



# Balancing the load

**Ergonomic solutions with  
Demag Balancer**

**DEMAG**  
.....







### **Continuous improvement**

For more than 200 years, Demag has developed industry leading products to help you move your loads. Our wide range of chain hoists and wire rope hoists offer you solutions to meet your unique needs. With the DCBS Electric Balancer and D-BP II Air Balancer, you can move loads up to 770 lbs precisely, in a new way. Now your loads can be exactly where they need to be, when you need it.

### **Load Positioning Made Easy**

Demag balancers make load positioning and moving easy and intuitive. The Demag DCBS and D-BP II balancers allow the operator to easily move the load up or down with light pressure in the desired direction. Simply use the grip or both hands on the load to precisely guide the load without the need for a pendant.

### **High Safety Standard**

The Demag DCBS Electric Balancer and D-BP II Air Balancer provide almost effortless, vertical positioning of the load. When paired with our KBK Modular Light Crane Systems, horizontal travel also becomes almost effortless, providing a complete solution that improves safety, efficiency and productivity.



## Intuitive control. Precise positioning.

### SAFE & EFFICIENT LOAD HANDLING

Intuitive load handling has never been so easy and efficient! The DCBS is based on our customer favourite DC Electric Chain Hoist product line suitable for the most demanding applications and engineered for a long, reliable service life. DCBS units are available in two sizes with load capacities up to 160 kg (350 lbs). They can be seamlessly integrated into Demag KBK light crane system Cranes, monorails or jib cranes are available in steel or aluminum, ceiling supported or freestanding, all from the feature packed KBK product line.

### SAFE & RELIABLE OPERATION

- Lifting and lowering by manual force on the control handle
- Manipulate loads using the D-Grip handle or with 2 hands on the load
- Protection against slack chain
- Protection against snatching loads
- Movements can be stopped if loads fluctuate widely
- Monitoring/reducing load capacity

### LOW MAINTENANCE OPERATION

- Low-wear brake thanks to regenerative braking
- No need to adjust the brake
- Brake arranged before slipping clutch in the drive arrangement (no load slipping)
- Automatic braking if a malfunction occurs
- Slipping clutch with automatic cut-out by means of speed monitoring (no continuous slipping)
- Gearbox, slipping clutch and brake maintenance-free for up to 10 years

### FEATURES

- Operating limit switches (upper/lower)
- Elapsed operating time counter
- Wide three phase voltage range 380 - 480V, + or - 10%. Can be operated at 50 or 60 Hz
- Easy-to-use interface allows you to change parameters to better suit the needs of the application.

### SIMPLE INSTALLATION

- Plug-in electric connections: "Plug & Lift"

# Demag chain hoist with balancer function

## 4 operating modes

### GRIP CONTROL

- Easily control the load with the D-Grip Servo control handle.

### ASSEMBLY MODE

- High level of safety and precision for assembly operations, suppressing oscillation and uncontrolled load movements.

### LOAD POSITIONING

- Switch to Load Positioning Mode to grasp and guide the load directly with the hands with light pressure.



### LOAD PICK-UP MODE

- Lift load handling attachments can be lifted or pretensioned to a preset limit using the data interface. Load can be safely removed without dropping or a sudden upward pull, protecting the operator, jigs and machinery.

**The Demag D-BP II Air Balancer uses a clean air supply for handling loads up to 770 lbs. Fast and very reactive lifting and floating of the load is possible with minimum effort.**



## **Get industry leading safety and productivity features**

The Demag D-BP II Air Balancer is ideal for assembly processes in a variety of manufacturing environments including the most demanding automotive applications. Its jerk-free, continuous three-dimensional movements enable the precision needed for fragile loads. The Load Weight Compensation feature assures loads of different

weights are lifted at almost identical, safe speeds and picking up and setting down can be precisely controlled. The Load Balancing feature allows loads to be floated almost effortlessly to where they need to be. The ability to use fast lifting speeds makes the D-BP II the optimal solution for fast pick-and-pack operations.



**Patented safety brake locks the rope if the lifting movement is too fast and can be quickly and easily reset on the D-BP II.**

The Demag D-BP II Air Balancer was developed to support the natural lifting movement of the operator.

Choose Up Down control or float control options. The D-BP II can be used with simple hooks and mechanical grippers, or easily integrated in to custom air or electric powered gripping devices. When combined with Demag KBK light cranes and monorails, we can offer a complete ergonomic solution for your requirements:

- Demag KBK single or double girder suspension cranes with steel or aluminium track
- Demag KBK single or double girder freestanding cranes with steel or aluminium track
- Demag KBK suspension or freestanding monorail systems with steel or aluminium track
- Demag slewing jib cranes with steel or aluminium track

## Control Systems (Overview)

### UP/DOWN CONTROL CIRCUITS DPLC-K, DPLC-IH

Proportional UP/DOWN Control. The load is lifted using ergonomic pushbutton controls. Unlike an air or electric hoist, the load can then be moved with the hands approximately 8 inches up or down, floating on a cushion of air in the balancer. Pendant or inline pushbutton control are also available.



### UP/DOWN CONTROL WITH AUTOMATIC LOAD DETECTION AND BALANCING DPLS-K, DPLS-IH

Additional on-board controls and pendant switch in the Demag D-BP II allow you to float different loads up to 80kg (175 lbs.) in "zero G" over the entire lifting height of the balancer.



### BALANCING CONTROL FOR FIXED LOAD WEIGHTS B1, B1-FT, B2, B2TS, B3

Designed for use with grippers, the D-BP II is supplied with controls to balance (float) loads without the need of a pushbutton. A pneumatic signal from the gripper is used to indicate the load to be balanced and prevents operator error for added safety. Suitable for loads up to 150kg (330 lbs.)





# Technical Data

DCBS - Chain hoist with balancer function

		DCBS-Pro 1-125	DCBS-Pro 2-160
Model code		DCBS-Pro 1-125 H2,8 VS30 380-480/50/60	DCBS-Pro 2-160 H2,8 VS16 380-480/50/60
Load capacity	[lbs] / [kg]	275 / 125	350 / 160
Lifting speeds VSmin/VRated	[ft/min] / [m/min]	0.5 - 100 / 0.15 - 30	0,5 - 52 / 0.15 - 16
Lifting height (standard)	[ft] / [mm]	9 / 2,800	9 / 2,800
Increased suspension height (extra price)	[ft] / [mm]	14 / 4,300	14 / 4,300
Chain size	[ft] / [mm]	0.17 x 0.48 / 4.2 x 12.2	
Group of mechanisms	FEM / ISO	4m / M7	
Supply voltage	[V AC]	380 - 480	
Frequency	[Hz]	50 / 60	
Control voltage	[V DC]	24	
Output	[kW]	1.26 / 0.94	
Hoist motor duty factor	[%]	15 % [VSmin] / 60 % [VRated]	
C dimension with long suspension bracket	[mm]	32.1 / 815.5	
Equipment length	[mm]	19.8 / 502	
Weight for hook path (2,800 / 4,300 mm)	[kg]	55; 60 / 25; 27	
Temperature range	[°F] / [°C]	- 4 to 104 / - 20 to + 40 (without reduction in CDF) 122 / 22 (30 % CDF)	
Protection class / insulation class		IP55 / F	

D-BP II - Air balancer

Balancer code	Available input pressure [bar / psi]	Max. load (slow operation) [kg / lbs]	Max. load (fast operation) [kg / lbs]	Lifting stroke [mm / inch]	Weight * [kg / lbs]
D-BP II 70-2000B	4.5 / 65	37 / 82	28 / 61	2000 / 80	27 / 60
	5.0 / 73	42 / 93	32 / 70		
	5.5 / 80	47 / 103	35 / 77		
	6.0 / 87	52 / 114	39 / 86		
	6.5 / 94	57 / 125	43 / 95		
	7.0 / 102	62 / 136	47 / 103		
	7.5 / 109	67 / 147	50 / 110		
D-BP II 120-2000B D-BP II 120-3000B	8.0 / 116	72 / 158	54 / 119	2000 / 80 3000 / 118	35 / 77 40 / 88
	4.5 / 65	63 / 139	48 / 106		
	5.0 / 73	72 / 158	54 / 119		
	5.5 / 80	81 / 178	60 / 132		
	6.0 / 87	89 / 196	67 / 147		
	6.5 / 94	98 / 216	73 / 161		
	7.0 / 102	106 / 233	80 / 176		
D-BP II 160-2000B	7.5 / 109	115 / 253	86 / 189	2000 / 80	40 / 88
	8.0 / 116	123 / 271	93 / 205		
	4.5 / 65	85 / 187	63 / 139		
	5.0 / 73	96 / 211	72 / 158		
	5.5 / 80	107 / 235	81 / 178		
	6.0 / 87	119 / 262	89 / 196		
	6.5 / 94	130 / 286	98 / 216		
D-BP II 225-1800B	7.0 / 102	142 / 313	106 / 233	1800 / 72	42 / 92
	7.5 / 109	153 / 337	115 / 253		
	8.0 / 116	165 / 363	123 / 271		
	4.5 / 65	119 / 262	89 / 196		
	5.0 / 73	135 / 297	101 / 222		
	5.5 / 80	151 / 333	113 / 249		
	6.0 / 87	167 / 368	125 / 275		
D-BP II 350-1200B D-BP II 350-2500B	6.5 / 94	183 / 403	137 / 302	1200 / 47 2000 / 80	40 / 88 45 / 99
	7.0 / 102	199 / 438	149 / 328		
	7.5 / 109	215 / 474	162 / 357		
	8.0 / 116	231 / 209	174 / 383		
	4.5 / 65	185 / 408	139 / 306		
	5.0 / 73	210 / 463	157 / 346		
	5.5 / 80	235 / 518	176 / 388		
	6.0 / 87	260 / 573	195 / 430		
	6.5 / 94	285 / 628	214 / 472		
	7.0 / 102	310 / 683	232 / 511		
	7.5 / 109	335 / 738	251 / 553		
	8.0 / 116	360 / 794	270 / 595		

\* Weight without control circuit & carriage

2021 EN/US 213 788 44 700 IS 851  
Subject to change. No liability for errors or omissions.  
Printed in Germany D/310121

## DEMAG CRANES & COMPONENTS CORP.

6675 Parkland Blvd, Suite 200  
Solon, Ohio 44139  
USA

[www.demagcranes.com/en-us](http://www.demagcranes.com/en-us)

