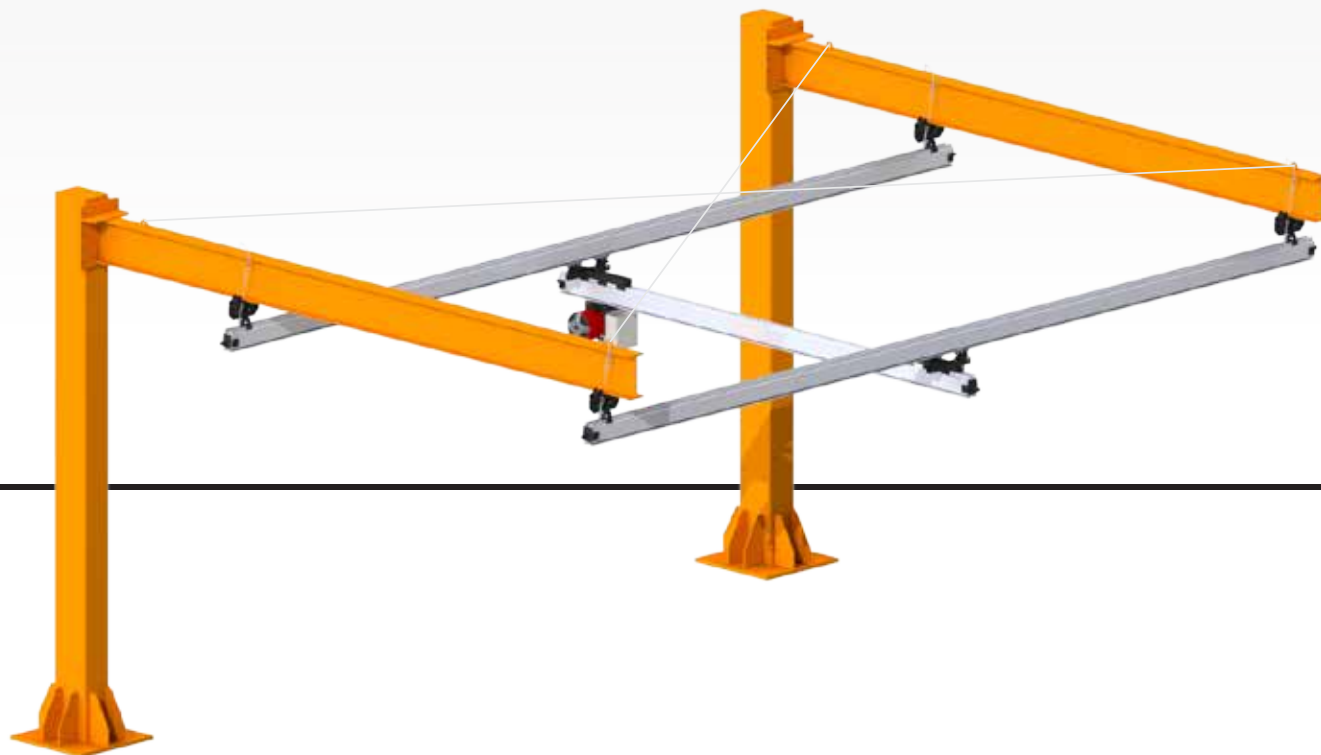




Cantilevered Rail System



Knight Global's Cantilevered Rail Systems are designed to eliminate the need for a four post floor structure system. It provides an alternative to workstations with minimal floor space.

A wide range of options are available with each system to meet all your specific engineering and application requirements. A Knight Representative will assist you in selecting and developing alternatives when designing your rail system.

Features

- Maximum Column Height: 17 ft. [5181mm].
- Maximum Beam Length: 23 ft. [7010mm].
- Rigid End Trucks to prevent skewing of the bridge and for precise loading and unloading operations.
- End-Caps with Shocks to absorb the bridge hitting the end of the rail.
- Extended Stack Hangers with 1.5 in. [38mm] of vertical adjustment in 0.25 in. [6mm] increments.
- Sway Cables with turnbuckles for adjustment.
- Integrated beam pad eyes to secure safety and lateral sway cables.
- Beam pad eyes assist in the lifting of the beam for assembly of the rail system.

Options

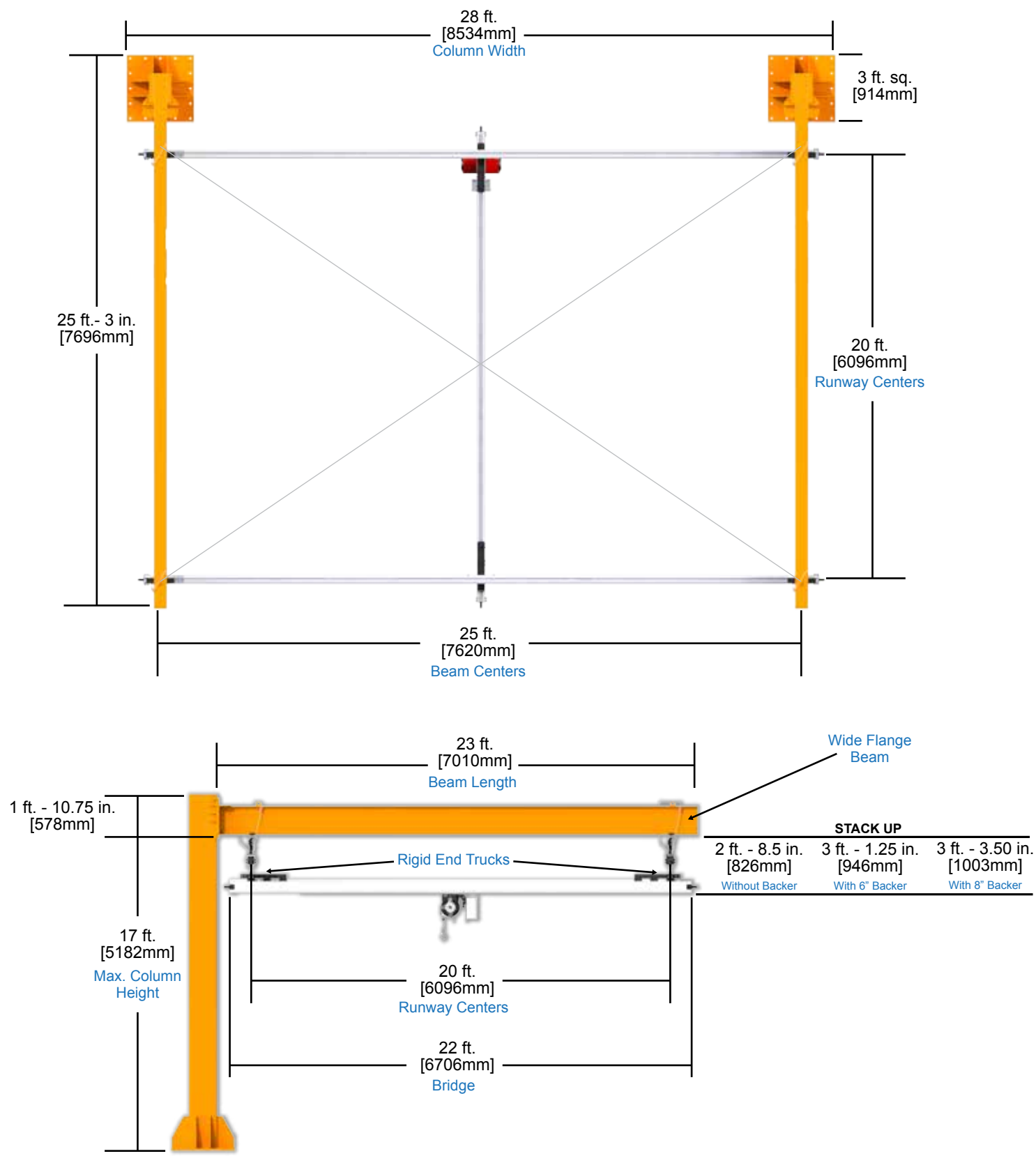
- Additional columns to minimize deflection.
- Extended Runways over 27 ft. [8230mm]
 - Requires Runway Rail Splice kit.
- Mid Rail Stops.
- Dual Cantilevered Rail System Configuration.
- Offset Three Post Cantilevered Rail System Configuration.

For more information, please contact a Knight Global representative.



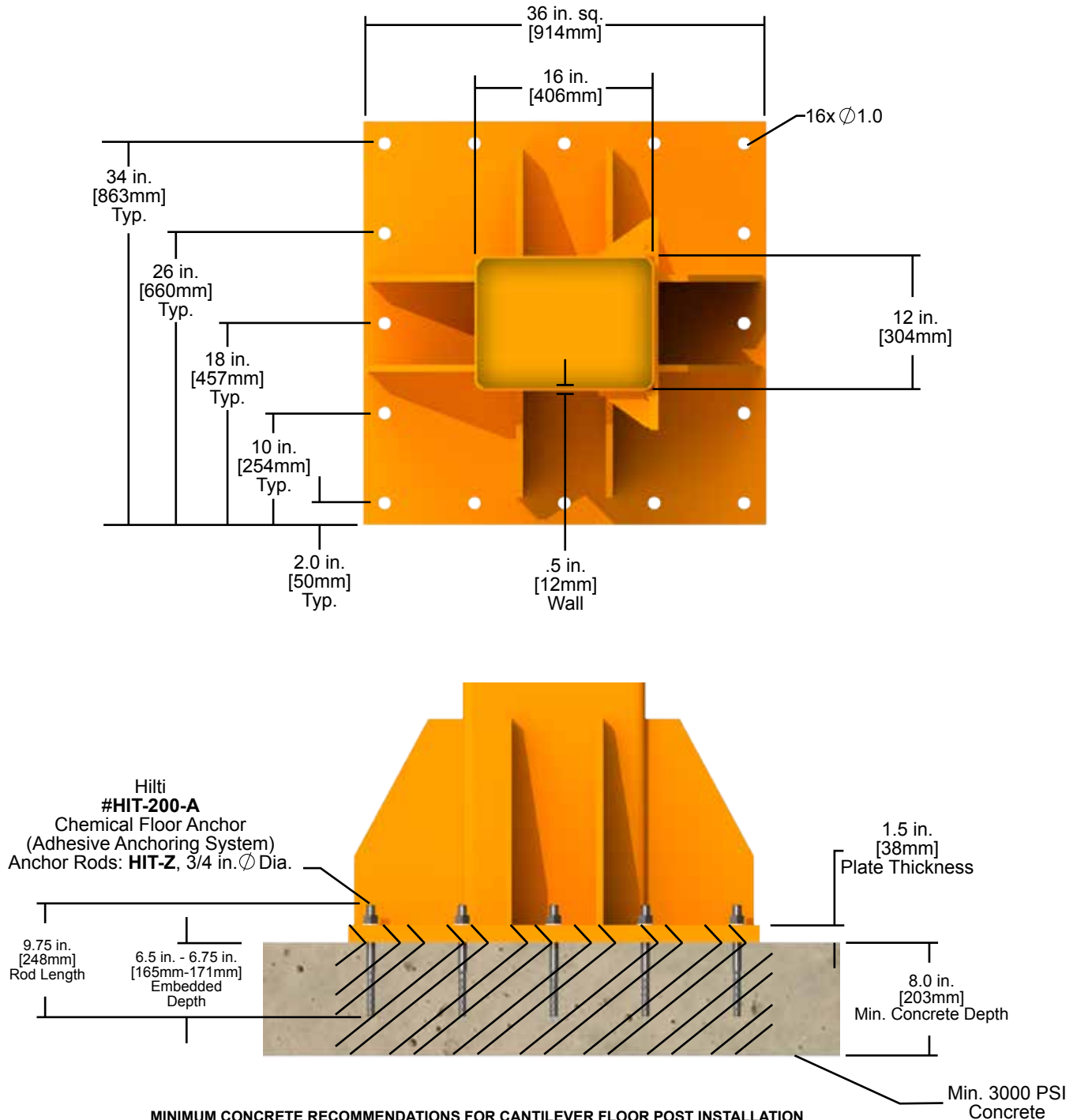


Maximum Two Post Cantilever Rail System Footprint





Column Anchoring



MINIMUM CONCRETE RECOMMENDATIONS FOR CANTILEVER FLOOR POST INSTALLATION

- HILTI #HIT 200-A: CHEMICAL FLOOR ANCHOR (ADHESIVE SYSTEM).
- ANCHOR RODS: HIT-Z: Ø 3/4" X 9 3/4" LG.
- EMBEDDED DEPTH OF ANCHORS IN CONCRETE MUST BE 6 1/2" - 6 3/4". (DEPTH OF HOLES MUST NOT EXCEED 6 3/4")
- MINIMUM 8" CONCRETE THICKNESS.
- MINIMUM 3000 PSI CONCRETE.
- PLEASE FOLLOW HILTI ANCHOR INSTALLATION GUIDE PROVIDED WITH EACH SET OF ANCHORS.
- CAPACITY IS BASED ON INSTALLATION OF ANCHORS IN UN-CRACKED AND JOINT FREE CONCRETE.
- PLEASE CHECK WITH PLANT FACILITIES ENGINEERS FOR CONCRETE CONFORMANCE.
- FOR AREAS WITH SEISMIC ZONE REQUIREMENTS OTHER ANALYSIS MAY BE REQUIRED

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Column to Beam Fasteners

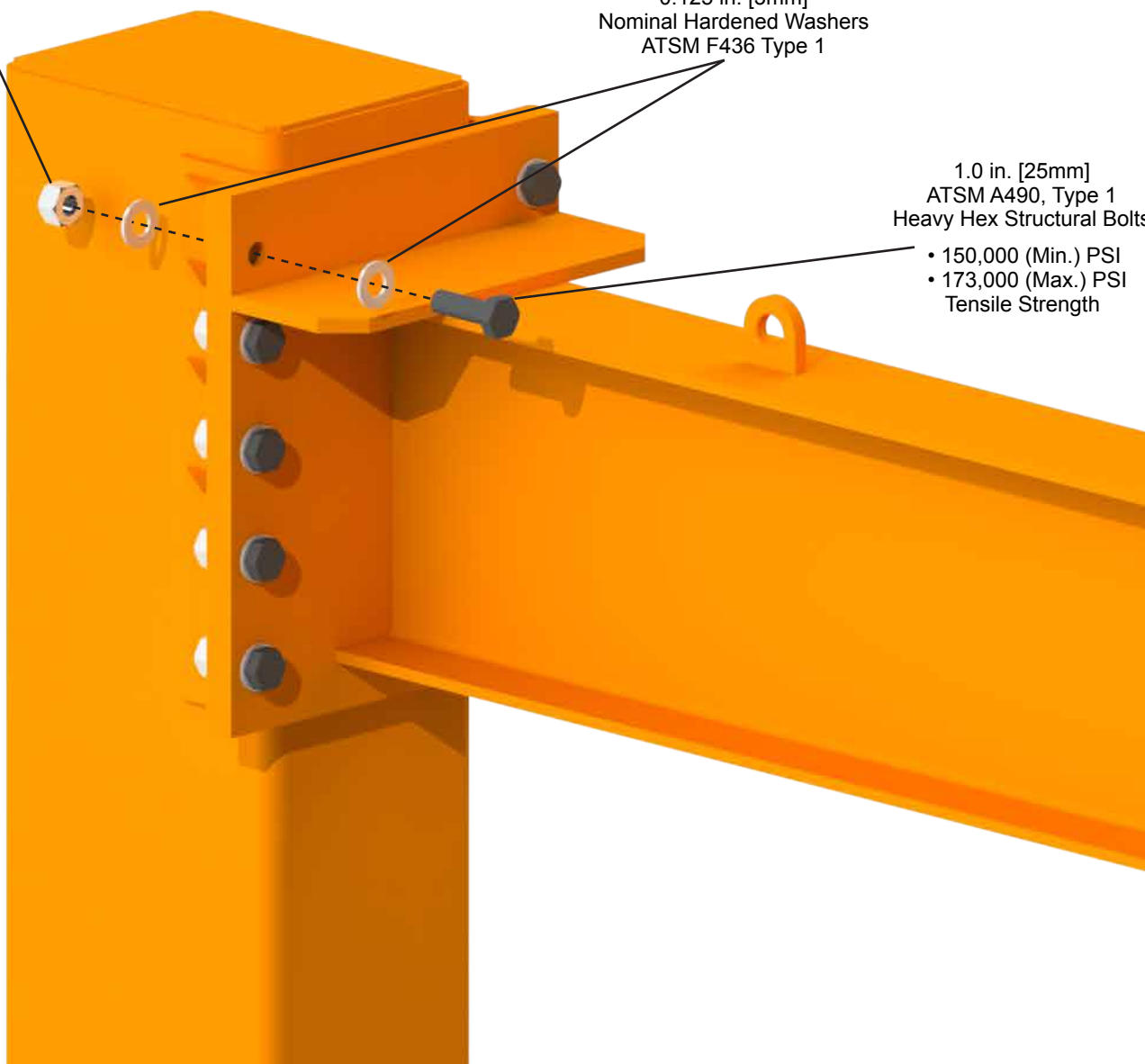
1.0 in. [25mm]
Heavy Hex Nuts
ATSM A563 Grade DH

0.125 in. [3mm]
Nominal Hardened Washers
ATSM F436 Type 1

1.0 in. [25mm]
ATSM A490, Type 1
Heavy Hex Structural Bolts

- 150,000 (Min.) PSI
- 173,000 (Max.) PSI

Tensile Strength



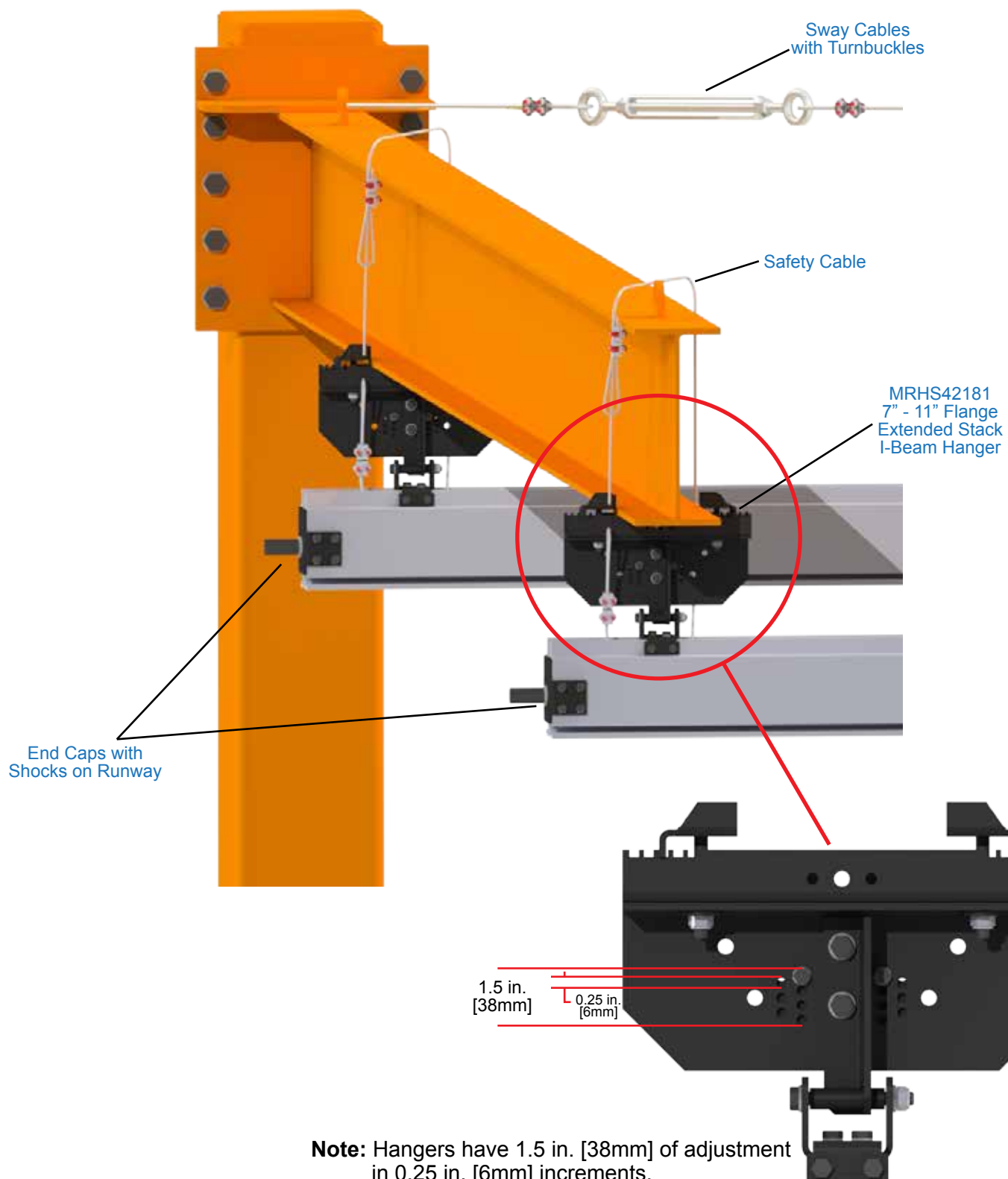
Joint Tightening Procedure

Turn-of-the-nut pretensioning method:

- Snug tighten all fasteners to bring assembly into “firm contact”.
- Match mark the nut and bolt end with a single straight line.
- Using an appropriate alternating tightening pattern, apply a 1/2 turn to all fasteners.

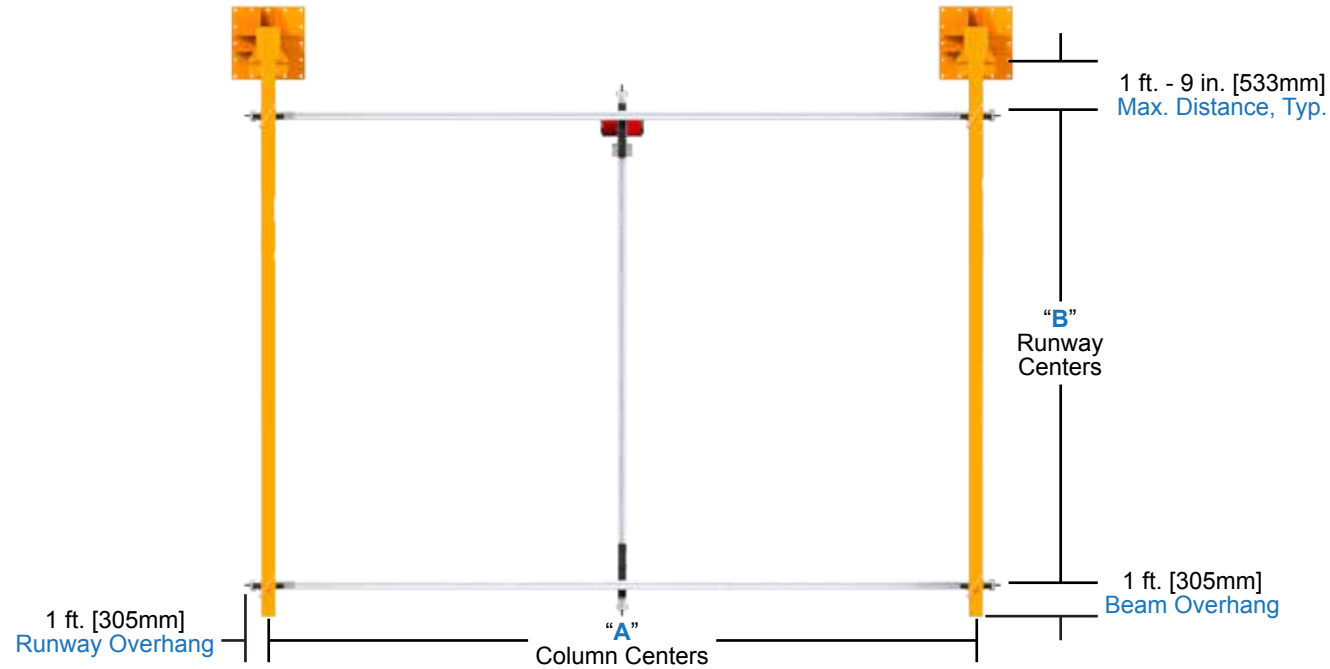


Hangers, Safety Cables & Mid Rail Shocks





Two Post Cantilevered Rail System Capacity Chart



"B"
DIM

RATED CAPACITIES (LBS.)

Rated Capacities are based upon L/450 Deflection Criteria

20FT	330	320	315	305	295	290	280	270	265	255	245	240	230	220	215	205
19FT	480	470	460	455	445	435	430	420	410	405	395	385	380	370	360	355
18FT	650	640	635	625	615	610	600	590	585	575	565	560	550	540	535	525
17FT	740	725	710	695	680	665	650	635	620	605	590	570	555	540	525	510
16FT	975	960	945	930	915	900	885	870	855	840	825	810	795	780	765	750
15FT	1255	1240	1225	1210	1195	1180	1164	1150	1135	1120	1105	1090	1075	1060	1045	1030
14FT	1590	1575	1560	1545	1530	1515	1500	1485	1470	1455	1440	1425	1410	1395	1380	1365
13FT	2000	1985	1970	1955	1940	1925	1910	1895	1880	1865	1850	1835	1820	1805	1790	1775
12FT	2510	2490	2475	2460	2445	2430	2415	2400	2385	2370	2355	2340	2325	2310	2295	2280
11FT	3145	3130	3115	3100	3080	3065	3050	3035	3020	3005	2990	2975	2960	2945	2930	2915
10FT	3305	3290	3275	3260	3245	3230	3215	3200	3185	3170	3155	3140	3125	3105	3090	3075
10FT	10FT	11FT	12FT	13FT	14FT	15FT	16FT	17FT	18FT	19FT	20FT	21FT	22FT	23FT	24FT	25FT

"A" DIMENSION

NOTE: CAPACITIES INCLUDE ALL SUSPENDED BRIDGE LOADS PLUS HOIST WEIGHT.

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With 6" Backer

With 8" Backer

Increase Cantilevered Rail System Weight Capacities

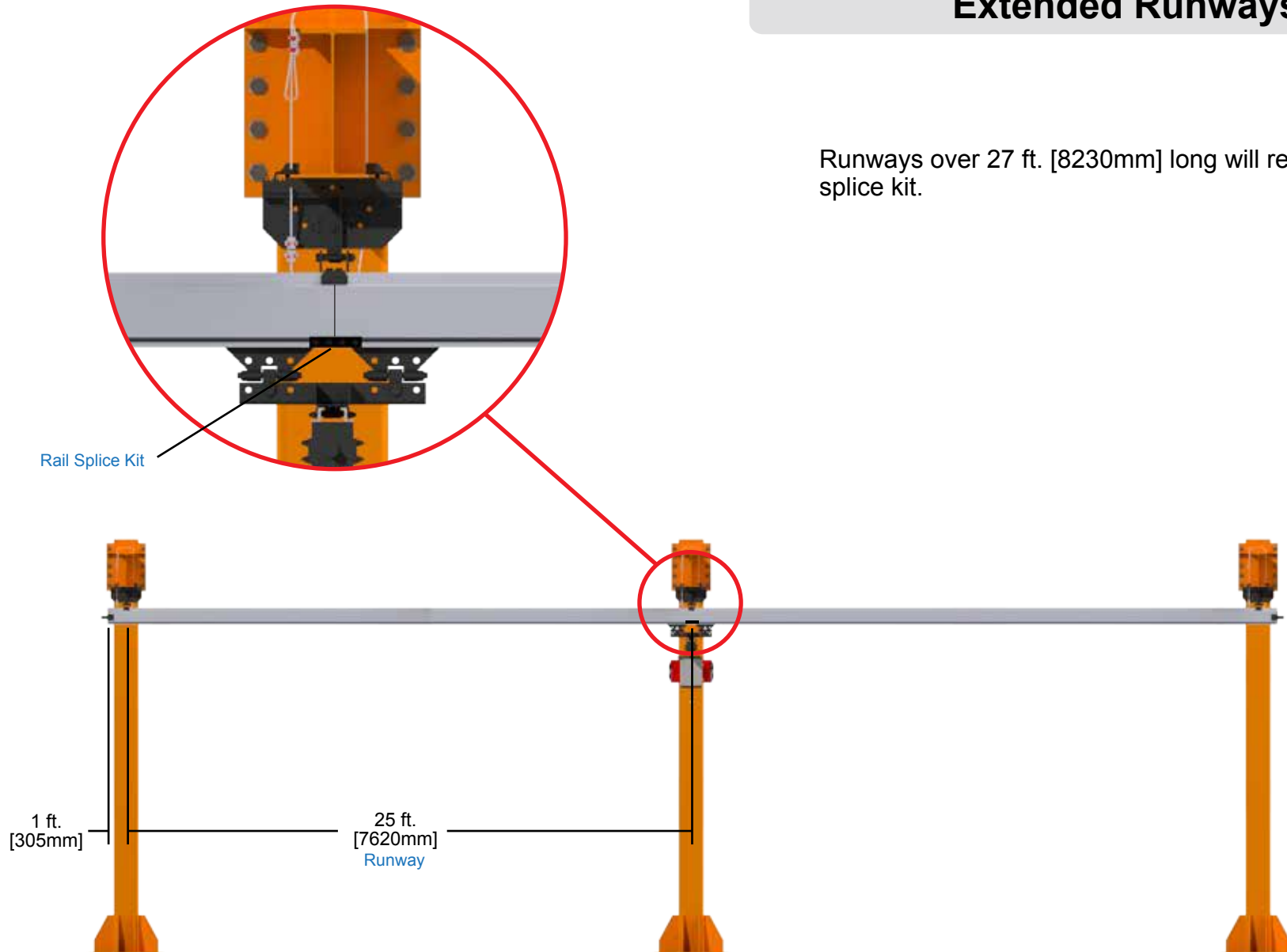
Additional columns can be added to the two post system to achieve greater load capacities and minimize deflection.

* **Note:** Additional bridge rails can be added also to multiple bay systems to support multiple operations.





Cantilevered Rail System Extended Runways



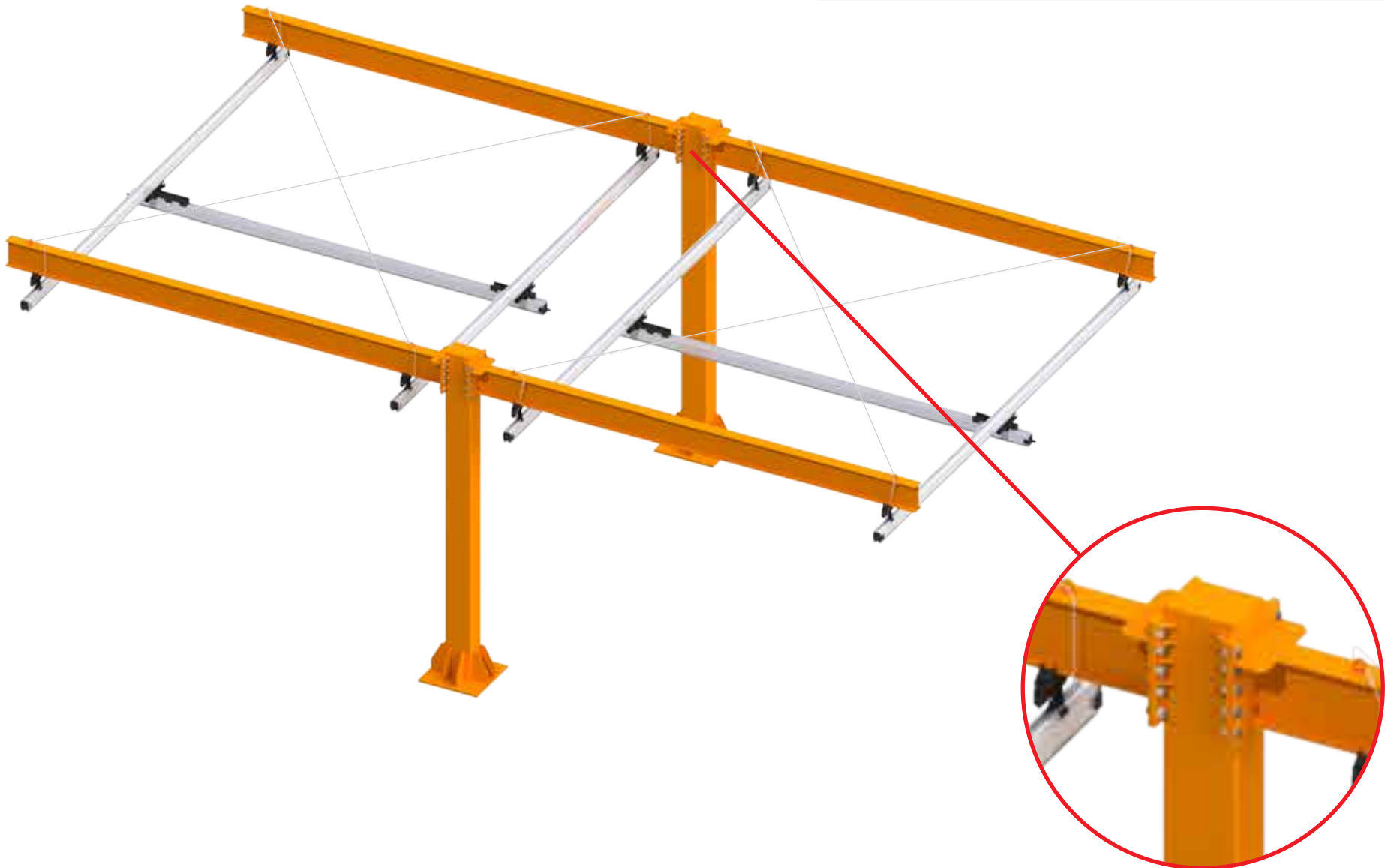
Runways over 27 ft. [8230mm] long will require a rail splice kit.



KNIGHT GLOBAL

Cantilevered Rail System

**Maximum Two Post Dual
Cantilever Rail System**



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Maximum Offset Three Post Cantilever Rail System

An offset column can be added to the two post system to achieve greater load capacities and minimize deflection.

Note: The added beam connections may vary from what is shown.

