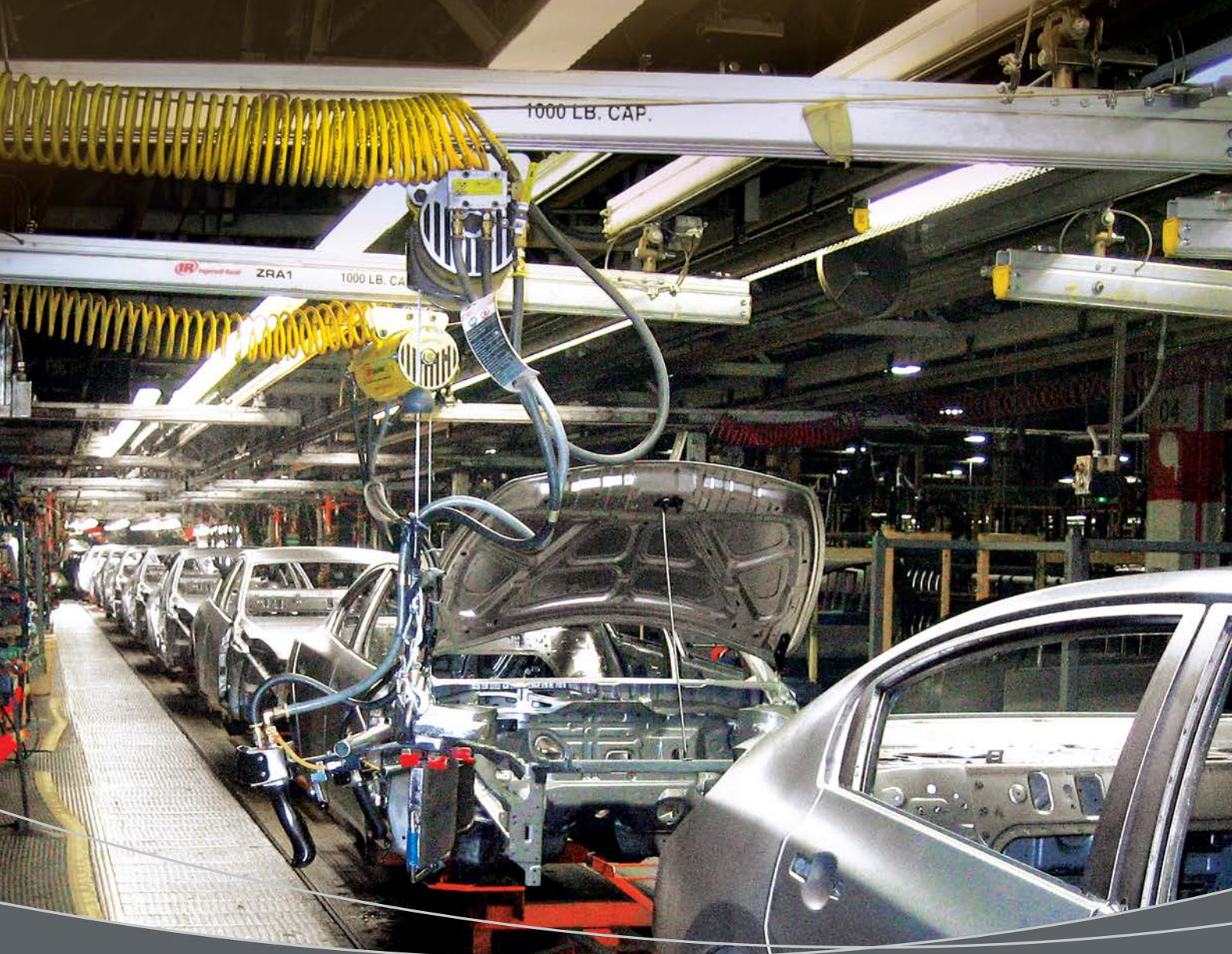




## Rail Systems

The backbone of any ergonomic material handling system

### Ingersoll Rand offers:

- ▶ Ceiling-supported workstation bridge cranes
- ▶ Monorails

### Ceiling-supported workstations cranes

Ideal for high-volume production environments with limited floor space.

Capable of mounting parallel or perpendicular to overhead support steel.

Provide rectangular coverage for a single workstation, or an entire assembly line with multiple bridge cranes.

Capacities up to 1400 kg.



#### Safety first

Ingersoll Rand's primary and vital concern is safety.

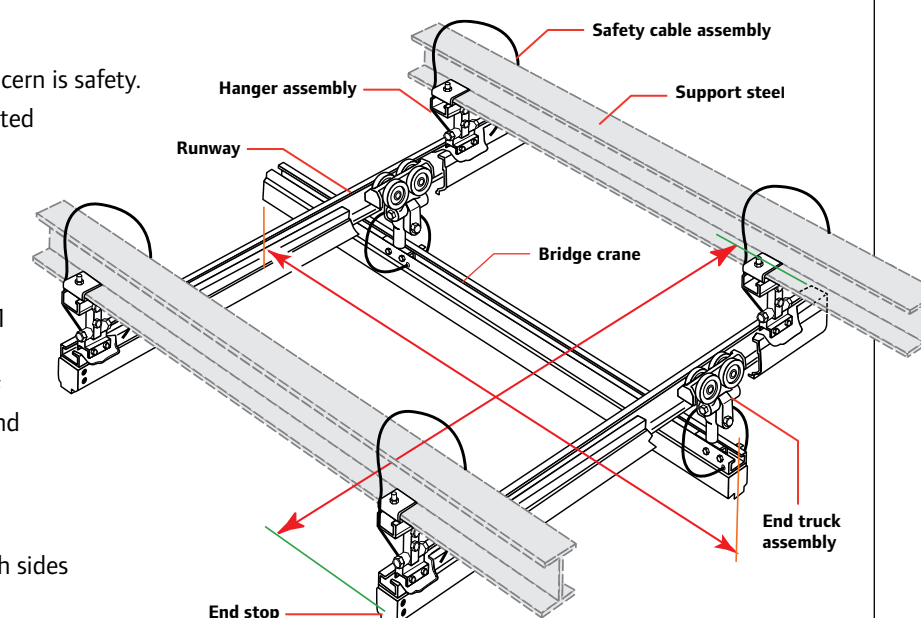
**Safety factor:** all components are rated at a 5 to 1 safety factor based on meticulous tests performed at independent testing laboratories.

**Deflection:** Ingersoll Rand rail is designed to not exceed 1/450 of span, in accordance with ANSI B30.11 Monorail and Underhung Cranes.

**Safety cables:** we require the use of safety cables at all moving (hanger and end-truck) suspension points.

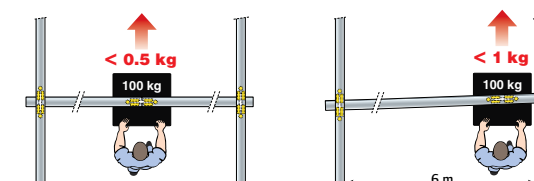
**Redundant end stops:** available for extra safety.

**Load ratings:** clearly marked on both sides of bridges rails.



#### Facilitates quick, precision positioning

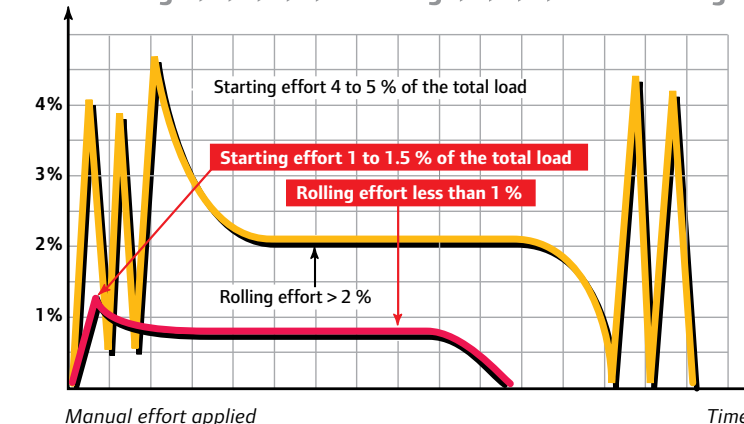
Thanks to the quality of the rolling surfaces, the guidance of the trolleys and the articulated suspensions, Ingersoll Rand systems allow you to move loads with a maximum starting force of 1.5 % of the total load (bridge plus load). Furthermore, the rolling effort required during displacement is less than 1 % – even if the load is pushed far away from the centre of the bridge (see sketches).



**Pushing force in the centre**  
Rolling effort less than 0.5 kg  
for a load of 100 kg

**Pushing force on one side**  
Rolling effort less than 1 kg  
for a load of 100 kg

#### Starting ▶▶▶▶▶ Moving ▶▶▶▶▶ Positioning



Typical enclosed rail systems  
Ingersoll Rand enclosed rail systems

Profiles

Quality steel and aluminum rail systems

Ingersoll Rand rails are available in two different materials and five different sizes to meet your specific material handling needs. The enclosed rail systems design reduces the accumulation of dirt and grime on the internal rolling surfaces, thus reducing rolling effort.



The Ingersoll Rand rail systems ADVANTAGE

- ▶ **Lightweight and ergonomic:** less than 1 percent rolling resistance
  - ▶ **Modular and flexible:** bolted together; no welding required
- ▶ **Clean, maintenance-free operation:** no lubrication required
  - ▶ **Safety:** designed to meet or exceed all national and international standards

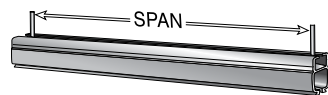
Lightweight aluminum profiles

- ▶ Lightweight and available for long spans
- ▶ Extruded from aluminum
- ▶ Clear anodized for a smooth, clean, corrosive-free surface

Rugged steel profiles

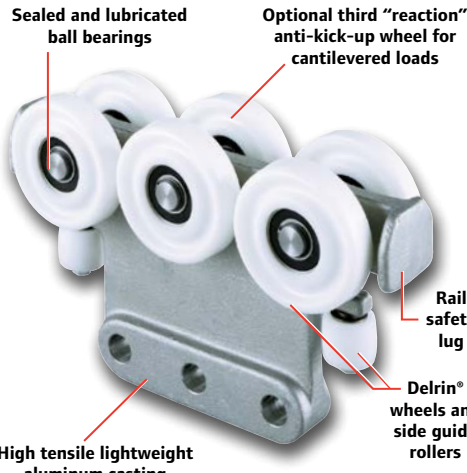
- ▶ Roll formed from 9 gauge (4 mm), A569 hot-rolled steel
- ▶ Spot welded with automated welder for maximum strength
- ▶ Powder-coat painted for durability and smoothness

|                      |  |  |  |  |  |  |
|----------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Rail model           | Z RAT                                                                              | Z RA1                                                                              | Z RA2                                                                              | Z RA2T                                                                             | Z RS2                                                                                | Z RS3                                                                                |
| Material             | Aluminum                                                                           | Aluminum                                                                           | Aluminum                                                                           | Aluminum                                                                           | Steel                                                                                | Steel                                                                                |
| Weight per m (kg)    | 3.0                                                                                | 5.5                                                                                | 11.3                                                                               | 22.3                                                                               | 11.9                                                                                 | 13.2                                                                                 |
| Vertical height (mm) | 97                                                                                 | 124                                                                                | 177                                                                                | 330                                                                                | 150                                                                                  | 181                                                                                  |



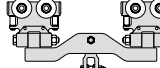
| Span (m) | Load capacity (kg) /Deflexion 1/450 |       |       |        |       |       | Load capacity (kg) /Deflexion 1/500<br>(UK standard) |       |       |        |       |       |
|----------|-------------------------------------|-------|-------|--------|-------|-------|------------------------------------------------------|-------|-------|--------|-------|-------|
|          | Z RAT                               | Z RA1 | Z RA2 | Z RA2T | Z RS2 | Z RS3 | Z RAT                                                | Z RA1 | Z RA2 | Z RA2T | Z RS2 | Z RS3 |
| 1        | 372                                 | 734   | 1361  | 1361   | 1293  | 1293  | 372                                                  | 734   | 1361  | 1361   | 1293  | 1293  |
| 1,5      | 311                                 | 734   | 1361  | 1361   | 1293  | 1293  | 280                                                  | 734   | 1361  | 1361   | 1293  | 1293  |
| 2        | 175                                 | 595   | 1361  | 1361   | 1293  | 1293  | 157                                                  | 536   | 1361  | 1361   | 1293  | 1293  |
| 2,5      | 112                                 | 381   | 1361  | 1361   | 1219  | 1293  | 101                                                  | 343   | 1310  | 1361   | 1097  | 1293  |
| 3        | 78                                  | 264   | 1011  | 1361   | 847   | 1293  | 70                                                   | 238   | 909   | 1361   | 762   | 1293  |
| 3,5      | 57                                  | 194   | 742   | 1361   | 622   | 1074  | 51                                                   | 175   | 668   | 1361   | 560   | 967   |
| 4        | 44                                  | 149   | 568   | 1361   | 476   | 823   | 39                                                   | 134   | 512   | 1361   | 429   | 740   |
| 4,5      | 35                                  | 118   | 449   | 1361   | 376   | 650   | 31                                                   | 106   | 404   | 1361   | 339   | 585   |
| 5        | 28                                  | 95    | 364   | 1361   | 305   | 526   | 25                                                   | 86    | 327   | 1361   | 274   | 474   |
| 5,5      | 23                                  | 79    | 301   | 1361   | 252   | 435   | 21                                                   | 71    | 271   | 1361   | 227   | 392   |
| 6        | 19                                  | 66    | 253   | 1361   | 212   | 366   | 17                                                   | 60    | 227   | 1361   | 190   | 329   |
| 6,5      | –                                   | 56    | 215   | 1361   | 180   | 312   | –                                                    | 51    | 194   | 1259   | 162   | 280   |
| 7        | –                                   | 49    | 186   | 1206   | 156   | 279   | –                                                    | 44    | 167   | 1085   | 140   | 242   |
| 7,5      | –                                   | 42    | 162   | 1051   | –     | –     | –                                                    | 38    | 146   | 946    | –     | –     |
| 8        | –                                   | 37    | 142   | 923    | –     | –     | –                                                    | 33    | 128   | 831    | –     | –     |
| 8,5      | –                                   | 33    | 126   | 818    | –     | –     | –                                                    | 30    | 113   | 736    | –     | –     |
| 9        | –                                   | 29    | 112   | –      | –     | –     | –                                                    | 26    | 101   | –      | –     | –     |

Advanced load trolleys



Ingersoll Rand trolleys are designed to work in conjunction with the enclosed track rail to reduce the rolling effort required to move a load. Only a force equal to 1 percent of the total rolling weight is needed when moving loads.

- ▶ **Lightweight:** trolleys are made from high-strength, lightweight aluminum castings
- ▶ **Injection molded wheels:** provide for clean, wear-free operation that resists flattening
- ▶ **Sealed precision bearings:** in wheels and side guide rollers, they provide long life and reduced maintenance
- ▶ **Rail safety lug:** prevents the body of the trolley from being pulled through the enclosed track rail
- ▶ **Versatile:** Ingersoll Rand-built trolleys are available for use in virtually every manufacturer's enclosed track rail system

| For use with:                             |                                                                                                                                                                                                                                    | Z RAT                         | Z RA1                                                            | Z RA2                                                            | Z RS2                                                            | Z RS3                                                            |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|
| Simple trolley                            |                                                                                                                                               | SWL: 225 kg<br>Part no. 31057 | SWL: 225 kg<br>Part no. 30281                                    | SWL: 450 kg<br>Part no. 30172                                    | SWL: 450 kg<br>Part no. 30821                                    | SWL: 450 kg<br>Part no. 30821                                    |
| Load trolley (with suspension axle)       |                                                                                                                                               | —                             | SWL: 225 kg<br>Part no. 30304                                    | SWL: 450 kg<br>Part no. 30923                                    | SWL: 450 kg<br>Part no. 30842                                    | SWL: 450 kg<br>Part no. 30842                                    |
| Hoist trolley                             |                                                                                                                                               | SWL: 225 kg<br>Part no. 31058 | SWL: 225 kg<br>Part no. 30313                                    | SWL: 450 kg<br>Part no. 30314                                    | SWL: 450kg<br>Part no. 30315                                     | SWL: 450 kg<br>Part no. 30315                                    |
| Dual hoist trolley                        |                                                                                                                                               | —                             | SWL: 450 kg<br>Part no. 30303                                    | SWL: 900 kg<br>Part no. 30906                                    | SWL: 900 kg<br>Part no. 30830                                    | SWL: 900 kg<br>Part no. 30830                                    |
| 3 hole trolley                            |                                                                                                                                               | SWL: 225 kg<br>Part no. 31056 | SWL: 225 kg<br>Part no. 30279                                    | SWL: 450 kg<br>Part no. 30015                                    | SWL: 450 kg<br>Part no. 30510                                    | SWL: 450 kg<br>Part no. 30510                                    |
| Reaction trolley (for cantilevered loads) |                                                                                                                                               | —                             | —                                                                | SWL: 450 kg<br>Part no. 30016                                    | SWL: 450 kg<br>Part no. 30511                                    | —                                                                |
| Bumper trolley                            | <br>Part no. XXXXX-1200, L = 305 mm<br>Part no. XXXXX-2400, L = 610 mm<br>Part no. XXXXX-3600, L = 915 mm<br>Part no. XXXXX-4800, L = 1220 mm | —                             | Part no.<br>30307-1200<br>30307-2400<br>30307-3600<br>30307-4800 | Part no.<br>30148-1200<br>30148-2400<br>30148-3600<br>30148-4800 | Part no.<br>30148-1200<br>30148-2400<br>30148-3600<br>30148-4800 | Part no.<br>30148-1200<br>30148-2400<br>30148-3600<br>30148-4800 |

Note: the ZRA1 monorails use the same components as the ZRA1 bridge cranes (hanger kits, load trolleys, etc), except dual hoist trolley, part no. 30303.

While Ingersoll Rand offers both articulating and rigid end trucks to match the material handling application, the primary system sold utilizes the articulating end truck. This feature maximises the ability of the operator to precisely position loads, by allowing him to move only the portion of the bridge crane near the load. This results in dramatic improvements over typical rigid end truck systems, which require the user to move the entire mass of the bridge crane for each operation.

Ingersoll Rand offers a wide variety of hangers to attach to virtually any type of overhead steel. Available in either rigid (anti-compression) or pivoting styles to match the material handling operation, the hangers come in fixed or adjustable lengths for all rails.

Labels: Runway, End stop, Safety cable, Hanger kit (pivoting), Bridge, End stop.

Articulating end trucks

- ▶ Maximize the ability of the operator to precisely position the load
- ▶ Reduce fatigue by allowing the operator to move only the portion of the bridge crane near the load
- ▶ Dramatic improvements over typical rigid end-truck systems, which require the user to move the entire mass of the bridge crane for each operation



|               |                               |                               |                               |                               | Other brands                  |                               |
|---------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| For use with: | Z RAT                         | Z RA1                         | Z RA2                         | Z RS2 & Z RS3                 | KBK1                          | KBK1 & KBK2L                  |
|               | SWL: 225 kg<br>Part no. 31059 | SWL: 225 kg<br>Part no. 30283 | SWL: 450 kg<br>Part no. 30909 | SWL: 450 kg<br>Part no. 30822 | SWL: 225 kg<br>Part no. 30283 | SWL: 450 kg<br>Part no. 30639 |
|               | SWL: 450 kg<br>Part no. 31060 | SWL: 450 kg<br>Part no. 30286 | SWL: 900 kg<br>Part no. 30911 | SWL: 900 kg<br>Part no. 30826 | SWL: 450 kg<br>Part no. 30286 | SWL: 900 kg<br>Part no. 30846 |
|               | SWL: 225 kg<br>Part no. 31059 | SWL: 225kg<br>Part no. 30283  | SWL: 450 kg<br>Part no. 30909 | SWL: 450 kg<br>Part no. 30822 | SWL: 225 kg<br>Part no. 30283 | SWL: 450 kg<br>Part no. 30639 |
|               | SWL: 450 kg<br>Part no. 31060 | SWL: 450 kg<br>Part no. 30286 | SWL: 900 kg<br>Part no. 30911 | SWL: 900 kg<br>Part no. 30826 | SWL: 450 kg<br>Part no. 30286 | SWL: 900 kg<br>Part no. 30846 |
|               | —                             | SWL: 225 kg<br>Part no. 30295 | SWL: 450 kg<br>Part no. 30176 | SWL: 450 kg<br>Part no. 30824 | SWL: 225 kg<br>Part no. 30295 | SWL: 450 kg<br>Part no. 30927 |
|               | —                             | SWL: 450 kg<br>Part no. 30272 | SWL: 900 kg<br>Part no. 30177 | SWL: 900 kg<br>Part no. 30828 | SWL: 450 kg<br>Part no. 30272 | SWL: 900 kg<br>Part no. 30643 |
|               | —                             | SWL: 225 kg<br>Part no. 30320 | SWL: 450 kg<br>Part no. 30913 | SWL: 450 kg<br>Part no. 30597 | SWL: 225 kg<br>Part no. 30320 | SWL: 450 kg<br>Part no. 30563 |
|               | —                             | SWL: 450 kg<br>Part no. 30298 | SWL: 900 kg<br>Part no. 30915 | SWL: 900 kg<br>Part no. 30599 | SWL: 450 kg<br>Part no. 30298 | —                             |

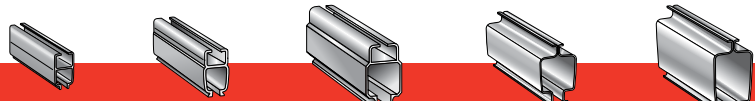
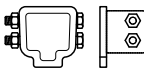
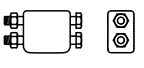
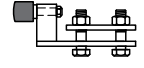
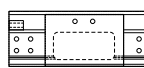
Hanger kits

- ▶ Attach to I-beam, angle iron, C-channel, and other overhead steel shapes
- ▶ Close and rigid style hangers available for low headroom
- ▶ Adjustable-height hangers provide easy leveling
- ▶ Sway bracing for hanger drops >600 mm for added safety and stability



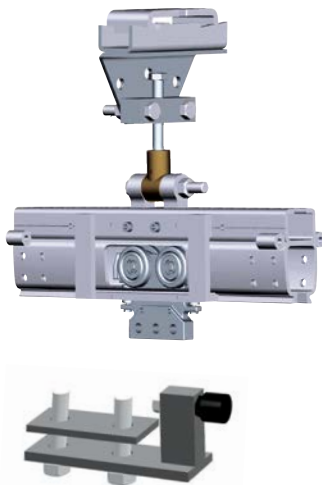
| For use with:           |  |             | Z RAT                            | Z RA1                            | Z RA2                            | Z RS2                            | Z RS3                            |
|-------------------------|--|-------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Adjustable<br>± 22 mm   |  |             | H = 287 mm<br>Part no. 30287-006 | H = 287 mm<br>Part no. 30287-006 | H = 295 mm<br>Part no. 30195-006 | H = 273 mm<br>Part no. 30814-006 | H = 273 mm<br>Part no. 30814-006 |
|                         |  |             | H = 439 mm<br>Part no. 30287-012 | H = 439 mm<br>Part no. 30287-012 | H = 447 mm<br>Part no. 30195-012 | H = 425 mm<br>Part no. 30814-012 | H = 425 mm<br>Part no. 30814-012 |
|                         |  |             | H = 287 mm<br>Part no. 30288-006 | H = 287 mm<br>Part no. 30288-006 | H = 295 mm<br>Part no. 30196-006 | H = 273 mm<br>Part no. 30815-006 | H = 273 mm<br>Part no. 30815-006 |
|                         |  |             | H = 439 mm<br>Part no. 30288-012 | H = 439 mm<br>Part no. 30288-012 | H = 447 mm<br>Part no. 30196-012 | H = 425 mm<br>Part no. 30815-012 | H = 425 mm<br>Part no. 30815-012 |
| Short                   |  |             | H = 156 mm<br>Part no. 30300     | H = 156 mm<br>Part no. 30300     | H = 164 mm<br>Part no. 30921     | H = 142 mm<br>Part no. 30840     | H = 142 mm<br>Part no. 30840     |
|                         |  |             | H = 156 mm<br>Part no. 30301     | H = 156 mm<br>Part no. 30301     | H = 164 mm<br>Part no. 30922     | H = 142 mm<br>Part no. 30841     | H = 142 mm<br>Part no. 30841     |
| Parallel beam           |  |             | H = 292 mm<br>Part no. 30290     | H = 292 mm<br>Part no. 30290     | H = 301 mm<br>Part no. 30199     | H = 279 mm<br>Part no. 30817     | H = 279 mm<br>Part no. 30817     |
|                         |  |             | H = 292 mm<br>Part no. 30291     | H = 292 mm<br>Part no. 30291     | H = 301 mm<br>Part no. 30900     | H = 279 mm<br>Part no. 30818     | H = 279 mm<br>Part no. 30818     |
|                         |  | Block mount | H = 244 mm<br>Part no. 30289     | H = 244 mm<br>Part no. 30289     | H = 253 mm<br>Part no. 30198     | H = 231 mm<br>Part no. 30816     | H = 231 mm<br>Part no. 30816     |
| Perpen-<br>dicular beam |  |             | H = 292 mm<br>Part no. 30292     | H = 292 mm<br>Part no. 30292     | H = 301 mm<br>Part no. 30901     | H = 279 mm<br>Part no. 30819     | H = 279 mm<br>Part no. 30819     |
|                         |  |             | H = 292 mm<br>Part no. 30293     | H = 292 mm<br>Part no. 30293     | H = 301 mm<br>Part no. 30902     | H = 279 mm<br>Part no. 30820     | H = 279 mm<br>Part no. 30820     |
|                         |  | Block mount | H = 244 mm<br>Part no. 30285     | H = 244 mm<br>Part no. 30285     | H = 253 mm<br>Part no. 30193     | H = 231 mm<br>Part no. 30813     | H = 231 mm<br>Part no. 30813     |
| Rigid                   |  | Rigid mount | Part no. 30227                   | Part no. 30227                   | Part no. 30052                   | —                                | —                                |

Components

|  |                                                                                   |                |                        |                        |                |                |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------|------------------------|------------------------|----------------|----------------|
| For use with:                                                                      |                                                                                   | ZRAT           | ZRA1                   | ZRA2                   | ZRS2           | ZRS3           |
| End stop                                                                           |  | Part no. 31022 | Part no. 30275         | Part no. 30183         | Part no. 30804 | Part no. 30808 |
| Redundant                                                                          |  | Part no. 31024 | Part no. 30277         | Part no. 30185         | Part no. 30806 | Part no. 30810 |
| Adjustable end stop                                                                |  | Part no. 30738 | Part no. 30738         | Part no. 30733         | Part no. 30733 | Part no. 30733 |
| Splice bolt kit                                                                    |  | Part no. 31020 | Part no. 30231         | Part no. 30057         | Part no. 30515 | Part no. 30515 |
| Inspection gate                                                                    |  | —              | Part no. ZRA1-IG-ADJ06 | Part no. ZRA2-IG-ADJ06 | —              | —              |

Inspection gate

- ▶ Provide simple inspection of trolleys and end trucks



Adjustable stop

- ▶ Easily adjust travel limit of bridge crane or load trolley

Curved rails

- ▶ Provide simple single-axis transfer
- ▶ Curved sections available for navigating obstructions

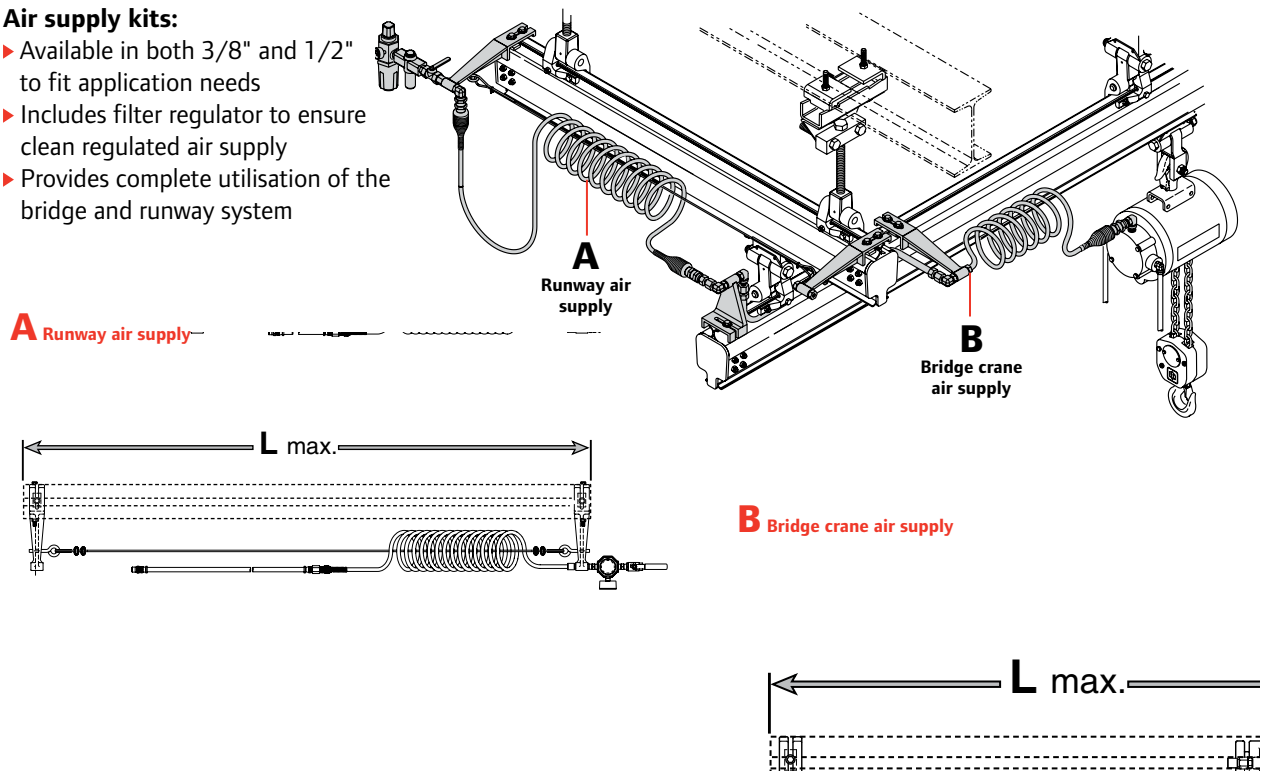


|  |     |  |     |
|--------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|
| ZRA1                                                                                 |     | ZRS2                                                                                  |     |
| 0.92 m                                                                               | 15° | 1.5 m                                                                                 | 10° |
| 0.92 m                                                                               | 30° | 1.5 m                                                                                 | 15° |
| 0.92 m                                                                               | 45° | 1.5 m                                                                                 | 30° |
| 0.92 m                                                                               | 60° | 1.5 m                                                                                 | 45° |
| 0.92 m                                                                               | 90° | 1.5 m                                                                                 | 60° |
| —                                                                                    | —   | 1.5 m                                                                                 | 90° |

Power supply

Air supply kits:

- ▶ Available in both 3/8" and 1/2" to fit application needs
- ▶ Includes filter regulator to ensure clean regulated air supply
- ▶ Provides complete utilisation of the bridge and runway system



| Max. length L | Ø 3/8"  | Ø 1/2"  |
|---------------|---------|---------|
| 15 m          | 90000-1 | 90001-1 |
| 22.5 m        | 90000-2 | 90001-2 |
| 30 m          | 90000-3 | 90001-3 |
| 37.5 m        | 90000-4 | 90001-4 |
| 45 m          | 90000-5 | 90001-5 |

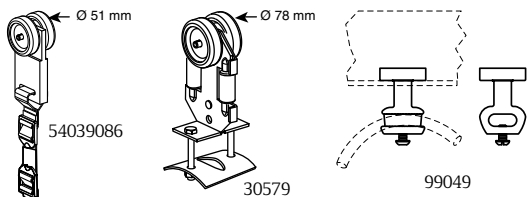
| Max. length L | Ø 3/8"   | Ø 1/2"   |
|---------------|----------|----------|
| 9 m           | ZHS90025 | ZHS90026 |

Electrical supply kits:

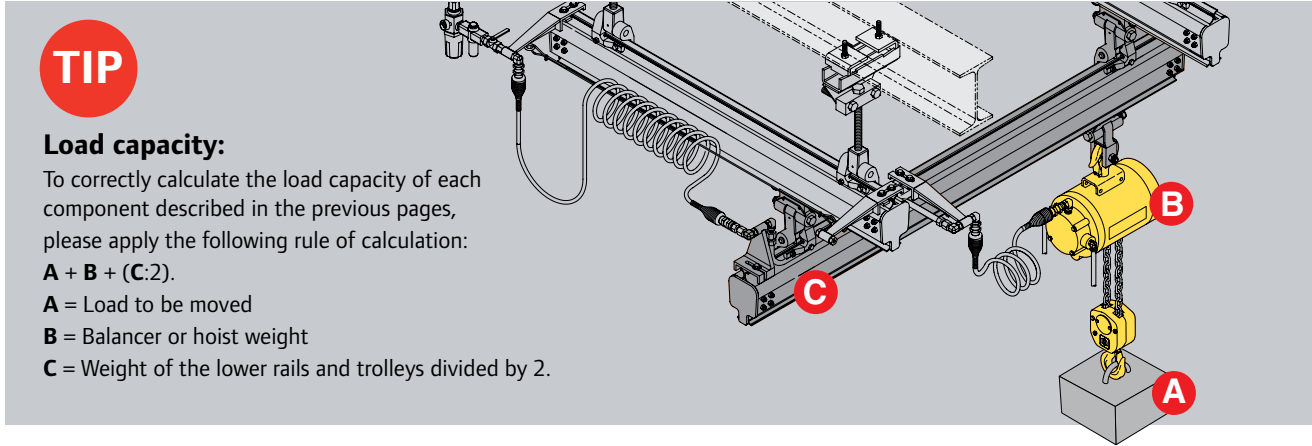
- ▶ Available with or without flat conductor cable
- ▶ Secured to rail system eliminating interference with operator



Festooning trolleys



|                            | ZRAT          | ZRA1     | ZRA2 & ZRS |
|----------------------------|---------------|----------|------------|
| For electric supply        |               |          |            |
| Festoon trolley            | —             | 54039086 | 54039078   |
| Slider                     | 99048         | 99048    | 99049      |
| For air or electric supply |               |          |            |
| Festoon trolley            | 31005 + 31011 | 30579    | 30581      |



TIP

Load capacity:

To correctly calculate the load capacity of each component described in the previous pages, please apply the following rule of calculation:  
**A + B + (C:2).**  
**A** = Load to be moved  
**B** = Balancer or hoist weight  
**C** = Weight of the lower rails and trolleys divided by 2.



## Jib Cranes

Solutions for compact workstations

### Ingersoll Rand offers:

- ▶ 220° or 360° rotation
- ▶ Floor or wall mount
- ▶ Standard or low profile
- ▶ Capacities to 860 kg

## Features

The Ingersoll Rand Jib Crane with a rail option use precision Ingersoll Rand Enclosed Track rail for the boom, resulting in an ergonomic, lightweight boom with best-in-class rolling resistance.

### The Ingersoll Rand jib crane **ADVANTAGE**

- ▶ **Precision:** made from precision Ingersoll Rand aluminum rail, resulting in a lightweight, easy-to-move boom with low rolling resistance for smooth travel.
- ▶ **Ergonomic:** Ingersoll Rand aluminum rails offer less than 1% of rolling effort.
- ▶ **Cost Effective:** Jib cranes are an inexpensive solution for short transfer applications.

### Boom length

- ▶ Radius of coverage area
- ▶ Most ergonomic operation is closer to end of boom

### Boom underclearance

- ▶ Distance from floor to bottom of boom
- ▶ Available up to 4.27 m, 3.65 m standard

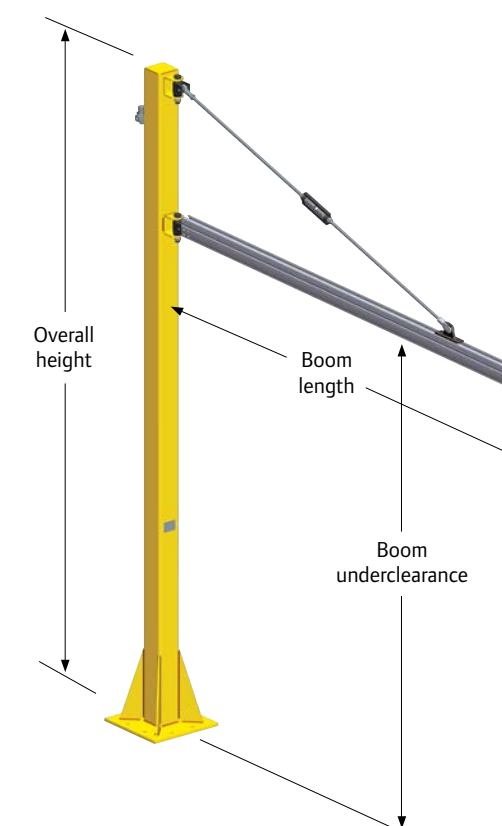
### Overall height

- ▶ Distance from floor to top of jib crane
- ▶ 900J Series offers lowest overall height

### Boom profile

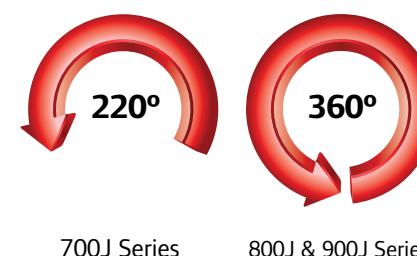
- ▶ Clean, lightweight anodized aluminum

**Note:** for proper installation of a floor-supported jib crane system a minimum of a 15 cm thick reinforced concrete floor is required.  
Consult a registered structural engineer before installing the jib crane.  
This is required to ensure local building codes, possible seismic loading considerations and variance in concrete slab and soil conditions are addressed.

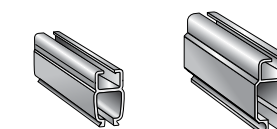


### How to select:

#### Rotation



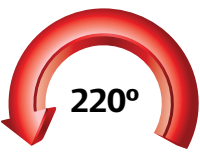
#### Load capacity



#### Boom profile

| Jib Series | Mounting type | Load capacity (kg) | Load capacity (kg) |
|------------|---------------|--------------------|--------------------|
| 700J       | Floor         | 165                | 725                |
| 700J       | Wall          | 360                | 860                |
| 800J       | Floor         | 370                | 370                |
| 900J       | Floor         | —                  | 370                |

700J Series  
Floor mount



ZRA1 aluminum boom (up to 165 kg)  
Standard underclearance 3m and 3.65 m

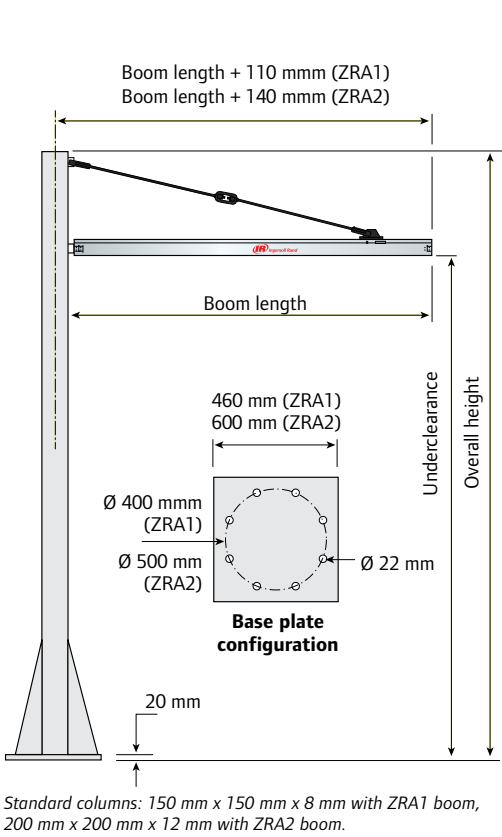
| Model no.        | Underclearance (m) | Boom length (m) | Overall height (m) | Capacity (kg) |
|------------------|--------------------|-----------------|--------------------|---------------|
| 7165JA1F30365-EU | 3,65               | 3               | 4.63               | 165           |
| 7115JA1F40365-EU | 3,65               | 4               | 4.63               | 115           |
| 7090JA1F50365-EU | 3,65               | 5               | 4.63               | 90            |
| 7165JA1F30300-EU | 3,00               | 3               | 3.97               | 165           |
| 7115JA1F40300-EU | 3,00               | 4               | 3.97               | 115           |
| 7090JA1F50300-EU | 3,00               | 5               | 3.97               | 90            |

Any special lengths, please consult factory.

ZRA2 aluminum boom (up to 725 kg)  
Standard underclearance 3m and 3.65 m

| Model no.        | Underclearance (m) | Boom length (m) | Overall height (m) | Capacity (kg) |
|------------------|--------------------|-----------------|--------------------|---------------|
| 7725JA2F30365-EU | 3,65               | 3               | 4.63               | 725           |
| 7520JA2F40365-EU | 3,65               | 4               | 4.63               | 520           |
| 7360JA2F50360-EU | 3,65               | 5               | 4.63               | 360           |
| 7725JA2F30300-EU | 3,00               | 3               | 3.97               | 725           |
| 7520JA2F40300-EU | 3,00               | 4               | 3.97               | 520           |
| 7360JA2F50300-EU | 3,00               | 5               | 3.97               | 360           |

Any special lengths, please consult factory.

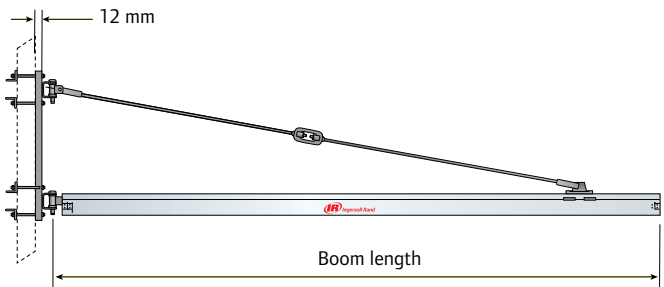


Standard columns: 150 mm x 150 mm x 8 mm with ZRA1 boom,  
200 mm x 200 mm x 12 mm with ZRA2 boom.

700J Series  
Wall mount



150 mm (except ZRA2 with 5.5 m boom: 200 mm)  
Overall height  
235 mm (except ZRA2 with 5.5 m boom: 300 mm)



ZRA1 aluminum boom (up to 363 kg)

| Model no.     | Boom length (m) | Overall height (m) | Capacity (kg) |
|---------------|-----------------|--------------------|---------------|
| 7360JA1W30-EU | 3               | 1.1                | 360           |
| 7245JA1W40-EU | 4               | 1.1                | 245           |
| 7110JA1W50-EU | 5               | 1.1                | 110           |

Any special lengths, please consult factory.

ZRA2 aluminum boom (up to 863 kg)

| Model no.     | Boom length (m) | Overall height (m) | Capacity (kg) |
|---------------|-----------------|--------------------|---------------|
| 7860JA2W30-EU | 3               | 1.1                | 860           |
| 7770JA2W40-EU | 4               | 1.1                | 770           |
| 7450JA2W50-EU | 5               | 1.4                | 450           |

Any special lengths, please consult factory.

800J Series  
Floor mount



ZRA1 aluminum boom (up to 372 kg)  
With 3.65 m standard underclearance <sup>(1)</sup>

| Model no.     | Boom length (m) | Capacity (kg) | Dimension U (mm) | Weight (kg) |
|---------------|-----------------|---------------|------------------|-------------|
| 8082JA1F04144 | 1.22            | 370           | 1069             | 189         |
| 8055JA1F06144 | 1.83            | 250           | 1069             | 192         |
| 8041JA1F08144 | 2.44            | 185           | 1069             | 196         |
| 8033JA1F10144 | 3.05            | 150           | 1069             | 200         |
| 8027JA1F12144 | 3.66            | 120           | 1069             | 203         |
| 8023JA1F14144 | 4.27            | 105           | 1069             | 207         |
| 8020JA1F16144 | 4.88            | 90            | 1069             | 210         |
| 8018JA1F18144 | 5.49            | 80            | 1069             | 214         |
| 8016JA1F20144 | 6.10            | 70            | 1069             | 218         |

(1) Max. underclearance available: 4.27 m

ZRA2 aluminum boom (up to 372 kg)  
With 3.65 m standard underclearance <sup>(1)</sup>

| Model no.     | Boom length (m) | Capacity (kg) | Dimension U (mm) | Weight (kg) |
|---------------|-----------------|---------------|------------------|-------------|
| 8082JA2F04144 | 1.22            | 370           | 1099             | 189         |
| 8055JA2F06144 | 1.83            | 250           | 1099             | 192         |
| 8041JA2F08144 | 2.44            | 185           | 1099             | 196         |
| 8033JA2F10144 | 3.05            | 150           | 1099             | 200         |
| 8027JA2F12144 | 3.66            | 120           | 1099             | 203         |
| 8023JA2F14144 | 4.27            | 105           | 1099             | 207         |
| 8020JA2F16144 | 4.88            | 90            | 1099             | 210         |
| 8018JA2F18144 | 5.49            | 80            | 1099             | 214         |
| 8016JA2F20144 | 6.10            | 70            | 1099             | 218         |

(1) Max. underclearance available: 4.27 m

900J Series  
Floor mount

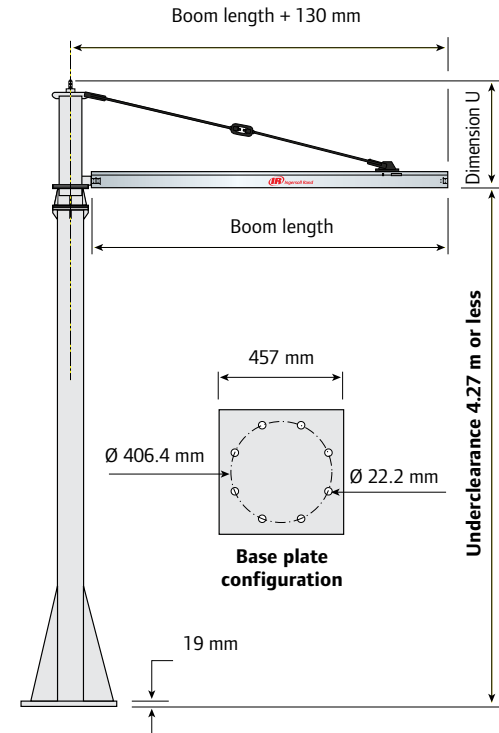


ZRA2T aluminum boom (up to 372 kg)  
With 3.65 m standard underclearance <sup>(1)</sup>

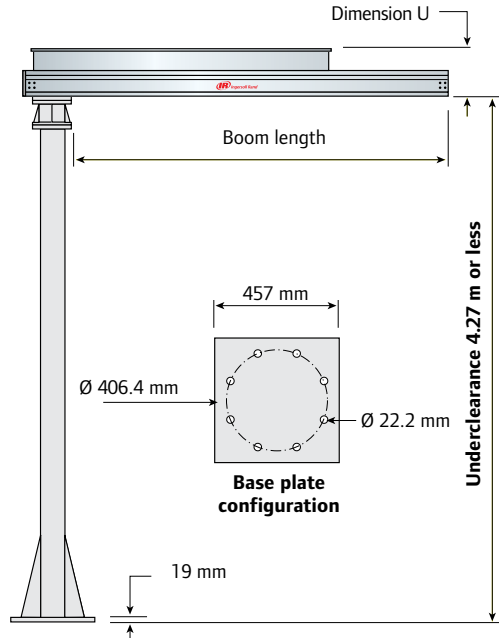
| Model no.      | Boom length (m) | Capacity (kg) | Dimension U (mm) | Weight (kg) |
|----------------|-----------------|---------------|------------------|-------------|
| 9082JA2TF04144 | 1.22            | 370           | 340              | 186         |
| 9055JA2TF06144 | 1.83            | 250           | 340              | 200         |
| 9041JA2TF08144 | 2.44            | 185           | 340              | 213         |
| 9033JA2TF10144 | 3.05            | 150           | 340              | 227         |
| 9027JA2TF12144 | 3.66            | 120           | 340              | 240         |
| 9023JA2TF14144 | 4.27            | 105           | 340              | 254         |
| 9020JA2TF16144 | 4.88            | 90            | 340              | 268         |
| 9018JA2TF18144 | 5.49            | 80            | 340              | 281         |
| 9016JA2TF20144 | 6.10            | 70            | 340              | 295         |

(1) Max. underclearance available: 4.27 m

800J Series



900J Series



Standard columns 152 mm x 152 mm x 6 mm, designed for 4.27 m underclearance or less.



## Arm Systems

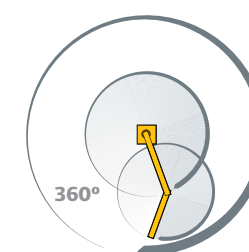
Great for reaching in, under and around obstacles to precisely and effortlessly position loads

### Ingersoll Rand offers:

- ▶ Column or overhead mounting options
- ▶ Three styles: articulating, parallel link, and vertical mast
- ▶ Up to 3 m of horizontal reach
- ▶ Capacities up to 225 kg

### The Ingersoll Rand arm system **ADVANTAGE**

- ▶ **Ergonomic reach:** prevents the need for operator to bend and reach into tight areas causing injury
- ▶ **Precise, strain-free positioning:** float leaves both hands free to raise, lower or shift the load with virtually no resistance
- ▶ **Versatility:** three styles available to fit a diverse set of applications in nearly any industry
- ▶ **Rugged reliability:** continuous duty with minimal maintenance
- ▶ **Integrated air supply:** prevents tangling of air lines running to below-the-hook handling devices



### Parallel link arms

Parallel link arms utilize an air cylinder with a parallel link structure for lifting / lowering, making them ideal for reach-in applications.

#### Features:

- ▶ Capable of handling offset loads
- ▶ Column or carriage mount
- ▶ Optional brakes and limit switches available

**Note:** parallel link-style arms are designed to specific customer requirements. Contact factory for more information.



### 600 Series arms

600 Series arms utilize a rigid mast to guide the lifting / lowering, which is done by an integrated air balancer.

#### Features:

- ▶ Capable of handling offset loads
- ▶ Carriage mount compatible with most rail systems
- ▶ Up to 1.5 m vertical travel and 160 kg capacity
- ▶ Includes integrated air balancer

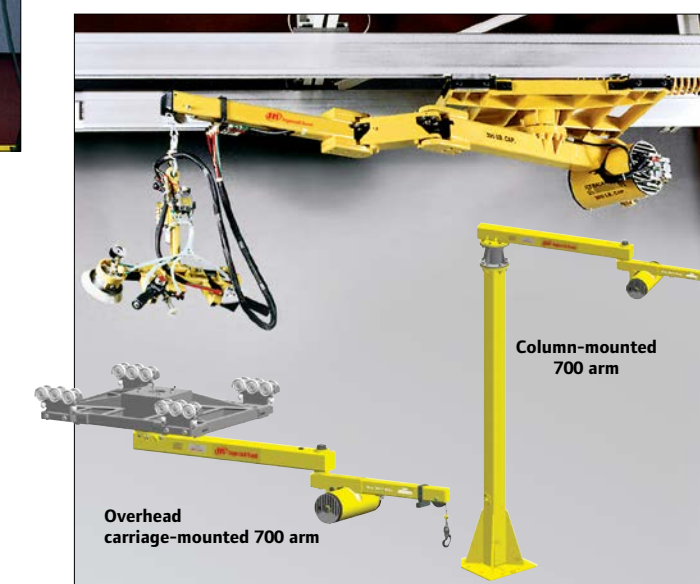


### 700 Series articulating arms ➔

700 Series arms combine the benefits of an air balancer with the flexibility and reach of an articulating arm.

#### Features:

- ▶ Column, ceiling, or carriage mount
- ▶ Up to 3 m horizontal reach and 225 kg capacity
- ▶ Includes integrated air balancer available in rear-mount, mid-mount and front-mount configurations.

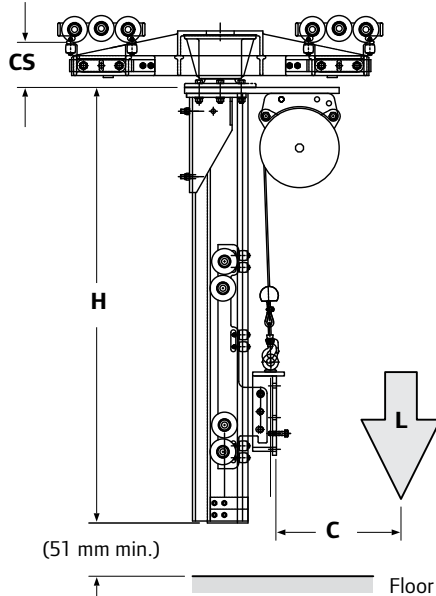


600 Series arms



**Features:**

- ▶ Rigid mast guides load with up to 2.50 m travel
- ▶ Accommodates offset loads up to 1.80 m from mast
- ▶ 360° arm rotation
- ▶ Carriage mount for overhead rail system suspension
- ▶ Load capacity up to 160 kg



(51 mm min.)

Floor

**600 Series arm — Specifications**

| Load (L) max (kg) | Capacity (kg) | Load CG (C) max (mm) | Mast Ht. (H) max (mm) | Max hook travel (mm) |
|-------------------|---------------|----------------------|-----------------------|----------------------|
| 60020SA1A2ZX      | 90            | 1829                 | 2000                  | 985                  |
| 60020SA1A2ZXJ     | 90            | 1524                 | 2500                  | 1485                 |
| 60035SA1A2ZX      | 160           | 1219                 | 2000                  | 985                  |
| 60035SA1A2ZXJ     | 160           | 914                  | 2500                  | 1485                 |

*Note: "X" in base model above requires brake option selection (see arm model driver for options configuration below).*

600 Series arm model driver

Example: 60035SA1A2ZABJ

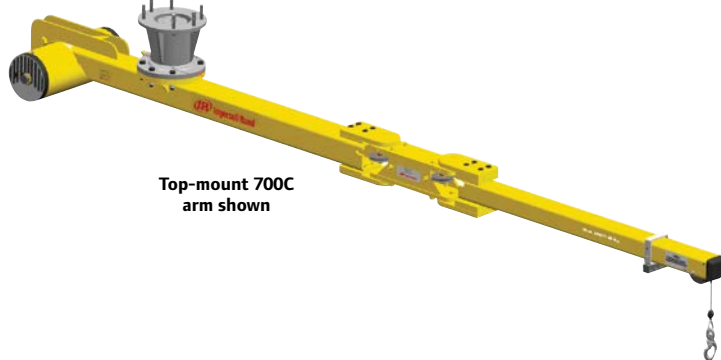
| Style                | Capacity                  | Balancer               | Mast            | Carriage                                                                                                        | Control                                                | Brake options                                                                       | Mast length              |
|----------------------|---------------------------|------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|
| 600 = 600 Series arm | 20 = 90 kg<br>35 = 160 kg | SA = Standard balancer | 1 = single mast | A2 = Carriage - ZRA2 (reaction trolley)<br><i>Note: All Ingersoll Rand 600 arms use a low profile carriage.</i> | Z = ZA up/down pendant control (includes dummy handle) | 0 = No brake<br>B = Bumper friction brake (soft stop at any point on 360° rotation) | F = 2.00 m<br>J = 2.50 m |

600 Series arm accessories

| Description                                    | Corresponding symbol in model driver | Part no. | Stack-up <sup>(1)</sup> (CS) (mm) |
|------------------------------------------------|--------------------------------------|----------|-----------------------------------|
| Low profile carriage - ZRA2 (reaction trolley) | A2                                   | 30028-1  | 152                               |
| Up / down pendant control                      | ZA                                   | 54039847 | —                                 |
| Bumper friction brake                          | B                                    | 54039730 | —                                 |

(1) Dimension is from the rail running surface to the base of the pivot. Changes with brake option  
Note: lightweight ALMAG casting. Carriage weighs 27.3 kg.

700C Series arms



Top-mount 700C arm shown

**Features:**

- ▶ Rear-mount balancer offers lowest rotational inertia of all models
- ▶ Short stack-up for low headroom applications
- ▶ Two-point pivot providing 270° articulation
- ▶ Carriage or column mount
- ▶ Arm lengths of 1.8 m, 2.1 m, 2.4 m, 2.7 m and 3 m available
- ▶ Integrated 68, 90, 160, or 225 kg air balancer (@ 700 kpa, see page 21 for details)

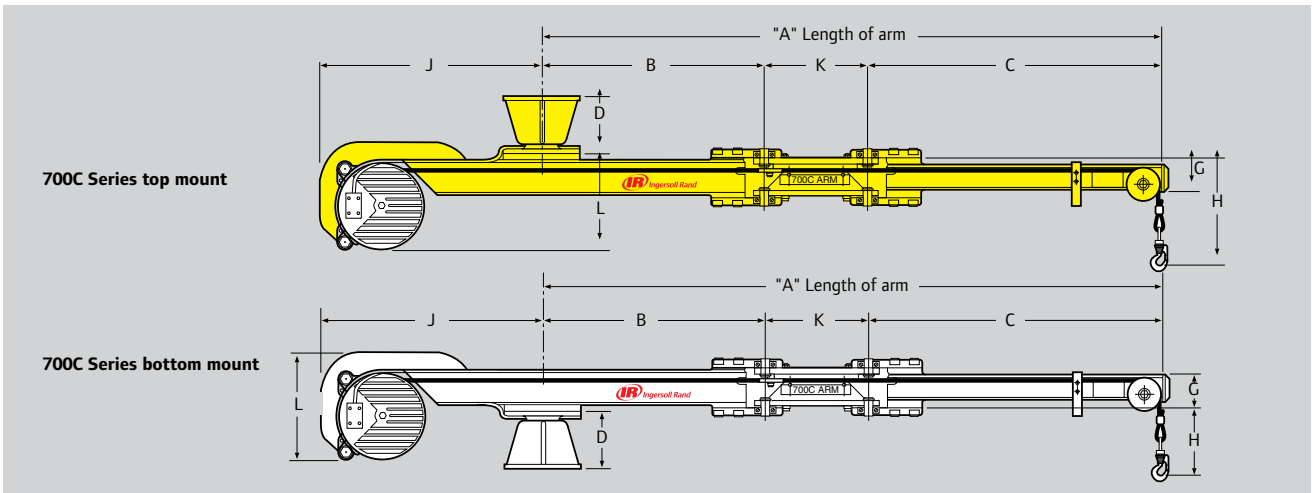
700C Series arm — Specifications

| Base model no. | Arm length (m) | Capacity (kg) | Weight (kg) |
|----------------|----------------|---------------|-------------|
| 70015XXXXXX06X | 1.83           | 68            | 99          |
| 70015XXXXXX07X | 2.13           | 68            | 108         |
| 70015XXXXXX08X | 2.44           | 68            | 113         |
| 70015XXXXXX09X | 2.74           | 68            | 120         |
| 70015XXXXXX10X | 3.05           | 68            | 125         |
| 70020XXXXXX06X | 1.83           | 90            | 113         |
| 70020XXXXXX07X | 2.13           | 90            | 121         |
| 70020XXXXXX08X | 2.44           | 90            | 126         |
| 70020XXXXXX09X | 2.74           | 90            | 126         |
| 70020XXXXXX10X | 3.05           | 90            | 138         |
| 70035XXXXXX06X | 1.83           | 160           | 117         |
| 70035XXXXXX07X | 2.13           | 160           | 127         |
| 70035XXXXXX08X | 2.44           | 160           | 132         |
| 70035XXXXXX09X | 2.74           | 160           | 132         |
| 70035XXXXXX10X | 3.05           | 160           | 144         |
| 70050XXXXXX06X | 1.83           | 225           | 123         |
| 70050XXXXXX07X | 2.13           | 225           | 132         |
| 70050XXXXXX08X | 2.44           | 225           | 149         |
| 70050XXXXXX09X | 2.74           | 225           | 159         |
| 70050XXXXXX10X | 3.05           | 225           | 167         |

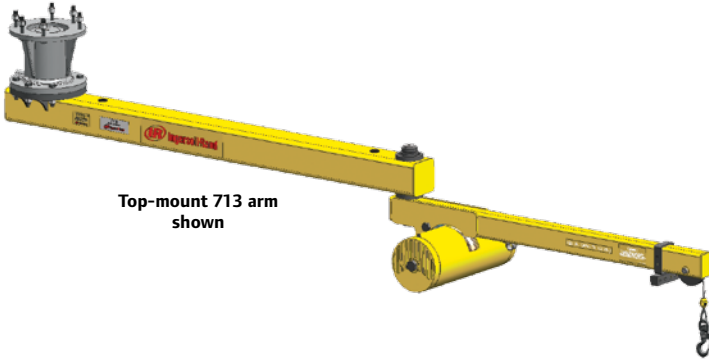
700C Series arm — Dimensions (mm)

| A    | B   | C    | D   | G   | J   | K   | Top mount |     | Bottom mount |     |
|------|-----|------|-----|-----|-----|-----|-----------|-----|--------------|-----|
|      |     |      |     |     |     |     | H         | L   | H            | L   |
| 1829 | 660 | 864  | 172 | 108 | 603 | 305 | 337       | 203 | 197          | 344 |
| 2134 | 965 | 864  | 172 | 108 | 603 | 305 | 337       | 203 | 197          | 344 |
| 2438 | 965 | 1168 | 172 | 108 | 603 | 305 | 337       | 203 | 197          | 344 |
| 2743 | 965 | 1168 | 172 | 108 | 603 | 610 | 337       | 203 | 197          | 344 |
| 3048 | 965 | 1168 | 172 | 108 | 603 | 915 | 337       | 203 | 197          | 344 |
| 1829 | 660 | 864  | 172 | 108 | 660 | 305 | 337       | 283 | 197          | 347 |
| 2134 | 965 | 864  | 172 | 108 | 660 | 305 | 337       | 283 | 197          | 347 |
| 2438 | 965 | 1168 | 172 | 108 | 660 | 305 | 337       | 283 | 197          | 347 |
| 2743 | 965 | 1168 | 172 | 108 | 660 | 610 | 337       | 283 | 197          | 347 |
| 3048 | 965 | 1168 | 172 | 108 | 660 | 915 | 337       | 283 | 197          | 347 |
| 1829 | 660 | 864  | 172 | 108 | 686 | 305 | 337       | 253 | 197          | 368 |
| 2134 | 965 | 864  | 172 | 108 | 686 | 305 | 337       | 253 | 197          | 368 |
| 2438 | 965 | 1168 | 172 | 108 | 686 | 305 | 337       | 253 | 197          | 368 |
| 2743 | 965 | 1168 | 172 | 108 | 686 | 610 | 337       | 253 | 197          | 368 |
| 3048 | 965 | 1168 | 172 | 108 | 686 | 915 | 337       | 253 | 197          | 368 |
| 1829 | 660 | 864  | 172 | 108 | 686 | 305 | 337       | 270 | 197          | 360 |
| 2134 | 965 | 864  | 172 | 108 | 686 | 305 | 337       | 270 | 197          | 360 |
| 2438 | 965 | 1168 | 216 | 140 | 686 | 305 | 337       | 289 | 197          | 422 |
| 2743 | 965 | 1168 | 216 | 140 | 686 | 610 | 337       | 289 | 197          | 422 |
| 3048 | 965 | 1168 | 216 | 140 | 686 | 915 | 337       | 289 | 197          | 422 |

(1) Note: "X" in base model above requires option selection (see arm model driver for options configuration on page 37)



713 Series arms



Top-mount 713 arm shown

**Features:**

- ▶ Mid-mount balancer
- ▶ Over-under boom design with single pivot point for 360° articulation
- ▶ Carriage or column mount
- ▶ Arm lengths of 1.8 m, 2.1 m, 2.4 m, 2.7 m and 3 m available
- ▶ Integrated 68, 90, 160, or 225 kg air balancer (@ 700 kpa, see page 21 for details)

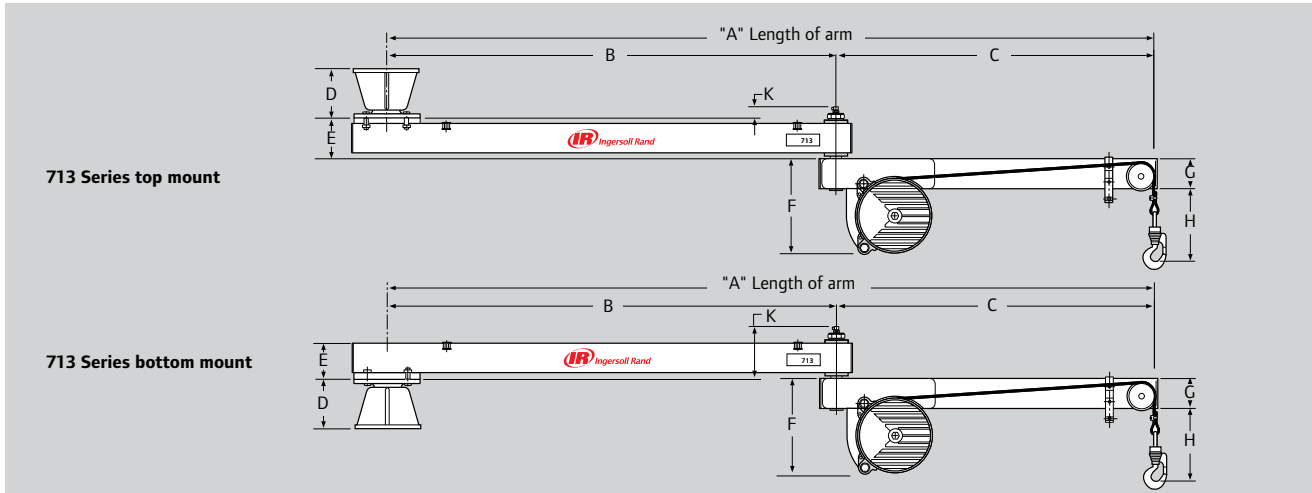
713 Series arm — Specifications

| Base model no. | Arm length (m) | Capacity (kg) | Weight (kg) |
|----------------|----------------|---------------|-------------|
| 71315XXXXXX06X | 1.83           | 68            | 69          |
| 71315XXXXXX07X | 2.13           | 68            | 75          |
| 71315XXXXXX08X | 2.44           | 68            | 80          |
| 71315XXXXXX09X | 2.74           | 68            | 84          |
| 71315XXXXXX10X | 3.05           | 68            | 104         |
| 71320XXXXXX06X | 1.83           | 90            | 90          |
| 71320XXXXXX07X | 2.13           | 90            | 97          |
| 71320XXXXXX08X | 2.44           | 90            | 102         |
| 71320XXXXXX09X | 2.74           | 90            | 107         |
| 71320XXXXXX10X | 3.05           | 90            | 128         |
| 71335XXXXXX06X | 1.83           | 160           | 106         |
| 71335XXXXXX07X | 2.13           | 160           | 112         |
| 71335XXXXXX08X | 2.44           | 160           | 119         |
| 71335XXXXXX09X | 2.74           | 160           | 117         |
| 71335XXXXXX10X | 3.05           | 160           | 123         |
| 71350XXXXXX06X | 1.83           | 225           | 119         |
| 71350XXXXXX07X | 2.13           | 225           | 125         |
| 71350XXXXXX08X | 2.44           | 225           | 125         |
| 71350XXXXXX09X | 2.74           | 225           | 152         |
| 71350XXXXXX10X | 3.05           | 225           | 160         |

713 Series arm — Dimensions (mm)

| A    | B    | C    | D   | F   | G   | H   | Top mount E | Bottom mount E | K   |
|------|------|------|-----|-----|-----|-----|-------------|----------------|-----|
| 1829 | 1041 | 787  | 172 | 233 | 76  | 254 | 139         | 76             | 121 |
| 2134 | 1194 | 940  | 172 | 233 | 76  | 254 | 139         | 76             | 121 |
| 2438 | 1346 | 1092 | 172 | 233 | 76  | 254 | 139         | 76             | 121 |
| 2743 | 1499 | 1245 | 172 | 233 | 76  | 254 | 139         | 76             | 121 |
| 3048 | 1651 | 1397 | 172 | 233 | 76  | 254 | 139         | 76             | 121 |
| 1829 | 1041 | 787  | 172 | 325 | 102 | 229 | 139         | 76             | 121 |
| 2134 | 1194 | 940  | 172 | 325 | 102 | 229 | 139         | 76             | 121 |
| 2438 | 1346 | 1092 | 172 | 325 | 102 | 229 | 139         | 76             | 121 |
| 2743 | 1499 | 1245 | 172 | 325 | 102 | 229 | 139         | 76             | 121 |
| 3048 | 1651 | 1397 | 172 | 325 | 102 | 229 | 139         | 76             | 121 |
| 1829 | 1041 | 787  | 172 | 325 | 102 | 229 | 141         | 76             | 121 |
| 2134 | 1194 | 940  | 172 | 325 | 102 | 229 | 141         | 76             | 121 |
| 2438 | 1346 | 1092 | 172 | 325 | 102 | 229 | 141         | 76             | 121 |
| 2743 | 1499 | 1245 | 172 | 325 | 102 | 229 | 172         | 76             | 152 |
| 3048 | 1651 | 1397 | 172 | 325 | 102 | 229 | 172         | 76             | 152 |
| 1829 | 1041 | 787  | 172 | 325 | 102 | 229 | 141         | 76             | 121 |
| 2134 | 1194 | 940  | 172 | 325 | 102 | 229 | 141         | 76             | 121 |
| 2438 | 1346 | 1092 | 172 | 325 | 102 | 229 | 172         | 76             | 152 |
| 2743 | 1499 | 1245 | 172 | 325 | 102 | 229 | 172         | 76             | 152 |
| 3048 | 1651 | 1397 | 172 | 325 | 102 | 229 | 172         | 76             | 152 |

(1) Note: "X" in base model above requires option selection (see arm model driver for options configuration on page 37)



720 Series arms



Top-mount 720 arm shown

**Features:**

- ▶ End-mount balancer
- ▶ Over-under boom design with single pivot point for 360° articulation
- ▶ Carriage or column mount
- ▶ Arm lengths of 1.8 m, 2.1 m, 2.4 m, 2.7 m and 3 m available
- ▶ Available only in 68 kg capacity (@ 700 kpa, see page 21 for details)

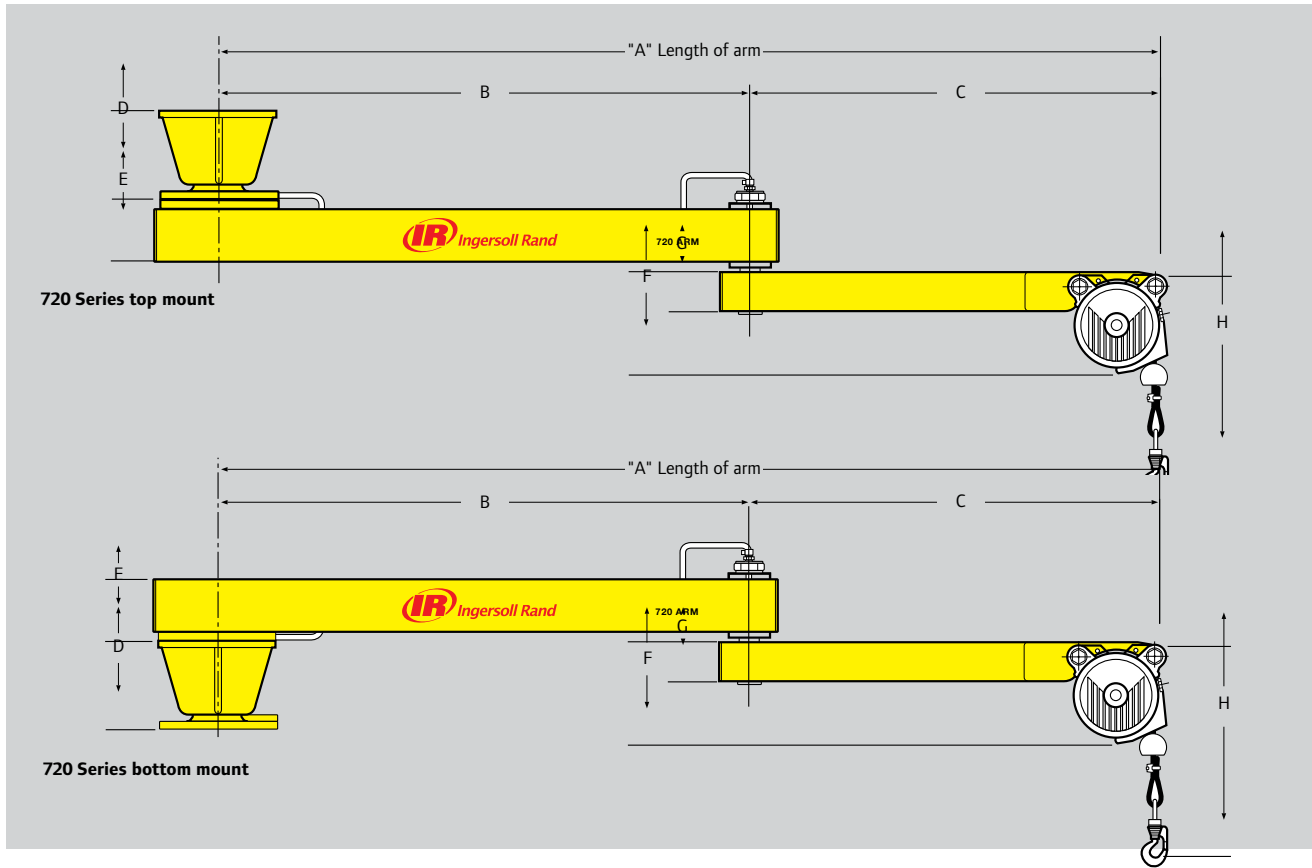
720 Series arm — Specifications

| Base model no. | Arm length (m) | Capacity (kg) | Weight (kg) |
|----------------|----------------|---------------|-------------|
| 72015XXXXXX06X | 1.83           | 68            | 99          |
| 72015XXXXXX07X | 2.13           | 68            | 108         |
| 72015XXXXXX08X | 2.44           | 68            | 113         |
| 72015XXXXXX09X | 2.74           | 68            | 120         |
| 72015XXXXXX10X | 3.05           | 68            | 125         |

720 Series arm — Dimensions (mm)

| A    | B    | C    | D   | F   | G  | H   | Top mount E | Bottom mount E |
|------|------|------|-----|-----|----|-----|-------------|----------------|
| 1829 | 1041 | 787  | 172 | 198 | 76 | 419 | 139         | 121            |
| 2134 | 1194 | 940  | 172 | 198 | 76 | 419 | 139         | 121            |
| 2438 | 1346 | 1092 | 172 | 198 | 76 | 419 | 139         | 121            |
| 2743 | 1499 | 1245 | 172 | 198 | 76 | 419 | 139         | 121            |
| 3048 | 1651 | 1397 | 172 | 198 | 76 | 419 | 139         | 121            |

(1) Note: "X" in base model above requires option selection (see arm model driver for options configuration on page 37)

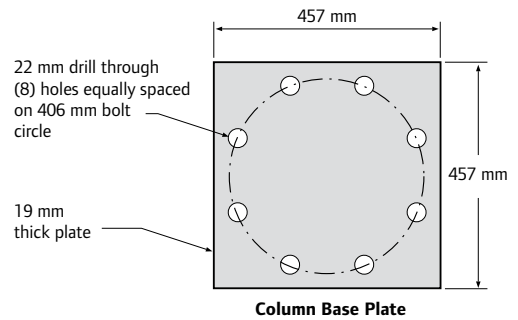


# Arm Systems

## 700 Series arms options and accessories

### Mounting accessories

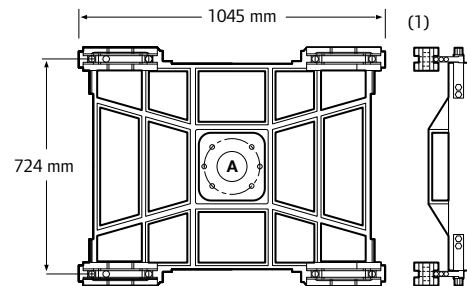
| Symbol | Description                                                           |
|--------|-----------------------------------------------------------------------|
| A      | Overhead mount column 333 mm tall (for use with ceiling-mounted arms) |
| B      | Column, 2.44 m tall                                                   |
| C      | Column, 2.60 m tall                                                   |
| D      | Column, 2.75 m tall                                                   |
| E      | Column, 3.05 m tall                                                   |
| F      | Column, 3.35 m tall                                                   |
| G      | Column, 3.65 m tall                                                   |



### Carriages

| Symbol | Description                                  | Part no. |
|--------|----------------------------------------------|----------|
| NT     | Carriage – basic, no trolleys                | 40710    |
| TR     | Carriage assembly – T-rail / I-beam          | 40709    |
| A2     | Carriage assembly – ZRA2 (reaction trolley)  | 30028-1  |
| S2     | Carriage assembly – ZRS2 / ZRS3              | 30028-2  |
| A1     | Carriage assembly – ZRA1                     | 30028-3  |
| E8     | Carriage assembly – ETA-8 (reaction trolley) | 30028-4  |
| K2     | Carriage assembly – KBK2                     | 30028-5  |

**Note:** lightweight ALMAG casting. Basic carriage weighs 27.3 kg.



(1) **Note:** shown in low profile set-up.

A = 13 mm bolts (6), holes on a 190 mm bolt circle

### Controls

| Symbol | Description                                                                |
|--------|----------------------------------------------------------------------------|
| ZP     | ZA up / down pendant control                                               |
| ZQ     | ZA up / down pendant control with Quad-Coil                                |
| ZT     | ZA up / down pendant control with Tri-Coil                                 |
| BA     | BA single balance control (only for use on 68 kg capacity units)           |
| BZ     | BA Z-servo, single balance control                                         |
| EP     | EA 2PS pressure, load / no-load balance control for use with clamp devices |
| EV     | EA vacuum, load / no-load balance control for use with vacuum devices      |

### 700 Series articulating arm model driver

Example: **70015SATT0ZP06A**

| Style                            | Capacity    | Balancer type                            | Mounting option <sup>(1)</sup>          | Carriage options | Control                      | Arm length  | Mounting accessories     |
|----------------------------------|-------------|------------------------------------------|-----------------------------------------|------------------|------------------------------|-------------|--------------------------|
| <b>700</b> (68-225 kg capacity)  | 15 = 68 kg  | SA = Standard balancer                   | TT = Top mount - ceiling                | 0 = No carriage  | ZP = ZA pendant control      | 06 = 1.83 m | 0 = No mounting column   |
| <b>713</b> (68-225 kg capacity)  | 20 = 90 kg  | IA = Intelift balancer (consult factory) | BB = Bottom mount - column              | H = High-profile | ZQ = ZA quad-coil control    | 07 = 2.13 m | A = 333 mm ceiling mount |
| <b>720</b> (68 kg capacity only) | 35 = 160 kg |                                          | NT = Carriage - no trolley              | L = Low-profile  | ZT = ZA tri-coil control     | 08 = 2.44 m | B = 2.44 m column        |
|                                  | 50 = 225 kg |                                          | TR = Carriage - T-rail / I-beam         |                  | BA = Single balance control  | 09 = 2.74 m | C = 2.60 m column        |
|                                  |             |                                          | A2 = Carriage - ZRA2 (reaction trolley) |                  | BZ = Z-servo balance control | 10 = 3.05 m | D = 2.75 m column        |
|                                  |             |                                          | S2 = Carriage - ZRS2 / ZRS3             |                  | EP = EA control 2ps pressure |             | E = 3.05 m column        |
|                                  |             |                                          | A1 = Carriage - ZRA1                    |                  | EV = EA control 2ps vacuum   |             | F = 3.35 m column        |
|                                  |             |                                          | E8 = Carriage - ETA8 (reaction trolley) |                  |                              |             | G = 3.65 m column        |
|                                  |             |                                          | K2 = Carriage - KBK2                    |                  |                              |             |                          |

(1) A1 carriage mount option is only available for arms with less than 90 kg capacity and less than 2.44 m arm length.



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