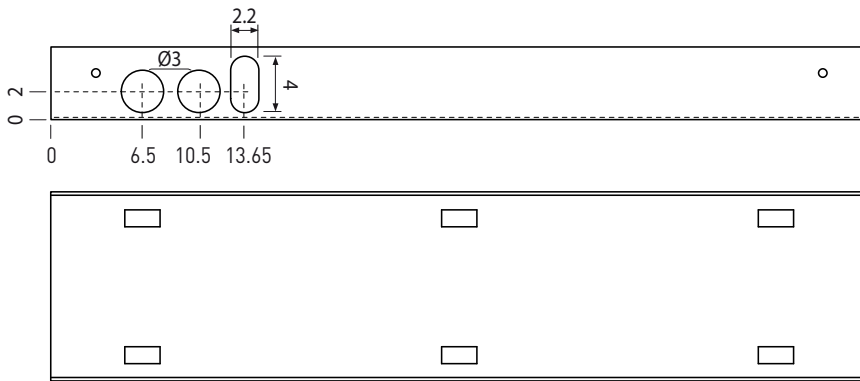




Inner duct







Outer duct



- standard hydraulic & electrical connection on the LHS
- hydraulic connection: 1 / 2 "

Code >	MIRF.00606014	MIRF.00609514	MIRF.00613014	MIRF.00616514	MIRF.00620014
Complete length (cm)	60	95	130	165	200

Number of included components

Part	MIRF.00606014	MIRF.00609514	MIRF.00613014	MIRF.00616514	MIRF.00620014
	4 x	6 x	8 x	10 x	12 x
	6 x	8 x	10 x	12 x	14 x
	2 x	2 x	2 x	a2 x	2 x
	6 x	6 x	6 x	6 x	6 x

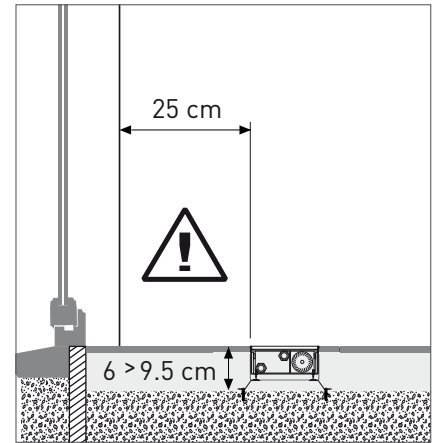


**ATTENTION !!**



Install the device with the heat exchanger to the wall side.

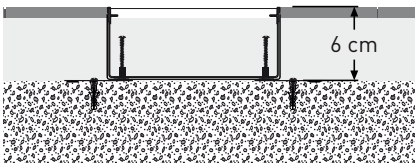
- the distance between the Micro Canal and the window should allow for any pelmets (the distance between the curtain and the Micro Canal should be at least 15 cm). Curtains should never be hung above the Micro Canal. The heating element should be accessible at all times for maintenance.



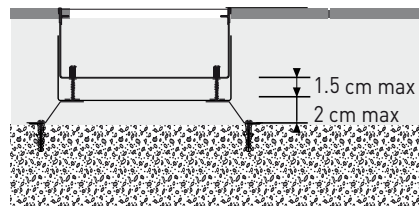
Sufficient space for curtains foreseen!

**Variable height minus 6 cm > < max 8 cm**

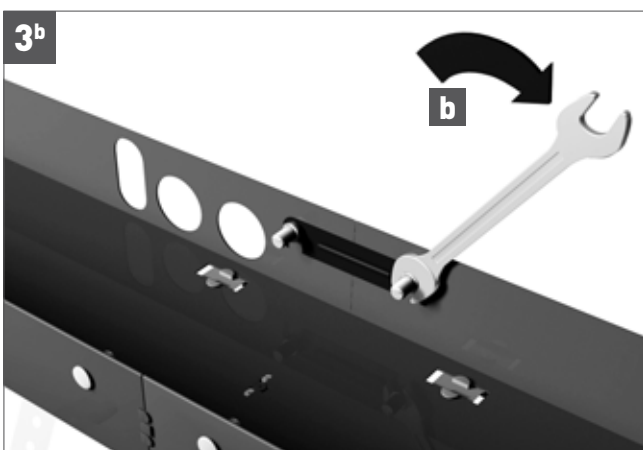
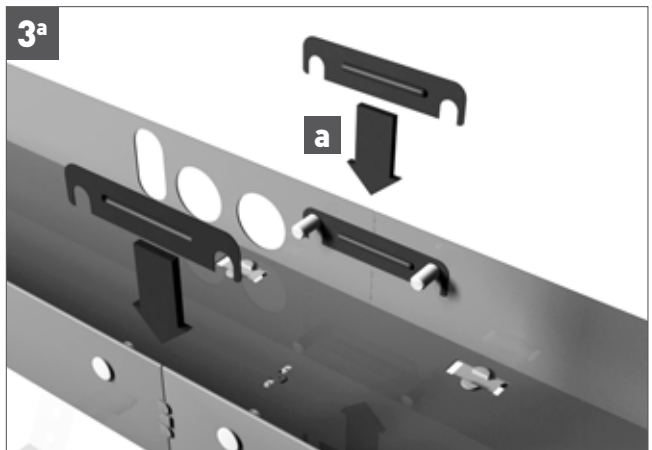
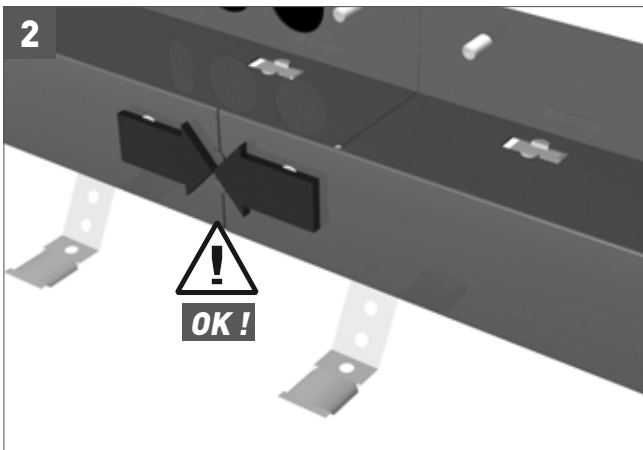
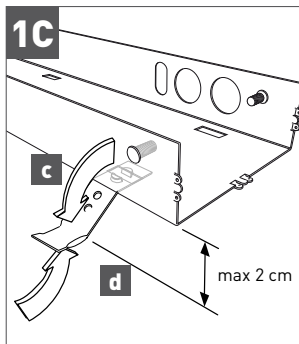
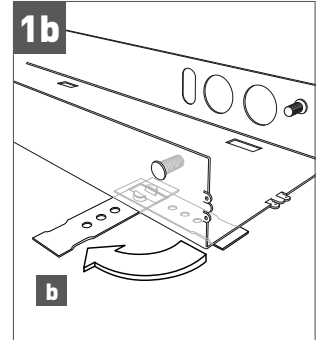
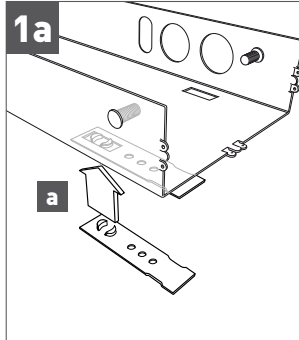
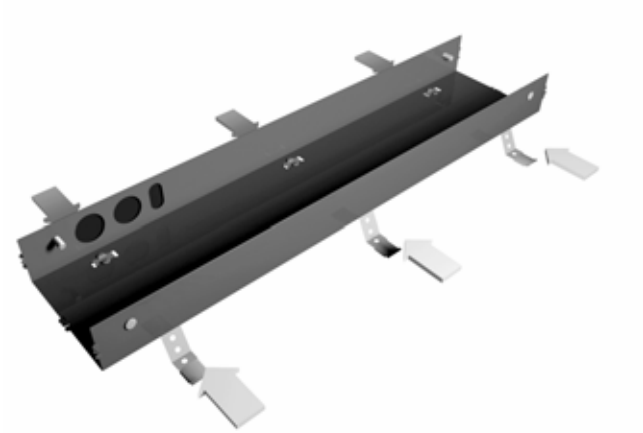
minimum height = 6 cm



maximum height = 8 cm

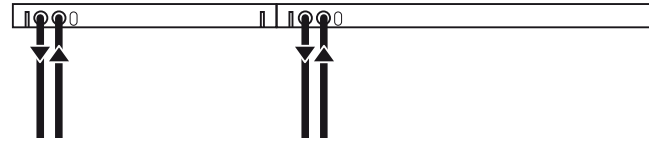
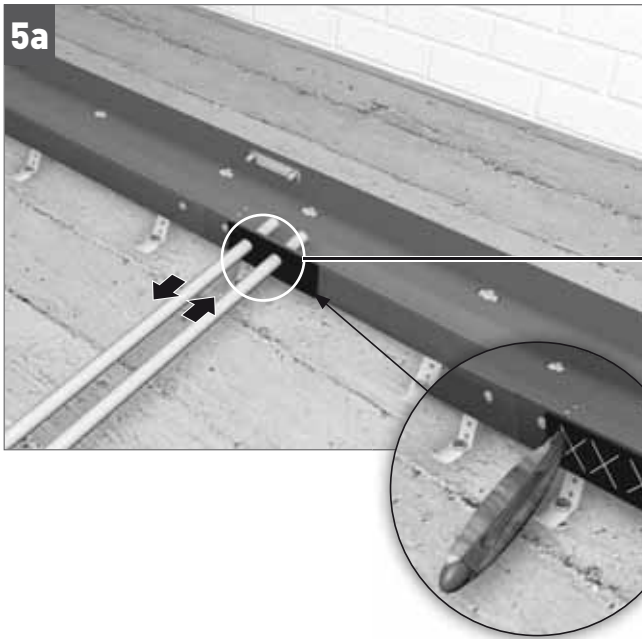


INSTALLATION, ANCHORING AND HEIGHT ADJUSTMENT OF OUTER DUCT

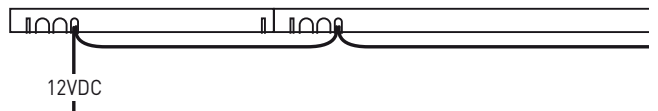
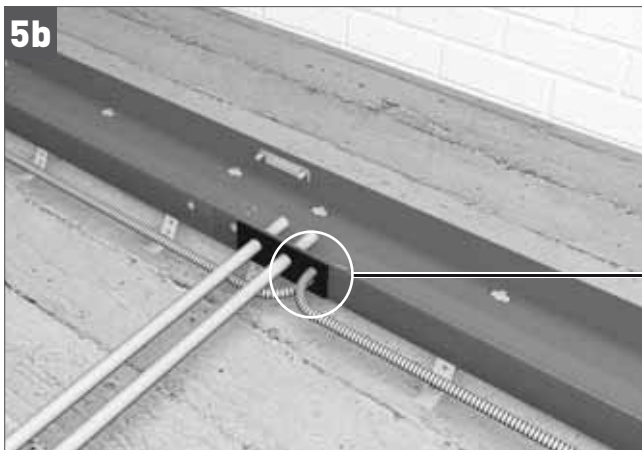




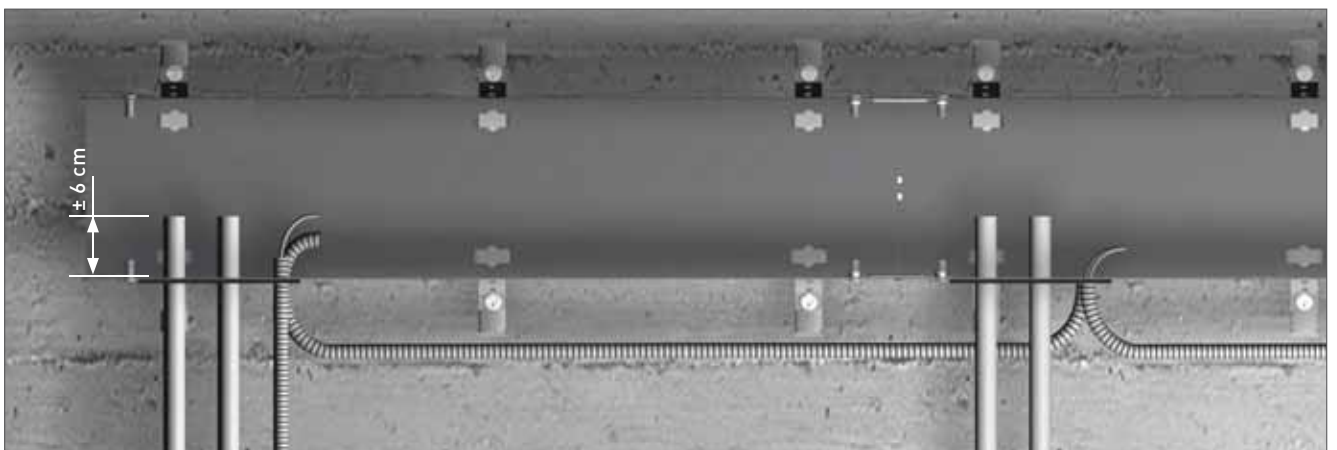
INSTALLATION OF HYDRAULIC AND ELECTRIC CONNECTIONS



hydraulic connections : 1/2"



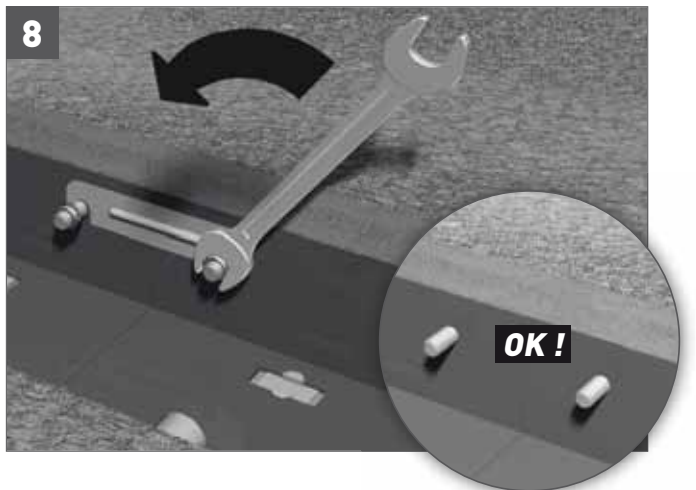
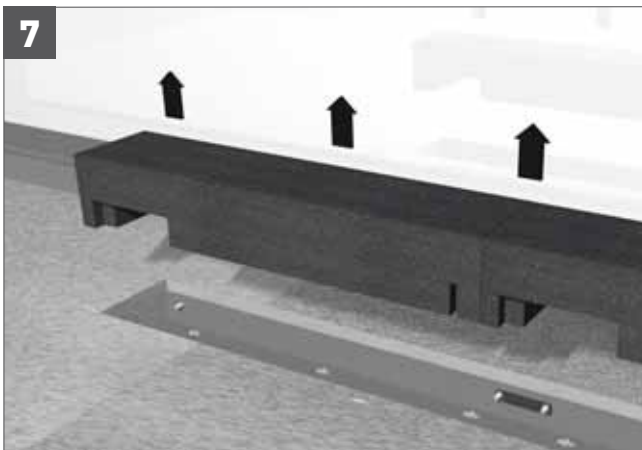
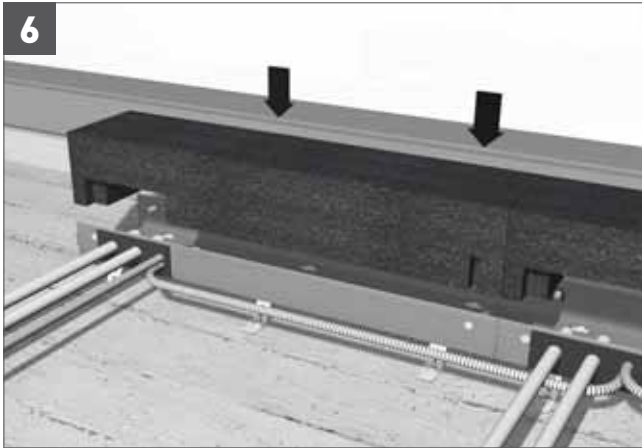
transit of electricity



PLACE THE MOUNTING / PROTECTION BLOCK



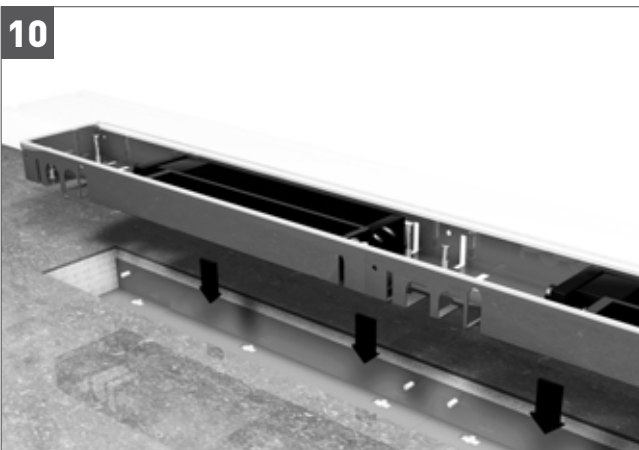
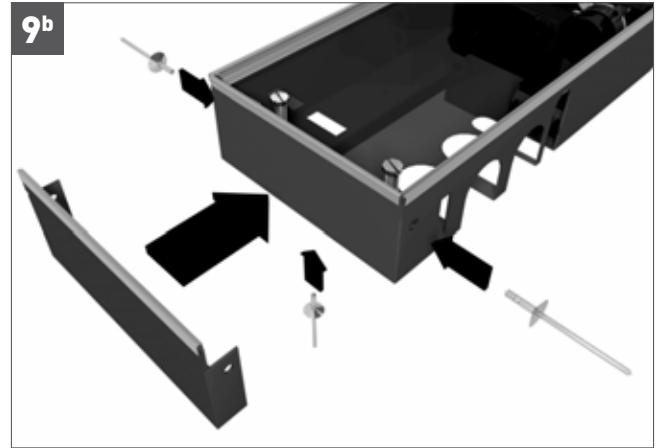
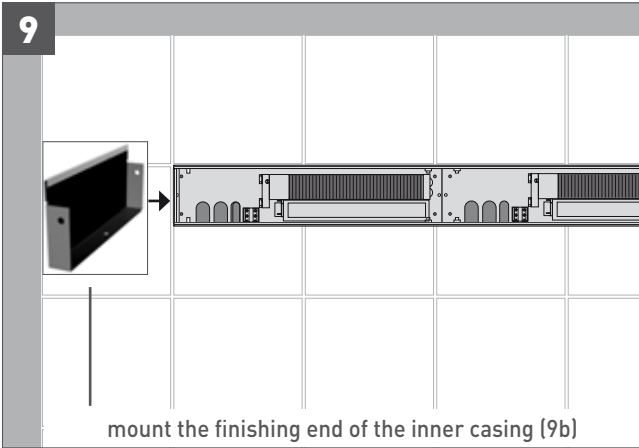
FILL THE SPACE UNDERNEATH THE UNIT !!



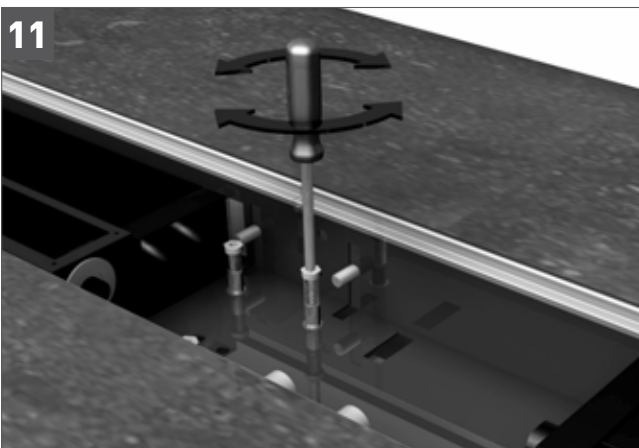
INSTALLING THE INNER DUCT

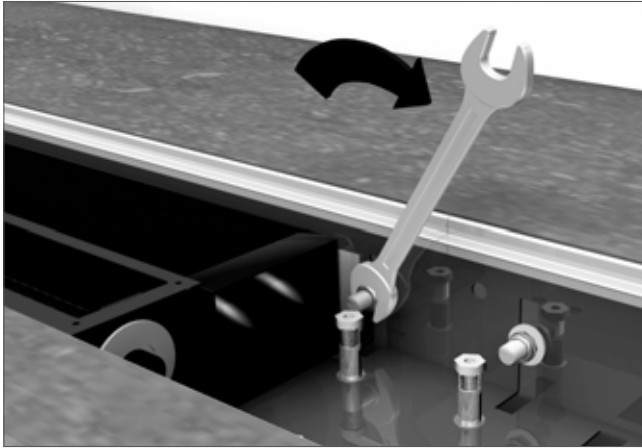


FINISH FIRST THE FLOOR BEFORE INSTALLING THE INNER DUCT !!



FINE TUNING OF HEIGHT





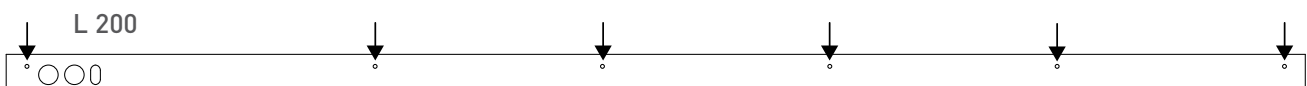
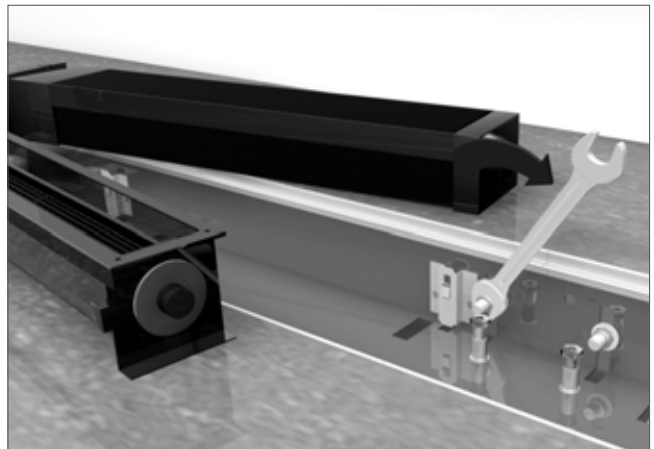
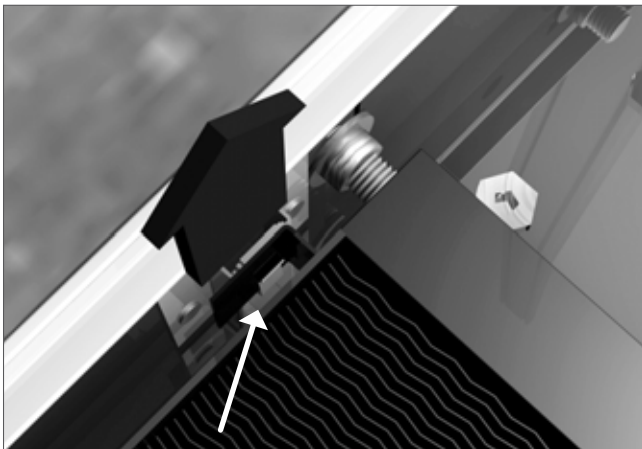
L 60: anchoring of the inner duct



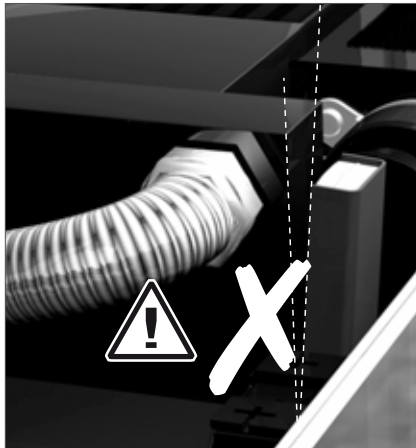
L 95 / 130 / 165 / 200: anchoring of the inner duct



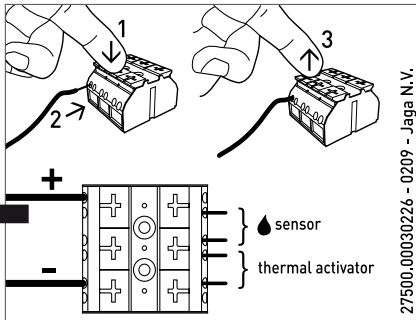
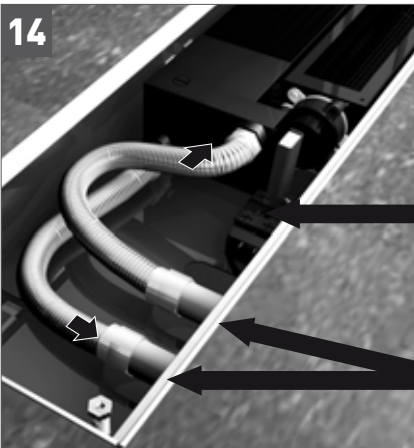
For the anchoring of the inner duct, remove temporarily the Low-H<sub>2</sub>O heat exchanger and thermal activator.



**CONNECTING**

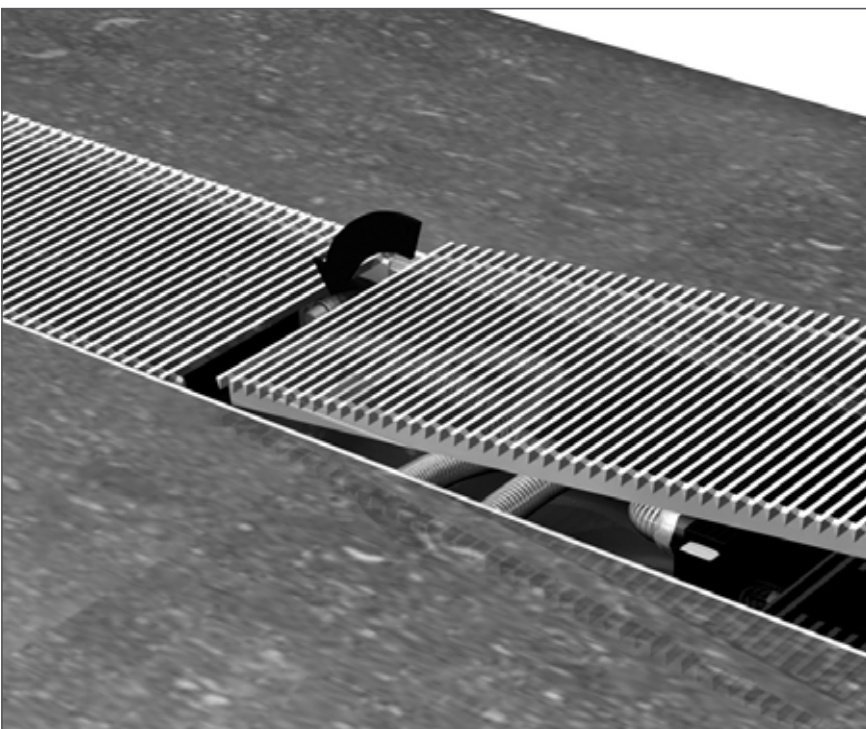


**Hydraulic connection**  
Be aware that the water-temperature-sensor makes close contact with the Low-H<sub>2</sub>O heat exchanger. The water-temperature must be at least 30°C.



**Electrical connection**  
Follow the instructions on the sticker in the inner housing

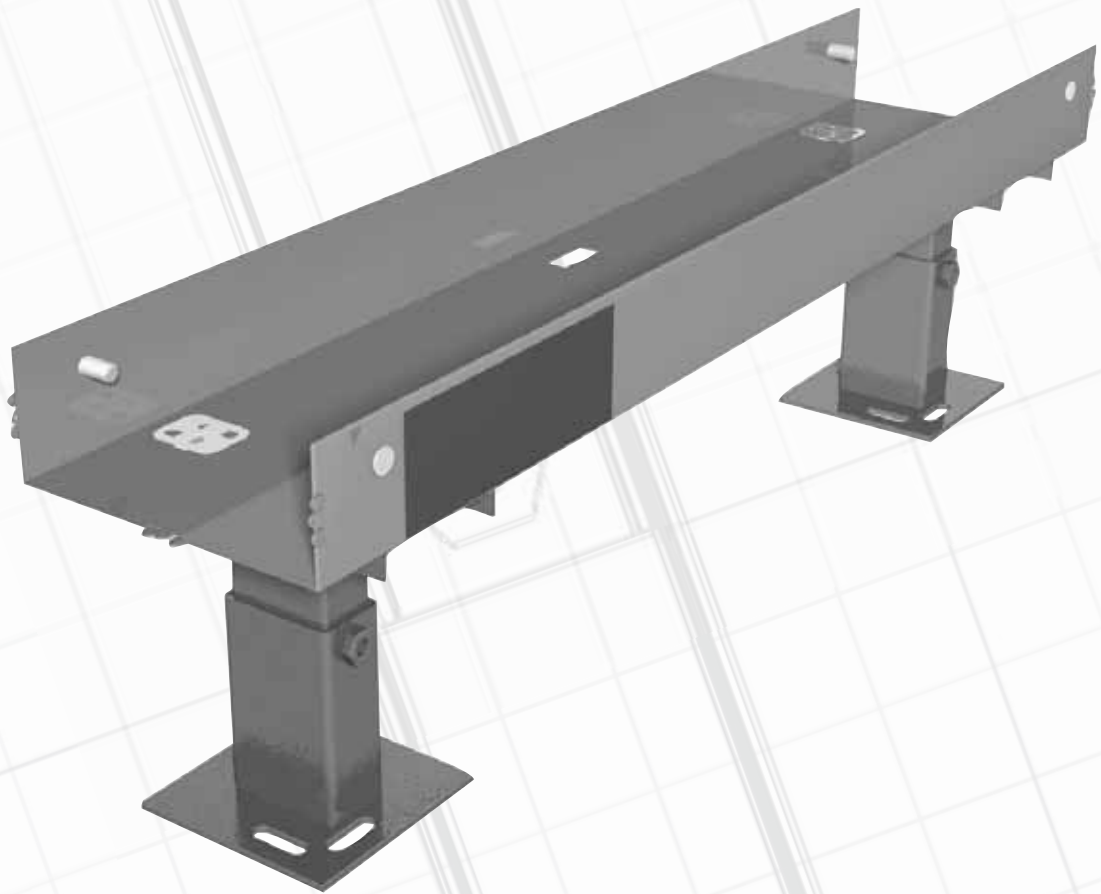
Hydraulic connection



**Startup:** the water temperature should be at least 30 ° C, at a lower temperature the activator will not start.

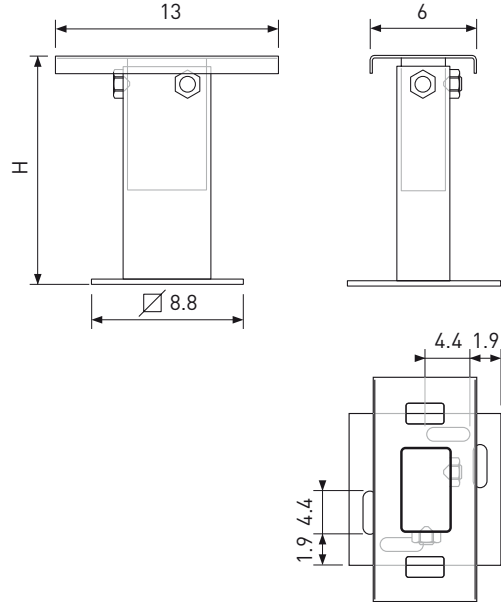
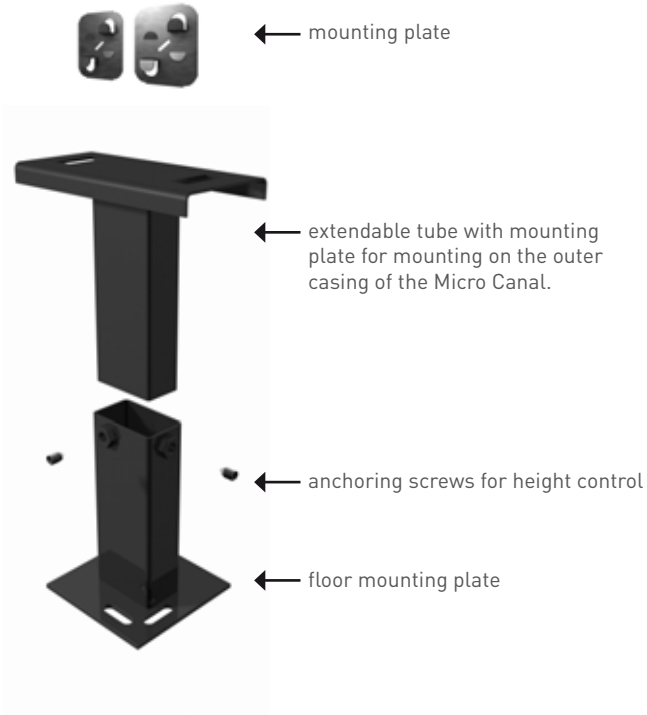






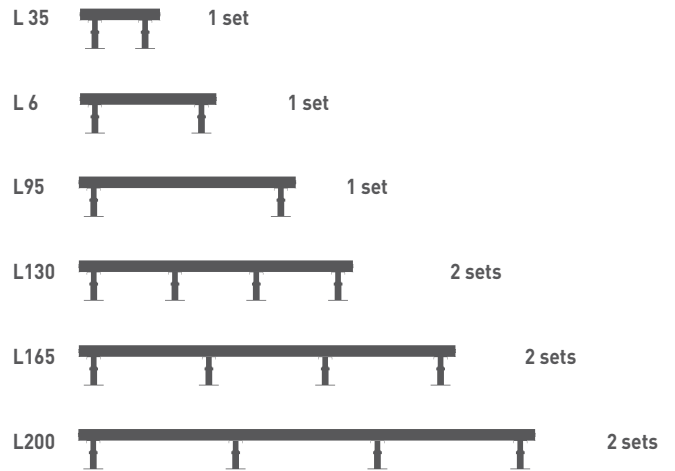
38 Parts

Dimensions

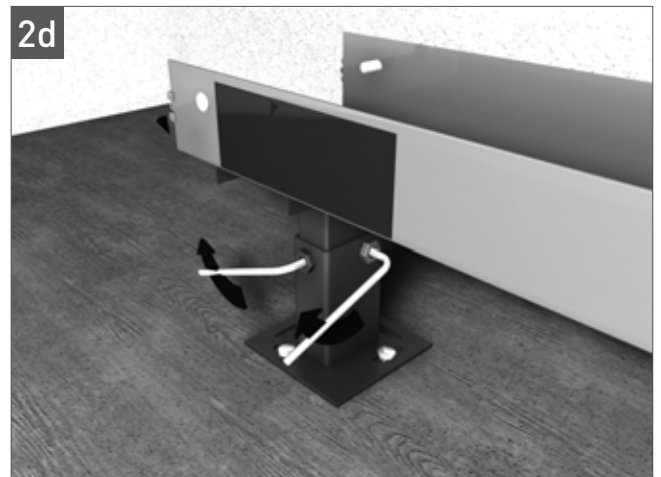
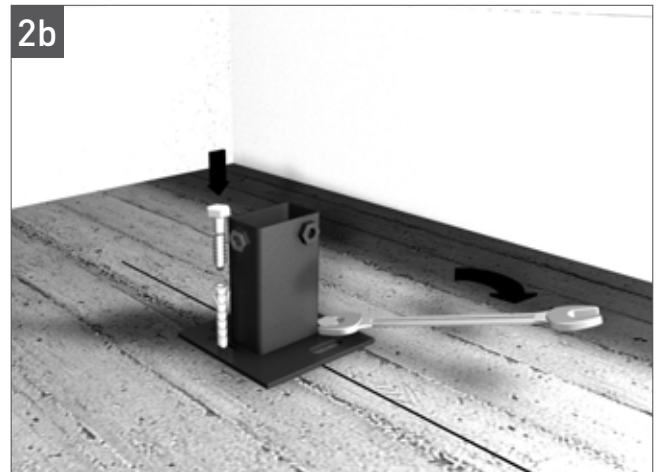
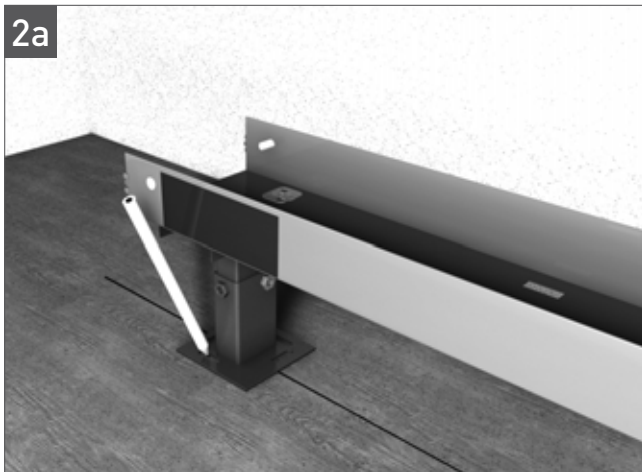
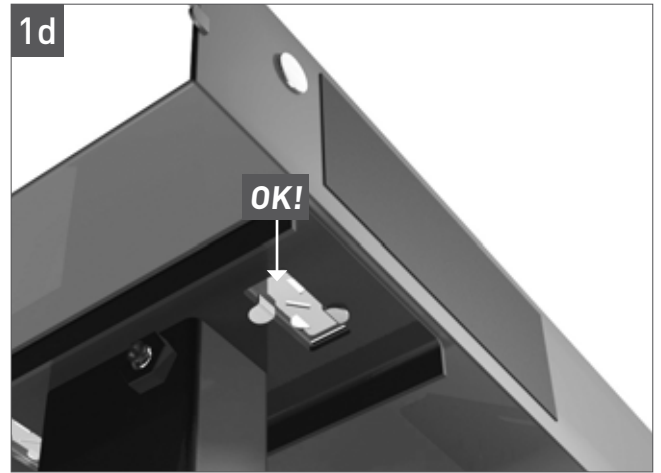
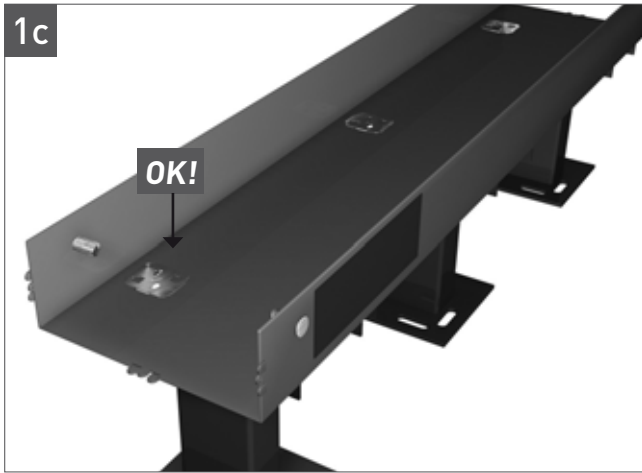


1 set = 2 feet

CODE	H
5207.05070000	5 cm → 7 cm
5207.08130000	8 cm → 13 cm
5207.13230000	13 cm → 23 cm
5207.20300000	20 cm → 30 cm







Secure the foot to the floor. The type of screw or bolt depends on the floor type ( **2b** concrete floor, for example).

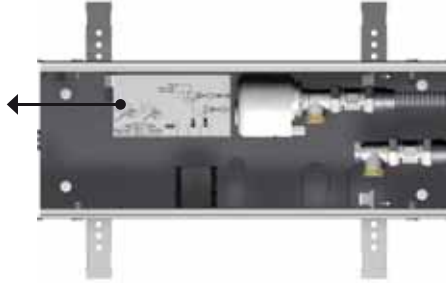
For more information on installing the Micro Canal, consult the instructions in the installation manual, which is enclosed in its packaging.



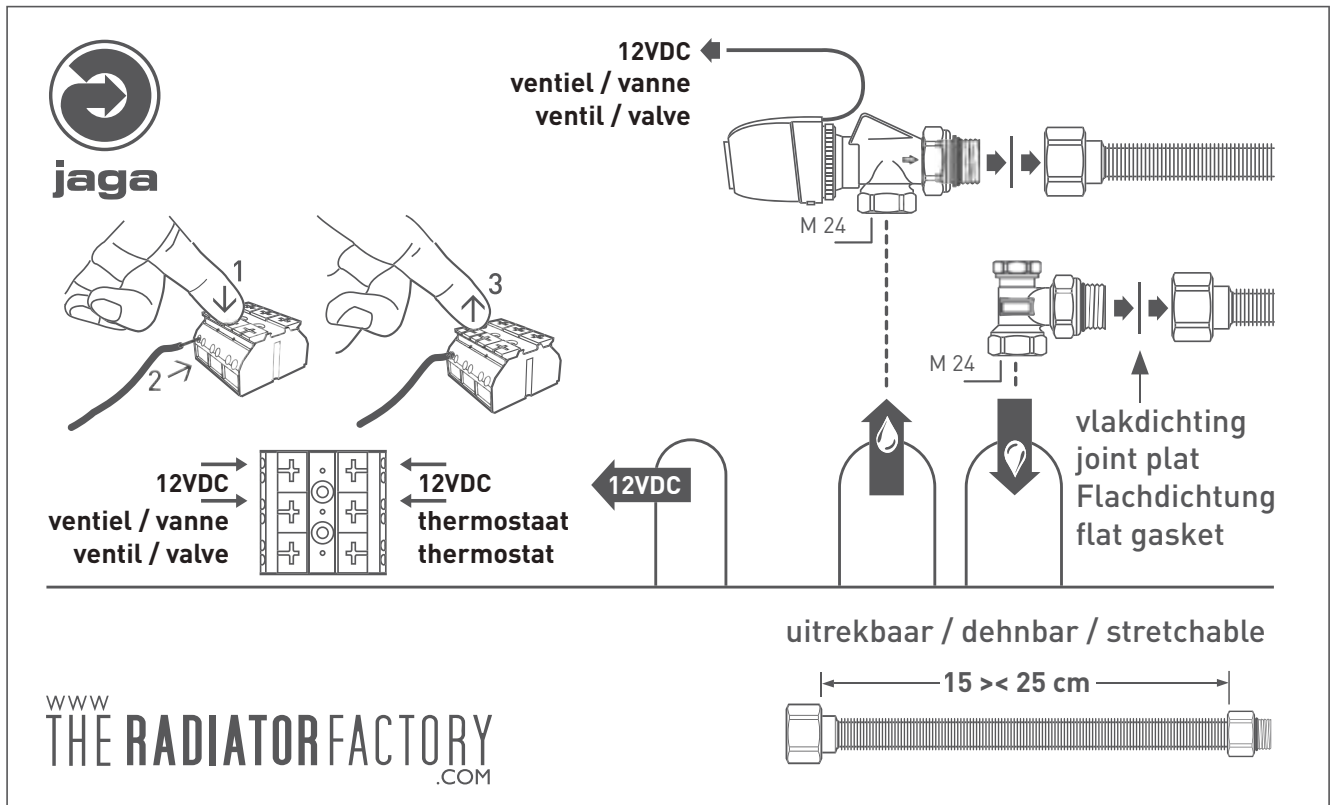
**For special floor types, allow for sound transfer and acoustics.**

For advice, please contact N.V. Jaga:  
 - e-mail: [aftersales@jaga.be](mailto:aftersales@jaga.be)  
 - tel. 0032 11-29 41 11.

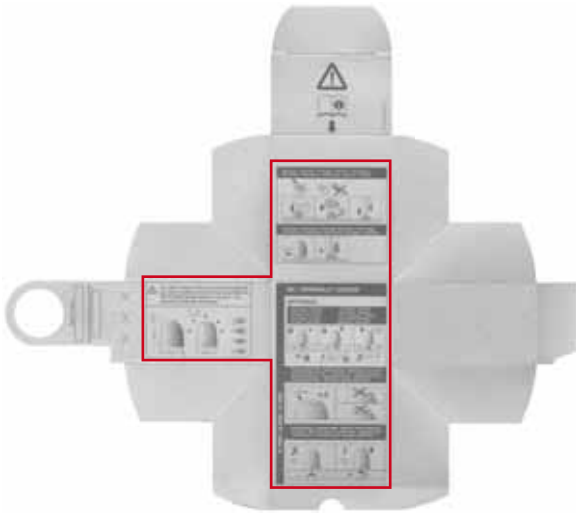
Connections: see the sticker on the inner side of the inner duct



Sticker:



Unfold the packaging.  
The manual is printed on the inside of the packaging.



**⚠ For 12 V: Valve Drive has to be powered by a 12V safety transformer according to EN 61558-2-6 (EUROPE) or class II - UL approved (North America).**

**Montage · Assembly · Montaggio · Montering · Asennus · монтаж**

**Demontage · Doassembly · Démontage · Demontering · Purkaminen · демонтаж**

**NC. NORMALLY CLOSED.**

**OPTIONAL**

"First-Open" function  
"First-Open" funktion  
Function "First-Open"  
"First-Open" funktio  
Funzione "First-Open"

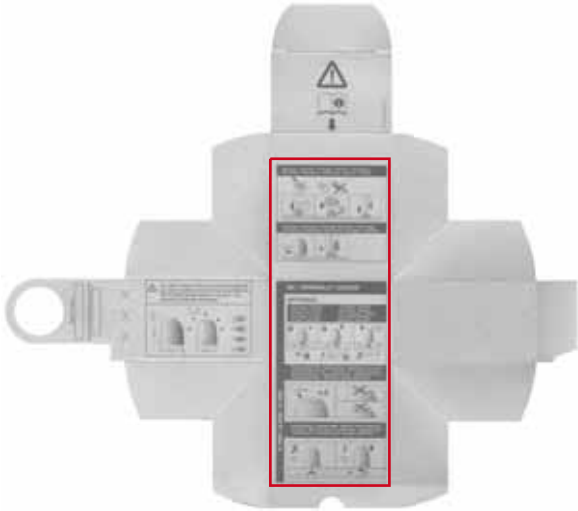
"First-Open" funktion  
"First-Open" funksjon  
"Första-gången" first-open  
"First-Open" toiminta  
функция "first-open"

**A 1004 / A 2004 / A4004**


**≈0,5 mm O.K.**

**Functionsweise · Function mode · Mode de fonctionnement  
Werkwijze · Modo di funzione · Functionmåde · Funksjonsmodus  
Funktionssät · Toimintaperiaate · принцип Действия**


Unfold the packaging.  
The manual is printed on the inside of the packaging.



Montage · Assembly · Montaggio · Montering · Asemustus · монтаж



Demontage · Doassembly · Démontage · Demontering · Purkaminen · демонтаж

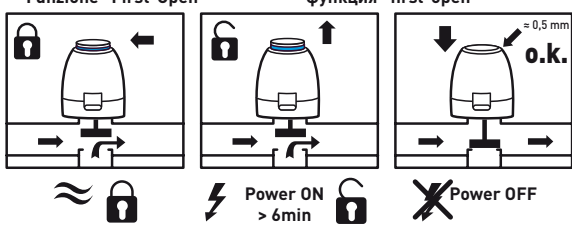


### NC. NORMALLY CLOSED.

#### OPTIONAL

"First-Open" function  
 "First-Open" funktion  
 Function "First-Open"  
 "First-Open" funktio  
 Funzione "First-Open"

"First-Open" funktion  
 "First-Open" funksjon  
 "Första-gången" first-open  
 "First-Open" toiminta  
 функция "first-open"



≈ 0,5 mm  
 O.K.

≈ 0,5 mm  
 O.K.

≈ 0,5 mm  
 O.K.

Anpassungskontrolle · Adaption check · Contrôle de l'ajustement  
 Aanpassingscontrole · Controllo del combaciamento  
 Tilpasningskontrol · Tilpasningskontroll · Justeringskontroll  
 Sopivuuden tarkistus · контроль приспособления

Functionsweise · Function mode · Mode de fonctionnement  
 Werkwijze · Modo di funzione · Funktionmåde · Funksjonsmodus  
 Funktionssätt · Toimintaperiaate · принцип Действия

Power OFF

Power ON

A 1004 / A 2004 / A4004



**Frequently Asked Questions and Answers**

There are many different “frequently asked questions” that reach our client support service. To be able to help you quicker and more efficiently you can find a list of the most important questions and answers below. If you cannot find the answer you are looking for then the client support team is always ready to help you further.

Question	Cause	Answer
The ventilators do not turn.	The supply water temperature is lower than 30°C.	The supply water temperature must be higher than 30°C to allow the activators to turn.
	The water temperature sensor has a bad or even no contact with the low-H <sub>2</sub> O heat exchanger.	Make sure that the water temperature sensor is well connected to the heat exchanger.
	The 12VDC + and - polarity is reversed.	Check that the power cables are securely connected and are attached in the correct polarity.
The Micro Canal is working but gives insufficient heat.	The ventilator and / or heat exchanger are full of dirt.	Regularly clean the filters & clean the complete product minimum once a year.
The Micro Canal makes a lot of noise.	The ventilators and / or heat exchanger are full of dirt, or an object is hitting the ventilator.	Regularly clean the filters & clean the complete product minimum once a year.

## MICRO CANAL\_colour range

 401 RAL 9010 white	 412 bahama	 422 capri	 433 RAL 9016 traffic white
 402 RAL 9001 off white	 413 RAL 6009 english green	 423 natural	Special colours
 403 RAL 7035 light grey	 414 whisper roze	 424 edelweiss	
 404 RAL 9005 black	 415 RAL 5018 turquoise	 425 jasmine	 006 RAL 9006 aluminium
 405 pergamon	 416 bermuda	 426 RAL 3003 ruby red	
 406 manhattan	 417 RAL 8017 chocolate brown	 428 classic white	
 408 RAL 5003 sapphire blue	 418 azure	 429 RAL 6000 patina green	
 409 RAL 7011 dark grey	 419 RAL 4008 violet	 430 aloe bleu	
 410 RAL 1004 golden yellow	 420 aegean	 431 RAL 7016 anthracite grey	
 411 RAL 3000 flaming red	 421 calypso	 432 sunrise	

This colour chart is only indicative. It's impossible to obtain a 100% exact colour reproduction in printing. Metal slides with the different colours can be obtained on request.

Jaga reserves the right to change product specification at any time in line with our policy of continuous improvement and innovation.

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