MAGPOWR HEB250

HIGH EFFICIENCY BRAKE

Brake shown without fan cooling option

The MAGPOWR HEB250 pneumatic brake packs many powerful features into a compact design. Ideal for the demands of general converting and corrugating operations, the HEB produces higher torque at cooler brake pad temperatures. These cooler temperatures along with a thicker brake pad will ensure longer pad life to minimize downtime.

The HEB is engineered for rugged environments, utilizing a single, ventilated cast iron rotor with a bi-directional flute design which allows for efficient cooling when used in either direction of rotation, a through bore and keyway design for easy mounting of the rotor to the brake shaft and an integrated set of caliper mounting brackets that can be mounted directly to the machine frame. These caliper mounting brackets are also an integral part of the safety guarding along with the caliper bodies to reduce the overall size of the brake.

Web tension is accurately controlled by adjusting air pressure to the calipers, pushing brake pads against each side of the rotor to produce consistent brake torque.

GENERAL SPECIFICATIONS

Enclosure
IP20 (IEC529)

Climatic Class
3K3 (EN60721)

Temperature Range
Operating: 0 °C to 50 °C
Storage: -30 °C to 80 °C

Pollution Degree
2 (IEC664-1)

Altitude
0 to 2000 meters

Weight:
appr. 25 kg

Mounting Style
Through bore and keyway

Maximum RPM
3200 RPM

Brake Pads
Do not contain asbestos

Pad Coefficient of Friction
Low: 0.12
Medium: 0.41
High: 0.51

Maximum Pressure
621 kPa

Minimum Activation Pressure
21 kPa

Fan Requirements
Voltage: 24 VDC
Current: 1.5 ADC

Proximity Sensor Requirements
Supply Voltage: 24 VDC
Signal Output: NPN N.O.
Maximum Signal Current: 200 mADC
Maximum Frequency: 2 kHz
One Pulse per Revolution

KEY FEATURES

- Small compact size
- Through bores and keyways
- Inch and metric bores
- Optional mounting adapter
- High torque output
- High heat dissipation
- Longer pad life
- Bi-directional cooling
- Optional integrated proximity sensor

PRODUCT SELECTION

NUMBER OF CALIPERS	NUMBER OF PADS	TORQUE AT 4,1 BAR IN NM COEFFICIENT OF FRICTION OF PADS			TORQUE AT 5,5 BAR IN NM COEFFICIENT OF FRICTION PADS		
		LOW (0.12)	MED (0.41)	HIGH (0.51)	LOW (0.12)	MEDIUM (0.41)	HIGH (0.51)
1	2	33	114	133	44	152	177
2	4	66	228	265	87	303	354
3	6	99	341	398	131	455	531
4	8	132	455	531	175	607	707
5	10	164	569	663	218	759	884
6	12	197	683	796	262	910	1061

We recommend sizing the brake using values at 4,1 bar and medium coefficient of friction pads.

Step 1. Determine torque requirement in Nm from maximum tension and maximum roll diameter:

$$\text{Max. torque [Nm]} = \frac{\text{max. tension [N] x full roll diameter [mm]}}{2000}$$

Step 2. Determine RPM for full roll diameter (RPM = rounds per minute):

$$\text{RPM} = \frac{1000 \text{ x line speed [m / min]}}{3{,}14 \text{ x full roll diameter [mm]}}$$

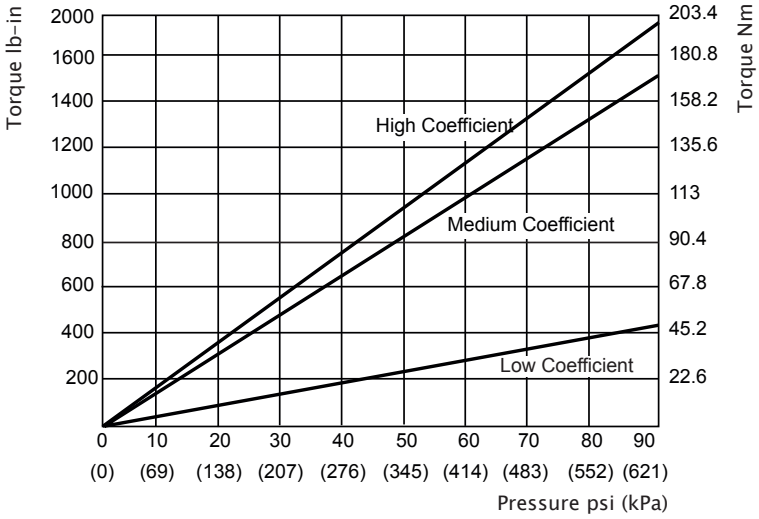
Step 3. Determine required heat dissipation [W]:

$$\text{Required heat dissipation [W]} = \frac{\text{line speed [m / min] x max. tension [N]}}{60}$$

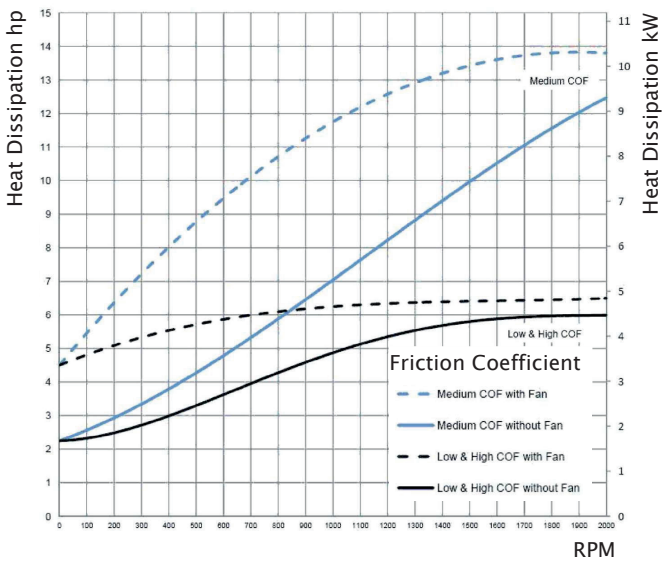
Step 4. Determine effective average RPM:

$$\text{Effective average RPM} = \frac{2000 \text{ x line speed [m/min]}}{3{,}14 \text{ x (full roll diameter [mm] + core diameter [mm])}}$$

Pressure vs. Torque for 1 Caliper (2 Pads)



Thermal Heat Dissipation Capacity



Step 5. Choose the number of calipers required from the chart above that will provide the torque required at the full roll diameter. Since not all facilities have a reliable air pressure source to supply the 6,2 bar full pressure rating to the brake, and as a factor of safety in initial applications, select the number of calipers required from the 4,1 bar table.

Step 6. Verify that the thermal horsepower generated by the application can be dissipated by looking at the chart to the right and ensure that the calculated horsepower falls on or under the line at the Effective Average RPM calculated in Step 4.

TORQUE RATING AT MAXIMUM AIR PRESSURE

TORQUE AT 6,2 BAR IN NM COEFFICIENT OF FRICTION PADS		
LOW (0.12)	MEDIUM (0.41)	HIGH (0.51)
49	171	199
98	341	398
147	512	597
197	683	796
246	853	995
295	1024	1194

REPLACEMENT PART KITS

Each kit includes 2 (each) pads to fill 1 (each) caliper.

MODEL NUMBER	DESCRIPTION
HEBPKL	HEB Pad Kit for Low Friction Pads (0.12)
HEBPKM	HEB Pad Kit for Medium Friction Pads (0.41)
HEBPKH	HEB Pad Kit for High Friction Pads (0.51)

ORDERING INFORMATION

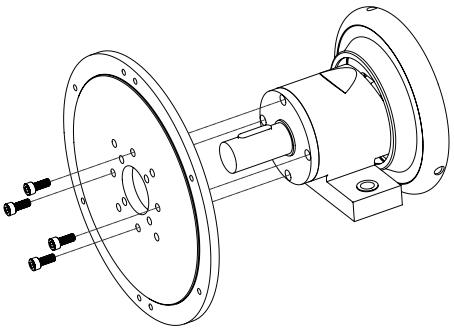
The model number consists of the base model HEB250 followed by six digits specifying the options and an additional two digits for special features when applicable.

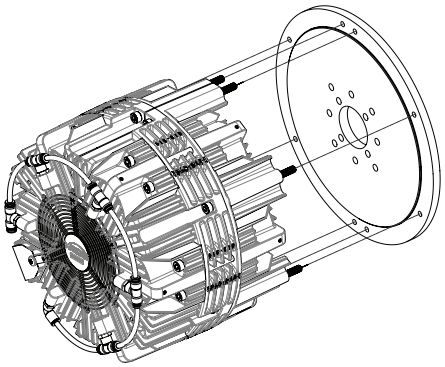
Format: HEB250-A-B-C-D-EE

PRODUCT OPTIONS

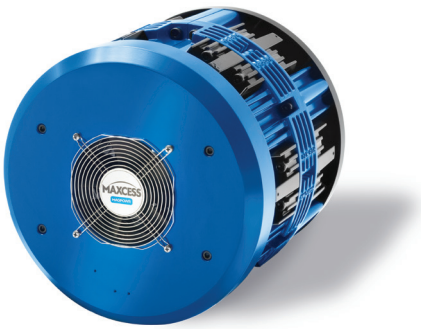
Integrated Proximity Sensor
for measuring unwind RPM (assembly mounts in place of one caliper)

Adapter Plate
Used for mounting to Tidland System Boschert Safety Chucks. Adapter plate can also be used with competitive safety chucks, on other bearing housings, but different mounting holes may be needed and supplied by customer. The plate can also be used to mount to a machine frame with uneven surfaces. The Plate is steel and can be welded.
To order the adapter plate, use part number HEB250BKPLT.





Fan Cooling Option
Brake shown with fan cooling option



A	NUMBER OF CALIPERS	B	FRICTION COEFFICIENT	C	FAN	D	PROXIMITY SENSOR (1)	EE	ROTOR BORE (2)
1	1 Caliper	L	Low = 0.12	0	No Fan	0	No Proximiy Sensor	00	10 mm (pilot hole)
2	2 Calipers	M	Medium = 0.41	F	Fan	P	Proximity Sensor	10	28 mm
3	3 Calipers	H	High = 0.51					17	35 mm
4	4 Calipers							32	50 mm
5	5 Calipers							42	60 mm
6	6 Calipers							47	1.000 inch
								53	1.375 inches

Notes
(1) If a proximity sensor is selected, then a fan must be selected and the maximum number of calipers is 5.
(2) Listed rotor bores are standard. Other non-standard bores are available from 19 mm through 60 mm for an additional charge.

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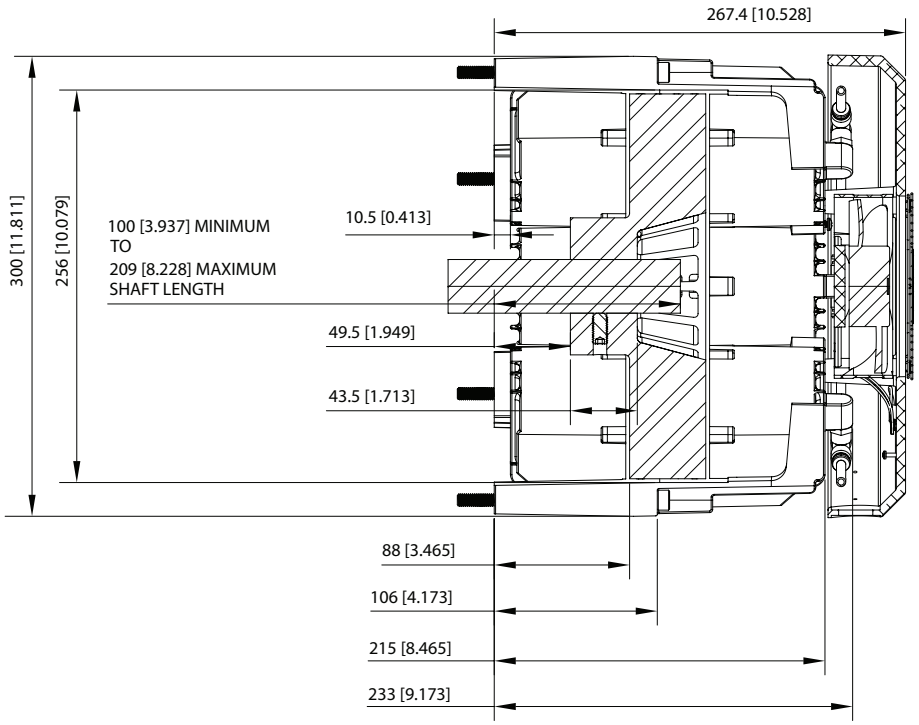
DIMENSIONS

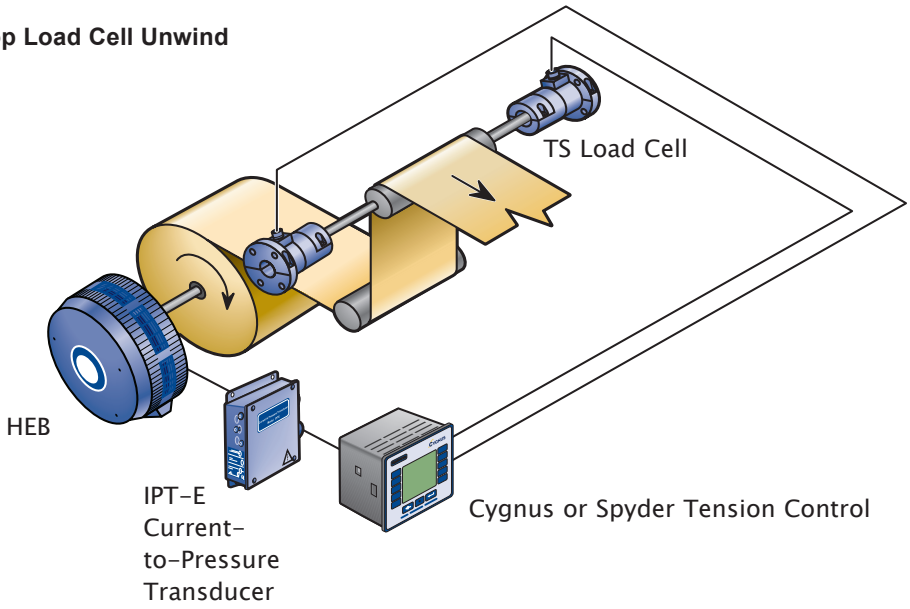


Dimension reflects overall length of brake **with** fan cooling option

Dimension reflects overall length of brake **without** fan cooling option

TYPICAL APPLICATION

Closed Loop Load Cell Unwind



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