

## Output table

## JUPITER Underfloor heating System IDEAL

### 20 mm Fermacell

| Mean<br>water<br>temp. | Room<br>temp. | EZ<br>12,5 cm                         | Surface<br>temp. | CZ<br>25 cm                           | Surface<br>temp. | MIX<br>20 cm                          | Surface<br>temp. | EZ<br>12,5 cm                         | Surface<br>temp. | CZ<br>25 cm                           | Surface<br>temp. | MIX<br>20 cm                          | Surface<br>temp. |
|------------------------|---------------|---------------------------------------|------------------|---------------------------------------|------------------|---------------------------------------|------------------|---------------------------------------|------------------|---------------------------------------|------------------|---------------------------------------|------------------|
|                        |               | Fermacell<br>R=0,00<br>m²K/W<br>20 mm |                  | Fermacell<br>R=0,00<br>m²K/W<br>20 mm |                  | Fermacell<br>R=0,00<br>m²K/W<br>20 mm |                  | Fermacell<br>R=0,05<br>m²K/W<br>20 mm |                  | Fermacell<br>R=0,05<br>m²K/W<br>20 mm |                  | Fermacell<br>R=0,05<br>m²K/W<br>20 mm |                  |
|                        |               | θ <sub>m</sub>                        |                  | θ <sub>F</sub>                        |                  | θ <sub>F</sub>                        |                  | θ <sub>F</sub>                        |                  | θ <sub>F</sub>                        |                  | θ <sub>F</sub>                        |                  |
| °C                     | °C            | W/m2                                  | °C               | W/m2                                  | °C               | W/m2                                  | °C               | W/m2                                  | °C               | W/m2                                  | °C               | W/m2                                  | °C               |
| 30                     | 15            | 74.6                                  | 21.9             | 57.7                                  | 20.5             | 63.3                                  | 20.9             | 57.7                                  | 20.5             | 46.5                                  | 19.5             | 49.5                                  | 19.7             |
| 30                     | 18            | 59.4                                  | 23.6             | 45.9                                  | 22.4             | 50.4                                  | 22.8             | 45.9                                  | 22.4             | 37.0                                  | 21.6             | 39.4                                  | 21.9             |
| 30                     | 20            | 49.1                                  | 24.7             | 38.0                                  | 23.7             | 41.7                                  | 24.1             | 38.0                                  | 23.7             | 30.6                                  | 23.1             | 32.6                                  | 23.2             |
| 30                     | 22            | 38.8                                  | 25.8             | 30.0                                  | 25.0             | 32.9                                  | 25.3             | 30.0                                  | 25.0             | 24.2                                  | 24.5             | 25.7                                  | 24.6             |
| 30                     | 24            | 28.3                                  | 26.9             | 21.9                                  | 26.3             | 24.0                                  | 26.5             | 21.9                                  | 26.3             | 17.6                                  | 25.9             | 18.8                                  | 26.0             |
| 35                     | 15            | 99.9                                  | 24.0             | 77.2                                  | 22.1             | 84.8                                  | 22.7             | 77.2                                  | 22.1             | 62.3                                  | 20.8             | 66.3                                  | 21.2             |
| 35                     | 18            | 84.7                                  | 25.7             | 65.5                                  | 24.1             | 71.9                                  | 24.7             | 65.5                                  | 24.1             | 52.8                                  | 23.0             | 56.2                                  | 23.3             |
| 35                     | 20            | 74.6                                  | 26.9             | 57.7                                  | 25.5             | 63.3                                  | 25.9             | 57.7                                  | 25.5             | 46.5                                  | 24.5             | 49.5                                  | 24.7             |
| 35                     | 22            | 64.4                                  | 28.0             | 49.8                                  | 26.8             | 54.7                                  | 27.2             | 49.8                                  | 26.8             | 40.2                                  | 25.9             | 42.8                                  | 26.2             |
| 35                     | 24            | 54.3                                  | 29.2             | 41.9                                  | 28.1             | 46.0                                  | 28.4             | 41.9                                  | 28.1             | 33.8                                  | 27.4             | 36.0                                  | 27.6             |
| 40                     | 15            | 125.1                                 | 26.0             | 96.7                                  | 23.7             | 106.1                                 | 24.5             | 96.7                                  | 23.7             | 78.0                                  | 22.2             | 83.0                                  | 22.6             |
| 40                     | 18            | 110.0                                 | 27.8             | 85.0                                  | 25.8             | 93.3                                  | 26.4             | 85.0                                  | 25.8             | 68.6                                  | 24.4             | 72.9                                  | 24.8             |
| 40                     | 20            | 99.9                                  | 29.0             | 77.2                                  | 27.1             | 84.8                                  | 27.7             | 77.2                                  | 27.1             | 62.3                                  | 25.8             | 66.3                                  | 26.2             |
| 40                     | 22            | 89.8                                  | 30.2             | 69.4                                  | 28.5             | 76.2                                  | 29.0             | 69.4                                  | 28.5             | 56.0                                  | 27.3             | 59.6                                  | 27.6             |
| 40                     | 24            | 79.7                                  | 31.3             | 61.6                                  | 29.8             | 67.6                                  | 30.3             | 61.6                                  | 29.8             | 49.7                                  | 28.8             | 52.8                                  | 29.0             |
| 45                     | 15            | 150.3                                 | 28.0             | 116.1                                 | 25.3             | 127.5                                 | 26.2             | 116.1                                 | 25.3             | 93.7                                  | 23.5             | 99.7                                  | 24.0             |
| 45                     | 18            | 135.2                                 | 29.8             | 104.5                                 | 27.4             | 114.7                                 | 28.2             | 104.5                                 | 27.4             | 84.3                                  | 25.7             | 89.7                                  | 26.1             |
| 45                     | 20            | 125.1                                 | 31.0             | 96.7                                  | 28.7             | 106.1                                 | 29.5             | 96.7                                  | 28.7             | 78.0                                  | 27.2             | 83.0                                  | 27.6             |
| 45                     | 22            | 115.0                                 | 32.2             | 88.9                                  | 30.1             | 97.6                                  | 30.8             | 88.9                                  | 30.1             | 71.7                                  | 28.6             | 76.3                                  | 29.0             |
| 45                     | 24            | 104.9                                 | 33.4             | 81.1                                  | 31.4             | 89.0                                  | 32.1             | 81.1                                  | 31.4             | 65.4                                  | 30.1             | 69.6                                  | 30.5             |
| 50                     | 15            | 175.4                                 | 30.0             | 135.6                                 | 26.9             | 148.8                                 | 27.9             | 135.6                                 | 26.9             | 109.4                                 | 24.8             | 116.4                                 | 25.3             |
| 50                     | 18            | 160.3                                 | 31.8             | 123.9                                 | 28.9             | 136.0                                 | 29.9             | 123.9                                 | 28.9             | 100.0                                 | 27.0             | 106.3                                 | 27.5             |
| 50                     | 20            | 150.3                                 | 33.0             | 116.1                                 | 30.3             | 127.5                                 | 31.2             | 116.1                                 | 30.3             | 93.7                                  | 28.5             | 99.7                                  | 29.0             |
| 50                     | 22            | 140.2                                 | 34.2             | 108.4                                 | 31.7             | 119.0                                 | 32.5             | 108.4                                 | 31.7             | 87.4                                  | 30.0             | 93.0                                  | 30.4             |
| 50                     | 24            | 130.1                                 | 35.4             | 100.6                                 | 33.0             | 110.4                                 | 33.8             | 100.6                                 | 33.0             | 81.1                                  | 31.4             | 86.3                                  | 31.9             |
| 55                     | 15            | 200.5                                 | 31.9             | 155.0                                 | 28.4             | 170.2                                 | 29.6             | 155.0                                 | 28.4             | 125.0                                 | 26.0             | 133.0                                 | 26.7             |
| 55                     | 18            | 185.5                                 | 33.8             | 143.3                                 | 30.5             | 157.4                                 | 31.6             | 143.3                                 | 30.5             | 115.6                                 | 28.3             | 123.0                                 | 28.9             |
| 55                     | 20            | 175.4                                 | 35.0             | 135.6                                 | 31.9             | 148.8                                 | 32.9             | 135.6                                 | 31.9             | 109.4                                 | 29.8             | 116.4                                 | 30.3             |
| 55                     | 22            | 165.3                                 | 36.2             | 127.8                                 | 33.2             | 140.3                                 | 34.2             | 127.8                                 | 33.2             | 103.1                                 | 31.2             | 109.7                                 | 31.8             |
| 55                     | 24            | 155.3                                 | 37.4             | 120.0                                 | 34.6             | 131.8                                 | 35.6             | 120.0                                 | 34.6             | 96.8                                  | 32.7             | 103.0                                 | 33.2             |

JUPITER Heating Systems Ltd  
Pennypot Lane  
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Edge zone 1, 00 m: 35 °C  
Central zone: 29 °C  
Bathrooms: 33 °C

## Output table

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### 20 mm Fermacell

| Mean<br>water<br>temp. | Room<br>temp. | EZ<br>12,5 cm                | Surface<br>temp. | CZ<br>25 cm                  | Surface<br>temp. | MIX<br>20 cm                 | Surface<br>temp. | EZ<br>12,5 cm | Surface<br>temp. | CZ<br>25 cm | Surface<br>temp. | MIX<br>20 cm | Surface<br>temp. |
|------------------------|---------------|------------------------------|------------------|------------------------------|------------------|------------------------------|------------------|---------------|------------------|-------------|------------------|--------------|------------------|
|                        |               | Fermacell<br>R=0,10<br>m²K/W |                  | Fermacell<br>R=0,10<br>m²K/W |                  | Fermacell<br>R=0,10<br>m²K/W |                  |               |                  |             |                  |              |                  |
|                        |               | 20 mm                        |                  | 20 mm                        |                  | 20 mm                        |                  | 20 mm         |                  | 20 mm       |                  | 20 mm        |                  |
| $\theta_m$             | $\theta_i$    |                              | $\theta_F$       |                              | $\theta_F$       |                              | $\theta_F$       |               | $\theta_F$       |             | $\theta_F$       |              | $\theta_F$       |
| °C                     | °C            | W/m2                         | °C               | W/m2                         | °C               | W/m2                         | °C               | W/m2          | °C               | W/m2        | °C               | W/m2         | °C               |
| 30                     | 15            | 47.0                         | 19.5             | 38.9                         | 18.8             | 41.8                         | 19.1             | 39.7          | 18.9             | 33.4        | 18.3             | 44.4         | 19.3             |
| 30                     | 18            | 37.4                         | 21.7             | 31.0                         | 21.1             | 33.2                         | 21.3             | 31.6          | 21.2             | 26.6        | 20.7             | 35.4         | 21.5             |
| 30                     | 20            | 30.9                         | 23.1             | 25.6                         | 22.6             | 27.5                         | 22.8             | 26.1          | 22.7             | 22.0        | 22.3             | 29.3         | 22.9             |
| 30                     | 22            | 24.4                         | 24.5             | 20.3                         | 24.1             | 21.7                         | 24.2             | 20.6          | 24.1             | 17.4        | 23.8             | 23.1         | 24.4             |
| 30                     | 24            | 17.8                         | 25.9             | 14.8                         | 25.6             | 15.8                         | 25.7             | 15.0          | 25.6             | 12.7        | 25.4             | 16.8         | 25.8             |
| 35                     | 15            | 62.9                         | 20.9             | 52.1                         | 20.0             | 55.9                         | 20.3             | 53.1          | 20.1             | 44.8        | 19.3             | 59.5         | 20.6             |
| 35                     | 18            | 53.3                         | 23.1             | 44.2                         | 22.3             | 47.4                         | 22.6             | 45.1          | 22.4             | 38.0        | 21.7             | 50.5         | 22.8             |
| 35                     | 20            | 47.0                         | 24.5             | 38.9                         | 23.8             | 41.8                         | 24.1             | 39.7          | 23.9             | 33.4        | 23.3             | 44.4         | 24.3             |
| 35                     | 22            | 40.6                         | 26.0             | 33.6                         | 25.3             | 36.1                         | 25.6             | 34.3          | 25.4             | 28.9        | 24.9             | 38.4         | 25.8             |
| 35                     | 24            | 34.2                         | 27.4             | 28.3                         | 26.9             | 30.4                         | 27.0             | 28.9          | 26.9             | 24.3        | 26.5             | 32.3         | 27.2             |
| 40                     | 15            | 78.7                         | 22.2             | 65.3                         | 21.1             | 70.0                         | 21.5             | 66.5          | 21.2             | 56.1        | 20.3             | 74.5         | 21.9             |
| 40                     | 18            | 69.2                         | 24.4             | 57.4                         | 23.4             | 61.6                         | 23.8             | 58.5          | 23.5             | 49.3        | 22.7             | 65.5         | 24.1             |
| 40                     | 20            | 62.9                         | 25.9             | 52.1                         | 25.0             | 55.9                         | 25.3             | 53.1          | 25.1             | 44.8        | 24.3             | 59.5         | 25.6             |
| 40                     | 22            | 56.5                         | 27.4             | 46.9                         | 26.5             | 50.3                         | 26.8             | 47.7          | 26.6             | 40.2        | 25.9             | 53.5         | 27.1             |
| 40                     | 24            | 50.1                         | 28.8             | 41.6                         | 28.1             | 44.6                         | 28.3             | 42.4          | 28.1             | 35.7        | 27.5             | 47.4         | 28.6             |
| 45                     | 15            | 94.6                         | 23.6             | 78.4                         | 22.2             | 84.1                         | 22.7             | 79.9          | 22.3             | 67.3        | 21.3             | 89.5         | 23.1             |
| 45                     | 18            | 85.1                         | 25.8             | 70.5                         | 24.6             | 75.7                         | 25.0             | 71.9          | 24.7             | 60.6        | 23.7             | 80.5         | 25.4             |
| 45                     | 20            | 78.7                         | 27.2             | 65.3                         | 26.1             | 70.0                         | 26.5             | 66.5          | 26.2             | 56.1        | 25.3             | 74.5         | 26.9             |
| 45                     | 22            | 72.4                         | 28.7             | 60.0                         | 27.7             | 64.4                         | 28.0             | 61.2          | 27.8             | 51.5        | 26.9             | 68.5         | 28.4             |
| 45                     | 24            | 66.0                         | 30.2             | 54.8                         | 29.2             | 58.7                         | 29.5             | 55.8          | 29.3             | 47.0        | 28.5             | 62.5         | 29.9             |
| 50                     | 15            | 110.4                        | 24.8             | 91.5                         | 23.3             | 98.2                         | 23.8             | 93.3          | 23.4             | 78.6        | 22.2             | 104.5        | 24.4             |
| 50                     | 18            | 100.9                        | 27.1             | 83.7                         | 25.7             | 89.7                         | 26.2             | 85.3          | 25.8             | 71.9        | 24.7             | 95.5         | 26.6             |
| 50                     | 20            | 94.6                         | 28.6             | 78.4                         | 27.2             | 84.1                         | 27.7             | 79.9          | 27.3             | 67.3        | 26.3             | 89.5         | 28.1             |
| 50                     | 22            | 88.2                         | 30.0             | 73.2                         | 28.8             | 78.5                         | 29.2             | 74.6          | 28.9             | 62.8        | 27.9             | 83.5         | 29.6             |
| 50                     | 24            | 81.9                         | 31.5             | 67.9                         | 30.3             | 72.8                         | 30.7             | 69.2          | 30.4             | 58.3        | 29.5             | 77.5         | 31.1             |
| 55                     | 15            | 126.2                        | 26.1             | 104.7                        | 24.4             | 112.3                        | 25.0             | 106.7         | 24.5             | 89.9        | 23.2             | 119.4        | 25.6             |
| 55                     | 18            | 116.7                        | 28.4             | 96.8                         | 26.7             | 103.8                        | 27.3             | 98.6          | 26.9             | 83.1        | 25.6             | 110.5        | 27.8             |
| 55                     | 20            | 110.4                        | 29.8             | 91.5                         | 28.3             | 98.2                         | 28.8             | 93.3          | 28.4             | 78.6        | 27.2             | 104.5        | 29.4             |
| 55                     | 22            | 104.1                        | 31.3             | 86.3                         | 29.9             | 92.6                         | 30.4             | 87.9          | 30.0             | 74.1        | 28.9             | 98.5         | 30.9             |
| 55                     | 24            | 97.7                         | 32.8             | 81.0                         | 31.4             | 86.9                         | 31.9             | 82.6          | 31.6             | 69.6        | 30.5             | 92.5         | 32.4             |

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