Ingersoll Rand®

BALANCERS

The strength behind Ingersoll Rand ergonomic handling



Ingersoll Rand offers:

- Pneumatic Balancers
- Intelligent Pneumatic/Electric balancers
- Intelligent Electric balancers
- Mechanical Spring balancers

Zimmerman Series Pneumatic Balancers

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

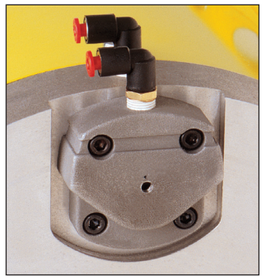
Progress is greener with Ingersoll Rand

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 2,000 lbs (907 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 — 40 to 120 inches (1016 to 3048 mm) 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 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 6 inches (152.4 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 10 inch (254 mm) diameter units.



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.

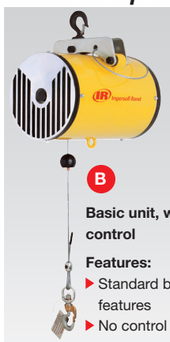
Low-friction cable guide *(not shown)*: Ensures smooth cable feed on and off the reel.

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.

Zimmerman Series Pneumatic Balancers

50 to 2,000 lb (22 to 909 kg) capacity

Control options:

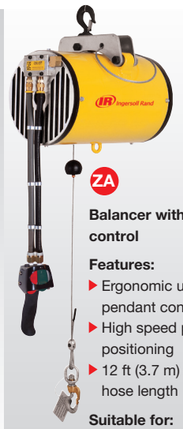


B

Basic unit, without control

Features:
- Standard balancer features
- No control

Suitable for:
- Integration with end effector

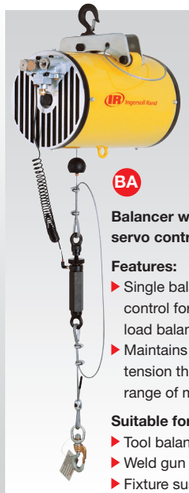


ZA

Balancer with pendant control

Features:
- Ergonomic up / down pendant control
- High speed precise positioning
- 12 ft (3.7 m) standard hose length

Suitable for:
- Pick and place
- Precision assembly

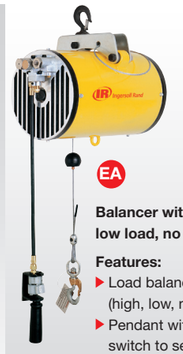


BA

Balancer with servo control

Features:
- Single balance control for single load balancing
- Maintains constant tension through full range of motion

Suitable for:
- Tool balancing
- Weld gun suspension
- Fixture suspension



EA

Balancer with high load, low load, no load control

Features:
- Load balancing for 3 loads (high, low, no load)
- Pendant with rotary thumb switch to select load
- 12 ft (3.7 m) standard hose length

Suitable for:
- Multiple load balancing
- End effector balancing (loaded/unloaded)

B	ZA	BA	EA	Capacity lb (kg)	Travel in (mm)	Net Weight lb (kg)
SINGLE WIRE ROPE						
BW015080[1]	ZAW015080[1]	BAW015080[1]	EAW015080[1]	150 (68)	80" (2032)	50 (23)
BW020120	ZAW020120	BAW020120	EAW020120	200 (90)	120" (3048)	62 (28)
BW020120S[2]	ZAW020120S[2]	BAW020120S[2]	EAW020120S[2]	200 (90)	120" (3048)	62 (28)
BW032080S[2]	ZAW032080S[2]	BAW032080S[2]	EAW032080S[2]	325 (147)	80" (2032)	62 (28)
BW035080[1]	ZAW035080[1]	BAW035080[1]	EAW035080[1]	350 (158)	80" (2032)	62 (28)
BW050080	ZAW050080	BAW050080	EAW050080	500 (227)	80" (2032)	110 (50)
BW050080S[2]	ZAW050080S[2]	BAW050080S[2]	EAW050080S[2]	500 (227)	80" (2032)	110 (50)
REEVED WIRE ROPE						
BW040060	ZAW040060	BAW040060	EAW040060	400 (181)	60" (1524)	67 (30)
BW040060S[2]	ZAW040060S[2]	BAW040060S[2]	EAW040060S[2]	400 (181)	60" (1524)	67 (30)
BW065040S[2]	ZAW065040S[2]	BAW065040S[2]	EAW065040S[2]	650 (294)	40" (1016)	67 (30)
BW070040[1]	ZAW070040[1]	BAW070040[1]	EAW070040[1]	700 (317)	40" (1016)	67 (30)
BW100040	ZAW100040	BAW100040	EAW100040	1,000 (453)	40" (1016)	115 (52)
BW100040S[2]	ZAW100040S[2]	BAW100040S[2]	EAW100040S[2]	1,000 (453)	40" (1016)	115 (52)
TANDEM WIRE ROPE						
BW040120	ZAW040120	BAW040120	EAW040120	400 (181)	120" (3048)	124 (56)
BW040120S[2]	ZAW040120S[2]	BAW040120S[2]	EAW040120S[2]	400 (181)	120" (3048)	124 (56)
BW065080S[2]	ZAW065080S[2]	BAW065080S[2]	EAW065080S[2]	650 (294)	80" (2032)	124 (56)
BW070080[1]	ZAW070080[1]	BAW070080[1]	EAW070080[1]	700 (317)	80" (2032)	124 (56)
BW100080	ZAW100080	BAW100080	EAW100080	1,000 (453)	80" (2032)	220 (100)
BW100080S[2]	ZAW100080S[2]	BAW100080S[2]	EAW100080S[2]	1,000 (453)	80" (2032)	220 (100)
TANDEM REEVED WIRE ROPE						
BW080060	ZAW080060	BAW080060	EAW080060	800 (360)	60" (1524)	129 (59)
BW080060S[2]	ZAW080060S[2]	BAW080060S[2]	EAW080060S[2]	800 (360)	60" (1524)	129 (59)
BW130040S[2]	ZAW130040S[2]	BAW130040S[2]	EAW130040S[2]	1,300 (589)	40" (1016)	129 (59)
BW140040[1]	ZAW140040[1]	BAW140040[1]	EAW140040[1]	1,400 (620)	40" (1016)	129 (59)
BW200040	ZAW200040	BAW200040	EAW200040	2,000 (900)	40" (1016)	225 (102)
BW200040S[2]	ZAW200040S[2]	BAW200040S[2]	EAW200040S[2]	2,000 (900)	40" (1016)	225 (102)

Selection Tips:

- Actual operating capacity is determined by available plant air pressure. Operating capacity decreases 1% for every 1 psi below 100 psi inlet air pressure. For example: at 50 psi, a 350 lb capacity balancer has a 175 lb operating capacity (350 X 50%)
- For lifting applications, working load should not exceed 80% of operating capacity
- Working load includes part weight and handling device weight

[1] Not available with Z-Stop safety device.

[2] Model delivered with Z-Stop as standard.

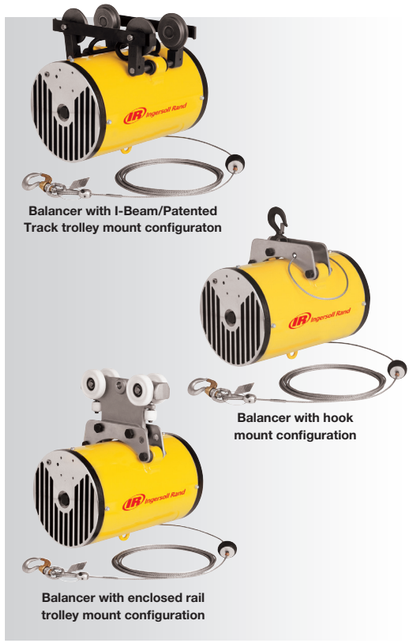
Zimmerman Series Pneumatic Balancers

50 to 2,000 lb (22 to 909 kg) capacity

Suspension options:

Option Code	Description	6.5" Dia. 150 lb Unit	10" Dia. >150 lb Units	Competitor Product
00	No suspension	–	–	NA
S2	ZRS2 steel rail	16300	16400	NA
S3	ZRS3 steel rail	16300	16400	NA
HM	Hook mount	16360	16460*	NA
TR	T-Rail / I-Beam	16320	16420*	NA
AT	ZRAT aluminum rail	16355	16455*	NA
A1	ZRA1 aluminum rail	16305	16405*	NA
A2	ZRA2 aluminum rail	16310	16410	NA
E4	ETA-4 aluminum rail	16344	16444*	Unified
E8	ETA-8 aluminum rail	16345	16445	Unified
K1	KBK1 steel rail	16325	16425*	Demag
K2	KBK2 steel rail	16315	16415	Demag
G1	Gorbel 1000# alum. series track	16307	16407*	Gorbel
G2	Gorbel 1000# steel series track	16307	16407*	Gorbel
K3	4" Aluminum	16344	16444*	Knight
K4	8" Aluminum	16345	16445	Knight
K5	8" Aluminum anti-kickback	16345	16445	Knight
K6	4" Steel	16325	16425*	Knight
K7	6" Steel	16315	16415	Knight
K8	7" Steel	16315	16415	Knight

Note:
* NOT compatible with tandem balancers



Balancer with I-Beam/Patented Track trolley mount configuraton

Balancer with hook mount configuration

Balancer with enclosed rail trolley mount configuration

Example: **BW020120SS2**

Pneumatic Balancers model driver

Control B	Type W	Capacity 020	Travel 120	Z-Stop Option S	Suspension Option S2
B = Basic, no controls ZA = Pendant control BA = Servo control EA = High, low, no load control	**W = Wire rope**	**020 = 200 lb (91 kg)** For available capacities, refer to model number tables	**120 = 120 inches (3048 mm)** For available travel, refer to model number tables	**S = Z-stop**	**S2 = ZRS2 steel rail** For available suspension options, refer to suspension option table

Replacement part numbers

Z-Stop Option Code	Description	Part No.
S	Z-Stop, 200 lb capacity	13301
S	Z-Stop, 325 lb capacity	13311
S	Z-Stop, 500 lb capacity	13321
Control Options Code	**Description**	**Part No.**
B	Basic – no controls	N/A
ZA	Pendant control	15300–12
BA	Single balance control – 6.5" unit	15320
BA	Single balance control – 10" unit	15330
EA	High, low, no load control	15310–12

EZ Grip Ergonomic Control Handle

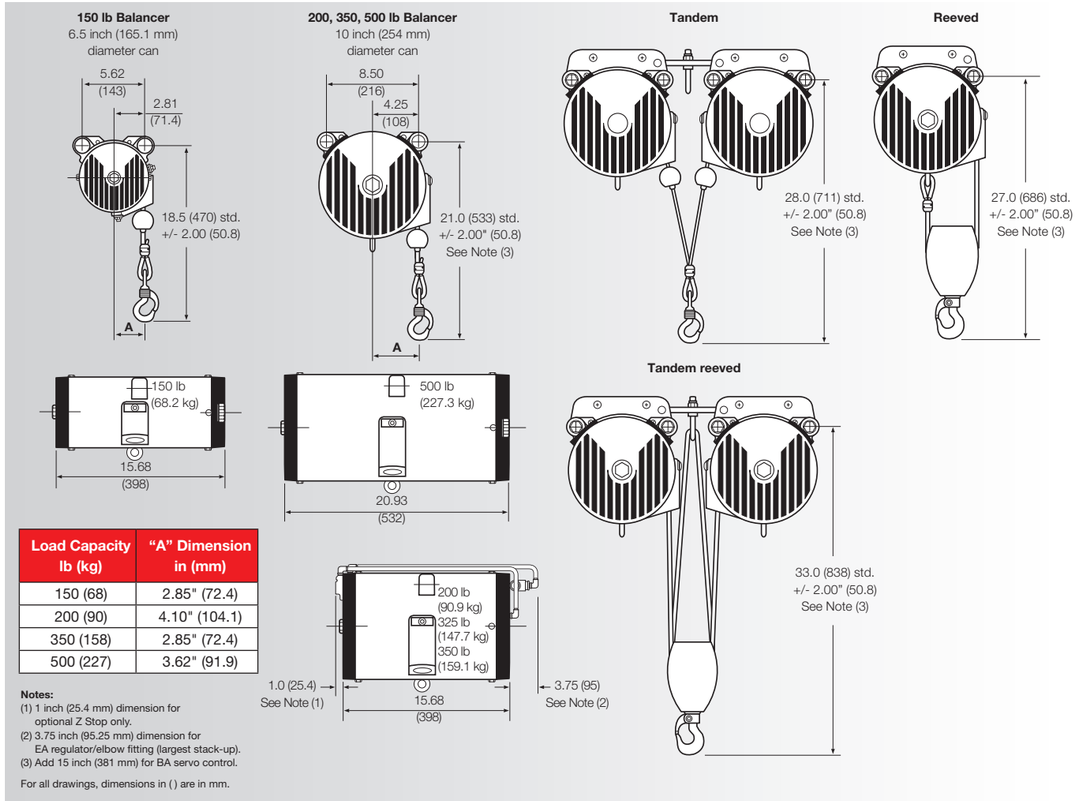
Quality handle manufactured by Ingersoll Rand, the world leader in ergonomically sound material handling equipment.



ZA Pendant Control (15300-12)

Zimmerman Series Pneumatic Balancers

Dimensions:



Load Capacity lb (kg)	"A" Dimension in (mm)
150 (68)	2.85" (72.4)
200 (90)	4.10" (104.1)
350 (158)	2.85" (72.4)
500 (227)	3.62" (91.9)

Notes:
(1) 1 inch (25.4 mm) dimension for optional Z Stop only.
(2) 3.75 inch (95.25 mm) dimension for EA regulator/elbow fitting (largest stack-up).
(3) Add 15 inch (381 mm) for BA servo control.

For all drawings, dimensions in ( ) are in mm.

Also available:

BAW series tool balancer

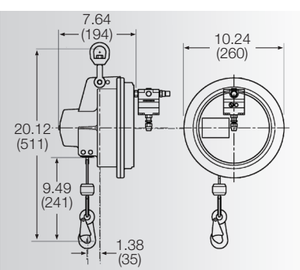
This air unit offers an incredible 2 to 50 pound (0.9 to 22 kg) load capacity and our exclusive flotation feature.

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 50 lb (22 kg) range
- **Headroom** — Requires only 20 inches (508 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

BAW005060





Part No.	Capacity lb (kg)	Travel in (mm)	Net Weight lb (kg)
SINGLE WIRE ROPE			
BAW005060	2 – 50 (0.9 – 22)	59" (1500)	19.8 (9)

Zero Gravity 2.0 Balancer

Intelligent Air Balancer

Finding the perfect fit for your ergonomic needs doesn't have to be complicated. Lighten the load and let the Zero Gravity Air Balancer 2.0 from Ingersoll Rand® do the heavy lifting. An improved design and innovative new features cut operator effort in half for reduced fatigue, provide greater flexibility and control, and make setup and maintenance a breeze.



ERGONOMICS

A redesigned, ergonomically enhanced handle to reduce operator effort while in float mode. Plus, the redeisgned ergonomic handle further reduces the potential for fatigue and repetitive stress injuries.

SIMPLICITY

The Zero Gravity Air Balancer 2.0 was created with simplicity in mind. A plug-and-play design eliminates the need for extensive technical training making setup a snap. An intuitive interface makes making safety adjustments quick and easy, while the addition of data run and cycle times courtesy of a Windows GUI tool allows users to plan predictive maintenance schedules.

FLEXIBILITY

Designed to retrofit easily on any new or existing Ingersoll Rand Air Balancer, The Zero Gravity Air Balancer 2.0 seamlessly transitions between handle and float mode saving time and increasing productivity. Plus, a new 3-speed control system provides the operator with even greater flexibility and control.

GENERAL OFFERINGS	**Working Principle**	Electro Pneumatic
	Max Lifting Capacity (lbs)	400 @ 100 psi
	Max Vertical Travel (in)	80
	Control Type	Force Sensing Handle
	Product Weight (lbs)	115
	Min Headroom Height (in)	41
FEATURES	**Emergency Stop**	YES
	Speed Control*	YES
	Load display*	YES
	Cycle time display*	YES
	Over Load Alarm	YES
	Malfunction Alarm	YES
	Float mode	YES
	Lifting speed at No load (ft/Min)	120
	Lifting speed at max Load (ft/min)	37
	Safety Feature	- Fall Arrestor - Max load protection - Alarm during any malfunction - Safety Interlock

MODEL CODE EXPLANATION

Example	ZG	2	W	020	120	S	00	B

Type of control kit
- **ZG** — **Zero Gravity**
- **2** — **Gen 2**

Wire
- **W** — **Wire Rope**

Capacity
- 015 — 150 lb.(68kg)
- **020** — **200 lb.(91kg)**
- 035 — 350 lb.(158kg)
- 050 — 500 lb.(227kg)

Inches of Travel
- 015 — 80 in.(203cm)
- **120** — **120 in.(305cm)**

S — **Z-Stop**

Type of Suspension kit
- **00** — **No Suspension**
- AT — ZRAT Rail
- 01 — ZRA1 Rail
- 02 — ZRA2 Rail
- HM — Top Hook Mount
- S2 — ZRS2 Rail

Type of Hook
- **B** — **Bullard**
- C — Steel Snap

Spring Balancers

Worth its Weight in Gold

SPRING BALANCER FAMILIES

Model	Capacity lb (kg)	Weight lb (kg)	Lift ft (mm)	NPT in	CFM
Hose Reel					
BHR-8	0.9 - 1.7 (0.3 - 0.7)	2.57 (1.17)	4-1/4 (1,295)	1/4	18.4
BHR-15	44 - 66 (20 - 30)	2.6 (1.2)	4-1/4 (1,295)	1/4	18.4
BHR-25	66 - 88 (30 - 40)	2.9 (1.34)	4-1/4 (1,295)	1/4	18.4
Light Duty					
BLD1	0.9 - 2.2 (0.4 - 1)	1.3 (0.6)	5.2 (1,600)		
BLD1/P	0.9 - 2.2 (0.4 - 1)	1.3 (0.6)	5.2 (1,600)		
BLD2	2.2 - 4.4 (1 - 2)	1.3 (0.6)	5.2 (1,600)		
BLD3	4.4 - 6.6 (2 - 3)	1.5 (0.7)	5.2 (1,600)		
Medium Duty					
BMDS-2	2.2 - 5.5 (1 - 2.5)	4.4 (2.0)	6.5 (2,000)		
BMDS-4	4.4 - 8.8 (2 - 4)	4.4 (2.0)	6.5 (2,000)		
BMDS-6	8.8 - 13.2 (4 - 6)	5.1 (2.3)	6.5 (2,000)		
BMDS-8	13.2 - 17.6 (6 - 8)	5.5 (2.5)	6.5 (2,000)		
BMDLN-4	4.4 - 6.6 (2 - 3)	1.5 (0.7)	6.5 (2,000)		
BMDLN-6	8.8 - 13.2 (4 - 6)	7.1 (3.2)	8.2 (2,500)		
BMDLN-8	13.2 - 17.6 (6 - 8)	7.7 (3.5)	8.2 (2,500)		
BMDLN-10	17.6 - 22 (8 - 10)	8.2 (3.7)	8.2 (2,500)		
BMDLN-12	22 - 30 (10 - 13.6)	8.8 (4.0)	8.2 (2,500)		
BMDLLN-4	4.4 - 8.8 (2 - 4)	6.6 (3.0)	8.2 (2,500)		
BMDLLN-6	8.8 - 13.2 (4 - 6)	7.3 (3.3)	8.2 (2,500)		
BMDLLN-8	13.2 - 17.6 (6 - 8)	7.9 (3.6)	8.2' (2500)		
BMDLLN-10	17.6 - 22.0 (8 - 10)	8.4 (3.8)	8.2' (2500)		
Intermediate Duty					
BIDS-7	8.8 - 15.4 (4 - 7)	5 (2.3)	6.5 (2,000)		
BIDS-10	15.4 - 22 (7 - 10)	5.5 (2.5)	6.5 (2,000)		
BIDS-14	22 - 30.8 (10 - 14)	5.5 (2.5)	6.5 (2,000)		
BIDS-18	30.8 - 39.6 (14 - 18)	6.5 (2.9)	6.5 (2,000)		
BIDS-22	39.6 - 48.4 (18 - 22)	6.5 (2.9)	6.5 (2,000)		
BIDS-26	48.4 - 55 (22 - 25)	6.5 (2.9)	6.5 (2,000)		
BHD-15	22 - 33 (10 - 15)	22.7 (10.3)	6.5 (2,000)		
BHD-20	33 - 44 (15 - 20)	23.4 (10.6)	6.5 (2,000)		
BHD-25	44 - 55 (20 - 25)	24.7 (11.2)	6.5 (2,000)		
BHD-30	55 - 66 (25 - 30)	25.4 (11.5)	6.5 (2,000)		
BHD-35	66 - 77 (30 - 35)	26 (11.8)	6.5 (2,000)		
BHD-45	77 - 99 (35 - 45)	27.3 (12.4)	6.5 (2,000)		
BHD-55	99 - 121 (45 - 55)	27.6 (12.5)	6.5 (2,000)		
BHD-65	121 - 143 (55 - 65)	30 (13.6)	6.5 (2,000)		
Super Duty					
BSD-20	33 - 44 (15 - 20)	41.9 (18.6)	8.2 (2,500)		
BSD-30	44 - 66 (20 - 30)	43.7 (19.8)	8.2 (2,500)		
BSD-40	66 - 88 (30 - 40)	45.9 (20.8)	8.2 (2,500)		
BSD-50	88 - 110 (40 - 50)	52.7 (23.9)	8.2 (2,500)		
BSD-60	110 - 132 (50 - 60)	56 (25.4)	8.2 (2,500)		
BSD-70	132 - 154 (60 - 70)	59.1 (26.8)	8.2 (2,500)		
BSD-80	154 - 176 (70 - 80)	61.3 (27.8)	8.2 (2,500)		
BSD-90	176 - 198 (80 - 90)	63.5 (28.8)	8.2 (2,500)		
BSD-100	198 - 220 (90 - 100)	78.5 (35.6)	8.2 (2,500)		
BSD-120	220 - 265 (100 - 120)	85.3 (38.8)	8.2 (2,500)		
BSD-140	265 - 309 (120 - 140)	92.2 (41.8)	8.2 (2,500)		
BSD-150	287 - 330 (130 - 150)	98.1 (44.5)	8.2 (2,500)		
BSD-165	330 - 363 (150 - 165)	106.3 (48.2)	8.2 (2,500)		
BSDL-20	33 - 44 (15 - 20)	42.1 (19.1)	9.8 (3,000)		
BSDL-25	44 - 55 (20 - 25)	43.9 (19.9)	9.8 (3,000)		
BSDL-35	55 - 77 (25 - 35)	46.1 (20.9)	9.8 (3,000)		
BSDL-45	77 - 99 (35 - 45)	52.5 (23.8)	9.8 (3,000)		
BSDL-50	99 - 110 (40 - 50)	52.7 (23.9)	9.8 (3,000)		
BSDL-60	110 - 132 (50 - 60)	55.8 (25.3)	9.8 (3,000)		
BSDL-70	132 - 154 (60 - 70)	58.9 (26.7)	9.8 (3,000)		
BSDL-80	154 - 176 (70 - 80)	61.7 (28.0)	9.8 (3,000)		
BSDL-90	176 - 198 (80 - 90)	64 (29.0)	9.8 (3,000)		
BSDL-115	220 - 254 (100 - 115)	85.3 (38.7)	9.8 (3,000)		
BSDL-130	254 - 286 (115 - 130)	88 (39.9)	9.8 (3,000)		
BSDL-140	286 - 309 (130 - 140)	94.4 (42.8)	9.8 (3,000)		
BSDL-150	309 - 330 (140 - 150)	100.6 (45.6)	9.8 (3,000)		



Capacity Range:
0.3-6.6 lbs (0.4-3 kg)
2.2-5.5 lbs (1-8 kg)
4.4-30 lbs (2-13.6 kg)
8.8-55 lbs (4-25 kg)
22-143 lbs (10-65 kg)
33-363 lbs (15-165 kg)

Weight Capacity Range:
1.3 – 106 lbs (0.6 – 45.6 kg)

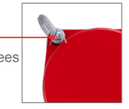
Stroke Range:
5.2 ft (1.6 m) 6.5 ft (2 m)
8.2 ft (2.5 m) 9.8 ft (3 m)



Safety caps (BMDS, BMDLN, BMDLLN Series) prevent collisions with other objects when balancer is moved on rails

Axial mounting circlip (BMDS Series) ensures greater resistance to impact

Stainless steel cable provides durability



Screw lock system (BMDS Series) guarantees high level of reliability of balancers, even with persistent vibrations



New knob and casing design (BLD Series) provides better ergonomics for hand adjustments

6 adjustment steps (BLD Series) versus previous model with 4 creates smoother response

New rope mouth bushing (BLD Series) reduces wear



Flat casing in back of balancer (BLD Series) allows for more flexibility in tight spaces

E-Lifting Series

Electric Balancers



Get Precise Performance Without Compromise

The **E-Lift Series Electric Balancer from Ingersoll Rand®** provides extended lift capacity of up to 600kg with intuitive operator controls that deliver millimeter accuracy for precise positioning.

An in-handle OLED display enables custom programming controls that set upper and lower limits and passcode protection to ensure only trained operators can use the equipment.

Enhanced safety features such as overload protection and anti-recoil technology prevent lifting beyond load capacity and equipment deviation due to sudden changes. UL and CE compliant for reliable performance in demanding applications.



Configuration	Model Number	Max Capacity* (Load & Tool)	Duty Cycle	Max Lifting Speed Unloaded (ft/min)	Max LiftingSpeed Float Mode (ft/min)	Max Travel Range (ft)	Rated Power (hp)	Lifting Media (Stainless Steel Wire)
EIS Inline Slide Control Handle	EIS017138W16UL	176 lbs	H4/Equivalent	131	118	11.5	1.0	5mm 19 strand x 7 wires
	EIS044138W16UL	441 lbs	H4/Equivalent	98	89	11.5	2.0	5mm 19 strand x 7 wires
	EIS066138W16UL	661 lbs	H4/Equivalent	42	44	11.5	2.7	5mm 19 strand x 7 wires
	EIS132068W18UL	1323 lbs	H3/Equivalent	22	22	5.6	2.7	6.5mm 19 strand x 7 wires

* 176 lbs & 441lbs models run on single phase 220V; 661 lbs & 1323lbs models run on three phase 220V

Learn more at www.irtools.com

Ingersoll Rand (NYSE:IR), driven by an entrepreneurial spirit and ownership mindset, is dedicated to helping make life better for our employees, customers and communities. Customers lean on us for our technology-driven excellence in mission-critical flow creation and industrial solutions across 40+ respected brands where our products and services excel in the most complex and harsh conditions. Our employees develop customers for life through their daily commitment to expertise, productivity and efficiency.

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