



Balancers

The strength behind Ingersoll Rand ergonomic handling

Ingersoll Rand offers:

- ▶ BW pneumatic balancers
- ▶ IntelLIFT® intelligent assist devices
- ▶ Mechanical spring balancers

BW-Series Pneumatic Balancers

Features

Meeting the needs of today's material handling applications requires an ergonomic lift assist that interacts with the operator. The balancer offers lifting solutions to meet these needs through float and built in safety features.

The Ingersoll Rand pneumatic balancer **ADVANTAGE**

- **Precise, strain-free positioning:** float leaves both hands free to raise, lower, or shift the load with virtually no resistance; no more "hoist control" hit-and-miss spotting.
 - **Simple adjustment:** clear access to air-flow calibration controls allows quick, easy adjustment of the float.
 - **Rugged reliability:** for continuous duty with minimal maintenance.
- PLUS:**
- **Low air consumption:** approximately 1/8 cfm required per cycle (one fiftieth of that of an air hoist) means very low energy costs.
 - **Clean, oil-free operation:** pre-lubricated design eliminates air line lubrication and oil mist exhaust; ideal for food processing and clean manufacturing environments

Safety is standard

- Built-in overload protection: the lifted load can never exceed the unit's maximum rated capacity
- Minimal cable recoil due to loss of load: if the load is accidentally lost, a centrifugal brake (Z brake) automatically stops rapid upward cable travel

Versatile configuration

- Wide range of capacities up to 450 kg
- Added protection: the optional Z Stop offers protection against the drifting of loads in the event the main air supply is lost
- Cable travel 1 m to 3 m depending on the model
- Controls: ZA (pendant) controls let you handle varying loads; a BA (single) balance control is ideal for a constant load, and an EA for 2 loads
- Mounting: suspension kits for Ingersoll Rand and other enclosed track manufacturers as well as I-beam, patented track, and hook mount
- CE certification: meets the requirements for the European community

Z brake safety retraction system (patent no. 5,522,581):

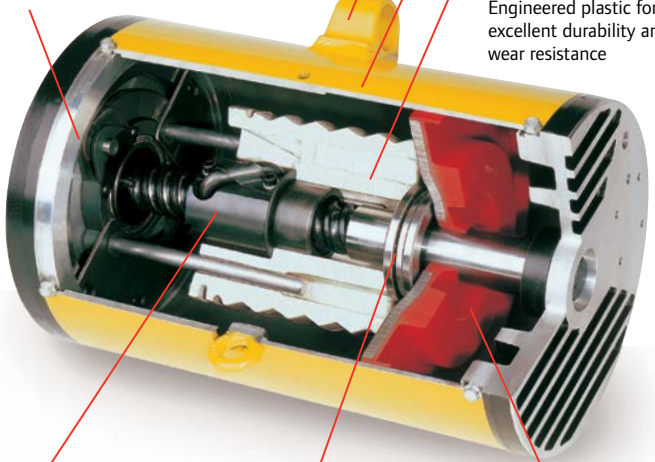
Standard on all units, prevents violent retraction in the event of a sudden release or loss of load. The brake will also eliminate excessive upward acceleration of a no load hook when the "up" button is pressed in fully.



Suspension lugs:
Fits all Ingersoll Rand suspensions and most trolleys from other manufacturers.

Rugged steel housing:
All steel housing for added durability

Injection-molded reel:
Engineered plastic for excellent durability and wear resistance



Anti-friction ball screw:
Creates smooth rotation path for the cable reel.

Heavy-duty thrust bearing:
Absorbs piston force and transfers smooth reel rotation over the ball screw.

Low-friction cable guide (not shown): Ensures smooth cable feed on and off the reel.

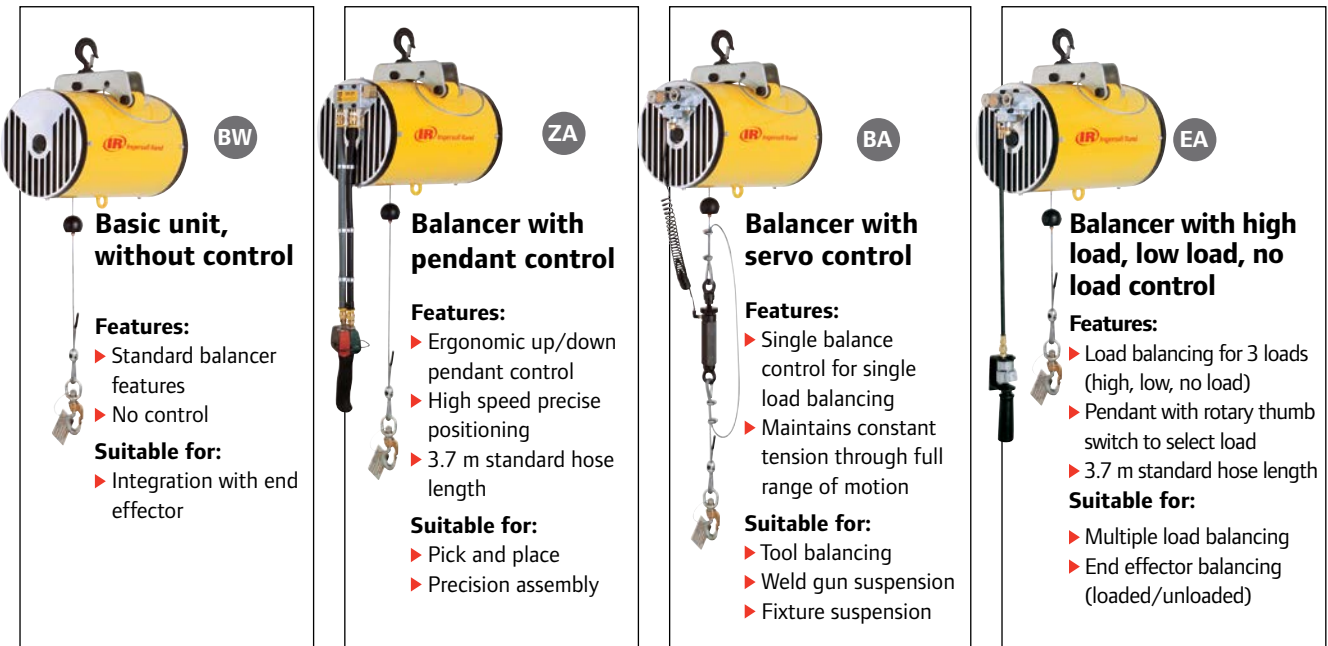
Air chamber and piston:
Forms the heart of the unit. Air entering the chamber pushes the piston to rotate the spool, wind the cable, and lift the load. Exhausting air lowers the load. Regulating this flow balances the load, creating a zero gravity float.



Z Stop:

The optional Z Stop is a patented device that will eliminate the down-drift of suspended loads or tools during shut down or at night when the air supply is shut off. The Z Stop will stop drift within 150 mm and put the Balance Air into a mechanically locked position preventing damage to tools or objects below the suspended load. Available for use on all 254 mm diameter units.

BW-Series Pneumatic Balancers



Recommended working load capacity :
10 to 80 % of SWL

Recommended working load capacity :
10 to 60 % of SWL

Technical specifications

Model no. / B control	Model no. / ZA control	Model no. / BA control	Model no. / EA control	SWL @ 500kPa (kg)	SWL @ 600kPa (kg)	SWL @ 700kPa (kg)	Lifting travel (m)	Body diameter (mm)	Weight (kg)
Single wire rope									
BW015080 ⁽¹⁾	ZAW015080 ⁽¹⁾	BAW015080 ⁽¹⁾	EAW015080 ⁽¹⁾	49	58	68	2.0	165	23
BW020120	ZAW020120	BAW020120	EAW020120	65	78	90	3.0	254	28
BW020120S ⁽²⁾	ZAW020120S ⁽²⁾	BAW020120S ⁽²⁾	EAW020120S ⁽²⁾	65	78	90	3.0	254	28
BW032080S ⁽²⁾	ZAW032080S ⁽²⁾	BAW032080S ⁽²⁾	EAW032080S ⁽²⁾	104	124	145	2.0	254	28
BW035080 ⁽¹⁾	ZAW035080 ⁽¹⁾	BAW035080 ⁽¹⁾	EAW035080 ⁽¹⁾	113	136	160	2.0	254	28
BW050080	ZAW050080	BAW050080	EAW050080	162	194	225	2.0	254	50
BW050080S ⁽²⁾	ZAW050080S ⁽²⁾	BAW050080S ⁽²⁾	EAW050080S ⁽²⁾	162	194	225	2.0	254	50
Reeved wire rope									
BW040060	ZAW040060	BAW040060	EAW040060	130	155	180	1.5	254	30
BW040060S ⁽²⁾	ZAW040060S ⁽²⁾	BAW040060S ⁽²⁾	EAW040060S ⁽²⁾	130	155	180	1.5	254	30
BW065040S ⁽²⁾	ZAW065040S ⁽²⁾	BAW065040S ⁽²⁾	EAW065040S ⁽²⁾	208	248	290	1.0	254	30
BW070040 ⁽¹⁾	ZAW070040 ⁽¹⁾	BAW070040 ⁽¹⁾	EAW070040 ⁽¹⁾	226	272	320	1.0	254	30
BW100040	ZAW100040	BAW100040	EAW100040	324	388	450	1.0	254	52
BW100040S ⁽²⁾	ZAW100040S ⁽²⁾	BAW100040S ⁽²⁾	EAW100040S ⁽²⁾	324	388	450	1.0	254	52
Tandem wire rope									
BW040120	ZAW040120	BAW040120	EAW040120	130	155	180	3.0	254	56
BW040120S ⁽²⁾	ZAW040120S ⁽²⁾	BAW040120S ⁽²⁾	EAW040120S ⁽²⁾	130	155	180	3.0	254	56
BW065080S ⁽²⁾	ZAW065080S ⁽²⁾	BAW065080S ⁽²⁾	EAW065080S ⁽²⁾	208	248	290	2.0	254	56
BW070080 ⁽¹⁾	ZAW070080 ⁽¹⁾	BAW070080 ⁽¹⁾	EAW070080 ⁽¹⁾	226	272	320	2.0	254	56
BW100080	ZAW100080	BAW100080	EAW100080	324	388	450	2.0	254	100
BW100080S ⁽²⁾	ZAW100080S ⁽²⁾	BAW100080S ⁽²⁾	EAW100080S ⁽²⁾	324	388	450	2.0	254	100

1) Not available with Z-Stop safety device.

2) Model delivered with Z-Stop as standard.

Options



Model identification codes

Example: **ZAW065040SS3**

Option code	Description	Part no. / 165 mm Ø balancer	Part no. / 254 mm Ø balancer
Control			
B	Basic - No control	—	—
ZA	Pendent control	15300-12	15300-12
BA	Single balance control	15320	15330
EA	Hi, low, no load control	15310-12	15310-12
Suspension			
00	No suspension	—	—
S2	IR ZRS2 steel rail	16300	16400
S3	IR ZRS3 steel rail	16300	16400
HM	Hook mount	16360	16460
TR ⁽¹⁾	T-Rail / I-Beam	16320	16420
AT	IR ZRAT alu. rail	16355	16455
A1	IR ZRA1 alu. rail	16305	16405
A2	IR ZRA2 alu. rail	16310	16410
K1	KBK1 (Demag)	16325	16425
K2	KBK2 (Demag)	16315	16415

(1) Only for 50, 66, 82 and 100 mm beam widths.

Speed control kit, part no. 58267352

Regulates the inlet pressure of the balancer. Full control of lifting speed for any loads. Must be used with the ZA pendent control 15300. Specially designed for lightweight hook with heavy loads



Tri-Coil, Quad-Coil and Interlock options

TRI-COIL

Part no. 15300-TC-NH
Specially designed to integrate a mechanical handling device with an up and down control.



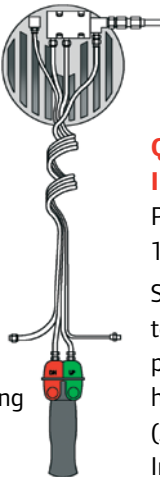
TRI-COIL + Interlock

Part no. 15300-TC-I-NH
Specially designed to integrate a simple handling device. Incorporates the Interlock safety device.



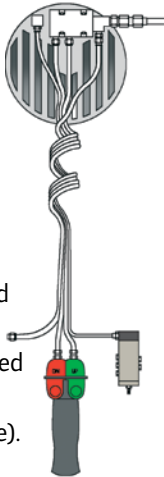
QUAD-COIL

Part no. 15300-QC-NH
Specially designed to integrate a pneumatic powered handling device (3rd air supply tube).

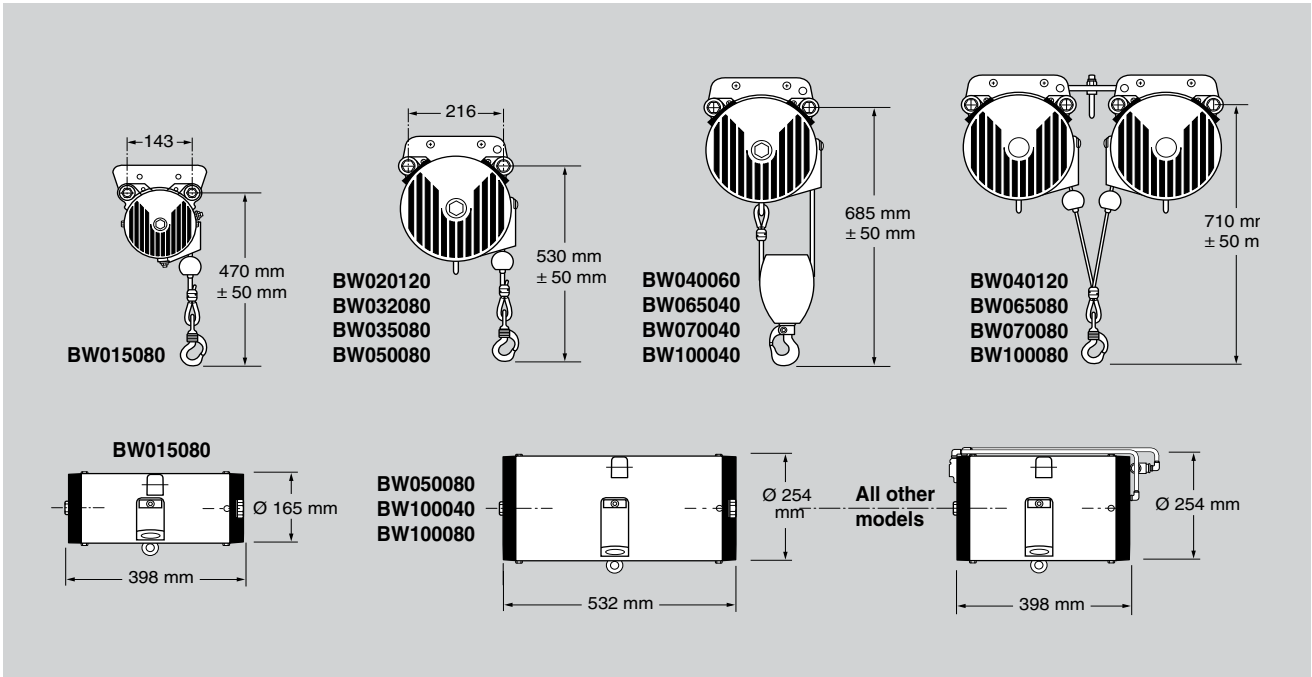


QUAD-COIL + Interlock

Part no. 15300-QC-I-NH
Specially designed to integrate a pneumatic powered handling device (3rd air supply tube). Incorporates the Interlock safety device.



Dimensions



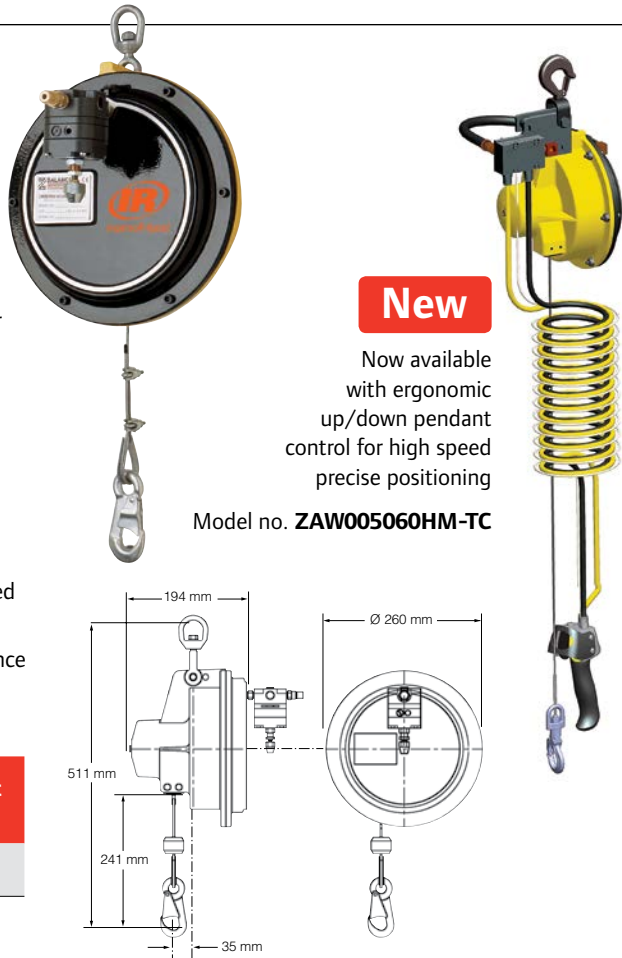
BAW 0.9 - 22 kg air positioner

This air unit offers an incredible 0.9 to 22 kg load capacity and our exclusive flotation feature.

Standard features:

- **Performance:** float action provides ease of vertical travel, eliminating tension on load, making positioning capability far superior
- **Versatility:** no need to change model when making tool change; one model (BAW005060) covers entire 22 kg range
- **Headroom:** requires only 511 mm from bottom of rail to bottom of hook
- **Adjustment:** simple adjustment in seconds by means of external regulator
- **Sequencing:** can be sequenced via air signal to perform timed or "stepped" operation
- **Maintenance:** virtually maintenance-free. Normal maintenance can be done in place on the rail

Model no.	Load capacity (kg)	Lifting travel (m)	Body diameter (mm)	Weight (kg)
BAW005060	0.9 - 22	1.5	260	9.0



New

Now available with ergonomic up/down pendant control for high speed precise positioning

Model no. **ZAW005060HM-TC**

Intelligent lifting system

InteLIFT® is an intelligent assist device (IAD); it converts intuitive operator input into smooth, effortless up / down motion. The force-sensing control handle responds to operator input quickly and seamlessly for precise positioning of loads.

The Ingersoll Rand InteLIFT Balancer

ADVANTAGE

- **Self-balancing:** intuitive speed control for different weights

► **Hands-on maneuvering:** InteLIFT senses force input of the user and translates that to assisted lifting / lowering of the load without the need for up / down buttons

► **Float mode:** throughout entire range of motion

► **Robust design:** electric over air design allows continuous duty with minimal maintenance
- **Part present:** eliminates potential to accidentally drop part

► **3-Speed select:** enables speed selection to match application and operator comfort level

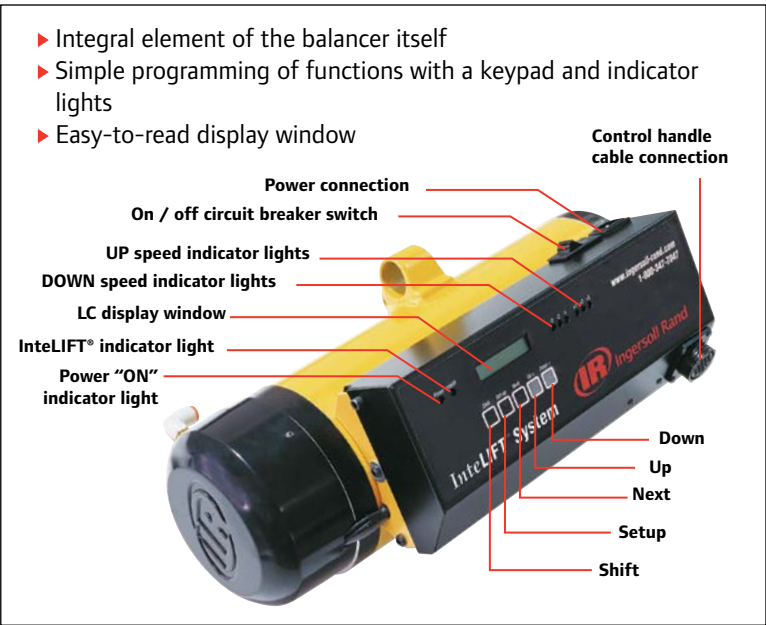
Same green features as the Pneumatic Balancer

► **Low air consumption**

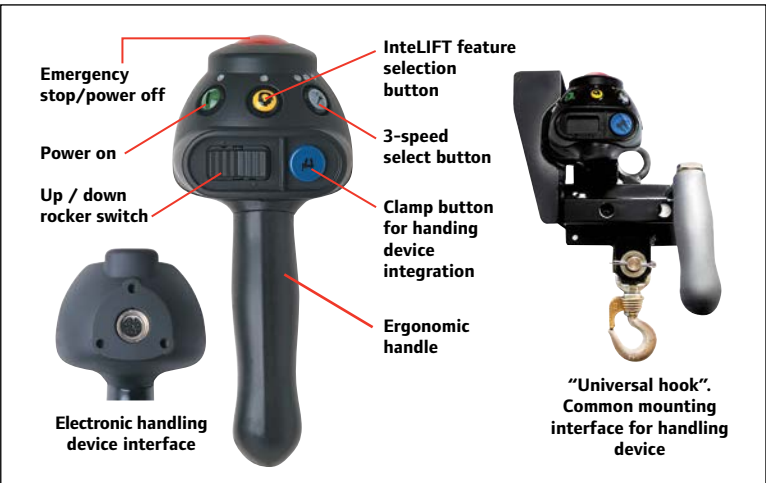
► **Clean, oil-free operation**



Integrated InteLIFT® control module



Ergonomic control handle



Control options

IB

InteLIFT® basic unit, without control

Features:

- No controls
- Standard InteLIFT features

Suitable for:

- Integration with end effector

IA

InteLIFT® with pendant control and pre-coil cable

Features:

- InteLIFT ergonomic pendant control handle with up/down rocker switch
- Precise, high-speed positioning
- 3.7 m twin bonded pre-coil cable including pre-coil air hose for handling device integration

Suitable for:

- Pick and place
- Precision assembly
- Floating capacity

IC

InteLIFT® with force-sensing control (without up/down buttons)⁽¹⁾

Features:

- InteLIFT ergonomic force-sensing control handle
- Intuitive up/down control
- 3.7 mtwin bonded pre-coil cable including pre-coil air hose for handling device integration

Suitable for:

- High-cycle pick and place
- Precision assembly
- Multiple load capacity

IS

InteLIFT® with pendant control and straight cable

Features:

- InteLIFT ergonomic pendant control handle with up/down rocker switch
- Precise, high-speed positioning
- 3.7 m straight electric cable

Suitable for:

- Pick and place
- Precision assembly
- Floating capacity

(1) IC control option includes force sensing load cell which must be mounted to end effector for proper operation

Technical specifications

Model no. / B control	Model no. / IA control	Model no. / IC control	Model no. / IS control	SWL @ 500kPa (kg)	SWL @ 600kPa (kg)	SWL @ 700kPa (kg)	Lifting travel (m)	Body diameter (mm)	Weight (kg)
Single wire rope									
IBW015080 ⁽²⁾	IAW015080 ⁽²⁾	ICW015080 ⁽²⁾	ISW015080 ⁽²⁾	49	58	68	2.0	165	27
IBW020120	IAW020120	ICW020120	ISW020120	65	78	91	3.0	254	33
IBW033080	IAW033080	ICW033080	ISW033080	107	128	150	2.0	254	33
IBW050080	IAW050080	ICW050080	ISW050080	162	194	227	2.0	254	54
Reeved wire rope									
IBW040060	IAW040060	ICW040060	ISW040060	130	156	182	1524	254	30
IBW066040	IAW066040	ICW066040	ISW066040	114	256	300	1016	254	35
IBW100040	IAW100040	ICW100040	ISW100040	324	388	454	1016	254	57

(2) Not available with Z Stop option.

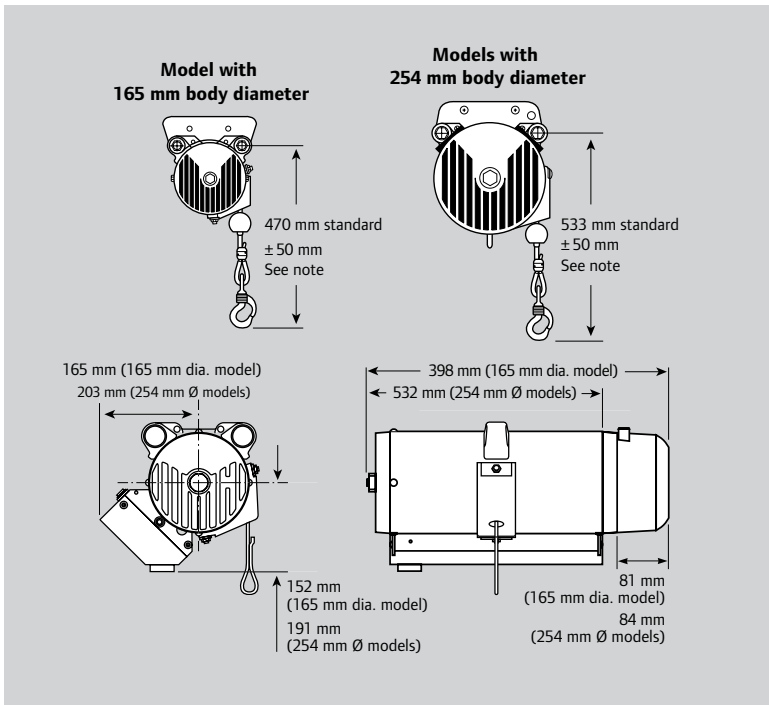
See model identification codes on following page.

Model identification codes

Example: IAW020120 A2 2 S 0

Option code	Description
Suspension	
00	No suspension
S2	IR ZRS2 steel rail
S3	IR ZRS3 steel rail
HM	Hook mount
TR ⁽³⁾	T-Rail / I-Beam
AT	IR ZRAT alu. rail
A1	IR ZRA1 alu. rail
A2	IR ZRA2 alu. rail
K1	KBK1 (Demag)
K2	KBK2 (Demag)
Input voltage	
1	115V 50/60 Hz 1Ph
2	230V 50/60 Hz 1Ph.
Z-stop	
0	None
S	Z-stop
Power cord	
0	None (plug / no wire)

Dimensions



Note: add 25 mm in length for Z-Stop option. Add 152 mm for reeved units.

InteLIFT® integrated solutions



InteLIFT® integrated solutions

A complete range of end effectors can be used with InteLIFT controls for greater efficiency, from the simplest to the most complex device.
 The InteLIFT unit incorporates a fully grounded, fault-protected electrical system, with fused circuits and memory that automatically reinstates function selections following a power interruption. In every respect, the Ingersoll Rand InteLIFT air balancer is an essential solution for a more productive workplace; empowering individuals to work comfortably and effectively, significantly contributing to product and process quality.

The closed-loop feedback system delivers precise, responsive motion control suitable for a wide range of applications in:



Vehicle assembly



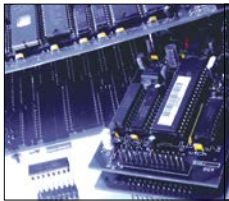
General industry



Beverage and warehouse



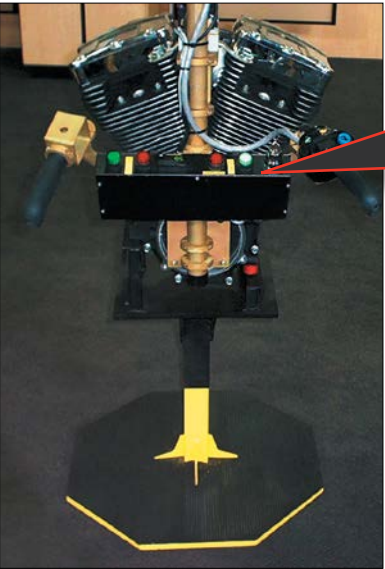
Biotechnology



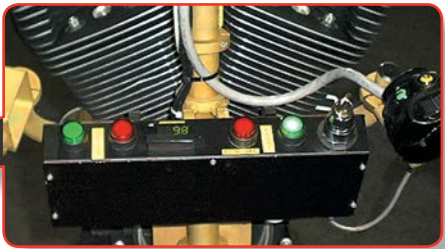
Electronics



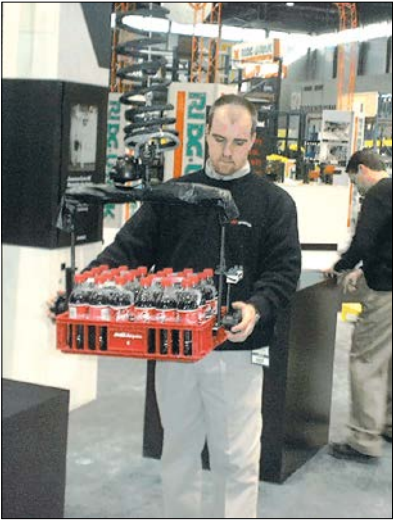
Aerospace



The engine-handling device shown uses the unique features of the InteLIFT balancer. Features include: auto clamp, interlock, up control disable, weight sensing with automatic alarm, and keyed lockout.



Error-proof assembly:
 The device digitally displays the weight of the part picked up. Device will not allow the operator to move the part if not clamped properly. The key allows the operator the ability to lock the device. Allows 100 percent visual inspection of the assembly.



The warehouse-handling device shown is known for its versatility. The device mimics the human motion of picking up a part and placing it down. The same device can be used to pick up parts such as totes, trays, boxes, and milk crates. The self-balance feature allows the same device to pick up parts of different weights and sizes.



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