



BT-FH

EagleBurgmann BT Mechanical seals



Features

- Single pusher-type seal
- Unbalanced
- Conical spring
- Dependent on direction of rotation

Advantages

The BT-FH is a seal for demanding applications where operating conditions in the pump require machined metal parts for the mechanical seal. The seals are available in a full range of diameters from 10 to 100 mm and in the standard diameters specifically for chemical applications.

Operating range

Shaft diameter: $d1 = 10 \dots 100 \text{ mm} (0.39" \dots 3.94")$ Pressure: p1*= 12 (16) bar (174 (232) PSI)Temperature: $t^* = -35 ^\circ \text{C} \dots +200 ^\circ \text{C} (-31 ^\circ \text{F} \dots +392 ^\circ \text{F})$ Sliding velocity: vg = 15 m/s (49 ft/s)

* Dependent on medium, size and material

Materials

Seal face:

Aluminium oxide (V), Silicon carbide (Q1), Tungsten carbide (U1)

Seat:

Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B), Silicon carbide (Q1), Tungsten carbide (U1) Elastomers:

NBR(P), EPDM(E), FKM(V), FFKM(K) Metal parts: CrNiMo steel 1.4401(G)

Standards and approvals

- KTW
- W270
- ACS
- WRAS
- NSF
- FDA
- DM 174/04

Notes

Seat ring of alternative seats can be supplied with short tail or with pin to block the seat and prevent seat rotation.

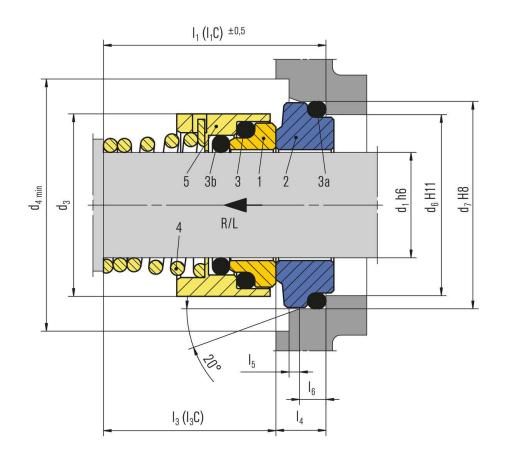
Recommended applications

- Chemical industry
- Building services industry
- Centrifugal pumps
- Clean water pumps



a member of **EKK** and **FREUDENBERG**

RELY ON EXCELLENCE

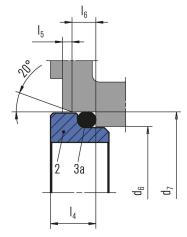


ltem	Description
1	Seal face
2	Stationary seat
3, 3a, 3b	0-Ring
4	Spring
5	Collar





Seat alternatives

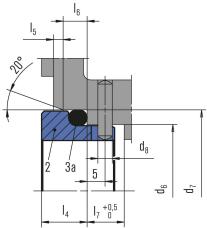


PF L

Item Description

2 Stationary seat

3a O-Ring



PF L1

Item Description

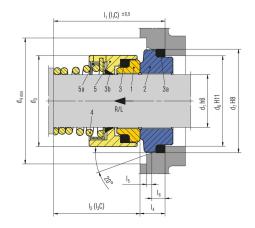
2 Stationary seat

3a O-Ring



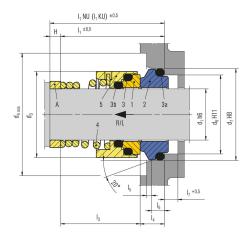


Product variants



BT-FH6

Like BT-FH but with PTFE secondary seal elements instead of elastomers. Mainly used in the chemical industry and for corrosive media.



BT-FH.NU / KU

BT-FH.NU has an installation length I_{1N} and seat dimensions in accordance with EN 12756 (normal length).

BT-FH.KU has an installation length l_{1K} and seat dimensions in accordance with EN 12756 (short length).

Item	Description
1	Seal face
2	Stationary seat
3, 3a, 3b	0-Ring
4	Spring
5	Collar
Α	Spacer (upon reques

BT-FHC

Like BT-FH but with shorter installation length (see I_{3C} in the dimension table). The model BT-FHC has the same installation length as the BT-RN.





Dimensions

10	BT-FH										BT-FHC	
12	d ₁	d₃	d ₄	d ₆	d ₇	l ₁	l₃	14	I ₅	I ₆	I _{1C}	I _{3C}
144 25 28 19.0 23.1 33.0 27 6.0 1.2 3 28.0 22 15 29 32 21.0 26.9 34.0 27 7.0 1.5 4 28.0 22 16 29 32 21.0 26.9 35.0 28 7.0 1.5 4 20.0 23 18 33 36 25.0 30.9 38.0 30 8.0 1.5 4 32.0 24 20 33 36 25.0 30.9 38.0 30 8.0 1.5 4 33.0 25 22 38 41 30.0 35.4 40.0 32 8.0 2.0 4 35.0 27 25 40 45 33.0 38.2 41.5 33 8.5 2.0 4 35.5 27 28 46 50 38.0 43.3 45.0 37	10	20	22	14.0	18.1	25.5	20	5.5	1.2	3	20.5	15
15 29 32 21.0 26.9 34.0 27 7.0 1.5 4 28.0 22 16 29 32 21.0 26.9 35.0 28 7.0 1.5 4 30.0 23 18 33 36 25.0 30.9 38.0 30 8.0 1.5 4 30.0 25 20 33 36 25.0 30.9 38.0 30 8.0 2.0 4 33.0 25 22 38 41 30.0 35.4 40.0 32 8.0 2.0 4 35.0 27 24 38 41 30.0 35.4 40.0 32 8.0 2.0 4 35.0 27 25 40 45 33.0 38.2 41.5 33 8.5 2.0 4 35.5 27 26 40 45 33.0 43.3 45.0 36 9	12	22	25	16.5	20.6	27.5	22	5.5	1.2	3	23.5	18
16 29 32 21.0 26.9 35.0 28 7.0 1.5 4 30.0 23 18 33 36 25.0 30.9 38.0 30 8.0 1.5 4 32.0 24 20 33 36 25.0 30.9 38.0 30 8.0 1.5 4 33.0 25 22 38 41 30.0 35.4 40.0 32 8.0 2.0 4 35.0 25 27 26 40 45 33.0 38.2 41.5 33 8.5 2.0 4 35.5 27 26 40 46 50 38.0 43.3 45.0 36 9.0 2.0 4 35.0 22 7 22 46 50 38.0 43.3 46.0 37 9.0 2.0 4 38.0 29 20 4 38.0 32 30 32 46 <td>14</td> <td>25</td> <td>28</td> <td>19.0</td> <td>23.1</td> <td>33.0</td> <td>27</td> <td>6.0</td> <td>1.2</td> <td>3</td> <td>28.0</td> <td>22</td>	14	25	28	19.0	23.1	33.0	27	6.0	1.2	3	28.0	22
18 33 36 25.0 30.9 38.0 30 8.0 1.5 4 32.0 24 20 33 36 25.0 30.9 38.0 30 8.0 1.5 4 33.0 25 22 38 41 30.0 35.4 40.0 32 8.0 2.0 4 35.0 27 25 40 45 33.0 38.2 41.5 33 8.5 2.0 4 35.5 27 26 40 45 33.0 38.2 41.5 33 8.5 2.0 4 35.5 27 26 46 50 38.0 43.3 46.0 37 9.0 2.0 4 38.0 22 27 28 46 50 38.0 43.3 46.0 37 9.0 2.0 4 38.0 30 30 43 46.0 53.5 59.5 48 1	15	29	32	21.0	26.9	34.0	27	7.0	1.5	4	28.0	22
20 33 36 25.0 30.9 38.0 30 8.0 1.5 4 33.0 25 22 38 41 30.0 35.4 40.0 32 8.0 2.0 4 35.0 27 26 40 45 33.0 38.2 41.5 33 8.5 2.0 4 35.5 27 26 40 45 33.0 38.2 41.5 33 8.5 2.0 4 35.5 27 26 40 45 33.0 38.2 41.5 33 8.5 2.0 4 35.5 27 28 46 50 38.0 43.3 46.0 37 9.0 2.0 4 38.0 29 30 46 50 38.0 43.3 46.0 37 9.0 2.0 4 39.0 30 32 46 50 38.0 43.3 46.0 37.0 <td< td=""><td>16</td><td>29</td><td>32</td><td>21.0</td><td>26.9</td><td>35.0</td><td>28</td><td>7.0</td><td>1.5</td><td>4</td><td>30.0</td><td>23</td></td<>	16	29	32	21.0	26.9	35.0	28	7.0	1.5	4	30.0	23
22 38 41 30.0 35.4 38.0 30 8.0 2.0 4 33.0 25 24 38 41 30.0 35.4 40.0 32 8.0 2.0 4 35.0 27 26 40 45 33.0 38.2 41.5 33 8.5 2.0 4 35.5 27 26 40 45 33.0 38.2 41.5 33 8.5 2.0 4 35.5 27 28 46 50 38.0 43.3 46.0 37 9.0 2.0 4 38.0 29 30 46 50 38.0 43.3 46.0 37 9.0 2.0 4 38.0 30 30 31 46 50 38.0 43.3 46.0 37 9.0 2.0 4 39.0 30 32 46 50 38.0 43.3 46.0 3	18	33	36	25.0	30.9	38.0	30	8.0	1.5	4	32.0	24
244 38 41 30.0 35.4 40.0 32 8.0 2.0 4 35.0 27 25 40 45 33.0 38.2 41.5 33 8.5 2.0 4 35.5 27 26 40 45 33.0 38.2 41.5 33 8.5 2.0 4 35.5 27 28 46 50 38.0 43.3 46.0 37 9.0 2.0 4 39.0 30 32 46 50 38.0 43.3 46.0 37 9.0 2.0 4 39.0 30 32 46 50 38.0 43.3 46.0 37 9.0 2.0 4 39.0 30 32 46 50 38.0 43.3 46.0 37 9.0 2.0 4 39.0 30 34 66 62 45.0 53.3 59.5 48 11.5 2.0 6 50.5 39 38 40 52.0 60.5<	20	33	36	25.0	30.9	38.0	30	8.0	1.5	4	33.0	25
25 40 45 33.0 38.2 41.5 33 8.5 2.0 4 35.5 27 26 40 45 33.0 38.2 41.5 33 8.5 2.0 4 35.5 27 28 46 50 38.0 43.3 46.0 37 9.0 2.0 4 38.0 30 32 46 50 38.0 43.3 46.0 37 9.0 2.0 4 39.0 30 34 56 62 45.0 53.3 59.5 48 11.5 2.0 6 50.5 39 35 56 62 45.0 53.5 59.5 48 11.5 2.0 6 50.5 39 36 56 62 45.0 53.5 59.5 48 11.5 2.0 6 50.5 39 38 63 70 52.0 60.5 59.5 48 <t< td=""><td>22</td><td>38</td><td>41</td><td>30.0</td><td>35.4</td><td>38.0</td><td>30</td><td>8.0</td><td>2.0</td><td>4</td><td>33.0</td><td>25</td></t<>	22	38	41	30.0	35.4	38.0	30	8.0	2.0	4	33.0	25
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32 46 50 38.0 43.3 46.0 37 9.0 2.0 4 39.0 30 34 56 62 45.0 53.3 59.5 48 11.5 2.0 6 50.5 39 35 56 62 45.0 53.5 59.5 48 11.5 2.0 6 50.5 39 36 56 62 45.0 53.5 59.5 48 11.5 2.0 6 50.5 39 36 63 70 52.0 60.5 59.5 48 11.5 2.0 6 50.5 39 40 63 70 52.0 60.5 59.5 48 11.5 2.0 6 50.5 39 42 63 70 52.0 60.5 59.5 48 11.5 2.0 6 52.5 41 45 63 75 57.0 65.5 62.5 51	28	46	50	38.0	43.3	45.0	36	9.0	2.0	4	38.0	29
34 56 62 45.0 53.3 59.5 48 11.5 2.0 6 50.5 39 35 56 62 45.0 53.5 59.5 48 11.5 2.0 6 50.5 39 36 56 62 45.0 53.5 59.5 48 11.5 2.0 6 50.5 39 38 63 70 52.0 60.5 59.5 48 11.5 2.0 6 50.5 39 40 63 70 52.0 60.5 59.5 48 11.5 2.0 6 50.5 39 42 63 70 52.0 60.5 59.5 48 11.5 2.0 6 50.5 39 42 63 75 57.0 60.5 59.5 48 11.5 2.0 6 52.5 41 48 69 75 57.0 65.5 62.5 51	30	46	50	38.0	43.3	46.0	37	9.0	2.0	4	39.0	30
35 56 62 45.0 53.5 59.5 48 11.5 2.0 6 50.5 39 36 56 62 45.0 53.5 59.5 48 11.5 2.0 6 50.5 39 38 63 70 52.0 60.5 59.5 48 11.5 2.0 6 50.5 39 40 63 70 52.0 60.5 59.5 48 11.5 2.0 6 50.5 39 42 63 70 52.0 60.5 59.5 48 11.5 2.0 6 50.5 39 43 63 70 52.0 60.5 59.5 48 11.5 2.0 6 52.5 41 45 63 75 57.0 65.5 62.5 51 11.5 2.0 6 52.5 41 48 69 75 57.0 65.5 62.5 51 11.5 2.0 6 56.5 45 50 83 64.0 <td< td=""><td>32</td><td>46</td><td>50</td><td>38.0</td><td>43.3</td><td>46.0</td><td>37</td><td>9.0</td><td>2.0</td><td>4</td><td>39.0</td><td>30</td></td<>	32	46	50	38.0	43.3	46.0	37	9.0	2.0	4	39.0	30
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38 63 70 52.0 60.5 59.5 48 11.5 2.0 6 50.5 39 40 63 70 52.0 60.5 59.5 48 11.5 2.0 6 50.5 39 42 63 70 52.0 60.5 59.5 48 11.5 2.0 6 50.5 39 43 63 70 52.0 60.5 59.5 48 11.5 2.0 6 50.5 39 43 63 70 52.0 60.5 59.5 48 11.5 2.0 6 52.5 41 45 69 75 57.0 65.5 62.5 51 11.5 2.0 6 52.5 41 48 69 75 57.0 66.5 62.5 51 11.5 2.0 6 65.5 45 50 76 83 64.0 72.5 68.5 57 11.5 2.0 6 60.5 49 60 84 90 7	35	56	62	45.0	53.5	59.5	48	11.5	2.0	6	50.5	39
40 63 70 52.0 60.5 59.5 48 11.5 2.0 6 50.5 39 42 63 70 52.0 60.5 59.5 48 11.5 2.0 6 50.5 39 43 63 70 52.0 60.5 59.5 48 11.5 2.0 6 52.5 41 45 69 75 57.0 65.5 62.5 51 11.5 2.0 6 52.5 41 48 69 75 57.0 65.5 62.5 51 11.5 2.0 6 52.5 41 48 69 75 57.0 66.5 62.5 51 11.5 2.0 6 52.5 41 50 76 83 64.0 72.5 68.5 57 11.5 2.0 6 60.5 49 60 84 90 72.0 79.3 72.5 63 11.5 2.0 6 62.5 51 70 94 101	36	56	62	45.0	53.5	59.5	48	11.5	2.0	6	50.5	39
42 63 70 52.0 60.5 59.5 48 11.5 2.0 6 50.5 39 43 63 70 52.0 60.5 59.5 48 11.5 2.0 6 52.5 41 45 69 75 57.0 65.5 62.5 51 11.5 2.0 6 52.5 41 48 69 75 57.0 65.5 62.5 51 11.5 2.0 6 52.5 41 50 76 83 64.0 72.5 66.5 55 11.5 2.0 6 56.5 45 55 76 83 64.0 72.5 68.5 57 11.5 2.0 6 58.5 47 60 84 90 72.0 79.3 72.5 61 11.5 2.0 6 62.5 51 70 94 101 82.0 89.5 74.5 63 11.5 2.0 6 62.5 51 80 105 111 <t< td=""><td>38</td><td>63</td><td>70</td><td>52.0</td><td>60.5</td><td>59.5</td><td>48</td><td>11.5</td><td>2.0</td><td>6</td><td>50.5</td><td>39</td></t<>	38	63	70	52.0	60.5	59.5	48	11.5	2.0	6	50.5	39
43 63 70 52.0 60.5 59.5 48 11.5 2.0 6 52.5 41 45 69 75 57.0 65.5 62.5 51 11.5 2.0 6 52.5 41 48 69 75 57.0 65.5 62.5 51 11.5 2.0 6 52.5 41 50 76 83 64.0 72.5 66.5 55 11.5 2.0 6 56.5 45 55 76 83 64.0 72.5 68.5 57 11.5 2.0 6 58.5 47 60 84 90 72.0 79.3 72.5 61 11.5 2.0 6 62.5 51 70 89 96 77.0 84.5 74.5 63 11.5 2.0 6 62.5 51 75 100 106 87.0 94.5 79.5 68 11.5 2.0 6 62.5 57 80 107 111 <	40	63	70	52.0	60.5	59.5	48	11.5	2.0	6	50.5	39
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48 69 75 57.0 65.5 62.5 51 11.5 2.0 6 52.5 41 50 76 83 64.0 72.5 66.5 55 11.5 2.0 6 56.5 45 55 76 83 64.0 72.5 68.5 57 11.5 2.0 6 58.5 47 60 84 90 72.0 79.3 72.5 61 11.5 2.0 6 60.5 49 65 89 96 77.0 84.5 74.5 63 11.5 2.0 6 62.5 51 70 94 101 82.0 89.5 74.5 63 11.5 2.0 6 62.5 51 75 100 106 87.0 94.5 79.5 68 11.5 2.0 6 68.5 57 80 105 111 92.0 99.5 81.5 70 11.5 2.0 6 72.5 59 85 120 132	43	63	70	52.0	60.5	59.5	48	11.5	2.0	6	52.5	41
50 76 83 64.0 72.5 66.5 55 11.5 2.0 6 56.5 45 55 76 83 64.0 72.5 68.5 57 11.5 2.0 6 58.5 47 60 84 90 72.0 79.3 72.5 61 11.5 2.0 6 60.5 49 65 89 96 77.0 84.5 74.5 63 11.5 2.0 6 62.5 51 70 94 101 82.0 89.5 74.5 63 11.5 2.0 6 62.5 51 75 100 106 87.0 94.5 79.5 68 11.5 2.0 6 68.5 57 80 105 111 92.0 99.5 81.5 70 11.5 2.0 6 72.5 59 85 120 132 105.0 111.5 88.5 75 <td>45</td> <td>69</td> <td>75</td> <td>57.0</td> <td>65.5</td> <td>62.5</td> <td>51</td> <td>11.5</td> <td>2.0</td> <td>6</td> <td>52.5</td> <td>41</td>	45	69	75	57.0	65.5	62.5	51	11.5	2.0	6	52.5	41
55 76 83 64.0 72.5 68.5 57 11.5 2.0 6 58.5 47 60 84 90 72.0 79.3 72.5 61 11.5 2.0 6 60.5 49 65 89 96 77.0 84.5 74.5 63 11.5 2.0 6 62.5 51 70 94 101 82.0 89.5 74.5 63 11.5 2.0 6 62.5 51 75 100 106 87.0 94.5 79.5 68 11.5 2.0 6 68.5 57 80 105 111 92.0 99.5 81.5 70 11.5 2.0 6 68.5 59 85 115 125 98.0 105.5 85.5 72 13.5 2.5 6 75.5 62 95 126 137 110.0 116.5 88.5 75	48	69	75	57.0	65.5	62.5	51	11.5	2.0	6	52.5	41
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70 94 101 82.0 89.5 74.5 63 11.5 2.0 6 62.5 51 75 100 106 87.0 94.5 79.5 68 11.5 2.0 6 68.5 57 80 105 111 92.0 99.5 81.5 70 11.5 2.0 6 70.5 59 85 115 125 98.0 105.5 85.5 72 13.5 2.5 6 72.5 59 90 120 132 105.0 111.5 88.5 75 13.5 2.5 6 75.5 62 95 126 137 110.0 116.5 88.5 75 13.5 2.5 6 75.5 62	60	84	90	72.0	79.3	72.5	61	11.5	2.0	6	60.5	49
75 100 106 87.0 94.5 79.5 68 11.5 2.0 6 68.5 57 80 105 111 92.0 99.5 81.5 70 11.5 2.0 6 70.5 59 85 115 125 98.0 105.5 85.5 72 13.5 2.5 6 72.5 59 90 120 132 105.0 111.5 88.5 75 13.5 2.5 6 75.5 62 95 126 137 110.0 116.5 88.5 75 13.5 2.5 6 75.5 62	65	89	96	77.0	84.5	74.5	63	11.5	2.0	6	62.5	51
80 105 111 92.0 99.5 81.5 70 11.5 2.0 6 70.5 59 85 115 125 98.0 105.5 85.5 72 13.5 2.5 6 72.5 59 90 120 132 105.0 111.5 88.5 75 13.5 2.5 6 75.5 62 95 126 137 110.0 116.5 88.5 75 13.5 2.5 6 75.5 62	70	94	101	82.0	89.5	74.5	63	11.5	2.0	6	62.5	51
85 115 125 98.0 105.5 85.5 72 13.5 2.5 6 72.5 59 90 120 132 105.0 111.5 88.5 75 13.5 2.5 6 75.5 62 95 126 137 110.0 116.5 88.5 75 13.5 2.5 6 75.5 62	75	100	106	87.0	94.5	79.5		11.5	2.0	6	68.5	57
90 120 132 105.0 111.5 88.5 75 13.5 2.5 6 75.5 62 95 126 137 110.0 116.5 88.5 75 13.5 2.5 6 75.5 62	80	105	111	92.0	99.5	81.5	70	11.5	2.0	6	70.5	59
95 126 137 110.0 116.5 88.5 75 13.5 2.5 6 75.5 62	85	115	125	98.0	105.5	85.5		13.5	2.5	6	72.5	59
	90	120	132	105.0	111.5	88.5		13.5	2.5	6	75.5	62
100 130 143 114.0 119.5 98.5 85 13.5 2.5 6 88.5 75	95	126	137	110.0	116.5	88.5		13.5	2.5	6	75.5	
	100	130	143	114.0	119.5	98.5	85	13.5	2.5	6	88.5	75

BT-FH / BT-FHC - Dimensions in millimeter





Dimensions

10	BT-FH.NU d ₁	d ₃	d4	d ₆			н	Ι ₁	I3	14	l ₅	I ₆	l ₇	BT-FH.KU	I ₃
Part	a ₁	۵,	44	۳6					.5		.5	.0	''	·iku	
Haraba	10		22	17		40	18	22	15		1.5	4	8.5		
16	12				23	40	15	25			1.5	4	8.5	32.5	25.5
18 33 36 27 33 45 11 34 24 10 2.0 5 9.0 37.5 27.5 18 33 36 27 33 45 10 35 26 10 37.5 27.5 20 38 41 31 37 45 10 35 25 10 2.0 5 9.0 37.5 27.5 24 38 41 33 39 50 13 37 27 10 2.0 5 9.0 40.0 30.0 30.0 25 46 50 37 43 50 11 39 27 10 2.0 5 9.0 42.5 32.5 <th< td=""><td>14</td><td></td><td>28</td><td>21</td><td>25</td><td>40</td><td>11</td><td>29</td><td>22</td><td>7</td><td>1.5</td><td>4</td><td>8.5</td><td>35.0</td><td>28.0</td></th<>	14		28	21	25	40	11	29	22	7	1.5	4	8.5	35.0	28.0
No. No.	16				27	40	10	30	23	7	1.5	4	8.5		
20 33 36 29 35 46 10 35 25 10 2.0 5 9.0 37.5 27.5 22 38 41 31 37 45 10 35 25 10 2.0 5 9.0 37.5 27.5 24 38 41 33 39 50 13 37 27 10 2.0 5 9.0 40.0 30.0 25 46 50 37 43 50 11 39 27 10 2.0 5 9.0 42.5 32.5 30 46 50 42 48 55 15 40 30 10 2.0 5 9.0 42.5 32.5 33 52 56 42 48 55 6 49 39 10 2.0 5 9.0 42.5 32.5 33 6 57 44 5	18	33	36	27	33	45	11	34	24	10	2.0	5	9.0	37.5	27.5
22 38 41 31 37 46 10 35 25 10 2.0 5 9.0 37.5 27.5 24 38 41 33 39 50 13 37 27 10 2.0 5 9.0 40.0 30.0 28 46 50 37 43 50 11 39 27 10 2.0 5 9.0 42.5 32.5 30 46 50 39 45 50 10 40 29 10 2.0 5 9.0 42.5 32.5 32 46 50 42 48 55 6 49 39 10 2.0 5 9.0 42.5 32.5 33 52 56 62 44 48 55 6 49 39 10 2.0 5 9.0 42.5 32.5 33 50 56 6	18	33	36	27	33	45	11	34	24	10	2.0	5	9.0	37.5	27.5
24 38 41 33 39 60 13 37 27 10 2.0 5 9.0 40.0 30.0 25 40 45 34 40 50 13 37 27 10 2.0 5 9.0 40.0 30.0 30 46 50 39 45 50 10 40 29 10 2.0 5 9.0 42.5 32.5 32 46 50 42 48 55 15 40 30 10 2.0 5 9.0 42.5 32.5 33 52 56 42 48 55 6 49 39 10 2.0 5 9.0 42.5 32.5 33 50 66 62 42 8 35 6 49 39 10 2.0 6 9.0 42.5 32.5 34 63 70 6<	20	33	36	29	35	45	10	35	25	10	2.0	5	9.0	37.5	27.5
25 40 45 34 40 50 13 37 27 10 2.0 5 9.0 40.0 30.0 28 46 50 37 43 50 11 39 27 10 2.0 5 9.0 42.5 32.5 30 46 50 30 45 50 10 40 20 10 2.0 5 9.0 42.5 32.5 33 52 56 42 48 55 16 49 39 10 2.0 5 9.0 42.5 32.5 35 56 62 44 50 55 6 49 39 10 2.0 5 9.0 42.5 32.5 35 56 62 49 39 10 2.0 6 9.0 45.0 32.5 36 63 70 51 58 55 6 49 1	22	38	41	31	37	45	10	35	25	10	2.0	5	9.0	37.5	27.5
28 46 50 37 43 50 11 39 27 10 2.0 5 9.0 42.5 32.5 30 46 50 39 45 50 10 40 29 10 2.0 5 9.0 42.5 32.5 32 46 50 42 48 55 6 49 39 10 2.0 5 9.0 42.5 32.5 33 52 56 62 44 50 55 6 49 39 10 2.0 5 9.0 42.5 32.5 38 63 70 49 56 55 - 55 42 13 2.0 6 9.0 45.0 32.0 43 63 70 51 58 55 - 55 42 13 2.0 6 9.0 45.0 32.0 45 69 75 56<	24	38	41	33	39	50	13	37	27	10	2.0	5	9.0	40.0	30.0
30 46 50 39 45 50 10 40 29 10 2.0 5 9.0 42.5 32.5 32 46 50 42 48 55 15 40 30 10 2.0 5 9.0 42.5 32.5 33 52 66 42 48 65 6 49 39 10 2.0 5 9.0 42.5 32.5 38 63 70 49 56 55 - 55 42 13 2.0 6 9.0 45.0 32.0 40 63 70 51 58 55 - 55 42 13 2.0 6 9.0 45.0 32.0 43 63 70 54 61 60 - 60 47 13 2.0 6 9.0 45.0 32.0 48 69 75 59 66<	25	40	45	34	40	50	13	37	27	10	2.0	5	9.0	40.0	30.0
32 46 50 42 48 55 15 40 30 10 2.0 5 9.0 42.5 32.5 33 52 56 42 48 55 6 49 39 10 2.0 5 9.0 42.5 32.5 35 56 62 44 50 55 6 49 39 10 2.0 5 9.0 42.5 32.5 38 63 70 49 56 55 - 55 42 13 2.0 6 9.0 45.0 32.0 40 63 70 54 61 60 - 60 47 13 2.0 6 9.0 45.0 32.0 48 69 75 59 66 60 - 60 47 13 2.0 6 9.0 45.0 32.0 48 69 75 59 66 </td <td>28</td> <td>46</td> <td>50</td> <td>37</td> <td>43</td> <td>50</td> <td>11</td> <td>39</td> <td>27</td> <td>10</td> <td>2.0</td> <td>5</td> <td>9.0</td> <td>42.5</td> <td>32.5</td>	28	46	50	37	43	50	11	39	27	10	2.0	5	9.0	42.5	32.5
33 52 56 42 48 55 6 49 39 10 2.0 5 9.0 42.5 32.5 35 56 62 44 50 55 6 49 39 10 2.0 5 9.0 42.5 32.5 38 63 70 49 56 55 - 55 42 13 2.0 6 9.0 45.0 32.0 40 63 70 51 58 55 - 65 42 13 2.0 6 9.0 45.0 32.0 43 63 70 51 68 63 60 - 60 47 13 2.0 6 9.0 45.0 32.0 48 69 75 59 66 60 - 60 47 13 2.0 6 9.0 45.0 32.0 50 76 83 62 <td>30</td> <td>46</td> <td>50</td> <td>39</td> <td>45</td> <td>50</td> <td>10</td> <td>40</td> <td>29</td> <td>10</td> <td>2.0</td> <td>5</td> <td>9.0</td> <td>42.5</td> <td>32.5</td>	30	46	50	39	45	50	10	40	29	10	2.0	5	9.0	42.5	32.5
35 56 62 44 50 55 6 49 39 10 2.0 5 9.0 42.5 32.5 38 63 70 49 56 55 - 55 42 13 2.0 6 9.0 45.0 32.0 40 63 70 51 58 55 - 55 42 13 2.0 6 9.0 45.0 32.0 43 63 70 54 61 60 - 60 47 13 2.0 6 9.0 45.0 32.0 48 69 75 59 66 60 - 60 47 13 2.0 6 9.0 45.0 32.0 50 76 83 62 70 60 - 60 46 14 2.5 6 9.0 47.5 33.5 53 76 83 67 75 <td>32</td> <td>46</td> <td>50</td> <td>42</td> <td>48</td> <td>55</td> <td>15</td> <td>40</td> <td>30</td> <td>10</td> <td>2.0</td> <td>5</td> <td>9.0</td> <td>42.5</td> <td>32.5</td>	32	46	50	42	48	55	15	40	30	10	2.0	5	9.0	42.5	32.5
38 63 70 49 56 55 - 65 42 13 2.0 6 9.0 45.0 32.0 40 63 70 51 58 55 - 55 42 13 2.0 6 9.0 45.0 32.0 43 63 70 54 61 60 - 60 47 13 2.0 6 9.0 45.0 32.0 45 69 75 56 63 60 - 60 47 13 2.0 6 9.0 45.0 32.0 48 69 75 56 63 60 - 60 47 13 2.0 6 9.0 45.0 32.0 48 69 75 56 66 60 - 60 47 13 2.0 6 9.0 47.5 33.5 50 76 83 67 75 <td>33</td> <td>52</td> <td>56</td> <td>42</td> <td>48</td> <td>55</td> <td>6</td> <td>49</td> <td>39</td> <td>10</td> <td>2.0</td> <td>5</td> <td>9.0</td> <td>42.5</td> <td>32.5</td>	33	52	56	42	48	55	6	49	39	10	2.0	5	9.0	42.5	32.5
400 63 70 51 58 55 - 55 42 13 2.0 6 9.0 45.0 32.0 43 63 70 54 61 60 - 60 47 13 2.0 6 9.0 45.0 32.0 45 69 75 56 63 60 - 60 47 13 2.0 6 9.0 45.0 32.0 48 69 75 59 66 60 - 60 47 13 2.0 6 9.0 45.0 32.0 50 76 83 62 70 60 - 60 46 14 2.5 6 9.0 47.5 33.5 53 76 83 62 73 70 - 70 56 14 2.5 6 9.0 47.5 33.5 58 82 88 70 78 </td <td>35</td> <td>56</td> <td>62</td> <td>44</td> <td>50</td> <td>55</td> <td>6</td> <td>49</td> <td>39</td> <td>10</td> <td>2.0</td> <td>5</td> <td>9.0</td> <td>42.5</td> <td>32.5</td>	35	56	62	44	50	55	6	49	39	10	2.0	5	9.0	42.5	32.5
43 63 70 54 61 60 - 60 47 13 2.0 6 9.0 45.0 32.0 45 69 75 56 63 60 - 60 47 13 2.0 6 9.0 45.0 32.0 48 69 75 59 66 60 - 60 47 13 2.0 6 9.0 45.0 32.0 50 76 83 62 70 60 - 60 46 14 2.5 6 9.0 47.5 33.5 53 76 83 65 73 70 - 70 56 14 2.5 6 9.0 47.5 33.5 55 76 83 67 75 70 - 70 56 14 2.5 6 9.0 47.5 33.5 58 82 88 70 72 <td>38</td> <td>63</td> <td>70</td> <td>49</td> <td>56</td> <td>55</td> <td>-</td> <td>55</td> <td>42</td> <td>13</td> <td>2.0</td> <td>6</td> <td>9.0</td> <td>45.0</td> <td>32.0</td>	38	63	70	49	56	55	-	55	42	13	2.0	6	9.0	45.0	32.0
45 69 75 56 63 60 - 60 47 13 2.0 6 9.0 45.0 32.0 48 69 75 59 66 60 - 60 47 13 2.0 6 9.0 45.0 32.0 50 76 83 62 70 60 - 60 46 14 2.5 6 9.0 47.5 33.5 53 76 83 65 73 70 - 70 56 14 2.5 6 9.0 47.5 33.5 55 76 83 67 75 70 - 70 56 14 2.5 6 9.0 47.5 33.5 58 82 88 70 78 70 - 70 56 14 2.5 6 9.0 52.5 38.5 63 80 93 75 83 <td>40</td> <td>63</td> <td>70</td> <td>51</td> <td>58</td> <td>55</td> <td>-</td> <td>55</td> <td>42</td> <td>13</td> <td>2.0</td> <td>6</td> <td>9.0</td> <td>45.0</td> <td>32.0</td>	40	63	70	51	58	55	-	55	42	13	2.0	6	9.0	45.0	32.0
488 69 75 59 66 60 - 60 47 13 2.0 6 9.0 45.0 32.0 50 76 83 62 70 60 - 60 46 14 2.5 6 9.0 47.5 33.5 53 76 83 65 73 70 - 70 56 14 2.5 6 9.0 47.5 33.5 55 76 83 67 75 70 - 70 56 14 2.5 6 9.0 47.5 33.5 58 82 88 70 78 70 - 70 56 14 2.5 6 9.0 52.5 38.5 60 84 90 72 80 70 - 70 56 14 2.5 6 9.0 52.5 38.5 63 89 96 77 85 </td <td>43</td> <td>63</td> <td>70</td> <td>54</td> <td>61</td> <td>60</td> <td>-</td> <td>60</td> <td>47</td> <td>13</td> <td>2.0</td> <td>6</td> <td>9.0</td> <td>45.0</td> <td>32.0</td>	43	63	70	54	61	60	-	60	47	13	2.0	6	9.0	45.0	32.0
50 76 83 62 70 60 - 60 46 14 2.5 6 9.0 47.5 33.5 53 76 83 65 73 70 - 70 56 14 2.5 6 9.0 47.5 33.5 55 76 83 67 75 70 - 70 56 14 2.5 6 9.0 47.5 33.5 58 82 88 70 78 70 - 70 56 14 2.5 6 9.0 52.5 38.5 60 84 90 72 80 70 - 70 56 14 2.5 6 9.0 52.5 38.5 63 86 93 75 83 70 - 70 56 14 2.5 6 9.0 52.5 38.5 65 89 96 77 85 <td>45</td> <td>69</td> <td>75</td> <td>56</td> <td>63</td> <td>60</td> <td>-</td> <td>60</td> <td>47</td> <td>13</td> <td>2.0</td> <td>6</td> <td>9.0</td> <td>45.0</td> <td>32.0</td>	45	69	75	56	63	60	-	60	47	13	2.0	6	9.0	45.0	32.0
53 76 83 65 73 70 - 70 56 14 2.5 6 9.0 47.5 33.5 55 76 83 67 75 70 - 70 56 14 2.5 6 9.0 47.5 33.5 58 82 88 70 78 70 - 70 56 14 2.5 6 9.0 52.5 38.5 60 84 90 72 80 70 - 70 56 14 2.5 6 9.0 52.5 38.5 63 86 93 75 83 70 - 70 56 14 2.5 6 9.0 52.5 38.5 65 89 96 77 85 80 - 80 66 14 2.5 6 9.0 52.5 38.5 68 92 99 81 90 <td>48</td> <td>69</td> <td>75</td> <td>59</td> <td>66</td> <td>60</td> <td>-</td> <td>60</td> <td>47</td> <td>13</td> <td>2.0</td> <td>6</td> <td>9.0</td> <td>45.0</td> <td>32.0</td>	48	69	75	59	66	60	-	60	47	13	2.0	6	9.0	45.0	32.0
55 76 83 67 75 70 - 70 56 14 2.5 6 9.0 47.5 33.5 58 82 88 70 78 70 - 70 56 14 2.5 6 9.0 52.5 38.5 60 84 90 72 80 70 - 70 56 14 2.5 6 9.0 52.5 38.5 63 86 93 75 83 70 - 70 56 14 2.5 6 9.0 52.5 38.5 65 89 96 77 85 80 - 80 66 14 2.5 6 9.0 52.5 38.5 68 92 99 81 90 80 - 80 64 16 2.5 7 9.0 52.5 38.5 70 94 101 83 92 </td <td>50</td> <td>76</td> <td>83</td> <td>62</td> <td>70</td> <td>60</td> <td>-</td> <td>60</td> <td>46</td> <td>14</td> <td>2.5</td> <td>6</td> <td>9.0</td> <td>47.5</td> <td>33.5</td>	50	76	83	62	70	60	-	60	46	14	2.5	6	9.0	47.5	33.5
58 82 88 70 78 70 - 70 56 14 2.5 6 9.0 52.5 38.5 60 84 90 72 80 70 - 70 56 14 2.5 6 9.0 52.5 38.5 63 86 93 75 83 70 - 70 56 14 2.5 6 9.0 52.5 38.5 65 89 96 77 85 80 - 80 66 14 2.5 6 9.0 52.5 38.5 68 92 99 81 90 80 - 80 64 16 2.5 7 9.0 52.5 38.5 70 94 101 83 92 80 - 80 64 16 2.5 7 9.0 60.0 44.0 75 100 106 88 97	53	76	83	65	73	70	-	70	56	14	2.5	6	9.0	47.5	33.5
60 84 90 72 80 70 - 70 56 14 2.5 6 9.0 52.5 38.5 63 86 93 75 83 70 - 70 56 14 2.5 6 9.0 52.5 38.5 65 89 96 77 85 80 - 80 66 14 2.5 6 9.0 52.5 38.5 68 92 99 81 90 80 - 80 64 16 2.5 7 9.0 52.5 36.5 70 94 101 83 92 80 - 80 64 16 2.5 7 9.0 60.0 44.0 75 100 106 88 97 80 - 80 64 16 2.5 7 9.0 60.0 44.0 80 105 111 95	55	76	83	67	75	70	-	70	56	14	2.5	6	9.0	47.5	33.5
63 86 93 75 83 70 - 70 56 14 2.5 6 9.0 52.5 38.5 65 89 96 77 85 80 - 80 66 14 2.5 6 9.0 52.5 38.5 68 92 99 81 90 80 - 80 64 16 2.5 7 9.0 52.5 36.5 70 94 101 83 92 80 - 80 64 16 2.5 7 9.0 60.0 44.0 75 100 106 88 97 80 - 80 64 16 2.5 7 9.0 60.0 44.0 80 105 111 95 105 90 - 90 72 18 3.0 7 9.0 60.0 42.0 85 115 126 137	58	82	88	70	78	70	-	70	56	14	2.5	6	9.0	52.5	38.5
65 89 96 77 85 80 - 80 66 14 2.5 6 9.0 52.5 38.5 68 92 99 81 90 80 - 80 64 16 2.5 7 9.0 52.5 36.5 70 94 101 83 92 80 - 80 64 16 2.5 7 9.0 60.0 44.0 75 100 106 88 97 80 - 80 64 16 2.5 7 9.0 60.0 44.0 80 105 111 95 105 90 - 90 72 18 3.0 7 9.0 60.0 42.0 85 115 125 100 110 90 - 90 72 18 3.0 7 9.0 65.0 47.0 90 126 137 110	60	84	90	72	80	70	-	70	56	14	2.5	6	9.0	52.5	38.5
68 92 99 81 90 80 - 80 64 16 2.5 7 9.0 52.5 36.5 70 94 101 83 92 80 - 80 64 16 2.5 7 9.0 60.0 44.0 75 100 106 88 97 80 - 80 64 16 2.5 7 9.0 60.0 44.0 80 105 111 95 105 90 - 90 72 18 3.0 7 9.0 60.0 42.0 85 115 125 100 110 90 - 90 72 18 3.0 7 9.0 60.0 42.0 90 120 132 105 115 90 - 90 72 18 3.0 7 9.0 65.0 47.0 95 126 137 110	63	86	93	75	83	70	-	70	56	14	2.5	6	9.0	52.5	38.5
70 94 101 83 92 80 - 80 64 16 2.5 7 9.0 60.0 44.0 75 100 106 88 97 80 - 80 64 16 2.5 7 9.0 60.0 44.0 80 105 111 95 105 90 - 90 72 18 3.0 7 9.0 60.0 42.0 85 115 125 100 110 90 - 90 72 18 3.0 7 9.0 60.0 42.0 90 120 132 105 115 90 - 90 72 18 3.0 7 9.0 65.0 47.0 95 126 137 110 120 90 - 90 72 18 3.0 7 9.0 65.0 47.0	65	89	96	77	85	80	-	80	66	14	2.5	6	9.0	52.5	38.5
75 100 106 88 97 80 - 80 64 16 2.5 7 9.0 60.0 44.0 80 105 111 95 105 90 - 90 72 18 3.0 7 9.0 60.0 42.0 85 115 125 100 110 90 - 90 72 18 3.0 7 9.0 60.0 42.0 90 120 132 105 115 90 - 90 72 18 3.0 7 9.0 65.0 47.0 95 126 137 110 120 90 - 90 72 18 3.0 7 9.0 65.0 47.0	68	92	99	81	90	80	-	80	64	16	2.5	7	9.0	52.5	36.5
75 100 106 88 97 80 - 80 64 16 2.5 7 9.0 60.0 44.0 80 105 111 95 105 90 - 90 72 18 3.0 7 9.0 60.0 42.0 85 115 125 100 110 90 - 90 72 18 3.0 7 9.0 60.0 42.0 90 120 132 105 115 90 - 90 72 18 3.0 7 9.0 65.0 47.0 95 126 137 110 120 90 - 90 72 18 3.0 7 9.0 65.0 47.0					92		-					7			
80 105 111 95 105 90 - 90 72 18 3.0 7 9.0 60.0 42.0 85 115 125 100 110 90 - 90 72 18 3.0 7 9.0 60.0 42.0 90 120 132 105 115 90 - 90 72 18 3.0 7 9.0 65.0 47.0 95 126 137 110 120 90 - 90 72 18 3.0 7 9.0 65.0 47.0		100	106	88	97	80	-	80	64	16		7	9.0	60.0	
85 115 125 100 110 90 - 90 72 18 3.0 7 9.0 60.0 42.0 90 120 132 105 115 90 - 90 72 18 3.0 7 9.0 65.0 47.0 95 126 137 110 120 90 - 90 72 18 3.0 7 9.0 65.0 47.0		105		95	105	90	-	90	72	18		7			
90 120 132 105 115 90 - 90 72 18 3.0 7 9.0 65.0 47.0 95 126 137 110 120 90 - 90 72 18 3.0 7 9.0 65.0 47.0			125	100	110	90	-	90	72						
95 126 137 110 120 90 - 90 72 18 3.0 7 9.0 65.0 47.0															
							-					7			
							-								

 d_3 , d_4 dimensions not always in accordance with EN 12756 l_{1NU} complies with EN 12756 (normal length, unbalanced) l_{1KU} complies with EN 12756 (short length, unbalanced)

BT-FH.NU / KU - Dimensions in millimeter