

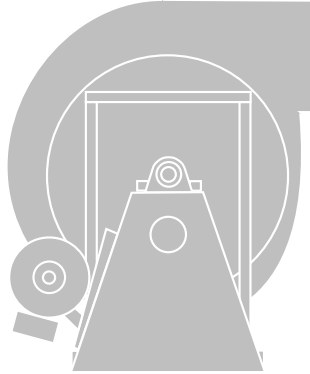
IMH



COOK

IMH

Industrial Material Handler



	Page
Introduction	2
Information	3-5
Specifications	
MH Specifications	6
MHB Specifications	7
MHA Specifications	8
Dimension Data	
Arrangements 1 and 9 Dimension Data	9
Arrangement 8 Dimension Data	10
Arrangement 10 Dimension Data	11
Accessories	12

IMH Industrial Material Handler

Cook industrial material handler provides for continuous movement of material-laden air. It is well suited for installations involving exhaust, material conveying, pollution control, air circulation and a variety of other uses. Type IMH fans are available in standard arrangements 1, 4, 8, 9, and 10 and in special designs by consultation with the factory. Standard duty construction allows for operation up to 12,000 FPM tip speed. Heavy duty designs include tip speeds to 20,000 FPM. Type IMH is available with a full range of accessories allowing it to be adapted to many different applications.

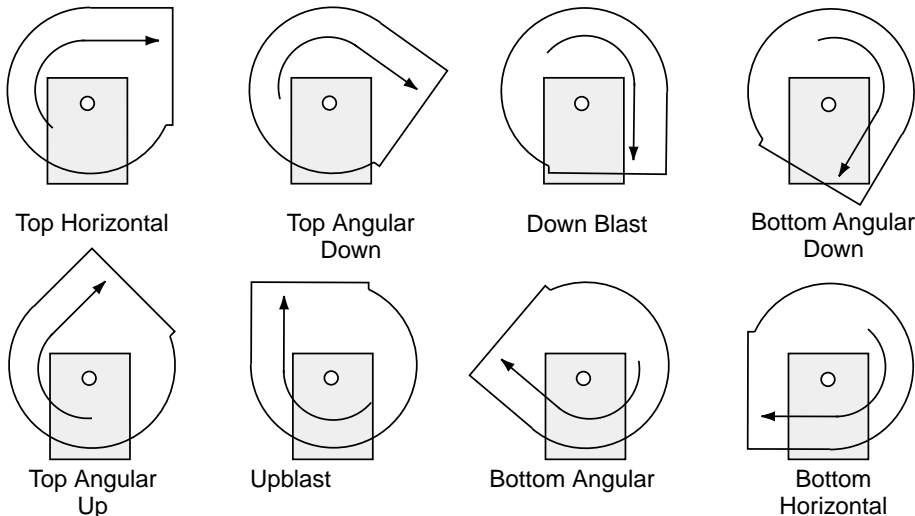


- All sizes and arrangements can be field rotated to any of the standard discharge positions. In addition, model MH can be reversed in the field to obtain clockwise or counter-clockwise rotation. Models MHA and MHB cannot be reversed.
- All units have continuously welded housings for leak-free operation.
- All sizes are provided with lifting lugs for ease of handling.
- The bearing pedestal is securely bolted to the scroll to allow field rotation and reversing if required.
- Standard bearings are grease lubricated and self-aligning ball or spherical roller type selected for a minimum of 200,000 hours average life.
- Standard shafting is minimum AISI-C-1045 turned, ground and polished steel sized for critical speed or at least 125 percent of cataloged maximum speed.
- All sizes are dynamically balanced as a complete unit prior to shipment to assure vibration-free operation. IMH fans are balanced to exceed AMCA 204-96 recommendations for industrial process.
- Accurate performance is assured through compliance with AMCA Certified Ratings Program. The MH and MHB are licensed to bear the AMCA Seal for Air Performance. The MHA is licensed to bear the AMCA Seal for Air and Sound Performance.

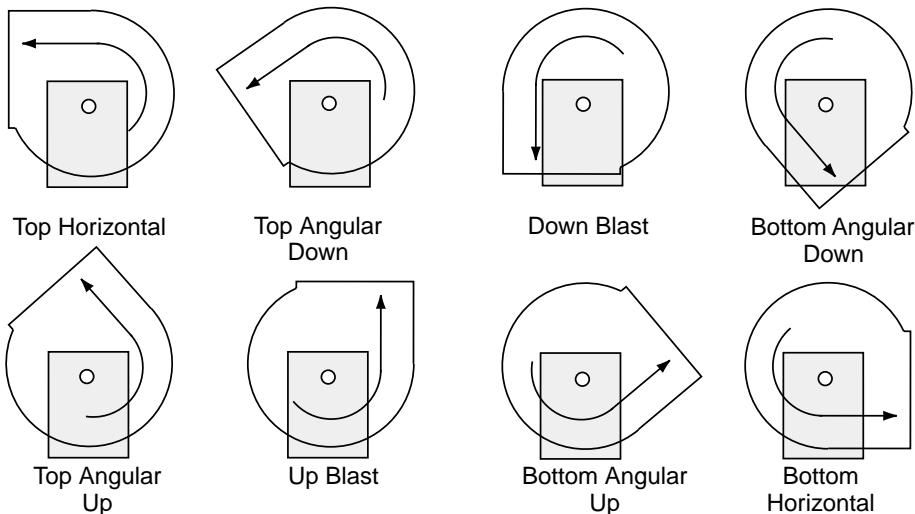
Rotation and Discharge

The direction of rotation is determined from the drive side of the fan. On single inlet fans, drive side is always considered as the side opposite the fan inlet. The angle of the discharge is based on the horizontal axis of the fan and is designated in degrees above or below the standard reference axis.

Clockwise Rotation



Counter Clockwise Rotation



Wheel Designs



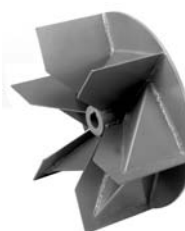
MH - Open Type

The MH wheel is used for light material conveying applications when the airstreams contain small granular material, heavy or tacky dust, or small abrasive particulate matter. It is available in standard and heavy duty designs.



MH - Reinforced Open Type

The MH reinforced wheel (optional) is used for heavier material conveying applications when larger/heavier particles are to be conveyed (similar to MH with heavier material and reinforcing rims for additional strength). Available in standard and heavy duty designs.



MHB - Backplated Type

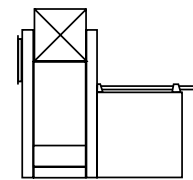
The MHB is used for conveying long, stringy, or fibrous materials. This impeller construction will not allow paper shreds, threads, etc. to wrap around the hub and blades. Available in standard and heavy duty designs.



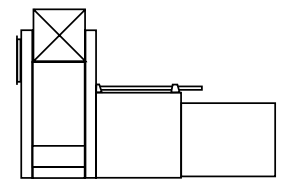
MHA - Air Handling Type

The MHA wheel is used for clean air, fumes, high temperature or light dust applications. This design delivers higher efficiencies and lower operating costs than radial bladed wheels due to its flat backward inclined blades. Continuously welded, heavy gauge construction provides a long service life over a broad operating range.

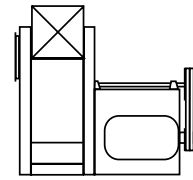
Drive Arrangements



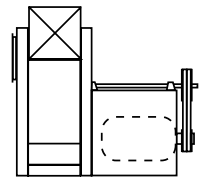
Arrangement 1
For heavy duty material handling.



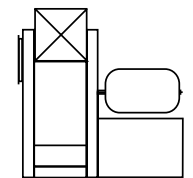
Arrangement 8
For applications requiring direct drive.



Arrangement 9
For mounting the motor to the fan bearing support pedestal.

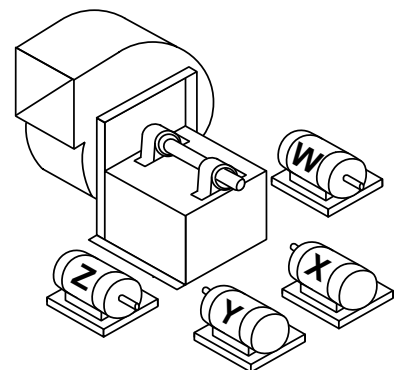


Arrangement 10
For light duty applications where completely packaged unit suitable for outdoor use is desired.



Arrangement 4
Wheel directly mounted on motor shaft; no fan bearings required. For low maintenance, dust sensitive applications..

Motor Positions



Motor position is determined by facing the drive side of the fan and designating the motor position by letters W, X, Y, or Z.

Classification for Spark Resistant Construction

Type	Construction
A	All parts of the fan in contact with the air or gas being handled shall be made of nonferrous material. Available in standard duty construction, with a maximum operating temperature of 300°F.
B	The fan shall have a nonferrous impeller and nonferrous ring about the opening through which the shaft passes. Available in standard duty construction, with a maximum operating temperature of 300°F.
C	The fan shall be so constructed that a shift of the impeller or shaft will not permit two ferrous parts of the fan to rub or strike. Available in all sizes and constructions with a maximum operating temperature of 400°F.

Notes:

- Bearings shall not be placed in the air or gas stream.
- The user shall electrically ground all fan parts.
- No method of construction can guarantee against the potential for sparks in fans. These classifications serve only as a guideline to establish general methods of construction.
- Nonferrous material is defined as having less than five percent iron or a material considered spark resistant.

Application Information

Air Density Correction Factor (C_a)

Air Temp °F	Altitude in Feet Above Sea Level												
	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	15000	20000
	Barometric Pressure in Inches of Mercury												
	29.92	28.86	27.82	26.82	25.84	24.90	23.98	23.09	22.22	21.39	20.58	16.89	13.75
70	1.000	0.965	0.930	0.896	0.864	0.832	0.801	0.772	0.743	0.715	0.688	0.564	0.460
100	0.946	0.913	0.880	0.848	0.817	0.788	0.758	0.730	0.703	0.677	0.651	0.534	0.435
150	0.869	0.838	0.808	0.779	0.750	0.723	0.696	0.670	0.645	0.621	0.598	0.490	0.399
200	0.803	0.774	0.747	0.720	0.693	0.668	0.644	0.620	0.596	0.574	0.552	0.453	0.369
250	0.746	0.720	0.694	0.669	0.645	0.621	0.598	0.576	0.554	0.534	0.513	0.421	0.343
300	0.697	0.673	0.648	0.625	0.602	0.580	0.559	0.538	0.518	0.498	0.480	0.394	0.320
350	0.654	0.631	0.608	0.586	0.565	0.544	0.524	0.505	0.486	0.468	0.450	0.369	0.301
400	0.616	0.594	0.573	0.552	0.532	0.513	0.494	0.475	0.458	0.440	0.424	0.348	0.283
450	0.582	0.562	0.541	0.522	0.503	0.485	0.467	0.449	0.432	0.416	0.400	0.329	0.268
500	0.552	0.532	0.513	0.495	0.477	0.459	0.442	0.426	0.410	0.395	0.380	0.312	0.254
550	0.525	0.506	0.488	0.470	0.453	0.437	0.420	0.405	0.390	0.375	0.361	0.296	0.241
600	0.500	0.482	0.465	0.448	0.432	0.416	0.401	0.386	0.371	0.357	0.344	0.282	0.230
650	0.477	0.460	0.444	0.428	0.412	0.397	0.383	0.368	0.354	0.341	0.328	0.269	0.219
700	0.457	0.441	0.425	0.409	0.394	0.380	0.366	0.352	0.339	0.327	0.314	0.258	0.210
750	0.438	0.422	0.407	0.392	0.378	0.364	0.351	0.338	0.325	0.313	0.301	0.247	0.201
800	0.420	0.406	0.391	0.377	0.363	0.350	0.337	0.324	0.312	0.301	0.289	0.237	0.193

Notes On Material Conveying

1. For applications where material is conveyed through the fan, the actual air mixture density must be taken into account for SP and BHP calculations. The actual mixture density can be calculated as follows.

$$SP_{STD} = SP_{OPER} (0.075 / P_M)$$

2. In order to properly select from the catalog tables, the operating SP must be converted to SP at standard air conditions.

3. The resulting BHP from the selection tables must then be corrected to operating conditions.

$$HP_{OPER} = HP_{STD} (P_M / 0.075)$$

$$P_M = P_a (M_m + M_a / M_a)$$

P_M = Mixture Density

P_a = Air Density - 0.075 x C_a

M_m = Mass flow rate of material (lbm/min)

M_a = Mass flow air (lbm / min) - CFM x P_a

Conveying Velocities

Material	FPM
Wood Sanding Dust	2000
Ground Cork	3000
Wood Sawdust, Flour	3500
Powdered Coal, Cotton, Ground Rubber	4000
Dry Vegetable Pulp or Wood Chips	4500
Wool, Paper	5000
Cement, Salt or Sand	7000

High Temperature Applications

Temp. °F	Required Accessories
-30 - 180	Standard construction
181 - 300	High temperature paint
301 - 400	All Arrangements - High temperature paint, High temperature grease, Shaft cooler Arrangement 9 and 10 only - Motor heat shield
401 - 800	Arrangement 1, 8, and 9 only - High temperature paint, High temperature bearings, Shaft cooler Arrangement 9 only - Motor heat shield
801 - 1000	Consult factory

Notes:

- Aluminum construction is limited to 300°F
- Standard steel construction is not suitable for temperatures above 800°F
- For elevated airstream temperatures, the maximum RPM limits must be derated by the factors found in the RPM Derating Factor table to the right.

RPM Derating Factor

Steel		Aluminum	
Temp. °F	RPM	Temp. °F	RPM
70	1.00	70	1.00
200	.98	200	0.93
300	.96	300	0.79
400	.94		
500	.91		
600	.87		
700	.81		
800	.75		

Material Gauge, Shaft Diameter

Unit Size	MH Wheel		MH reinforced Wheel			MHB Wheel				MHA Wheel			Housing			Shaft Diameter (in Inches)				
	Blade	Gusset	Blade	Gusset	RIM	Blade SD*	Blade HD**	Gusset	Backplate	Backplate	Blade	Shroud	Scroll	Sides	Wrapper	SD*	HD**			
70	7	16	7	16	7	7	7	16	1/4	10	14	14	10	10	10	1-3/16	1-11/16			
90										7	12					1-7/16				
110		14	1/4	14			1/4	14		5/16	1/4	10				7	7	1-11/16	2-3/16	
130																		1-15/16		
150	1/4	12	5/16	12	1/4	1/4	5/16	12	3/8	5/16	1/4	1/4	7	7	7	2-3/16	2-7/16			
170										7	7									
190		10	3/8	10			3/8	10		3/8	10	3/8	5/16	5/16	5/16	1/4	1/4	1/4	2-7/16	2-15/16
210																			2-11/16	
230	2-15/16																			
260	2-15/16																			
290	2-15/16																			

Unless otherwise noted wheel construction for standard duty and heavy duty is the same. *Standard duty, **Heavy duty

Maximum RPM, Wheel Weight And WK²

Unit Size	Wheel Diameter	Maximum RPM		MH		MHR		MHB SD		MHB HD		MHA SD		MHA HD	
		SD*	HD**	Lbs.	WK ²	Lbs.	WK ²	Lbs.	WK ²	Lbs.	WK ²	Lbs.	WK ²	Lbs.	WK ²
70	12-1/4	3742	6236	13	0.80	19	1.86	21	1.91	21	1.91	12.7	1.31	12.3	1.31
90	15-5/8	2934	4889	22	2.07	32	4.84	34	4.97	34	4.97	24.6	4.51	23.5	4.49
110	19-1/8	2397	3994	39	6.33	62	14.81	54	15.20	59	16.55	36.1	10.7	33.9	10.6
130	22-5/8	2026	3377	52	13.12	83	30.70	75	31.50	83	34.30	58.0	25.6	55.3	25.5
150	26-1/8	1755	2924	65	23.86	102	55.84	115	57.30	115	62.39	94.4	48.4	90.1	50.5
170	29-5/8	1547	2579	85	41.06	132	96.10	159	98.61	159	107.4	129.6	93.2	124.3	95.3
190	33	1389	2315	105	62.80	200	147.0	201	150.8	221	164.2	155.4	145.6	147.8	145.3
210	36-1/2	1256	2093	128	101.2	245	262.4	254	243.1	276	264.7	241.4	290.0	230.0	289.8
230	40	1146	1910	160	156.7	336	406.2	326	376.4	359	405.2	323.5	416.5	307.7	427.3
260	45-1/8	1016	1693	210	255.6	400	662.5	421	613.9	450	660.9	474.8	829.5	452.4	840.3
290	50-1/2	908	1513	260	372.7	490	1006	525	969.4	548	1044	576.5	1296	553.4	1307

Unless otherwise noted wheel construction for standard duty and heavy duty is the same. *Standard duty, **Heavy duty

Motor Selection

For proper motor selection, consideration must be given to starting torque requirements along with the operating BHP. The table *Maximum RPM, Wheel Weight and WK²* (above) lists the WK² factor for different wheel sizes and types. In some cases it may be necessary to provide a larger horsepower motor, even though it may not be indicated by operating BHP, in order to bring the fan to speed. The following formula can be applied to determine the required motor starting torque.

$$WK_m^2 = WK_f^2 (FRPM/MRPM)^2 \quad (1.1)$$

WK_m² - The moment of inertia required at the motor shaft, LB-Ft²

WK_f² - The moment of inertia of the fan, LB-Ft²

FRPM - Fan RPM

MRPM - Motor RPM

Motor starting torque can vary greatly among motor manufacturers. The available WK_m² of the motor should be obtained from the motor manufacturer.

Ordering Information

Model numbers for IMH units should be specified as follows.

70MH-HD

70 - Indicates unit size

MH - Indicates model (MH, MHB, MHR, or MHA)

HD - Indicates either standard duty (SD) or heavy duty (HD)

In addition the following information must be supplied to in order to fully specify the fan order.

Rotation - CW or CCW

Discharge - THD, TAD, DBD, TAD, BHD, BAU, UBD, or TAU

Arrangement - Arrangement 1, Arrangement 3, or Arrangement 9 or 10

Motor Position - W, X, Y or Z. Only required for Arrangement 1

Industrial Material Handler Radial Blade Belt Driven Single Width, Single Inlet



Loren Cook Company certifies that the MH shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.



Type MH is furnished standard Classified by UL (as to electrical shock and mechanical hazards only) when furnished with factory supplied motor.

Description: Fan shall be a single width, single inlet radial blade, belt driven industrial material handler.

Certifications: Fan shall be manufactured at an ISO 9001 certified facility. Fan shall be Underwriters Laboratories Classified (as to electrical shock and mechanical hazards only). Fan shall bear the AMCA certified ratings seal for air performance.

Construction: The fan shall be of bolted and welded construction utilizing corrosion resistant fasteners. The scroll wrapper and scroll side panels shall be a minimum 10 gauge steel. The entire fan housing shall have continuously welded seams for leakproof operation and shall be field rotatable to any one of eight discharge positions. Housing side panels shall be rigidly reinforced using structural steel to prevent flexing and vibration at high pressures. Bearing support shall be minimum 1/4" welded steel. Lifting lugs shall be provided for ease of installation. 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 2 mil thick baked powder finish. Paint must exceed 1,000 hour salt spray under ASTM B117 test method.

Wheel: Wheel shall be steel radial blade open type. Blades shall be minimum 7 gauge steel continuously welded to the hub and aerodynamic gusset. Hub shall be keyed and securely attached to the fan shaft utilizing four setscrews. Wheel 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.

Blower Shaft: Blower shaft shall be AISI C-1045 hot rolled and accurately turned, ground and polished. Shafting shall be sized for a critical speed of at least 125 percent of maximum RPM.

Bearings: Bearings shall be designed and tested specifically for use in air handling applications. Construction shall be heavy duty regreasable ball or roller type in a cast iron pillow block housing and selected for a minimum L50 life in excess of 200,000 hours at maximum cataloged operating speed.

Belts and Drives: Belts shall be oil and heat resistant, non-static type. Drives shall be precision machined cast iron type, keyed and securely attached to the wheel and motor shafts. Drives shall be sized for 150 percent of the installed motor horsepower. The variable pitch motor drive must be factory set to the specified fan RPM.

Product: Fan shall be model MH as manufactured by Loren Cook Company of Springfield, Missouri.

Dimension Data, Beginning Page 10

MHB Specifications

Industrial Material Handler Backplated Radial Blade Belt Driven Single Width, Single Inlet



Loren Cook Company certifies that the MHB shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.



Type MHB is furnished standard Classified by UL (as to electrical shock and mechanical hazards only) when furnished with factory supplied motor.

Description: Fan shall be a single width, single inlet backplated radial blade, belt driven industrial material handler.

Certifications: Fan shall be manufactured at an ISO 9001 certified facility. Fan shall be Underwriters Laboratories Classified (as to electrical shock and mechanical hazards only). Fan shall bear the AMCA certified ratings seal for air performance.

Construction: The fan shall be of bolted and welded construction utilizing corrosion resistant fasteners. The scroll wrapper and scroll side panels shall be a minimum 10 gauge steel. The entire fan housing shall have continuously welded seams for leakproof operation and shall be field rotatable to any one of eight discharge positions. Housing side panels shall be rigidly reinforced using structural steel to prevent flexing and vibration at high pressures. Bearing support shall be minimum 1/4" welded steel. Lifting lugs shall be provided for ease of installation. 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 2 mil thick baked powder finish. Paint must exceed 1,000 hour salt spray under ASTM B117 test method.

Wheel: Wheel shall be steel, backplated radial blade type. Blades shall be minimum 7 gauge steel continuously welded to the hub, aerodynamic gusset and minimum 1/4" backplate. Hubs shall be keyed and securely attached to the fan shaft utilizing four setscrews. Wheel 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.

Blower Shaft: Blower shaft shall be AISI C-1045 hot rolled and accurately turned, ground and polished. Shafting shall be sized for a critical speed of at least 125 percent of maximum RPM.

Bearings: Bearings shall be designed and tested specifically for use in air handling applications. Construction shall be heavy duty regreasable ball or roller type in a cast iron pillow block housing and selected for a minimum L50 life in excess of 200,000 hours at maximum cataloged operating speed.

Belts and Drives: Belts shall be oil and heat resistant, non-static type. Drives shall be precision machined cast iron type, keyed and securely attached to the wheel and motor shafts. Drives shall be sized for 150 percent of the installed motor horsepower. The variable pitch motor drive must be factory set to the specified fan RPM.

Product: Fan shall be type MHB as manufactured by Loren Cook Company of Springfield, Missouri.

Dimension Data, Beginning Page 10

**Industrial Material Handler
Backward Inclined Flat Blade
Belt Driven
Single Width, Single Inlet**



Loren Cook Company certifies that the MHA shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.



Type MHA is furnished standard Classified by UL (as to electrical shock and mechanical hazards only) when furnished with factory supplied motor.

Description: Fan shall be a single width, single inlet radial blade, belt driven industrial material handler.

Certifications: Fan shall be manufactured at an ISO 9001 certified facility. Fan shall be Underwriters Laboratories Classified (as to electrical shock and mechanical hazards only). Fan shall bear the AMCA certified ratings seal for air and sound performance.

Construction: The fan shall be of bolted and welded construction utilizing corrosion resistant fasteners. The scroll wrapper and scroll side panels shall be a minimum 10 gauge steel. The entire fan housing shall have continuously welded seams for leakproof operation and shall be field rotatable to any one of eight discharge positions. Housing side panels shall be rigidly reinforced using structural steel to prevent flexing and vibration at high pressures. Bearing support shall be minimum 1/4" welded steel. Lifting lugs shall be provided for ease of installation. 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 2 mil thick baked powder finish. Paint must exceed 1,000 hour salt spray under ASTM B117 test method.

Wheel: Wheel shall be steel centrifugal backward inclined, flat blade type. Blades shall be continuously welded to the backplate and inlet shroud. Wheel hub shall be keyed and securely attached to the fan shaft. Wheel 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.

Blower Shaft: Blower shaft shall be AISI C-1045 hot rolled and accurately turned, ground and polished. Shafting shall be sized for a critical speed of at least 125 percent of maximum RPM.

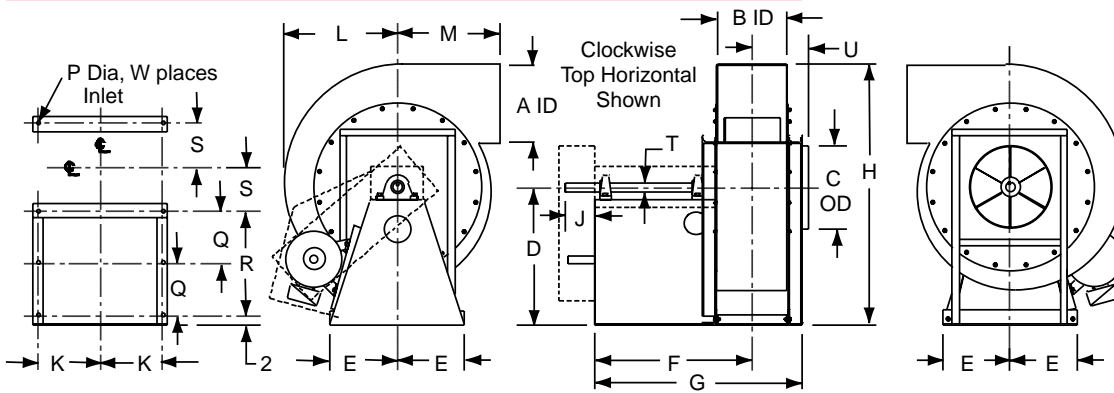
Bearings: Bearings shall be designed and tested specifically for use in air handling applications. Construction shall be heavy duty regreasable ball or roller type in a cast iron pillow block housing and selected for a minimum L50 life in excess of 200,000 hours at maximum cataloged operating speed.

Belts and Drives: Belts shall be oil and heat resistant, non-static type. Drives shall be precision machined cast iron type, keyed and securely attached to the wheel and motor shafts. Drives shall be sized for 150 percent of the installed motor horsepower. The variable pitch motor drive must be factory set to the specified fan RPM.

Product: Fan shall be model MHA as manufactured by Loren Cook Company of Springfield, Missouri.

Dimension Data, Beginning Page 10

Arrangements 1 and 9 Dimension Data



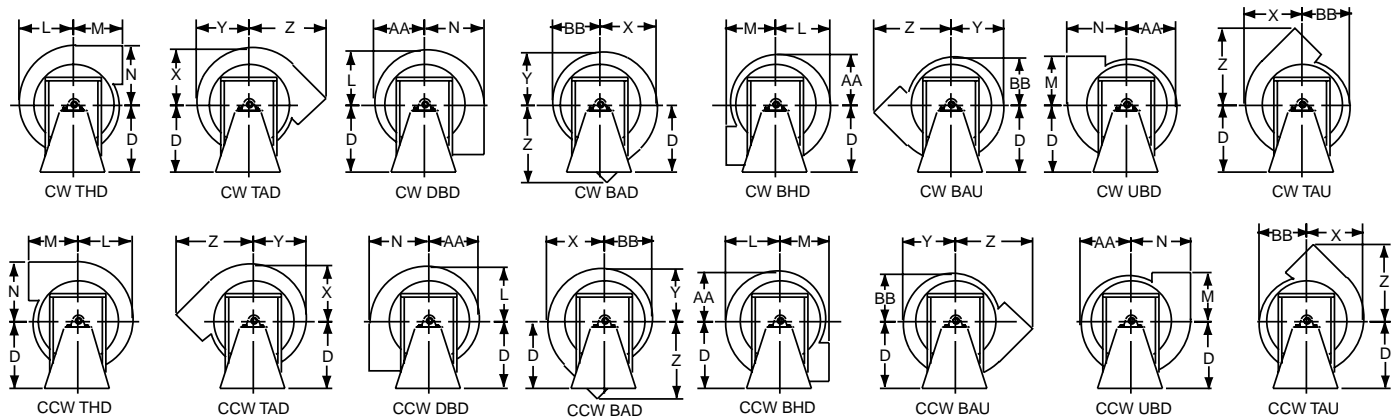
Arrangement 9 shown

Arrangement 1 and 9 Dimension Data

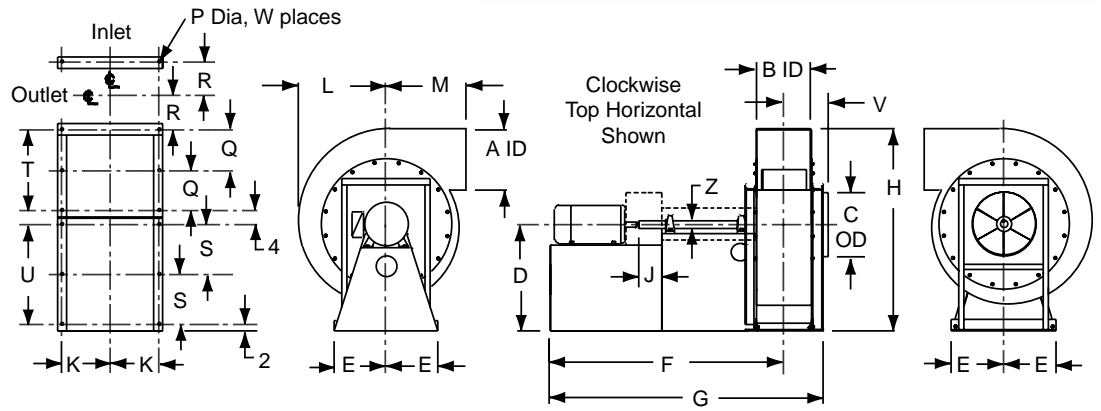
Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
70	6-5/8	5-7/8	7	14-1/4	9-11/16	21-1/16	26-1/4	24-13/16	4	9-3/16	9-11/16	8-5/16	10-9/16	9/16	-
90	8-7/16	7-1/2	9	15-1/4	9-11/16	21-7/8	27-7/8	28-3/4	4	9-3/16	12-5/16	10-5/8	13-1/2	9/16	-
110	10-3/8	9-1/8	11	18-3/4	9-11/16	25	32-7/8	35-3/16	4	9-3/16	15-1/16	13	16-7/16	9/16	8-1/4
130	12-3/16	10-7/8	13	21-3/4	11-3/4	26-3/16	34-7/8	41-3/16	5	11	17-13/16	15-3/8	19-7/16	11/16	8-3/8
150	14-1/16	12-9/16	15	25-1/4	13	31-3/4	41-5/16	47-5/8	5	12-1/4	20-5/8	17-3/4	22-3/8	11/16	10-3/4
170	16	14-1/4	17	28-1/4	13-7/8	32-9/16	43	53-5/8	6	13-1/8	23-3/4	20-1/8	25-3/8	11/16	10-3/4
190	17-13/16	15-7/8	19	31-1/4	15-5/16	34-11/16	46	59-1/2	6	14-9/16	25-15/16	22-7/16	28-1/4	11/16	11-3/8
210	19-3/4	17-9/16	21	34-1/2	16-9/16	38-1/4	50-3/8	65-3/4	6	15-13/16	28-1/2	23	31-1/4	11/16	12-3/4
230	21-5/8	19-1/4	23	37-1/2	18-13/16	41-1/8	55-1/4	71-13/16	7	17-9/16	31-1/4	26	34-5/16	13/16	13-7/16
260	24-7/16	21-3/4	26	41-3/4	20-5/8	43-15/16	58-11/16	82-15/16	7	19-3/8	35-1/8	29	41-3/16	13/16	13-7/8
290	27-5/16	24-1/4	29	46-1/2	22-1/2	45-9/16	62-3/16	92-1/2	8	21-1/4	39-1/2	31-3/4	45-7/8	13/16	14-3/8

Size	R	S	T		U	W	X	Y	Z	AA	BB	Max. Motor Frame*	Approx. Ship Wt. Lbs. less mtr.**	
			Standard Duty	Heavy Duty									Standard Duty	Heavy Duty
70	14-7/8	4-1/4	1-3/16	1-7/16	6-3/16	6	10-1/8	9-1/4	13-3/8	8-13/16	8-3/8	184T	239	275
90	14-7/8	5-1/16	1-7/16	1-11/16	7	6	12-15/18	11-3/4	17-1/16	11-3/16	10-5/8	184T	318	366
110	16-1/2	6-1/2	1-7/16	1-15/16	8-13/16	8	15-3/4	14-7/16	20-13/16	13-3/4	13-1/16	215T	424	488
130	16-3/4	7-3/8	1-11/16	2-3/16	9-13/16	8	18-5/8	17	24-5/8	16-3/16	15-3/8	215T	558	642
150	21-1/2	8-7/32	1-15/16	2-7/16	10-11/16	8	21-1/2	19-3/4	28-3/8	18-7/8	18	256T	720	828
170	21-1/2	9-1/16	2-3/16	2-7/16	11-1/12	8	24-9/16	22-1/2	32-3/16	21-1/4	20-1/4	256T	910	1046
190	22-3/4	9-15/16	2-7/16	2-15/16	12-5/16	8	27-1/8	24-7/8	35-13/16	23-3/4	22-5/8	256T	1127	1296
210	25-1/2	10-21/23	2-7/16	2-15/16	13-3/16	8	29-7/8	27-1/8	38-3/8	25-3/4	24-3/8	326T	1372	1578
230	26-7/8	12-5/16	2-11/16	3-7/16	15-1/8	8	32-13/16	29-13/16	42-5/8	28-5/16	26-13/16	326T	1645	1892
260	27-3/4	13-9/16	2-11/16	3-7/16	16-3/8	8	38-3/16	33-1/2	49-5/8	31-7/8	30-1/4	326T	2107	2423
290	28-3/4	14-13/16	2-15/16	3-7/16	17-5/8	8	42-11/16	37-5/8	54-7/8	35-3/4	33-7/8	326T	2630	3025

All dimensions in inches. *Applies to Arrangement 9 only based on single speed ODP motor. **Shipping weights for Arrangement 1 MH model given.



Dimension Data **Arrangement 8**

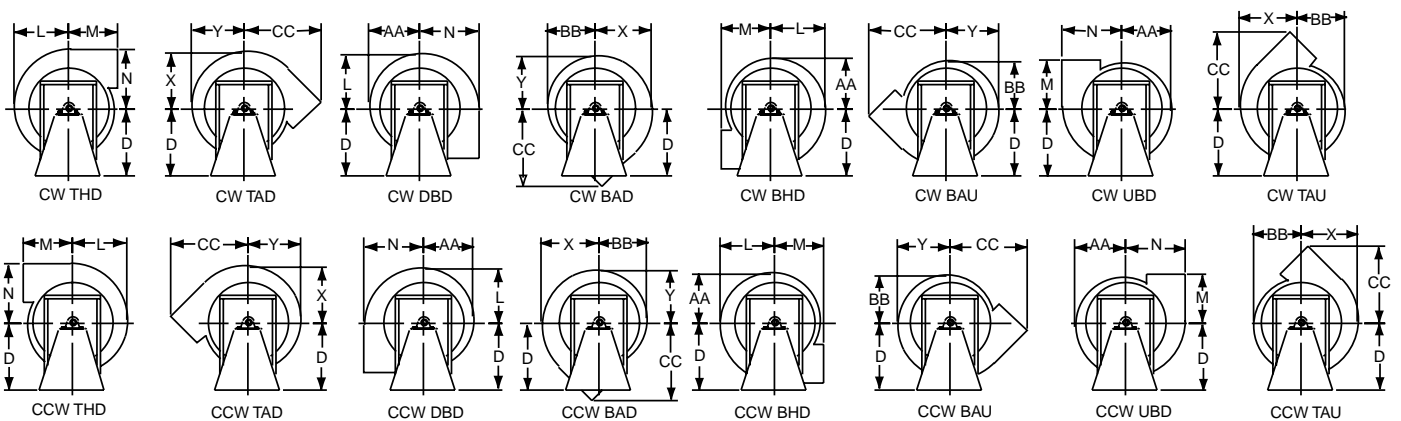


Arrangement 8 Dimension Data

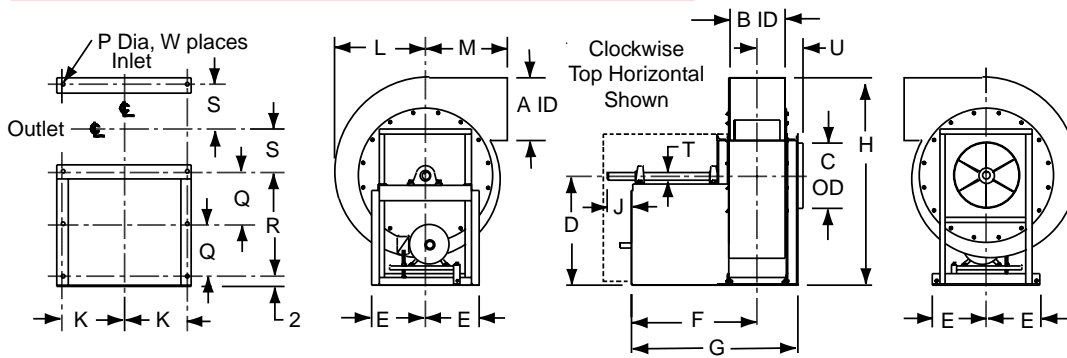
Size	A	B	C	D	E	F*	G*	H	J	K	L	M	N	P	Q	R
70	6-5/8	5-7/8	7	14-1/4	9-11/16	49-15/16	55-1/8	24-13/16	4	9-3/16	9-11/16	8-5/16	10-9/16	9/16	-	4-1/4
90	8-7/16	7-1/2	9	15-1/4	9-11/16	53-9/16	59-9/16	28-3/4	4	9-3/16	12-5/16	10-5/8	13-1/2	9/16	-	5-1/16
110	10-3/8	9-1/8	11	18-3/4	9-11/16	57-3/4	65-5/8	35-3/16	4	9-3/16	15-1/16	13	16-7/16	9/16	8-1/4	6-1/2
130	12-3/16	10-7/8	13	21-3/4	11-3/4	61-7/16	70-1/8	41-3/16	5	11	17-13/16	15-3/8	19-7/16	11/16	8-3/8	7-3/8
150	14-1/16	12-9/16	15	25-1/4	13	69-1/4	78-13/16	47-5/8	5	12-1/2	20-5/8	17-3/4	22-3/8	11/16	10-3/4	8-7/32
170	16	14-1/4	17	28-1/4	13-7/8	74-3/16	84-5/8	53-5/8	6	13-1/8	23-3/4	20-1/8	25-3/8	11/16	10-3/4	9-1/16
190	17-13/16	15-7/8	19	31-1/4	15-5/16	77-13/16	89-1/8	59-1/2	6	14-9/16	25-15/16	22-7/16	28-1/4	11/16	11/38	9-15/16
210	19-3/4	17-9/16	21	34-1/2	16-9/16	85-1/2	97-5/8	65-3/4	6	15-13/16	28-1/2	23	31-1/4	11/16	12-3/4	10-21/32
230	21-5/8	19-1/4	23	37-1/2	18-13/16	89-3/8	103-1/2	71-13/16	7	17-9-16	31-1/4	26	34-5/16	13/16	13-7/16	12-5/16
260	24-7/16	21-3/4	26	41-3/4	20-5/8	94-3/16	108-15/16	82-15/16	7	19-3/8	35-1/8	29	41-3/16	13/16	13-7/8	13-9/16
290	27-5/16	24-1/4	29	46-1/2	22-1/2	96-13/16	113-7/16	92-1/2	8	21-1/4	39-1/2	31-3/4	45-7/8	13/16	14-3/8	14-13/16

Size	S*	T	U*	V	W	X	Y	Z		AA	BB	CC	Max. Motor Frame	Approx. Ship Wt. Lbs. less mtr.**	
								Standard Duty	Heavy Duty					Standard Duty	Heavy Duty
70	-	14-7/8	24-7/8	6-3/16	6	10-1/8	9-1/4	1-3/16	1-7/16	8-13/16	8-3/8	13-3/8	184T	287	330
90	-	14-7/8	27-11/16	7	6	12-15/16	11-3/4	1-7/16	1-11/16	11-3/16	10-5/8	17-1/16	215T	382	439
110	14-3/8	16-1/2	28-3/4	8-13/16	8	15-3/4	14-7/16	1-7/16	1-15/16	13-3/4	13-1/16	20-13/16	256T	509	585
130	15-5/8	16-3/4	31-1/4	9-13/16	8	18-5/8	17	1-11/16	2-3/16	16-3/16	15-3/8	24-5/8	284T	670	770
150	16-3/4	21-1/2	33-1/2	10-11/16	8	21-1/2	19-3/4	1-15/16	2-7/16	18-7/8	18	28-3/8	286T	864	994
170	18-13/16	21-1/2	37-5/8	11-1/2	8	24-9/16	22-1/2	2-3/16	2-7/16	21-1/4	20-1/4	32-3/16	324T	1092	1255
190	19-9/16	22-3/4	39-1/8	12-5/16	8	27-1/8	24-7/8	2-7/16	2-15/16	23-3/4	22-5/8	35-13/16	364T	1353	1555
210	21-5/8	25-1/2	43-1/4	13-3/16	8	29-7/8	27-1/8	2-7/16	2-15/16	25-3/4	24-3/8	38-3/8	404T	1647	1894
230	22-1/8	26-7/8	44-1/4	15-1/8	8	32-13/16	29-13/16	2-11/16	3-7/16	28-5/16	26-13/16	42-5/8	405T	1974	2270
260	23-1/8	27-3/4	46-1/4	16-3/8	8	38-3/16	33-1/2	2-11/16	3-7/16	31-7/8	30-1/4	49-5/8	444T	2528	2907
290	23-5/8	28-3/4	47-1/4	17-5/8	8	42-11/16	37-5/8	2-15/16	3-7/16	35-3/4	33-7/8	54-7/8	444T	3157	3630

All dimensions in inches. *F, G, S and U vary with motor size. Consult factory for exact dimensions. **Shipping weights for MH model given.



Arrangements 10 Dimension Data

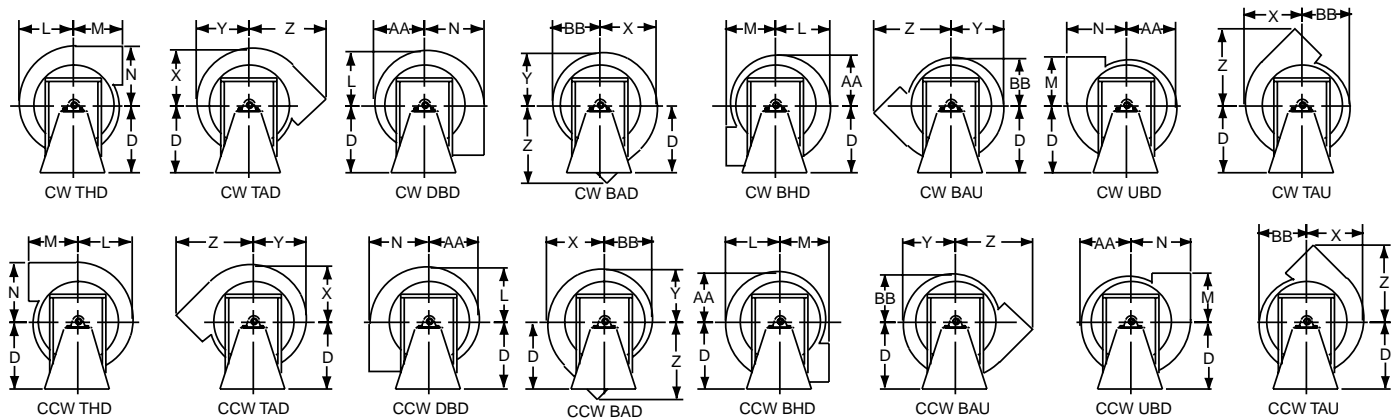


Arrangement 10 Dimension Data

Size	A	B	C	D	E	F	G	H	J	K	L	M	N
70	6-5/8	5-7/8	7	18-3/4	9-11/16	21-1/16	26-1/4	29-5/16	4	9-3/16	9-11/16	8-5/16	10-9/16
90	8-7/16	7-1/2	9	18-3/4	9-11/16	21-7/8	27-7/8	32-1/4	4	9-3/16	12-5/16	10-5/8	13-1/2
110	10-3/8	9-1/8	11	18-3/4	9-11/16	25	32-7/8	35-3/16	4	9-3/16	15-1/16	13	16-7/16
130	12-3/16	10-7/8	13	21-3/4	11-3/4	26-3/16	34-7/8	41-3/16	5	11	17-13/16	15-3/8	19-7/16
150	14-1/16	12-9/16	15	25-1/4	13	31-3/4	41-5/16	47-5/8	5	12-1/4	20-5/8	17-3/4	22-3/8
170	16	14-1/4	17	28-1/4	13-7/8	32-9/16	43	53-5/8	6	13-1/8	23-3/4	20-1/8	25-3/8
190	17-13/16	15-7/8	19	31-1/4	15-5/16	34-11/16	46	59-1/2	6	14-9/16	25-15/16	22-7/16	28-1/4
210	19-3/4	17-9/16	21	34-1/2	16-9/16	38-1/4	50-3/8	65-3/4	6	15-13/16	28-1/2	23	31-1/4
230	21-5/8	19-1/4	23	37-1/2	18-13/16	41-1/8	55-1/4	71-13/16	7	17-9/16	31-1/4	26	34-5/16
260	24-7/16	21-3/4	26	41-3/4	20-5/8	43-15/16	58-11/16	82-15/16	7	19-3/8	35-1/8	29	41-3/16
290	27-5/16	24-1/4	29	46-1/2	22-1/2	45-9/16	62-3/16	92-1/2	8	21-1/4	39-1/2	31-3/4	45-7/8

Size	P	Q	R	S	T	U	W	X	Y	Z	AA	BB	Max. Mtr. Frame*	Approx. Ship Wt. Lbs. less mtr.**	
														Standard	Heavy Duty
70	9/16	-	14-7/8	4-1/4	1-3/16	6-3/16	6	10-1/8	9-1/4	13-3/8	8-13/16	8-3/8	184T	239	275
90	9/16	-	5-1/16	5-1/16	1-7/16	7	6	12-15/16	11-3/4	17-1/16	11-3/16	10-5/8	184T	318	366
110	9/16	8-1/4	6-1/2	6-1/2	1-7/16	8-13/16	8	15-3/4	14-7/16	20-13/16	13-3/4	13-1/16	215T	424	488
130	11/16	8-3/8	7-3/8	7-3/8	1-11/16	9-13/16	8	18-5/8	17	24-5/8	16-3/16	15-3/8	215T	558	642
150	11/16	10-3/4	8-7/32	8-7/32	1-15/16	10-11/16	8	21-1/2	19-3/4	28-3/8	18-7/8	18	256T	720	828
170	11/16	10-3/4	9-1/16	9-1/16	2-3/16	11-1/2	8	24-9/16	22-1/2	32-3/16	21-1/4	20-1/4	256T	910	1046
190	11/16	11-3/8	9-15/16	9-15/16	2-7/16	12-5/16	8	27-1/8	24-7/8	35-13/16	23-3/4	22-5/8	256T	1127	1296
210	11/16	12-3/4	10-21/32	10-21/32	2-7/16	13-3/16	8	29-7/8	27-1/8	38-3/8	25-3/4	24-3/8	326T	1372	1578
230	13/16	13-7/16	12-5/16	12-5/16	2-11/16	15-1/8	8	32-13/16	29-13/16	42-5/8	28-5/16	26-13/16	326T	1645	1892
260	13/16	13-7/16	13-9/16	13-9/16	2-11/16	16-3/8	8	38-3/16	33-1/2	49-5/8	31-7/8	30-1/4	326T	2107	2423
290	13/16	14-3/8	14-13/16	14-13/16	2-15/16	17-5/8	8	42-11/16	37-5/8	54-7/8	35-3/4	33-7/8	326T	2630	3025

All dimensions in inches. *Based on single speed ODP motor. **Shipping weights for MH model given.



Flanged Inlet or Outlet



Flanged inlet or outlet connections allow for flange type duct attachment. Flanged inlet or outlet connections allow the fan to be removed without disturbing the surrounding ductwork. Flanges are factory mounted.

Dampers



Dampers are available in gravity operation and motorized control. Motorized control dampers also are available for in-duct installation. Galvanized or aluminum construction is available. Dampers are shipped loose for field installation. Motorized control damper shown.

Bolted or Hinged Access Door



Bolted or hinged access doors provide unrestricted access to the wheel for ease of maintenance and cleaning without removing the fan from the surrounding ductwork.

Shaft Cooler



A shaft cooler is required for air temperature above 300°F. The shaft cooler is an aluminum casting with radial vanes mounted on the shaft between the inboard bearing and the fan housing. It is designed to dissipate heat which is conducted along the shaft. In addition, it prevents excessive bearing temperatures.

Belt Guard, Arrangement 9 & 10

Factory installed belt guards cover drive components on all sides, and are split for quick access. Expanded metal construction is also available upon request.

Isolation Base, Arrangement 1

The isolation base, arrangement 1, is used to provide a single integral support for the fan and motor in cases where the motor is not an integral part of the fan. Isolation bases are designed to run the full length of the supported equipment and motor. The base is constructed of structural steel channel (ASTM-A36) sized to resist belt pull and maintain proper alignment between the fan and the motor. All connections are fully welded. The isolation base requires an adjustable motor slide base for motor mounting. Isolation bases are provided with mounting holes at each of the four corners and are available with optional rubber-in-shear, spring floor, or housed springfloor isolators (set of four required). Optional height saving brackets are also available.

Isolation Rails, Arrangement 9 & 10

Isolation rails are required for isolating any arrangement 9 & 10 IMH fan sizes 170 and above, unless the fan is supplied with an isolation or inertia base. Smaller fans may benefit from isolation rails if fan attachment points do not coincide with desired mounting locations. Isolation rails, supplied in pairs, are designed to run the full length of the supported equipment and can only be used on fans where the motor is an integral part of the fan. Each rail is constructed of rigid structural steel components coated with the standard factory finish, and are intended to be used in conjunction with two RIS Floor, Spring Floor, or Restrained Spring isolators depending on the needs of the application. They can also be used in ceiling mount applications with RIS Ceiling or Spring Ceiling Isolators. **Isolators are not included with the rails unless otherwise specified.** Optional seismic type isolators are also available; consult factory for more information.

Additional Accessories

Companion Flange Inlet or Outlet

Drain

OSHA Shaft and Belt Guard

Weather Cover, Arrangement 9 & 10

Shaft Seal

High Temperature Paint (181°F - 800°F)

Heat Shield (Arrangement 9 & 10 301°F - 400°F; Arrangement 9 only 401°F - 800°F)

High Temperature Grease (301°F - 800°F)

High Temperature Bearings (401°F - 800°F)



LOREN COOK COMPANY

2015 E. DALE STREET
SPRINGFIELD, MO 65803-4637

417.869.6474

FAX 417.862.3820

www.lorencook.com