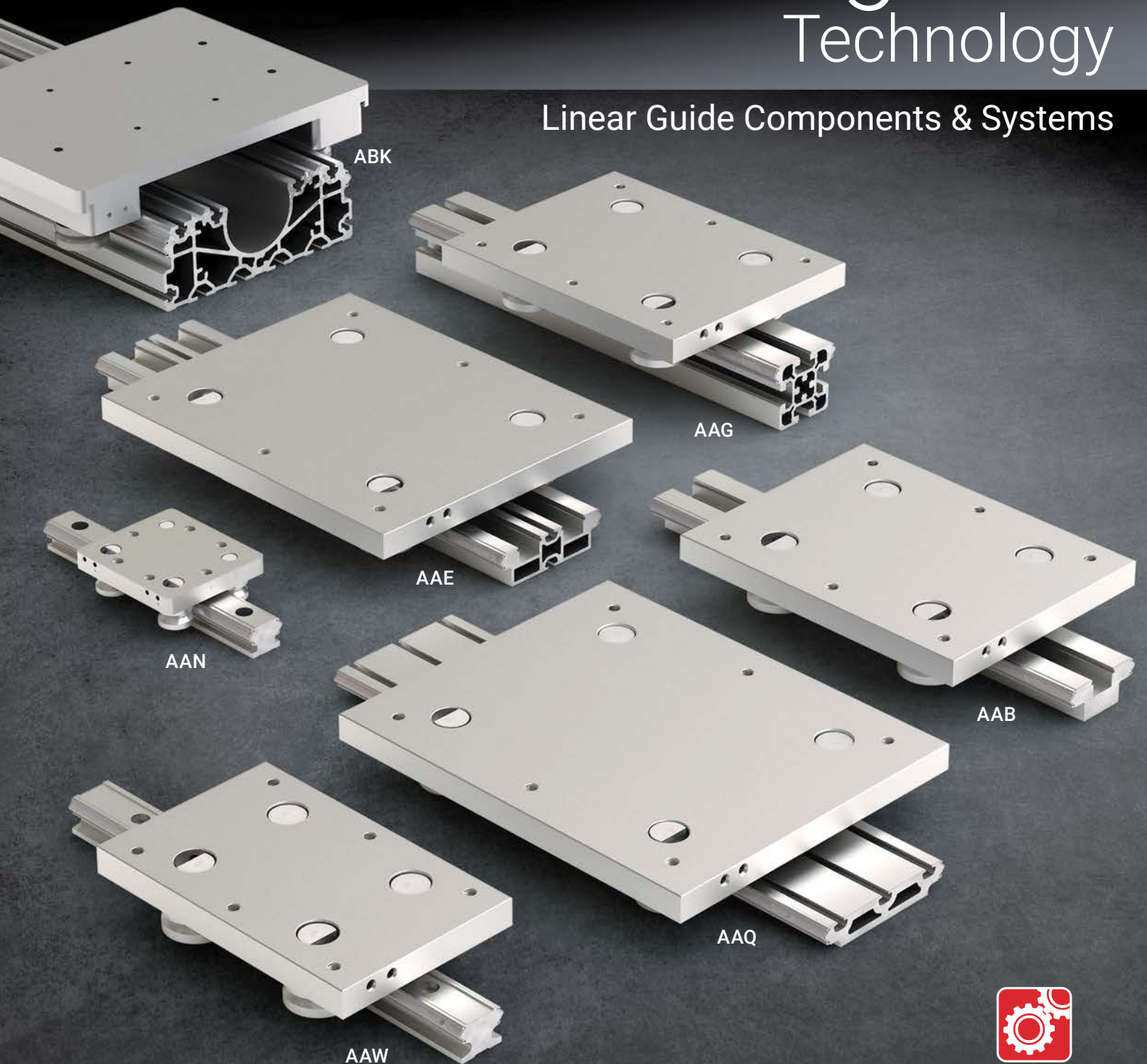




Integral-V Technology

Linear Guide Components & Systems



Configure Online at
pbclinear.com

1-800-962-8979

What Makes Integral-V Technology Different?

½ Hour Installation

2
COMPONENTS

90
COMPONENTS

2 Hour Installation

Integral-V

vs.

Profile Rail

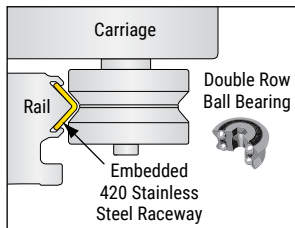


Installation Steps*

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



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

Qty	Description	Cost
1	2 m IVT Rail	\$291.00
1	Carriage Assembly	\$230.00
0.5 hours of labor to assemble @ \$36.00/hr		\$18.00

Total Cost

\$539.00

*Based on 2 meter general linear guide application

Bill of Material

Qty	Description	Cost
82	Fasteners	\$28.00
2	15 mm Rails (2 m long)	\$528.00
4	15 mm Carriages	\$184.00
1	Base Plate	\$300.00
1	Carriage Plate	\$50.00
2 hours of labor to assemble @ \$36.00/hr		\$72.00

Total Cost

\$1162.00

Flexibility to Meet Application Requirements

- SIMO machined for precision qualified rail surfaces within 0.050 mm (0.002")
- Handles radial bearing loads up to 10020 N (2252 lb)
- Multiple configurations provide pre-aligned, high performance v-wheel guidance for a wide range of applications



Click here or to read the IVT vs. Profile Rail Whitepaper

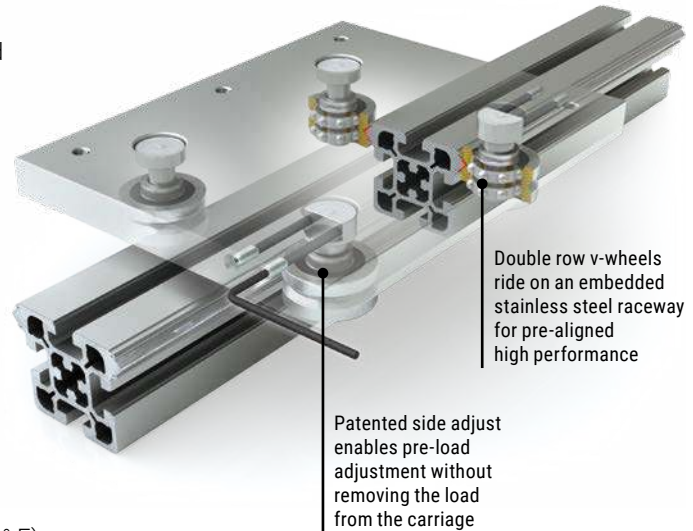
What Makes Integral-V Technology Different?

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)



[▶ Link to the Integral-V Technology overview video.](#)



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



[▶ Link to the SIMO process video.](#)



Compare SIMO vs. Standard Aluminum Extrusion

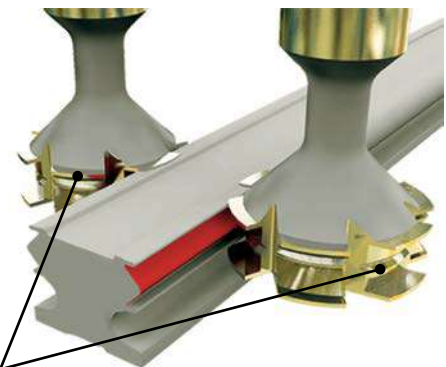
Standard Aluminum Extrusion

Straightness (Camber) 0.0125 in/ft (1 mm/m)
 Twist 1/2° per ft (1.5° per m)
 Flatness 0.004 in (0.10 mm)

⇒ 6 TIMES BETTER ⇒
 ⇒ 2 TIMES BETTER ⇒
 ⇒ 2 TIMES BETTER ⇒

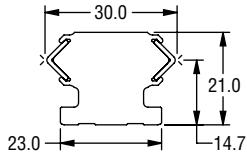
SIMO

± 0.002 in/ft (0.166 mm/m)
 < 1/4° per ft (0.82° per m)
 0.002 in (0.0508 mm)

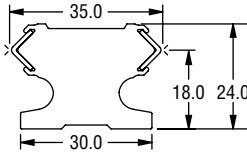


Integral-V Technology

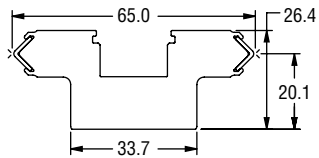
IVT AAN
Page 8



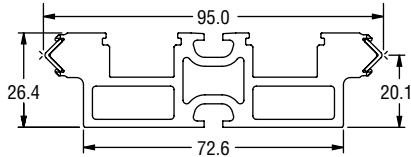
IVT AAW
Page 10



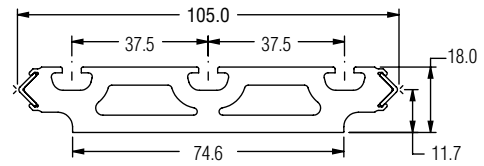
IVT AAB
Page 12



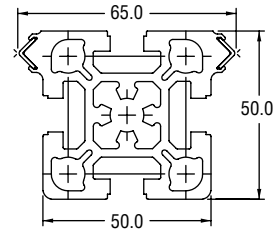
IVT AAE
Page 14



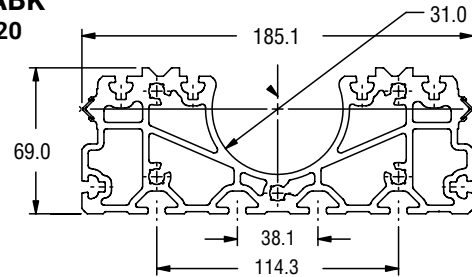
IVT AAQ
Page 16



IVT AAG
Page 18



IVT ABK
Page 20

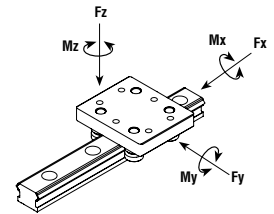


SIMO Enabled systems

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

F_d = Dynamic capacity (LC)
 F_z = Axial capacity
 F_y = Radial capacity
 M_x, M_y, M_z = Moment capacities

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



SERIES	STATIC LOAD RATINGS**					DYNAMIC LOAD RATINGS**					RAIL MOMENTS OF INERTIA		RAIL WEIGHT KG/M	MAX RAIL LENGTH MM
	Radial F _{oy} N	Axial F _{oz} N	Roll M _{ox} N-M	Pitch M _{oy} N-M	Yaw M _{oz} N-M	Radial F _y N	Axial F _z N	Roll M _x N-M	Pitch M _y N-M	Yaw M _z N-M	I _y CM4	I _z CM4		
IVTAAN	1960	1200	16	36	59	2480	1490	20	45	74	1.7	2.1	1.30	3657
IVTAAW	8900	5560	39	278	445	10020	6150	93	308	501	2.8	3.8	1.65	3657
IVTAAB	8900	5560	171	348	556	10020	6150	190	384	626	5.5	25.4	2.77	3048
IVTAAE	8900	5560	255	487	778	10020	6150	282	538	877	6.0	74.8	2.74	3657
IVTAAQ	8900	5560	283	487	778	10020	6150	313	538	877	3.4	91.9	3.06	3657
IVTAAG	8900	5560	171	348	556	10020	6150	190	384	626	29.7	34.9	3.36	3657
IVTABK	8900	5560	506	390	623	10020	6150	559	431	701	175	1300	10.1	3657

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


Applications

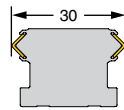
Small to Medium IVT

Medium to Large IVT

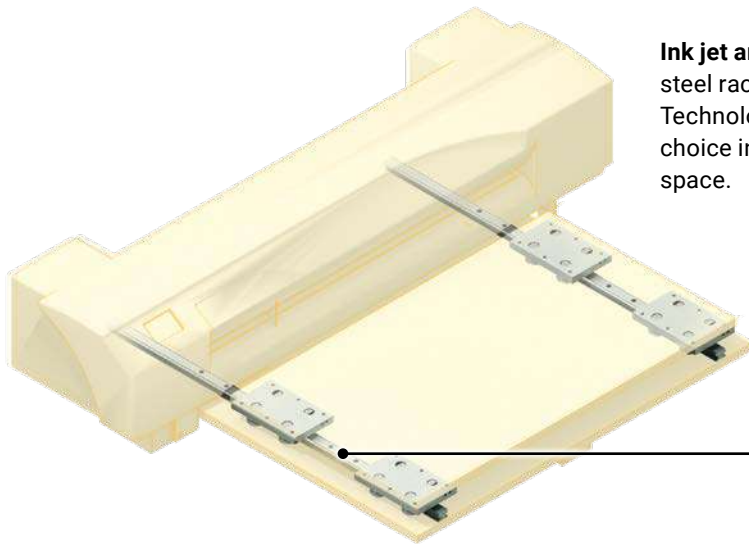
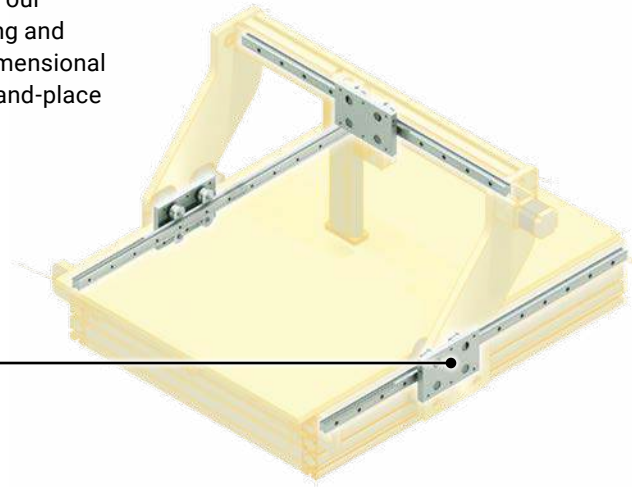
Large to Extra-Large IVT

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.

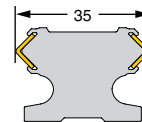
 Link to IVT vs. Profile Guide video.



Rail Choice: AAN



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.



Rail Choice: AAW

Applications

Small to Medium IVT

Medium to Large IVT

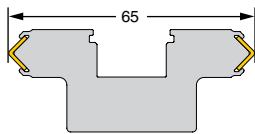
Large to Extra-Large IVT

Industrial Stop Gauge and Push Feed System:

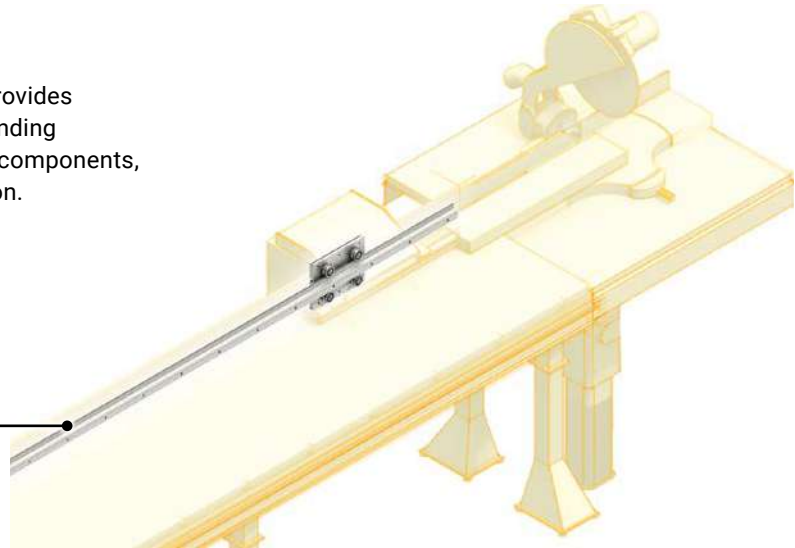
The Integral-V Technology linear guide system provides accurate positioning for band saws, punches, bending machines, and brakes. It also reduces mounting components, while improving alignment and ease of installation.



[Link to material positioning video.](#)

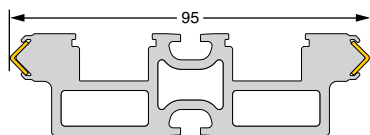


Rail Choice: AAB



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.



Rail Choice: AAE



Applications

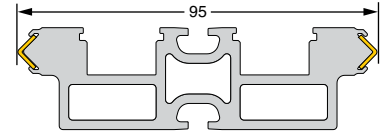
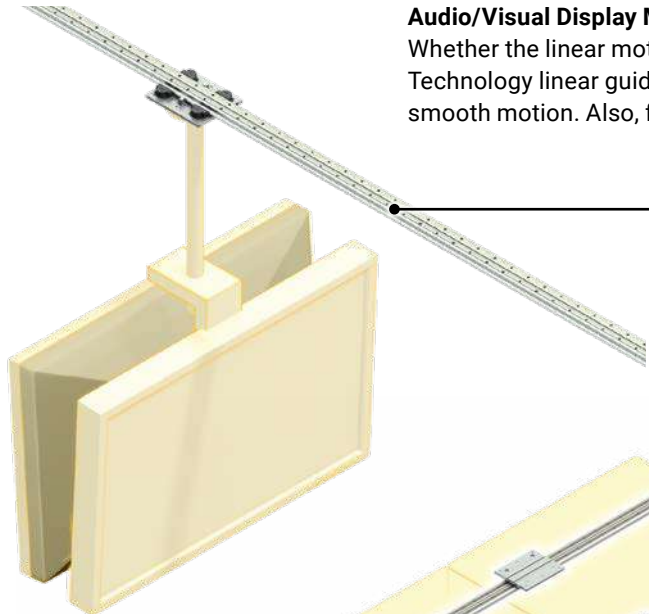
Small to Medium IVT

Medium to Large IVT

Large to Extra-Large IVT

Audio/Visual Display Mounts:

Whether the linear motion system 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.



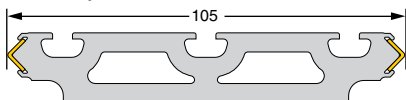
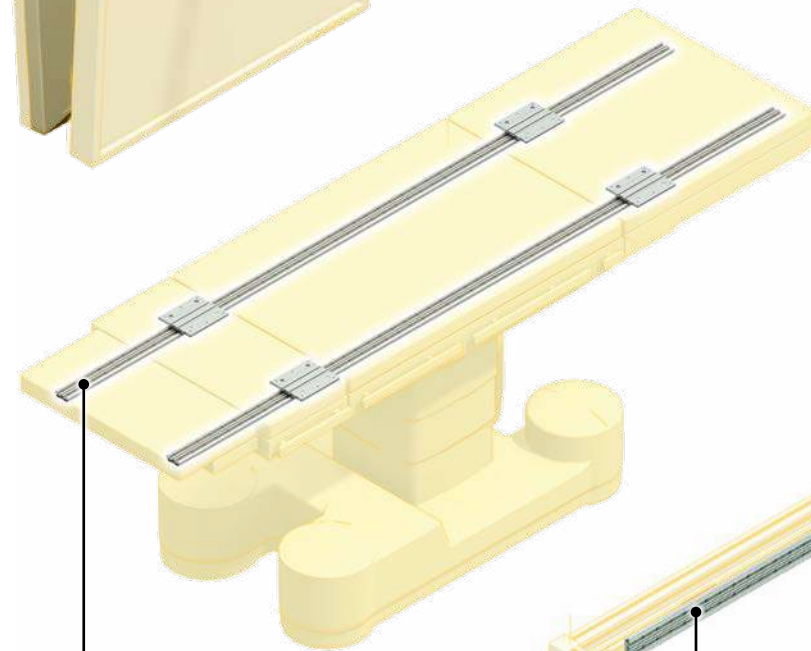
Rail Choice: AAE



Link to architectural design video.

Medical Assist:

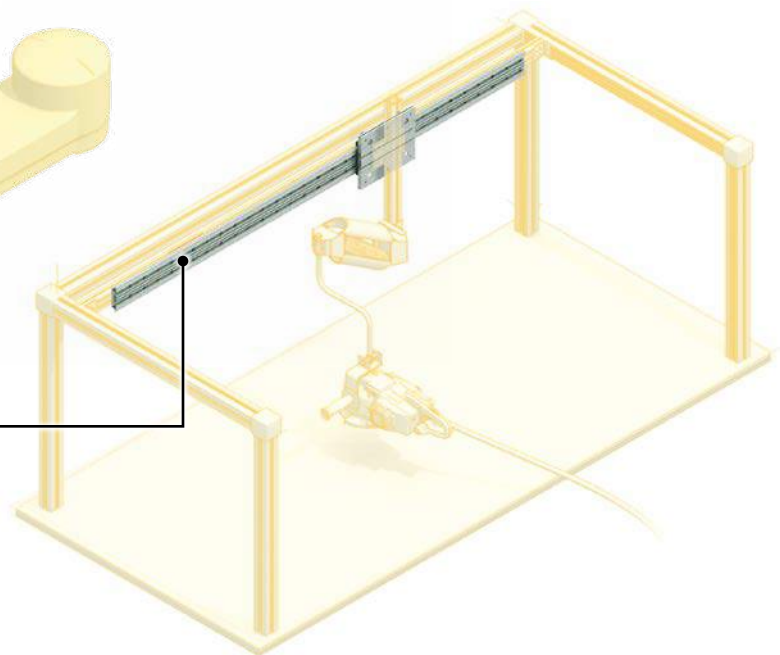
Hardened stainless steel races eliminate fasteners and reduce mounting components, while Integral-V Technology carriages are equipped with sealed rollers creating a clean, low maintenance solution for medical tables and emergency vehicles.



Rail Choice: AAQ



Link to ergonomic application video.



Ergonomic Assist:

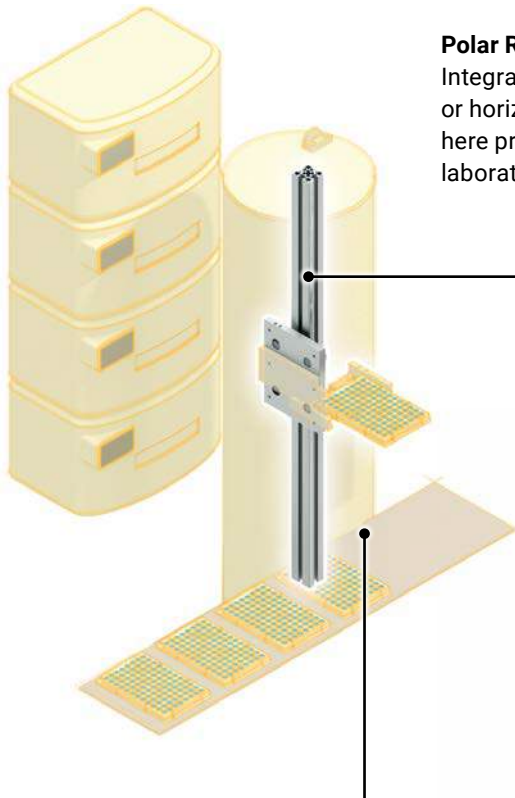
The Integral-V Technology linear guide system handles moment loads and provides smooth, low friction motion for hand tools in manufacturing and assembly operations.

Applications

Small to Medium IVT

Medium to Large IVT

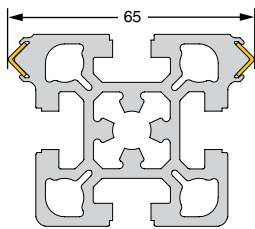
Large to Extra-Large IVT



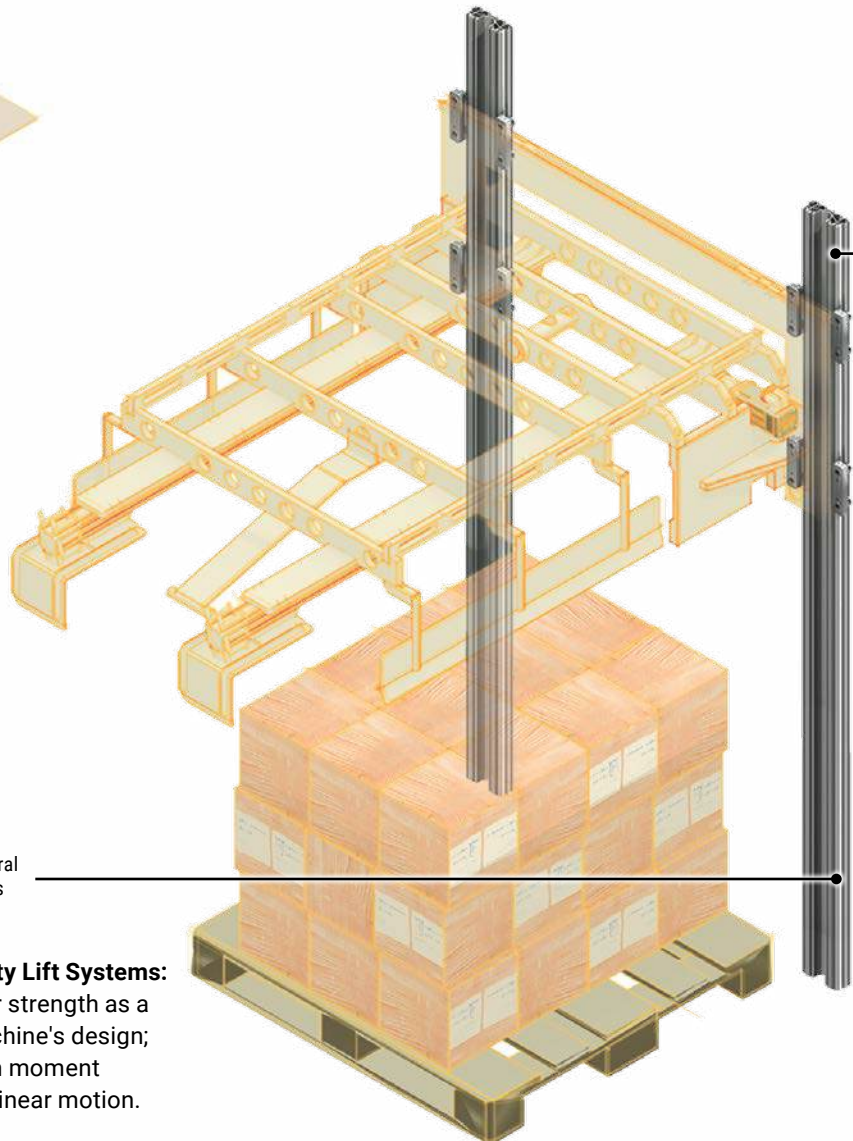
Polar Robot:

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



Rail Choice: AAG



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

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.

Applications

Small to Medium IVT

Medium to Large IVT

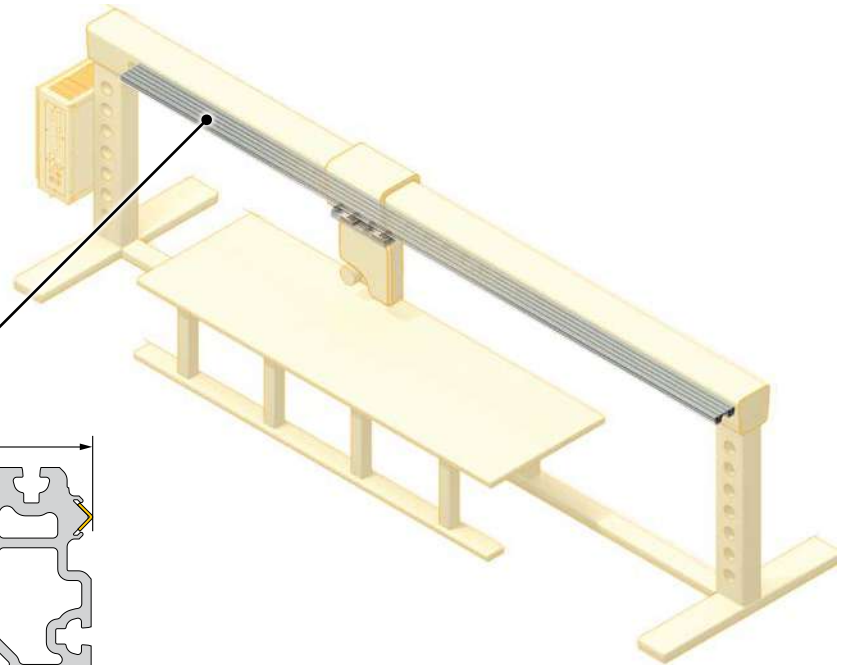
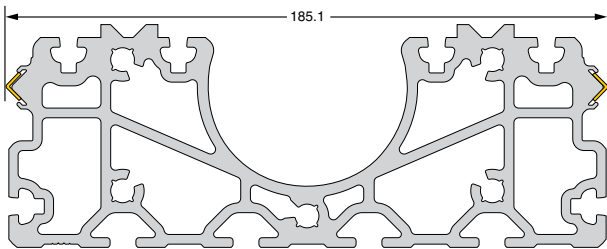
Large to Extra-Large IVT

Cutting Operations:

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



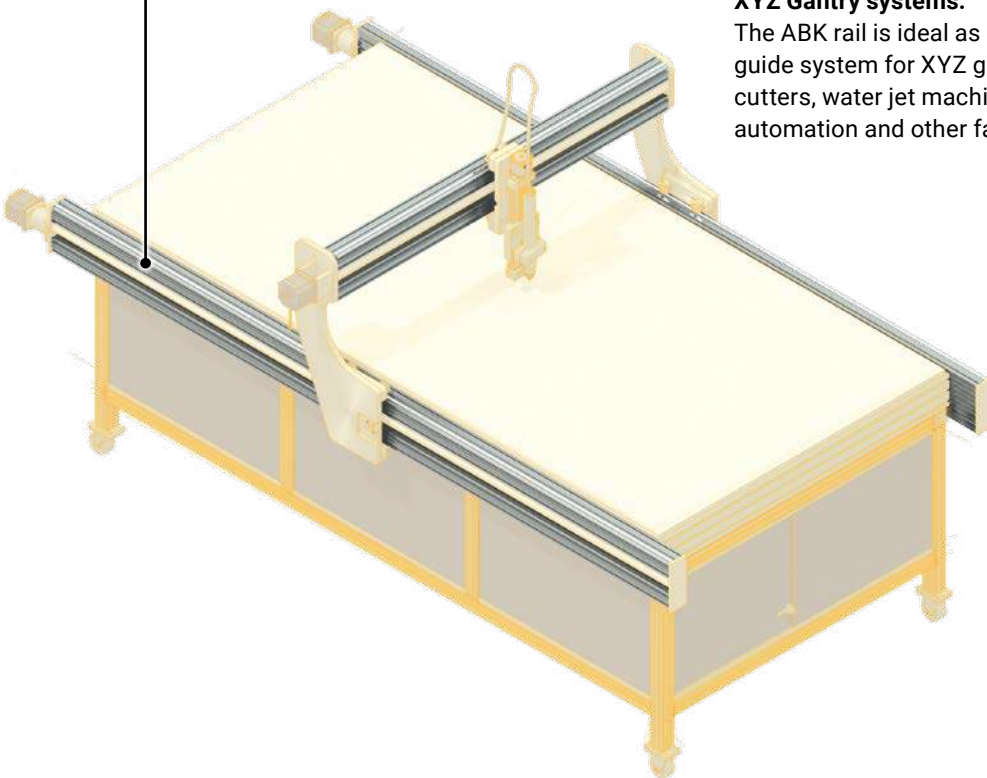
Link to application story.



Rail Choice: ABK

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.

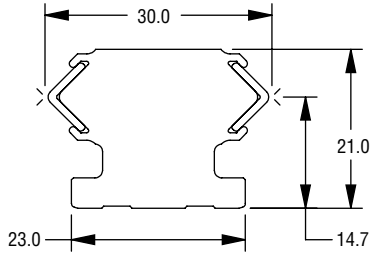


Link to product related video.

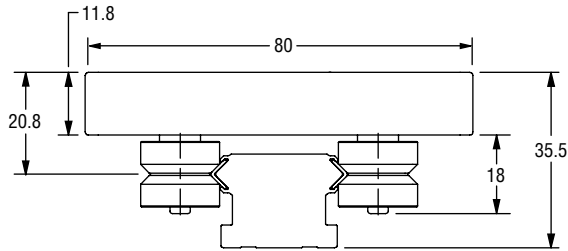
AAN Linear Guide

RAIL

1:1 Scale



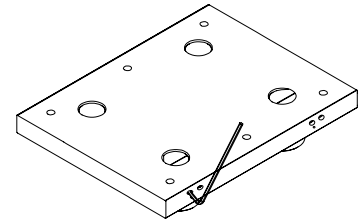
CARRIAGE



ACCESSORIES

Patented Preload Adjustment

- Standard
- Side (CAM) Adjustable

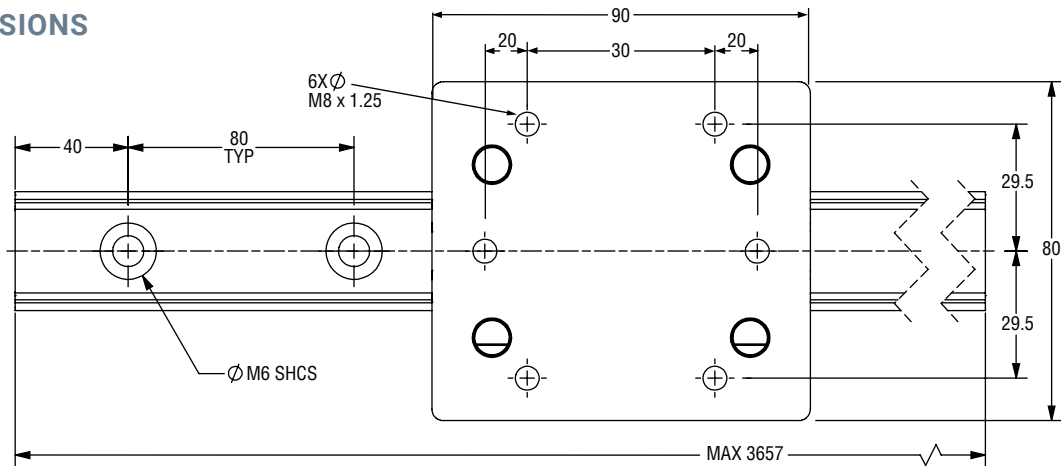


Recommended Mounting Frame (when mounted to aluminum extrusion)		
Frame Size (TYP)	Frame T-Slot Size	Screw Length*
25 x 25	6	M6 x 10 mm SHCS T-Nut Part No. 6100435



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

UNIT DIMENSIONS



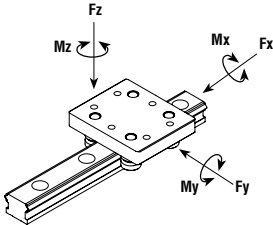
Units of Measurement mm

AAN Linear Guide

Specifications

Series	Number of Rollers	Carriage Weight kg	Static Load Ratings					Dynamic Load Ratings					Moments of Inertia		Rail Weight kg/m	MAX Rail Length mm
			Radial Foy N	Axial Foz N	Roll Mox N-M	Pitch Moy N-M	Yaw Moz N-M	Radial Fy N	Axial Fz N	Roll Mx N-M	Pitch My N-M	Yaw Mz N-M	Iy CM4	Iz CM4		
IVTAAN	4	0.35	1960	1200	16	36	59	2480	1490	20	45	74	1.7	2.1	1.30	3657

*Weight may vary slightly depending on carriage options.

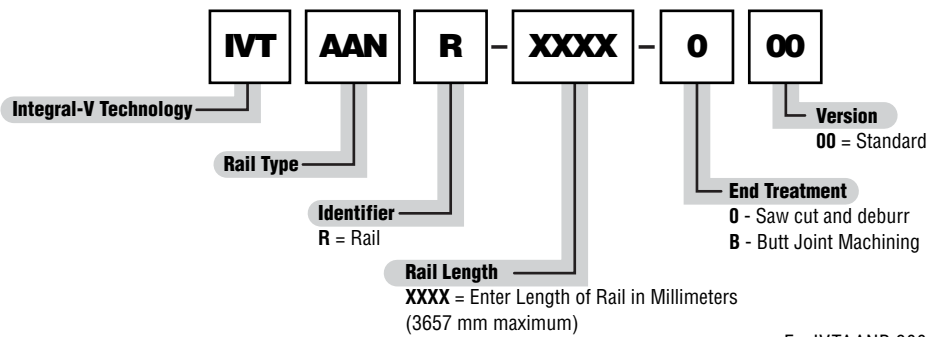


Fz = Axial capacity
Fy = Radial capacity
Mx, My, Mz = Moment capacities

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

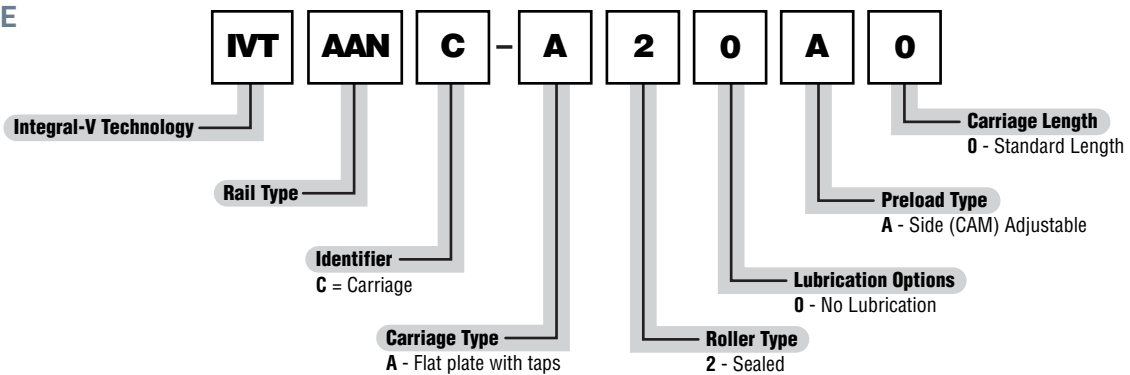
Ordering Information

RAIL

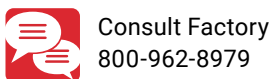


Ex: IVTAANR-3000-00 Y=MM*
Specify Y-dimension (hole to end) at time of order.
Specify length at time of order.

CARRIAGE



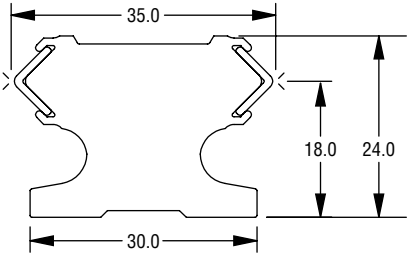
Note: Lubrication is highly recommended for IVT.



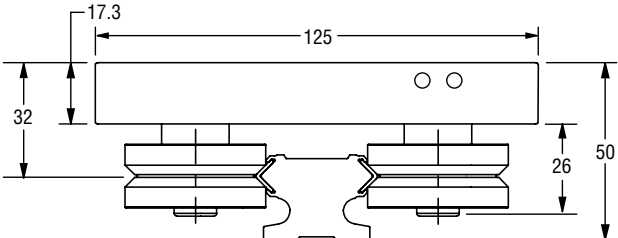
AAW Linear Guide

RAIL

1:1 Scale



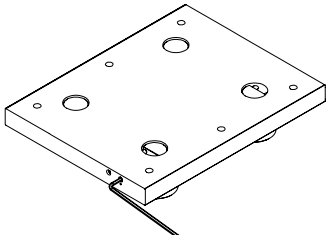
CARRIAGE



ACCESSORIES

Patented Preload Adjustment

- Standard
- Side (CAM) Adjustable

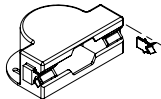


Recommended Mounting Frame (when mounted to aluminum extrusion)		
Frame Size (TYP)	Frame T-Slot Size	Screw Length*
30 x 30	6	M6 x 25 mm SHCS T-Nut Part No. 6100435



Lubrication Accessories

1. Lube Holder
2. Wheel Cover

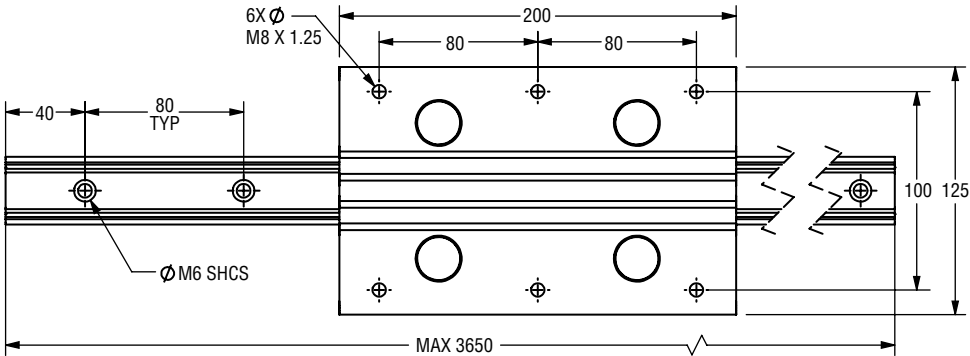


1. Polymer Lubricator
IVT3LHA-KIT

2. Rail Scraper
(Removable)
IVT3WCA-KIT

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

UNIT DIMENSIONS

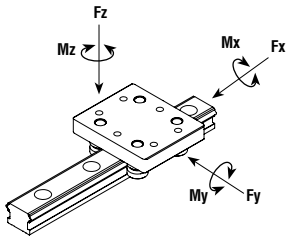


Units of Measurement mm

AAW Linear Guide

Specifications

Series	Number of Rollers	Carriage Weight kg	Static Load Ratings					Dynamic Load Ratings					Moments of Inertia		Rail Weight kg/m	MAX Rail Length mm
			Radial Foy N	Axial Foz N	Roll Mox N-M	Pitch Moy N-M	Yaw Moz N-M	Radial Fy N	Axial Fz N	Roll Mx N-M	Pitch My N-M	Yaw Mz N-M	Iy CM4	Iz CM4		
IVTAAW	4	1.54	8900	5560	39	278	445	10020	6150	93	308	501	2.8	3.8	1.65	3657



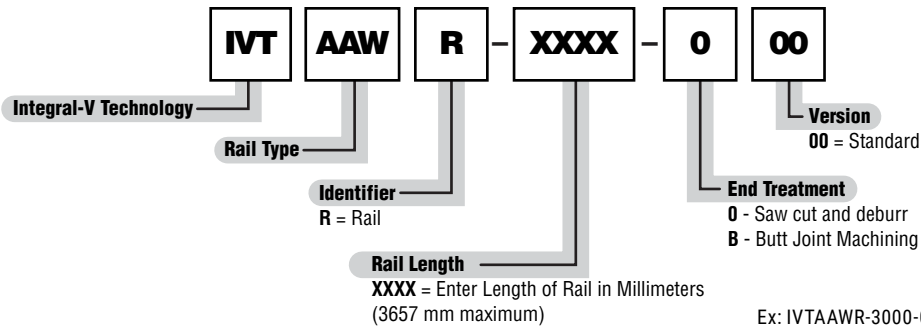
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Conversions
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 newton - meter (N-m) x 8.851 = in.-lbs.

*Weight may vary slightly depending on carriage options.

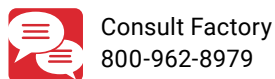
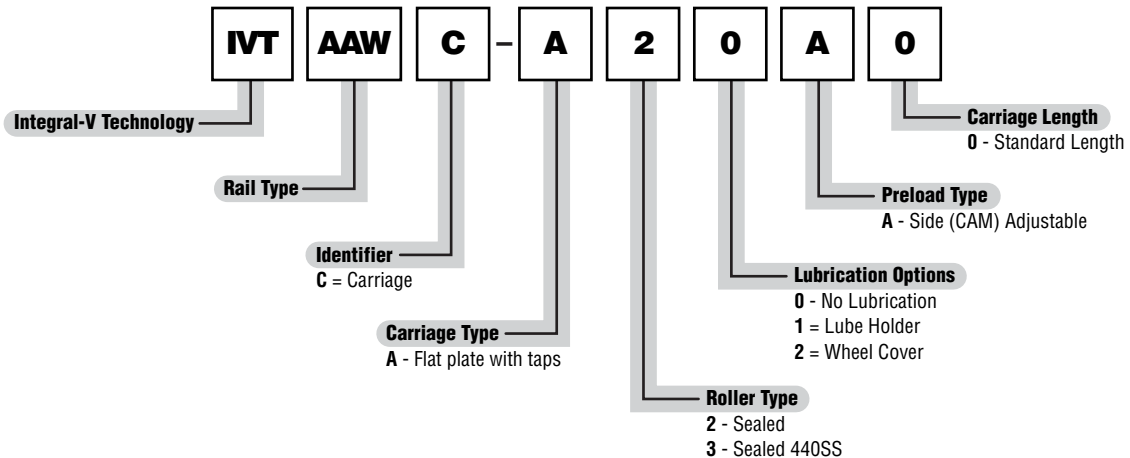
Ordering Information

RAIL



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

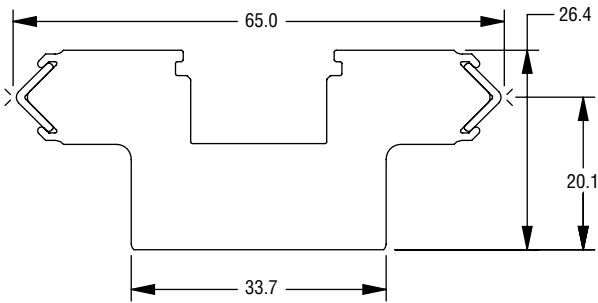
CARRIAGE



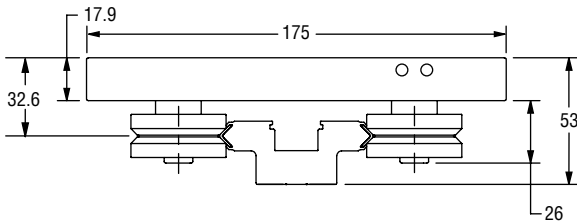
Note: Lubrication is highly recommended for IVT.

AAB Linear Guide

RAIL 1:1 SCALE



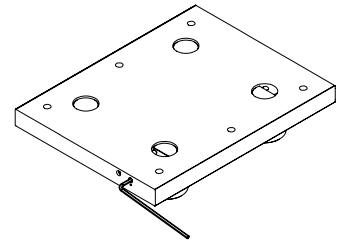
CARRIAGE



ACCESSORIES

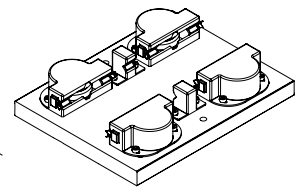
Patented Preload Adjustment

- Standard
- Side (CAM) Adjustable

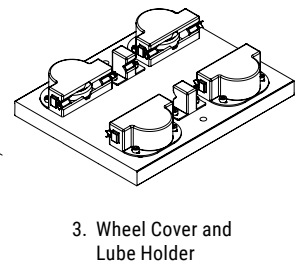
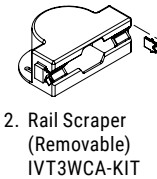
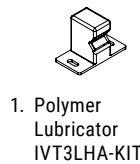


Lubrication Accessories

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

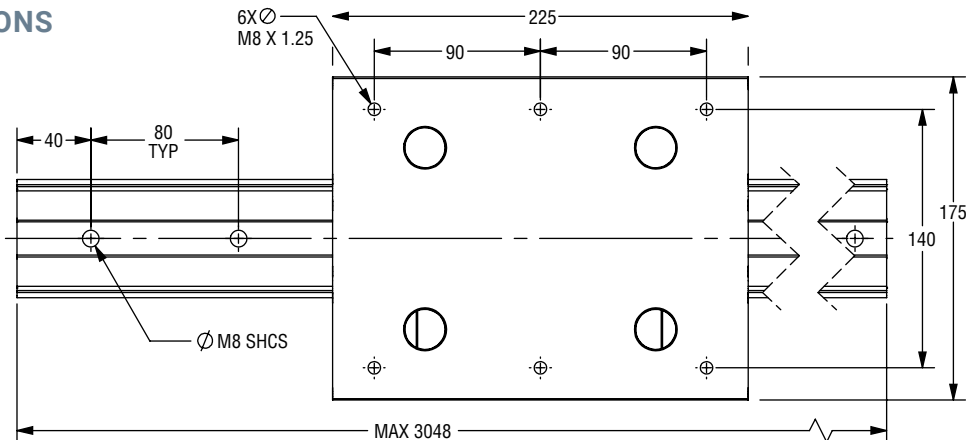


Recommended Mounting Frame (when mounted to aluminum extrusion)		
Frame Size (TYP)	Frame T-Slot Size	Frame T-Slot Size
40 x 40	8	M8 x 22 mm SHCS T-Nut Part No. 6100436



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

UNIT DIMENSIONS



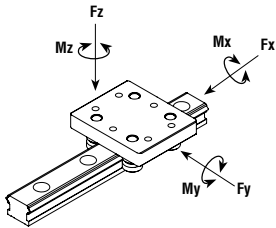
Units of Measurement mm

AAB Linear Guide

Specifications

Series	Number of Rollers	Carriage Weight kg	Static Load Ratings					Dynamic Load Ratings					Moments of Inertia		Rail Weight kg/m	MAX Rail Length mm
			Radial Foy N	Axial Foz N	Roll Mox N-M	Pitch Moy N-M	Yaw Moz N-M	Radial Fy N	Axial Fz N	Roll Mx N-M	Pitch My N-M	Yaw Mz N-M	Iy CM4	Iz CM4		
IVTAAB	4	2.42	8900	5560	171	348	556	10020	6150	190	384	626	5.5	25.4	2.77	3048

*Weight may vary slightly depending on carriage options.

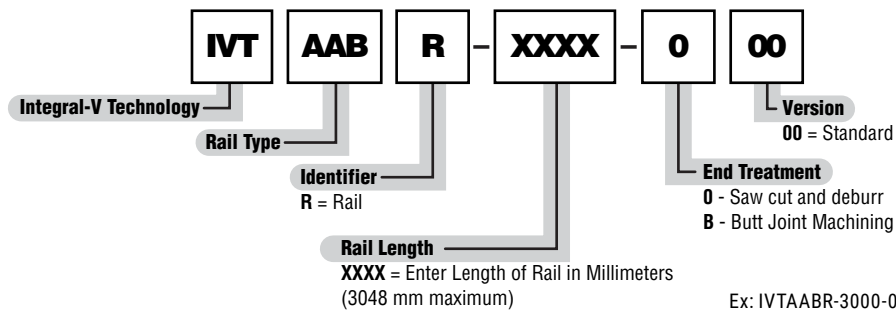


Fz = Axial capacity
Fy = Radial capacity
Mx, My, Mz = Moment capacities

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

Ordering Information

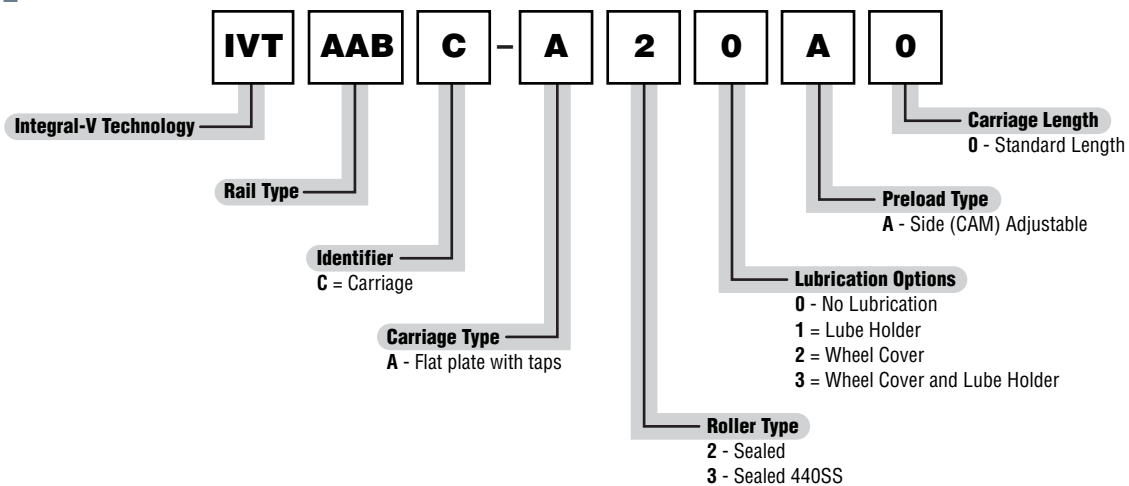
RAIL



Configure Online

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

CARRIAGE

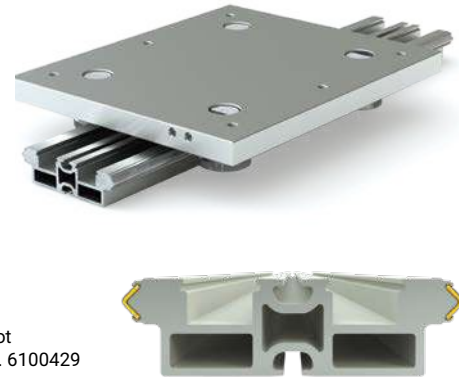
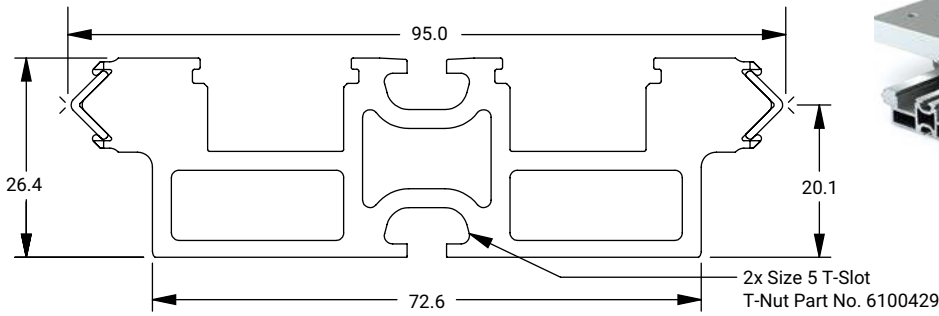


Consult Factory
800-962-8979

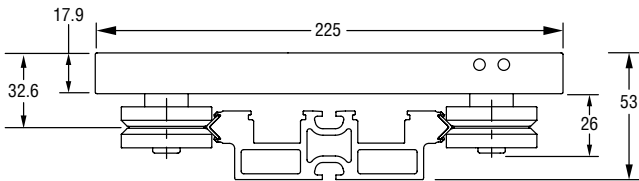
Note: Lubrication is highly recommended for IVT.

AAE Linear Guide

RAIL 1:1 SCALE



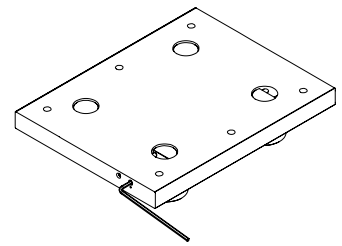
CARRIAGE



ACCESSORIES

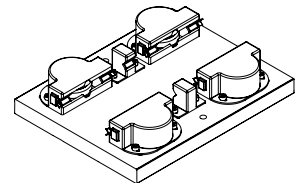
Patented Preload Adjustment

- Standard
- Side (CAM) Adjustable

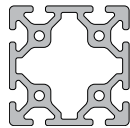


Lubrication Accessories

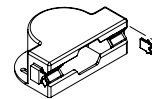
1. Lube Holder
2. Wheel Cover
3. Wheel Cover and Lube Holder



Recommended Mounting Frame (when mounted to aluminum extrusion)		
Frame Size (TYP)	Frame Size (TYP)	Screw Length*
80 x 80	8	M8 x 25 mm SHCS T-Nut Part No. 6100436



1. Polymer Lubricator
IVT3LHA-KIT

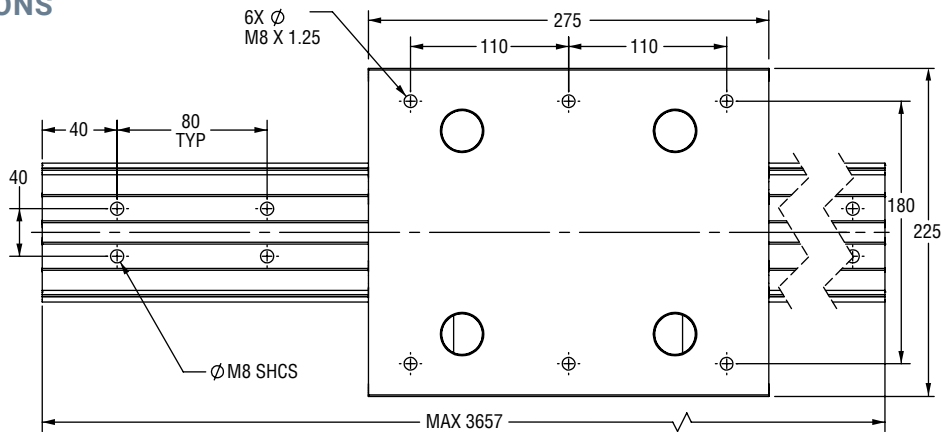


2. Rail Scraper
(Removable)
IVT3WCA-KIT

3. Wheel Cover and
Lube Holder

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

UNIT DIMENSIONS



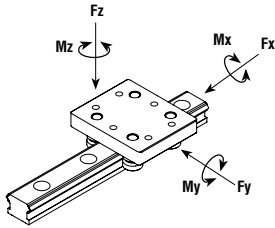
Units of Measurement mm

AAE Linear Guide

Specifications

Series	Number of Rollers	Carriage Weight kg	Static Load Ratings					Dynamic Load Ratings					Moments of Inertia		Rail Weight kg/m	MAX Rail Length mm
			Radial Foy N	Axial Foz N	Roll Mox N-M	Pitch Moy N-M	Yaw Moz N-M	Radial Fy N	Axial Fz N	Roll Mx N-M	Pitch My N-M	Yaw Mz N-M	Iy CM4	Iz CM4		
IVTAAE	4	3.47	8900	5560	255	487	778	10020	6150	282	538	877	6.0	74.8	2.74	3657

*Weight may vary slightly depending on carriage options.

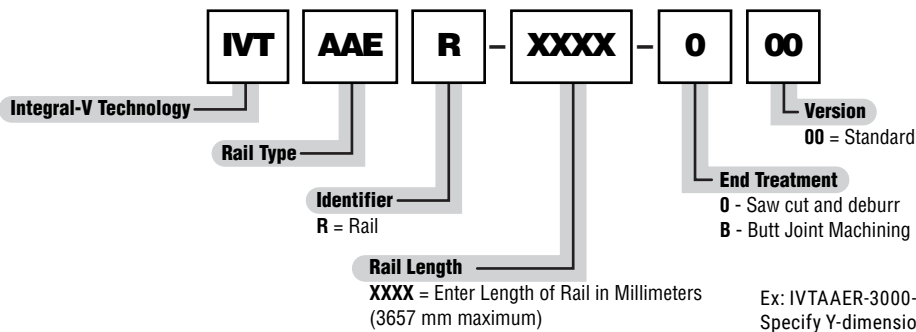


Fz = Axial capacity
Fy = Radial capacity
Mx, My, Mz = Moment capacities

Conversions
newton (N) x 0.2248 = lbs.
(mm) millimeter x 0.03937 = inch
newton-meter (N-m) x 8.851 = in.-lbs.

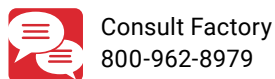
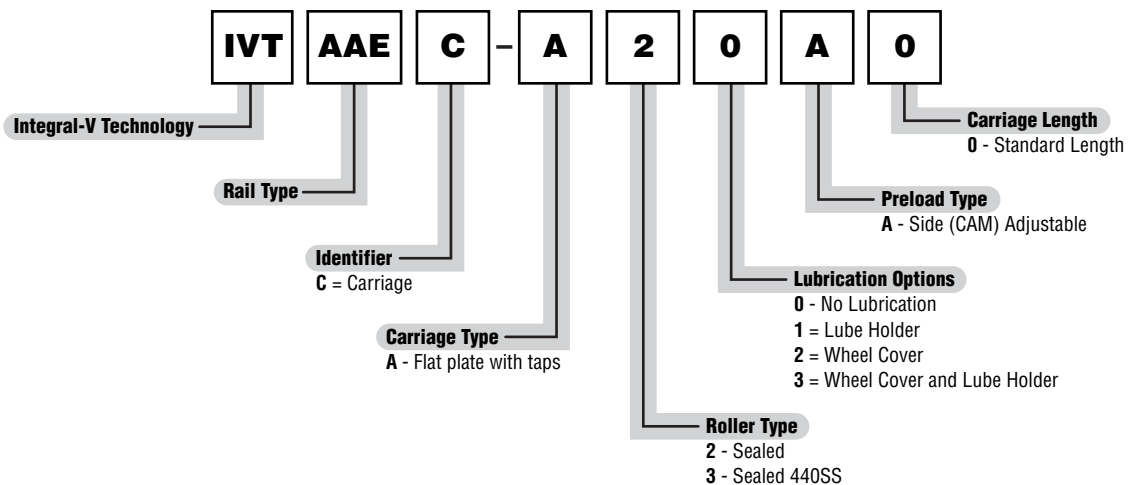
Ordering Information

RAIL



Configure Online

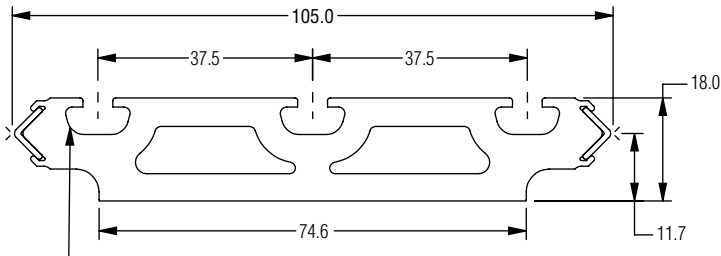
CARRIAGE



Note: Lubrication is highly recommended for IVT.

AAQ Linear Guide

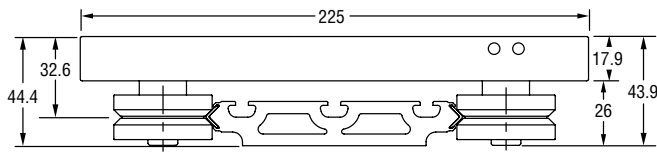
RAIL



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



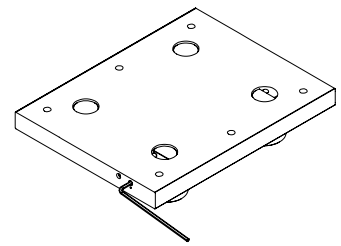
CARRIAGE



ACCESSORIES

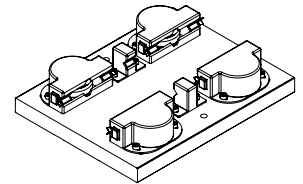
Patented Preload Adjustment

Standard
Side (CAM) Adjustable

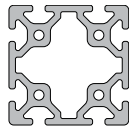


Lubrication Accessories

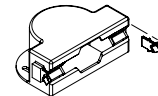
1. Lube Holder**
2. Wheel Cover**
3. Wheel Cover** and Lube Holder**



Recommended Mounting Frame (when mounted to aluminum extrusion)		
Frame Size (TYP)	Frame T-Slot Size	Screw Length*
80 x 80	8	M8 x 15 mm SHCS T-Nut Part No. 6100429



1. Polymer Lubricator
IVT3LHA-KIT



2. Rail Scraper (Removable)
IVT3WCA-KIT

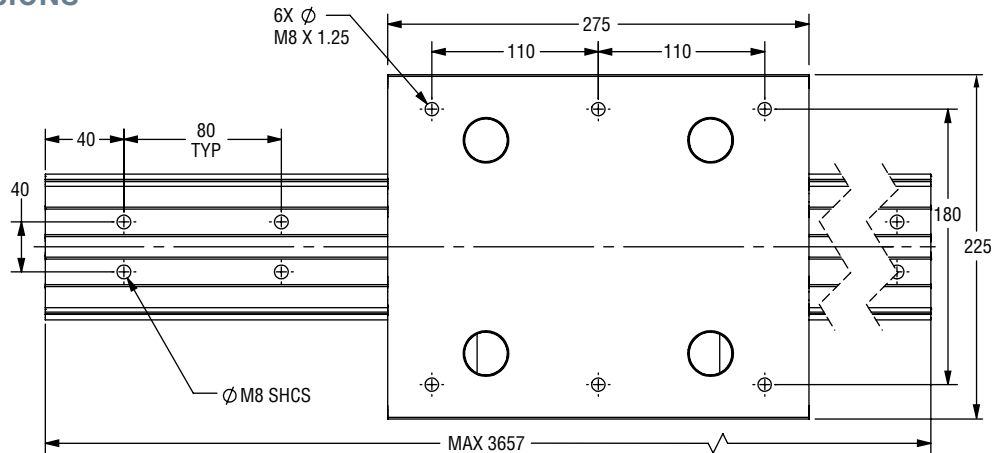
3. Wheel Cover and Lube Holder

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

** Wheel accessories extend below base of rail.

Check for clearance or install spacer to base of rail to achieve needed clearance.

UNIT DIMENSIONS



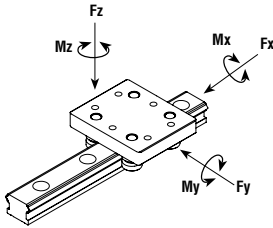
Units of Measurement mm

AAQ Linear Guide

Specifications

Series	Number of Rollers	Carriage Weight kg	Static Load Ratings					Dynamic Load Ratings					Moments of Inertia		Rail Weight kg/m	MAX Rail Length mm
			Radial Foy N	Axial Foz N	Roll Mox N-M	Pitch Moy N-M	Yaw Moz N-M	Radial Fy N	Axial Fz N	Roll Mx N-M	Pitch My N-M	Yaw Mz N-M	Iy CM4	Iz CM4		
IVTAAQ	4	3.47	8900	5560	283	487	778	10020	6150	313	538	877	3.4	91.9	3.06	3657

*Weight may vary slightly depending on carriage options.

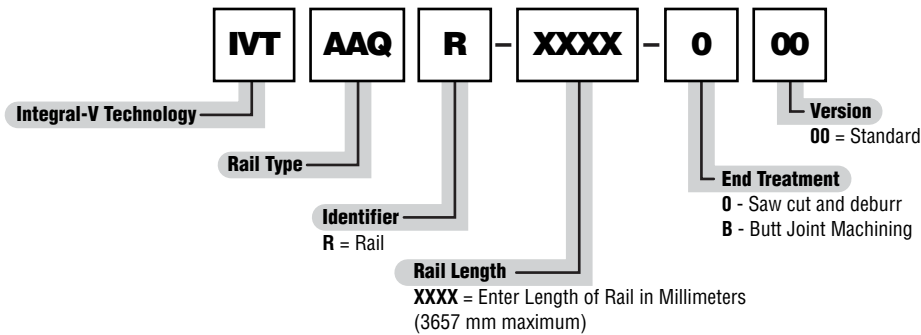


Fz = Axial capacity
Fy = Radial capacity
Mx, My, Mz = Moment capacities

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

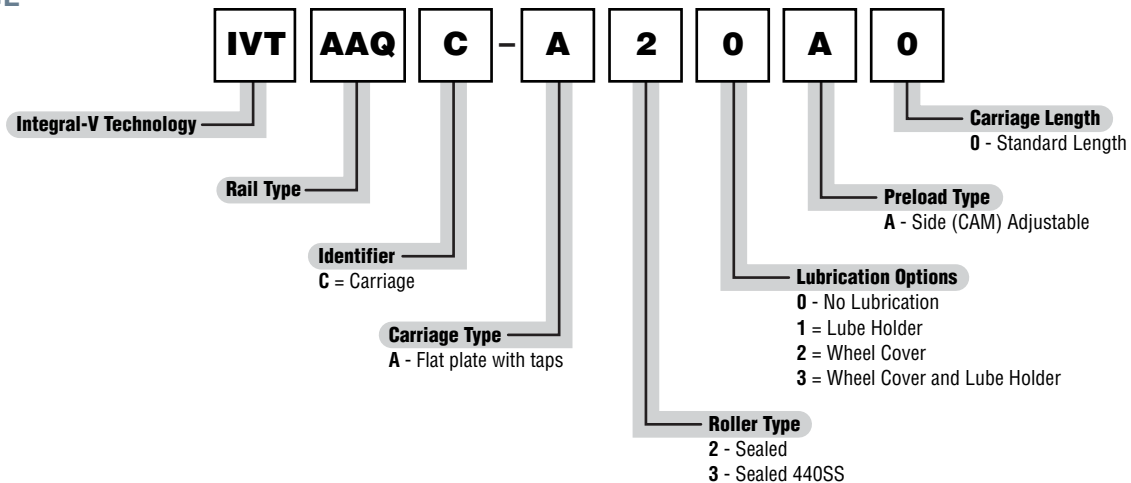
Ordering Information

RAIL



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

CARRIAGE

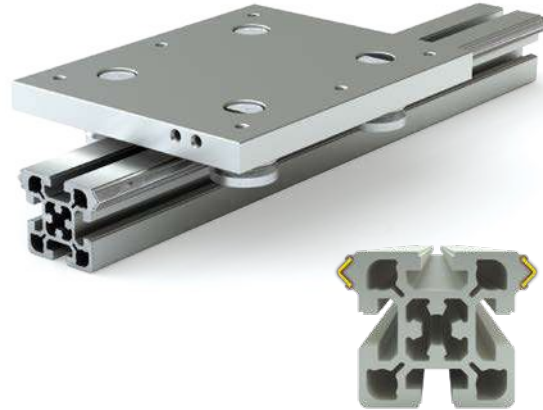
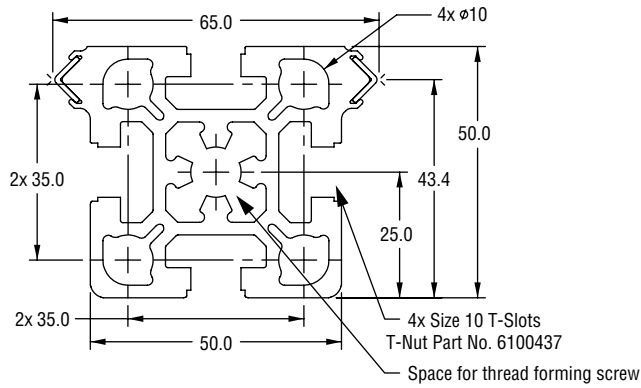


Consult Factory
800-962-8979

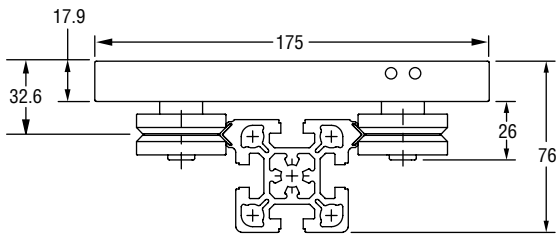
Note: Lubrication is highly recommended for IVT.

AAG Linear Guide

RAIL



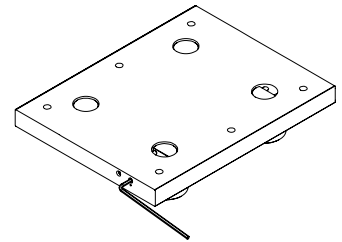
CARRIAGE



ACCESSORIES

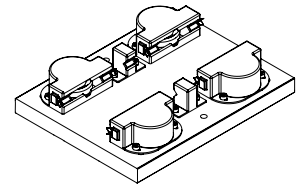
Patented Preload Adjustment

Standard
Side (CAM) Adjustable



Lubrication Accessories

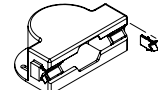
1. Lube Holder
2. Wheel Cover
3. Wheel Cover and Lube Holder



Recommended Mounting Frame (when mounted to aluminum extrusion)		
Frame Size (TYP)	Frame T-Slot Size	Screw Length*
N/A	N/A	N/A



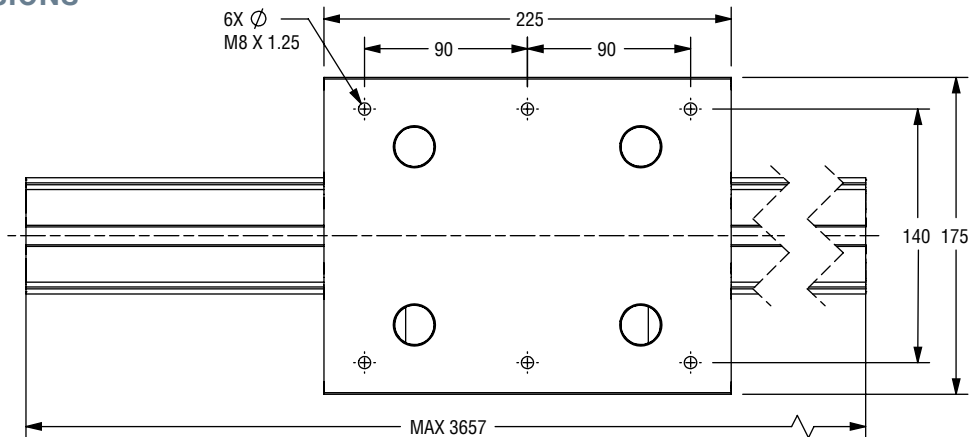
1. Polymer Lubricator
IVT3LHA-KIT



2. Rail Scraper
(Removable)
IVT3WCA-KIT

3. Wheel Cover and
Lube Holder

UNIT DIMENSIONS



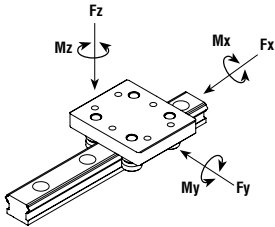
Units of Measurement mm

AAG Linear Guide

Specifications

Series	Number of Rollers	Carriage Weight kg	Static Load Ratings					Dynamic Load Ratings					Moments of Inertia		Rail Weight kg/m	MAX Rail Length mm
			Radial F_{oy} N	Axial F_{oz} N	Roll M_{ox} N-M	Pitch M_{oy} N-M	Yaw M_{oz} N-M	RADIAL F_y N	AXIAL F_z N	ROLL M_x N-M	PITCH M_y N-M	YAW M_z N-M	I_y CM ⁴	I_z CM ⁴		
IVTAAG	4	2.42	8900	5560	171	348	556	10020	6150	190	384	626	29.7	34.9	3.36	3657

*Weight may vary slightly depending on carriage options.

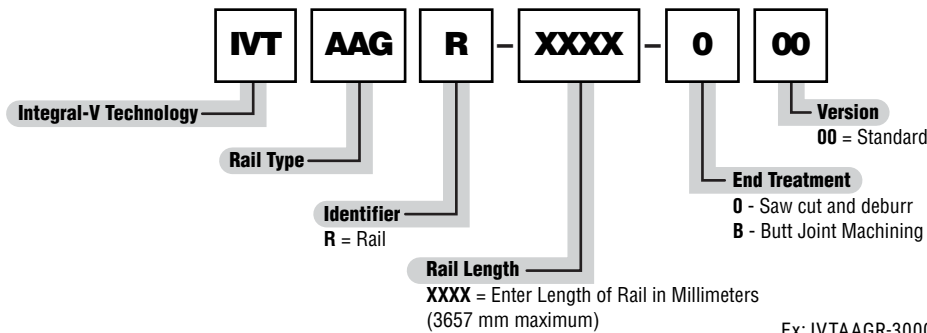


F_z = Axial capacity
 F_y = Radial capacity
 M_x, M_y, M_z = Moment capacities

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

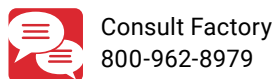
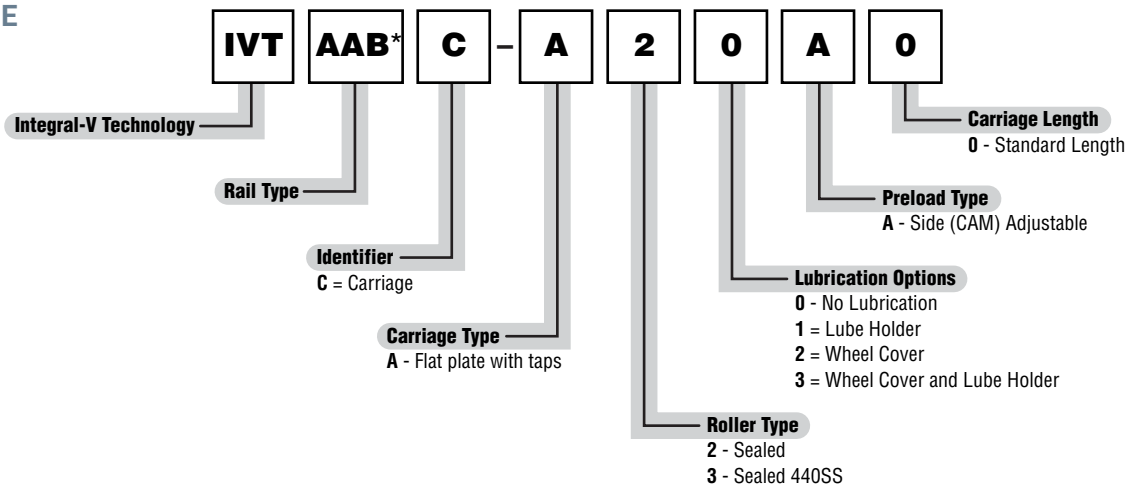


Ex: IVTAAGR-3000-000
 Specify length at time of order.



Configure Online

CARRIAGE



Consult Factory
 800-962-8979

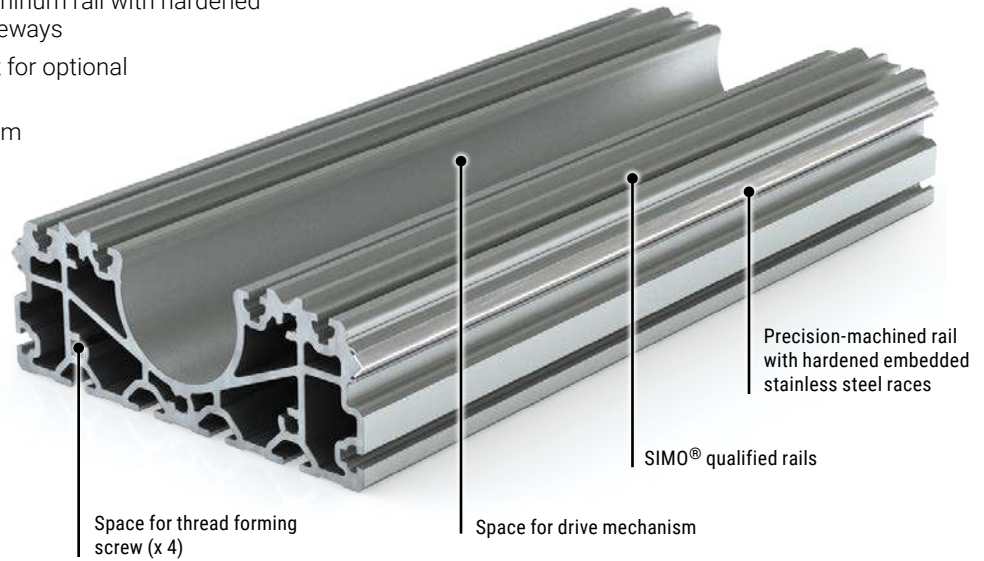
*AAG and AAB utilize the same carriage.
 Note: Lubrication is highly recommended for IVT.

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)

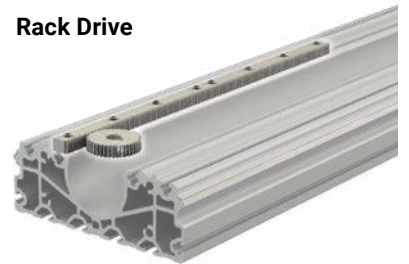
Belt Drive



Ball Screw



Rack Drive

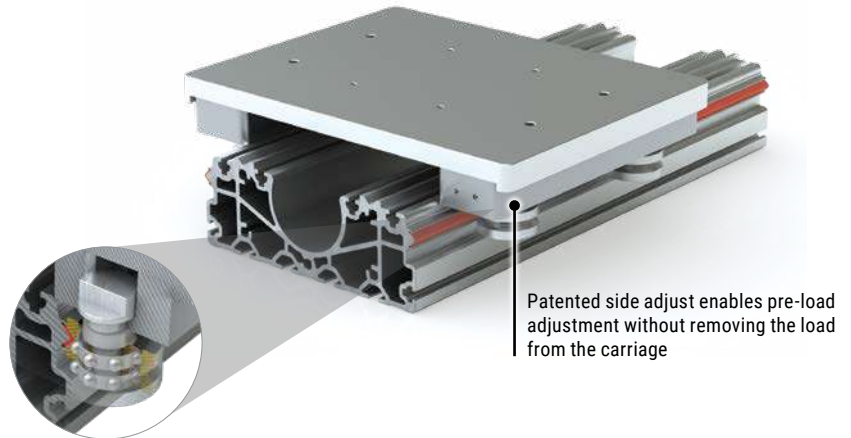


ABK Linear Guide

Bearing Options

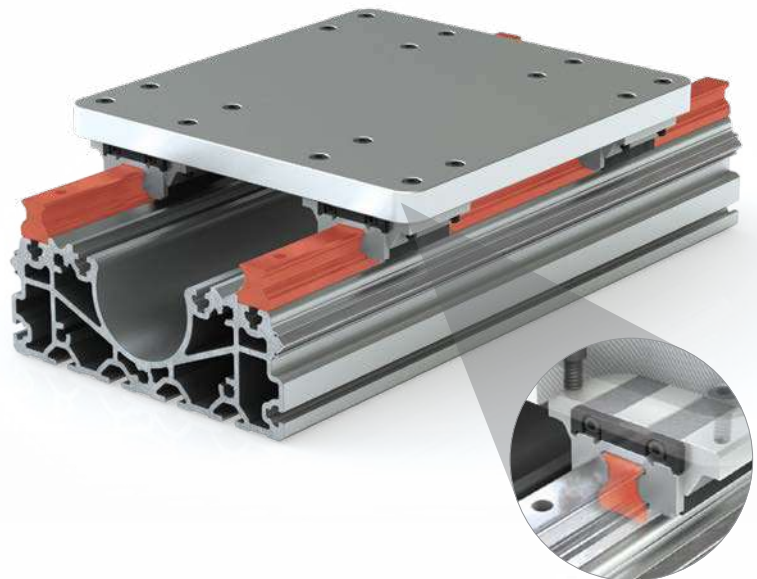
V-Guide Bearing System (Standard)

- 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



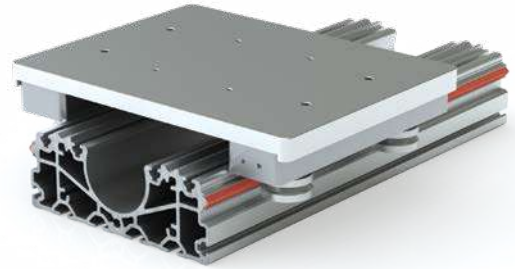
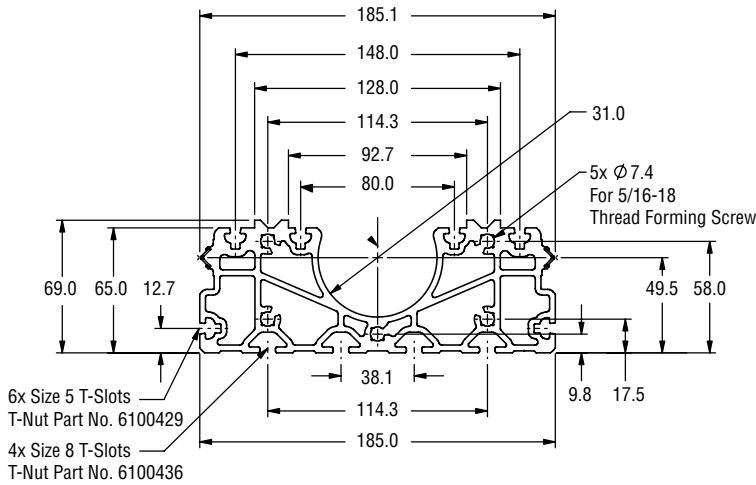
Pre-aligned Profile Rail Guides

- 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



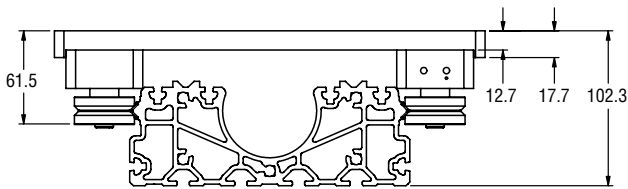
ABK Linear Guide

RAIL



CARRIAGE

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

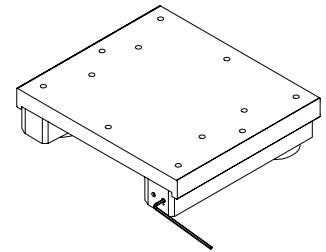


Recommended Mounting Frame (when mounted to aluminum extrusion)		
Frame Size (TYP)	Frame T-Slot Size	Screw Length*
N/A	N/A	N/A

ACCESSORIES

Patented Preload Adjustment

- Standard
- Side (CAM) Adjustable

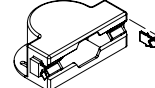


Lubrication Accessories

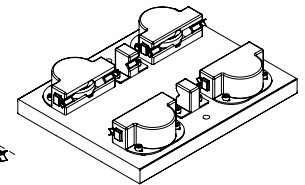
1. Lube Holder
2. Wheel Cover
3. Wheel Cover and Lube Holder



1. Polymer Lubricator
IVT3LHA-KIT

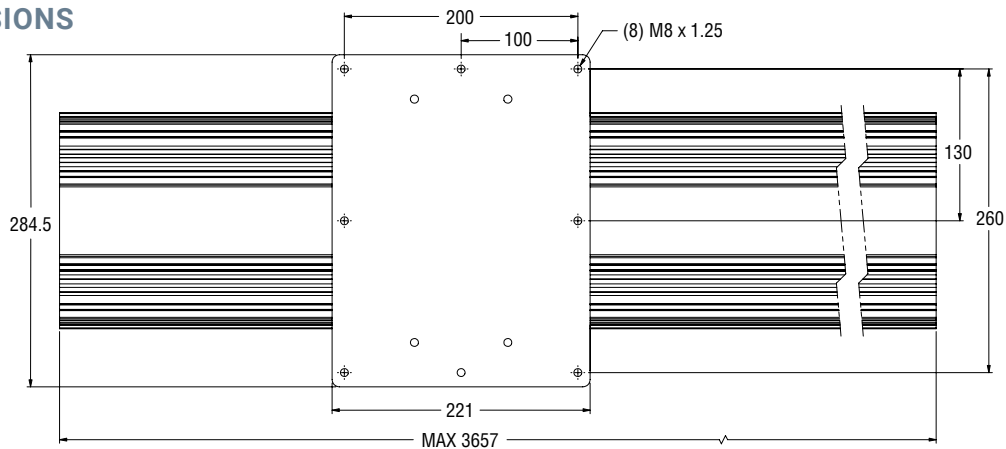


2. Rail Scraper
(Removable)
IVT3WCA-KIT



3. Wheel Cover and
Lube Holder

UNIT DIMENSIONS



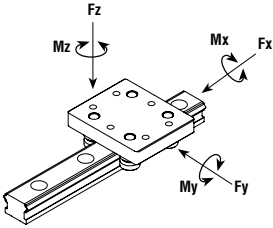
Units of Measurement mm

ABK Linear Guide

Specifications

Series	Number of Rollers	Carriage Weight kg	Static Load Ratings					Dynamic Load Ratings					Moments of Inertia		Rail Weight kg/m	MAX Rail Length mm
			Radial Foy N	Axial Foz N	Roll Mox N-M	Pitch Moy N-M	Yaw Moz N-M	Radial Fy N	Axial Fz N	Roll Mx N-M	Pitch My N-M	Yaw Mz N-M	Iy CM4	Iz CM4		
IVTABK	4	4.3	8900	5560	506	390	623	10020	6150	559	431	701	175	1300	10.1	3657

*Weight may vary slightly depending on carriage options.

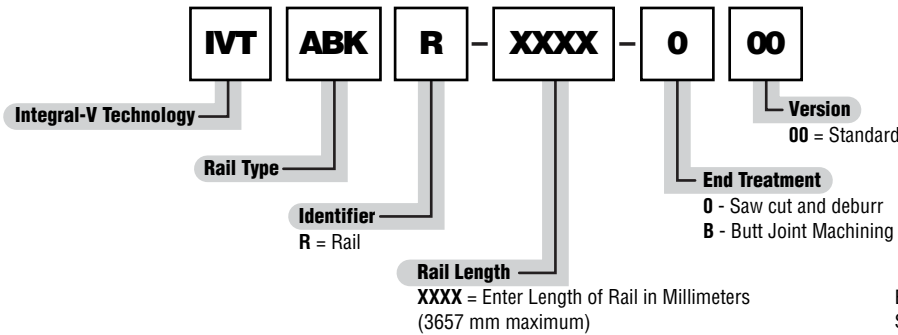


Fz = Axial capacity
Fy = Radial capacity
Mx, My, Mz = Moment capacities

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

ORDERING INFORMATION

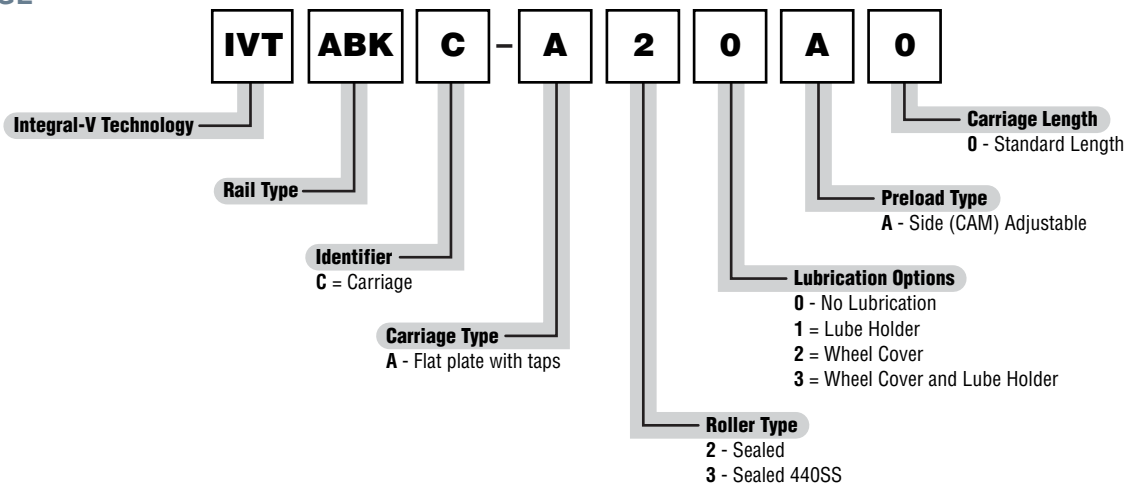
RAIL



Configure Online

Ex: IVTABKR-3000-000
Specify length at time of order.

CARRIAGE



Consult Factory
800-962-8979

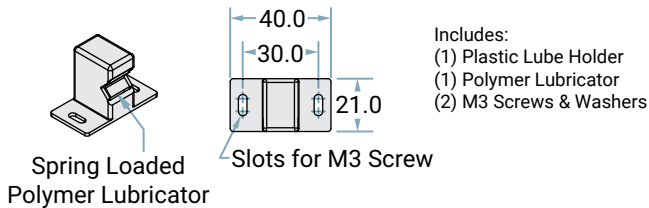
Note: Lubrication is highly recommended for IVT Consult factory for profile rail version.

Integral-V Accessories

No Lubrication - Not recommended.
Manual lubrication required.

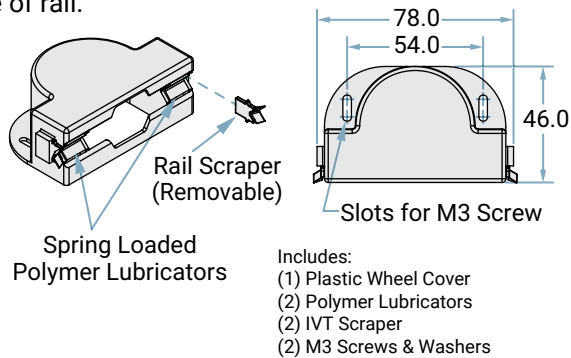
Lube Holders IVT3LHA-KIT

Provides basic lubrication on the bearing raceway.
1 polymer lubricator per side of rail



Wheel Cover IVT3LHA-KIT

Provides increased lubrication compared to the lube holders. Also provides a semi-enclosed cover for the wheels that helps keep debris and other contamination away from rollers. Provides 4 polymer lubricators per side of rail.

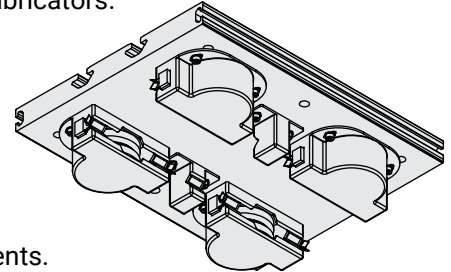


Ordering Information

IVT3A-TWS	IVT3WS Roller with Concentric Stud Shaft
IVT3A-VWS	IVT3WS Roller with Eccentric Stud Shaft
IVT3WCA-KIT	Wheel Cover Assembly Size 3
IVT3LHA-KIT	Lube Holder Assembly Size 3
IVT3SCRIP	IVT Scraper (Qty: 1) Size 3

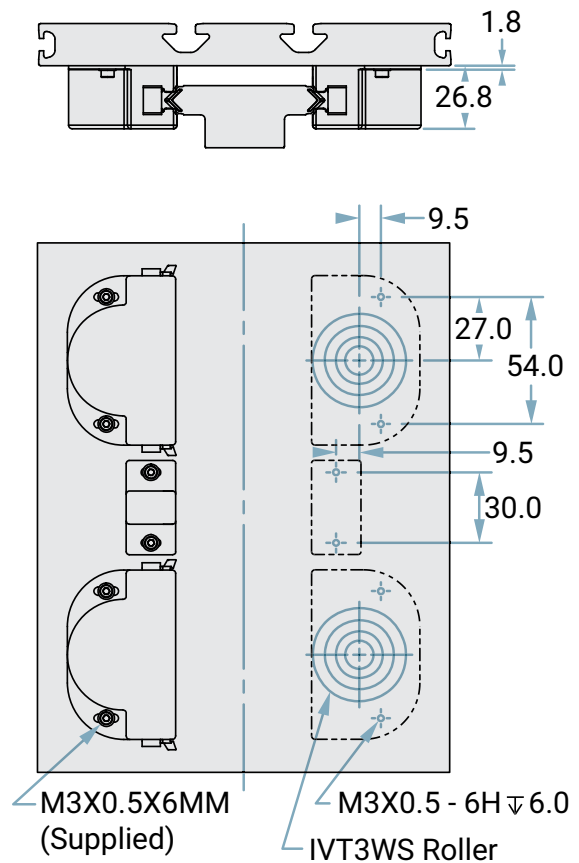
Wheel Cover and Lube Holder

Maximum lubrication and increased life of the polymer lubricators.
Provides 5 polymer lubricators per side of rail.



Additional lubrication may be required for specific operating environments.

NOTE: Lubrication options are provided by PBC Linear, however it is the responsibility of the user to determine and ensure the system is properly lubricated.



Email an Application Engineer.

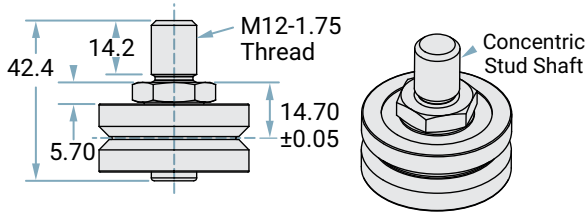
Units of Measurement mm

Integral-V Accessories

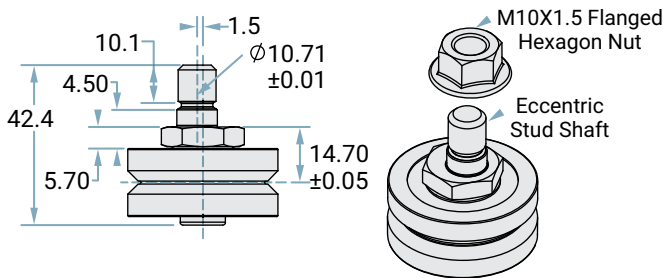
Roller Kits:

IVT carriages with hex-stud adjustment have rollers on one side that are fastened onto the carriage by concentric hexagon studs with M12 thread. Rollers on the opposite side are secured onto the carriage by fastening hexagon nuts and eccentric hexagon studs with M10 thread.

Roller with Concentric Stud IVT3A-TWS

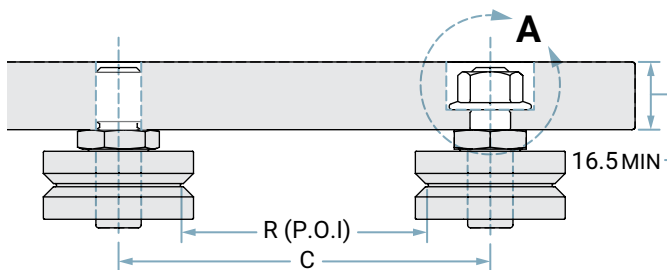


Roller with Eccentric Stud IVT3A-VWS



Torque Value Information

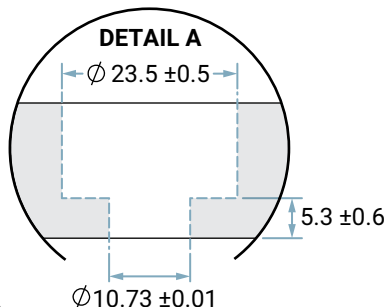
Rollers	Stud Thread	Hexagon Flat	Tightening Torque (N-m)
IVT3A-TWS	M12X1.75	19 mm	44
IVT3A-VWS	M10X1.50	19 mm	36



Reference relevant IVT rail page for R dimension.

C is calculated as follows: $C = R + 33.43$

Units of Measurement mm



Conceptual ABK Driven Systems

Belt Driven, V-Guide Roller Bearing System

Ideal for High Speed Applications

- 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, Profile Rail System

Ideal for High-Precision Applications
Optional polymer covers protect ball screw

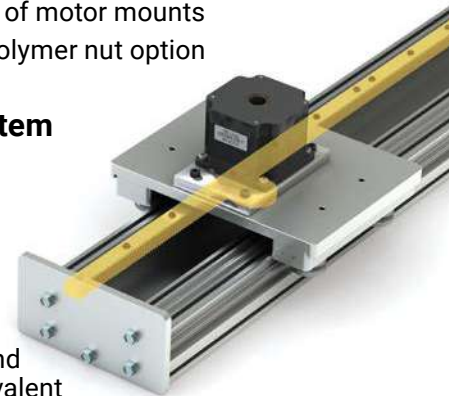
- Rigid ball nut performance in high-precision applications
- Ball screw diameters 16–25 mm
- Does well in Z-axis and high thrust applications
- Extrusion can support a variety of motor and idler end design configurations
- Supports a variety of motor mounts
- Lead screw with polymer nut option



Rack Driven System

Ideal for long travel

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



Contact Factory about Custom Carriage Orders

- 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 at +1.800.962.8979 or +1.815.389.5600.



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Range of Offerings

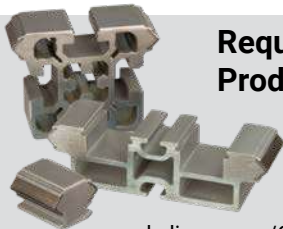


Components



Mechatronics

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1" Rail Sections of
IVTAA, IVTAAG, & IVTAAE

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