



# COMFORT LINE SURFACE HEATING

01/2021





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## SURFACE HEATING IN COMBINATION WITH RADIATORS



CASUAL COLLECTION



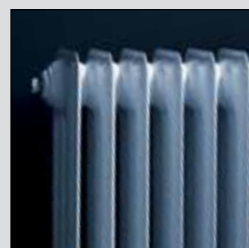
PLINTH COLLECTION



CENTRIC COLLECTION



MINI COLLECTION



CLASSIC COLLECTION









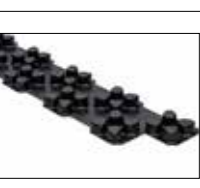
Underfloor heating systems. Various heating systems are available for creating a comfortable room climate. Underfloor heating, as a low-temperature surface heating system, is especially well-suited for this purpose. The heat rises evenly from the entire floor surface, which produces a sense of comfort and saves energy. An even room climate permits users to experience the temperature of the room as around 1-2 °C warmer than it actually is. If one therefore reduces the room temperature by this 1-2 °C, it saves around 6-12 % energy, without any decrease in the sense of thermal comfort.



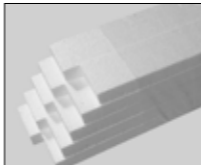
Brugman offers complete underfloor heating systems, from the thermal insulation to the temperature controls. The system rolls and sheets for the precise fastening of the heating tubes, the distribution system with built-in valves, self-sealing connection technology and intelligently-designed accessories make installation of Brugman underfloor heating systems easy, fast and safe.

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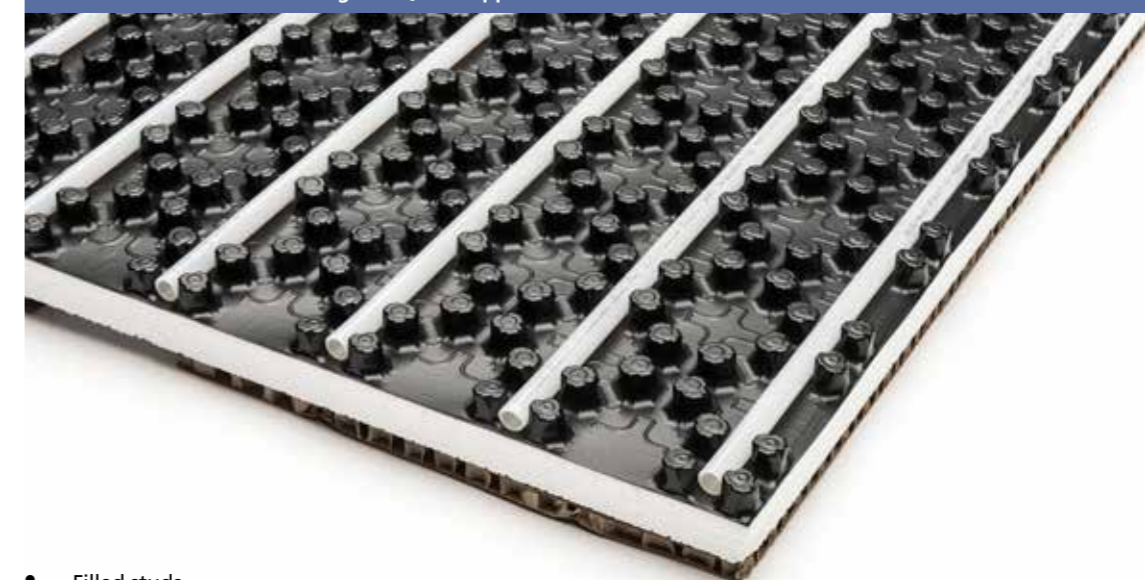
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|   | Type/dimensions in mm   | Article number  | Packaging unit    |                   |
|---|---|-----------------|-------------------|-------------------|
| <b>1 TACKER SYSTEM</b> <span style="float: right;">PRODUCT GROUP I</span>         |   |                 |                   |                   |
|   | <b>Quickroll EPS</b><br>Heat and impact noise insulation roll, B2, with specially reinforced film, in accordance with DIN 4108 and DIN 4109, loadable in accordance with EN 13163. Building material class B2 under DIN 4102. With imprinted 5 cm laying grid to maintain the laying distances, CFC-free. | 045 DES sm 25-2 | 13800012725       | 12 m <sup>2</sup> |
|   |   | 045 DES sm 30-3 | 13800013230       | 12 m <sup>2</sup> |
|   |   | 045 DES sm 35-3 | 13800013835       | 10 m <sup>2</sup> |
|   |   | 040 DES sg 30-2 | 13800013035       | 12 m <sup>2</sup> |
|   |   | 045 DES sm 20-2 | 13800013920       | 12 m <sup>2</sup> |
|   |   | 035 DES sg 20-2 | 13800014020       | 12 m <sup>2</sup> |
|   | 035 DES sm 30-2   | 13800014030     | 12 m <sup>2</sup> |                   |
|   | <b>AEpro-Clip</b><br>Special clip for fastening the heating tubes directly to the system insulation. Especially well-suited when anhydrite screeds are used.  | 13811000014     | 600 Pcs.          |                   |
|   | <b>Special-Clip</b><br>with tube lifting and lateral stoppers. Especially well-suited when cement screeds are used.   | 13811000017     | 600 Pcs.          |                   |
|  | <b>Clip setter metal AEpro</b><br>Stable metal design. With magazine rod to receive the pre-loaded AEpro clips.<br><br><b>Clip setter metal</b><br>for Brugman special clip on request.   | 13811000114     | 1 Pc.             |                   |

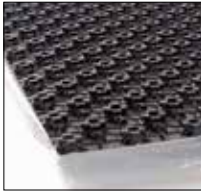
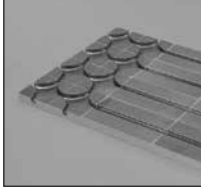
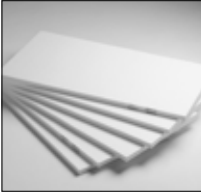



|  | Type/dimensions in mm   | Article number | Packaging unit |                    |
|--|---|----------------|----------------|--------------------|
| <b>2 STUD SYSTEM</b> <span style="float: right;">PRODUCT GROUP I</span>            |   |                |                |                    |
|  | <b>Quicknopp</b><br>made of PS deep-drawn element and EPS heat/impact noise insulation. For the rectangular and diagonal laying of the heating tubes. Suitable for heating tubes 14 mm x 2 mm up to 17 mm x 2 mm. With self-adhesive overlap for screed water-tight sheet connections. Fulfils the requirements of DIN 4108, DIN 4109, DIN EN 1264 and DIN 18560. Building material class B2 in accordance with DIN 4102. CFC-free. | 040 30-2 VA60  | 13FH01202      | 9,6 m <sup>2</sup> |
|  |   | 035 11 VA60    | 13FH01203      | 9,6 m <sup>2</sup> |
|  | <b>Quicknopp connecting strips VA60</b><br>PS connecting strip. For connecting Brugman Quicknopp VA60 system sheet.   | 13FH55044      | 10 Pcs.        |                    |
|  | <b>Quicknopp clamping rail</b><br>with adhesive strips. For fastening the floor heating tubes. Grid 25 mm.  | 1000           | 13800060950    | 10 Pcs.            |


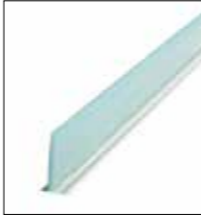




|   | Type/dimensions in mm   | Article number  | Packaging unit |         |
|---|---|-----------------|----------------|---------|
| <b>2 STUD SYSTEM</b> <span style="float: right;">PRODUCT GROUP I</span>             |   |                 |                |         |
|  | <b>Transitional element VA60</b><br>PS film strip for laying on the Quicknopp system elements to bridge over doorways, etc. Abutting edges should be sealed off with adhesive tape.                       | 1000 x 135      | 13FH55047      | 10 Pcs. |
|  | <b>Quicknopp round profile</b><br>made of PE foam for sealing the film strip of the edge insulation strip against screed water and installation under expansion joint profiles to separate screed fields. | Ø20             | 13800060920    | 50 m    |
|  | <b>Quicknopp transitional insulation strip</b><br>Insulating strip made of EPS for use in connection with the insulation strip. CFC-free.   | 1000 x 100 x 30 | 13800061130    | 10 Pcs. |
|   |   | 1000 x 100 x 11 | 13800061110    | 10 Pcs. |

#### General characteristics of Brugman Quicknopp 11mm and 30mm



- Filled studs
- Suitable for heating tube dimension of 14x2 mm to 17x2 mm
- Quicknopp made of polystyrene foam
- EPS heat insulation properties and impact noise protection
- Laying distance 6 cm
- Overlap laying, which serves as moisture protection for the screed
- CFC-free






|  | Type/dimensions<br>in mm   | Article number  | Packaging<br>unit |                    |
|--|--|-----------------|-------------------|--------------------|
| <b>3 RENOVATION</b> <span style="float: right;">PRODUCT GROUP I</span>             |  |                 |                   |                    |
|    | <b>Renovation sheet</b><br>for system tube 10 x 1.25 mm. System sheet made of PS deep-drawn element for the rectangular and diagonal laying of the heating tubes. System structure around 10 mm. Back of the system sheet is self-adhesive for attachment. | 1050 x 650      | 13FH01401         | 9,6 m <sup>2</sup> |
| <b>4 DRY SYSTEM</b> <span style="float: right;">PRODUCT GROUP I</span>             |  |                 |                   |                    |
|    | <b>Dry construction sheet 30 mm</b><br>Foam-moulded polystyrene sheet EPS 035 DEO dh in accordance with DIN EN 13163 and DIN 4108-10. With aluminium sheet 0.5 mm. The system is only suitable for MPC 16 x 2.0 system tube.                               | 1000 x 500 x 30 | 13FH01304         | 5 m <sup>2</sup>   |
|   | <b>Filling element</b><br>For use before the distributor composed of EPS 035 DEO dh in accordance with DIN EN 13163 and DIN 4108-10.   | 1000 x 500 x 30 | 13FH01305         | 5 m <sup>2</sup>   |
|  | <b>Covering film</b>   | 400 x 2500      | 13FH02102         | 100 m <sup>2</sup> |
|  | <b>Frame wood</b><br>for laying in the edge area.  | 1190 x 45 x 30  | 13FH55045         |                    |
|  | <b>Hot cutter</b><br>for cutting individual laying grooves and in the distributor area.  |                 | 13FH55046         |                    |




|   | Type/dimensions<br>in mm   | Article number | Packaging<br>unit |         |
|---|--|----------------|-------------------|---------|
| <b>5 ACCESSORIES</b> <span style="float: right;">PRODUCT GROUP I</span>               |  |                |                   |         |
|    | <b>Edge insulation with film strip</b><br>made of soft polyethylene foam to absorb screed expansion of more than 5 mm. With welded-on overlapping film against the penetration of screed water, slit on the back at 10 mm intervals in order to permit easy later removal of the overhangs.  | 10 x 150       | 13812000821       | 50 m    |
|    | <b>Expansion joint profile</b><br>Brugman expansion joint profile made of polyethylene foam covered on both sides with hard film for forming permanently elastic movement joints in accordance with DIN 18560-2 and for the sure delimitation of screed fields. Moisture-resistant, with self-adhesive foot, CFC-free. Content: 20 profiles of 1.8 m.  | 10 x 80        | 13812001080       | 36 m    |
|   | <b>Dispenser</b><br>for adhesive tape.   |                | 13812000475       |         |
|  | <b>Adhesive tape</b><br>made of polypropylene, 75 mm wide. To tape the overlapped butt joints of Quickroll with the aid of a hand dispenser. Roll 66 m.  |                | 13812000075       | 6 Rolls |
|  | <b>Screed additive standard</b><br>is a highly effective screed additive that was specially developed for cement-bound heated screeds. To meet the standard requirements for screeds in the installed state. A homogeneous, compressible screed is achieved that fully envelops the heating tubes. Thermal conductivity and heat storage capacity are increased. Application quantity around 0.17 kg/ m <sup>2</sup> for 60 mm screed thickness. |                | 13812000011       | 10 kg   |
|  | <b>Measuring points set</b><br>for the identification of the measuring point for measurement of the residual moisture in screeds.  |                | 13812000150       | 5 Pcs.  |












|  | Type/dimensions<br>in mm  | Article number | Packaging<br>unit |         |
|--|---|----------------|-------------------|---------|
| <b>6 FLOOR HEATING TUBES</b> <span style="float: right;">PRODUCT GROUP I</span>    |   |                |                   |         |
|    | <b>PE-Xc tube</b>   | 14x2           | 13811420012       | 120 m   |
|  | Floor heating tube made of cross-linked polyethylene in accordance with DIN 4729, with diffusion barrier under  | 14x2           | 13811420024       | 240 m   |
|  | DIN 4726, oxygen diffusion-tight, max. operating pressure 6 bar, max. operating temperature 95°C.   | 14x2           | 13811420060       | 600 m   |
|  |   | 17x2           | 13811720012       | 120 m   |
|  |   | 17x2           | 13811720024       | 240 m   |
|  | 17x2  | 13811720060    | 600 m             |         |
|    | <b>PE-RT tube</b>   | 14x2           | 13821420012       | 120 m   |
|  | Floor heating tube made of polyethylene in accordance with DIN 16833, with diffusion barrier, oxygen diffusion-tight in accordance with DIN 4726, max. operating pressure 6 bar, max. operating temperature 70°C. | 14x2           | 13821420024       | 240 m   |
|  |   | 14x2           | 13821420060       | 600 m   |
|  |   | 17x2           | 13821720012       | 120 m   |
|  |   | 17x2           | 13821720024       | 240 m   |
|  |   | 17x2           | 13821720060       | 600 m   |
|  | 10x1,25   | 13FH11662      | 100 m             |         |
|    | <b>MPC tube</b>   | 16x2           | 11FH14221         | 120 m   |
|  | Metal-plastic composite tube, inner tube PE-RT, aluminium inner tube, outer tube PE-HD, oxygen diffusion-tight. Max. operating pressure 6 bar, max. operating temperature 60°C.                                   | 16x2           | 11FH14252         | 600 m   |
|  | <b>Connection fittings</b>  | 3/4" x 14x2    | 13817003414       | 10 Pcs. |
|  | With clamping rings for connecting the heating tubes (PE-Xc, PE-RT, MPC) to the distributor.  | 3/4" x 17x2    | 13817003417       | 10 Pcs. |
|  |   | 3/4" x 10x1,25 | 13FH51021         |         |
|  | <b>Tube coupling</b>  | 14x14x2        | 13815343414       | 10 Pcs. |
|  | with clamping ring fitting on both sides.   | 17x17x2        | 13815343417       | 10 Pcs. |
|  |   | 10 x 1,25      | 13FH510022        | 10 Pcs. |
|  | <b>Guide bend</b>   |                | 13812000190       | 50 Pcs. |
|  | made of impact-resistant plastic for easily and cleanly guiding the tube to the distributor. Bend 90°.  |                |                   |         |
|  | <b>Expansion joints tube protection</b>   | 400            | 13FH52005         | 50 Pcs. |
|  | slit, length 28.5 cm. Suitable for heating tube PE-RT, PE-XC and MPC tube.  |                |                   |         |
|  | <b>Calibration tool</b>   | 14-20 mm       | 13819269920       |         |
|  | for MPC floor heating tube. Tubes must be calibrated before the mounting of the connection fittings.  |                |                   |         |



|   | Type/dimensions<br>in mm   | Article number   | Packaging<br>unit |             |
|---|--|--|-------------------|-------------|
| <b>6 FLOOR HEATING TUBES</b> <span style="float: right;">PRODUCT GROUP I</span>   |  |  |                   |             |
|    | <b>Dispenser</b>   | 13FH53001  | 120 m             |             |
|   | for easy taping of all Brugman heating tubes (120 - 600 m), with adjustable reel.  |  |                   |             |
| <b>7 DISTRIBUTORS</b> <span style="float: right;">PRODUCT GROUP I</span>  |  |  |                   |             |
|    | <b>Stainless steel distributors for underfloor heating with integrated control valve in the flow block</b>   | 2 Circuits   | 13FH28020         | 1 Pc.       |
|   | made of stainless steel special profile V2A. Integrated thermostat valves with handwheel caps (convertible to electr. actuators) in the backflow blocks. Including 2 combined air vents and drain cocks 1/2" nickel-plated pre-assembled, 2 wall brackets with sound insulation liner, 4 screws with screw anchors and 1 room identification plate. Primary side: 2 x union nut 1" IG, nickel-plated, flat sealing. Secondary side: nickel-plated connecting nipple 3/4" AG with cone. | 3 Circuits   | 13FH28030         | 1 Pc.       |
|   |  | 4 Circuits   | 13FH28040         | 1 Pc.       |
|   |  | 5 Circuits   | 13FH28050         | 1 Pc.       |
|   |  | 6 Circuits   | 13FH28060         | 1 Pc.       |
|   |  | 7 Circuits   | 13FH28070         | 1 Pc.       |
|   |  | 8 Circuits   | 13FH28080         | 1 Pc.       |
|   |  | 9 Circuits   | 13FH28090         | 1 Pc.       |
|   |  | 10 Circuits  | 13FH28100         | 1 Pc.       |
|   |  | 11 Circuits  | 13FH28110         | 1 Pc.       |
|   |  | 12 Circuits  | 13FH28120         | 1 Pc.       |
|   |    | <b>Stainless steel distributor for underfloor heating with integrated controllable flow rate indicator 0-5 l/min in the flow block</b> | 2 Circuits        | 13FH29020   |
| made of stainless steel special profile V2A. Integrated thermostat valves with handwheel caps (convertible to electr. actuators) in the return flow blocks. Including 2 combined air vents and drain cocks 1/2" nickel-plated pre-assembled, 2 wall brackets with sound insulation liner, 4 screws with screw anchors and 1 room identification plate. Primary side: 2 x union nut 1" IG, nickel-plated, flat sealing. Secondary side: nickel-plated connecting nipple 3/4" AG with cone. |  | 3 Circuits   | 13FH29030         | 1 Pc.       |
|   |  | 4 Circuits   | 13FH29040         | 1 Pc.       |
|   |  | 5 Circuits   | 13FH29050         | 1 Pc.       |
|   |  | 6 Circuits   | 13FH29060         | 1 Pc.       |
|   |  | 7 Circuits   | 13FH29070         | 1 Pc.       |
|   |  | 8 Circuits   | 13FH29080         | 1 Pc.       |
|   |  | 9 Circuits   | 13FH29090         | 1 Pc.       |
|   |  | 10 Circuits  | 13FH29100         | 1 Pc.       |
|   |  | 11 Circuits  | 13FH29110         | 1 Pc.       |
|   |  | 12 Circuits  | 13FH29120         | 1 Pc.       |
|    |  | <b>Distributor connection fittings</b>   | 1" x 3/4"         | 13811210002 |
|   | Set composed of 2 ball valves with T-handle, external screw thread on the one side and internal screw thread on the other, incl. flat seals to connect to the heating circuit distributor.   |  |                   |             |
|    | <b>Heat meter installation kit</b>   | 1" x 3/4"  | 13811210013       | 1 Set       |
|   | for heating circuit distributor, composed of: Counter fitting piece 110 mm in corner execution with 2 screw fittings with seals and 2 ball valves, as well as 1 special ball valve. Sensor connection M10x1 for integrating the sensor directly into the medium. For the flat-sealing connection to the heating circuit distributor.   |  |                   |             |

|   | Type/dimensions<br>in mm                                   | Article number      | Packaging<br>unit |       |
|---|--|---------------------|-------------------|-------|
| <b>7 DISTRIBUTORS</b> <span style="float: right;">PRODUCT GROUP I</span>          |  |                     |                   |       |
|   | <b>Universal distribution box</b>                          | size 0,5 490 x 705  | 13813012005       | 1 Pc. |
|   | made of hot-dip galvanised sheet steel with pre-cutting    | size 1,0 575 x 705  | 13813012010       | 1 Pc. |
|   | left and right for distributor connection, stable height-  | size 1,5 725 x 705  | 13813012015       | 1 Pc. |
|   | adjustable foot, for surface and flush mounting, screed    | size 2,0 875 x 705  | 13813012020       | 1 Pc. |
|   | impact plate and tube slides can be disassembled without   | size 2,5 1025 x 705 | 13813012025       | 1 Pc. |
| tools, built-in depth 110 mm.   |  |                     |                   |       |
|   | <b>Frames and door</b>                                     | size 2,5 490 x 705  | 13813022005       | 1 Pc. |
|   | for universal distribution box with flush mounting, zinc-  | size 2,5 575 x 705  | 13813022010       | 1 Pc. |
|   | plated, powder-coated, RAL 9010.                           | size 2,5 725 x 705  | 13813022015       | 1 Pc. |
|   |  | size 2,5 875 x 705  | 13813022020       | 1 Pc. |
|   |  | size 2,5 1025 x 705 | 13813022025       | 1 Pc. |
|  | <b>Hood</b>  | size 0,5 490 x 705  | 13813032005       | 1 Pc. |
|   | for universal distribution box with use as surface-mounted | size 1,0 575 x 705  | 13813032010       | 1 Pc. |
|   | box, zinc-plated, powder-coated RAL 9010. Attachment       | size 1,5 725 x 705  | 13813032015       | 1 Pc. |
|   | with 4 magnetic holders, included in the delivery.         | size 2,0 875 x 705  | 13813032020       | 1 Pc. |
|   |  | size 2,5 1025 x 705 | 13813032025       | 1 Pc. |

|  | Type/dimensions<br>in mm                                    | Article number | Packaging<br>unit |       |
|--|---|----------------|-------------------|-------|
| <b>8 CONTROL TECHNOLOGY</b> <span style="float: right;">PRODUCT GROUP I</span>     |   |                |                   |       |
|  | <b>Analogue room thermostat</b>                             | 230V           | 13FH55056         | 1 Pc. |
|  | for detecting and controlling the desired room tempera-     | 24V            | 13FH55050         | 1 Pc. |
|  | ture. Functions: heating, fixed setback temperature, set-   |                |                   |       |
|  | back input, setpoint calibration                            |                |                   |       |
|  | <b>LCD room thermostat</b>                                  | 230V           | 13FH55057         | 1 Pc. |
|  | for detecting and controlling the desired room tempera-     | 24V            | 13FH55058         | 1 Pc. |
|  | ture. Functions: heating, direction of control action NC,   |                |                   |       |
|  | fixed setback temperature, setback input, switching output  |                |                   |       |
|  | display, setpoint calibration and limitation, valve protec- |                |                   |       |
|  | tion function, switching output can be deactivated, frost   |                |                   |       |
|  | protection function, child safety lock                      |                |                   |       |
|  | <b>Switching strip 6K</b>                                   | 230V           | 13FH55059         | 1 Pc. |
|  | for max. 6 room thermostats and 18 actuators. Only          | 24V            | 13FH55048         | 1 Pc. |
|  | heating. It is suitable for systems that work with normally |                |                   |       |
|  | open (NO) or normally closed (NC) components.               |                |                   |       |
|  | <b>Switching strip 10K</b>                                  | 230V           | 13FH55060         | 1 Pc. |
|  | for max. 10 room thermostats and 18 actuators. Only         | 24V            | 13FH55061         | 1 Pc. |
|  | heating. It is suitable for systems that work with normally |                |                   |       |
|  | open (NO) or normally closed (NC) components.               |                |                   |       |

|   | Type/dimensions<br>in mm                                    | Article number    | Packaging<br>unit |       |
|---|---|-------------------|-------------------|-------|
| <b>8 CONTROL TECHNOLOGY</b> <span style="float: right;">PRODUCT GROUP I</span>        |   |                   |                   |       |
|    | <b>Analogue room thermostat</b>                             | 13FH55051         | 1 Pc.             |       |
|   | for detecting and controlling the desired room tempera-     |                   |                   |       |
|   | ture. Via tabs beneath the rotary knob the possible         |                   |                   |       |
|   | setting range is limited and a setpoint adjustment is       |                   |                   |       |
|   | performed.  |                   |                   |       |
|    | <b>LCD room thermostat</b>                                  | 13FH55052         |                   |       |
|   | for detecting and controlling the desired room tempera-     |                   |                   |       |
|   | ture. Functions: Permanent display of room temperature,     |                   |                   |       |
|   | system time and operating status, 3 menu levels, limi-      |                   |                   |       |
|   | tation of the setting range for the room temperature,       |                   |                   |       |
|   | operating lock.   |                   |                   |       |
|    | <b>Switching strip 8K</b>                                   | 230V              | 13FH55062         | 1 Pc. |
|   | for max. 8 heating zones and 12 actuators. Types of ope-    | 24V + Transformer | 13FH55053         | 1 Pc. |
|   | ration: frost protection, heating, cooling, ECO, automatic, |                   |                   |       |
|   | emergency operation. Pilot function for heating and         |                   |                   |       |
|   | cooling. Boiler outlet.                                     |                   |                   |       |
|   | <b>Switching strip 12K</b>                                  | 230V              | 13FH55063         | 1 Pc. |
|   | for max. 12 heating zones and 18 actuators. Types of        | 24V + Transformer | 13FH55054         | 1 Pc. |
|   | operation: frost protection, heating, cooling, ECO, auto-   |                   |                   |       |
|   | matic, emergency operation. Pilot function for heating      |                   |                   |       |
|   | and cooling. Boiler outlet.                                 |                   |                   |       |
|  | <b>Actuator 1 Watt</b>                                      | 230V              | 13FH55049         | 1 Pc. |
|   | electrothermal actuator for equipping the heating circuit   | 24V               | 13FH55055         | 1 Pc. |
|   | distributor with individual room control. With first-open   |                   |                   |       |
|   | function in the delivery state. Valve adapter for Brugman   |                   |                   |       |
|   | heating circuit distributor, function display. Normally     |                   |                   |       |
|   | closed.   |                   |                   |       |

## QUICKROLL

| Surface | Tube distance (mm) | Quickroll/m <sup>2</sup> | Clips unit | Edge insulation strip (m) | Adhesive tape (m) | Screed additive standard (kg) | Heating tube (m) | Max. home heating surface with 120 m (m <sup>2</sup> ) |
|---------|--------------------|--------------------------|------------|---------------------------|-------------------|-------------------------------|------------------|--|
| 1       | 300                | 1                        | 8          | 1                         | 1                 | 0,2                           | 3,33             | 36   |
| 1       | 250                | 1                        | 10         | 1                         | 1                 | 0,2                           | 4                | 30   |
| 1       | 200                | 1                        | 12         | 1                         | 1                 | 0,2                           | 5                | 24   |
| 1       | 150                | 1                        | 16         | 1                         | 1                 | 0,2                           | 6,7              | 18   |
| 1       | 100                | 1                        | 24         | 1                         | 1                 | 0,2                           | 10               | 12   |
| 1       | 50                 | 1                        | 48         | 1                         | 1                 | 0,2                           | 20               | 6  |

## QUICKNOPP

| Surface | Tube distance (mm) | Quicknopp 30-2/11 (m <sup>2</sup> ) | PE round profile (m) | Edge insulation strip (m) | Transitional element (m) | Compensating insulation strip unit | Heating tube PE-Xc 14 x 2.0 (m) | Screed additive standard (kg) |
|---------|--------------------|-------------------------------------|----------------------|---------------------------|--------------------------|------------------------------------|---------------------------------|-------------------------------|
| 1       | 360                | 1                                   | 1                    | 1,2                       | 0,1                      | 0,5                                | 2,78                            | 0,2                           |
| 1       | 300                | 1                                   | 1                    | 1,2                       | 0,1                      | 0,5                                | 3,33                            | 0,2                           |
| 1       | 240                | 1                                   | 1                    | 1,2                       | 0,1                      | 0,5                                | 4,16                            | 0,2                           |
| 1       | 180                | 1                                   | 1                    | 1,2                       | 0,1                      | 0,5                                | 5,55                            | 0,2                           |
| 1       | 120                | 1                                   | 1                    | 1,2                       | 0,1                      | 0,5                                | 8,33                            | 0,2                           |
| 1       | 60                 | 1                                   | 1                    | 1,2                       | 0,1                      | 0,5                                | 16,67                           | 0,2                           |

## DRY CONSTRUCTION SHEET

| Surface | Tube distance (mm) | Dry construction sheet | Covering film | Edge insulation strip (m) | Heating tube PE-Xc 16 x 2.0 (m) |
|---------|--------------------|------------------------|---------------|---------------------------|---------------------------------|
| 1       | 250                | 1                      | 1             | 1,2                       | 4                               |
| 1       | 125                | 1                      | 1             | 1,2                       | 8                               |

| QUICKROL                 | Quickroll 20-2     | Quickroll 20-2 | Quickroll 25-2 | Quickroll 30-2 | Quickroll 30-2 | Quickroll 30-3 | Quickroll 35-3 |
|--------------------------|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Type                     | DES                | DES            | DES            | DES            | DES            | DES            | DES            |
|                          | sg                 | sm             | sm             | sg             | sg             | sm             | sm             |
| Thickness                | mm                 | 20-2           | 20-2           | 25-2           | 30-2           | 30-2           | 35-3           |
| WLG                      |                    | 035            | 045            | 045            | 035            | 040            | 045            |
| Size                     | mm                 | 12000 x 1000   | 12000 x 1000   | 12000 x 1000   | 12000 x 1000   | 12000 x 1000   | 10000 x 1000   |
| R                        | m <sup>2</sup> K/W | 0,57           | 0,44           | 0,56           | 0,86           | 0,75           | 0,78           |
| Dyn.rigidity s'<         |                    | 50             | 20             | 20             | 50             | 20             | 15             |
| Impact noise improvement | Db                 | 22             | 28             | 28             | 22             | 28             | 29             |
| Max. load                | kN/m <sup>2</sup>  | 10             | 4              | 4              | 10             | 5              | 4              |

| QUICKNOPP                            |                    | Stud sheet 30-2mm VA60 | Stud sheet 200-11 mm VA60 |
|--------------------------------------|--------------------|------------------------|---------------------------|
| Heating tube dimension               | mm                 | 14 - 17                | 14 - 17                   |
| Typ according to EN13163             |                    | PST-TK 5000            | EPS 200                   |
| Impact sound improvement measurement | dB                 | 28                     | -                         |
| Thermal conductivity                 | W/mk               | 0,04                   | 0,035                     |
| Ra value                             | m <sup>2</sup> K/W | 0,75                   | 0,314                     |
| Compressive stress CS (10)           | kPa                | -                      | 200                       |
| Max. traffic load                    | kPa                | 5                      | 60                        |
| Usable area per sheet                | m <sup>2</sup>     | 1,2                    | 1,2                       |
| Compressibility                      |                    | CP 2                   | NPD                       |
| Laying distance straight             | mm                 | 60                     | 60                        |
| Laying distance diagonal             | mm                 | 84                     | 84                        |
| Dimensions of EPS sheet              | mm                 | 1440 x 840 x 30        | 1440 x 840 x 11           |
| Dimensions of TZ film incl. overlap  | mm                 | 1470 x 870             | 1470 x 870                |
| Stud height                          | mm                 | 18                     | 18                        |
| Sheet height total                   | mm                 | 48                     | 29                        |
| Usable area                          | m <sup>2</sup>     | 57,6                   | 115,2                     |

| STUD SHEET                             |                      | Stud sheet 30-2mm VA60             | RENOVATION SHEET               |                |            |
|--|----------------------|------------------------------------|--------------------------------|----------------|------------|
| Sheet dimensions                       | mm                   | 1000 x 500 x 30                    | Heating tube dimension         | mm             | 10 - 12    |
| Surface description                    |                      | Aluminium sheet 0,5 mm             | Usable area per sheet          | m <sup>2</sup> | 0,6        |
| Heating tube dimension                 | mm                   | 16                                 | Laying distance straight       | mm             | 50         |
| Type of tube                           |                      | Metal-plastic composite tube       | Laying distance diagonal       | mm             | 60         |
| Tube laying in the deflection range    |                      | With flexible spring               | Dimensions of EPS system sheet | mm             | 1050 x 650 |
| Laying distance                        | mm                   | 125                                | Stud height                    | mm             | 13         |
| Thermal conductivity                   | W/m . k              | 0,035                              | Sheet height total             | mm             | 16         |
| Thermal resistance                     | m <sup>2</sup> . k/W | R = 0,75                           |                                |                |            |
| Useful load                            | kPa/m <sup>2</sup>   | Max. 70                            |                                |                |            |
| Compressive stress                     | kPa/m <sup>2</sup>   | ≥ 240 (at 10% compression)         |                                |                |            |
| Compressive stress                     | kPa/m <sup>2</sup>   | ≥ 70 (at 2 % compression)          |                                |                |            |
| Building material class basic material |                      | Euro class E according to EN 13501 |                                |                |            |
| Dimensions of TZ film incl. overlap    | mm                   | 1470 x 870                         |                                |                |            |
| Stud height                            | mm                   | 18                                 |                                |                |            |
| Sheet height total                     | mm                   | 48                                 |                                |                |            |
| Usable area                            | m <sup>2</sup>       | 57,6                               |                                |                |            |

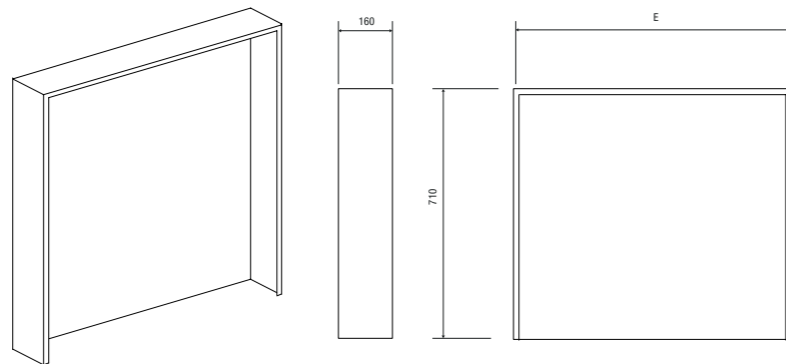
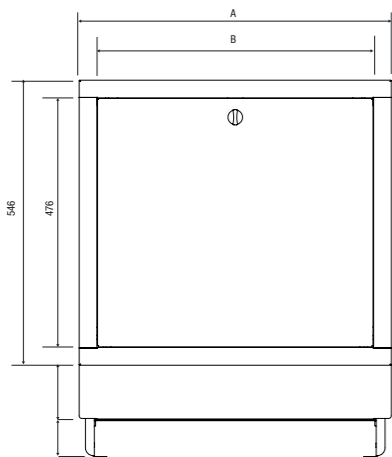
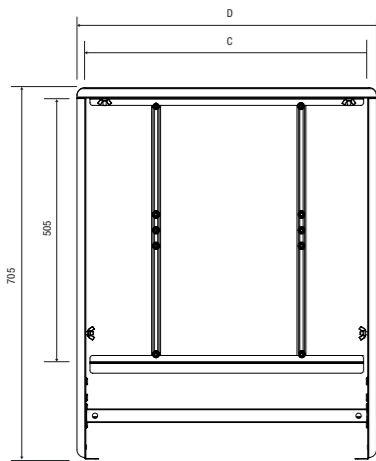
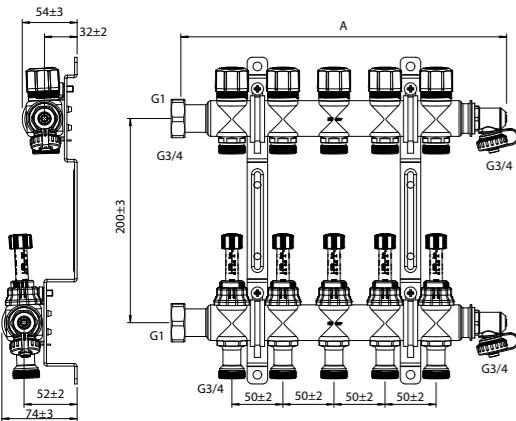


**DIMENSIONS OF HEATING CIRCUIT DISTRIBUTOR**

| Number of heating circuits | Length of distributor A (mm) | Length of distributor (mm) with: |             |                 |
|----------------------------|------------------------------|----------------------------------|-------------|-----------------|
|                            |                              | Connection passageway            | *WMZ corner | *WMZ passageway |
| 2                          | 169                          | 235                              | 279         | 429             |
| 3                          | 219                          | 285                              | 329         | 479             |
| 4                          | 269                          | 335                              | 379         | 529             |
| 5                          | 319                          | 385                              | 429         | 579             |
| 6                          | 369                          | 435                              | 479         | 629             |
| 7                          | 419                          | 485                              | 529         | 679             |
| 8                          | 469                          | 535                              | 579         | 729             |
| 9                          | 519                          | 585                              | 629         | 779             |
| 10                         | 569                          | 635                              | 679         | 829             |
| 11                         | 619                          | 685                              | 729         | 879             |
| 12                         | 669                          | 735                              | 779         | 929             |

**DISTRIBUTION BOXES, FRAME & DOOR, HOOD**

| Distribution box | Dimensions of distribution box: height 705-775, depth 110, inner dimensions: (mm) | Dimensions of hood: height 710, depth 160, width: (mm) | Dimensions of frame: A height H = 546 width: (mm) | Dimensions of door: B height H = 478 width: (mm) |
|------------------|---|--|---|--|
| Size 0,5         | 455   | 530  | A = 515   | B = 445  |
| Size 1,0         | 540   | 615  | A = 600   | B = 530  |
| Size 1,5         | 690   | 765  | A = 750   | B = 680  |
| Size 2,0         | 840   | 915  | A = 890   | B = 830  |
| Size 2,5         | 990   | 1065   | A = 1050  | B = 980  |



**SELECTED TABLE FOR BRUGMAN HEATING CIRCUIT DISTRIBUTOR**

| Size | Internal dimensions (mm) | Max. number of circuits             |                                |                             |                                      |
|------|--------------------------|-------------------------------------|--------------------------------|-----------------------------|--------------------------------------|
|      |                          | with connection fittings passageway | with heat meter*** passageway* | with heat meter*** corner** | with fixed value control station**** |
| 0,5  | 455                      | 5                                   | /                              | 4                           | /                                    |
| 1    | 540                      | 6                                   | 3                              | 6                           | /                                    |
| 1,5  | 690                      | 9                                   | 6                              | 8                           | 2                                    |
| 2    | 840                      | 11                                  | 8                              | 11                          | 5                                    |
| 2,5  | 990                      | 12                                  | 11                             | 12                          | 7                                    |

- \* The connection variants with passageway relate to a tube guide outside of the distribution box, this is only possible with flush mounting
- \*\* Connection variant corner: tube guide inside the distribution box.
- \*\*\* WMZ = heat meter - installation kit
- \*\*\*\* Tube guide within the distribution box with connection fittings passageway, connecting a fixed value control station increases the required construction depth! It is imperative to take this into consideration in the planning and selection of the distribution box.







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