T-Series Profile Rail

- Industry standard dimensions
- Approximately 5 times more forgiving than all steel profile rail guides
- Forgiving and flexible proprietary U Channel design accommodates misalignment from machine basesor installation errors
- Balls are not retained in carriage
- N class radial run out accuracy
- Low cost installation – no need for high precision base mounts
- Balls are not retained in carriage
- Low drag seal option available
- Contamination protection with lip seal
- Speeds up to 3m/s
- Acceleration up to 50 m/s²
- Multiple carriage design
- Four-runner block attachment bolts
- Aluminum rail with hardened steel ball path insert
- Corrosion resistance with Armoloy® Thin Dense Chrome plating optional
- Lubrication inlets on both ends of carriage
- Lightweight design and construction
- Sold as assemblies only
- One piece rail length up to 3 meters
- Approximately 5 times more forgiving than all steel profile rail guides

<table>
<thead>
<tr>
<th>T-Series</th>
<th>AT</th>
<th>25</th>
<th>A</th>
<th>LXXX</th>
<th>LDS</th>
<th>Y=</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Type</td>
<td>AT</td>
<td>T-Series</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carriage Style</td>
<td>A</td>
<td>Dimensionally Interchangeable with THK HSR A, B, CA &amp; CB</td>
<td>E</td>
<td>Dimensionally Interchangeable with THK HSR R &amp; TR</td>
<td>F</td>
<td>Dimensionally Interchangeable with THK SR W</td>
</tr>
<tr>
<td>Extended Standards</td>
<td>A</td>
<td>Armoloy</td>
<td>LDS</td>
<td>Low Drag Seal</td>
<td>S...</td>
<td>Special Option – sequential numbers</td>
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<tr>
<td>Y Dimension</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The distance (from the rail end to the first hole) will be equal unless specified</td>
</tr>
</tbody>
</table>

Note: 1. Sold as assemblies only
2. Carriages are dimensionally matched to rails during assembly
T-Series Ball Profile Rail

Features
The Thomson T-Series Ball Profile Rail is lightweight, highly flexible and forgiving — an ideal choice for poor misalignment. It has a low cost of installation and industry standard dimensions for easy replacement. It is a lightweight and forgiving alternative to all-steel profile rail.

Materials
The Thomson T-Series Ball Profile Rail carriage and rail is produced from high quality aircraft aluminum alloy. The carriage has hardened steel load bearing plates. The rail has a custom ball path insert made of hardened steel. Stringent quality controls are in place to ensure consistency of steel from the source, allowing us to ensure that we deliver the highest quality product.

Lightweight
The aluminum carriage and rail dramatically reduces the total weight of the assembly making Thomson T-Series an ideal choice for applications requiring reduced weight inertia such as airplanes, ships, automobiles, etc.

Accuracy
As a result of its high flexibility to misalignment errors, the T-Series Ball Profile Rail is available in an N class radial run out only.

Forgiving to Misalignment
The Thomson T-Series propriety “U” channel construction allows the rail to “flex” to accommodate poor machine bases or misalignment errors.

Low Cost
The Thomson T-Series can be mounted direct to non-machined bases without sacrificing total operational efficiency or the need for special tools or gauges to ensure proper rail and base straightness. By eliminating the costly machined base and special tools the installation time or machine build time can be cut in half, saving valuable time and money.

Drop-in Replacement
The Thomson T-Series is designed to industry standard dimensions and rail hole patterns. This means it can be used as a drop-in replacement for any conventional all steel profile linear guide in the market today.

For more information, or to place an order, please contact your local authorized Thomson™ distributor or Danaher Motion at 1-540-633-3400, Fax: 1-540-633-4162, or E-mail at profilerail@DanaherMotion.com.
T-Series Carriage Styles

Standard Carriage Style A
Sizes 20, 25, 35
Dimensionally interchangeable to THK HSR A, B, CA, CB and Thomson 511 A

Standard Short Hole Spacing Style G
Sizes 20, 25, 35
Dimensionally interchangeable to THK SR TB

Narrow Carriage Style E
Sizes 20, 25, 35
Dimensionally interchangeable to THK HSR R and TR and Thomson 511 E

Narrow High Style F
Sizes 20, 25, 35
Dimensionally interchangeable to THK SR W

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T-Series Profile Rail

T-Series
Style A and G

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T-Series
Style A and G

Dynamic Load Rating
C = Dynamic load rating
The dynamic load rating is based upon a 100 km travel life.
In order to compare with bearings rated for 50 km, divide the
dynamic rating of the bearing rated for 50 km by 1.26.

Static Load Capacity
C₀ = Static load capacity
The static load capacity is the maximum radial load that should
be applied to the bearing while there is no relative motion
between the carriage and rail.

Load Ratings N (lbf)

<table>
<thead>
<tr>
<th>Size</th>
<th>Style</th>
<th>C (@100km)</th>
<th>C₀</th>
<th>Carriage</th>
<th>Rail</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>A</td>
<td>9000 (2025)</td>
<td>11000 (2475)</td>
<td>0.22</td>
<td>0.79</td>
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<tr>
<td>25</td>
<td>A</td>
<td>13000 (2925)</td>
<td>15000 (3375)</td>
<td>0.30</td>
<td>1.06</td>
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<tr>
<td>35</td>
<td>A</td>
<td>25000 (5620)</td>
<td>28000 (6295)</td>
<td>0.74</td>
<td>2.27</td>
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Dynamic Load Rating

<table>
<thead>
<tr>
<th>Load Rating</th>
<th>Load Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fc</td>
<td>C</td>
</tr>
<tr>
<td>Ft</td>
<td>0.6C</td>
</tr>
<tr>
<td>Fs</td>
<td>0.6C</td>
</tr>
</tbody>
</table>

Bearing Travel Life Calculation
L = (C/F)³ x 100 km
where:
L = travel life, km
C = dynamic load rating, N
F = applied dynamic load, N

Operating Parameters
Maximum Velocity = 3 m/s
Maximum Acceleration = 50 m/s²
Maximum Temperature = 80°C

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T-Series Profile Rail Narrow “E” Style

<table>
<thead>
<tr>
<th>Size</th>
<th>A</th>
<th>A1</th>
<th>A2</th>
<th>A3</th>
<th>A4</th>
<th>H</th>
<th>H1</th>
<th>H2</th>
<th>B</th>
<th>E1</th>
<th>E2</th>
<th>S2</th>
<th>S3</th>
<th>S5</th>
<th>S6</th>
<th>N3</th>
<th>N5</th>
<th>N6</th>
<th>X</th>
<th>L_max</th>
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<td>20</td>
<td>12</td>
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<td>32</td>
<td>36</td>
<td>M5</td>
<td>M5</td>
<td>5.8</td>
<td>9.5</td>
<td>6</td>
<td>6.25</td>
<td>7.5</td>
<td>60</td>
<td>3000</td>
</tr>
<tr>
<td>25</td>
<td>48</td>
<td>24</td>
<td>23</td>
<td>12.5</td>
<td>50.9</td>
<td>40</td>
<td>33.5</td>
<td>22</td>
<td>88</td>
<td>35</td>
<td>35</td>
<td>M6</td>
<td>M6</td>
<td>7</td>
<td>10.7</td>
<td>8</td>
<td>12</td>
<td>10</td>
<td>60</td>
<td>3000</td>
</tr>
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<td>70</td>
<td>35</td>
<td>34</td>
<td>18</td>
<td>68.0</td>
<td>55</td>
<td>47</td>
<td>29</td>
<td>117</td>
<td>50</td>
<td>50</td>
<td>M8</td>
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All dimensions in mm unless shown otherwise

T-Series Profile Rail Narrow High “F” Style

<table>
<thead>
<tr>
<th>Size</th>
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<th>A1</th>
<th>A2</th>
<th>A3</th>
<th>A4</th>
<th>H</th>
<th>H1</th>
<th>H2</th>
<th>B</th>
<th>E1</th>
<th>E2</th>
<th>S2</th>
<th>S3</th>
<th>S5</th>
<th>S6</th>
<th>N3</th>
<th>N5</th>
<th>N6</th>
<th>X</th>
<th>L_max</th>
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<td>20</td>
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<td>18</td>
<td>76</td>
<td>32</td>
<td>32</td>
<td>M5</td>
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<td>5.8</td>
<td>9.5</td>
<td>6</td>
<td>4.25</td>
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<td>60</td>
<td>3000</td>
</tr>
<tr>
<td>25</td>
<td>48</td>
<td>24</td>
<td>23</td>
<td>12.5</td>
<td>51.0</td>
<td>33</td>
<td>26.5</td>
<td>22</td>
<td>88</td>
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<td>35</td>
<td>M6</td>
<td>M6</td>
<td>7</td>
<td>10.7</td>
<td>8</td>
<td>5</td>
<td>10</td>
<td>60</td>
<td>3000</td>
</tr>
<tr>
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<td>M8</td>
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<td>11</td>
<td>80</td>
<td>3000</td>
</tr>
</tbody>
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T-Series
Style E and F

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Static Load Capacity
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<table>
<thead>
<tr>
<th>Size</th>
<th>Style</th>
<th>Load Ratings N (lbf)</th>
<th>Mass Carriage kg</th>
<th>Rail kg/m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>C (@100km)</td>
<td>Co</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>A</td>
<td>9000 (2025)</td>
<td>11000 (2475)</td>
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</tr>
</tbody>
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<table>
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<tr>
<th>Load</th>
<th>Dynamic Load Rating</th>
<th>Load Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>FT</td>
<td>C</td>
<td>0.6C</td>
</tr>
<tr>
<td>FS</td>
<td>C</td>
<td>0.6C</td>
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