

## Data sheet

# Brazed heat exchanger XB

## Description



The XB is a range of copper brazed plate heat exchangers for use in District Heating (DH) and District Cooling (DC) applications, e.g. domestic hot water production, district heating substation to separate the network from house installation or as pressure breakers. The range consist of numerous individual plate sizes of which several can be delivered with different corrugation depth or pattern, thus ensuring that the optimal heat exchanger can be selected for all applications.

### Approvals:

- CE certificate according (PED) 97/23/EC
- GOST/Russia
- SVGW/Switzerland
- VA/Denmark

### Main data:

- Min. temperature  $-10^{\circ}\text{C}$   
Max. temperature  $+180^{\circ}\text{C}$
- Max. working pressure 25 bar
- Flow media  
DH: Circulation water / glycolic water up to 50 %  
DC: ethylene-, propylene-glycolic water, ethanol-water solutions and other suitable heat transfer media. (Please contact your Danfoss representative).
- Connection size DN (threaded or flanged) 20-100

## Ordering

Explanation, XB type

**XB 10L – 1 – 10** — Number of plates

Pass of the heat exchanger  
1 = 1-pass  
2 = 2-pass

Plate type

Plate size

B = Brazed heat exchanger

The heat exchanger can consist of plates type L or plates type H.

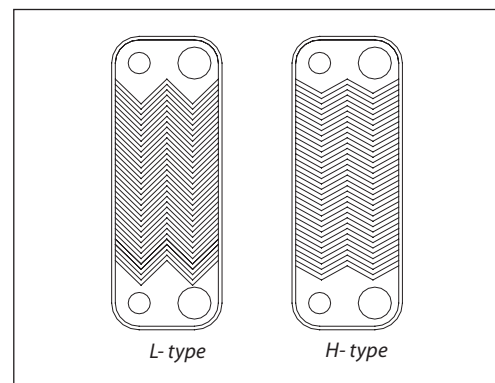
The H- type plate has larger herring bone angle than the L- type plate. H- type plate fits better for certain temperatures than L- type. H- type heat exchangers have better heating capacity, but they also have higher pressure loss.

The plate set can also be a combination of these two types. If every other plate is H-type plate and every other plate is L-type plate, the combination is called type M.

## Plate types

Several of the heat exchangers can be delivered in three different basic corrugations: H M L making them optimal for different applications. Please see the characteristics below.

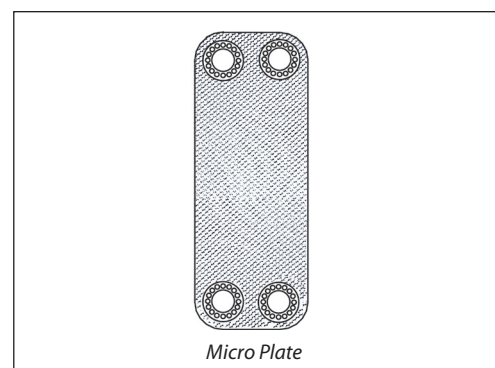
|                          | H- types        | M- type              | L- type        |
|--------------------------|-----------------|----------------------|----------------|
| Channel                  | Small           | Medium<br>Mix of H/L | Large          |
| Angle if chevron pattern | Obtuse          |                      | Acute          |
| Heat transfer            | Relatively high | Medium               | Relatively low |
| Pressure drop            | Relatively high | Medium               | Relatively low |



## Micro Plate Heat Exchanger (MPHE) principle:

Traditionally the different versions have been created by using different angles in the chevron pattern of the heat exchanger plates.

However new and more efficient heat transfer patterns have been developed. Characteristic for the pattern is that the corrugation consists of dimples in different size and shape, creating Micro Plate heat exchangers. Micro Plate heat exchangers offers same heat transfer with lower weight, size and pressure drop. Besides better heat transfer Micro Plate heat exchangers offers higher mechanical strength.



## 1-pass brazed heat exchangers type XB

| Type            | XB04-1       | XB10-1       | XB20-1       | XB24-1       | XB 30-1      |
|-----------------|--------------|--------------|--------------|--------------|--------------|
| Connection      | Thread G ¾ A | Thread G 1 A | Thread G 1 A | Thread G ¾ A | Thread G 1 A |
| No of plates, n | Code No.     |              |              |              |              |
| 8               | 004B1011     | 004B1004     | -            | -            | -            |
| 10              | 004B1012     | 004B1005     | 004B1205     | 004B1027     | 004B1405     |
| 16              | 004B1014     | 004B1008     | 004B1208     | 004B1028     | 004B1408     |
| 20              | 004B1016     | 004B1010     | 004B1210     | 004B1029     | 004B1410     |
| 26              | 004B1017     | 004B1013     | 004B1213     | 004B1031     | 004B1413     |
| 30              | 004B1019     | 004B1015     | 004B1215     | 004B1032     | 004B1415     |
| 36              | 004B1021     | 004B1018     | 004B1218     | 004B1033     | 004B1418     |
| 40              | 004B1023     | 004B1020     | 004B1220     | 004B1034     | 004B1420     |
| 50              | 004B1024     | 004B1025     | 004B1225     | 004B1067     | 004B1425     |
| 60              | 004B1026     | 004B1030     | 004B1230     | 004B1068     | 004B1430     |
| 70              | -            | 004B1035     | 004B1235     | 004B1069     | 004B1435     |
| 80              | -            | -            | -            | -            | 004B1440     |
| 90              | -            | -            | -            | -            | 004B1445     |
| 100             | -            | -            | -            | -            | 004B1450     |
| 110             | -            | -            | -            | -            | -            |
| 120             | -            | -            | -            | -            | -            |

Ordering (continued)

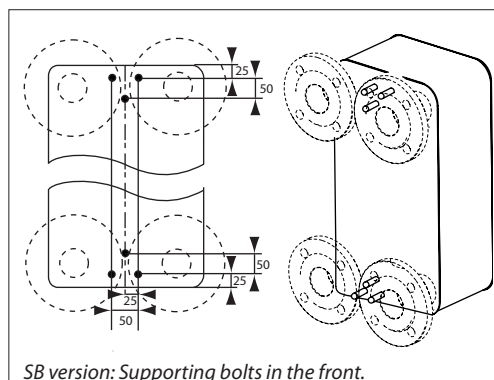
1-pass brazed heat exchangers type XB

| Type            | XB51H-1       | XB51L-1         | *XB51H-1 SB     | *XB51H-1 SB     | *XB51L-1 SB     | *XB51L-1 SB     | XB70L-1 <sup>2)</sup>             | XB70M-1 <sup>2)</sup>             | XB70H-1 <sup>2)</sup>             |
|-----------------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Connection      | Thread<br>G2A | Thread<br>G 2 A | Thread<br>G 2 A | Flange<br>DN 50 | Thread<br>G 2 A | Flange<br>DN 50 | Flange<br>DN 65/100 <sup>1)</sup> | Flange<br>DN 65/100 <sup>1)</sup> | Flange<br>DN 65/100 <sup>1)</sup> |
| No of plates, n | Code No.      |                 |                 |                 |                 |                 |                                   |                                   |                                   |
| 10              | 004B1153      | 004B1141        | -               | -               | -               | -               | -                                 | -                                 | -                                 |
| 16              | 004B1154      | 004B1142        | -               | -               | -               | -               | -                                 | -                                 | -                                 |
| 20              | 004B1432      | 004B1532        | -               | -               | -               | -               | -                                 | -                                 | -                                 |
| 26              | 004B1433      | 004B1533        | -               | -               | -               | -               | -                                 | -                                 | -                                 |
| 30              | 004B1815      | 004B1194        | 004B1103        | -               | 004B1345        | -               | -                                 | -                                 | -                                 |
| 36              | 004B1818      | 004B1195        | 004B1104        | -               | 004B1346        | -               | -                                 | -                                 | -                                 |
| 40              | 004B1820      | 004B1196        | 004B1105        | -               | 004B1347        | -               | -                                 | -                                 | -                                 |
| 50              | 004B1825      | 004B1197        | 004B1106        | -               | 004B1348        | -               | 004B2425                          | 004B2000                          | 004B2012                          |
| 60              | 004B1830      | 004B1198        | -               | 004B1107        | -               | 004B1350        | 004B2430                          | 004B2001                          | 004B2013                          |
| 70              | 004B1835      | 004B1199        | -               | 004B1108        | -               | 004B1351        | 004B2435                          | 004B2002                          | 004B2014                          |
| 80              | 004B1840      | 004B1200        | -               | 004B1109        | -               | 004B1352        | 004B2440                          | 004B2003                          | 004B2015                          |
| 90              | 004B1845      | 004B1201        | -               | 004B1110        | -               | 004B1353        | 004B2445                          | 004B2004                          | 004B2016                          |
| 100             | 004B1850      | 004B1202        | -               | 004B1111        | -               | 004B1355        | 004B2450                          | 004B2005                          | 004B2017                          |
| 110             | 004B1855      | 004B1203        | -               | 004B1112        | -               | 004B1356        | 004B2455                          | 004B2006                          | 004B2018                          |
| 120             | 004B1860      | 004B1204        | -               | 004B1114        | -               | 004B1357        | 004B2460                          | 004B2007                          | 004B2019                          |
| 130             | 004B1434      | 004B1534        | -               | -               | -               | -               | -                                 | -                                 | -                                 |
| 140             | 004B1436      | 004B1536        | -               | -               | -               | -               | 004B2470                          | 004B2008                          | 004B2020                          |
| 160             | -             | -               | -               | -               | -               | -               | 004B2480                          | 004B2009                          | 004B2021                          |
| 180             | -             | -               | -               | -               | -               | -               | 004B2490                          | 004B2010                          | 004B2022                          |
| 200             | -             | -               | -               | -               | -               | -               | 004B2499                          | 004B2011                          | 004B2023                          |

<sup>1)</sup> primary side (PN 25) / secondary side (PN 16)

<sup>2)</sup> delivered with mounting brackets ex factory

\* Special versions; SB: This version includes 6 supporting bolts M12x20



Special versions

Special versions for different mediums, connections/couplings, max. operating pressures, materials and capacities are available on request. Please contact the local sales representative for details

## Ordering (continued)

## 2-pass braze heat exchangers type XB

| Type                           | XB04-2       | XB10-2       | XB20-2       | XB30-2       | XB51H-2      | XB51L-2      |
|--------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Connection                     | Thread G ¾ A | Thread G 1 A | Thread G 1 A | Thread G 1 A | Thread G 2 A | Thread G 2 A |
| No of plates <sup>1)</sup> , n | Code No.     |              |              |              |              |              |
| 10/10                          | -            | -            | -            | -            | 004B1179     | 004B1147     |
| 16/16                          | -            | -            | -            | -            | 004B1180     | 004B1148     |
| 20/20                          | 004B1036     | 004B3010     | 004B1412     | 004B3410     | 004B1181     | 004B1149     |
| 26/26                          | 004B1037     | 004B3013     | 004B1414     | 004B3413     | 004B1182     | 004B1150     |
| 30/30                          | 004B1038     | 004B3015     | 004B1416     | 004B3415     | 004B3615     | 004B1292     |
| 36/36                          | 004B1039     | 004B3018     | 004B1417     | 004B3418     | 004B3618     | 004B1293     |
| 40/40                          | 004B1040     | 004B3020     | 004B3220     | 004B3420     | 004B3620     | 004B1294     |
| 46/46                          | 004B1041     | 004B3023     | 004B3223     | 004B3423     | 004B3623     | 004B1295     |
| 50/50                          | 004B1042     | 004B3025     | 004B3225     | 004B3425     | 004B3625     | 004B1296     |
| 56/56                          | 004B1043     | 004B3028     | 004B3228     | -            | 004B3628     | 004B1297     |
| 60/60                          | 004B1044     | 004B3030     | 004B3230     | 004B1431     | 004B3630     | 004B1298     |
| 66/66                          | -            | -            | -            | -            | 004B3633     | 004B1299     |
| 70/70                          | -            | -            | -            | -            | 004B3635     | 004B1300     |

<sup>1)</sup> afterheating/preheating

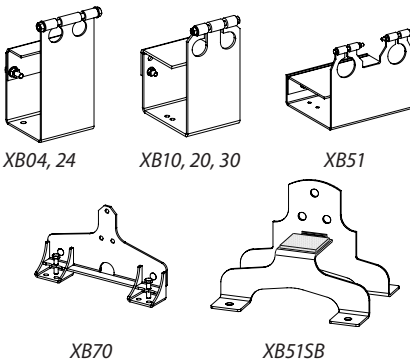
## Accessories: Tailpieces

|  | Description         | Suitable for       | Connection    | Code No. <sup>1)</sup> |
|--|---------------------|--------------------|---------------|------------------------|
|  | Solder tailpieces   | XB04, XB24         | G ¾ A / 15 mm | 004B2945               |
|  |                     |                    | G ¾ A / 18 mm | 004B2946               |
|  |                     | XB10, XB20<br>XB30 | G 1 A / 15 mm | 004B2904               |
|  |                     |                    | G 1 A / 18 mm | 004B2905               |
|  |                     |                    | G 1 A / 22 mm | 004B2906               |
|  |                     | XB51               | G 2 A / 28 mm | 004B2910               |
|  |                     |                    | G 2 A / 35 mm | 004B2911               |
|  | Weld-on tailpieces  | XB04, XB24         | G ¾ A / DN 20 | 004B2944               |
|  |                     |                    | G 1 A / DN 15 | 004B2901               |
|  |                     | XB10, XB20<br>XB30 | G 1 A / DN 20 | 003H6909               |
|  |                     |                    | G 1 A / DN 25 | 004B2903               |
|  |                     | XB51               | G 2 A / DN 32 | 004B2907               |
|  |                     |                    | G 2 A / DN 40 | 004B2908               |
|  | Threaded tailpieces | XB04, XB24         | G ¾ A / G ¾ A | 004B2947               |
|  |                     |                    | G ¾ A / G 1 A | 004B2953               |
|  |                     | XB10, XB20<br>XB30 | G 1 A / G ¾ A | 004B2913               |
|  |                     |                    |               |                        |

<sup>1)</sup> One set contains 2 tailpieces with union nuts and gaskets

Ordering (continued)

Accessories: Mounting brackets for brazed heat exchanger type XB

|                                                                                                                                                        |                        |                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|
|  <p>XB04, 24      XB10, 20, 30      XB51</p> <p>XB70      XB51SB</p> | Suitable for           | Code No.               |
|                                                                                                                                                        | XB04, XB24             | 004B2948               |
|                                                                                                                                                        | XB10, XB20, XB30       | 004B2919               |
|                                                                                                                                                        | XB51                   | 004B2923               |
|                                                                                                                                                        | XB70                   | 004B2925 <sup>1)</sup> |
|                                                                                                                                                        | XB51SB, 30-60 plates   | 004B1788               |
|                                                                                                                                                        | XB51SB, 70-100 plates  | 004B1789               |
|                                                                                                                                                        | XB51SB, 110-160 plates | 004B1790               |

<sup>1)</sup> The brackets are delivered with XB70, they will thus be needed only for service or special purposes.

Accessories: Insulation for 1-pass brazed heat exchangers type XB

| Type         | XB10-1   | XB20-1   | XB30-1   | XB51-1   | XB70-1   |  |
|--------------|----------|----------|----------|----------|----------|--|
| No of plates |          |          |          |          |          |  |
| 8            | 004B1113 | -        | -        | -        | -        |  |
| 10           |          | 004B1313 | 004B1513 | 004B1924 | -        |  |
| 16           |          |          |          |          | -        |  |
| 20           |          |          |          |          | -        |  |
| 26           |          |          |          |          | -        |  |
| 30           | 004B1124 | 004B1324 | 004B1524 |          | -        |  |
| 36           |          |          |          |          | -        |  |
| 40           |          |          |          |          | -        |  |
| 50           | 004B1135 | 004B1335 | 004B1535 | 004B1935 | 004B2535 |  |
| 60           |          |          |          |          |          |  |
| 70           |          |          |          |          |          |  |
| 80           | -        | -        | 004B1550 | 004B1950 | 004B2550 |  |
| 90           | -        | -        |          |          |          |  |
| 100          | -        | -        |          |          |          |  |
| 110          | -        | -        | -        | 004B1960 | 004B2570 |  |
| 120          | -        | -        | -        |          |          |  |
| 140          | -        | -        | -        | 004B3735 |          |  |
| 160          | -        | -        | -        | -        | 004B2599 |  |
| 180          | -        | -        | -        | -        |          |  |
| 200          | -        | -        | -        | -        |          |  |
|              |          |          |          |          |          |  |

## Ordering (continued)

## Accessories: Insulation for 2-pass braze heat exchangers type XB

| Type                       | XB10-2   | XB20-2   | XB30-2   | XB51-2   |
|----------------------------|----------|----------|----------|----------|
| No of plates <sup>1)</sup> | Code No. |          |          |          |
| 10/10                      | -        | -        | -        | 004B3720 |
| 16/16                      | -        | -        | -        |          |
| 20/20                      | 004B3115 | -        | 004B3515 |          |
| 26/26                      |          | -        |          |          |
| 30/30                      |          | -        |          |          |
| 36/36                      | 004B3120 | -        | 004B3520 |          |
| 40/40                      |          | 004B3325 | 004B3525 | 004B3725 |
| 46/46                      | 004B3125 |          |          |          |
| 50/50                      |          |          |          |          |
| 56/56                      | 004B3130 | 004B3330 | -        | 004B3730 |
| 60/60                      |          |          | -        |          |
| 66/66                      | -        | -        | -        | 004B3735 |
| 70/70                      | -        | -        | -        |          |

<sup>1)</sup> afterheating/preheating

## Accessories: Insulation properties

| Type                         |                 |      | PU (Polyurethane)<br>see page 12 for XB51 | Coated steel sheet and polyester insulation,<br>see page 12 for XB70 |
|------------------------------|-----------------|------|-------------------------------------------|----------------------------------------------------------------------|
| Heat conductivity, $\lambda$ |                 | W/mK | 0,035                                     | 0,042                                                                |
| Max temperature              | Permanent       | °C   | 130                                       | 150                                                                  |
|                              | Short term peak |      | 160                                       | 180                                                                  |
| Wall thickness               |                 | mm   | 20                                        | 30                                                                   |

## Data sheet

## Brazed heat exchanger XB

### Technical data

#### 1-pass brazed heat exchangers type XB

| Type                                       | XB04-1                                                                                                                                                                                                     | XB10-1 | XB20-1 | XB24-1 | XB30-1 | XB51L-1<br>XB51H-1 | XB70L-1<br>XB70M-1<br>XB70H-1          |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|--------------------|----------------------------------------|
| Max. working pressure (bar)                | 25 (16) <sup>1)</sup>                                                                                                                                                                                      |        |        |        |        |                    | 25(16) <sup>1)</sup> /16 <sup>3)</sup> |
| Min. / Max. temperature <sup>2)</sup> (°C) | -10/180                                                                                                                                                                                                    |        |        |        |        |                    |                                        |
| Flow medium                                | DH: Circulation water / glycolic water up to 50%<br>DC: ethylene-, propylene-glycolic water, ethanol-water solutions and other suitable heat transfer media. (Please contact your Danfoss representative). |        |        |        |        |                    |                                        |
| Volume/channel (litres)                    | 0,060                                                                                                                                                                                                      | 0,050  | 0,060  | 0,100  | 0,075  | 0,210              | 0,55/0,70 <sup>3)</sup>                |
| Connection type                            | Cylindrical external thread acc. to DIN ISO 228/1                                                                                                                                                          |        |        |        |        |                    | Flange, DN                             |
| Connection size                            | G ¾ A                                                                                                                                                                                                      | G 1 A  | G ¾ A  | G 1 A  | G 2 A  | G 2 A              | 65 <sup>4)</sup> /100 <sup>5)</sup>    |
| Plate material                             | Stainless steel, EN 1.4404 (AISI 316L)                                                                                                                                                                     |        |        |        |        |                    |                                        |
| Brazing material                           | Copper                                                                                                                                                                                                     |        |        |        |        |                    |                                        |

<sup>1)</sup> 16 bar versions are available on enquiry (all types except XB 04-1, 24-1). XB 70-1 secondary side: max. working pressure 16 bar

<sup>2)</sup> At flow temperatures below 2 °C glycolic water must be used

<sup>3)</sup> Primary side / secondary side

<sup>4)</sup> Flanges PN 25 acc. to EN 1092, facing type B (B1)

<sup>5)</sup> Flanges PN 16 acc. to EN 1092, facing type B (B1)

#### 2-pass brazed heat exchangers type XB

| Type                                    | XB04-2                                            | XB10-2 | XB20-2 | XB30-2 | XB51L-2, XB51H-2 |
|-----------------------------------------|---------------------------------------------------|--------|--------|--------|------------------|
| Max. working pressure (bar)             | 25 (16) <sup>1)</sup>                             |        |        |        |                  |
| Max. operating temp. (°C)               | 180                                               |        |        |        |                  |
| Min. operating temp. <sup>2)</sup> (°C) | -10                                               |        |        |        |                  |
| Flow medium                             | Circulation water / glycolic water up to 50%      |        |        |        |                  |
| Volume/channel (litres)                 | 0,060                                             | 0,050  | 0,060  | 0,075  | 0,210            |
| Connection type                         | Cylindrical external thread acc. to DIN ISO 228/1 |        |        |        |                  |
| Connection size                         | G ¾ A                                             | G 1 A  | G 1 A  | G 2 A  | G 2 A            |
| Plate material                          | Stainless steel, mat. no. 1.4404                  |        |        |        |                  |
| Brazing material                        | Copper                                            |        |        |        |                  |

<sup>1)</sup> 16 bar versions are available on enquiry (all types except XB 04-2).

<sup>2)</sup> At flow temperatures below 2 °C glycolic water must be used

To avoid corrosion and leakage in the copper brazed plate heat exchangers please observe Danfoss recommendations for the water quality in the guideline on [www.heating.danfoss.com](http://www.heating.danfoss.com) (Documentation).

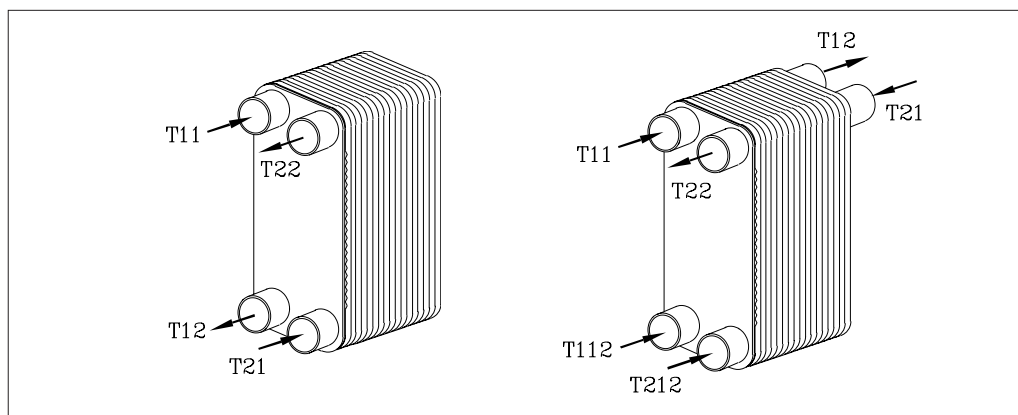
For the standard range of heat exchangers material 1.4404 (316L) has been selected to achieve:

- good delivery service
- good balance between low price and avoiding corrosion in the most common applications
- 1.4404 offers better corrosion properties than e.g. 1.4301 but is more expensive.

Attention must always be paid to the water condition when selecting material for a heat exchanger. The heat exchangers can be delivered in other materials on request.

### Design and function

- T11** - Primary side in
- T12** - Primary side out
- T112** - Primary side second inlet (2-pass)
- T21** - Secondary side in
- T22** - Secondary side out
- T212** - Secondary side second inlet (2-pass)



The heat exchangers are made of shape-pressed and brazed heat exchange plates, between which the flow channels are created. The heavy turbulence and counterflow principle enable efficient heat transfer. The task of the heat exchanger is to transfer heat from the primary to secondary flow through a heat transfer plate thus preventing the flows from mixing with each other.

The 2-pass heat exchanger should be chosen for domestic hot water. The 2-pass heat exchanger will often cool the district heating water to below 25 °C. This capacity can be achieved by using a larger temperature difference, a smaller water flow and a heat exchanger with an optimum heat transfer area. This will affect the choice of motorized control valve, for instance.

The choice of heat exchanger is determined by the desired heat output, required temperatures and the permitted pressure losses.

### Sizing and selection

Dimensioning and selection of heat exchangers should be carried out with the support of the Danfoss dimensioning program for heat exchangers.

### Mounting

It is recommended to mount heat exchangers on their base in vertical position. This will assure the best venting and the least fouling. It is recommended that all pipes connected to the heat exchanger are equipped with shut-off valves for maintenance purposes.

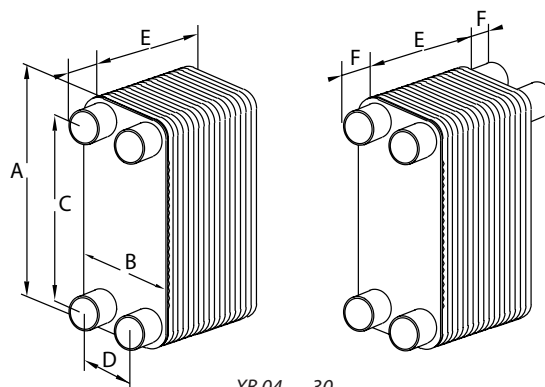
The pipes to be connected must be mounted so that the strain caused by the thermal expansion, for instance, does not harm the heat exchanger.

The pipes must be equipped with brackets to prevent any torsional stress concentration at the heat exchanger's pipe connections.

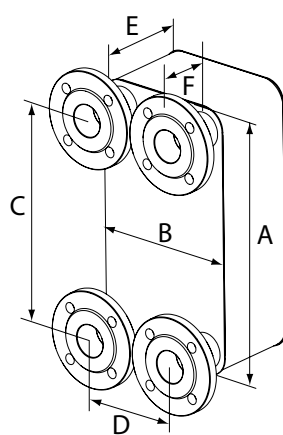
It is recommended that the heat exchanger is equipped with insulation.

Use a safety valve between a heat exchanger and a shut off valve on the secondary side to avoid breaking of the heat exchanger due to thermal expansion of liquid.

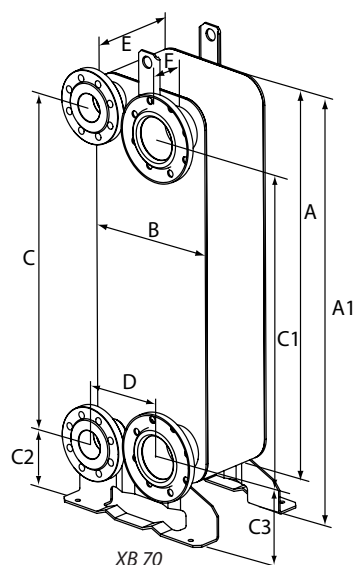
Dimensions



XB 04 ... 30



XB 51 ... SB



XB 70

| Type                                               | Connection                                 | External dimensions [mm] |     |                    |     |               |    | Weight empty [kg] |
|----------------------------------------------------|--------------------------------------------|--------------------------|-----|--------------------|-----|---------------|----|-------------------|
|                                                    |                                            | A/A1                     | B   | C/C1<br>C2/C3      | D   | E             | F  |                   |
| XB04-1-...                                         | G ¾ A <sup>1)</sup>                        | 296                      | 93  | 248                | 45  | 11 + 2,25 × n | 20 | 0,9 + n × 0,085   |
| XB04-2-...                                         | G ¾ A <sup>1)</sup>                        | 296                      | 93  | 248                | 45  | 11 + 2,25 × n | 20 | 1,13 + n × 0,085  |
| XB10-...                                           | G 1 A <sup>1)</sup>                        | 288                      | 118 | 235                | 65  | 7 + 2,6 × n   | 50 | 1,5 + n × 0,12    |
| XB20-...                                           | G 1 A <sup>1)</sup>                        | 343                      | 122 | 285                | 65  | 7 + 2,6 × n   | 50 | 1,7 + n × 0,12    |
| XB24-...                                           | G ¾ A <sup>1)</sup>                        | 490                      | 93  | 442                | 45  | 11 + 2,25 × n | 20 | 1,4 + n × 0,15    |
| XB30-...                                           | G 1 A <sup>1)</sup>                        | 443                      | 122 | 385                | 65  | 7 + 2,6 × n   | 50 | 2,13 + n × 0,18   |
| XB51L-...<br>XB51H-...<br>XB51... SB <sup>5)</sup> | G 2 A <sup>1)</sup>                        | 466                      | 256 | 380                | 170 | 12 + 2,6 × n  | 50 | 8 + n × 0,38      |
| XB51... SB <sup>6)</sup>                           | DN 50 <sup>2)</sup>                        | 466                      | 256 | 380                | 170 | 12 + 2,6 × n  | 90 | 18,8 + n × 0,38   |
| XB70L-...<br>XB70M-...<br>XB70H-...                | DN 65 <sup>2)</sup> / 100 <sup>3) 4)</sup> | 990/1110                 | 365 | 861/816<br>180/203 | 214 | 10 + 2,7 × n  | 90 | 40 + n × 1,50     |

n = number of plates (for 2-pass heat exchangers the sum of afterheating and preheating plates)

<sup>1)</sup> Cylindrical external thread acc. to DIN ISO 228/1

<sup>2)</sup> Flanges PN 25 acc. to EN 1092, facing type B (B1)

<sup>3)</sup> Primary side / secondary side

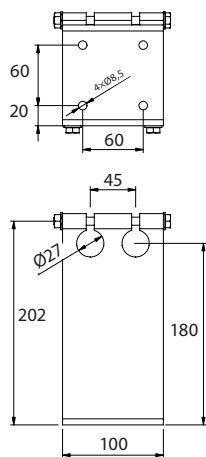
<sup>4)</sup> Flanges PN 16 acc. to EN 1092, facing type B (B1)

<sup>5)</sup> For number of plates n < 60

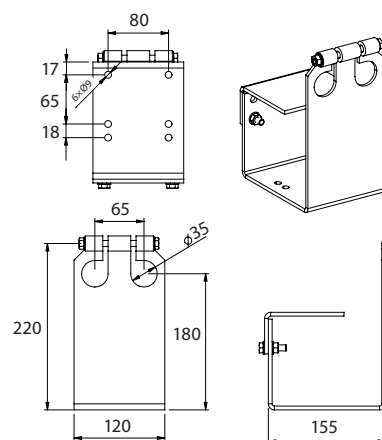
<sup>6)</sup> For number of plates n ≥ 60

Dimensions (continued)

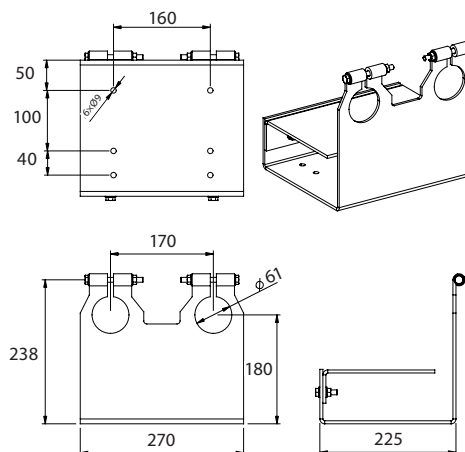
Mounting brackets



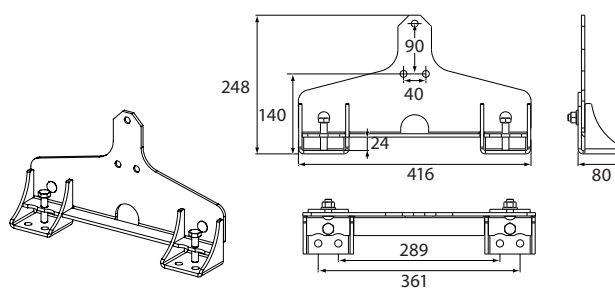
XB04, 24 bracket



XB10, 20, 30 bracket



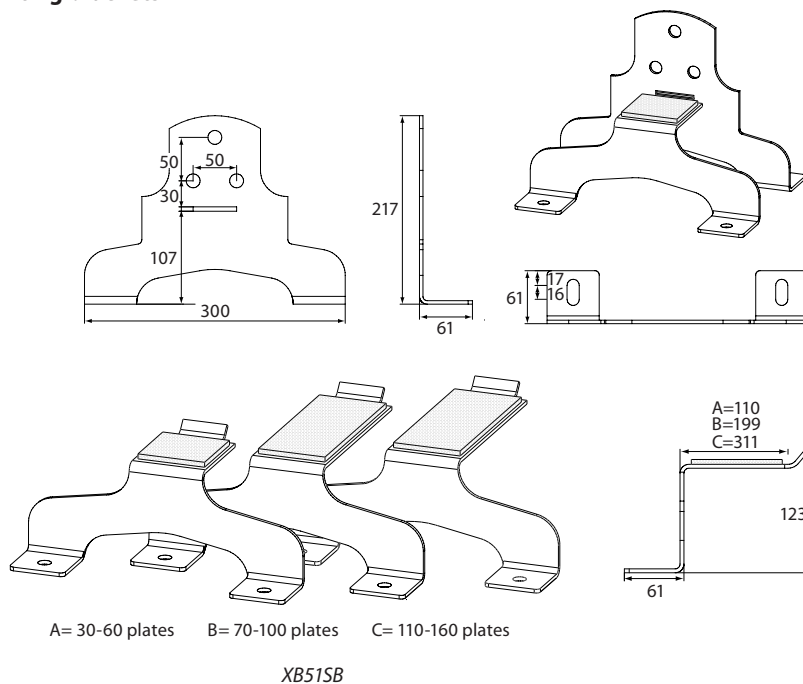
XB51 bracket



XB70 bracket

Dimensions (continued)

Mounting brackets



Tailpieces

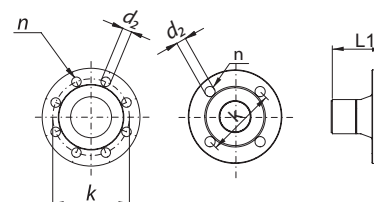
|  | Description         | Connection    | Code No. | a    | b    | SW <sup>1)</sup> |
|--|---------------------|---------------|----------|------|------|------------------|
|  |                     |               |          | mm   |      |                  |
|  | Solder tailpieces   | G ¾ A / 15 mm | 004B2945 | 15   | 35   | 32               |
|  |                     | G ¾ A / 18 mm | 004B2946 | 18   | 35   | 32               |
|  |                     | G 1 A / 15 mm | 004B2904 | 20   | 35   | 37               |
|  |                     | G 1 A / 18 mm | 004B2905 | 20   | 35   | 37               |
|  |                     | G 1 A / 22 mm | 004B2906 | 25,6 | 35   | 37               |
|  |                     | G 2 A / 28 mm | 004B2910 | 32   | 45   | 65               |
|  |                     | G 2 A / 35 mm | 004B2911 | 39   | 45   | 65               |
|  |                     | G 2 A / 42 mm | 004B2912 | 51   | 45   | 65               |
|  | Weld-on tailpieces  | G ¾ A / DN 20 | 004B2944 | 21,2 | 35   | 32               |
|  |                     | G 1 A / DN 15 | 004B2901 | 21,3 | 40   | 37               |
|  |                     | G 1 A / DN 20 | 003H6909 | 26   | 49,5 | 41               |
|  |                     | G 1 A / DN 25 | 004B2903 | 33,5 | 40   | 37               |
|  |                     | G 2 A / DN 32 | 004B2907 | 42,4 | 45   | 65               |
|  |                     | G 2 A / DN 40 | 004B2908 | 48,5 | 45   | 65               |
|  | Threaded tailpieces | G ¾ A / G ¾ A | 004B2947 | ¾"   | 40   | 32               |
|  |                     | G ¾ A / G 1 A | 004B2953 | 1"   | 22   | 32               |
|  |                     | G 1 A / G ¾ A | 004B2913 | ¾"   | 35   | 37               |
|  |                     | -             | -        | -    | -    | -                |
|  |                     | -             | -        | -    | -    | -                |

<sup>1)</sup> Union nut, width across flats

Flanges

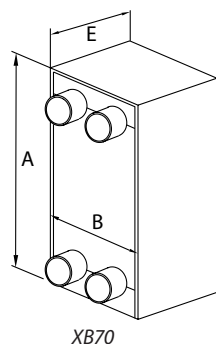
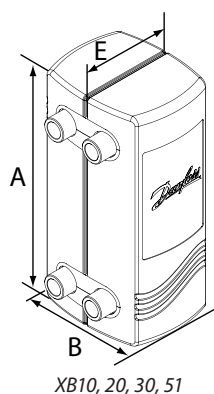
| Type       | DN                   | L1 | k                      | d <sub>2</sub> | n | PN (bar)             |
|------------|----------------------|----|------------------------|----------------|---|----------------------|
| XB51... SB | 50                   | 90 | 125                    | 18             | 4 | 25                   |
| XB70       | 65/100 <sup>1)</sup> | 90 | 145/ 180 <sup>1)</sup> | 18             | 8 | 25/ 16 <sup>1)</sup> |

<sup>1)</sup> Primary side/secondary side



Dimensions (continued)

Insulation program (polyurethane) for brazed heat exchangers type XB



Insulations set of PU type for XB70 can be delivered on request. Please contact the local sales representative for details.

Insulation dimensions for 1-pass brazed heat exchangers type XB

| Type         | XB10-1                                     | XB20-1                                     | XB30-1                                     | XB51-1                                     | XB70-1                                      |
|--------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|---------------------------------------------|
| No of plates |                                            |                                            |                                            |                                            |                                             |
| 8            | <b>004B1113</b><br>A=336<br>B=176<br>E=137 | -                                          | -                                          | -                                          | -                                           |
| 10           |                                            | <b>004B1313</b><br>A=385<br>B=176<br>E=137 | <b>004B1513</b><br>A=487<br>B=176<br>E=137 | <b>004B1924</b><br>A=512<br>B=320<br>E=197 | -                                           |
| 16           |                                            |                                            |                                            |                                            | -                                           |
| 20           |                                            |                                            |                                            |                                            | -                                           |
| 26           |                                            |                                            |                                            |                                            | -                                           |
| 30           | <b>004B1124</b><br>A=336<br>B=184<br>E=197 |                                            |                                            |                                            | <b>004B1324</b><br>A=385<br>B=184<br>E=197  |
| 36           |                                            | -                                          |                                            |                                            |                                             |
| 40           |                                            | -                                          |                                            |                                            |                                             |
| 50           |                                            | <b>004B1135</b><br>A=336<br>B=185<br>E=257 | <b>004B1335</b><br>A=385<br>B=185<br>E=257 | <b>004B1535</b><br>A=494<br>B=185<br>E=257 |                                             |
| 60           |                                            |                                            |                                            |                                            |                                             |
| 70           |                                            |                                            |                                            |                                            |                                             |
| 80           | -                                          | -                                          | <b>004B1550</b><br>A=487<br>B=200<br>E=337 | <b>004B1950</b><br>A=512<br>B=330<br>E=337 | <b>004B2550</b><br>A=1202<br>B=445<br>E=340 |
| 90           | -                                          | -                                          |                                            |                                            |                                             |
| 100          | -                                          | -                                          |                                            |                                            |                                             |
| 110          | -                                          | -                                          | -                                          | <b>004B1960</b><br>A=512<br>B=340<br>E=392 | <b>004B2570</b><br>A=1202<br>B=445<br>E=448 |
| 120          | -                                          | -                                          | -                                          |                                            |                                             |
| 140          | -                                          | -                                          | -                                          | <b>004B3735</b><br>A=512<br>B=346<br>E=445 |                                             |
| 160          | -                                          | -                                          | -                                          |                                            |                                             |
| 180          | -                                          | -                                          | -                                          | -                                          | <b>004B2599</b><br>A=1202<br>B=445<br>E=610 |
| 200          | -                                          | -                                          | -                                          | -                                          |                                             |

Insulation dimensions for 2-pass brazed heat exchangers type XB

| Type                       | 10-2                                       | 20-2                                       | 30-2                                       | 51-2                                       |
|----------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|
| No of plates <sup>1)</sup> | mm                                         |                                            |                                            |                                            |
| 10/10                      | -                                          | -                                          | -                                          | <b>004B3720</b><br>A=512<br>B=320<br>E=257 |
| 16/16                      | -                                          | -                                          | -                                          |                                            |
| 20/20                      | <b>004B3115</b><br>A=336<br>B=185<br>E=257 | -                                          | <b>004B3515</b><br>A=494<br>B=185<br>E=257 |                                            |
| 26/26                      |                                            | -                                          |                                            |                                            |
| 30/30                      |                                            | -                                          |                                            |                                            |
| 36/36                      | <b>004B3120</b><br>A=336<br>B=188<br>E=282 | -                                          | <b>004B3520</b><br>A=494<br>B=185<br>E=257 | <b>004B3725</b><br>A=512<br>B=330<br>E=337 |
| 40/40                      |                                            | <b>004B3325</b><br>A=385<br>B=200<br>E=337 |                                            |                                            |
| 46/46                      | <b>004B3125</b><br>A=336<br>B=200<br>E=337 | <b>004B3525</b><br>A=487<br>B=200<br>E=337 | <b>004B3730</b><br>A=512<br>B=340<br>E=392 |                                            |
| 50/50                      |                                            |                                            |                                            |                                            |
| 56/56                      | <b>004B3130</b><br>A=336<br>B=207<br>E=392 | <b>004B3330</b><br>A=385<br>B=207<br>E=392 | -                                          | <b>004B3735</b><br>A=512<br>B=346<br>E=445 |
| 60/60                      |                                            |                                            | -                                          |                                            |
| 66/66                      | -                                          | -                                          | -                                          |                                            |
| 70/70                      | -                                          | -                                          | -                                          |                                            |

<sup>1)</sup> afterheating/preheating