Standard Ball Runner Blocks made of steel

**FNS – Flanged, normal, standard height**

**R1651 ... 2.**

**Dynamic characteristics**
- Travel speed: \( v_{\text{max}} = 5 \text{ m/s} \)
- Acceleration: \( a_{\text{max}} = 500 \text{ m/s}^2 \) (if \( F_{\text{comb}} > 2.8 \cdot F_{\text{pr}} : a_{\text{max}} = 50 \text{ m/s}^2 \))

**Note on lubrication**
- Pre-lubricated

**Further Ball Runner Blocks FNS**
- Heavy Duty Ball Runner Blocks made of steel, size 55 and 65
- High Precision Ball Runner Blocks made of steel
- High-Speed Ball Runner Blocks made of steel
- Ball Runner Blocks made of aluminum
- Corrosion-resistant Ball Runner Blocks
  - Resist NR
  - Resist NR II
  - Resist CR

**Note**
- Can be used on all Ball Guide Rails SNS.

**Options and part numbers**

<table>
<thead>
<tr>
<th>Size</th>
<th>Ball runner block with size</th>
<th>Preload class</th>
<th>Accuracy class</th>
<th>Seal for ball runner block without ball chain</th>
<th>Seal for ball runner block with ball chain</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>R1651 1</td>
<td>1</td>
<td>9</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>20</td>
<td>R1651 8</td>
<td>9</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>25</td>
<td>R1651 2</td>
<td>9</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>30</td>
<td>R1651 7</td>
<td>9</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>35</td>
<td>R1651 3</td>
<td>9</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>45</td>
<td>R1651 4</td>
<td>9</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

**Ordering example**

Options:
- Ball Runner Block FNS
- Size 30
- Preload class C1
- Accuracy class H
- With standard seal, without ball chain

Part number: R1651 713 20

1) Only with accuracy classes N and H

**Preload classes**
- C0 = without preload
- C1 = preload 2% C
- C2 = preload 8% C

**Seals**
- SS = standard seal
- LS = low-friction seal
- DS = double-lipped seal

**Key to table**
- Gray numbers
- = version/combination not preferred
- (longer delivery times in some cases)
### Ball Runner Blocks FNS

**Ball Runner Blocks FNS**

**A** | **A₁** | **A₂** | **A₃** | **B** | **B₁** | **E₁** | **E₂** | **E₃** | **E₈** | **E₉** | **H** | **H₁** | **H₂** | **K₁** | **K₂** | **K₃** | **K₄**
15 | 47 | 23.5 | 15 | 16.0 | 58.2 | 39.2 | 38 | 30 | 26 | 24.55 | 6.70 | 24 | 19.90 | 16.30 | 16.20 | 8.00 | 9.6 | 3.20 | 3.20
20 | 63 | 31.5 | 20 | 21.5 | 75.0 | 49.6 | 53 | 40 | 35 | 32.50 | 7.30 | 30 | 25.35 | 20.75 | 20.55 | 11.80 | 11.8 | 3.35 | 3.35
25 | 70 | 35.0 | 23 | 23.5 | 86.2 | 57.8 | 57 | 45 | 40 | 38.30 | 11.50 | 36 | 29.90 | 24.45 | 24.25 | 13.6 | 5.50 | 5.50
30 | 90 | 45.0 | 28 | 31.0 | 97.7 | 67.4 | 72 | 52 | 44 | 48.40 | 14.60 | 42 | 35.35 | 28.55 | 28.35 | 14.00 | 6.05 | 6.05
35 | 100 | 50.0 | 34 | 33.0 | 110.5 | 77.0 | 82 | 62 | 52 | 58.00 | 17.35 | 48 | 40.40 | 32.15 | 31.85 | 14.50 | 6.90 | 6.90
45 | 120 | 60.0 | 45 | 37.5 | 137.6 | 97.0 | 100 | 80 | 60 | 69.80 | 20.90 | 60 | 50.30 | 40.15 | 39.85 | 17.30 | 8.20 | 8.20

**a)** For O-ring
- Size 15: Ø 4 · 1.0 (mm)
- Size 20 - 45: Ø 5 · 1.0 (mm)
Open lube bore as required (as specified on page 258).

**b)** Recommended position for pin holes (dimensions E₄, E₅, E₆, E₇).
Due to manufacturing reasons, there may be rough-drilled holes at the recommended positions. These may be bored open to accommodate the locating pins.

**c)** Lube nipple, size 15 - 20:
- Funnel-type lube nipple DIN 3405-A M3x5, B₃ = 1.6 mm
- If another lube nipple is used: observe the screw-in depth of 5 mm!
- Lube nipple, size 25 - 45:
- Hydraulic-type lube nipple DIN 71412-B M6x8, B₃ = 9.5 mm
- If another lube nipple is used: observe the screw-in depth of 8 mm!
Lube nipples are provided (unmounted). Connection possible at all sides.

**d)** For manufacturing reasons, there may be plugs at these positions. These must be removed before mounting.

### Size | Dimensions (mm) | Weight | Load capacities | Load moments
---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
**N** | **N₁** | **N₂** | **S₁** | **S₂** | **S₃** | **T** | **V₁** | **C** | **C₀** | **M₁** | **M₀** | **M₁** | **M₀**
---|---|---|---|---|---|---|---|---|---|---|---|---|---|---
15 | 5.2 | 4.40 | 10.3 | 4.3 | M5 | 4.4 | M2.5x3.5 | 60 | 5.0 | 0.20 | 7 | 800 | 130 | 0.00 | 74 | 130 | 40 | 71
20 | 7.7 | 5.20 | 13.2 | 5.3 | M6 | 6.0 | M3x5 | 60 | 6.0 | 0.45 | 18 | 800 | 2400 | 440 | 130 | 710 | 130 | 165
25 | 9.3 | 7.00 | 15.2 | 6.7 | M8 | 7.0 | M3x5 | 60 | 7.5 | 0.65 | 22 | 800 | 3000 | 180 | 240 | 1300 | 130 | 165
30 | 11.0 | 7.90 | 17.0 | 8.5 | M10 | 9.0 | M3x5 | 80 | 7.0 | 1.10 | 31 | 700 | 4100 | 250 | 300 | 2500 | 250 | 300
35 | 12.0 | 10.15 | 20.5 | 8.5 | M10 | 9.0 | M3x5 | 80 | 8.0 | 1.60 | 41 | 900 | 54000 | 440 | 565 | 5400 | 540 | 800
45 | 15.0 | 12.40 | 23.5 | 10.4 | M12 | 14.0 | M4x7 | 105 | 10.0 | 3.00 | 68 | 100 | 85000 | 890 | 1160 | 890 | 1160 | 890 | 1160 | 1300

1) Dimension H₄ with cover strip
2) Dimension H₅ without cover strip
3) Load capacities and moments for Ball Runner Block without ball chain. Load capacities and moments for Ball Runner Block with ball chain as specified on page 258.

* Determination of the dynamic load capacities and moments is based on a travel life of 100,000 m per ISO 14728-1. Often only 50,000 m are actually stipulated. For comparison: Multiply values C, M₁, and M₀ from the table by 1.26.
Standard Ball Runner Blocks made of steel

**SNS – Slimline, normal, standard height**

### Dynamic characteristics
- Travel speed: $v_{\text{max}} = 5 \text{ m/s}$
- Acceleration: $a_{\text{max}} = 500 \text{ m/s}^2$
  
  (If $F_{\text{comb}} > 2.8 \cdot F_{\text{pr}} : a_{\text{max}} = 50 \text{ m/s}^2$)

### Note on lubrication
- Pre-lubricated

### Further Ball Runner Blocks SNS
- Heavy Duty Ball Runner Blocks made of steel, size 55 and 65
- High Precision Ball Runner Blocks made of steel
- High-Speed Ball Runner Blocks made of steel
- Ball Runner Blocks made of aluminum
- Corrosion-resistant Ball Runner Blocks
  - Resist NR 100
  - Resist NR II 104
  - Resist CR 108

### Note
- Can be used on all Ball Guide Rails SNS.

### Options and part numbers

<table>
<thead>
<tr>
<th>Size</th>
<th>Ball runner block with size</th>
<th>Preload class</th>
<th>Accuracy class</th>
<th>Seal for ball runner block with ball chain</th>
<th>Seal for ball runner block without ball chain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>C0</td>
<td>C1</td>
<td>C2</td>
<td>N</td>
</tr>
<tr>
<td>15</td>
<td>R1622 1</td>
<td>9</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20</td>
<td>R1622 8</td>
<td>9</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>25</td>
<td>R1622 2</td>
<td>9</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>30</td>
<td>R1622 7</td>
<td>9</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>35</td>
<td>R1622 3</td>
<td>9</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>45</td>
<td>R1622 4</td>
<td>9</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Ordering example**
- Ball Runner Block SNS
- Size 30
- Preload class C1
- Accuracy class H
- With standard seal, without ball chain

Part number: R1622 713 20

1) Only with accuracy classes N and H

### Key to table
- **Gray numbers** = version/combination not preferred

### Seals
- **SS** = standard seal
- **LS** = low-friction seal
- **DS** = double-lipped seal

### Preload classes
- **C0** = without preload
- **C1** = preload 2% C
- **C2** = preload 8% C
### Ball Runner Blocks SNS

**Size 15:** Ø 4 - 1.0 (mm)
**Size 20 - 45:** Ø 5 - 1.0 (mm)
Open lube bore as required (> Ø 258).

**Lube nipple, size 15 - 20:**
- Funnel-type lube nipple DIN 3405-A M3x5, B₂ = 1.6 mm
  - If another lube nipple is used: observe the screw-in depth of 5 mm!

**Lube nipple, size 25 - 45:**
- Hydraulic-type lube nipple DIN 71412-B M6x8, B₂ = 9.5 mm
  - If another lube nipple is used: observe the screw-in depth of 8 mm!
  - Lube nipples are provided (unmounted).
  - Connection possible at all sides.

### Dimensions (mm)

<table>
<thead>
<tr>
<th>Size</th>
<th>A</th>
<th>A₁</th>
<th>A₂</th>
<th>A₃</th>
<th>B</th>
<th>B₁</th>
<th>E₁</th>
<th>E₂</th>
<th>E₈</th>
<th>E₉</th>
<th>H</th>
<th>H₁</th>
<th>H₂</th>
<th>H₂1)</th>
<th>H₂2)</th>
<th>K₁</th>
<th>K₂</th>
<th>K₃</th>
<th>K₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>34</td>
<td>17</td>
<td>15</td>
<td>9.5</td>
<td>58.2</td>
<td>39.2</td>
<td>26</td>
<td>26</td>
<td>24.55</td>
<td>6.70</td>
<td>24</td>
<td>19.90</td>
<td>16.30</td>
<td>16.20</td>
<td>11.60</td>
<td>3.20</td>
<td>3.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>44</td>
<td>22</td>
<td>20</td>
<td>12.0</td>
<td>75.0</td>
<td>49.6</td>
<td>32</td>
<td>36</td>
<td>32.50</td>
<td>7.30</td>
<td>30</td>
<td>25.35</td>
<td>20.75</td>
<td>20.55</td>
<td>13.80</td>
<td>3.35</td>
<td>3.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>48</td>
<td>24</td>
<td>23</td>
<td>12.5</td>
<td>86.2</td>
<td>57.8</td>
<td>35</td>
<td>35</td>
<td>38.30</td>
<td>11.50</td>
<td>36</td>
<td>29.90</td>
<td>24.45</td>
<td>24.25</td>
<td>17.45</td>
<td>5.50</td>
<td>5.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>60</td>
<td>30</td>
<td>28</td>
<td>16.0</td>
<td>97.7</td>
<td>67.4</td>
<td>40</td>
<td>40</td>
<td>48.40</td>
<td>14.60</td>
<td>42</td>
<td>35.35</td>
<td>28.55</td>
<td>28.35</td>
<td>20.00</td>
<td>6.05</td>
<td>6.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>70</td>
<td>35</td>
<td>34</td>
<td>18.0</td>
<td>110.5</td>
<td>77.0</td>
<td>50</td>
<td>50</td>
<td>58.00</td>
<td>17.35</td>
<td>48</td>
<td>40.40</td>
<td>32.15</td>
<td>31.85</td>
<td>20.50</td>
<td>6.90</td>
<td>6.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>86</td>
<td>43</td>
<td>45</td>
<td>20.5</td>
<td>137.6</td>
<td>97.0</td>
<td>60</td>
<td>60</td>
<td>69.80</td>
<td>20.90</td>
<td>66</td>
<td>50.30</td>
<td>40.15</td>
<td>39.85</td>
<td>27.30</td>
<td>8.20</td>
<td>8.20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Weight (kg)

<table>
<thead>
<tr>
<th>Size</th>
<th>N₉</th>
<th>N₉⁺₀₅</th>
<th>S₂</th>
<th>S₃</th>
<th>S₉</th>
<th>T</th>
<th>V₁</th>
<th>C</th>
<th>C₀</th>
<th>M₁</th>
<th>M₀₀</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>6.0</td>
<td>10.3</td>
<td>M4</td>
<td>4.4</td>
<td>M₂₅x₃.₅</td>
<td>60</td>
<td>5.0</td>
<td>0.15</td>
<td>7</td>
<td>800</td>
<td>13</td>
</tr>
<tr>
<td>20</td>
<td>7.5</td>
<td>13.2</td>
<td>M₅</td>
<td>6.0</td>
<td>M₃ₓ₅</td>
<td>60</td>
<td>6.0</td>
<td>0.35</td>
<td>18</td>
<td>800</td>
<td>24</td>
</tr>
<tr>
<td>25</td>
<td>9.0</td>
<td>15.2</td>
<td>M₆</td>
<td>7.0</td>
<td>M₃ₓ₅</td>
<td>60</td>
<td>7.5</td>
<td>0.50</td>
<td>22</td>
<td>800</td>
<td>30</td>
</tr>
<tr>
<td>30</td>
<td>12.0</td>
<td>17.0</td>
<td>M₈</td>
<td>9.0</td>
<td>M₃ₓ₅</td>
<td>80</td>
<td>7.0</td>
<td>0.85</td>
<td>31</td>
<td>700</td>
<td>41</td>
</tr>
<tr>
<td>35</td>
<td>13.0</td>
<td>20.5</td>
<td>M₈</td>
<td>9.0</td>
<td>M₃ₓ₅</td>
<td>80</td>
<td>8.0</td>
<td>1.25</td>
<td>41</td>
<td>900</td>
<td>54</td>
</tr>
<tr>
<td>45</td>
<td>18.0</td>
<td>23.5</td>
<td>M₁₀</td>
<td>14.0</td>
<td>M₄ₓ₇</td>
<td>105</td>
<td>10.0</td>
<td>2.40</td>
<td>68</td>
<td>100</td>
<td>85</td>
</tr>
</tbody>
</table>

1) Dimension H₂ with cover strip
2) Dimension H₂ without cover strip
3) Load capacities and moments for Ball Runner Block without ball chain. Load capacities and moments for Ball Runner Block with ball chain > Ø 8.

Determination of the dynamic load capacities and moments is based on a travel life of 100,000 m per ISO 14728-1. Often only 50,000 m are actually stipulated. For comparison: Multiply values C, M₁, and M₀₀ from the table by 1.26.
SNS with Cover Strip and Strip Clamps

R1605 .3. ../ R1605 .B. ..

For mounting from above, with cover strip made of corrosion-resistant spring steel per EN 10088 and strip clamps made of aluminum (without threaded mounting holes on end face).

Note on installation
- Secure the cover strip!
- Strip clamps are included in the supply scope.
- Follow the mounting instructions!
- Send for the publications “Mounting Instructions for Ball Rail Systems” and “Mounting Instructions for the Cover Strip.”
- Composite guide rails also available.

Options and part numbers

<table>
<thead>
<tr>
<th>Size</th>
<th>Ball guide rail with size</th>
<th>Accuracy class</th>
<th>Number of sections .,</th>
<th>Rail length L (mm), ...</th>
<th>Hole spacing T (mm)</th>
<th>Recommended rail length according to formula ( L = n_B \cdot T + 4 \text{ mm} )</th>
<th>Maximum number of holes ( n_B )</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>R1605 13</td>
<td>4 3 2 1 9</td>
<td>31, ..., 3, ..., 60</td>
<td></td>
<td></td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>20</td>
<td>R1605 83</td>
<td>4 3 2 1 9</td>
<td>31, ..., 3, ..., 60</td>
<td></td>
<td></td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>25</td>
<td>R1605 23</td>
<td>4 3 2 1 9</td>
<td>31, ..., 3, ..., 60</td>
<td></td>
<td></td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>30</td>
<td>R1605 73</td>
<td>4 3 2 1 9</td>
<td>31, ..., 3, ..., 80</td>
<td></td>
<td></td>
<td></td>
<td>48</td>
</tr>
<tr>
<td>35</td>
<td>R1605 33</td>
<td>4 3 2 1 9</td>
<td>61, ..., 6, ..., 80</td>
<td></td>
<td></td>
<td></td>
<td>48</td>
</tr>
<tr>
<td>45</td>
<td>R1605 43</td>
<td>4 3 2 1 9</td>
<td>61, ..., 6, ..., 105</td>
<td></td>
<td></td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>55</td>
<td>R1605 53</td>
<td>4 3 2 1 9</td>
<td>61, ..., 6, ..., 120</td>
<td></td>
<td></td>
<td></td>
<td>32</td>
</tr>
<tr>
<td>65</td>
<td>R1605 63</td>
<td>4 3 2 1 9</td>
<td>61, ..., 6, ..., 150</td>
<td></td>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>e.g.</td>
<td>R1605 73</td>
<td>3</td>
<td>31, 1676</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ordering example 1: (up to \( L_{max} \))
Options:
- Ball Guide Rail SNS
- Size 30
- Accuracy class H
- One-piece
- Rail length L = 1676 mm
Part number:
R1605 733 31, 1676 mm

Ordering example 2: (over \( L_{max} \))
Options:
- Ball Guide Rail SNS
- Size 30
- Accuracy class H
- Two sections
- Rail length L = 5116 mm
Part number:
R1605 733 32, 5116 mm

Ordering example 3: (up to \( L_{max} \) with flat underside)
Options:
- Ball Guide Rail SNS
- Size 30
- Accuracy class H
- One-piece
- Rail length L = 1676 mm
Part number:
R1605 7B3 31, 1676 mm
### Ball Guide Rails SNS

<table>
<thead>
<tr>
<th>Size</th>
<th>Dimensions (mm)</th>
<th>Weight (kg/m)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A₂</td>
<td>D</td>
</tr>
<tr>
<td>15</td>
<td>15</td>
<td>7.4</td>
</tr>
<tr>
<td>20</td>
<td>20</td>
<td>9.4</td>
</tr>
<tr>
<td>25</td>
<td>23</td>
<td>11.0</td>
</tr>
<tr>
<td>30</td>
<td>28</td>
<td>15.0</td>
</tr>
<tr>
<td>35</td>
<td>34</td>
<td>15.0</td>
</tr>
<tr>
<td>45</td>
<td>45</td>
<td>20.0</td>
</tr>
<tr>
<td>55</td>
<td>53</td>
<td>24.0</td>
</tr>
<tr>
<td>65</td>
<td>63</td>
<td>26.0</td>
</tr>
</tbody>
</table>

1) **Dimension H₂ with cover strip**
   - Size 15 with 0.1 mm cover strip
   - Size 20 - 30 with 0.2 mm cover strip
   - Size 35 - 65 with 0.3 mm cover strip

2) **For size 20 - 45 in accuracy class N, H and P, one-piece guide rails are available on request up to the following lengths:**
   - Size 20 - 25: up to 5816 mm
   - Size 30 - 35: up to 5836 mm
   - Size 45: up to 5771 mm

3) **Dimension F₄ with cover strip**
4) **For end spaces below T₁ₘᵟₙ, no threaded holes in end faces possible. Cover strip fastening φ 178.**
5) **Recommended: preferred dimension T₁₅₄ with tolerances ± 0.75.**
6) **For manufacturing reasons, ball guide rails may have a flat underside (without groove).**
SNS with Plastic Mounting Hole Plugs

R1605 .0. . / R1605 .C. .

For mounting from above, with plastic mounting hole plugs

Note on installation
- Plastic mounting hole plugs included in scope of supply.
- Follow the mounting instructions!
- Send for the publication “Mounting Instructions for Ball Rail Systems.”
- Composite guide rails also available.

Further Ball Guide Rails SNS and accessories
- Corrosion-resistant Ball Guide Rails
  Resist NR \( \Phi \) 133
  Resist CR \( \Phi \) 135
- Plastic Mounting Hole Plugs \( \Phi \) 179

Ball guide rail R1605 .B. . with flat underside for mounting on components made of cast mineral materials
- In size 25 - 45 and accuracy class P and SP available on request.

Options and part numbers

<table>
<thead>
<tr>
<th>Size</th>
<th>Ball guide rail with size</th>
<th>N</th>
<th>H</th>
<th>P</th>
<th>SP</th>
<th>UP</th>
<th>Number of sections, Rail length L (mm), ...</th>
<th>Hole spacing T (mm)</th>
<th>Recommended rail length according to formula ( L = n_B \cdot T - 4 ) mm</th>
<th>Maximum number of holes ( n_B )</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>R1605 10</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>9</td>
<td>31, ..., 3, ....</td>
<td>60</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>R1605 20</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>9</td>
<td>31, ..., 3, ....</td>
<td>60</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>R1605 25</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>9</td>
<td>31, ..., 3, ....</td>
<td>60</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>R1605 30</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>9</td>
<td>31, ..., 3, ....</td>
<td>80</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>R1605 35</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>9</td>
<td>31, ..., 3, ....</td>
<td>80</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>R1605 40</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>9</td>
<td>31, ..., 3, ....</td>
<td>105</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>R1605 50</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>9</td>
<td>31, ..., 3, ....</td>
<td>120</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>R1605 60</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>9</td>
<td>31, ..., 3, ....</td>
<td>150</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>e.g.</td>
<td>R1605 70</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>31, 1676</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ordering example 1:
(up to \( L_{\text{max}} \))
Options:
- Ball Guide Rail SNS
- Size 30
- Accuracy class H
- One-piece
- Rail length L = 1676 mm
Part number: R1605 703 31, 1676 mm

Ordering example 2:
(over \( L_{\text{max}} \))
Options:
- Ball Guide Rail SNS
- Size 30
- Accuracy class H
- One-piece
- Rail length L = 5116 mm
Part number: R1605 703 32, 5116 mm

Ordering example 3:
(up to \( L_{\text{max}} \) with flat underside)
Options:
- Ball Guide Rail SNS
- Size 30
- Accuracy class H
- One-piece
- Rail length L = 1676 mm
Part number: R1605 7C3 31, 1676 mm
**Ball Guide Rails SNS**

![Ball Guide Rails SNS Diagram]

<table>
<thead>
<tr>
<th>Size</th>
<th>Dimensions (mm)</th>
<th>Weight (kg/m)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A2</td>
<td>D</td>
</tr>
<tr>
<td>15</td>
<td>15</td>
<td>7.4</td>
</tr>
<tr>
<td>20</td>
<td>20</td>
<td>9.4</td>
</tr>
<tr>
<td>25</td>
<td>23</td>
<td>11.0</td>
</tr>
<tr>
<td>30</td>
<td>28</td>
<td>15.0</td>
</tr>
<tr>
<td>35</td>
<td>34</td>
<td>15.0</td>
</tr>
<tr>
<td>45</td>
<td>45</td>
<td>20.0</td>
</tr>
<tr>
<td>55</td>
<td>53</td>
<td>24.0</td>
</tr>
<tr>
<td>65</td>
<td>63</td>
<td>26.0</td>
</tr>
</tbody>
</table>

1) Dimension H2 without cover strip
2) For size 20 - 45 in accuracy class N, H and P, one-piece guide rails are available on request up to the following lengths:
   - Size 20 - 25: up to 5816 mm
   - Size 30 - 35: up to 5836 mm
   - Size 45: up to 5771 mm
3) Recommended: preferred dimension T1S with tolerances ±0.75.
4) For manufacturing reasons, ball guide rails may have a flat underside (without groove).