Integral-V Technology
Linear Guide Components & Systems

Configure Online at pbclinear.com
1-800-962-8979
What Makes Integral-V Technology Different?

**30 Minute Installation**

**2 COMPONENTS**

**90 COMPONENTS**

**2 hour Installation**

**Integral-V vs. Profile Rail**

**Installation Steps**

1. Drill and tap machine plate for Integral-V
2. Securely fasten Integral-V to machining plate

**Advantages of IVT**

- **Fewer components:** Hardened stainless steel v-raceways embedded into durable anodized aluminum rails eliminate fasteners and reduce mounting components by 40%
- **High speeds:** Max speed of 10 m/s
- **High accuracy:** The SIMO® process provides qualified rail surfaces—resulting in extremely high accuracy without misalignments and added installation time.
- **Standard lengths up to 3650 mm (consult factory for longer continuous length or joinable rails)**
- **"Roll-in" style t-nut — mounts rail to structural t-slot framing**

**Bill of Material**

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 m IVT Rail</td>
<td>$291.00</td>
</tr>
<tr>
<td>1</td>
<td>Carriage Assembly</td>
<td>$230.00</td>
</tr>
<tr>
<td>30 minutes of labor to assemble @ $36.00/hr</td>
<td>$18.00</td>
<td></td>
</tr>
</tbody>
</table>

**Total Cost**

$539.00

*Based on 2 meter general linear guide application

**Installation Steps**

1. Drill and tap base plate holes along profile rail for installation
2. Clean and align rail with reference surface
3. Loosely secure profile rail to base plate surface
4. Tighten fasteners while continuously checking straightness and alignment
5. Repeat processes 1-3 for second profile rail, also checking for parallelism
6. Install four runner-block sliders (two per rail)
7. Align runner blocks to corresponding mate (check for parallelism)
8. Install carriage plate onto carriages, check alignment
9. Attach carriage plate to carriage with fasteners

**Bill of Material**

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>82</td>
<td>Fasteners</td>
<td>$28.00</td>
</tr>
<tr>
<td>2</td>
<td>15 mm Rails (2 m long)</td>
<td>$528.00</td>
</tr>
<tr>
<td>4</td>
<td>15 mm Carriages</td>
<td>$184.00</td>
</tr>
<tr>
<td>1</td>
<td>Base Plate</td>
<td>$300.00</td>
</tr>
<tr>
<td>1</td>
<td>Carriage Plate</td>
<td>$50.00</td>
</tr>
<tr>
<td>2 hours of labor to assemble @ $36.00/hr</td>
<td>$72.00</td>
<td></td>
</tr>
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</table>

**Total Cost**

$1162.00

**Flexibility to Meet Application Requirements**

- SIMO machined for precision qualified rail surfaces within .050 mm (.002")
- Handles radial bearing loads up to 10020 N (2252 lbs)
- Multiple configurations provide pre-aligned, high performance v-wheel guidance for a wide range of applications (see application examples on pages 3-7)
What Makes Integral-V Technology Different?

Easy Installation
Integral-V runs along a pre-aligned, precision-machined anodized aluminum rail with high performance, hardened steel v-wheel cam rollers—eliminating mounting components and dramatically cutting assembly time.

Installation and Mounting Features
- Features t-slots for:
  - Rack and pinion mounting without drilled and tapped holes
  - Mounting of gussets in the corners
  - Accessory mounting such as sensors, wire ties, etc.
- End mounting features (AAG and ABK): use of lag bolts from the ends
- Lubrication, rail scraper, and wheel cover options available
- Applications requiring stainless rollers should consult factory
- Operating temperature range from -20° C to 80° C (-4° F to 176° F)

Simultaneous Integral Milling Operation
PBC Linear has revolutionized traditional machining with the SIMO®, or Simultaneous Integral Milling Operation, process. The SIMO process uses synchronized cutters, eliminating built-in extrusion variances by machining all critical edges concurrently in one pass. This ensures tight tolerances, limited variance and a remarkably straight and repeatable surface at negligible additional cost!

Machined Precision at Extrusion Prices
- Rigid, accurate, repeatable
- Low cost
- Machined rail edges can be used as a reference when mounting

Compare SIMO vs. Standard Aluminum Extrusion

<table>
<thead>
<tr>
<th>Standard Aluminum Extrusion</th>
<th>SIMO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straightness (Camber)</td>
<td>.0125 in/ft (1 mm/m)</td>
</tr>
<tr>
<td>Twist</td>
<td>1/2° per ft (1.5° per m)</td>
</tr>
<tr>
<td>Fatness</td>
<td>.004 in (.10 mm)</td>
</tr>
</tbody>
</table>

Link to the SIMO process video.

Link to the Integral-V Technology overview video.
Integral-V Technology

SIMO Enabled systems
- Machined precision at extrusion prices
- Rigid, accurate, repeatable
- Low cost
- Machined rail edges can be used as a reference when mounting

Fd = Dynamic capacity (LC)
Fz = Axial capacity
Fy = Radial capacity
Mx, My, Mz = Moment capacities

Conversions
- newton (N) x 0.2248 = lbs.
- (mm) millimeter x 0.0397 = inch
- newton - meter (N-m) x 8.851 = in.-lbs.

*Weight may vary slightly depending on carriage options. **Load ratings are based on standard carriage.
Applications

Ink jet and 3D printing: The pre-aligned hardened stainless steel raceway and high performance v-wheels in Integral-V Technology are highly repeatable; making them an optimal choice in ink jet printing, label printing, and the 3D printing space.

Pick-and-Place: Integral-V Technology utilizes our SIMO® machining process for precise mounting and alignment on all critical sides. This ensures dimensional and rail form accuracy that is required in pick-and-place and other XYZ applications.
# Applications

<table>
<thead>
<tr>
<th>Small to Medium IVT</th>
<th>Medium to Large IVT</th>
<th>Large to Extra-Large IVT</th>
</tr>
</thead>
</table>

**Industrial Stop Gauge and Push Feed System:**
The Integral-V Technology linear guide system provides accurate positioning for band saws, punches, bending machines, and brakes. It also reduces mounting components, while improving alignment and ease of installation.

[Link to material positioning video.]

**Kiosk and Automated Retail:**
The low profile design and high repeatability make Integral-V Technology linear guides an ideal solution for the tight spaces found in automated dispensing applications.

[Link to material positioning video.]

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**Rail Choice:**
- **AAB**
- **AAE**
Applications

Audio/Visual Display Mounts:
Whether the linear motion system is mounted vertically or horizontally, Integral-V Technology linear guides provide the strength and versatility necessary to ensure smooth motion. Also, fewer parts means less installation time and less money.

Medical Assist:
Hardened stainless steel races eliminate fasteners and reduce mounting components, while Integral-V Technology carriages are equipped with sealed rollers creating a clean, low maintenance solution for medical tables and emergency vehicles.

Ergonomic Assist:
The Integral-V Technology linear guide system handles moment loads and provides smooth, low friction motion for hand tools in manufacturing and assembly operations.

Rail Choice: AAE

Link to ergonomic application video.

Link to architectural design video.
Applications

Depalletizer and Heavy-Duty Lift Systems:
The ABK rail is designed for strength as a structural element of a machine’s design; while providing rigidity, high moment capacities, and consistent linear motion.

<table>
<thead>
<tr>
<th>Rail Choice: AAG</th>
</tr>
</thead>
</table>

Polar Robot:
Integral-V Technology linear guides can be used in vertically or horizontally oriented applications. The polar robot shown here provides repeatable motion and high accuracy in the laboratory automation space.

V-Wheel bearings provide smooth travel and provide structural support

65

The ABK rail is a strong structural element that handles high loads
Applications

XYZ Gantry systems:
The ABK rail is ideal as a structural element and linear guide system for XYZ gantry applications such as plasma cutters, water jet machines, routers, etchers, pick-and-place automation and other fabrication equipment.

Cutting Operations:
ABK rail provides rigid and smooth motion for long length cutting operations such as metals, textiles, and other materials.

Rail Choice: ABK
AAN Linear Guide

RAIL
1:1 Scale

CARRIAGE

ACCESSORIES
Patented Preload Adjustment
Standard
Side (CAM) Adjustable

Recommended Mounting Frame
(when mounted to aluminum extrusion)

<table>
<thead>
<tr>
<th>Screw Length</th>
<th>Frame Size (TYP)</th>
<th>Frame T-Slot Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>M6 x 10 mm SHCS T-Nut Part No. 6100435</td>
<td>25 x 25</td>
<td>6</td>
</tr>
</tbody>
</table>

*Recommended screw length when bolting IVT rail to structural framing via a t-nut.

UNIT DIMENSIONS
AAN Linear Guide

Specifications

<table>
<thead>
<tr>
<th>Series</th>
<th>Number of Rollers</th>
<th>Carriage Weight (kg)</th>
<th>Static Load Ratings</th>
<th>Dynamic Load Ratings</th>
<th>Moments of Inertia (kg cm²)</th>
<th>Rail Weight (kg/m)</th>
<th>Max Rail Length (mm)</th>
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</thead>
<tbody>
<tr>
<td>IVTAAN</td>
<td>4</td>
<td>0.35</td>
<td>1960</td>
<td>16</td>
<td>36</td>
<td>59</td>
<td>2480</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1200</td>
<td>36</td>
<td>59</td>
<td>2480</td>
<td>1490</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>16</td>
<td>59</td>
<td>2480</td>
<td>1490</td>
<td>20</td>
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<tr>
<td></td>
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<td></td>
<td>16</td>
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<td>2480</td>
<td>1490</td>
<td>45</td>
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<tr>
<td></td>
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<td>16</td>
<td>59</td>
<td>2480</td>
<td>1490</td>
<td>74</td>
</tr>
</tbody>
</table>

*Weight may vary slightly depending on carriage options.

Conversions

\[
\text{newton (N) x 0.2248 = lbs.}
\]

\[
\text{millimeter x 0.0397 = inch}
\]

\[
\text{newton - meter (N-m) x 8.851 = in.-lbs.}
\]

Ordering Information

RAIL

- **IVT**
- **AAN**
- **R**
- **XXXX**
- **00**

- **Version**: 00 = Standard
- **End Treatment**: 0 - Saw cut and deburr, B - Butt Joint Machining

**Example:** IVTAANR-3000-000 Y=MM

Specify Y-dimension (hole to end) at time of order.
Specify length at time of order.

CARRIAGE

- **IVT**
- **AAN**
- **C**
- **A**
- **20**
- **A**
- **0**

- **Carriage Length**: 0 = Standard Length
- **Preload Type**: A = Side (CAM) Adjustable
- **Lubrication Options**: 0 = No Lubrication

**Carriage Type**

- **A** - Flat plate with taps
- **2** - Sealed

Note: Lubrication is highly recommended for IVT.
AAW Linear Guide

RAIL
1:1 Scale

CARRIAGE

ACCESSORIES
Patented Preload Adjustment
Standard Side (CAM) Adjustable

Recommended Mounting Frame
(when mounted to aluminum extrusion)

<table>
<thead>
<tr>
<th>Screw Length*</th>
<th>Frame Size (TYP)</th>
<th>Frame T-Slot Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>M6 x 25 mm SHCS T-Nut Part No. 6100435</td>
<td>30 x 30</td>
<td>6</td>
</tr>
</tbody>
</table>

Lubrication Accessories
1. Lube Holder
2. Wheel Cover

1. Polymer Lubricator IVT3LHA-KIT
2. Rail Scraper (Removable) IVT3WCA-KIT

UNIT DIMENSIONS

*Recommended screw length when bolting IVT rail to structural framing via a t-nut.
AAW Linear Guide

Specifications

<table>
<thead>
<tr>
<th>Series</th>
<th>Number of Rollers</th>
<th>Carriage Weight</th>
<th>Static Load Ratings</th>
<th>Dynamic Load Ratings</th>
<th>Moments of Inertia</th>
<th>Rail Weight</th>
<th>Max Rail Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>IVTAAW</td>
<td>4</td>
<td>1.54</td>
<td>8900</td>
<td>5560</td>
<td>39</td>
<td>278</td>
<td>445</td>
</tr>
</tbody>
</table>

*Weight may vary slightly depending on carriage options.

Fz = Axial capacity
Fy = Radial capacity
Mx, My, Mz = Moment capacities

Conversions:
- newton (N) x 0.2248 = lbs.
- (mm) millimeter x 0.0397 = inch
- newton - meter (N-m) x 8.851 = in.-lbs.

Ordering Information

RAIL

Ex: IVTAWR-3000-000 Y=MM*
Specify Y-dimension (hole to end) at time of order.
Specify length at time of order.

CARRIAGE

Consult Factory
800-962-8979

Note: Lubrication is highly recommended for IVT.
AAB Linear Guide

**RAIL**

1:1 SCALE

![Rail Diagram](image)

**CARRIAGE**

![Carriage Diagram](image)

**ACCESSORIES**

*Patented Preload Adjustment*

- Standard
- Side (CAM) Adjustable

**Lubrication Accessories**

1. Lube Holder
2. Wheel Cover
3. Wheel Cover and Lube Holder

- 1. Polymer Lubricator IVT3LHA-KIT
- 2. Rail Scraper (Removable) IVT3WCA-KIT
- 3. Wheel Cover and Lube Holder

**Recommended Mounting Frame**

(when mounted to aluminum extrusion)

<table>
<thead>
<tr>
<th>Screw Length*</th>
<th>Frame Size (TYP)</th>
<th>Frame T-Slot Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8 x 22 mm SHCS T-Nut Part No. 6100436</td>
<td>40 x 40</td>
<td>8</td>
</tr>
</tbody>
</table>

*Recommended screw length when bolting IVT rail to structural framing via a t-nut.

**UNIT DIMENSIONS**

![Unit Dimensions Diagram](image)
**AAB Linear Guide**

### Specifications

<table>
<thead>
<tr>
<th>Series</th>
<th>Number of Rollers</th>
<th>Carriage Weight</th>
<th>Static Load Ratings</th>
<th>Dynamic Load Ratings</th>
<th>Moments of Inertia</th>
<th>Rail Weight</th>
<th>Max Rail Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>IVTAAB</td>
<td>4</td>
<td>2.42 kg</td>
<td>Radial Foy: 8900 N</td>
<td>Roll Mox: 171 N-M</td>
<td>Yaw Moz: 348 N-M</td>
<td>10020 N-M</td>
<td>6150 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Axial Foz: 5560 N</td>
<td>Pitch Moy: 348 N-M</td>
<td></td>
<td>6150 N-M</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roll Mox: 171 N-M</td>
<td>Yaw Moz: 556 N-M</td>
<td></td>
<td>10020 N-M</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Weight may vary slightly depending on carriage options.

Fz = Axial capacity  
Fy = Radial capacity  
Mx, My, Mz = Moment capacities

### Ordering Information

**RAIL**

- **Integral-V Technology**
- **Rail Type**
- **Identifier**
- **Rail Length**
- **End Treatment**
- **Version**

**CARRIAGE**

- **Integral-V Technology**
- **Rail Type**
- **Identifier**
- **Carriage Type**
- **Preload Type**
- **Lubrication Options**
- **Roller Type**

Consult Factory  
800-962-8979

Note: Lubrication is highly recommended for IVT.
AAE Linear Guide

**RAIL**
1:1 SCALE

**CARRIAGE**

**ACCESSORIES**

Patented Preload Adjustment
Standard
Side (CAM) Adjustable

Lubrication Accessories
1. Lube Holder
2. Wheel Cover
3. Wheel Cover and Lube Holder

**UNIT DIMENSIONS**

*Recommended screw length when bolting IVT rail to structural framing via a t-nut.
AAE Linear Guide

Specifications

<table>
<thead>
<tr>
<th>Series</th>
<th>Number of Rollers</th>
<th>Carriage Weight</th>
<th>Static Load Ratings</th>
<th>Dynamic Load Ratings</th>
<th>Moments of Inertia</th>
<th>Rail Weight</th>
<th>Max Rail Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>kg</td>
<td>Radial Fy N</td>
<td>Axial Foz N</td>
<td>Roll Mox N-M</td>
<td>Yaw Moz N-M</td>
<td>Ly CM4</td>
</tr>
<tr>
<td>IVTAEE</td>
<td>4</td>
<td>3.47</td>
<td>8900</td>
<td>5550</td>
<td>255</td>
<td>487</td>
<td>10020</td>
</tr>
</tbody>
</table>

Fz = Axial capacity
Fy = Radial capacity
Mx, My, Mz = Moment capacities

*Weight may vary slightly depending on carriage options.

Conversions
- newton (N) x 0.2248 = lbs.
- (mm) millimeter x 0.0397 = inch
- newton - meter (N-m) x 8.851 = in.-lbs.

Ordering Information

RAIL

Integral-V Technology
- IVT = Carriage
- AAE = Rail
- XXXX = Rail Length
- 0 = End Treatment
- 00 = Version

Ex: IVTAEEAR-3000-000 Y=MM*
Specify Y-dimension (hole to end) at time of order.
Specify length at time of order.

CARRIAGE

Integral-V Technology
- IVT = Carriage
- AAE = Rail
- C = Carriage
- A = Flat plate with taps

Carriage Length
- 0 = Standard Length

Preload Type
- A = Side (CAM) Adjustable

Lubrication Options
- 0 = No Lubrication
- 1 = Lube Holder
- 2 = Wheel Cover
- 3 = Wheel Cover and Lube Holder

Note: Lubrication is highly recommended for IVT.
AAQ Linear Guide

RAIL

3X Size 5 T-Slot
T-Nut Part No. 6100429

CARRIAGE

UNIT DIMENSIONS

ACCESSORIES

Patented Preload Adjustment
Standard
Side (CAM) Adjustable

Lubrication Accessories
1. Lube Holder
2. Wheel Cover
3. Wheel Cover and Lube Holder

Recommended Mounting Frame
(when mounted to aluminum extrusion)

<table>
<thead>
<tr>
<th>Screw Length*</th>
<th>Frame Size (TYP)</th>
<th>Frame T-Slot Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8 x 15 mm SHCS T-Nut Part No. 6100429</td>
<td>80 x 80</td>
<td>8</td>
</tr>
</tbody>
</table>

*Recommended screw length when bolting IVT rail to structural framing via a t-nut.
# AAQ Linear Guide

## Specifications

<table>
<thead>
<tr>
<th>Series</th>
<th>Number of Rollers</th>
<th>Carriage Weight (kg)</th>
<th>Radial Load (Fy N)</th>
<th>Axial Load (Fz N)</th>
<th>Roll Moment (Mx N-M)</th>
<th>Pitch Moment (My N-M)</th>
<th>Yaw Moment (Mz N-M)</th>
<th>Rail Weight (kg/m)</th>
<th>Max Rail Length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IVTAAQ</td>
<td>4</td>
<td>3.47</td>
<td>8900</td>
<td>5560</td>
<td>283</td>
<td>487</td>
<td>778</td>
<td>10020</td>
<td>6150</td>
</tr>
</tbody>
</table>

*Weight may vary slightly depending on carriage options.

### Conversions
- newton (N) x 0.2248 = lbs.
- (mm) millimeter x 0.0397 = inch
- newton - meter (N-m) x 8.851 = in.-lbs.

## Ordering Information

### RAIL

Ex: IVTAAQR-3000-000 Y=MM*
Specify Y-dimension (hole to end) at time of order.
Specify length at time of order.

### CARRIAGE

Consult Factory
800-962-8979

Note: Lubrication is highly recommended for IVT.
AAG Linear Guide

**RAIL**

![AAG Linear Guide Rail Diagram]

**CARRIAGE**

![AAG Linear Guide Carriage Diagram]

**ACCESSORIES**

**Patented Preload Adjustment**
- Standard
- Side (CAM) Adjustable

**Lubrication Accessories**
- 1. Lube Holder
- 2. Wheel Cover
- 3. Wheel Cover and Lube Holder

**UNIT DIMENSIONS**

![AAG Linear Guide Unit Dimensions Diagram]
### Specifications

<table>
<thead>
<tr>
<th>Series</th>
<th>Number of Rollers</th>
<th>Carriage Weight kg</th>
<th>Static Load Ratings</th>
<th>Dynamic Load Ratings</th>
<th>Moments of Inertia $Iy$, $Iz$, $Iz$ cm$^4$</th>
<th>Rail Weight kg/m</th>
<th>Max Rail Length mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>IVTAAG</td>
<td>4</td>
<td>2.42</td>
<td>8900</td>
<td>171</td>
<td>10020</td>
<td>6150</td>
<td>190</td>
</tr>
</tbody>
</table>

Fz = Axial capacity  
Fy = Radial capacity  
Mx, My, Mz = Moment capacities

Conversions  
- newton (N) x 0.2248 = lbs.  
- (mm) millimeter x 0.0397 = inch  
- newton - meter (N-m) x 8.851 = in.-lbs.

*Weight may vary slightly depending on carriage options.

### Ordering Information

#### RAIL

**Example:** IVTAAGR-3000-000  
Specify length at time of order.

#### CARRIAGE

**Example:** IVT AAG CA 2 0 A 0

Note: Lubrication is highly recommended for IVT.
ABK Linear Guide

For Large Format Applications and Heavy Loads

Rail Features and Options
- Precision-machined anodized aluminum rail with hardened embedded 420 stainless steel raceways
- SIMO® qualified surface and t-slot for optional mounting of profile rail
- Space for optional drive mechanism
  - Belt drive
  - Ball screw drive
  - Rack drive
- Space for thread forming screw (x4)

Drive Options (See page 24 for details)

- Belt Drive
- Ball Screw
- Rack Drive
Bearing Options

V-Guide Bearing System (Standard)
- Embedded hardened stainless steel raceways reduce mounting components
- SIMO® machined for precision qualified rail surfaces
- High load capacity
- Optimized extrusion design provides a large scale structural member

Pre-aligned Profile Rail Guides
- SIMO machined for precision qualified rail surfaces at extrusion prices
  - Synchronized cutters eliminate built-in extrusion variances
  - Pre-aligned profile rail option eliminates mounting and alignment problems cutting assembly time in half
  - Machined rail edges can be used as a reference when mounting
- Optimized extrusion design provides a large scale structural member designed for high load capacities
- Recirculating ball bearing blocks provide rigid performance
- Accurate and repeatable with smooth and quiet operation
- Low cost
- Designed for 20 mm wide profile rail
- Consult factory for profile rail bearing options
ABK Linear Guide

RAIL

- Cam Roller Technology (CRT) v-guide bearing option shown
- Consult factory for Profile Rail option.

ACCESSORIES

Patented Preload Adjustment
Standard
Side (CAM) Adjustable

Lubrication Accessories
1. Lube Holder
2. Wheel Cover
3. Wheel Cover and Lube Holder

UNIT DIMENSIONS

Note: See pages 20 & 21 for bearing and drive options and mounting locations.
ABK Linear Guide

Specifications

<table>
<thead>
<tr>
<th>Series</th>
<th>Number of Rollers</th>
<th>Carriage Weight (kg)</th>
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<th>Dynamic Load Ratings</th>
<th>Moments of Inertia (kg cm²)</th>
<th>Rail Weight (kg)</th>
<th>Max Rail Length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IVTABK</td>
<td>4</td>
<td>4.3</td>
<td>8900 5560 506 390 623</td>
<td>10020 6150 559 431 701</td>
<td>431 701</td>
<td>175 1300</td>
<td>10.1 3657</td>
</tr>
</tbody>
</table>

*Weight may vary slightly depending on carriage options.

**Conversions**
- newton (N) x 0.2248 = lbs.
- (mm) millimeter x 0.0393 = inch
- newton - meter (N-m) x 8.851 = in.-lbs.

ORDERING INFORMATION

RAIL

IVT ABK R - XXXX - 00

- **IVT** = Integral-V Technology
- **ABK** = Rail Type
- **R** = Identifier
- **XXX** = Rail Length
- **00** = Version
- **0** = Standard
- **End Treatment**
- **0** = Saw cut and deburr
- **B** = Butt Joint Machining

Example: IVTABKR-3000-000

Specify length at time of order.

CARRIAGE

IVT ABK C - A 2 A 0

- **IVT** = Integral-V Technology
- **ABK** = Carriage Type
- **C** = Identifier
- **A** = Carriage Length
- **0** = Standard Length
- **Preload Type**
- **A** = Side (CAM) Adjustable
- **0** = No Lubrication
- **1** = Lube Holder
- **2** = Wheel Cover
- **3** = Wheel Cover and Lube Holder
- **Roller Type**
- **2** = Sealed

Consult Factory 800-962-8979

Note: Lubrication is highly recommended for IVT
Consult factory for profile rail version.
**ABK Linear Guide Concepts**

**Driven System Conceptual Platforms**

**Belt Drive**
- Ideal for use with V-Guide wheel bearings in high-speed applications
- Performs well in contaminated environments
- Extrusion can support a variety of motor and idler end design configurations
- Supports a variety of motor mounts
- Belt type: ATL 5 - 12 mm wide compatibility

**Ball Screw**
- Rigid ball nut performance in high-precision applications
- Ball screw diameters 16 - 25 mm
- Does well in Z-axis and high thrust applications
- Extrusion can support a variety of motor and idler end design configurations
- Supports a variety of motor mounts
- Lead screw with polymer nut option

**Rack Drive**
- Ideal for extended long length travel
- Extrusion is compatible with Martin sprocket and gear RA12 or equivalent

**Bearing Options for All Drive Types**
- Cam Roller Technology: V-Guide Bearings (standard)
- Profile Rail Technology: Profile Rail Guideways (customer installation)
Contact Factory about Custom Carriage Orders

Custom-Build Options

- Belt Drive
- Ball Screw
- Rack Drive
- Mounting Brackets
- Motors
- Sensor Brackets
- Wheel Covers
- Lubrication Kits
- Cable Carriers

Note: Not all drives and accessories options are available as a part of the standard product. Please consult factory.

Rack Driven System
Ideal for long travel

For Custom Integral-V Technology Carriages, Consult the Factory, 800-962-8979.