



# 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:

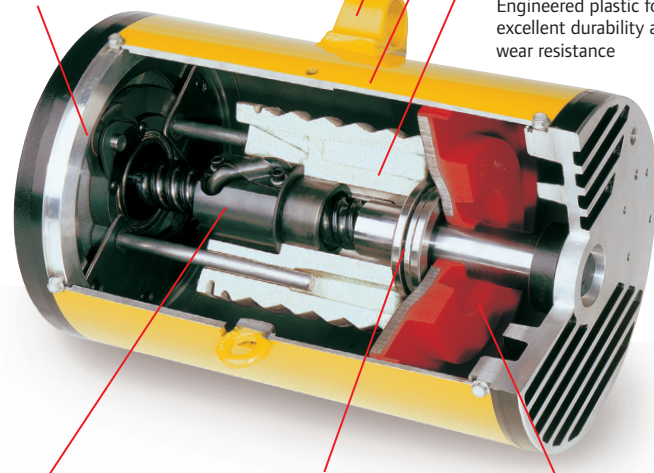
Fits all Ingersoll Rand suspensions and most trolleys from other manufacturers.

#### 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.

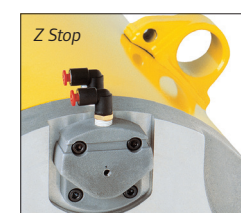
**Low-friction cable guide (not shown):** Ensures smooth cable feed on and off the reel.

#### Air chamber and piston:




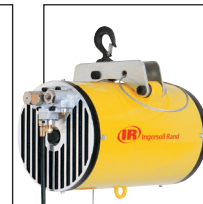
Forms the heart of the unit. Air entering the chamber pushes the piston to rotate the spool, wind the cable, and lift the load. Exhausting air lowers the load. Regulating this flow balances the load, creating a zero gravity float.

#### 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

 <p><b>BW</b></p> <p><b>Basic unit, without control</b></p> <p><b>Features:</b></p> <ul style="list-style-type: none"> <li>▶ Standard balancer features</li> <li>▶ No control</li> </ul> <p><b>Suitable for:</b></p> <ul style="list-style-type: none"> <li>▶ Integration with end effector</li> </ul>	 <p><b>ZA</b></p> <p><b>Balancer with pendant control</b></p> <p><b>Features:</b></p> <ul style="list-style-type: none"> <li>▶ Ergonomic up/down pendant control</li> <li>▶ High speed precise positioning</li> <li>▶ 3.7 m standard hose length</li> </ul> <p><b>Suitable for:</b></p> <ul style="list-style-type: none"> <li>▶ Pick and place</li> <li>▶ Precision assembly</li> </ul>	 <p><b>BA</b></p> <p><b>Balancer with servo control</b></p> <p><b>Features:</b></p> <ul style="list-style-type: none"> <li>▶ Single balance control for single load balancing</li> <li>▶ Maintains constant tension through full range of motion</li> </ul> <p><b>Suitable for:</b></p> <ul style="list-style-type: none"> <li>▶ Tool balancing</li> <li>▶ Weld gun suspension</li> <li>▶ Fixture suspension</li> </ul>	 <p><b>EA</b></p> <p><b>Balancer with high load, low load, no load control</b></p> <p><b>Features:</b></p> <ul style="list-style-type: none"> <li>▶ Load balancing for 3 loads (high, low, no load)</li> <li>▶ Pendant with rotary thumb switch to select load</li> <li>▶ 3.7 m standard hose length</li> </ul> <p><b>Suitable for:</b></p> <ul style="list-style-type: none"> <li>▶ Multiple load balancing</li> <li>▶ End effector balancing (loaded/unloaded)</li> </ul>
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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)
<b>Single wire rope</b>									
BW015080 <sup>(1)</sup>	ZAW015080 <sup>(1)</sup>	BAW015080 <sup>(1)</sup>	EAW015080 <sup>(1)</sup>	49	58	68	2.0	165	23
BW020120	ZAW020120	BAW020120	EAW020120	65	78	90	3.0	254	28
BW020120S <sup>(2)</sup>	ZAW020120S <sup>(2)</sup>	BAW020120S <sup>(2)</sup>	EAW020120S <sup>(2)</sup>	65	78	90	3.0	254	28
BW032080S <sup>(2)</sup>	ZAW032080S <sup>(2)</sup>	BAW032080S <sup>(2)</sup>	EAW032080S <sup>(2)</sup>	104	124	145	2.0	254	28
BW035080 <sup>(1)</sup>	ZAW035080 <sup>(1)</sup>	BAW035080 <sup>(1)</sup>	EAW035080 <sup>(1)</sup>	113	136	160	2.0	254	28
BW050080	ZAW050080	BAW050080	EAW050080	162	194	225	2.0	254	50
BW050080S <sup>(2)</sup>	ZAW050080S <sup>(2)</sup>	BAW050080S <sup>(2)</sup>	EAW050080S <sup>(2)</sup>	162	194	225	2.0	254	50
<b>Reeved wire rope</b>									
BW040060	ZAW040060	BAW040060	EAW040060	130	155	180	1.5	254	30
BW040060S <sup>(2)</sup>	ZAW040060S <sup>(2)</sup>	BAW040060S <sup>(2)</sup>	EAW040060S <sup>(2)</sup>	130	155	180	1.5	254	30
BW065040S <sup>(2)</sup>	ZAW065040S <sup>(2)</sup>	BAW065040S <sup>(2)</sup>	EAW065040S <sup>(2)</sup>	208	248	290	1.0	254	30
BW070040 <sup>(1)</sup>	ZAW070040 <sup>(1)</sup>	BAW070040 <sup>(1)</sup>	EAW070040 <sup>(1)</sup>	226	272	320	1.0	254	30
BW100040	ZAW100040	BAW100040	EAW100040	324	388	450	1.0	254	52
BW100040S <sup>(2)</sup>	ZAW100040S <sup>(2)</sup>	BAW100040S <sup>(2)</sup>	EAW100040S <sup>(2)</sup>	324	388	450	1.0	254	52
<b>Tandem wire rope</b>									
BW040120	ZAW040120	BAW040120	EAW040120	130	155	180	3.0	254	56
BW040120S <sup>(2)</sup>	ZAW040120S <sup>(2)</sup>	BAW040120S <sup>(2)</sup>	EAW040120S <sup>(2)</sup>	130	155	180	3.0	254	56
BW065080S <sup>(2)</sup>	ZAW065080S <sup>(2)</sup>	BAW065080S <sup>(2)</sup>	EAW065080S <sup>(2)</sup>	208	248	290	2.0	254	56
BW070080 <sup>(1)</sup>	ZAW070080 <sup>(1)</sup>	BAW070080 <sup>(1)</sup>	EAW070080 <sup>(1)</sup>	226	272	320	2.0	254	56
BW100080	ZAW100080	BAW100080	EAW100080	324	388	450	2.0	254	100
BW100080S <sup>(2)</sup>	ZAW100080S <sup>(2)</sup>	BAW100080S <sup>(2)</sup>	EAW100080S <sup>(2)</sup>	324	388	450	2.0	254	100

1) Not available with Z-Stop safety device.

2) Model delivered with Z-Stop as standard.

# BW-Series Pneumatic Balancers

## Options



## Model identification codes

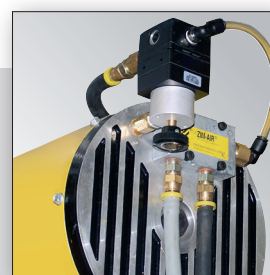
Example: **ZAW065040SS3**

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

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

## Speed control kit, part no. 58267352

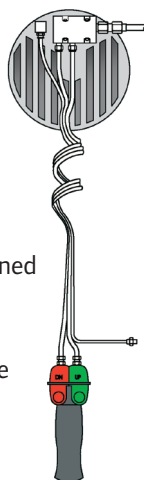
Regulates the inlet pressure of the balancer. Full control of lifting speed for any loads. Must be used with the ZA pendent control 15300. Specially designed for lightweight hook with heavy loads



## Tri-Coil, Quad-Coil and Interlock options

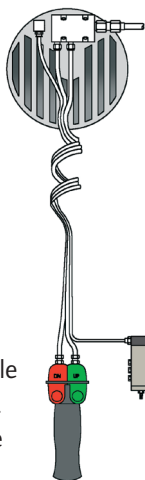
### TRI-COIL

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



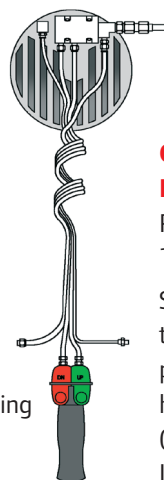
### TRI-COIL + Interlock

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



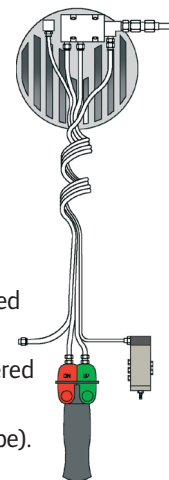
### QUAD-COIL

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



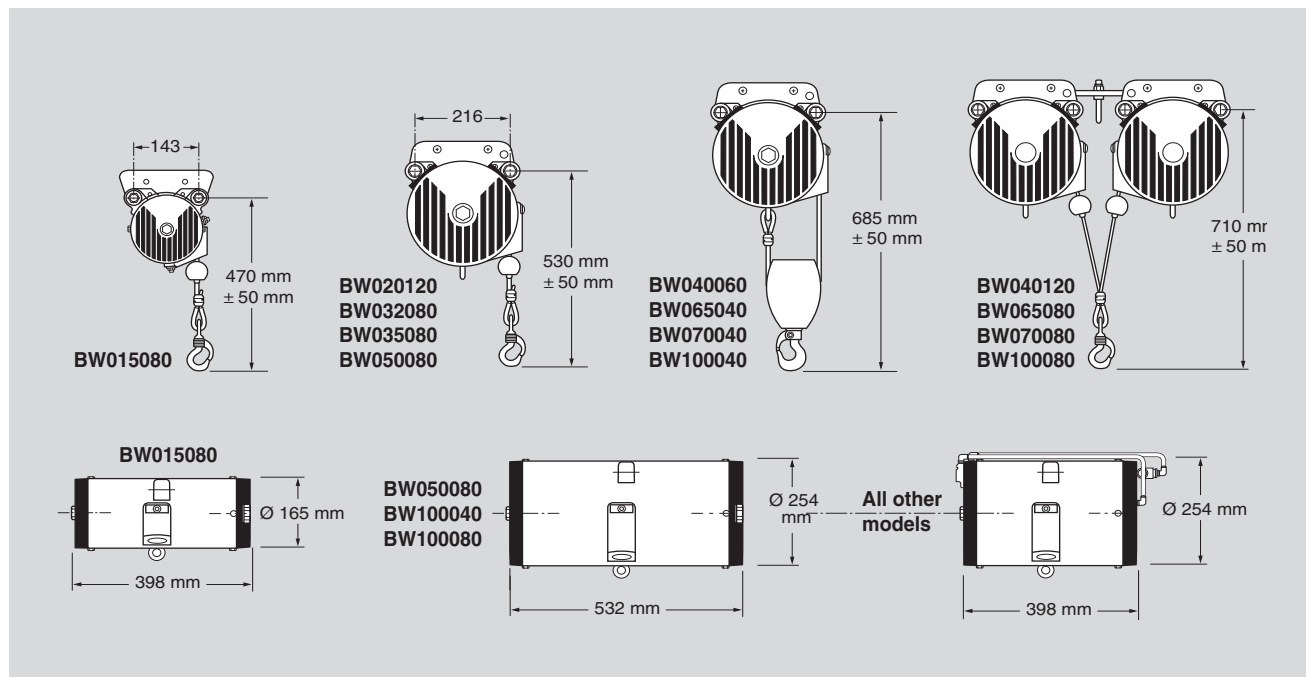
### QUAD-COIL + Interlock

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



# BW-Series Pneumatic Balancers

## 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**

