

# Heating elements

Heating elements type

**KDO**

Warranty

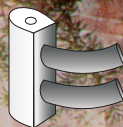
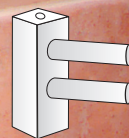
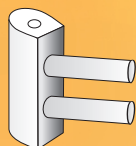
**5** year  
guarantee

Heating elements type

**K**

Heating elements type

**KD**



**thermal trend**

QUALITY THROUGH TRADITION

**Product description:**

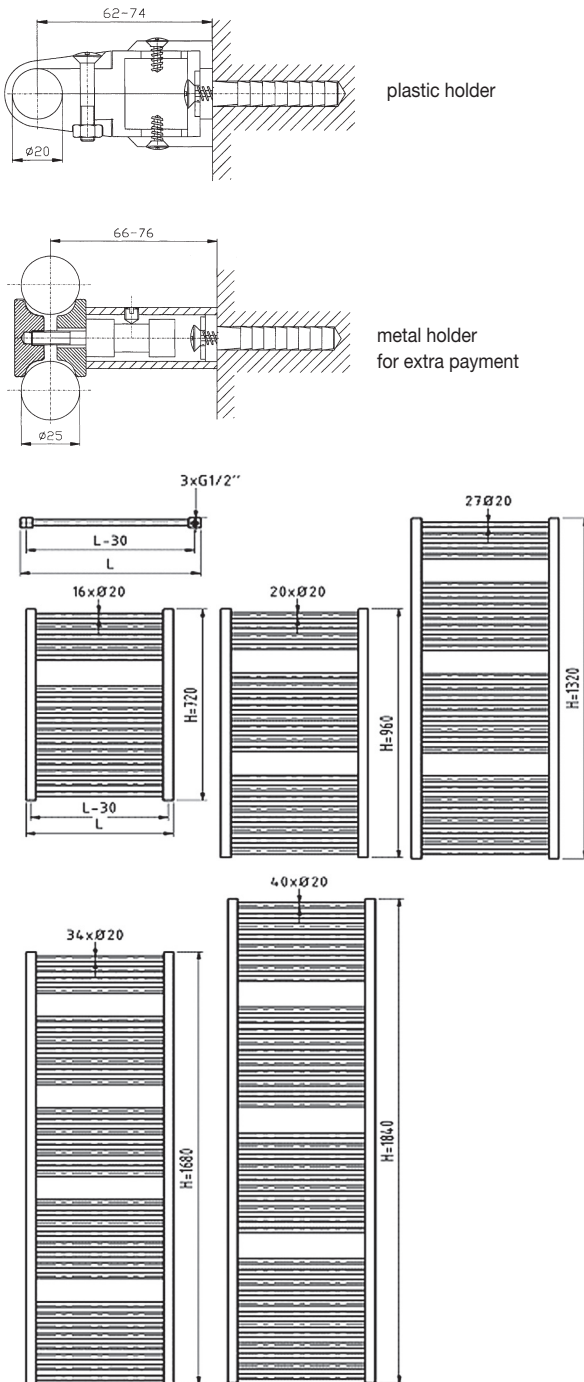
Bathroom (towel rail) radiators are heating elements a new generation designed for heating of bathrooms, corridors, toilets, kitchen nooks, fitness centres etc. They also serve for drying towels, dish-clothes and other textiles that can be hang up on the heating element.

**Use of the product:**

Bathroom radiators are designed for heating systems in individual houses and in residential buildings in which is normally used finished water or other heat-transfer medium for maximum working temperature of 110°C namely either with forced circulation or gravity circulation for working pressure p=1,0 MPa.

# Heating element type K

**Used material:** vertical profile - 30x30 mm square  
horizontal profile - straight tube, diameter 20mm



**Heater power Q[W] for heat-transfer substance water according to DIN EN 442**

| Type description | Height H [mm] | Length L [mm] | Thread pitch [mm] | t <sub>1</sub> /t <sub>2</sub> [°C] | Q[W] pro t <sub>1</sub> [°C] |      |      | Thermal exponent n [-] | Water volume n [l] | Rec. Radiator input power [W] |
|------------------|---------------|---------------|-------------------|-------------------------------------|------------------------------|------|------|------------------------|--------------------|-------------------------------|
|                  |               |               |                   |                                     | 20                           | 22   | 24   |                        |                    |                               |
| K 450 / 720      | 720           | 450           | 420               | 90/70                               | 417                          | 399  | 381  | 1,3222                 | 2,6                | 200                           |
|                  |               |               |                   | 75/65                               | 328                          | 310  | 293  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 167                          | 152  | 138  |                        |                    |                               |
| K 600 / 720      | 720           | 600           | 570               | 90/70                               | 538                          | 514  | 491  | 1,3114                 | 3,25               | 300                           |
|                  |               |               |                   | 75/65                               | 423                          | 401  | 380  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 217                          | 198  | 180  |                        |                    |                               |
| K 750 / 720      | 720           | 750           | 720               | 90/70                               | 655                          | 627  | 599  | 1,3005                 | 3,9                | 300                           |
|                  |               |               |                   | 75/65                               | 517                          | 490  | 464  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 266                          | 243  | 221  |                        |                    |                               |
| K 450 / 960      | 960           | 450           | 420               | 90/70                               | 526                          | 503  | 481  | 1,3106                 | 3,37               | 300                           |
|                  |               |               |                   | 75/65                               | 414                          | 393  | 371  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 212                          | 194  | 176  |                        |                    |                               |
| K 600 / 960      | 960           | 600           | 570               | 90/70                               | 679                          | 650  | 621  | 1,3042                 | 4,18               | 300                           |
|                  |               |               |                   | 75/65                               | 535                          | 508  | 480  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 275                          | 251  | 228  |                        |                    |                               |
| K 750 / 960      | 960           | 750           | 720               | 90/70                               | 828                          | 792  | 757  | 1,2977                 | 4,98               | 400                           |
|                  |               |               |                   | 75/65                               | 653                          | 620  | 586  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 337                          | 308  | 280  |                        |                    |                               |
| K 450 / 1320     | 1320          | 450           | 420               | 90/70                               | 713                          | 683  | 652  | 1,2922                 | 4,6                | 400                           |
|                  |               |               |                   | 75/65                               | 564                          | 535  | 506  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 291                          | 266  | 242  |                        |                    |                               |
| K 600 / 1320     | 1320          | 600           | 570               | 90/70                               | 922                          | 883  | 843  | 1,2927                 | 5,65               | 500                           |
|                  |               |               |                   | 75/65                               | 728                          | 691  | 654  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 376                          | 344  | 313  |                        |                    |                               |
| K 750 / 1320     | 1320          | 750           | 720               | 90/70                               | 1125                         | 1077 | 1029 | 1,2932                 | 6,7                | 600                           |
|                  |               |               |                   | 75/65                               | 889                          | 843  | 798  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 459                          | 420  | 382  |                        |                    |                               |
| K 450 / 1680     | 1680          | 450           | 420               | 90/70                               | 926                          | 886  | 847  | 1,2917                 | 5,8                | 500                           |
|                  |               |               |                   | 75/65                               | 732                          | 694  | 657  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 378                          | 346  | 314  |                        |                    |                               |
| K 600 / 1680     | 1680          | 600           | 570               | 90/70                               | 1200                         | 1148 | 1096 | 1,3064                 | 7,05               | 600                           |
|                  |               |               |                   | 75/65                               | 946                          | 896  | 848  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 485                          | 443  | 402  |                        |                    |                               |
| K 750 / 1680     | 1680          | 750           | 720               | 90/70                               | 1468                         | 1404 | 1340 | 1,321                  | 8,3                | 700                           |
|                  |               |               |                   | 75/65                               | 1154                         | 1093 | 1033 |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 588                          | 536  | 486  |                        |                    |                               |
| K 450 / 1840     | 1840          | 450           | 420               | 90/70                               | 1062                         | 1016 | 971  | 1,3027                 | 6,8                | 500                           |
|                  |               |               |                   | 75/65                               | 838                          | 794  | 751  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 431                          | 394  | 357  |                        |                    |                               |
| K 600 / 1840     | 1840          | 600           | 570               | 90/70                               | 1370                         | 1312 | 1253 | 1,2923                 | 8,25               | 700                           |
|                  |               |               |                   | 75/65                               | 1083                         | 1027 | 972  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 559                          | 512  | 465  |                        |                    |                               |
| K 750 / 1840     | 1840          | 750           | 720               | 90/70                               | 1669                         | 1598 | 1528 | 1,2819                 | 9,7                | 900                           |
|                  |               |               |                   | 75/65                               | 1321                         | 1254 | 1187 |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 686                          | 628  | 571  |                        |                    |                               |

The heating performance data applies to one-side connection of top-down

**Applies to all elements types**

**Radiator connection (inner thread G 1/2")**

- Single-sided connection from the top down, see the output tables, correction factor fx=1,0
- Diagonal connection from the top down, correction factor fx=1,011
- Connection from the bottom down, correction factor fx=0,969
- Bottom central connection (pitch of 50 mm), radiators customized on request only, correction factor fx=0,892

**Elektric heating elements**

These radiators can be use for direct self-heating. Can be used as the basis for any mentioned of the heating element and it must be attached to an electrical rod with electrical output which corresponding to a maximum of 70% of heating power at heating conditions 90/70/20. As heat transfer medium serve anticorrosion liquid with the freezing point -5°C. Type of electric heating rods: 1373/XX .....heating rod with temperature limiter of radiators liquid (shielding IP64)

Electrical heating elements can be placed in bathrooms in zones 1,2,3.

Order example: - electrical bathroom heating element, type KDO600/1680 filled with liquid with the freezing point - 5°C furnished with heating rod 800W of power with room thermostat

**Characteristic data :**

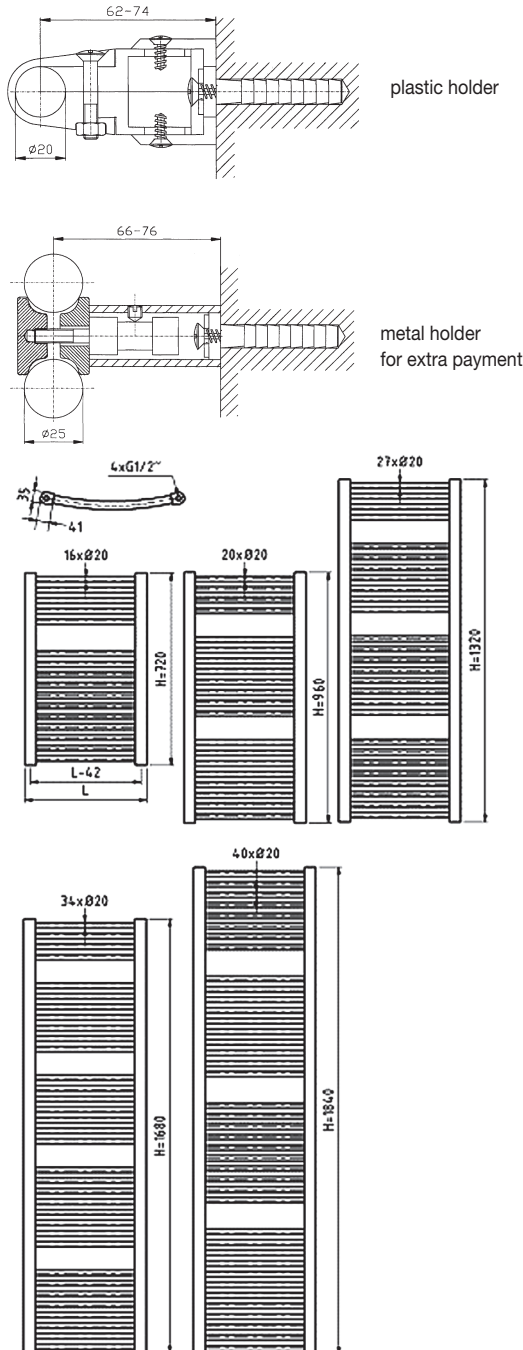
|                                |                        |
|--------------------------------|------------------------|
| values of hydraulic resistance |                        |
| connections                    | resistance coefficient |
| DN 15(1/2)                     | 2,5                    |

|                   |                  |
|-------------------|------------------|
| Connecting thread | G1/2" (internal) |
| Test pressure     | p= 1,5 MPa       |
| Working pressure  | p= 1,0 MPa       |

Applies to all elements types

# Heating element type KDO

**Used material:** vertical D profile - 35x41 mm  
horizontal profile - curved tube, diameter 20mm



## Heater power Q[W] for heat-transfer substance water according to DIN EN 442

| Type description | Height H [mm] | Length L [mm] | Thread pitch [mm] | t <sub>1</sub> /t <sub>2</sub> [°C] | Q[W] pro t <sub>1</sub> [°C] |      |      | Thermal exponent n [-] | Water volume n [l] | Rec. Radiator input power [W] |
|------------------|---------------|---------------|-------------------|-------------------------------------|------------------------------|------|------|------------------------|--------------------|-------------------------------|
|                  |               |               |                   |                                     | 20                           | 22   | 24   |                        |                    |                               |
| KDO 450 / 720    | 720           | 450           | 408               | 90/70                               | 450                          | 432  | 414  | 1,2347                 | 3,6                | 200                           |
|                  |               |               |                   | 75/65                               | 360                          | 342  | 324  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 191                          | 176  | 160  |                        |                    |                               |
| KDO 600 / 720    | 720           | 600           | 558               | 90/70                               | 604                          | 579  | 554  | 1,2507                 | 4,35               | 300                           |
|                  |               |               |                   | 75/65                               | 481                          | 457  | 433  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 254                          | 233  | 212  |                        |                    |                               |
| KDO 750 / 720    | 720           | 750           | 708               | 90/70                               | 759                          | 727  | 695  | 1,2666                 | 5,1                | 300                           |
|                  |               |               |                   | 75/65                               | 602                          | 572  | 542  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 315                          | 289  | 263  |                        |                    |                               |
| KDO 450 / 960    | 960           | 450           | 408               | 90/70                               | 562                          | 538  | 515  | 1,2564                 | 4,53               | 300                           |
|                  |               |               |                   | 75/65                               | 447                          | 424  | 402  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 235                          | 216  | 196  |                        |                    |                               |
| KDO 600 / 960    | 960           | 600           | 558               | 90/70                               | 752                          | 720  | 689  | 1,2607                 | 5,51               | 300                           |
|                  |               |               |                   | 75/65                               | 597                          | 567  | 538  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 314                          | 288  | 262  |                        |                    |                               |
| KDO 750 / 960    | 960           | 750           | 708               | 90/70                               | 943                          | 903  | 864  | 1,2651                 | 6,49               | 400                           |
|                  |               |               |                   | 75/65                               | 749                          | 711  | 674  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 392                          | 359  | 327  |                        |                    |                               |
| KDO 450 / 1320   | 1320          | 450           | 408               | 90/70                               | 752                          | 720  | 688  | 1,2908                 | 6                  | 400                           |
|                  |               |               |                   | 75/65                               | 594                          | 564  | 534  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 307                          | 281  | 255  |                        |                    |                               |
| KDO 600 / 1320   | 1320          | 600           | 558               | 90/70                               | 1003                         | 960  | 918  | 1,2767                 | 7,35               | 500                           |
|                  |               |               |                   | 75/65                               | 795                          | 754  | 714  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 414                          | 379  | 345  |                        |                    |                               |
| KDO 750 / 1320   | 1320          | 750           | 708               | 90/70                               | 1253                         | 1201 | 1149 | 1,2626                 | 8,7                | 600                           |
|                  |               |               |                   | 75/65                               | 996                          | 946  | 896  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 522                          | 479  | 436  |                        |                    |                               |
| KDO 450 / 1680   | 1680          | 450           | 408               | 90/70                               | 956                          | 915  | 875  | 1,2781                 | 7,6                | 500                           |
|                  |               |               |                   | 75/65                               | 757                          | 719  | 681  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 394                          | 361  | 328  |                        |                    |                               |
| KDO 600 / 1680   | 1680          | 600           | 558               | 90/70                               | 1277                         | 1223 | 1170 | 1,273                  | 9,3                | 600                           |
|                  |               |               |                   | 75/65                               | 1013                         | 961  | 911  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 528                          | 484  | 440  |                        |                    |                               |
| KDO 750 / 1680   | 1680          | 750           | 708               | 90/70                               | 1599                         | 1531 | 1465 | 1,2678                 | 11                 | 700                           |
|                  |               |               |                   | 75/65                               | 1269                         | 1205 | 1141 |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 664                          | 608  | 554  |                        |                    |                               |
| KDO 450 / 1840   | 1840          | 450           | 408               | 90/70                               | 1090                         | 1042 | 996  | 1,3063                 | 8,7                | 500                           |
|                  |               |               |                   | 75/65                               | 859                          | 814  | 770  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 441                          | 403  | 365  |                        |                    |                               |
| KDO 600 / 1840   | 1840          | 600           | 558               | 90/70                               | 1452                         | 1390 | 1329 | 1,2853                 | 10,7               | 700                           |
|                  |               |               |                   | 75/65                               | 1148                         | 1090 | 1032 |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 596                          | 545  | 496  |                        |                    |                               |
| KDO 750 / 1840   | 1840          | 750           | 708               | 90/70                               | 1812                         | 1736 | 1661 | 1,2643                 | 12,7               | 900                           |
|                  |               |               |                   | 75/65                               | 1439                         | 1367 | 1295 |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 754                          | 691  | 630  |                        |                    |                               |

The heating performance data applies to one-side connection of top-down

**Applies to all elements types**

**Fixing of heating elements**

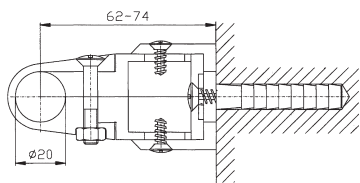
Radiators are fixed in four points (types K450/720, K600/720, K450/960, K600/940, K450/1320 are fixed in three points only)  
Types K, KDO, KD are delivered standard included plastic holders (see picture), metal holders are delivered on request for extra payment  
All types of fixture sets include:  
-respective mounting brackets (consoles)  
-all connections pieces, included fixing set and washers  
-ventil set for venting of radiators  
For drilling the wall shall be used drill 10 mm. To heating elements which are produced in other colour than white RAL 9016 are supplied standard metal mounting brackets in the same colours as radiator.

**Combined heating**

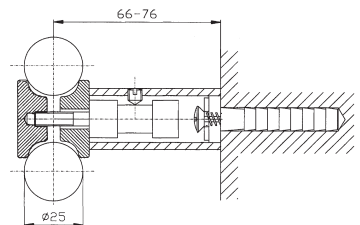
All the above mentioned heating elements connected to the heating system can be completean electric heating rod 1373/XX. This results in a radiator which can then be used at any time independently on the operation of the rest of the heating system. The recommended heat outputs are presented in the output tables of individual types. Type of electric heating rods: 1373/XX .....heating rod with temperature limiter of radiators water.  
So equipped heating element can be placed in bathrooms in zones 1,2,3 (i.e. nex to sink, bath and shower corner)

# Heating element type KD

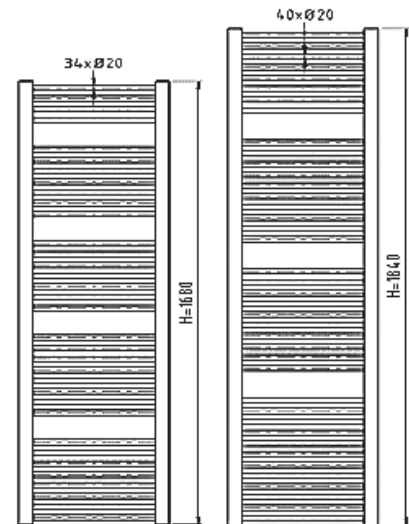
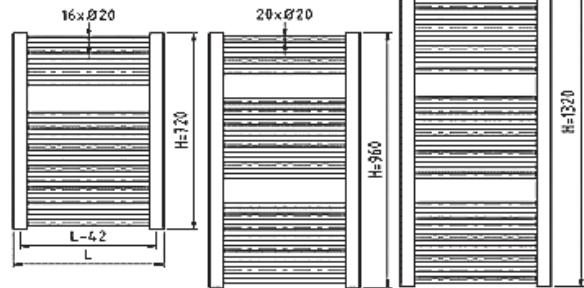
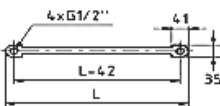
Used material: vertical D profile - 35x41 mm  
horizontal profile - straight tube, diameter 20mm



plastic holder



metal holder  
for extra payment



## Heater power Q[W] for heat-transfer substance water according to DIN EN 442

| Type description | Height H [mm] | Length L [mm] | Thread pitch [mm] | t <sub>1</sub> /t <sub>2</sub> [°C] | Q[W] pro t <sub>1</sub> [°C] |      |      | Thermal exponent n [-] | Water volume n [l] | Rec. Radiator input power [W] |
|------------------|---------------|---------------|-------------------|-------------------------------------|------------------------------|------|------|------------------------|--------------------|-------------------------------|
|                  |               |               |                   |                                     | 20                           | 22   | 24   |                        |                    |                               |
| KD 450 / 720     | 720           | 450           | 408               | 90/70                               | 450                          | 432  | 414  | 1,2347                 | 3,6                | 200                           |
|                  |               |               |                   | 75/65                               | 360                          | 342  | 324  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 191                          | 176  | 160  |                        |                    |                               |
| KD 600 / 720     | 720           | 600           | 558               | 90/70                               | 604                          | 579  | 554  | 1,2507                 | 4,35               | 300                           |
|                  |               |               |                   | 75/65                               | 481                          | 457  | 433  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 254                          | 233  | 212  |                        |                    |                               |
| KD 750 / 720     | 720           | 750           | 708               | 90/70                               | 759                          | 727  | 695  | 1,2666                 | 5,1                | 300                           |
|                  |               |               |                   | 75/65                               | 602                          | 572  | 542  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 315                          | 289  | 263  |                        |                    |                               |
| KD 450 / 960     | 960           | 450           | 408               | 90/70                               | 562                          | 538  | 515  | 1,2564                 | 4,53               | 300                           |
|                  |               |               |                   | 75/65                               | 447                          | 424  | 402  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 235                          | 216  | 196  |                        |                    |                               |
| KD 600 / 960     | 960           | 600           | 558               | 90/70                               | 752                          | 720  | 689  | 1,2607                 | 5,51               | 300                           |
|                  |               |               |                   | 75/65                               | 597                          | 567  | 538  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 314                          | 288  | 262  |                        |                    |                               |
| KD 750 / 960     | 960           | 750           | 708               | 90/70                               | 943                          | 903  | 864  | 1,2651                 | 6,49               | 400                           |
|                  |               |               |                   | 75/65                               | 749                          | 711  | 674  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 392                          | 359  | 327  |                        |                    |                               |
| KD 450 / 1320    | 1320          | 450           | 408               | 90/70                               | 752                          | 720  | 688  | 1,2908                 | 6                  | 400                           |
|                  |               |               |                   | 75/65                               | 594                          | 564  | 534  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 307                          | 281  | 255  |                        |                    |                               |
| KD 600 / 1320    | 1320          | 600           | 558               | 90/70                               | 1003                         | 960  | 918  | 1,2767                 | 7,35               | 500                           |
|                  |               |               |                   | 75/65                               | 795                          | 754  | 714  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 414                          | 379  | 345  |                        |                    |                               |
| KD 750 / 1320    | 1320          | 750           | 708               | 90/70                               | 1253                         | 1201 | 1149 | 1,2626                 | 8,7                | 600                           |
|                  |               |               |                   | 75/65                               | 996                          | 946  | 896  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 522                          | 479  | 436  |                        |                    |                               |
| KD 450 / 1680    | 1680          | 450           | 408               | 90/70                               | 956                          | 915  | 875  | 1,2781                 | 7,6                | 500                           |
|                  |               |               |                   | 75/65                               | 757                          | 719  | 681  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 394                          | 361  | 328  |                        |                    |                               |
| KD 600 / 1680    | 1680          | 600           | 558               | 90/70                               | 1277                         | 1223 | 1170 | 1,273                  | 9,3                | 600                           |
|                  |               |               |                   | 75/65                               | 1013                         | 961  | 911  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 528                          | 484  | 440  |                        |                    |                               |
| KD 750 / 1680    | 1680          | 750           | 708               | 90/70                               | 1599                         | 1531 | 1465 | 1,2678                 | 11                 | 700                           |
|                  |               |               |                   | 75/65                               | 1269                         | 1205 | 1141 |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 664                          | 608  | 554  |                        |                    |                               |
| KD 450 / 1840    | 1840          | 450           | 408               | 90/70                               | 1090                         | 1042 | 996  | 1,3063                 | 8,7                | 500                           |
|                  |               |               |                   | 75/65                               | 859                          | 814  | 770  |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 441                          | 403  | 365  |                        |                    |                               |
| KD 600 / 1840    | 1840          | 600           | 558               | 90/70                               | 1452                         | 1390 | 1329 | 1,2853                 | 10,7               | 700                           |
|                  |               |               |                   | 75/65                               | 1148                         | 1090 | 1032 |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 596                          | 545  | 496  |                        |                    |                               |
| KD 750 / 1840    | 1840          | 750           | 708               | 90/70                               | 1812                         | 1736 | 1661 | 1,2643                 | 12,7               | 900                           |
|                  |               |               |                   | 75/65                               | 1439                         | 1367 | 1295 |                        |                    |                               |
|                  |               |               |                   | 55/45                               | 754                          | 691  | 630  |                        |                    |                               |

The heating performance data applies to one-side connection of top-down

**thermal trend** spol. s r. o.

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