Integral V Technology
Linear Guide System

Courtesy of Steven Engineering, Inc. - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com
What Makes IVT Different?

30 MINUTE INSTALLATION
2 COMPONENTS

90 COMPONENTS
2 HOUR INSTALLATION

ADVANTAGES OF IVT

1. Fewer components: Hardened steel v-raceways, embedded into durable anodized aluminum rails, eliminate fasteners and reduce mounting components by 40%
2. High speeds: Max speed of 10 m/s
3. High accuracy: The SIMO® process provides qualified rail surfaces—resulting in extremely high accuracy, without mis-alignments and added installation time.
4. Standard lengths up to 3,650 mm (Consult factory for longer continuous length or joinable rails)
5. "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></td>
<td>30 minutes of labor to assemble @ $36.00/hr</td>
<td>18.00</td>
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</table>

TOTAL COST
$539.00

* Based on 2 meter general linear guide application

INSTALLATION STEPS

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

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 (4) runner-block sliders (2 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>
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</thead>
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<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>
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<tr>
<td>4</td>
<td>15 mm Carriages</td>
<td>184.00</td>
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<tr>
<td>1</td>
<td>Base Plate</td>
<td>300.00</td>
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<tr>
<td>1</td>
<td>Carriage Plate</td>
<td>50.00</td>
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<tr>
<td></td>
<td>2 hours of labor to assemble @ $36.00/hr</td>
<td>72.00</td>
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</table>

TOTAL COST
$1162.00

FLEXIBILITY TO MEET APPLICATION REQUIREMENTS

1. SIMO® machined for precision qualified rail surfaces, to within .050 mm (.002")
2. Handles loads up to 10,020 N (2,252 lbs)
3. Multiple configurations provide pre-aligned, high performance v-wheel guidance for a wide range of applications (see application examples on pages 3-7)
EASY INSTALLATION
Integral V™ runs along a patent pending, pre-aligned, precision-machined anodized aluminum rail with high performance v-wheel cam rollers—eliminating mounting components and dramatically cutting assembly time.

INSTALLATION AND MOUNTING FEATURES
• Feature 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

SIMULTANEOUS INTEGRAL MILLING OPERATION
PBC Linear has revolutionized traditional machining with the patent pending SIMO® (Simultaneous Integral Milling Operation). 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!

PATENT PENDING MACHINING PROCESS
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
- **Straightness (Gamber)**
  - SIMO: ±0.02 in/ft (.0508 mm)
  - Extrusion: ±0.04 in (.10 mm)
- **Twist**
  - SIMO: < 1/4° per ft (.82° per m)
  - Extrusion: 1/2° per ft (1.5° per m)
- **Flatness**
  - SIMO: .002 in (.0508 mm)
  - Extrusion: .0125 in/ft (1 mm/m)

What Makes IVT Different?
- **No Bow**
- **No Twist**
- **No Warp**

Link to the SIMO process video
## MACHINED PRECISION AT EXTRUSION PRICES

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

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### Static Load Ratings**

<table>
<thead>
<tr>
<th>SERIES</th>
<th>Radial Fz (N)</th>
<th>Axial Fz (N)</th>
<th>Roll Mo (N·m)</th>
<th>Pitch Mo (N·m)</th>
<th>Yaw Mo (N·m)</th>
<th>Radial Fy (N)</th>
<th>Axial Fy (N)</th>
<th>Roll Mx (N·m)</th>
<th>Pitch My (N·m)</th>
<th>Yaw Mz (N·m)</th>
<th>Lx (cm²)</th>
<th>Ly (cm²)</th>
<th>Rail Weight (kg/m)</th>
<th>Max Rail Length (mm)</th>
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</thead>
<tbody>
<tr>
<td>IVTAAAN</td>
<td>1,960</td>
<td>1,200</td>
<td>16</td>
<td>36</td>
<td>59</td>
<td>2,480</td>
<td>1,490</td>
<td>20</td>
<td>45</td>
<td>74</td>
<td>1.7</td>
<td>2.1</td>
<td>1.30</td>
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<tr>
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<td>5,560</td>
<td>194</td>
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<td>445</td>
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<td>6,150</td>
<td>214</td>
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<td>10.1</td>
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</table>

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

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

Conversions
- newton (N) x 0.2248 = lbs.
- (lbf) meter x 0.0397 = inch
- newton · meter (N·m) x 8.851 = in.-lbs.
Applications

INKJET AND 3D PRINTING: IVT's pre-aligned hardened steel raceway and high performance v-wheels are highly repeatable, making IVT an optimal choice in inkjet printing, label printing, and the 3D printing space.

PICK-AND-PLACE: IVT utilizes PBC Linear's SIMO® machining process for precise mounting and alignment on all critical sides—ensuring dimensional and rail form accuracy that is required in pick-and-place and other XYZ applications.
Applications

INDUSTRIAL STOP GAUGE & PUSH FEED SYSTEM:
The Integral V linear guide system provides accurate positioning for
band saws, punches, bending machines, and brakes. IVT reduces
mounting components, while improving alignment
and ease of installation.

KIOSK & AUTOMATED RETAIL: IVT’s low profile design
and high repeatability make it an ideal solution for the tight spaces
found in automated dispensing applications.

IVT RAIL CHOICE: AAB

IVT RAIL CHOICE: AAE
Applications

**SMALL TO MEDIUM IVT**

**MEDIUM TO LARGE IVT**

**LARGE TO EXTRA-LARGE IVT**

**AUDIO/VISUAL DISPLAY MOUNTS:** Whether the linear motion system will be mounted vertically or horizontally, IVT provides the strength and versatility to ensure smooth motion—plus, fewer parts means less installation time and less money.

**IVT RAIL CHOICE: AAE**

**MEDICAL ASSIST:** Hardened steel races eliminate fasteners and reduce mounting components, while IVT carriages are equipped with sealed rollers creating a clean, low maintenance solution for medical tables and emergency vehicles.

**IVT RAIL CHOICE: AAQ**

**ERGONOMIC ASSIST:** Integral V guide system handles the moment loads and provides smooth, low friction motion for hand tools in manufacturing and assembly operations.

[Link to ergonomic application video]

[Link to architectural design video]

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Applications

SMALL TO MEDIUM IVT | MEDIUM TO LARGE IVT | LARGE TO EXTRA-LARGE IVT

**POLAR ROBOT:** IVT 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 IVT AAG provides structural support

IVT RAIL CHOICE: AAG

The new IVT ABK is a strong structural element that handles high loads

**DEPALLETIZER & HEAVY-DUTY LIFT SYSTEMS:** The Integral V ABK aluminum extrusion is designed for strength—as a structural element—of a machine’s design, while providing rigidity, high moment capacities, and consistent linear motion.
Applications

**SMALL TO MEDIUM IVT**

**MEDIUM TO LARGE IVT**

**LARGE TO EXTRA-LARGE IVT**

**CUTTING OPERATIONS:** IVT ABK provides rigid and smooth motion for long length cutting operations for metals, textiles, and other materials.

**XYZ GANTRY SYSTEMS:** IVT ABK is ideal as a structural element and linear guide system for XYZ gantry applications used in plasma cutters, water jet machines, routers, etchers, other fabrication equipment, and pick-and-place automation.

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IVT AAN

**RAIL AAN**

1:1

[Dimensions shown in millimeters]

**RAIL ORDERING INFORMATION**

- **IVT** - Integral V Technology
- **AAN** - Rail Type
- **R** - Rail
- **XXXX** - Length (mm)
- **00** - End Treatment

*Other options such as joinable rails, consult factory

Ordering Example:
- IVT AAN R - 1500 - 000; 1500 mm rail
- IVT AAN R - 0500 - 000; 500 mm rail

**RAIL LENGTHS TO 3,657 mm (12 ft)**

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**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>SERIES</th>
<th># of Carriages</th>
<th>Carrier Weight (kg)</th>
<th>Static Load Ratings</th>
<th>Dynamic Load Ratings</th>
<th>Rail Weight (kg/m)</th>
<th>Moments of Inertia</th>
</tr>
</thead>
<tbody>
<tr>
<td>IVTAAN</td>
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<td>0.35</td>
<td>1,960</td>
<td>1,200</td>
<td>16</td>
<td>59</td>
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</tbody>
</table>

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

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

*Weight may vary slightly depending on carriage options.

**CARRIAGE**

**PRELOAD ADJUSTMENTS**

- Standard
- Side (CAM) Adjustible

**CARRIAGE ORDERING INFORMATION**

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IVT AAW

**RAIL AAW 1:1**

![Diagram of IVT AAW rail with dimensions and icons]

**RAIL ORDERING INFORMATION**

- **IVT** - Integral V Technology
- **AAW** - Rail Type
- **R** - Rail
- **XXXX** - Length (mm)
- **0 00** - End Treatment
  - 0 - Standard Version
  - 1 - Saw cut and deburr

Ordering Example:
- IVT AAW R - 1500 - 000; 1500 mm rail
- IVT AAW R - 0500 - 000; 500 mm rail

**RAIL LENGTHS TO 3,657 mm (12 ft)**

- **6X Ø M8 X 1.25**
- **MAX 3,657**
- **90 TYP**
- **Ø M6 SHCS**

*Other options such as joinable rails, consult factory*
**INTEGRAL V TECHNOLOGY IVT**

**IVT AAW**

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>SERIES</th>
<th># of Rollers</th>
<th>Carriage Weight (kg)*</th>
<th>Static Load Ratings</th>
<th>Dynamic Load Ratings</th>
<th>Rail Weight (kg/m)</th>
<th>Moments of Inertia</th>
<th>Max Rail Length (mm)</th>
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<tbody>
<tr>
<td>IVTAAW</td>
<td>4</td>
<td>1.54</td>
<td>8,900</td>
<td>5,560</td>
<td>194</td>
<td>278</td>
<td>445</td>
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Fd = Dynamic capacity (LC)
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**Conversions**

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

*Weight may vary slightly depending on carriage options.

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**CARRIAGE**

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**PRELOAD ADJUSTMENTS**

- Standard
- Side (CAM) Adjustable

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**LUBRICATION ACCESSORIES**

1. Lube Holder
2. Wheel Cover

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**CARRIAGE ORDERING INFORMATION**

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IVT AAB

RAIL ORDERING INFORMATION

Ordering Example:
IVT AAB R - 1500 - 000; 1500 mm rail
IVT AAB R - 0500 - 000; 500 mm rail

*Other options such as joinable rails, consult factory

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**IVT AAB**

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>SERIES</th>
<th># of Rollers</th>
<th>Carriage Weight (kg)*</th>
<th>Static Load Ratings</th>
<th>Dynamic Load Ratings</th>
<th>Rail Weight (kg/m)</th>
<th>Moments of Inertia (cm²)</th>
<th>Max Rail Length (mm)</th>
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<td>348</td>
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<td>10,020</td>
<td>6,150</td>
<td>190</td>
<td>384</td>
<td>626</td>
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</tbody>
</table>

Fd = Dynamic capacity (LC)
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newton - meter (N-m) x 8.851 = in.-lbs.

*Weight may vary slightly depending on carriage options.

### CARRIAGE

![CARRIAGE](image)

**Typical Mounting Frame**
(when mounted to aluminum extrusion)

- **Screw Length**: 25
- **Frame Size (TYP)**: 40 x 40
- **Frame T-Slot Size**: 8/10

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

### PRELOAD ADJUSTMENTS

- **Standard**
- **Side (CAM) Adjustable**

**PATENTED**

### LUBRICATION ACCESSORIES

1. **Lube Holder**
2. **Wheel Cover**
3. **Wheel Cover & Lube Holder**

**Polymer Lubricator**
**Rail Scraper (Removable)**

### CARRIAGE ORDERING INFORMATION

**IVT AAB C - A 2 X A 0**

- **Carriage Length**: 0 - Standard Length
- **Preload Type**: A - Side (CAM) screw adjustable
- **Lubrication Options**: 0 - No Lubrication, 1 - Lube Holder, 2 - Wheel Cover, 3 - Wheel Cover & Lube Holder

Note: Lubrication is highly recommended for IVT

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IVT AAE

**RAIL ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>IVT</th>
<th>AAE</th>
<th>R</th>
<th>XXXX</th>
<th>000</th>
</tr>
</thead>
</table>

*End Treatment: O - Saw cut and deburr

*Other options such as joinable rails, consult factory

Ordering Example:
- IVT AAE R - 1500 - 000; 1500 mm rail
- IVT AAE R - 0500 - 000; 500 mm rail

**RAIL LENGTHS TO 3,657 mm (12 ft)**
**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>SERIES</th>
<th># of Rollers</th>
<th>Carriage Weight (kg)**</th>
<th>Static Load Ratings</th>
<th>Dynamic Load Ratings</th>
<th>Rail Length (mm)</th>
<th>Moments of Inertia</th>
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</thead>
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Fd = Dynamic capacity (LC)  
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Conversions  
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(lbf) meter x 0.0397 = inch  
newton - meter (N-m) x 8.851 = in.-lbf.

*Weight may vary slightly depending on carriage options.

---

**CARRIAGE**

![Typical Mounting Frame](image)

Screw Length*: 25  
Frame Size (TYP): 40 x 80  
Frame T-Slot Size: 8/10

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

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**PRELOAD ADJUSTMENTS**

- Standard  
- Side (CAM) Adjustable

**LUBRICATION ACCESSORIES**

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

**CARRIAGE ORDERING INFORMATION**

![Ordering Information Diagram](image)

Lubrication Options:  
- No Lubrication  
- Lube Holder  
- Wheel Cover  
- Wheel Cover & Lube Holder

Roller Type:  
- Sealed

Carriage Length:  
- Standard Length

Preload Type:  
- Side (CAM) screw adjustable

Note: Lubrication is highly recommended for IVT

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IVT AAQ

RAIL ORDERING INFORMATION

Ordering Example:
IVT AAQ R - 1500 - 000; 1500 mm rail
IVT AAQ R - 0500 - 000; 500 mm rail

RAIL LENGTHS TO 3,657 mm (12 ft)
### SPECIFICATIONS

<table>
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<tr>
<th>SERIES</th>
<th># of Rollers</th>
<th>Carriage Weight (kg)*</th>
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<td></td>
<td>Radial Fd (N)</td>
<td>Axial Fz (N)</td>
<td>Roll Mx (N-m)</td>
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<td>6,150</td>
<td>313</td>
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<td>501</td>
<td>3.06</td>
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</tbody>
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*Weight may vary slightly depending on carriage options.

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

### CARRIAGE

- 17.9 mm
- 225 mm
- 32.6 mm
- 44.4 mm
- 26 mm

Typical Mounting Frame
(when mounted to aluminum extrusion)

**Screw Length**: 12
**Frame Size (TYP)**: 40 x 80
**Frame T-Slot Size**: 8/10

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

### PRELOAD ADJUSTMENTS

- Standard
- Side (CAM) Adjustable

**PATENTED**

### LUBRICATION ACCESSORIES

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

**Polymer Lubricator**

**Rail Scraper** (Removable)

### CARRIAGE ORDERING INFORMATION

**IVT AAQ C - A 2 X A 0**

- **Carriage Length**: O - Standard Length
- **Roller Type**: 2 - Sealed
- **Rail Type**: Integral V Technology
- **Carriage Type**: A - Flat plate with taps
- **Preload Type**: A - Side (CAM) screw adjustable
- **Lubrication Options**: 0 - No Lubrication

Note: Lubrication is highly recommended for IVT

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IVT AAG

RAIL
AAG
1:1

Ordering Information:

IVT AAG R - XXXX - 000
- Standard Version

Ordering Example:
- IVT AAG R - 1500 - 000; 1500 mm rail
- IVT AAG R - 0500 - 000; 500 mm rail

*Other options such as joinable rails, consult factory

Space for thread forming screw

Rail lengths to 3,657 mm (12 ft)
**INTEGRAL V TECHNOLOGY IVT**

**IVT AAG**

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>SERIES</th>
<th># of Rollers</th>
<th>Carriage Weight (kg)*</th>
<th>Static Load Ratings</th>
<th>Dynamic Load Ratings</th>
<th>Moments of Inertia</th>
<th>Max Rail Length (mm)</th>
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</thead>
<tbody>
<tr>
<td>IVTAAG</td>
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<td>2.42</td>
<td>8,900</td>
<td>171</td>
<td>348</td>
<td>556</td>
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</tbody>
</table>

Fd = Dynamic capacity (LC)  
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.
- (lbf) meter x 0.0397 = inch
- newton - meter (N-m) x 8.851 = in.-lbs.

---

**CARRIAGE**

- **Roller Type**
  - 2 - Sealed

- **Carriage Type**
  - A - Flat plate with taps

- **Carriage Length**
  - O - Standard Length

- **Preload Type**
  - A - Side (CAM) screw adjustable

- **Lubrication Options**
  - 0 - No Lubrication
  - 1 - Lube Holder
  - 2 - Wheel Cover
  - 3 - Wheel Cover & Lube Holder

**LUBRICATION ACCESSORIES**

- (1) Lube Holder  
- (2) Wheel Cover  
- (3) Wheel Cover & Lube Holder

**CARRIAGE ORDERING INFORMATION**

```
IVT AAG C A 2 X A 0
```

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**IVT ABK Features & Benefits**

**FOR LARGE FORMAT APPLICATIONS & HEAVY LOADS**

**COMPONENT OPTIONS**

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

**Profile Rail Guide System**
- Pre-aligned profile rail eliminates mounting and alignment problems and cuts assembly time in half
- SIMO® machined for precision qualified rail surfaces
- Recirculating ball bearing blocks provide rigid performance
- Designed for 20 mm profile rail
- Smooth and quiet operation

**DRIVE OPTIONS** *(See page 24 for details)*

Belt Drive  Ball Screw  Rack Drive

Patented side adjust enables pre-load adjustment without removing the load from the carriage
Features & Benefits IVT ABK

RAIL FEATURES & OPTIONS

- Precision machined anodized rail with hardened embedded steel races
- SIMO® qualified surface and t-slot for mounting profile rail
- Space for drive mechanism: belt, ball screw, or rack drive
- Space for thread forming screw (x 4)

MACHINED PRECISION AT EXTRUSION PRICES
Pre-aligned Profile Rail Guides
- SIMO® machined for precision qualified rail surfaces
  - Synchronized cutters eliminate built-in extrusion variances
  - Machined rail edges can be used as a reference when mounting
- High load capacity
- Optimized extrusion design provides a large scale structural member
- Rigid, accurate, repeatable
- Low cost
IVT ABK Rail & Carriage

RAIL ORDERING INFORMATION

IVT ABK R - XXXX - O 00

(Integral V Technology)

Ordering Example:
IVT ABK R - 1500 - 000; 1500 mm rail
IVT ABK R - 0500 - 000; 500 mm rail

End Treatment

0 - Saw cut and deburr

*Other options such as joinable rails, consult factory

Note: See pages 20 & 21 for bearing and drive options and mounting locations.
Rail & Carriage IVT ABK

SPECIFICATIONS

<table>
<thead>
<tr>
<th>SERIES</th>
<th># of Carriages</th>
<th>Carriage Weight (kg)*</th>
<th>Static Load Ratings</th>
<th>Dynamic Load Ratings</th>
<th>Moments of Inertia</th>
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</thead>
<tbody>
<tr>
<td>IVTABK</td>
<td>4</td>
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<td>Radial Fy (N) 8,800</td>
<td>Roll My (N) 599</td>
<td>Rail Weight (kg/m)</td>
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<td></td>
<td></td>
<td>Axial Fz (N) 5,560</td>
<td>Roll My (N-m) 300</td>
<td>Yaw Mz (N-m) 1,154</td>
<td>Lx (cm^2) 10.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Radial Mx (N) 10,020</td>
<td>Axial Fz (N) 6,150</td>
<td>Ly (cm^2) 175</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roll My (N-m) 662</td>
<td>Yaw Mz (N-m) 431</td>
<td>Lz (cm^2) 1,300</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Max Rail Length (mm) 3,657</td>
</tr>
</tbody>
</table>

*Weight may vary slightly depending on carriage options.

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

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

CARRIAGE

Cam Roller Technology
V-Guide Bearing
Option Shown

Consult factory for Profile Rail option.

PRELOAD ADJUSTMENTS

Standard
Side (CAM) Adjustable

LUBRICATION ACCESSORIES

(1) Lube Holder
(2) Wheel Cover
(3) Wheel Cover & Lube Holder

POLYMER LUBRICATOR
Rail Scraper (Removable)

CARRIAGE ORDERING INFORMATION

IVT ABK C A 2 X A 0

Carriage Length
0 = Standard Length
A = Side (CAM) screw adjustable

Carriage Type
A = Flat plate with taps

Roller Type
2 = Sealed

Carriage Options
0 = No Lubrication
1 = Lube Holder
2 = Wheel Cover
3 = Wheel Cover & Lube Holder

Note: Lubrication is highly recommended for IVT

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**Bearing Options for All Drive Types**

- **Cam Roller Technology:** V-Guide Bearings
- **Profile Rail Technology:** Profile Rail Guideways

**Belt Drive**

- Ideal for use with V-Guide wheel bearings in high speed applications
- Performs well in contaminated environments
- PBC designed motor and idler ends
  - Can support a variety of design configurations
- Motor mount for Nema 23 and 34 (Nema 34 motor shown)
- Belt type: ATL 5 - 12 mm

**Ball Screw**

- Rigid ball nut performance in high-precision applications
  - Ball screw diameters 16 - 25 mm
- Good for Z-axis and high thrust applications
- PBC designed motor and idler ends
  - Can support a variety of design configurations
- Motor mount for Nema 23 and 34 (Nema 34 motor shown)
- Optional polymer cover
- Lead screw with polymer nut option available

**Rack Drive**

- Ideal for extended long length travel
- Typical rack: RA12
Driven Systems IVT ABK

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

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