

bmax™

New radial motorized backward wheel serie

SIMPLY AT THE TOP





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Introduction

BMAX™ is the new serie of motorized radial wheels of S&P

This new range is coming from the long experience and high tech knowhow of S&P in fan technology. Using the most advanced tools available for aerodynamic investigation and the high its own knowhow in electric/electronic motors, S&P got the highest efficient and lowest noise fan range of the category.

BMAX™ range had also a version with a revolutionary aerodynamic devide "LABI-SEAL" that used coupled with S&P inlet cone, designed specifically for these wheels, gives performances never seen before, increasing sensitively the efficiency and decreasing the noise at levels that others cannot achieve.

BMAX™ range has wheels, one piece moulded, in high strength reinforced polyamide plastic material coupled with different external rotor motor arrangements to meet the largest requirements.

BMAX™ wheel is lighter than the other solution, with large benefit in vibration reduction.



Product features

- Sealed Ball Bearings.
- 20" (500 mm) Standard Lead Length.
- Clockwise Rotation Viewing Inlet.
- UL and cUL listed for Electrical Safety.
- All models have been independently tested for safety by Underwriters Laboratories, Inc.
- All models are fitted with an internal Thermal Overload Protection Device.

RADIAL WHEELS

From 160 to 250 mm diameter:

- Plastic material PA6+10GF.

Accessories

- Inlets (Original S&P inlets should be used for achieving the performances indicated in the datasheets).
- Capacitors for single-phase motors.
- Protection grilles.

Working conditions

All catalogued and product data-plate references of electrical Power/Amps and Rpm's correspond to the fan's maximum permissible load, indicated as in catalogue. All airflow and electrical measurements shown have been measured in Soler & Palau's in-house, ENAC accredited, test laboratories. All fans have been tested with a bell mouth inlet plate condition and the results corrected to a motor constant operating temperature. The fan must not work beyond those values stated on nameplate and within conditions approved by the manufacturer.

- It is considered S1, continuous operation, working conditions.
- Any Control installed, must not allow extreme on/off switching.
- Except where stated, all motors are speed controllable by voltage regulation (either phase cutting or transformer).
- However, it is likely that some resonance vibration or magnetic noise may be noticed as a result.
- In any case, Soler&Palau recommend the use of sinusoidal output transformers.

- Soler&Palau cannot guarantee the proper compatibility between motors and third parts control devices.
- If thermal protection is available for the motor, this should be connected to offer maximum protection to the equipment.

STORAGE AND MAINTENANCE

- Store product in a clean and dry place, for a maximum period of 1 year as a maximum in order to guarantee its lifetime. Same applies to outdoor products.
- If outdoor fan is unused for an extended period of time, it is necessary to occasionally switch on in order to remove humidity inside the motor.
- For special applications or environments, there might be special maintenance instructions to be specified by manufacturer.

MECHANICAL CHARACTERISTICS

All Bmax motorized impellers are constructed with IP44 or with EN 60529 – category 2 standards. However, the IP rating must be tested in the appliance for which it is intended.

All Bmax motorized impellers models include sealed-for-life ball bearings assemblies of the closed type 2Z which have a normal temperature operating range between: -40° to +70°C. The "Life Expectancy" (L10) of the bearings, +40,000 hours, has been tested with the motor shaft working in a horizontal position and with a maximum ambient air stream temperature set at +40°C. For other specific operating conditions – please consult.

The admitted air stream temperature (Tmax and Tmin.) are indicated in the Technical Characteristic chart of each fan model.

Condensation holes are provided, to prevent any accumulation of condensation within the motor when operating in particularly humid conditions or when the surrounding environment experiences rapid temperature changes. These drainage holes have to be open when the fans are installed at their end position.



TEST CONDITIONS

- The Bmax motorized impellers series technical data as shown in this catalogue has been obtained using the nominal voltage supply indicated in the Technical Characteristic chart. Pressure Performance.
- All Bmax motorized impellers fans have been tested for airflow performance in accordance with ISO 5801 and AMCA-210 standards, with dry air at 20°C, 1,2 kg/m³ density and at an atmospheric pressure of 760 mmHg.
- The airflow tests have been conducted with the fans mounted in conjunction with an optimised inlet cone. Sound Level Performance.
- The fans have been tested for sound level performance in accordance with ISO-13347-3 standards from the air inlet part of the fan and at the airflow / pressure point as indicated in the catalogue.

Data sheets

AC version

CRBB/2-190/060 M UL MP

115V 60/50Hz - IP44

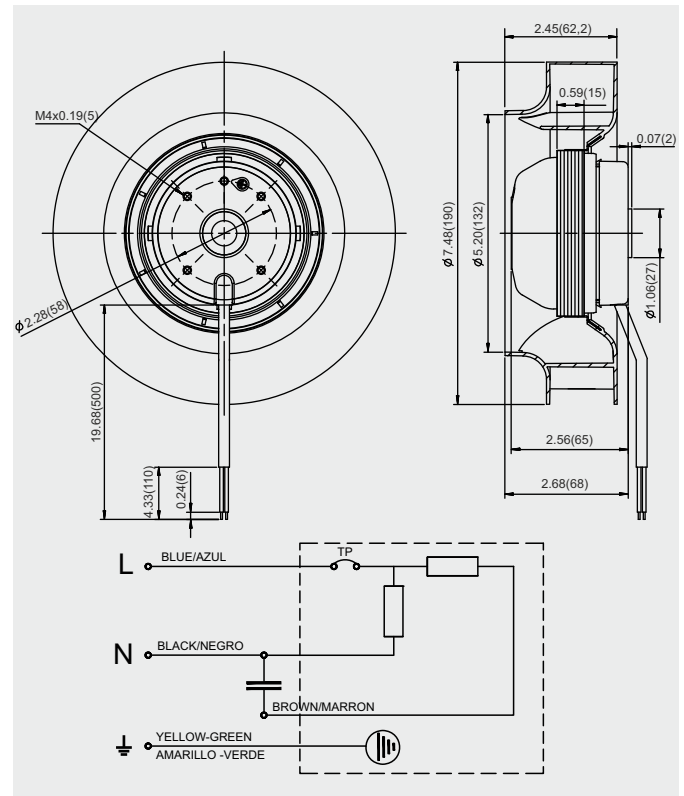
bmax™

Dimensiones y conexiones
Dimensions and wiring

Características
Characteristics



Tensión Voltage	1 • 115V 60/50Hz
Tipo motor Motor type	1V 1S IP44 cl.B
Velocidad Speed	2 polos 2 poles
Potencia motor Motor power	90 W
Intensidad absorbida máxima Maximum absorbed current	0,8 A
Condensador Capacitor	5 • F/370V
Temperatura del aire Air temperature	-40°F < T < +104°F -40°C < T < +40°C
Peso Weight	3.31 lbs (1,5 kg)
Código ventilador Fan code number	5509313200
Código oído aspiración Inlet cone code number	-----



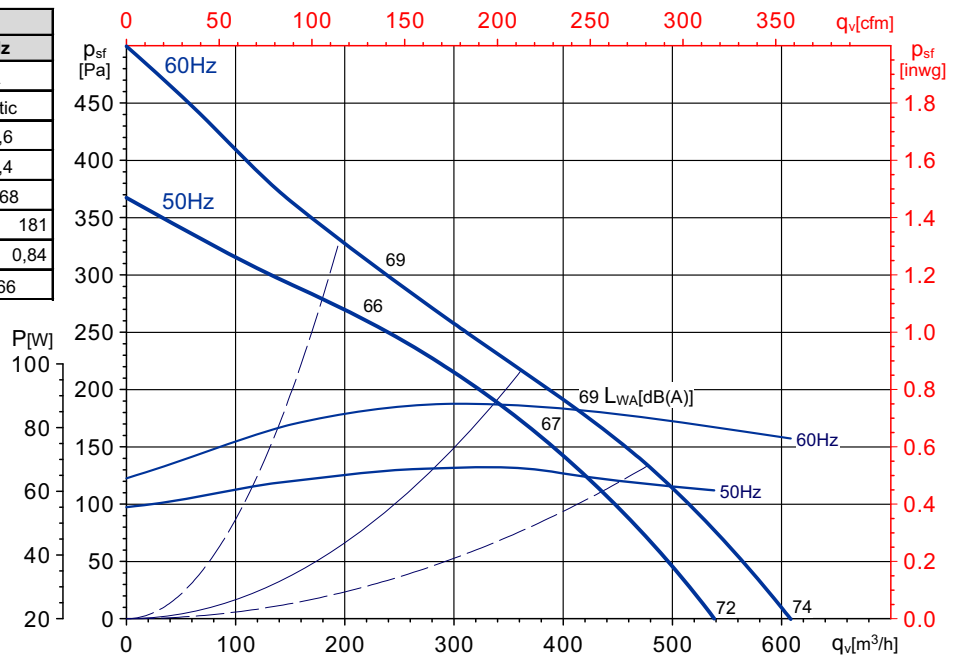
Curvas características / Performance curves (10/02/2014)

	Fan data*	
	60Hz	50Hz
Installation category	A	A
Efficiency category	Static	Static
Overall efficiency [%]	25,1	26,6
FMEG	46,7	49,4
Absorbed power [kW]	0,087	0,068
Air volume [m ³ /h-cfm]	362 - 213	308 - 181
Static pressure [Pa-inwg]	217 - 0,87	210 - 0,84
Speed [RPM]	2763	2566

* Data at optimum efficiency working point

Norma de ensayo: ISO 5801
Caudal en m³/h y cfm
Presión estática en Pa y inwg
Potencia absorbida en W

Test standard: ISO 5801
Air volume in m³/h and cfm
Static pressure in Pa and inwg
Input Power in W



Espectro de potencia sonora en aspiración - Sound power spectrum at the inlet

	63	125	250	500	1000	2000	4000	8000	L _{WA}
L	35	47	60	63	68	71	68	61	74
M	33	44	54	59	62	64	62	51	69
H	37	49	60	62	64	62	56	49	69

Espectro de potencia sonora en descarga - Sound power spectrum at the outlet

	63	125	250	500	1000	2000	4000	8000	L _{WA}
L	35	47	63	66	72	77	73	62	79
M	33	44	56	60	65	70	66	52	73
H	37	49	61	64	67	68	60	51	72



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CRBB/2-190/060 M UL MP

230V 60/50Hz - IP44

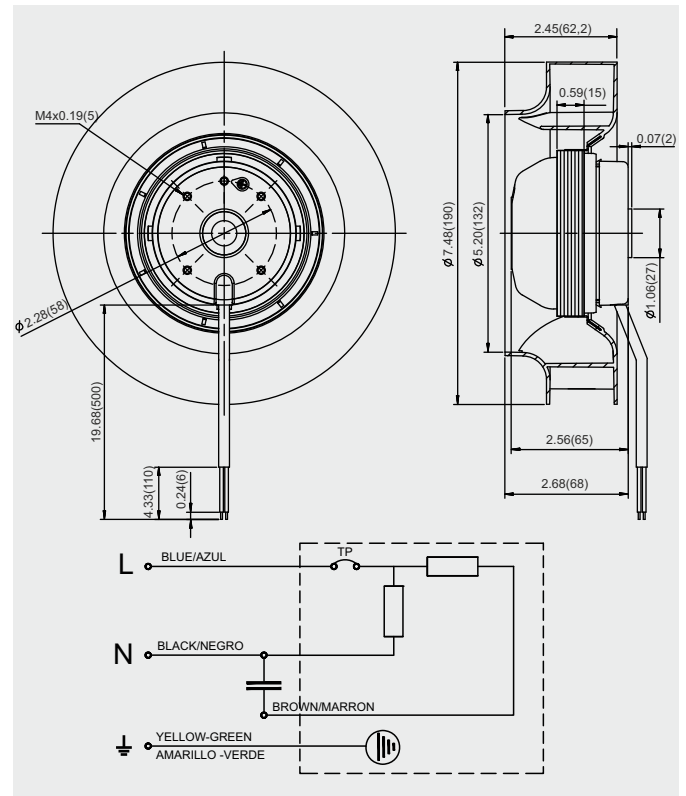
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Dimensiones y conexiones
Dimensions and wiring

Características
Characteristics



Tensión Voltage	1 • 230V 60/50Hz
Tipo motor Motor type	1V 1S IP44 cl.B
Velocidad Speed	2 polos 2 poles
Potencia motor Motor power	90 W
Intensidad absorbida máxima Maximum absorbed current	0,4 A
Condensador Capacitor	2 • F/440V
Temperatura del aire Air temperature	-40°F < T < +104°F -40°C < T < +40°C
Peso Weight	3.31 lbs (1,5 kg)
Código ventilador Fan code number	5509313600
Código oído aspiración Inlet cone code number	-----



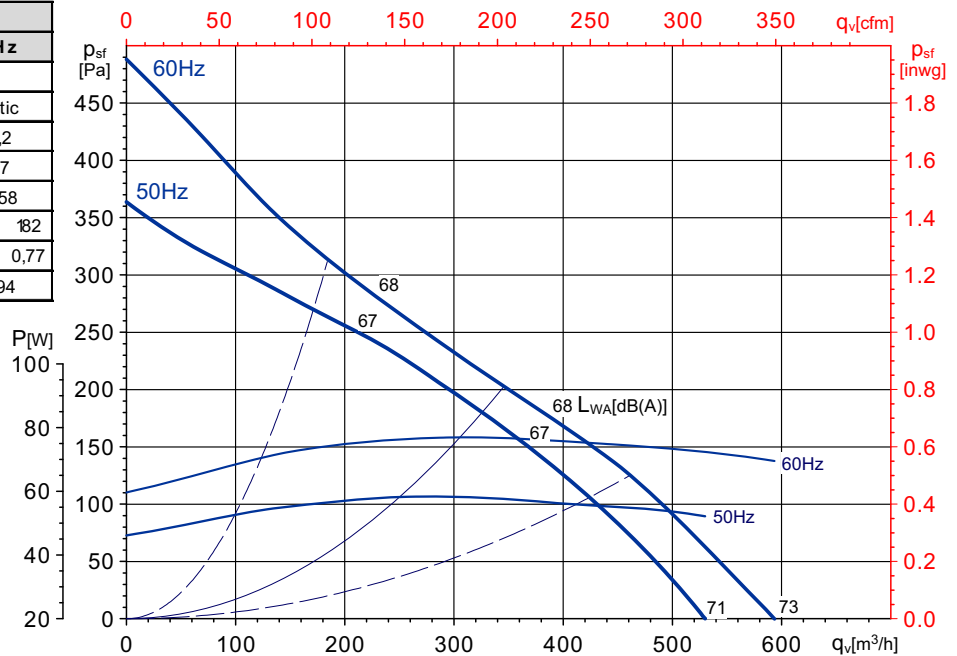
Curvas características / Performance curves (02/04/2014)

	Fan data*	
	60Hz	50Hz
Installation category	A	A
Efficiency category	Static	Static
Overall efficiency [%]	25,4	28,2
FMEG	47,6	51,7
Absorbed power [kW]	0,077	0,058
Air volume [m ³ /h-cfm]	346 - 204	309 - 182
Satic pressure [Pa-inwg]	203 - 0,81	192 - 0,77
Speed [RPM]	2649	2494

*Data at optimum efficiency working point

Norma de ensayo: ISO 5801
Caudal en m³/h y cfm
Presión estática en Pa y inwg
Potencia absorbida en W

Test standard: ISO 5801
Air volume in m³/h and cfm
Static pressure in Pa and inwg
Input Power in W



Espectro de potencia sonora en aspiración - Sound power spectrum at the inlet

	Hz	63	125	250	500	1000	2000	4000	8000	LwA
L		34	46	59	62	67	70	67	60	73
M		33	44	54	59	62	64	62	51	68
H		37	49	60	62	64	62	56	49	68

Espectro de potencia sonora en descarga - Sound power spectrum at the outlet

	Hz	63	125	250	500	1000	2000	4000	8000	LwA
L		34	46	62	65	71	76	72	61	79
M		33	44	56	60	65	70	66	52	72
H		37	49	61	64	67	68	60	51	72



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CRBB/2-220/063 M UL MP



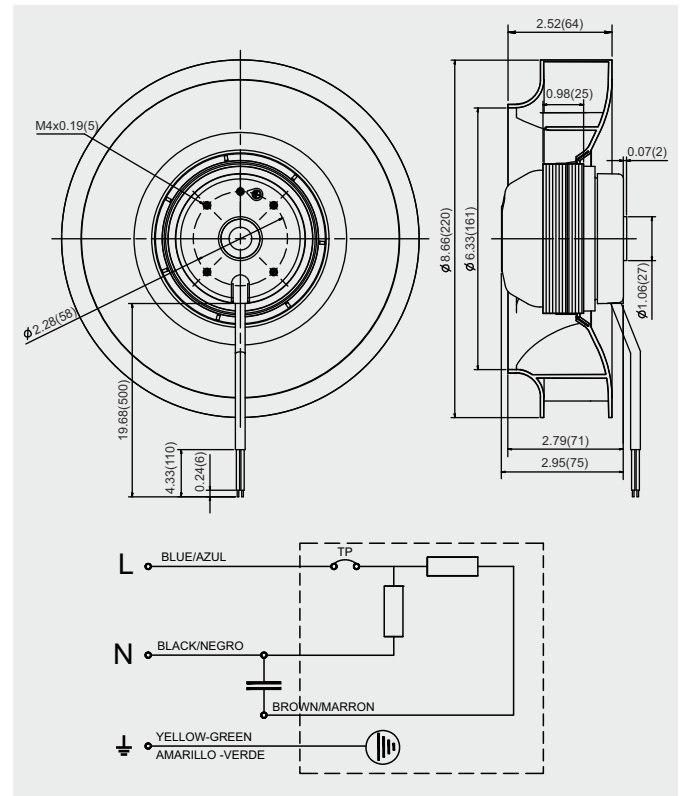
115V 60/50Hz - IP44

Dimensiones y conexiones
Dimensions and wiring

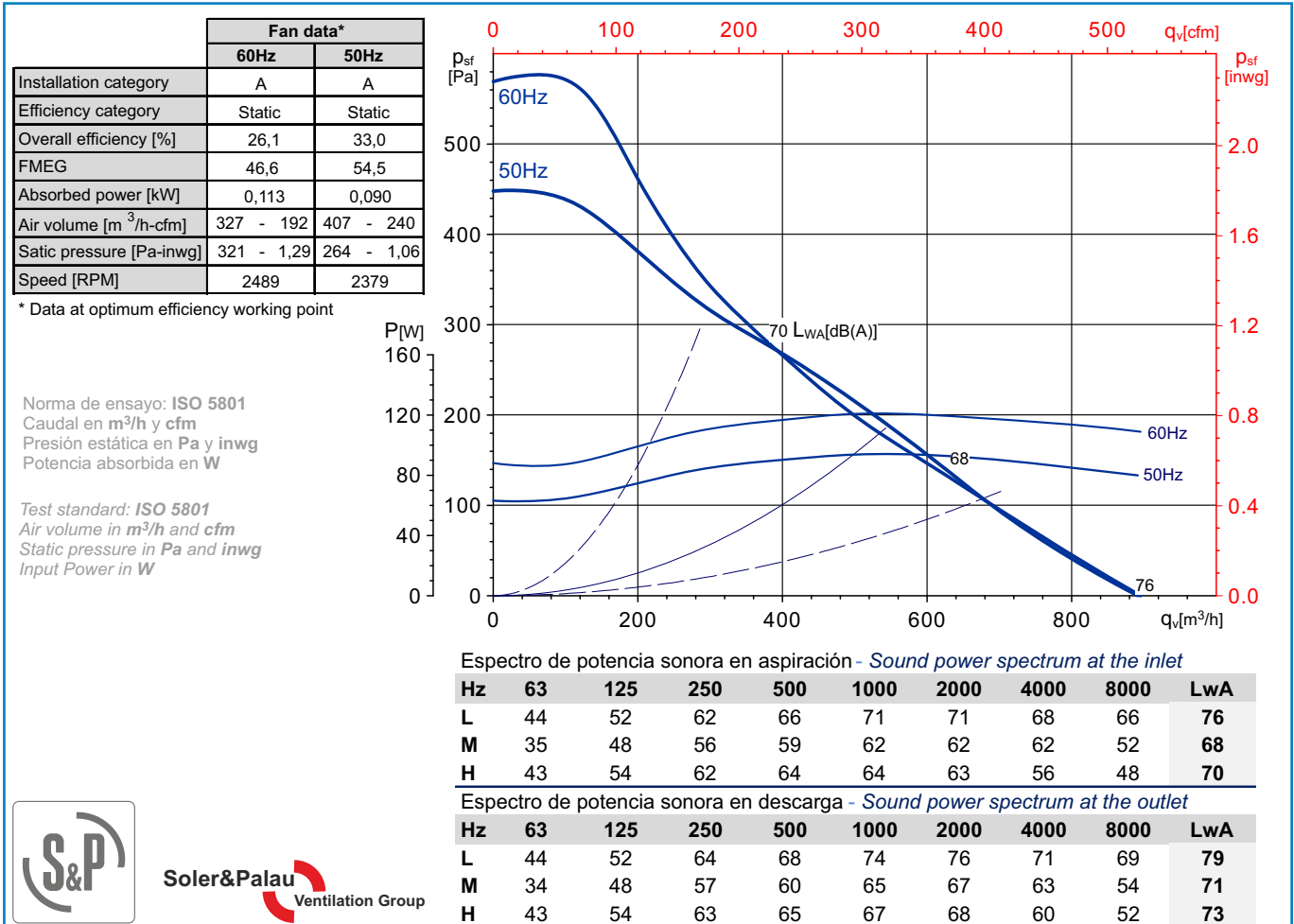
Características Characteristics



Tensión Voltage	1 • 115V 60/50Hz
Tipo motor Motor type	1V 1S IP44 cl.B
Velocidad Speed	2 polos 2 poles
Potencia motor Motor power	115 W
Intensidad absorbida máxima Maximum absorbed current	1,0 A
Condensador Capacitor	8 • F/370V
Temperatura del aire Air temperature	-40°F < T < +104°F -40°C < T < +40°C
Peso Weight	4.85 lbs (2,2 kg)
Código ventilador Fan code number	5509313300
Código motor Motor code number	-----



Curvas características / Performance curves (13/11/2013)



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CRBB/2-220/063 M UL MP

230V 60/50Hz - IP44

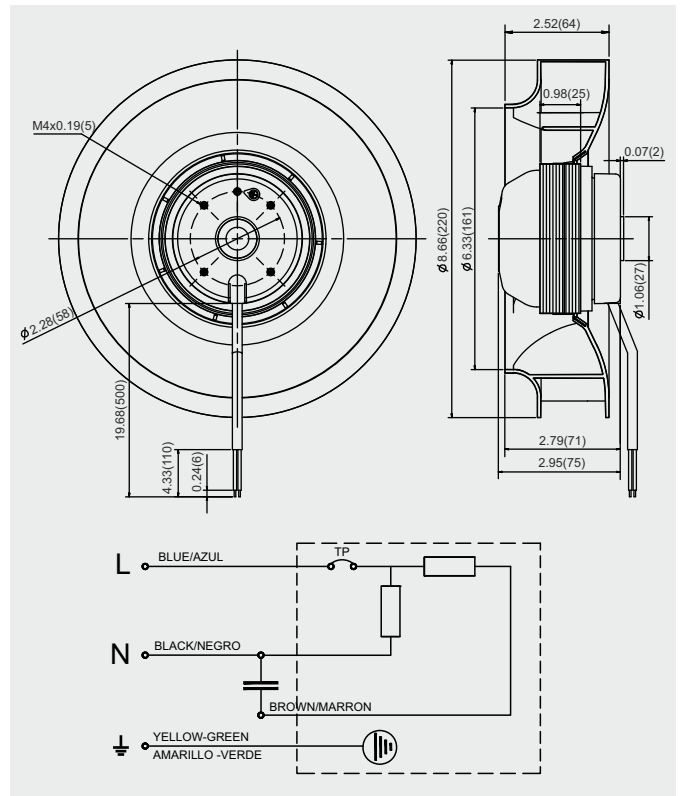
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Dimensiones y conexiones
Dimensions and wiring

Características
Characteristics



Tensión Voltage	1 • 230V 60/50Hz
Tipo motor Motor type	1V 1S IP44 cl.B
Velocidad Speed	2 polos 2 poles
Potencia motor Motor power	115 W
Intensidad absorbida máxima Maximum absorbed current	0,5 A
Condensador Capacitor	2 • F/440V
Temperatura del aire Air temperature	-40°F < T < +104°F -40°C < T < +40°C
Peso Weight	4.85 lbs (2,2 kg)
Código ventilador Fan code number	5509313700
Código motor Motor code number	-----



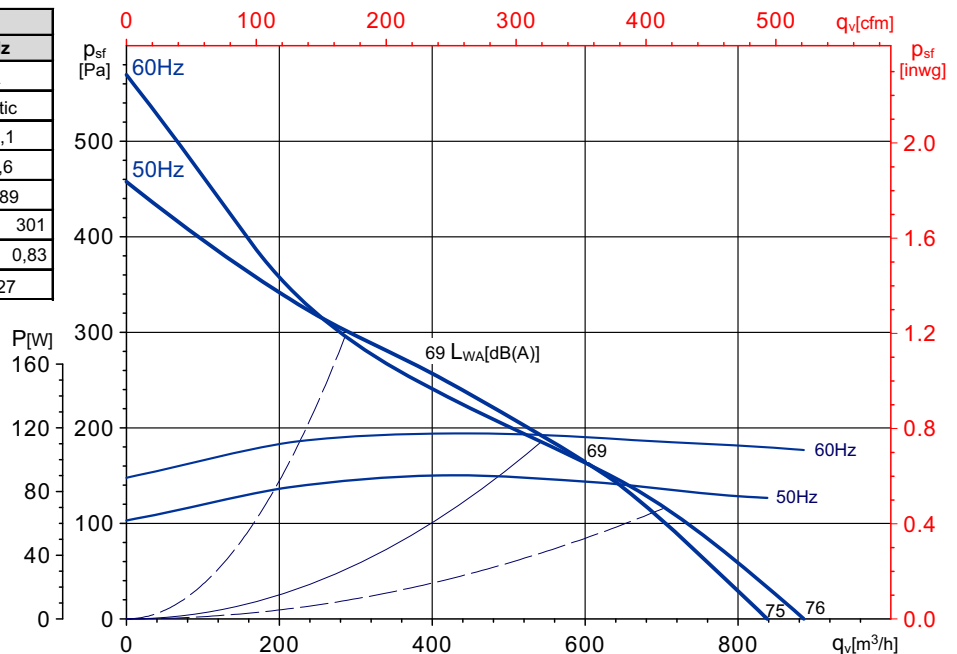
Curvas características / Performance curves (16/04/2014)

	Fan data*	
	60Hz	50Hz
Installation category	A	A
Efficiency category	Static	Static
Overall efficiency [%]	24,2	33,1
FMEG	44,5	54,6
Absorbed power [kW]	0,116	0,089
Air volume [m ³ /h-cfm]	543 - 320	512 - 301
Satic pressure [Pa-inwg]	186 - 0,74	207 - 0,83
Speed [RPM]	2322	2327

* Data at optimum efficiency working point

Norma de ensayo: ISO 5801
Caudal en m³/h y cfm
Presión estática en Pa y inwg
Potencia absorbida en W

Test standard: ISO 5801
Air volume in m³/h and cfm
Static pressure in Pa and inwg
Input Power in W



Espectro de potencia sonora en aspiración - Sound power spectrum at the inlet

Hz	63	125	250	500	1000	2000	4000	8000	LwA
L	44	52	62	66	71	71	68	66	76
M	36	49	57	60	63	63	63	53	69
H	42	53	61	63	63	62	55	47	69

Espectro de potencia sonora en descarga - Sound power spectrum at the outlet

Hz	63	125	250	500	1000	2000	4000	8000	LwA
L	44	52	64	68	74	76	71	69	80
M	35	49	58	61	66	68	64	55	72
H	42	53	62	64	66	67	59	51	71



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CRBB/2-225/088 M UL MP



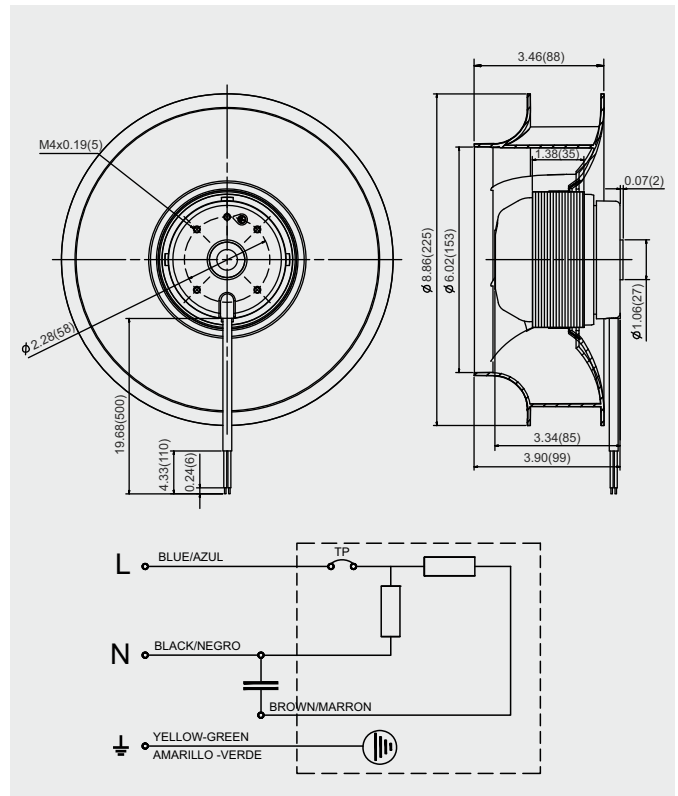
115V 60Hz - IP44

Dimensiones y conexiones
Dimensions and wiring

Características Characteristics



Tensión Voltage	1 • 115V 60Hz
Tipo motor Motor type	1V 1S IP44 cl.B
Velocidad Speed	2 polos 2 poles
Potencia motor Motor power	200 W
Intensidad absorbida máxima Maximum absorbed current	1,76 A
Condensador Capacitor	18 • F/370V
Temperatura del aire Air temperature	-40°F < T < +104°F -40°C < T < +40°C
Peso Weight	6.17 lbs (2,8 kg)
Código ventilador Fan code number	5509313400
Código motor Motor code number	-----



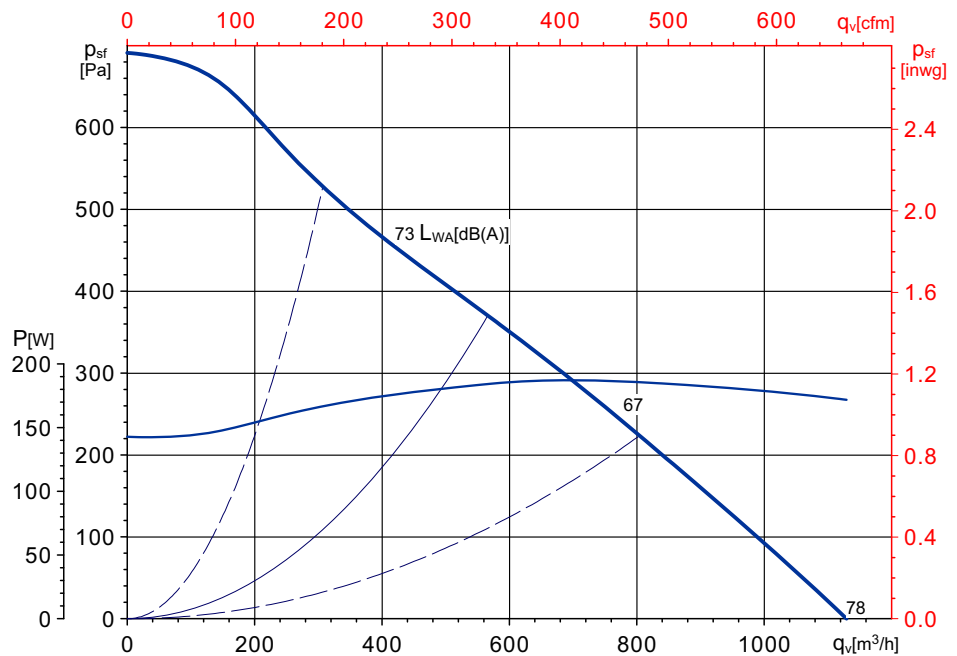
Curvas características / Performance curves (08/03/2013)

	Fan data*
	60Hz
Installation category	A
Efficiency category	Static
Overall efficiency [%]	26,1
FMEG	46,6
Absorbed power [kW]	0,113
Air volume [m ³ /h-cfm]	327 - 192
Static pressure [Pa-inwg]	321 - 1,29
Speed [RPM]	2489

* Data at optimum efficiency working point

Norma de ensayo: ISO 5801
Caudal en m³/h y cfm
Presión estática en Pa y inwg
Potencia absorbida en W

Test standard: ISO 5801
Air volume in m³/h and cfm
Static pressure in Pa and inwg
Input Power in W



Espectro de potencia sonora en aspiración - Sound power spectrum at the inlet

Hz	63	125	250	500	1000	2000	4000	8000	LwA
L	39	50	61	67	74	71	66	71	78
M	35	46	56	58	62	60	60	56	67
H	43	55	65	67	68	64	60	52	73

Espectro de potencia sonora en descarga - Sound power spectrum at the outlet

Hz	63	125	250	500	1000	2000	4000	8000	LwA
L	38	51	65	70	78	78	71	73	83
M	38	46	60	61	67	68	62	57	72
H	45	57	68	70	73	73	63	56	78



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CRBB/2-250/084 M UL MP

115V 60Hz - IP44

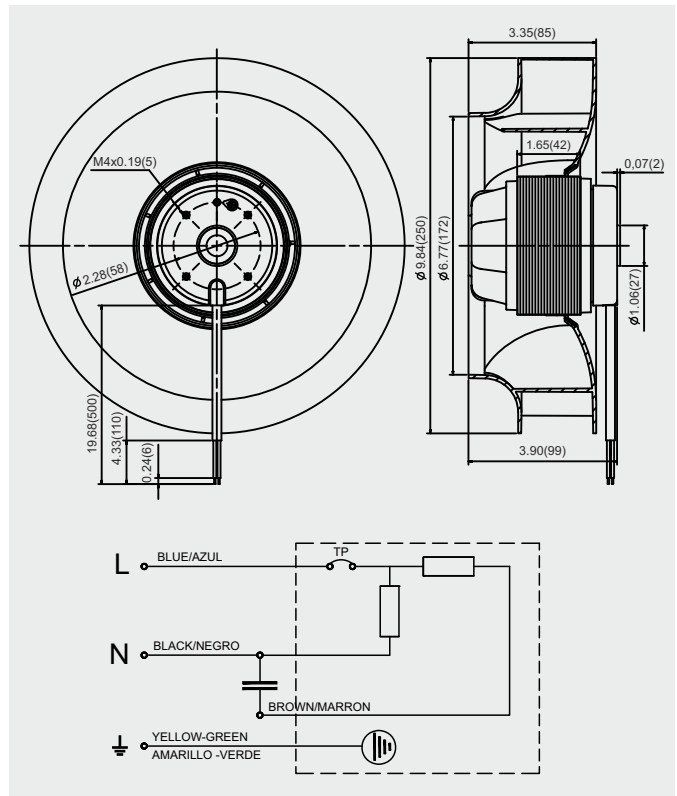


Dimensiones y conexiones
Dimensions and wiring

Características
Characteristics



Tensión Voltage	1 • 115V 60Hz
Tipo motor Motor type	1V 1S IP44 cl.F
Velocidad Speed	2 polos 2 poles
Potencia motor Motor power	215 W
Intensidad absorbida máxima Maximum absorbed current	1,96 A
Condensador Capacitor	20 • F/370V
Temperatura del aire Air temperature	-40°F < T < +104°F -40°C < T < +40°C
Peso Weight	6.17 lbs (2,8 kg)
Código ventilador Fan code number	5509313500
Código motor Motor code number	-----



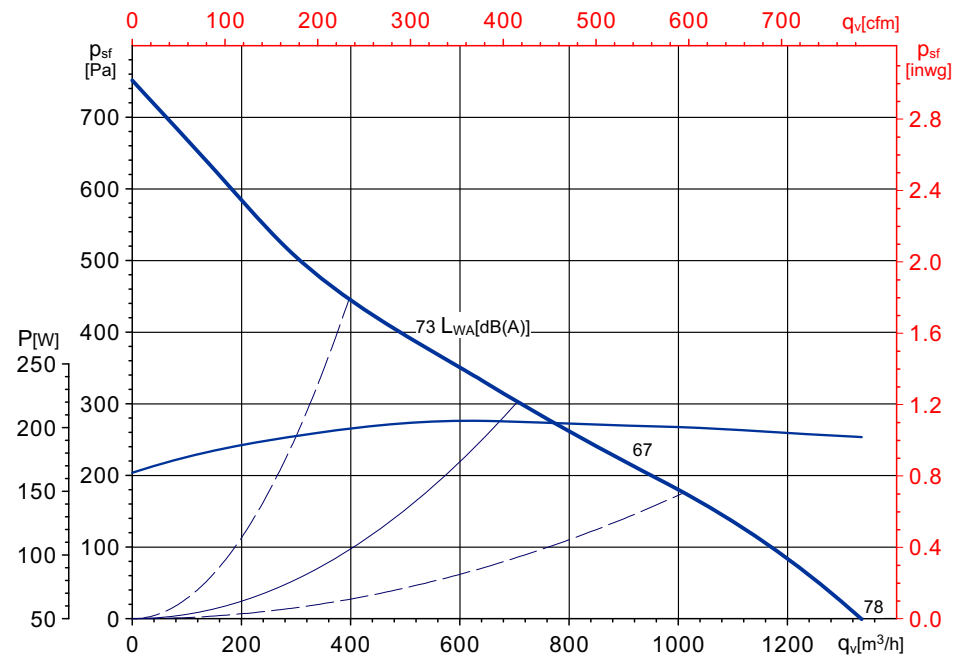
Curvas características / Performance curves (29/04/2013)

	Fan data*
	60Hz
Installation category	A
Efficiency category	Static
Overall efficiency [%]	29,0
FMEG	46,7
Absorbed power [kW]	0,205
Air volume [m ³ /h-cfm]	706 - 416
Satic pressure [Pa-inwg]	303 - 1,21
Speed [RPM]	2226

* Data at optimum efficiency working point

Norma de ensayo: ISO 5801
Caudal en m³/h y cfm
Presión estática en Pa y inwg
Potencia absorbida en W

Test standard: ISO 5801
Air volume in m³/h and cfm
Static pressure in Pa and inwg
Input Power in W



Hz	63	125	250	500	1000	2000	4000	8000	LwA
L	36	49	60	68	75	71	67	70	78
M	34	44	57	59	62	60	60	56	67
H	45	54	63	68	68	64	60	53	73

Hz	63	125	250	500	1000	2000	4000	8000	LwA
L	38	50	64	70	79	79	72	71	83
M	36	45	60	62	68	69	62	58	73
H	47	57	66	71	74	73	63	58	78



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CRBB/4-225/088 M UL MP



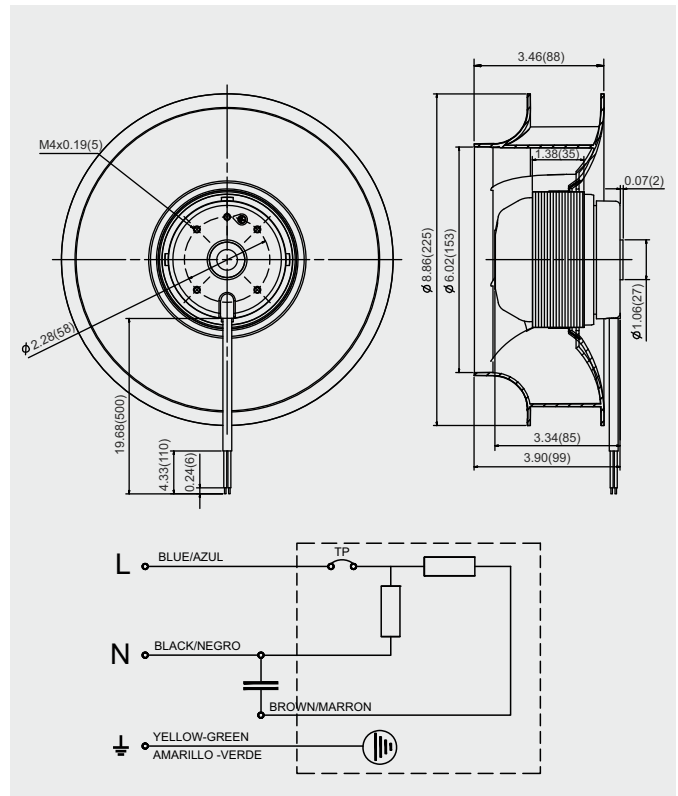
115V 60/50Hz - IP44

Dimensiones y conexiones
Dimensions and wiring

Características Characteristics



Tensión Voltage	1 • 115V 60/50Hz
Tipo motor Motor type	1V IP44 cl.B 1S
Velocidad Speed	4 polos 4 poles
Potencia absorbida máxima Maximum absorbed power	42 W
Intensidad absorbida máxima Maximum absorbed current	0,42 A
Condensador Capacitor	5 • F/370V
Temperatura del aire Air temperature	5°F < T < +104°F -15°C < T < +40°C
Peso Weight	3.75 lbs (1,7 kg)
Código ventilador Fan code number	5509313800
Código motor Motor code number	



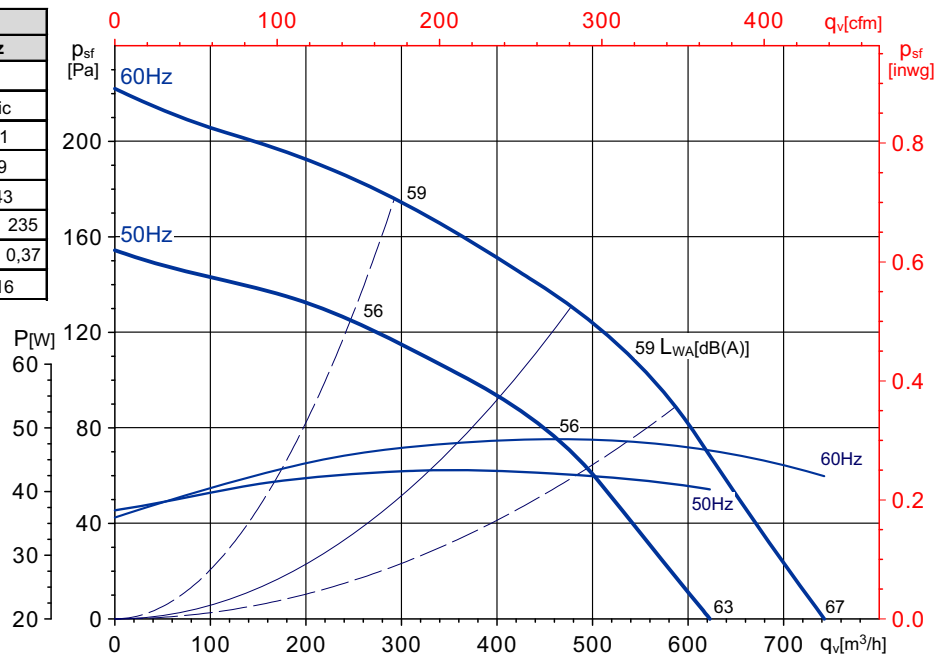
Curvas características / Performance curves (14/05/2014)

	Fan data*	
	60Hz	50Hz
Installation category	A	A
Efficiency category	Static	Static
Overall efficiency [%]	36,0	24,1
FMEG	60,3	48,9
Absorbed power [kW]	0,048	0,043
Air volume [m ³ /h-cfm]	477 - 281	400 - 235
Satic pressure [Pa-inwg]	130 - 0,52	94 - 0,37
Speed [RPM]	1670	1416

* Data at optimum efficiency working point

Norma de ensayo: ISO 5801
Caudal en m³/h y cfm
Presión estática en Pa y inwg
Potencia absorbida en W

Test standard: ISO 5801
Air volume in m³/h and cfm
Static pressure in Pa and inwg
Input Power in W



Espectro de potencia sonora en aspiración - Sound power spectrum at the inlet - 60Hz

Hz	63	125	250	500	1000	2000	4000	8000	L _{WA}
L	35	51	51	55	61	59	64	41	67
M	35	50	50	50	52	53	54	36	59
H	41	51	53	52	54	50	43	32	59

Espectro de potencia sonora en descarga - Sound power spectrum at the outlet - 60Hz

Hz	63	125	250	500	1000	2000	4000	8000	L _{WA}
L	36	52	52	58	65	66	66	44	71
M	35	52	49	53	58	60	55	39	64
H	41	53	55	56	59	58	45	36	64



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CRBB/4-250/084 M UL MP



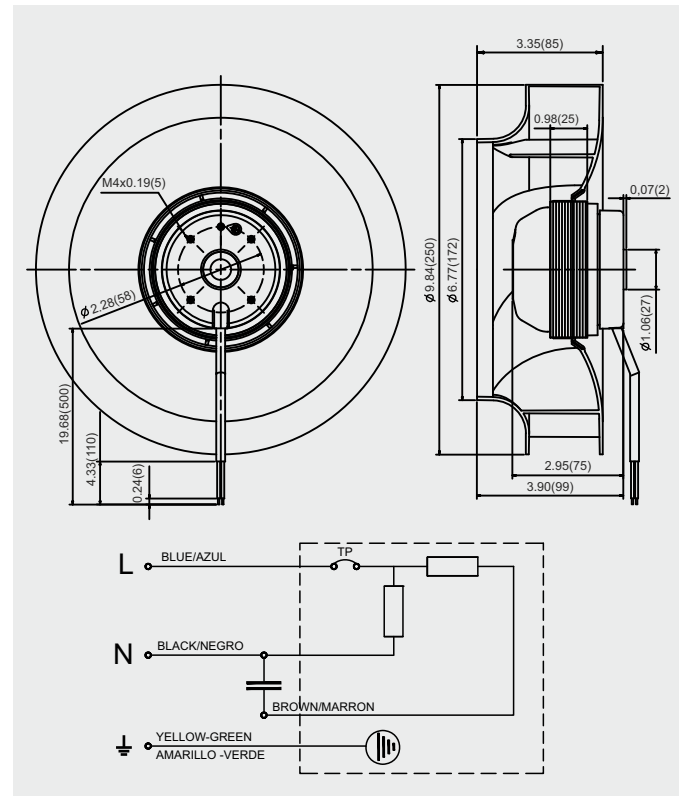
115V 60/50Hz - IP44

Dimensiones y conexiones
Dimensions and wiring

Características
Characteristics



Tensión Voltage	1 • 115V 60/50Hz
Tipo motor Motor type	1V 1S IP44 cl.B
Velocidad Speed	4 polos 4 poles
Potencia absorbida máxima Maximum absorbed power	50 W
Intensidad absorbida máxima Maximum absorbed current	0,48 A
Condensador Capacitor	5 • F/370V
Temperatura del aire Air temperature	5°F < T < +104°F -15°C < T < +40°C
Peso Weight	3.97 lbs (1,8 kg)
Código ventilador Fan code number	5509314000
Código motor Motor code number	



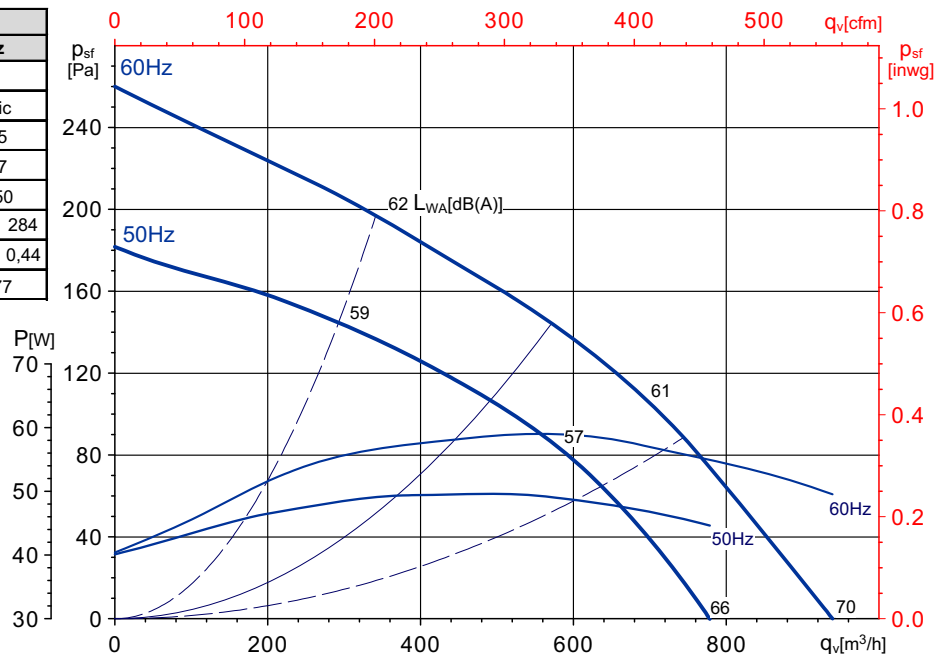
Curvas características / Performance curves (14/05/2014)

	Fan data*	
	60Hz	50Hz
Installation category	A	A
Efficiency category	Static	Static
Overall efficiency [%]	38,8	29,5
FMEG	62,2	53,7
Absorbed power [kW]	0,059	0,050
Air volume [m ³ /h-cfm]	571 - 336	482 - 284
Static pressure [Pa-inwg]	144 - 0,58	109 - 0,44
Speed [RPM]	1601	1377

* Data at optimum efficiency working point

Norma de ensayo: ISO 5801
Caudal en m³/h y cfm
Presión estática en Pa y inwg
Potencia absorbida en W

Test standard: ISO 5801
Air volume in m³/h and cfm
Static pressure in Pa and inwg
Input Power in W



Espectro de potencia sonora en aspiración - Sound power spectrum at the inlet - 60Hz

Hz	63	125	250	500	1000	2000	4000	8000	LwA
L	30	47	49	57	64	62	67	45	70
M	34	44	47	51	54	56	56	39	61
H	41	51	56	57	58	53	47	37	62

Espectro de potencia sonora en descarga - Sound power spectrum at the outlet - 60Hz

Hz	63	125	250	500	1000	2000	4000	8000	LwA
L	32	50	52	59	68	69	67	48	73
M	34	48	48	53	60	62	58	42	65
H	42	52	57	59	63	61	49	40	66



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CRBB/4-250/084 M UL MP

230V 60/50Hz - IP44

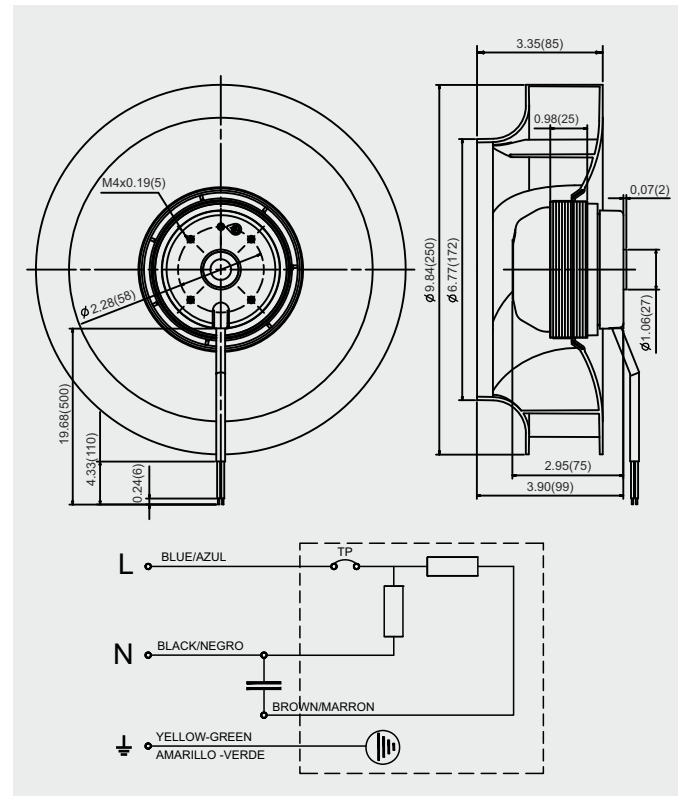
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Dimensiones y conexiones
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Tensión Voltage	1 • 230V 60/50Hz
Tipo motor Motor type	1V 1S IP44 cl.B
Velocidad Speed	4 polos 4 poles
Potencia absorbida máxima Maximum absorbed power	58 W
Intensidad absorbida máxima Maximum absorbed current	0,26 A
Condensador Capacitor	1 • F/450V
Temperatura del aire Air temperature	5°F < T < +104°F -15°C < T < +40°C
Peso Weight	3.97 lbs (1,8 kg)
Código ventilador Fan code number	5509313900
Código motor Motor code number	



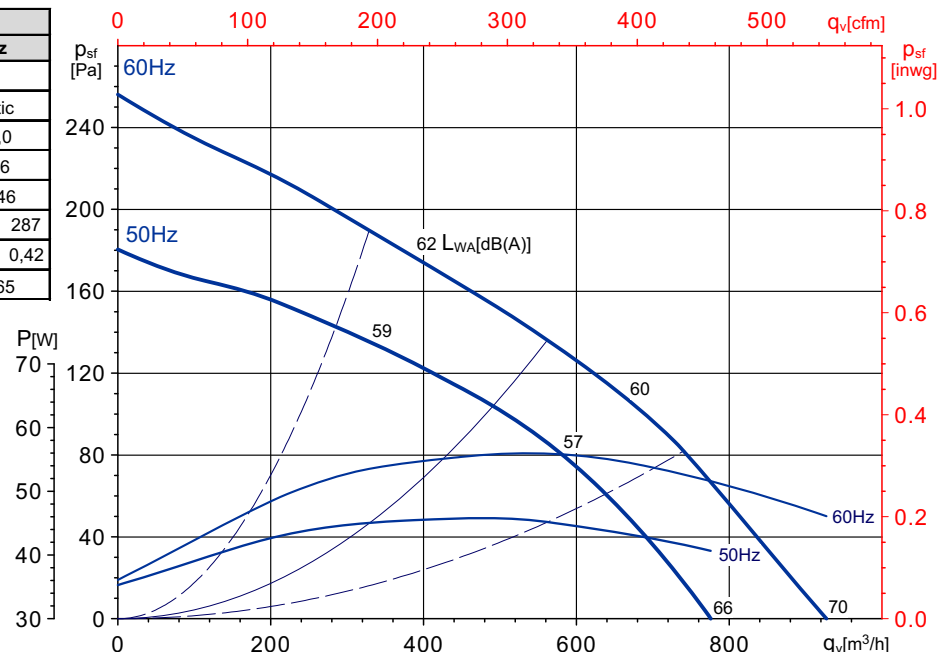
Curvas características / Performance curves (14/05/2014)

	Fan data*	
	60Hz	50Hz
Installation category	A	A
Efficiency category	Static	Static
Overall efficiency [%]	38,1	31,0
FMEG	61,8	55,6
Absorbed power [kW]	0,056	0,046
Air volume [m ³ /h-cfm]	562 - 331	487 - 287
Satic pressure [Pa-inwg]	136 - 0,54	105 - 0,42
Speed [RPM]	1561	1365

* Data at optimum efficiency working point

Norma de ensayo: ISO 5801
Caudal en m³/h y cfm
Presión estática en Pa y inwg
Potencia absorbida en W

Test standard: ISO 5801
Air volume in m³/h and cfm
Static pressure in Pa and inwg
Input Power in W



Espectro de potencia sonora en aspiración - Sound power spectrum at the inlet - 60Hz

Hz	63	125	250	500	1000	2000	4000	8000	LwA
L	30	47	49	57	64	62	67	45	70
M	33	43	46	50	53	55	55	38	60
H	40	50	55	56	57	52	46	36	62

Espectro de potencia sonora en descarga - Sound power spectrum at the outlet - 60Hz

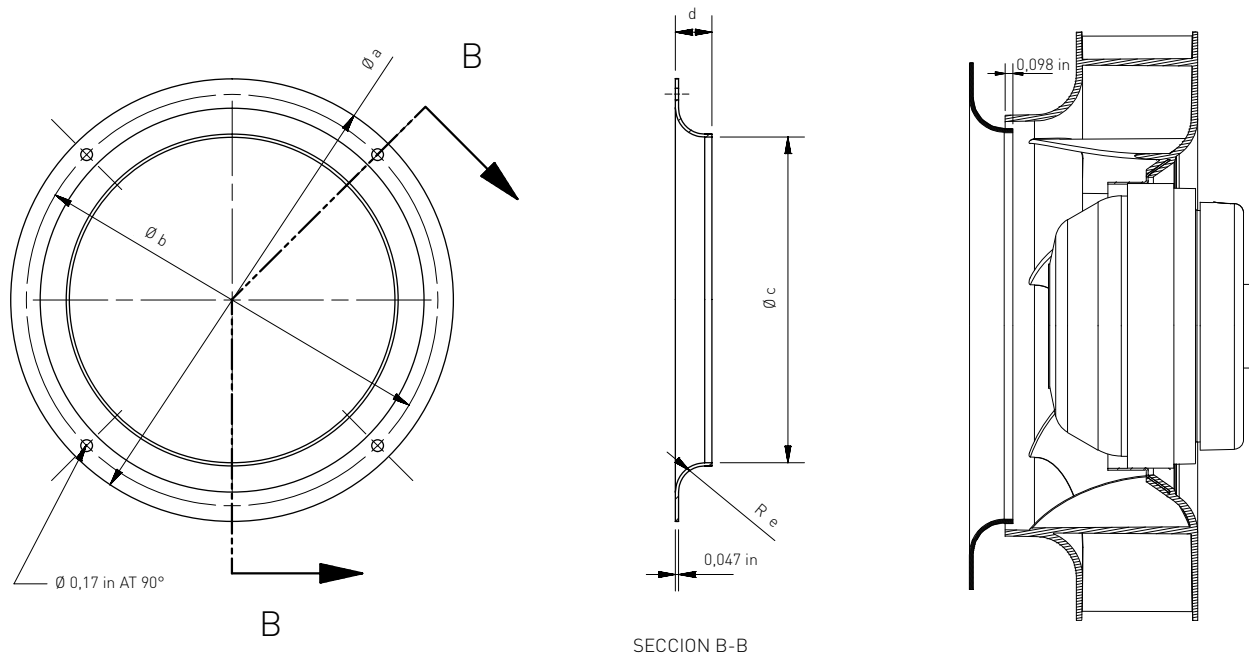
Hz	63	125	250	500	1000	2000	4000	8000	LwA
L	32	50	52	59	68	69	67	48	73
M	33	47	47	52	59	61	57	41	65
H	41	51	56	58	62	60	48	39	66



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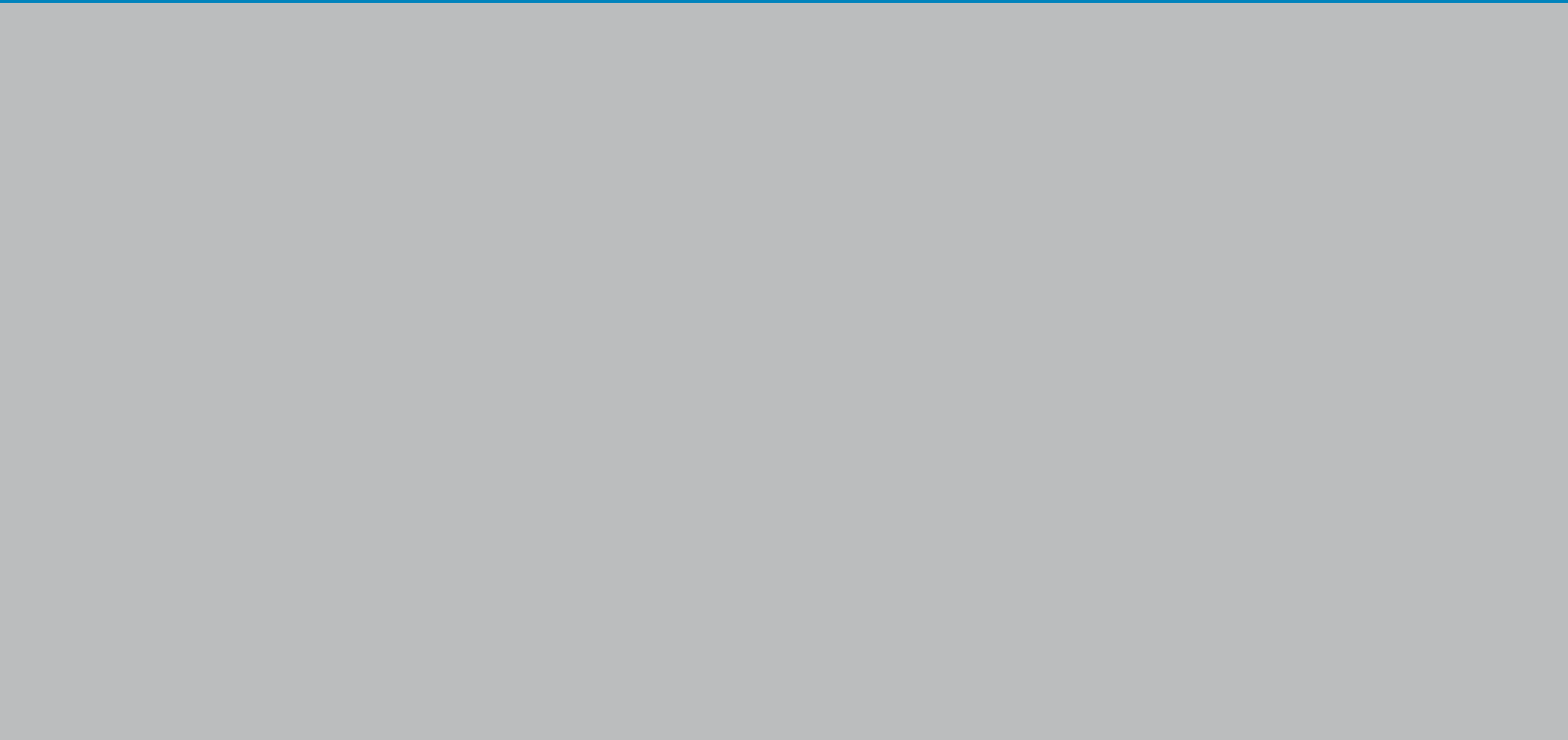


Inlet cone 160/250



SECCION B-B

Description	a		b		c		d		e	
	in	mm	in	mm	in	mm	in	mm	in	mm
INLET CONE 160	6,69	170	6,22	158	4,21	107	0,55	14	0,39	10
INLET CONE 190	6,69	170	6,22	158	4,92	125	0,55	14	0,39	10
INLET CONE 220	9,92	252	9,64	245	5,98	152	0,78	20	0,78	22
INLET CONE 225	8,78	223	8,26	210	5,74	146	1,10	28	0,98	25
INLET CONE 250	10	255	9,44	240	6,45	164	1,22	31	1,10	28





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