



INGERSOLL-RAND

**ZIMMERMAN HANDLING
SYSTEMS**

Rails, Jibs and Floor Supports



Learning Objectives

- **Enclosed Track Rail System**
- **Floor Supports**
- **Jib Cranes**
- **Specify a Basic System**
- **Comparative Analysis**



Summary

- Main part of a total ergonomic system solution.
- Keep in mind it is the overhead rail, whether it be ceiling supported or floor supported, that will actually do the task.
- The main objective is to determine the most optimal method for picking up and transporting a customers product within a given work area.



Module Preview

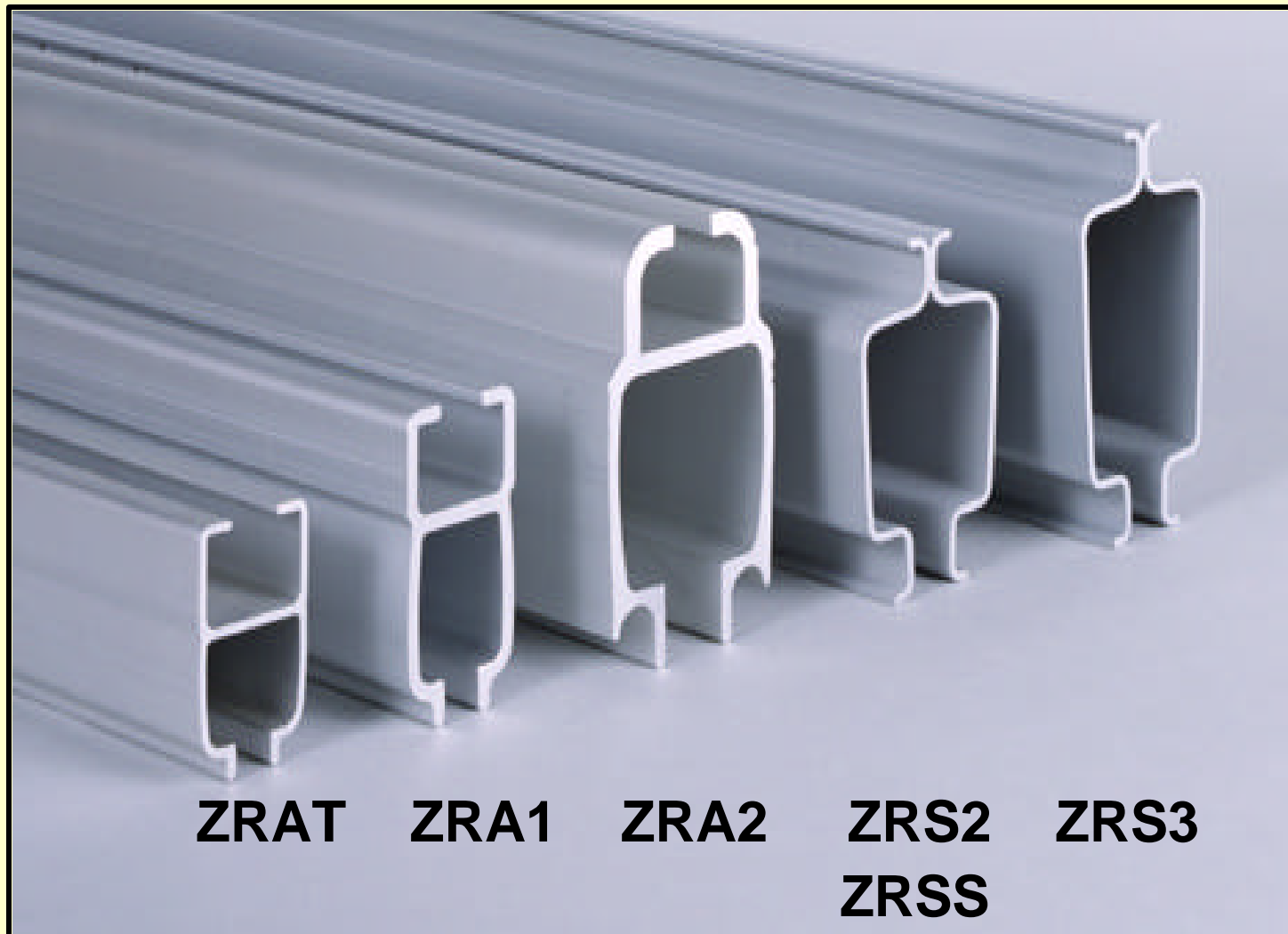


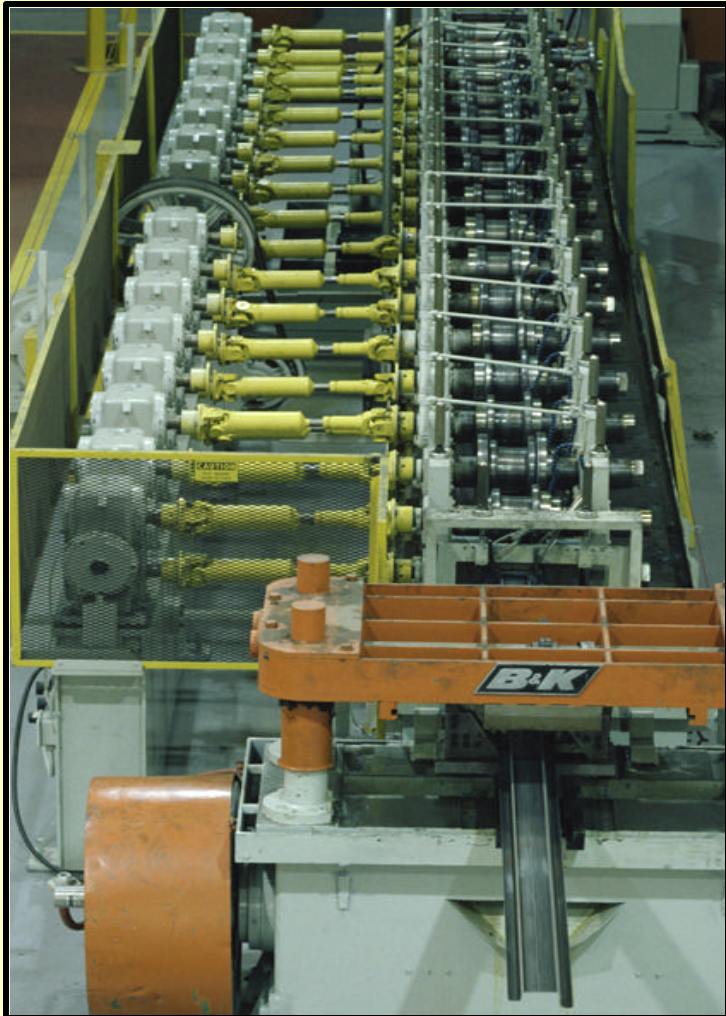
Zimmerman Rail

“The Zimmerman enclosed track is a versatile aesthetically appealing system that works well and can fit most any application.”

--- Area Sales Manager

ZR Premium Enclosed Track





Steel Rail Roll Former

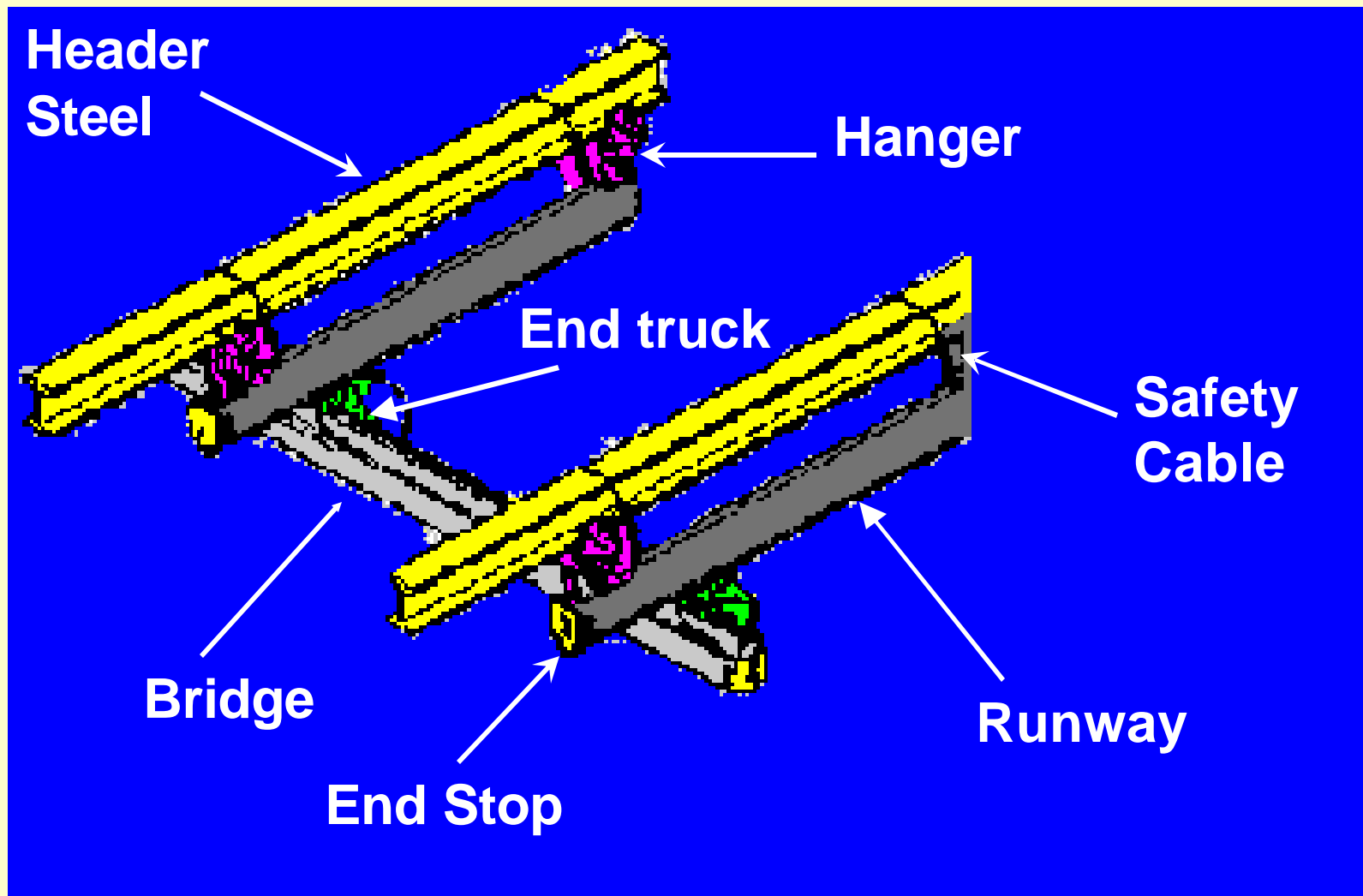
Steel & Aluminum Rail

<u>Rail Prefix</u>	<u>Material</u>	<u>Weight lbs/ft</u>	<u>Height In</u>	<u>Width In</u>	<u>Length ft (max)</u>
ZRS2	Steel	8.00	5.81	3.72	24
ZRSS	Stainless	8.00	5.81	3.72	24
ZRS3	Steel	8.90	7.30	3.72	24
ZRAT	Aluminum	2.14	3.83	2.25	24
ZRA1	Aluminum	3.96	4.90	2.44	30
ZRA2	Aluminum	7.50	7.00	4.13	30

Rail Components

- **Runways**
- **Hangers**
- **Bridges**
- **End Trucks**
- **Trolleys**
- **End Stops**
- **Power Supply**

System Components

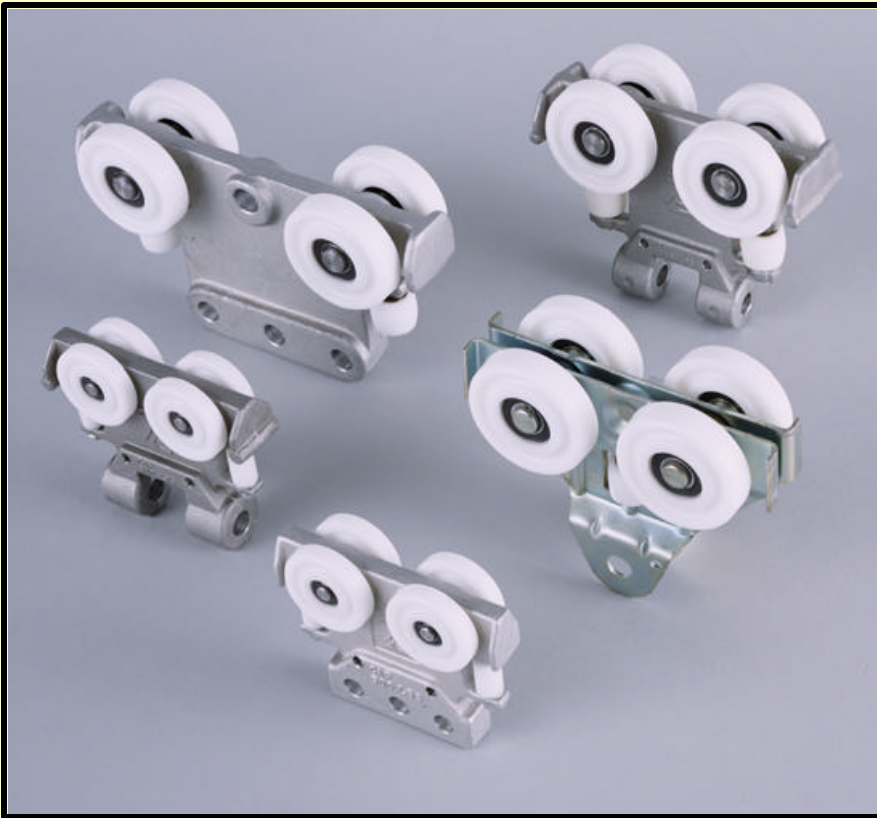


Hangers & End Trucks



- 5 to 1 Safety Ratio For All Hardware
- Safety Cables at Each Hanging Point
- Articulation Prevents Binding
- Cross Bracing Required for Hangers 24 in. or greater

Trolleys

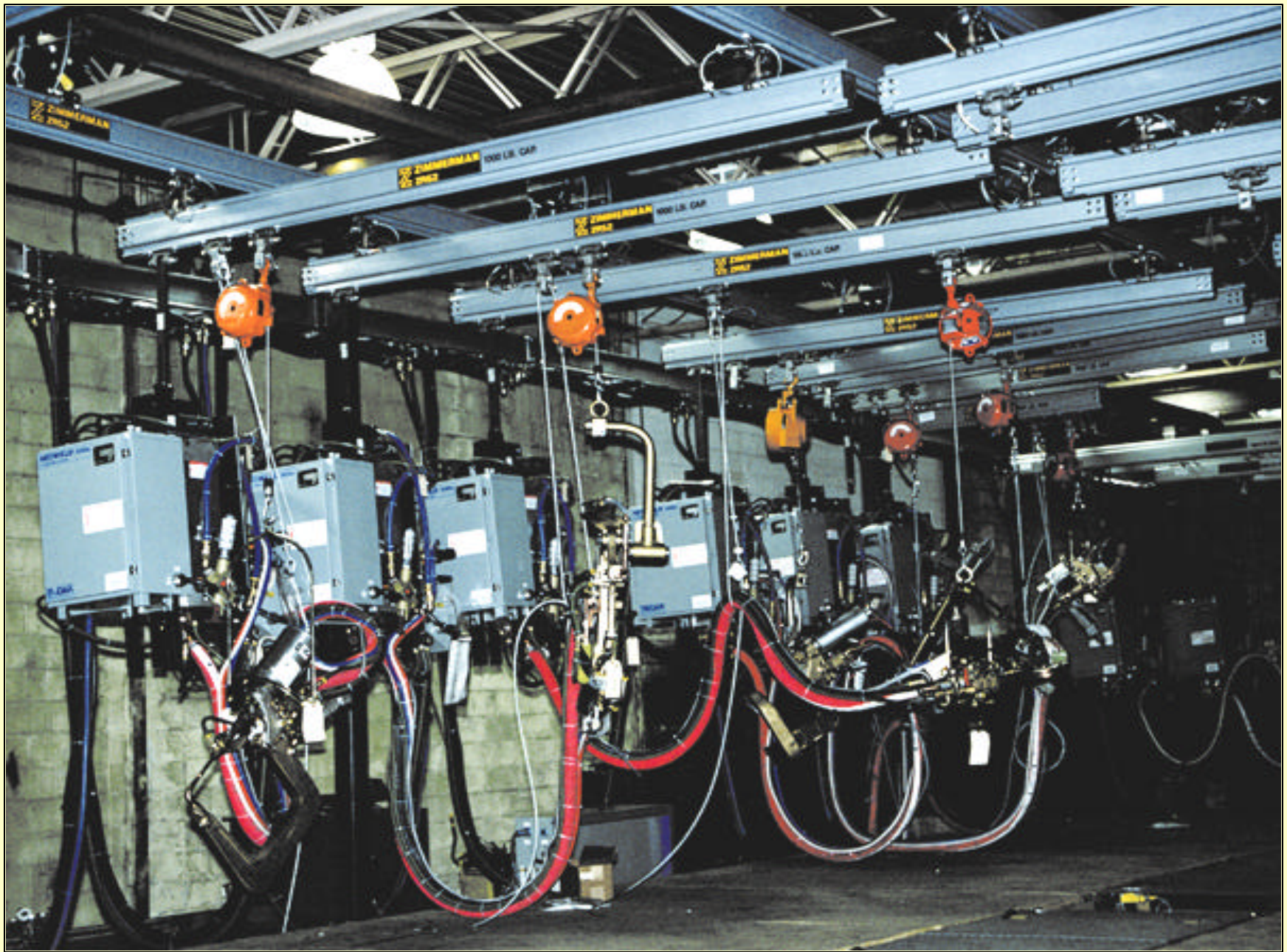


- **Wide Variety**
 - **Aluminum**
 - **Steel**
 - **Stainless Steel**

Power Supply



- Air Supply
 - 3/8" & 1/2"
 - Includes Filter & Regulator
- Tagline



Enclosed Track Rail Systems

- **Lightweight & Ergonomic**
- **Less Than 1% Rolling Resistance**
- **Precision Running Surface**
- **Modular & Flexible**
- **Clean & Quiet**
- **Virtually Maintenance Free**
- **5 to 1 Safety Factor**

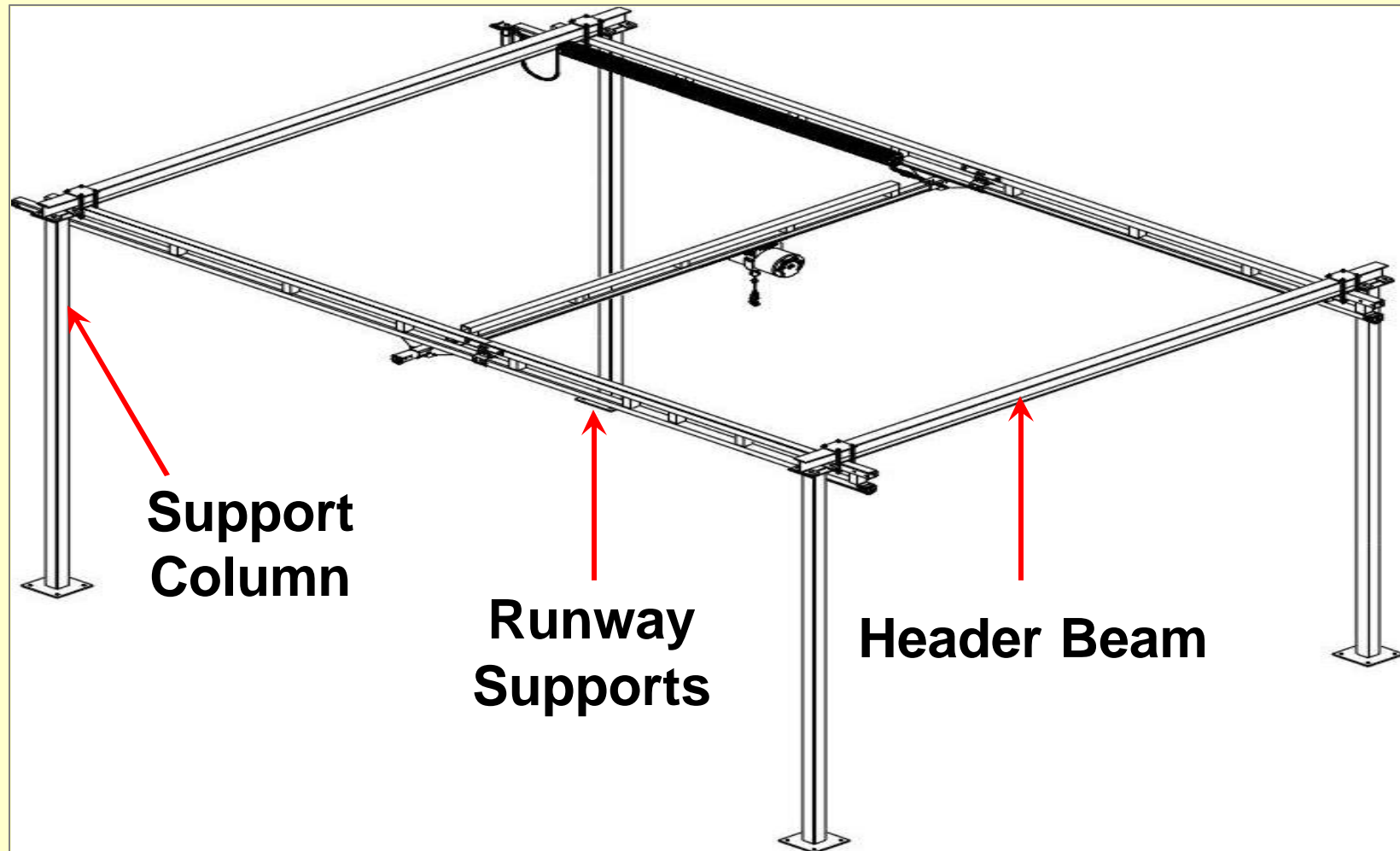


Floor Supports

“What is so nice about our floor support systems is our unique ability to fit to size, provide engineering support and deliver the product quickly.”

--- Area Sales Manager

Free Standing Floor Supports



Free Standing Floor Supports

- ✎ **Use where ceilings are unsuitable**
- ✎ **Rugged steel construction**
- ✎ **10 ft, 12 ft or 14 ft underclearance**
- ✎ **1/4 to 1 ton capacities**
- ✎ **Ready to assemble kits that contain:**
 - 📄 **support columns**
 - 📄 **header beams**
 - 📄 **rail support beams**
 - 📄 **hardware & fasteners (except for anchor bolts)**



Jib Cranes

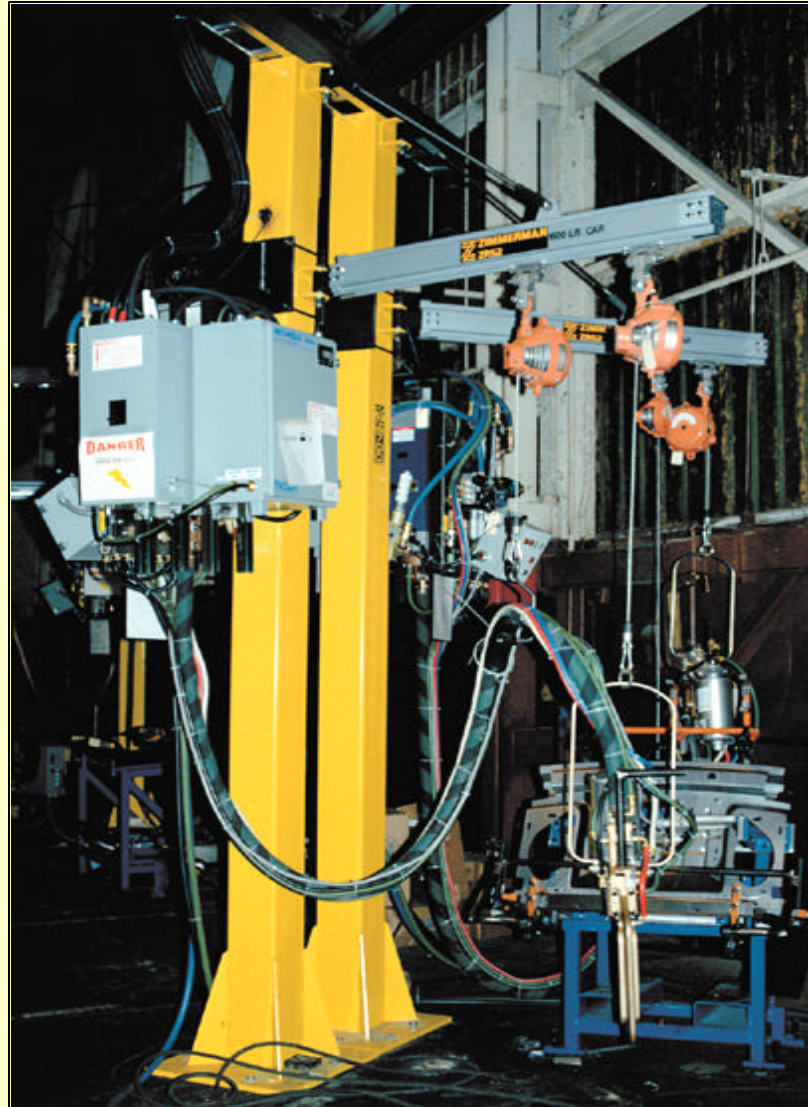
“Our jibs have the lowest inertia in the industry, the smoothest pivot, are easy to start and stop and we can set the under clearance to almost any customer specification.”

--- Area Sales Manager

Jib Cranes

- ✎ **Ergonomic Light-Duty Jib Crane**
- ✎ **Excellent For Occasional Lift,
Short Travel Applications**
- ✎ **Two Mounting Options**
- ✎ **220° or 360° Rotation**

700 Series Jib Crane



Specify a basic rail system

- Identify the application area
- Identify the support points
- Select the runways and hangers
- Select the bridge, end trucks & trolley
- Determine power supply



Identify the Application Area

A. Determine the coverage area.

X Y Z
Width Length Height dimensions

B. Identify the work environment.

C. Identify all potential interference points.

D. Identify air or electrical supply locations.



Identify Support Points

- A. Identify overhead support steel capabilities.
(Discuss with Plant Engineer)**
- B. Identify detailed dimensions of the support
steel including the bottom flange size for beam
clamp applications.**
- C. Identify all potential interference points for the
hanger brackets**



Select the Runways & Hangers

- **Determine total runway length**
- **Select runway profile and hanger type**
- **Determine correct hanger length**
- **Specify single or redundant end stops**

Deflection Chart for ZRA2

<u>Hanger Span</u>		<u>Deflection Limit</u>	<u>Max Point Load</u>
<u>ft.</u>	<u>in.</u>	<u>Inches</u>	<u>Pounds</u>
5	60	1/450 in.	2900
6	72	1/450 in.	2900
7	84	1/450 in.	2900
8	96	1/450 in.	2900
9	108	1/450 in.	2566
10	120	1/450 in.	2079
11	132	1/450 in.	1718
12	144	1/450 in.	1443

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A green background with a white line pattern resembling a map or a network of roads.

Select Bridge, End Trucks & Trolley

- **Determine overall bridge length**
- **Select bridge rail profile**
- **Select end trucks**
- **Select trolley**

Determine Power Supply

- ☞ **Air or Electric**

- ☞ **Size & Length of Runway Air Line**

- ☞ **Size & Length of Bridge Air Line**

- ☞ **For Electric - Consult Factory**



Exercise

- **Flange width** **3.75"**
- **Load** **250lbs.**
- **Handling Device Weight** **90lbs.**
- **Balancer Weight** **100lbs**
- **Coverage** **20ft. Runway**
X 15ft Bridge
- **Use ZRA2 Rail and 6" adjustable hangers**

The Competition

- ⊘ **Unified**
- ⊘ **Knight**
- ⊘ **DeMag**
- ⊘ **Gorbell**

Competitive Comparison

<u>FEATURE</u>	<u>ZIMMERMAN</u>	<u>GORBEL</u>	<u>KNIGHT</u>	<u>MANNESMANN DEMAG</u>	<u>UNIFIED</u>
Ease of Movement	1% of Force of the Total Moving Load	Unknown	Unknown	2% of Force of the Total Moving Load	2% of Force of the Total Moving Load
Bridge Adaptability	Most All Rail Systems (I-Beam, T-Rail & Enclosed)	Gorbel Only	Knight & Unified Rail	KBK Only	Unified and T-Rail
Common Rail Size	Aluminum-ZRA1/2 Steel-ZRS2/3 Stainless-ZRSS Five Sizes	Steel Four Sizes Aluminum Unknown	Aluminum Two Sizes 4000,4800 Series	Steel Four Sizes KBK 100, KBK 1 KBK 11, KBK11-L	Aluminum Two Sizes ETA-8; ETA-4
Air Supply/ Electrification	Kits Available In Both	Air or Electric, Kits Unknown	Unknown	Electric Only, No Kits Available	Air or Electric, No Kits Available
Delivery	10 days Made In The USA	7 Days Made In The USA	Made In The USA	Made In Germany	Made In The USA

Competitive Comparison

Wire Rolled Pins

Delrin Wheels

1/450" Deflection

Color Options

Tapered Aluminum Rail

Anodized Aluminum Rail

Assembled Hanger Kits

Fully Assembled Bridges

Made in USA

Center Feed Air Supply

T-backed Rail

Cast Aluminum Trolleys

Leader in Rail Profiles

Module Review



RAIL CONFIGURATOR

- **Can be used on a laptop**
- **Prevents incorrect rail configurations from being quoted**
- **Quotes can be done in the field quickly and correctly**