

**H SERIES
DIRECT DRIVE**

H-SERIES DIRECT DRIVE

Hooded Axial Exhaust, Supply, Filtered Supply and Reversible Roof Ventilators



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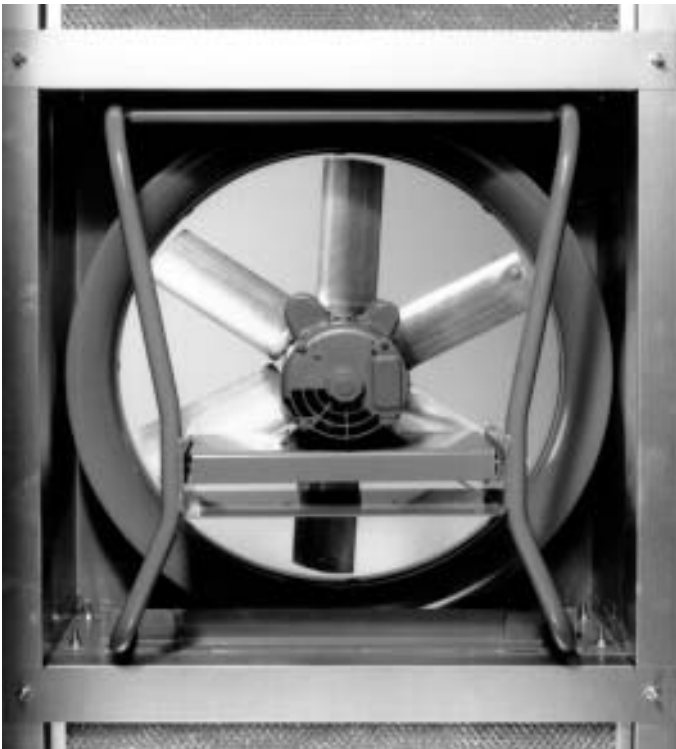
Introduction

H-Series - Direct Drive

Loren Cook H Series - Direct Drive Propeller Roof Ventilators are designed for industrial or commercial applications requiring a low profile roof top design. The H Series - Direct Drive is available in exhaust, supply, reversible or filtered supply configurations and utilizes an extruded aluminum airfoil propeller. The H Series - Direct Drive consists of HEE-D - Hooded Extruded Aluminum Airfoil Exhaust; HES-D - Hooded Extruded Aluminum Airfoil Supply; HEF-D - Hooded Extruded Aluminum Airfoil Filtered; and HER-D - Hooded Extruded Aluminum Airfoil Supply/Exhaust Reversible. Models are available in sizes 20 inches through 54 inches.



- Fan power assembly is of welded tubular steel construction with a Lorenized™ powder coat finish. The minimum 14 gauge steel base features an integral spun venturi and continuously welded curb cap corners.
- Galvanized steel hood features a large removable top cap allowing unobstructed access to the motor, and power assembly without removing the entire hood.
- Exhaust, supply and reversible ventilators in sizes 20 through 48 and filtered supply ventilators in sizes 20 through 42 are shipped assembled. Exhaust, supply and reversible ventilators in size 54, and filtered supply ventilators in sizes 48 and 54, are shipped with the hood in two sections for easy field assembly.
- Filtered H Series ventilators have two inch washable aluminum filters standard. Fiberglass and Polyester replaceable media filters are available as an option. Aluminum filters meet AGA requirements and are of high efficiency per AF1 test procedures.
- Motors are heavy duty type with permanently lubricated bearings.



Propeller and Filter Information **H Series**



E Series Extruded Aluminum Airfoil Propeller

The E series extruded aluminum airfoil propeller is designed for use where higher static pressures are required. This propeller design is unique to the Loren Cook Company. It is constructed with four or six aluminum blades of the extruded airfoil design, mounted in a cast aluminum hub. The pitch setting of the blades is done at the factory and the blades are locked into place by means of a roll pin. Due to the airfoil shape, the E series blade has a non-overloading characteristic such as is found in a centrifugal type wheel. The propeller is available in diameter sizes from 20 inch to 54 inch and in static pressures from 0 to 1 inch. Each propeller is statically and dynamically balanced for vibration free operation.

H Series Filter Media Data

Aluminum Media (Standard) - Expanded aluminum, washable filter media installed in a 2 inch frame.

- Initial Atmospheric Dust Spot Efficiency - < 20 percent
- Average Atmospheric Dust Spot Efficiency - < 20 percent
- Average Synthetic Dust Weight Arrestance - 54 percent

Fiberglass Media (Optional) - Laminated fiberglass replaceable media installed in a 2 inch frame.

- Initial Atmospheric Dust Spot Efficiency - < 20 percent
- Average Atmospheric Dust Spot Efficiency - < 20 percent
- Average Synthetic Dust Weight Arrestance - 84 percent

Polyester Media (Optional) - Non-woven polyester replaceable media installed in a 2 inch frame.

- Initial Atmospheric Dust Spot Efficiency - < 20 percent
- Average Atmospheric Dust Spot Efficiency - < 20 percent
- Average Synthetic Dust Weight Arrestance - 93 percent

Fan Intake Area

Fan Model (HEF-D)	Intake Area (SF)
20	16.3
24	23.5
30	31.6
36	39.6
42	47.8
48	59.3
54	70.3

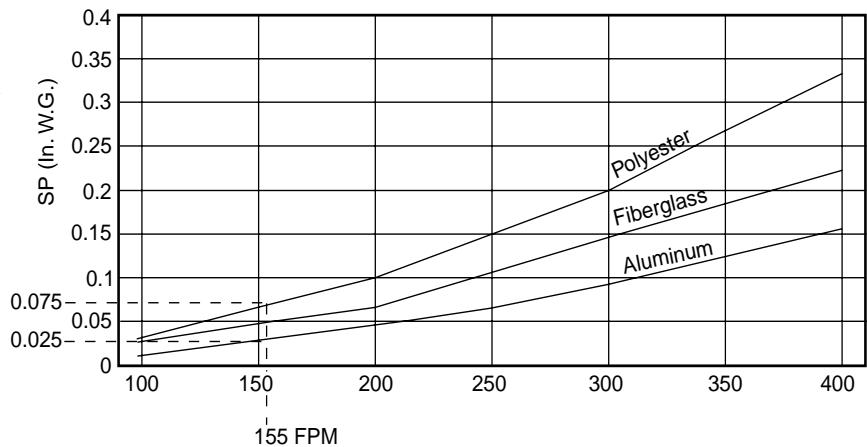
Filter Media Pressure Drop

The following information will be helpful in calculating any additional static pressure to add for optional filter media.

Example:

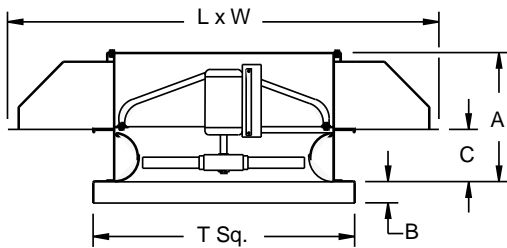
A size 24 HEF-D selected for 3640 CFM at 0.125 inch system static pressure utilizing polyester media for superior dust arrestance.

1. CFM/Intake area (SF) = Intake velocity (FPM)
3640 CFM/23.5 SF = 155 FPM.
2. Go into the pressure drop graph and determine the standard static pressure drop with aluminum media as well as the pressure drop for the optional media at intake velocity.
3. Subtract one from the other and add that number to the system static pressure. (In this case, 0.075" - 0.025" = 0.05" SP).
4. Make the selection at the new static pressure point. (In this case, 0.125" + 0.05" = 0.13").



HEE-D Specification and Dimension Data

Hooded Exhaust Airfoil Propeller Roof Mounted, Direct Drive



Type HEE-D is furnished standard with UL 705 listing (Power Ventilator/ZACT).



Type HEE-D is furnished standard with cUL 705 listing (Power Ventilator).

Description: Fan shall be a hooded, low profile, roof mounted, direct driven, propeller exhaust fan.

Certifications: Fan shall be listed by Underwriters Laboratories (UL 705) and UL listed for Canada (cUL 705).

Construction: The fan shall be of bolted and welded construction utilizing corrosion resistant fasteners. The motor shall be mounted on a welded tubular steel power assembly. The power assembly shall be rigidly secured to the fan housing. The powder coated steel fan housing shall include a minimum 14 gauge base with integral spun venturi and continuously welded curb cap corners. The fan shall be enclosed with a minimum 18 gauge galvanized steel hood bolted to the fan housing. The hood shall have a removable top cap to allow unobstructed access to the motor and power assembly without removing entire hood. The fan outlet shall be protected from entry of foreign material by 1/2 inches x 1/2 inches galvanized steel screen. Unit shall bear an engraved aluminum nameplate and shall be shipped in ISTA certified transit tested packaging.

Coating: All steel fan components shall be Lorenized™ with an electrostatically applied, baked polyester powder coating. Each component shall be subject to a five stage environmentally friendly wash system, followed by a minimum 1.5 mil thick baked powder finish. Paint must exceed 1,000 hour salt spray under ASTM B117 test method.

Propeller: Propeller shall be extruded aluminum airfoil design with cast aluminum hub. The blade pitch shall be factory set and locked using set screws and roll pin. The hub shall be keyed and locked to the shaft utilizing two set screws or a taper lock bushing. Propeller shall be balanced in accordance with AMCA Standard 204-96, *Balance Quality and Vibration Levels for Fans*.

Motor: Motor shall be heavy duty type with permanently lubricated sealed ball bearings and furnished at the specified voltage, phase and enclosure.

Product: Fan shall be the HEE-D as manufactured by Loren Cook Company of Springfield, Missouri.

HEE-D Dimension Data

Size	A	B	C	L x W	T Sq.	Material Gauge		Max. Motor Frame	Roof Opening Square*	Approx. Ship Wt.-Lbs.
						Base	Hood			
20	27-1/4	2	10	52 X 52	32	14	18	145T	27-1/2	470
24	28-3/4	3	10	59 X 59	36	14	18	184T	31-1/2	600
30	30-1/2	3	10	69 X 69	42	14	18	184T	37-1/2	680
36	33	3	10	80 X 80	48	14	18	215T	43-1/2	965
42	38	3	10	90 X 90	54	14	18	256T	49-1/2	1320
48	41-1/2	3	13-1/2	110 X 90	60	14	18	256T	55-1/2	1410
54	44-1/2	3	14-3/4	111 X 109	66	14	18	286T	61-1/2	1585

All dimensions in inches.

*Roof opening size for curbs supplied by Loren Cook Company only.

Specifications and Dimension Data **HES-D**

Description: Fan shall be a hooded, low profile, roof mounted, direct driven, propeller supply fan.

Certifications: Fan shall be listed by Underwriters Laboratories (UL 705) and UL listed for Canada (cUL 705).

Construction: The fan shall be of bolted and welded construction utilizing corrosion resistant fasteners. The motor shall be mounted on a welded tubular steel power assembly. The power assembly shall be rigidly secured to the fan housing. The powder coated steel fan housing shall include a minimum 14 gauge base with integral spun venturi and continuously welded curb cap corners. The fan shall be enclosed with a minimum 18 gauge galvanized steel hood bolted to the fan housing. The hood shall have a removable top cap to allow unobstructed access to the motor and power assembly without removing entire hood. The fan inlet shall be protected from entry of foreign material by 1/2 inches x 1/2 inches galvanized steel screen. Unit shall bear an engraved aluminum nameplate and shall be shipped in ISTA certified transit tested packaging.

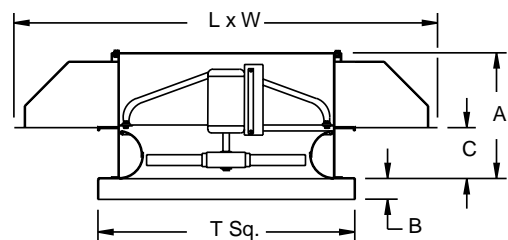
Coating: All steel fan components shall be Lorenized™ with an electrostatically applied, baked polyester powder coating. Each component shall be subject to a five stage environmentally friendly wash system, followed by a minimum 1.5 mil thick baked powder finish. Paint must exceed 1,000 hour salt spray under ASTM B117 test method.

Propeller: Propeller shall be extruded aluminum airfoil design with cast aluminum hub. The blade pitch shall be factory set and locked using set screws and roll pin. The hub shall be keyed and locked to the shaft utilizing two set screws or a taper lock bushing. Propeller shall be balanced in accordance with AMCA Standard 204-96, *Balance Quality and Vibration Levels for Fans*.

Motor: Motor shall be heavy duty type with permanently lubricated sealed ball bearings and furnished at the specified voltage, phase and enclosure.

Product: Fan shall be the HES-D as manufactured by Loren Cook Company of Springfield, Missouri.

Hooded Supply Airfoil Propeller Roof Mounted, Direct Drive



Type HES-D is furnished standard with UL 705 listing (Power Ventilator/ZACT).



Type HES-D is furnished standard with cUL 705 listing (Power Ventilator).

HES-D Dimension Data

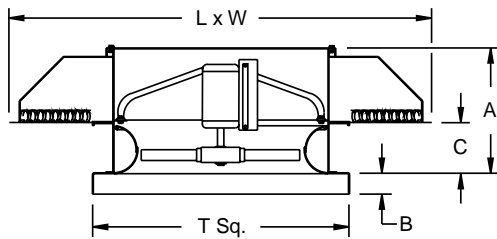
Size	A	B	C	L x W	T Sq.	Material Gauge		Max. Motor Frame	Roof Opening Square*	Ship Wt.-Lbs.
						Base	Hood			
20	27-1/4	2	10	52 x 52	32	14	18	145T	27-1/2	470
24	28-3/4	3	10	59 X 59	36	14	18	184T	31-1/2	600
30	30-1/2	3	10	69 X 69	42	14	18	184T	37-1/2	680
36	33	3	10	80 X 80	48	14	18	215T	43-1/2	965
42	38	3	10	90 X 90	54	14	18	256T	49-1/2	1320
48	41-1/2	3	13-1/2	110 X 90	60	14	18	256T	55-1/2	1410
54	44-1/2	3	14-3/4	111 X 109	66	14	18	286T	61-1/2	1585

All dimensions in inches.

*Roof opening size for curbs supplied by Loren Cook Company only.

HEF-D Specification and Dimension Data

Hooded Supply Airfoil Propeller Roof Mounted, Direct Drive



Type HEF-D is furnished standard with UL 705 listing (Power Ventilator/ZACT).



Type HEF-D is furnished standard with cUL 705 listing (Power Ventilator).

Description: Fan shall be a hooded, low profile, filtered, roof mounted, direct driven, propeller supply fan.

Certifications: Fan shall be listed by Underwriters Laboratories (UL 705) and UL listed for Canada (cUL 705).

Construction: The fan shall be of bolted and welded construction utilizing corrosion resistant fasteners. The motor shall be mounted on a welded tubular steel power assembly. The power assembly shall be rigidly secured to the fan housing. The powder coated steel fan housing shall include a minimum 14 gauge base with integral spun venturi and continuously welded curb cap corners. The fan shall be enclosed with a minimum 18 gauge galvanized steel hood bolted to the fan housing. The hood shall have a removable top cap to allow unobstructed access to the motor and power assembly without removing entire hood. Filters shall be washable expanded aluminum media with two inches formed aluminum frame. Unit shall bear an engraved aluminum nameplate and shall be shipped in ISTA certified transit tested packaging.

Coating: All steel fan components shall be Lorenized™ with an electrostatically applied, baked polyester powder coating. Each component shall be subject to a five stage environmentally friendly wash system, followed by a minimum 1.5 mil thick baked powder finish. Paint must exceed 1,000 hour salt spray under ASTM B117 test method.

Propeller: Propeller shall be extruded aluminum airfoil design with cast aluminum hub. The blade pitch shall be factory set and locked using set screws and roll pin. The hub shall be keyed and locked to the shaft utilizing two set screws or a taper lock bushing. Propeller shall be balanced in accordance with AMCA Standard 204-96, *Balance Quality and Vibration Levels for Fans*.

Motor: Motor shall be heavy duty type with permanently lubricated sealed ball bearings and furnished at the specified voltage, phase and enclosure.

Product: Fan shall be the HEF-D as manufactured by Loren Cook Company of Springfield, Missouri.

HEF-D Dimension Data

Size	A	B	C	L x W	T Sq.	Material Gauge		Max. Motor Frame	Roof Opening Square*	Ship Wt.-Lbs.
						Base	Hood			
20	28-3/4	2	10	59 X 59	32	14	18	145T	27-1/2	520
24	30-1/2	3	10	69 X 69	36	14	18	184T	31-1/2	645
30	33	3	10	80 X 80	42	14	18	184T	37-1/2	730
36	38	3	10	90 X 90	48	14	18	215T	43-1/2	1025
42	41-1/2	3	13-1/2	110 X 90	54	14	18	256T	49-1/2	1400
48	44-1/2	3	14-3/4	111 X 109	60	14	18	256T	55-1/2	1500
54	44-1/2	3	14-3/4	121 X 119	66	14	18	286T	61-1/2	1700

All dimensions in inches.

*Roof opening size for curbs supplied by Loren Cook Company only.

Specifications and Dimension Data **HER-D**

Description: Fan shall be a hooded, low profile, roof mounted, direct driven, propeller supply/exhaust reversible fan.

Certifications: Fan shall be listed by Underwriters Laboratories (UL 705) and UL listed for Canada (cUL 705).

Construction: The fan shall be of bolted and welded construction utilizing corrosion resistant fasteners. The motor shall be mounted on a welded tubular steel power assembly. The power assembly shall be rigidly secured to the fan housing. The powder coated steel fan housing shall include a minimum 14 gauge base with integral spun venturi and continuously welded curb cap corners. The fan shall be enclosed with a minimum 18 gauge galvanized steel hood bolted to the fan housing. The hood shall have a removable top cap to allow unobstructed access to the motor and power assembly without removing entire hood. The hood shall be protected from entry of foreign material by 1/2 inches x 1/2 inches galvanized steel screen. Unit shall bear an engraved aluminum nameplate and shall be shipped in ISTA certified transit tested packaging.

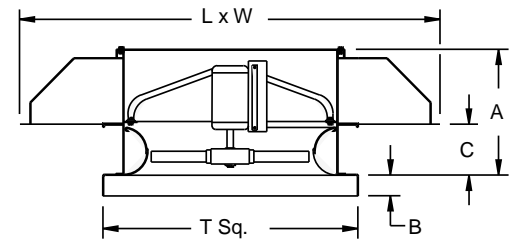
Coating: All steel fan components shall be Lorenized™ with an electrostatically applied, baked polyester powder coating. Each component shall be subject to a five stage environmentally friendly wash system, followed by a minimum 1.5 mil thick baked powder finish. Paint must exceed 1,000 hour salt spray under ASTM B117 test method.

Propeller: Propeller shall be a reversible, extruded aluminum airfoil design with cast aluminum hub. The blade pitch shall be factory set and locked using set screws and roll pin. The hub shall be keyed and locked to the shaft utilizing two set screws or a taper lock bushing. Propeller shall be balanced in accordance with AMCA Standard 204-96, *Balance Quality and Vibration Levels for Fans*.

Motor: Motor shall be heavy duty type with permanently lubricated sealed ball bearings and furnished at the specified voltage, phase and enclosure.

Product: Fan shall be the HER-D as manufactured by Loren Cook Company of Springfield, Missouri.

Hooded Supply/Exhaust Reversible Airfoil Propeller Roof Mounted, Direct Drive



Type HER-D is furnished standard with UL 705 listing (Power Ventilator/ZACT).



Type HER-D is furnished standard with cUL 705 listing (Power Ventilator).

HER-D Dimension Data

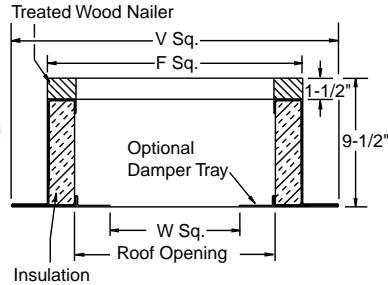
Size	A	B	C	L x W	T Sq.	Material Gauge		Max. Motor Frame	Roof Opening Square*	Ship Wt.-Lbs.
						Base	Hood			
20	27-1/4	2	10	52 x 52	32	14	18	145T	27-1/2	470
24	28-3/4	3	10	59 X 59	36	14	18	184T	31-1/2	600
30	30-1/2	3	10	69 X 69	42	14	18	184T	37-1/2	680
36	33	3	10	80 X 80	48	14	18	215T	43-1/2	965
42	38	3	10	90 X 90	54	14	18	256T	49-1/2	1320
48	41-1/2	3	13-1/2	110 X 90	60	14	18	256T	55-1/2	1410
54	44-1/2	3	14-3/4	111 X 109	66	14	18	286T	61-1/2	1585

All dimensions in inches.

*Roof opening size for curbs supplied by Loren Cook Company only.

Accessories

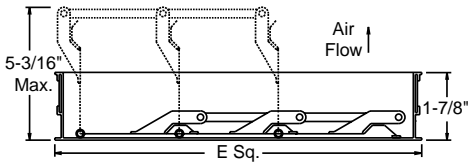
Roof Curb



H Series Size	Curb Catalog Number		F Sq.	V Sq.	W Sq.	Roof Opening	Approx. Ship Wt. Lbs.	
	Galv.	Alum.					RCG	RCA
20	RCG-30	RCA-30	30-1/2	34-1/2	23-3/4	27-1/2	37	24
24	RCG-34	RCA-34	34-1/2	38-1/2	27-3/4	31-1/2	41	27
30	RCG-40	RCA-40	40-1/2	44-1/2	33-3/4	37-1/2	49	31
36	RCG-46	RCA-46	46-1/2	50-1/2	39-3/4	43-1/2	84	63
42	RCG-52	RCA-52	52-1/2	56-1/2	45-3/4	49-1/2	94	71
48	RCG-58	RCA-58	58-1/2	62-1/2	51-3/4	55-1/2	104	79
54	RCG-64	RCA-64	64-1/2	68-1/2	57-3/4	61-1/2	115	86

All dimensions in inches. When motor operated damper is used, a wood nailer is required. Sound curbs available. Contact factory for dimensions.

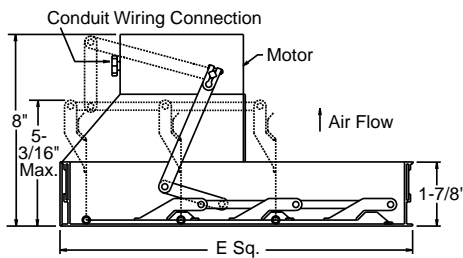
Gravity Backdraft Damper (Exhaust Models)



H Series Size	Catalog Number	E Sq.	Approx. Ship. Wt. Lbs.
20	BD-26	25-3/4	5
24	BD-30	29-3/4	6
30	BD-36	35-3/4	9
36	BD-42	41-3/4	12
42	BD-48	47-3/4	15
48	BD-54	53-3/4	19
54	BD-60	59-3/4	23

All dimensions in inches. Maximum operating temperature is 200° F (95° C). BD-36 to BD-60 are shipped as two panels.

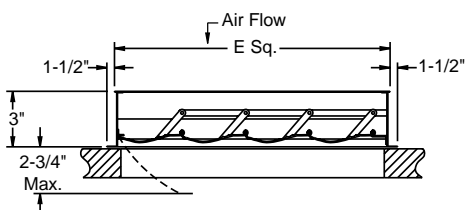
Motorized Backdraft Damper (Exhaust Models)



H Series Size	Catalog Number	E Sq.	Approx. Ship. Wt. Lbs.
20	BDM-26	25-3/4	7
24	BDM-30	29-3/4	8
30	BDM-36	35-3/4	13
36	BDM-42	41-3/4	16
42	BDM-48	47-3/4	19
48	BDM-54	53-3/4	23
54	BDM-60	59-3/4	27

All dimensions in inches. Maximum operating temperature is 130°F (50°C). BDM-36 to BDM-60 are shipped as two panels and use two motors.

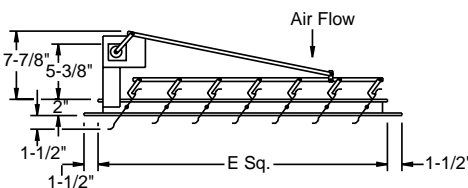
Intake Center Pivot Backdraft Damper (Supply Models)



H Series Size	Catalog Number	E Sq.	Approx. Ship Wt. Lbs.
20	BDIC-26	22-3/4	22
24	BDIC-30	26-3/4	24
30	BDIC-36	32-3/4	32
36	BDIC-42	38-3/4	49
42	BDIC-48	44-3/4	58
48	BDIC-54	50-3/4	70
54	BDIC-60	56-3/4	79

All dimensions in inches. Maximum operating temperature is 200°F (95°C).

Motorized Intake Center Pivot Backdraft Damper (Supply and Reversible Models)



H Series Size	Catalog Number	E Sq.	Approx. Ship Wt. Lbs.
20	BDMIC-26	22-3/4	25
24	BDMIC-30	26-3/4	27
30	BDMIC-36	32-3/4	37
36	BDMIC-42	38-3/4	56
42	BDMIC-48	44-3/4	64
48	BDMIC-54	50-3/4	72
54	BDMIC-60	56-3/4	104

All dimensions in inches. Maximum operating temperature is 130°F (50°C). BDMIC-42 to BDMIC-60 use two motors.

Additional Accessories

- Aluminum hood (consult factory)
- Outboard lifting lugs



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