



HD Hysteresis Dynamometers ED Engine Dynamometers

HD FEATURES

- 16 Standard Models with Maximum Torque from 2.5 oz-in to 500 lb-in (18 mN-m to 56.5 N-m)
- Hysteresis Braking System: provides precise torque loading independent of shaft speed
- Motor Testing: from no load to locked rotor
- Standard Torque Units: English, Metric and SI
- Accuracy: $\pm 0.25\%$ to $\pm 0.5\%$ (full scale)
- Air Flow Sensor: For protection against overheating and operator error
- Base Plates: available in long or short versions
- Custom Dynamometers: for special torque and speed requirements
- Easy Calibration

HD DESCRIPTION

Hysteresis Brake Dynamometers (HD Series) are versatile and ideal for testing in the low to medium power range (maximum 14 kW intermittent duty). With a Hysteresis Braking system, the Dynamometers do not require speed to create torque, and therefore can provide a full motor ramp from free-run to locked rotor. Brake cooling is provided by convection (no external source), by compressed air or by dedicated blower, depending on the model. All Magtrol Hysteresis Dynamometers have accuracy ratings of $\pm 0.25\%$ to $\pm 0.5\%$ full scale—depending on size and system configuration.

To better integrate dynamometers into systems, Magtrol offers both long and short base plates. The shorter base plate facilitates easier motor mounting when used with T-slot tables and Magtrol Adjustable Motor Fixtures, whereas the long base plates are better suited for table top testing.

HD APPLICATIONS

Magtrol motor test systems can be found in test labs, at inspection stations, and on the manufacturing floors of most of the world's leading manufacturers, users and certifiers of small to medium sized electric, pneumatic and hydraulic motors, as well as internal combustion engines. Magtrol supplies motor test systems for a wide array of industries including: Appliance, Automotive, Aviation, Computer, HVAC, Lawn and Garden, Medical and Dental, Electric Motor, Office Equipment and Power Tools.

ED FEATURES

- Maximum Torque: from 55 lb-in to 250 lb-in (6.5 N-m to 28 N-m)
- Hysteresis Braking System
- Motor Testing: from no load to locked rotor
- Standard Torque Units: English, Metric & SI available
- Accuracy: $\pm 0.25\%$ (full scale)
- Blower Cooled: to maximize heat dissipation
- Air Flow Sensor: for protection against overheating and operator error
- Specially Reinforced Load Cell: stainless steel pin at contact point prevents premature wear from excess vibration
- Larger Shaft: for additional strength
- Gusseted Pillow Blocks: for additional front and rear support
- Easy Calibration

ED DESCRIPTION

With Magtrol's Engine Dynamometers, high performance motor testing is available to manufacturers and users of small engines. Magtrol's Engine Dynamometers have been designed to address the severe, high vibration conditions inherent in internal combustion engine testing.

Magtrol's Engine Dynamometers are highly accurate ($\pm 0.25\%$ of full scale) and can be controlled either manually or via a PC based Controller. For a small engine test stand, Magtrol offers a full line of controllers, readouts and software.

As with all Magtrol Hysteresis Dynamometers, engine loading is provided by Magtrol's Hysteresis Brake, which provides: torque independent of speed, including full load at 0 rpm; excellent repeatability; frictionless torque with no wearing parts (other than bearings); and long operating life with low maintenance. Magtrol provides a NIST traceable certificate of calibration, and calibration beam with each Engine Dynamometer.

ED APPLICATIONS

The Engine Dynamometers are ideally suited for emissions testing as set forth in CARB and EPA Clean Air Regulations. The Dynamometers will offer superior performance on the production line, at incoming inspection or in the R&D lab.



De este catálogo, se extrajeron los dinamómetros:

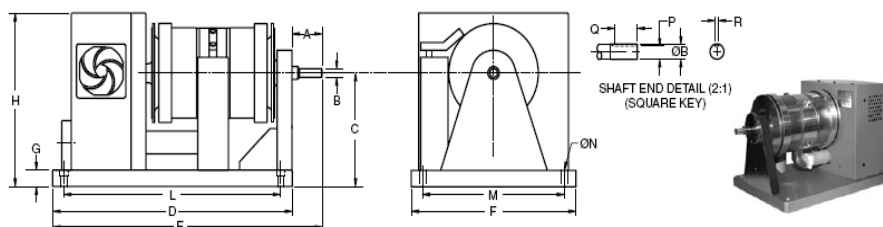
- Serie ED 815

Especificaciones:

Modelo	Torque máximo	Entrada de inercia nominal		Tasas de potencia máxima				Velocidad máxima rpm	Método de refrigeración del freno
		lb.ft.s ²	kg.m ²	5 minutos		continuo			
				hp	W	hp	W		
ED-815	250 lb.in	9.61×10 ⁻³	1.30×10 ⁻²	10	7,000	8	6,000	12,000	Ventilador
	280 kg.cm								
	28N.m								

Dimensiones:

Modelo	Unidades	A	ØB	C	D	E	F	G	H	L*	M*	ØN	P	Q	R	Peso
ED-815	in	3.02	1.5	11	23	23.27	17	2	18.63	20.8	15	5/8-11	1,287	2	0.375	285 lb
	mm	76.7	38.1	279.4	584.2	591.1	431.8	50.8	422.4	528.3	381	THD	32.7	50.8	9.53	129.3 ka



- Serie HD 815 y HD 825

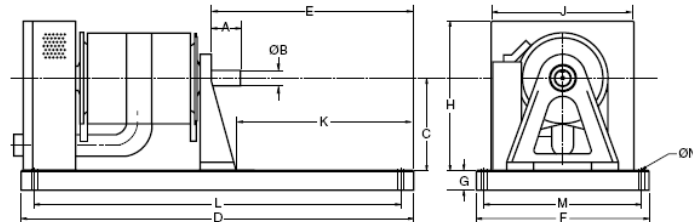
Especificaciones

Modelo	Medida de Torque	Rango de Torque	Entrada de Inercia nominal		Tasas de potencia máxima		Máxima velocidad	Método de refrigeración del freno
	N	Máximo	lb.ft.s ²	kg.m ²	5 minutos	continuo		
					W	W		
HD-815	6	250 lb.in	8.81×10 ⁻³	1.19×10 ⁻²	7,000	6,000	12,000	Ventilador
	7	280 kg.cm						
	8	28 N.m						
HD-825	6	500 lb.in	1.85×10 ²	2.51×10 ⁻²	14,000	12,000	8,000	Ventilador
	7	565 kg.cm						
	8	56.6 N.m						

- Dimensiones

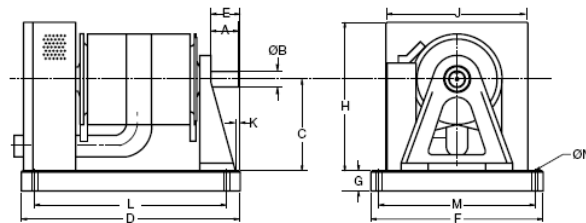
- HD 815 Base larga:

Modelo	Unidades	A	ØB	C	D	E	F	G	H	J	K	L*	M*	ØN	Peso
HD-815	in	2.25	1	9	38.5	18.19	17	2	14.6	14	15.7	36.5	15	0.54	288 lb
	mm	57	25.4	228.6	978	462	432	51	371	356	399	927	381	13.7	130.1 kg



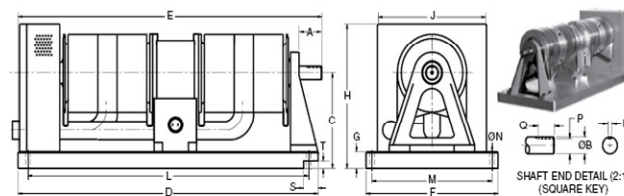
- HD 815 Base corta:

Modelo	Unidades	A	ØB	C	D	E	F	G	H	J	K	L*	M*	ØN	Peso
HD-815	in	2.12	1	9	23	2.59	17	2	14.6	14	0.2	19.09	15.75	0.35	236 lb
	mm	54	25.4	228.6	584	66	432	51	371	356	5.1	485	400	9	107 kg



- HD 825

Modelo	Unidades	A	ØB	C	D	E	F	G	H	J	L*	M*	ØN	P	Q	R	S	T	Peso
HD-825	in	2.83	1.5	11	38.5	38.93	17	2	16.6	14	36.5	15	0.54	1.287	2	0.376	2	1	400 lb
	mm	72	38.1	279.4	978	989	432	51	422	356	927	381	13.7	32.69	50.8	9.53	50.8	25.4	181.4 kg



Fuente: <http://www.magtrol.com/datasheets/hd.pdf>



WB/PB 115 Series Eddy-Current and Powder Dynamometers

FEATURES

- 4 Models with Maximum Torque from 50 N·m to 200 N·m (36 lb·ft to 147 lb·ft)
- Braking Power: 5 kW to 30 kW
- Stable Braking Torque, without Shock
- Low Moment of Inertia
- Low Residual Torque
- Operation in Either Rotational Direction
- Braking Torque Measurement Included
- High Rotational Speed
- Rated Torque Available From Zero Speed (Powder Dynamometers)
- Integrated Optical Speed Sensor

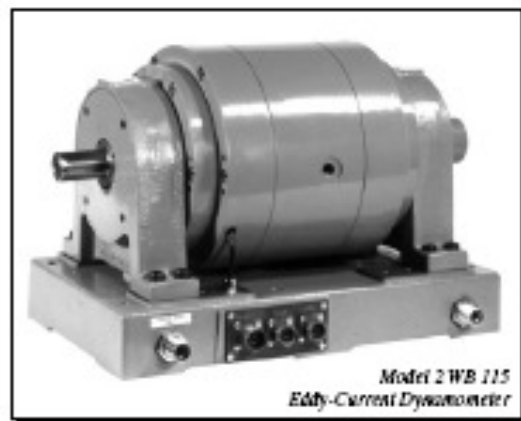
DESCRIPTION

Eddy-current Brake Dynamometers (WB series) are ideal for applications requiring high speeds and also when operating in the middle to high power range. Eddy-Current Brakes provide increasing torque as the speed increases, reaching peak torque at rated speed. The dynamometers have low inertia as a result of small rotor diameter. Brake cooling is provided by a water circulation system, which passes inside the stator to dissipate heat generated by the braking power. The water cooling in the WB provides high continuous power ratings (max. 30 kW).

Powder Brake Dynamometers (PB series) are ideal for applications operating in the low to middle speed range or when operating in the middle to high torque range. Powder Brakes provide full torque at zero speed and are water-cooled, allowing for power ratings up to 10 kW. Both WB and PB Dynamometers have accuracy ratings of $\pm 0.3\%$ to $\pm 0.5\%$ full scale, depending on size and system configuration.

APPLICATIONS

Mounted on test benches, WB/PB 115 Series Dynamometers allow performance and reliability testing on driving elements such as electric motors, combustion engines, hand-held drills, servomotors, fans, geared motors, reduction gears, pneumatic equipment, hydraulic transmission systems, starter motors, gas turbines and turbocompressors.



Model 2 WB 115
Eddy-Current Dynamometer

MOTOR TESTING SYSTEMS

Magtrol's M-TEST 5.0 Software is a state-of-the-art motor testing program for Windows®-based data acquisition. Used with a Magtrol DSP6001 Programmable Dynamometer Controller, Magtrol M-TEST 5.0 Software provides the control of any Magtrol Eddy-Current or Powder Brake Dynamometer and runs test sequences in a manner best suited to the overall accuracy and efficiency of the Magtrol Motor Test System. The data that is generated by Magtrol's Motor Testing Software can be stored, displayed and printed in tabular or graphic formats, and can be easily imported into a spreadsheet.

Written in LabVIEW™, M-TEST 5.0 has the flexibility to test a majority of motor types in a variety of ways. Because of LabVIEW's versatility, obtaining data from other sources (e.g. thermocouples), controlling motor power and providing audio/visual indicators is relatively easy.

Magtrol's M-TEST 5.0 Software is ideal for simulating loads, cycling the unit under test and motor ramping. Because it is easy to gather data and duplicate tests, the software is ideal for use in engineering labs. Tests can be programmed to run on their own and saved for future use allowing for valuable time savings in production testing and incoming/outgoing inspection.

De este catálogo, se extrajo el dinamómetro:

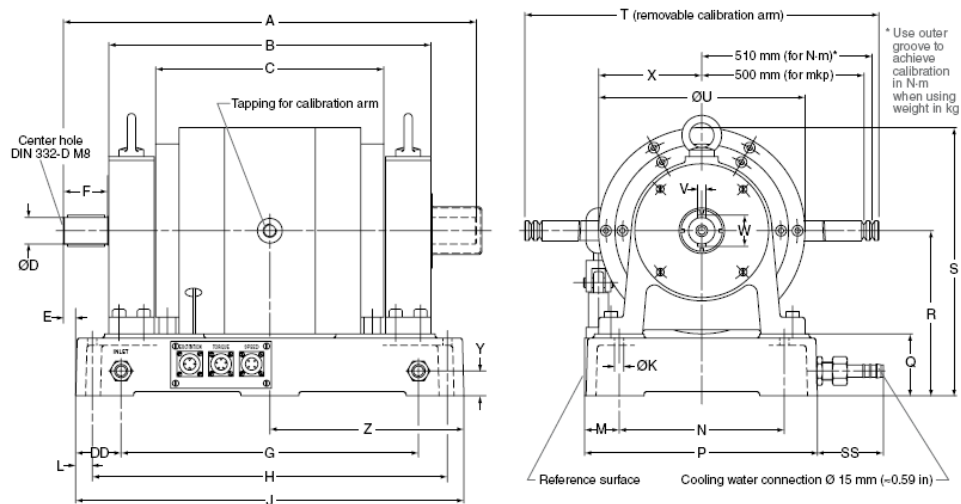
- Serie PB 115

Especificaciones:

Modelo	Tasa de torque		Entrada de inercia nominal		Tasa de potencia	Tasa de velocidad	Velocidad máxima	Corriente de excitación
	N.m	lb.ft	kg.m ²	lb.ft.s ²	W	rpm	rpm	A
1 PB 115	100	73.7	1.24×10^{-2}	9.14×10^{-3}	5,000	480	3,000	2.5
2 PB 115	200	147.5	2.50×10^{-2}	1.84×10^{-2}	10,000	480	3,000	5

Dimensiones:

Modelo	Unidades	A	B	C	ØD	E	F	G	H	J	ØK	L	M	N	P
1 PB-115	mm	390	280	166	32h6	-40	54	360	430	470	11	20	40	200	280
	in	15.35	11.02	6.54	1.2598 1.2593	-1.57	2.13	14.17	16.93	18.50	0.43	0.79	1.57	7.87	11.02
2 PB-115	mm	500	390	276	32h6	15	54	360	430	470	11	20	40	200	280
	in	19.69	15.35	10.87	1.2598 1.2593	0.59	2.13	14.17	16.93	18.50	0.43	0.79	1.57	7.87	11.02
Modelo	Unidades	Q	R	S	T	ØU	V	W	X	Y	Z	DD	SS	Peso	
1 PB-115	mm	75	200±0.1	325	1038	250	10h9	38	125	30	197	55	80	80 kg	
	in	2.95	7.878 7.870	12.80	40.87	9.84	0.3937 0.3932	1.50	4.92	1.18	7.76	2.17	3.15	176.37 lb	
2 PB-115	mm	75	200±0.1	325	1038	250	10h9	38	125	30	235	55	80	130 kg	
	in	2.95	7.878 7.870	12.80	40.87	9.84	0.3937 0.3932	1.50	4.92	1.18	9.25	2.17	3.15	286.60 lb	



Fuente: <http://www.magtrol.com/datasheets/wbpb115.pdf>

WB/PB 65 Series Eddy-Current and Powder Dynamometers

FEATURES

- 4 Models with Maximum Torque from 10 N.m to 50 N.m (7.3 lb-ft to 36 lb-ft)
- Braking Power: 1.5 kW to 12 kW
- Stable Braking Torque, without Shock
- Low Moment of Inertia
- Low Residual Torque
- Operation in Either Rotational Direction
- Braking Torque Measurement Included
- High Rotational Speed
- Rated Torque Available From Zero Speed (Powder Dynamometers)
- Integrated Optical Speed Sensor



Model 1 WB 65-HS Eddy-Current Dynamometer

DESCRIPTION

Eddy-Current Brake Dynamometers (WB series) are ideal for applications requiring high speeds and also when operating in the middle to high power range. Eddy-Current Brakes provide increasing torque as the speed increases, reaching peak torque at rated speed. The dynamometers have low inertia as a result of small rotor diameter. Brake cooling is provided by a water circulation system, which passes inside the stator to dissipate heat generated by the braking power. The water cooling in the WB provides high continuous power ratings (max. 12 kW).

Powder Brake Dynamometers (PB series) are ideal for applications operating in the low to middle speed range or when operating in the middle to high torque range. Powder Brakes provide full torque at zero speed and are water-cooled, allowing for power ratings up to 3 kW. Both WB and PB Dynamometers have accuracy ratings of $\pm 0.3\%$ to $\pm 0.5\%$ full scale, depending on size and system configuration.

APPLICATIONS

Mounted on test benches, WB/PB 65 Series Dynamometers allow performance and reliability testing on driving elements such as electric motors, combustion engines, hand-held power tools, windshield wiper motors, servomotors, fans, geared motors, reduction gears, pneumatic equipment, hydraulic

transmission systems, motors for domestic appliances, starter motors, gas turbines and turbo compressors.

MOTOR TESTING SYSTEMS

Magtrol's M-TEST 5.0 Software is a state-of-the-art motor testing program for Windows®-based data acquisition. Used with a Magtrol DSP6001 Programmable Dynamometer Controller, Magtrol M-TEST 5.0 Software provides the control of any Magtrol Eddy-Current or Powder Brake Dynamometer and runs test sequences in a manner best suited to the overall accuracy and efficiency of the Magtrol Motor Test System. The data that is generated by Magtrol's Motor Testing Software can be stored, displayed and printed in tabular or graphic formats, and can be easily imported into a spreadsheet.

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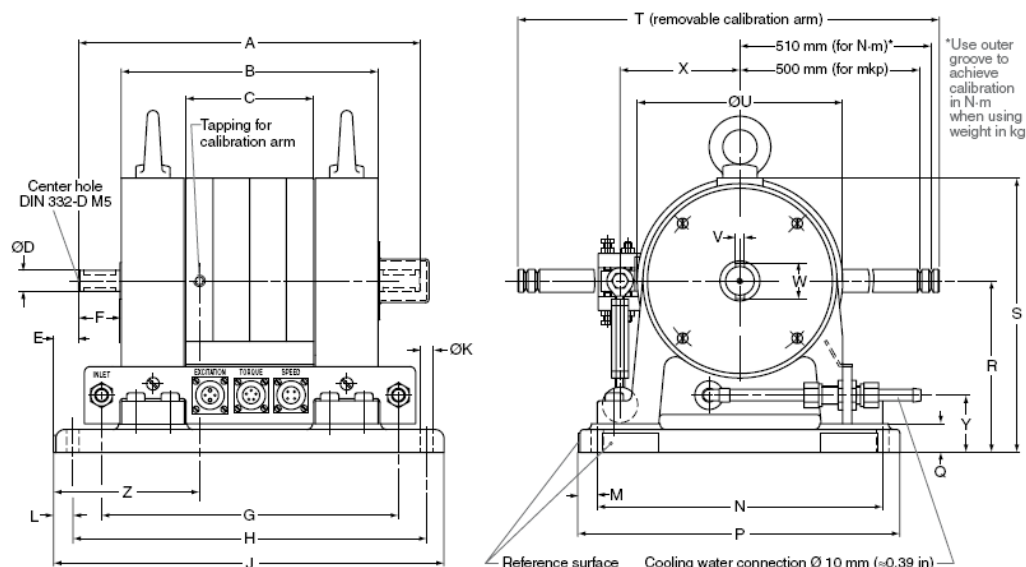
- Serie WB 65

Especificaciones:

Modelo	Tasa de torque		Entrada de inercia nominal		Tasa de potencia	Tasa de velocidad	Velocidad máxima		Corriente de excitación
	N.m	lb.ft	kg.m ²	lb.ft.s ²			Versión Estándar	Versión Alta velocidad (HS)	
1 WB 65	10	7.3	0.82×10 ⁻³	6.04×10 ⁻⁴	6,000	5,730	30,000	50,000	2.5
2 WB 65	20	14.7	1.55×10 ⁻³	1.14×10 ⁻³	12,000	5,730	30,000	50,000	5

Dimensiones:

Modelo	Unidades	A	B	C	ØD	E	F	G	H	J	ØK	L	M	N
1 WB-65	mm	300	225	112	18h6	22	36	260	310	342	11	17	17	250
	in	11.81	8.86	4.41	0.7086 0.7083	0.87	1.42	10.24	12.2	13.46	0.43	0.67	0.67	9.84
2 WB-65	mm	370	295	182	18h6	22	36	330	380	412	11	17	17	250
	in	14.57	11.61	7.17	0.7086 0.7083	0.87	1.42	12.99	14.96	16.22	0.43	0.67	0.67	9.84
Modelo	Unidades	P	Q	R	S	T	ØU	V	W	X	Y	Z	Peso	
1 WB-65	mm	282	25	150±0.1	240	1034	180	6h9	23	105	50	128	55kg	
	in	11.10	0.98	5.909 5.902	9.45	40.71	7.09	0.2362 0.2351	0.91	4.13	1.97	0.54	121.25 lb	
2 WB-65	mm	282	25	150±0.1	240	1034	180	6h9	23	105	50	128	70kg	
	in	11.10	0.98	5.909 5.902	9.45	40.71	7.09	0.2362 0.2351	0.91	4.13	1.97	0.54	154.32 lb	



Fuente: <http://www.magtrol.com/datasheets/wbpb65.pdf>