

Cooling Fans

Axial Flow Fans

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		Introduction		AC Input		DC Input		Centrifugal Blowers		Cross Flow Fans		Cooling Module		Thermostats		Accessories		Installation	
		MRS	MRS	MRS	MRS	MU	MDS/MD	MB	MBD	MF	MFD	FM							
AC Input	MRS Series																		
AC Input	Variable Flow MRS Series																		
AC Input	MU Series																		
DC Input	MDS Series																		
DC Input	MD Series																		
DC Input	Long-Life MDE Series																		

Introduction

MRS

AC Input

Variable Flow

MU

DC Input

MDS/MD

DC Input

MD

Long-Life

MDE

AC Input

MB

Centrifugal

Blowers

DC Input

MBD

AC Input

MF

Cross Flow

Fans

DC Input

MFD

AC Input

FM

Cooling

Module

Thermostats

Accessories

Installation

Axial Flow Fans

●Additional Information●
Technical reference → Page G-1

Axial flow fans use a propeller to generate air flow in the direction of the axis of rotation. Capable of generating a large air flow, axial flow fans are suited for applications requiring ventilation cooling.



■ Features

● Extensive Lineup

Axial flow fans are available in a large number of sizes and voltage characteristics, from large air flow AC axial flow fans to extraordinarily compact DC axial flow fans.

● Connector Types are Available.

Connector Types are available for □180 mm (□7.09 in.) **MRS** Series, **MDS** Series and **MD** Series.

By terminating the leads with a connector, the wiring process is simplified and maintenance replacement is easy.

● Built-in Alarm Circuit

In addition to the standard type, built-in alarm types are also available which detect and signal fan rotation abnormalities.

■ Types of Axial Flow Fans

Series	Features
AC Axial Flow Fans MRS Series → Pages F-32~F-45	<ul style="list-style-type: none">● AC Axial Flow Fans● Large axial flow fans with large air flow, high static pressure and high efficiency.● The MRS Series is recognized by UL/CSA Standards and conforms to EN Standards. (Certification status differs according to the product.) CE Marking is used in accordance with the Low Voltage Directive.● RoHS-CompliantThe MRS Series conforms to the RoHS Directive.
AC Axial Flow Fans MRS Series Variable Flow Type → Pages F-46~F-47	<ul style="list-style-type: none">● AC Axial Flow Fans● An internal power control device allows adjustment of airflow.
AC Axial Flow Fans MU Series → Pages F-48~F-55	<ul style="list-style-type: none">● Compact AC axial flow fans● The MU Series is recognized by UL/CSA Standards and the Electrical Appliance and Material Safety Law (Japan), and conforms to EN Standards. (Certification status differs according to the product.) CE Marking is used in accordance with the Low Voltage Directive.● RoHS-CompliantThe MU Series conforms to the RoHS Directive.
DC Axial Flow Fans MDS Series MD Series → Pages F-56~F-73	<ul style="list-style-type: none">● DC axial flow fans● The MDS and MD Series is recognized by UL/CSA Standards and conforms to EN Standards. CE Marking is used in accordance with the EMC Directive. (Certification status differs according to the product.)● RoHS-CompliantThe MDS and MD Series conform to the RoHS Directive.
DC Long-Life Fans MDE Series → Pages F-74~F-77	<ul style="list-style-type: none">● Compact DC axial flow fans● The MDE Series is recognized by UL/CSA Standards and conforms to EN Standards. (Except MDE1451 type.) CE Marking is used in accordance with the EMC Directive. (Certification status differs according to the product.)● RoHS-CompliantThe MDE Series conforms to the RoHS Directive.

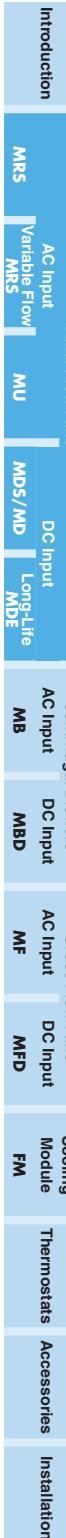
● Details of safety standards → Page H-2 ● For detailed product safety standard information including standards, file number and certification body, please visit www.orientalmotor.com.

Lineup

●: Standard Type ■: Alarm Type ◆: Pulse Sensor Type

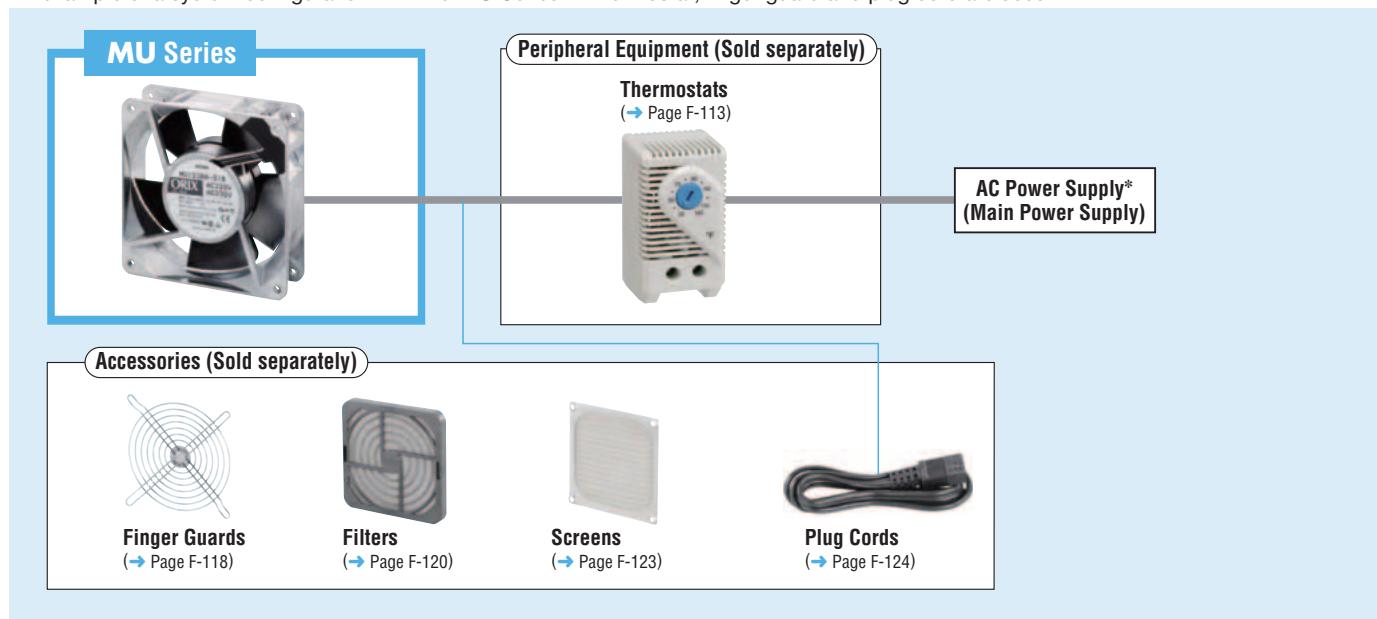
Series	Power Supply Voltage	Frame Size [mm (in.)]											
		□250 (□9.84)	□200 (□7.87)	□180 (□7.09)	Φ172 (Φ6.77)	□160 (□6.30)	□140 (□5.51)	□119 (□4.69)	□92 (□3.62)	□80 (□3.15)	□62 (□2.44)	□52 (□2.05)	□42 (□1.65)
AC Axial Flow Fans MRS Series → Pages F-32~F-45	Single-Phase 100/110/115 VAC	●■	●■	●■		●■							
	Single-Phase 200/220/230 VAC	●■	●■*	●■*		●■*							
	Three-Phase 200/220/230 VAC	●■	●■	●■		●■	●■						
AC Axial Flow Fans MRS Series Variable Flow Type → Pages F-46~F-47	Single-Phase 100/115 VAC			●									
	Single-Phase 220/230 VAC			●									
AC Axial Flow Fans MU Series → Pages F-48~F-55	Single-Phase 115 VAC						●	●	●				
	Single-Phase 220/230 VAC						●	●	●				
DC Axial Flow Fans MDS Series MD Series → Pages F-56~F-73	5 VDC										●	●	
	12 VDC						●■◆	●■◆	●■◆	●■◆	●■	●■	
	24 VDC			●■◆◆		●■◆◆	●■◆◆	●■◆◆	●■◆◆	●■	●■	●■	
	48 VDC					●■◆◆							
DC Long-Life Fans MDE Series → Pages F-74~F-77	12 VDC							■					
	24 VDC						■	■					
	48 VDC						■						

* The product for single-phase 220 VAC is not available.



System Configuration

An example of a system configuration with the **MU** Series. A thermostat, finger guard and plug cord are used.



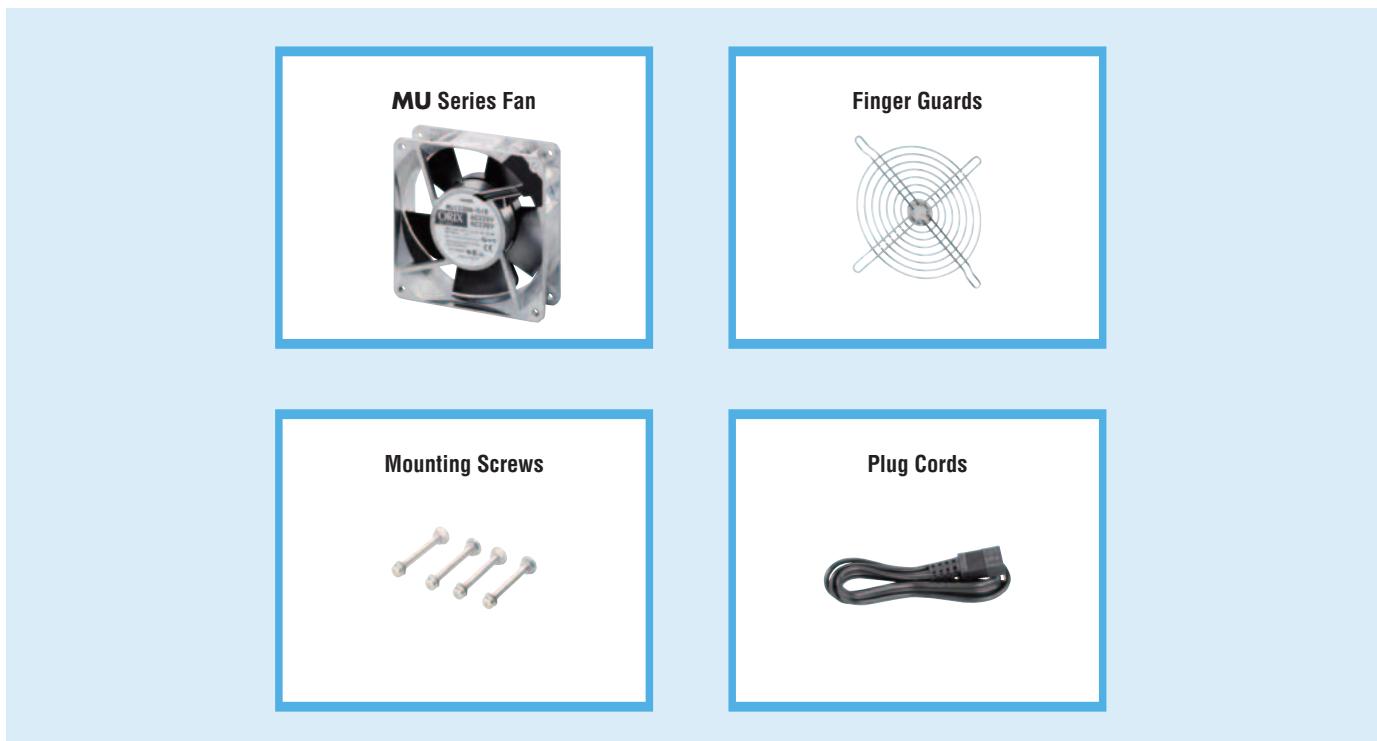
●Example of System Configuration

Fan	+	Sold Separately		
MU1238A-21B		Thermostat	Finger Guard	Plug Cord [1 m (3.3 ft.)]
		AM1-WA1	FG12D	PCA2B

●The system configuration shown above is an example. Other combinations are available.

*Not supplied

A fan kit containing all necessary accessories in one package is available.



Fan Kit	Package Contents			
	Fan	Finger Guard	Plug Cord [1 m (3.3 ft.)]	Mounting Screws
T-MU1238A-21-GP	MU1238A-21B	FG12D	PCA2B	M4×55 mm (2.17 in.)

General Specifications

AC Axial Flow Fans

Item	Specifications
Insulation Resistance	100 MΩ or more when 500 VDC megger is applied between the windings and the frame after continuous operation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 1.5 kVAC at 50 Hz applied between the windings and the frame for 1 minute after continuous operation under normal ambient temperature and humidity.
Temperature Rise	30°C (54°F) or less measured by the thermometer method after the temperature of the case has stabilized after continuous operation under normal ambient temperature and humidity.
Operating Voltage Range	±10% of the rated voltage
Thermal Class	UL/CSA standards: 105 (A), EN standards: 120 (E)
Overheat Protection	MRS Series has built-in thermal protector. (automatic return type) Open: 120±5°C (248±9°F), Close: 77±15°C (170.6±27°F) MU Series is impedance protected.
Operating Environment	Provided in a separate box.
Storage Condition	Provided in a separate box.
Color	MRS Series Frame: Dark Gray Blades: Black MU Series Frame: Unpainted (Aluminum) Blades: Black
Materials	Frame: Die cast aluminum Blades: Polycarbonate (Flammability grade: V-0)

Operating Environment and Storage Condition

Series	Operating Environment ^{*1}		Storage Condition ^{*1 *2}		Environmental Standards
	Ambient Temperature	Ambient Humidity	Ambient Temperature	Ambient Humidity	
MU, MRS Series	−30~+60°C (−22~+140°F)	85% or less (non-condensing)	−40~+70°C (−40~+158°F)	85% or less (non-condensing)	Compliant with ETSI standards ^{*3}
MRS Series Low-Speed Alarm Type	−20~+60°C (−4~+140°F)		−20~+70°C (−4~+158°F)		
MRS Series Variable Flow Type	−10~+60°C (+14~+140°F)	85% or less (non-condensing)	−	−	−

*1 The operating environment and storage conditions require no condensation, no freezing and no vibration or external force other from the fan.

*2 The storage condition applies to a short period such as a period during transportation.

*3 The operating environment and storage condition are compliant with the following environmental standards:

ETSI EN 300 019-2-1 V2.1.2 (2000-09) Class 1.3E Storage

ETSI EN 300 019-2-2 V2.1.2 (1999-09) Class 2.3 Transportation

ETSI EN 300 019-2-3 V2.2.2 (2003-04) Class 3.4 Stationary use

Test Name	Environmental Standards	Conditions and Test Details
Heat Cycle Test	ETSI EN 300 019-2-1 ETSI EN 300 019-2-2 ETSI EN 300 019-2-3	5 cycles at −40~+30°C (−40~+86°F), temperature gradient: 1.0°C (1.8°F)/min. Low temperature: [−40°C (−40°F)], High temperature: [+30°C (+86°F)]. Shelf time: 3 hours No abnormality after the test.
Low-Temperature Shelf Test		−45°C (−49°F). Shelf time: 72 hours. No abnormality after the test.

Environmental Standards: ETSI

ETSI is the abbreviation for the European Telecommunications Standards Institute, and is a standardization organization established to formulate standard models for telecommunications in Europe. The ETSI EN 300 series are standards based on IEC 60721, established for environmental conditions for devices, and provide specific definitions of environmental conditions along with test conditions.

DC Axial Flow Fans

Item	Specifications
Insulation Resistance	10 MΩ or more when 250 VDC megger (For MDS1751-24B, -24S, MDS1451 : 500 VDC megger) is applied between the windings and the frame after continuous operation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 500 V at 50 Hz applied between the windings and the frame for 1 minute after continuous operation under normal ambient temperature and humidity.
Temperature Rise	10°C (18°F) or less measured by the thermometer method after the temperature of the case has stabilized after continuous operation under normal ambient temperature and humidity. (MDS1751: 5°C [9°F] or less, MDS1451: 15°C [27°F] or less)
Operating Voltage Range	±15% of the rated voltage MDS510, MDS410, MDS1225-12M, -24M: ±10% of the rated voltage
Thermal Class	UL/CSA standards: 105 (A), EN standards: 120 (E)
Overheat Protection	Built-in overheat protection circuit
Ambient Temperature	−10~+60°C (+14~+140°F)
Ambient Humidity	85% or less (non-condensing)
Color	Frame: Black: MD925, MD825, MD625, MDS510, MDS410 Dark Gray: MDE1451, MDE1225 Unpainted (Aluminum): MDS1751, MDS1451, MDS1225, MD1225 Blades: Black
Materials	Fan Frame: Die cast aluminum: MDS1751, MDS1451, MDS1225, MD1225, MDE1451, MDE1225 Polycarbonate (Flammability grade V-0): MD925, MD825, MD625, MDS510, MDS410 Blades: Polycarbonate (Flammability grade V-0): MDS1751, MDS1451, MDS1225, MD1225, MD925, MD825, MD625, MDE1451, MDE1225 PBT (Flammability grade: V-0): MDS510, MDS410

■ Product Number Code

● AC Axial Flow Fans

◇ MRS Series

MRS 18 □ - BMH

(1) (2) (3) (4) (5) (6)

(1)	Series	MRS: MRS Series
(2)	Frame Size	14: 140 mm (5.51 in.) 16: 160 mm (6.30 in.) 18: 180 mm (7.09 in.) 20: 200 mm (7.87 in.) 25: 250 mm (9.84 in.)
(3)		V2: Variable Flow
(4)	Power Supply	B: Single-Phase 100/110/115 VAC
(5)	Voltage	D: Single-Phase 200/220/230 VAC T: Three-phase 200/220/230 VAC
(6)	Additional Functions	M: Low-Speed Alarm, Electronic Alarm Type B: Low-Speed Alarm, Contact Alarm Type TM: Low-Speed Alarm, Electronic Alarm Type TA: Low-Speed Alarm, Contact Alarm Type UL: Standard Type
(7)	Connection Type	Blank: Connection with lead wire type or terminal box type H: Connector Type

◇ MU Series

MU 12 38 A - 2 1 B

(1) (2) (3) (4) (5) (6) (7)

(1)	Series	MU: MU Series
(2)	Frame Size	8: 80 mm (3.15 in.) 9: 92 mm (3.62 in.) 12: 119 mm (4.69 in.)
(3)	Frame Thickness	25: 25 mm (0.98 in.) 38: 38 mm (1.50 in.)
(4)	Speed Type	A, S: Standard Speed M, B: Middle Speed L: Low Speed
(5)	Power Supply Voltage	2: Single-Phase 115 VAC 5: Single-Phase 220/230 VAC
(6)	Power Connection	1: 2-Terminal 3: Lead Wire Type
(7)	Reference Number	

● Fan Kit

T- MRS18-BMH G

(1) (2) (3)

(1)	Fan Kit Order Code
(2)	Fan Model Name
(3)	G: With finger guard and mounting screws GP: With finger guard, plug cord and mounting screws F: With filter and mounting screws

● DC Axial Flow Fans

◇ MDS, MD and MDE Series

MD 9 25 A - 12 LH □

(1) (2) (3) (4) (5) (6) (7) (8)

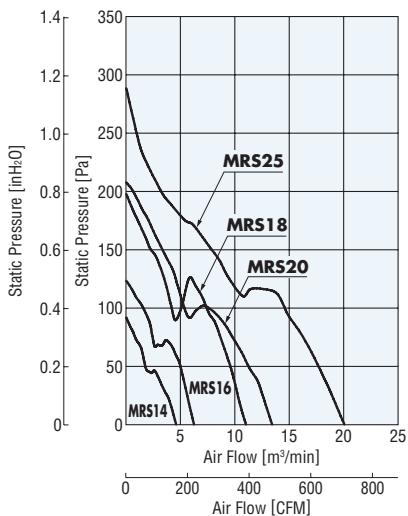
(1)	Series	MDS: MDS Series MD: MD Series MDE: MDE Series
(2)	Frame Size	4: 42 mm (1.65 in.) 5: 52 mm (2.05 in.) 6: 62 mm (2.44 in.) 8: 80 mm (3.15 in.) 9: 92 mm (3.62 in.) 12: 119 mm (4.69 in.) 14: 140 mm (5.51 in.) 17: φ172 mm (φ6.77 in.)
(3)	Frame Thickness	10: 10 mm (0.39 in.) 25: 25.4 mm (1.00 in.) 51: 51 mm (2.01 in.)
(4)	Speed Type	Blank, A, B: Standard Speed AM, BM: Middle Speed AL, BL: Low Speed
(5)	Power Supply Voltage	5: 5 VDC 12: 12 VDC 24: 24 VDC 48: 48 VDC
(6)	Additional Functions	B: Low-Speed Alarm, Contact Alarm Type M: Low-Speed Alarm, Electronic Alarm Type L: Stall Alarm, Electronic Alarm Type S: Pulse Sensor Type
(7)	Connection Type	Blank: Lead wire type H: Connector Type
(8)	Reference Number	

Comparison of Characteristics

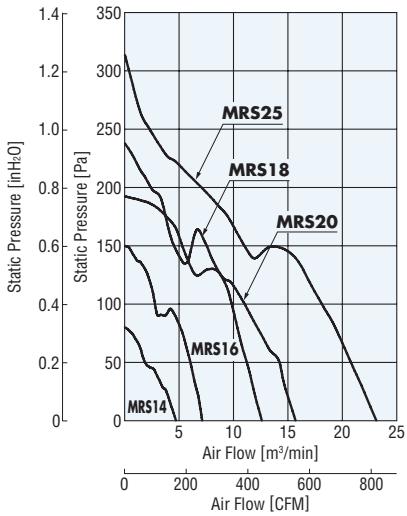
● AC Axial Flow Fans

◇ MRS Series

• 50 Hz



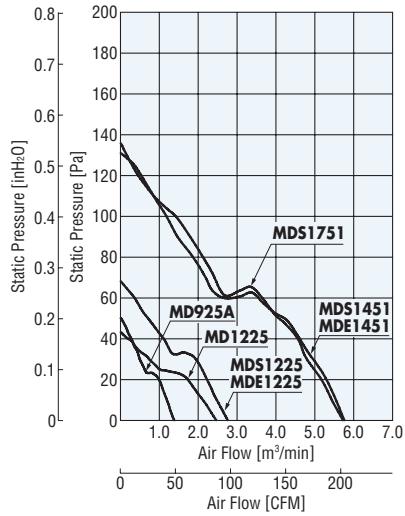
• 60 Hz



● DC Axial Flow Fans

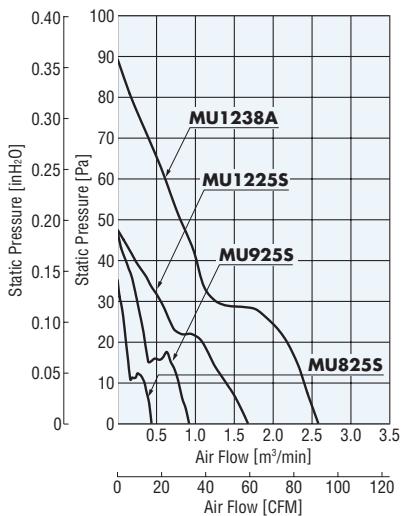
◇ MDS, MD and MDE Series

• MDS1751, MDS1451, MDS1225, MD1225, MD925A, MDE1451, MDE1225

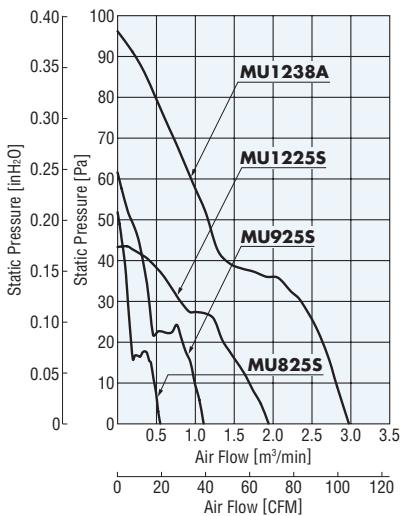


◇ MU Series

• 50 Hz

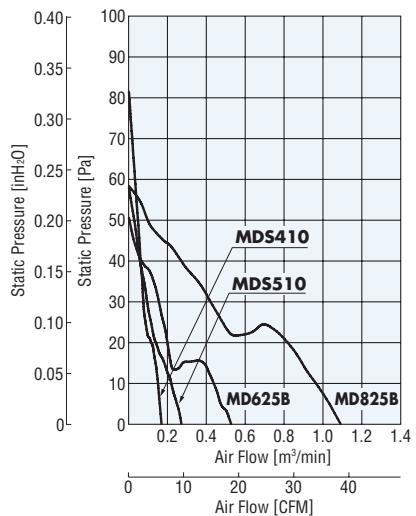


• 60 Hz



◇ MDS, MD Series

• MD825B, MD625B, MDS510, MDS410



MRS Series

□250 mm – 120 mm Thick
(□9.84 in. – 4.72 in. Thick)



Operating Voltage Range: ±10%

Materials

Frame: Die Cast Aluminum

Blades: Polycarbonate (Flammability grade V-0)

Overheat Protection: Built-in Thermal Protector

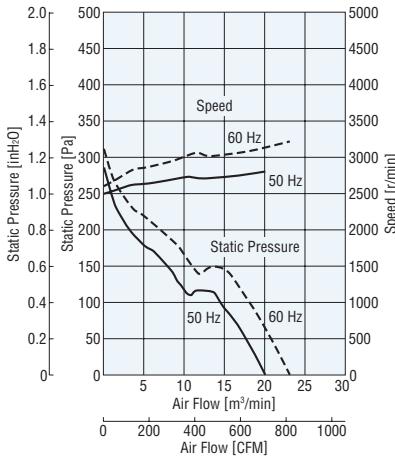
Bearings: Ball Bearings

**Specifications** (RoHS)

Model		Standard Type	Voltage	Frequency	Current	Input	Speed	Max. Air Flow	Max. Static Pressure	Noise Level	Capacitor		
Low-Speed Alarm	Electronic Alarm Type (Alarm specifications: ②)		VAC	Hz	A	W	r/min	m³/min	CFM	Pa	inH₂O	dB (A)	μF
MRS25-BM	MRS25-BB	MRS25-B	Single-Phase 100	50	0.8	80	2800	21	742	290	1.16	58	16
			Single-Phase 100	60	1.1	110	3220	24	848	320	1.28	62	
			Single-Phase 110	60	1.1	120	3280	24	848	340	1.36	62	
			Single-Phase 115	60	1.1	125	3300	24	848	360	1.45	62	
MRS25-DM	MRS25-DB	MRS25-D	Single-Phase 200	50	0.4	85	2790	21	742	290	1.16	58	4.5
			Single-Phase 200	60	0.7	120	3220	24	848	320	1.28	62	
			Single-Phase 220	50	0.4	95	2820	21	742	310	1.24	58	
			Single-Phase 220	60	0.7	130	3260	24	848	360	1.45	62	
			Single-Phase 230	50	0.5	100	2830	21	742	320	1.28	58	
			Single-Phase 230	60	0.7	135	3290	24	848	360	1.45	62	
MRS25-TM	MRS25-TB	MRS25-T	Three-Phase 200	50	0.4	70	2830	21	742	310	1.24	58	–
			Three-Phase 200	60	0.4	100	3270	24	848	360	1.45	62	
			Three-Phase 220	50	0.4	80	2850	21	742	320	1.28	58	
			Three-Phase 220	60	0.4	105	3320	25	883	390	1.57	62	
			Three-Phase 230	60	0.4	105	3340	25	883	410	1.65	63	

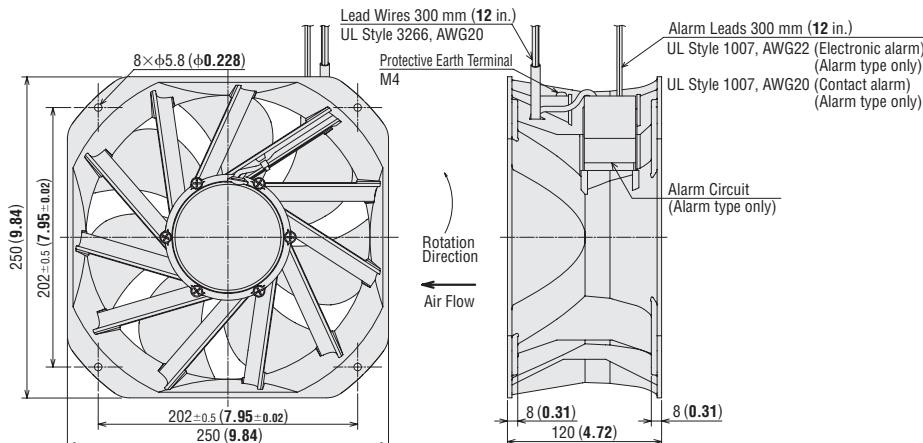
● Alarm specifications ②, ⑤ → Page F-21 ● Details of safety standards → Page H-2

The following items are included in each product.

Fan, Capacitor*, Capacitor Cap*, Operating Manual
*Single-phase fans only**Air Flow – Static Pressure Characteristics****Dimensions** Unit = mm (in.)

Mass: 4.1 kg (9.0 lb.)

DXF E097



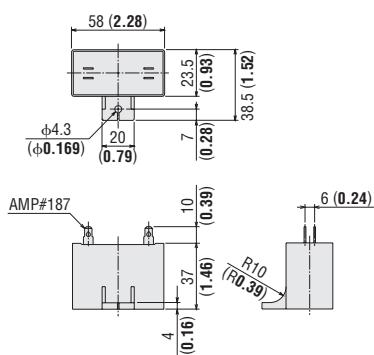
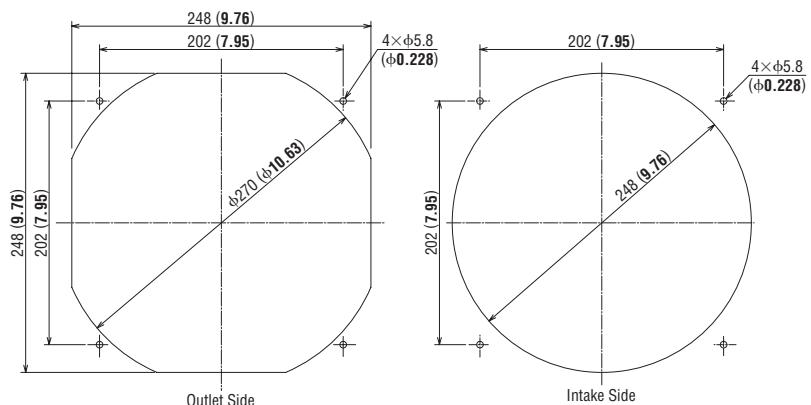
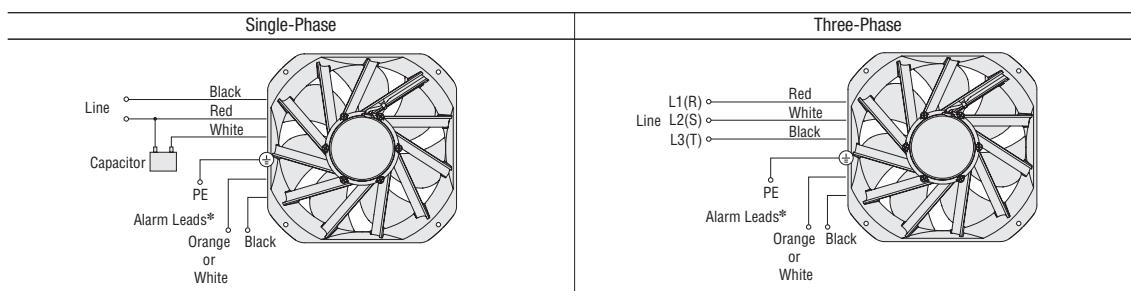
□250 mm (□9.84 in.)
□200 mm (□7.87 in.)
□180 mm (□7.09 in.)
□160 mm (□6.30 in.)
□140 mm (□5.51 in.)
□119 mm (□4.69 in.)
□92 mm (□3.62 in.)
□80 mm (□3.15 in.)

Capacitor (Included)**For MRS25-B□ and MRS25-D□**

CH160CFAUL Mass: 75 g (2.6 oz.)

CH45BFAUL Mass: 73 g (2.6 oz.)

(A capacitor and capacitor cap are included with single-phase fans.)

**Panel Cut-Out Unit = mm (in.)****Connection Diagrams**

* Alarm type only

● How to connect a capacitor → Page F-129

Accessories

Product	Model	Page
Finger Guard	FG25D	F-118

Thermostats

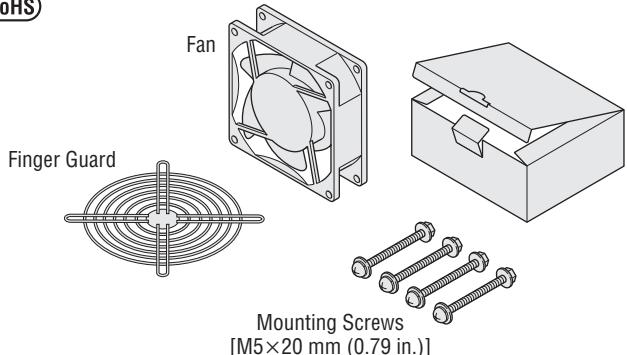
A thermostat makes it possible for fans to operate only when cooling is necessary, thereby conserving energy.

Thermostats **AM1-WA1/AM1-XA1**

● Page → F-113

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.

**Product Line**

Fan Kit Model

T-MRS25-BM-G	T-MRS25-TB-G
T-MRS25-DM-G	T-MRS25-B-G
T-MRS25-TM-G	T-MRS25-D-G
T-MRS25-BB-G	T-MRS25-T-G
T-MRS25-DB-G	—

● See page F-32 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

(□250 mm
□9.84 in.)(□200 mm
□7.87 in.)(□180 mm
□7.09 in.)(□160 mm
□6.30 in.)(□140 mm
□5.51 in.)(□119 mm
□4.69 in.)(□92 mm
□3.62 in.)(□80 mm
□3.15 in.)**MRS Series**

□200 mm – 90 mm Thick
(□7.87 in. – 3.54 in. Thick)



Operating Voltage Range: ±10%

Materials

Frame: Die Cast Aluminum

Blades: Polycarbonate (Flammability grade V-0)

Overheat Protection: Built-in Thermal Protector

Bearings: Ball Bearings

**■ Specifications (RoHS)**

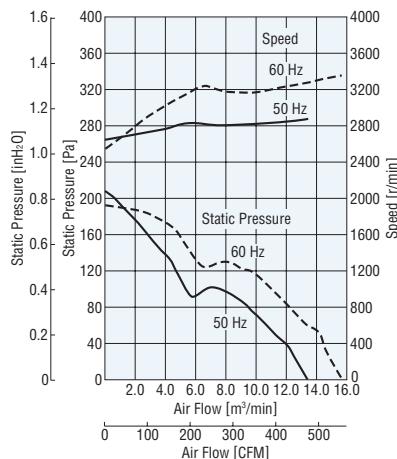
Model		Voltage	Frequency	Current	Input	Speed	Max. Air Flow		Max. Static Pressure	Noise Level	Capacitor	
Low-Speed Alarm, Electronic Alarm Type (Alarm specifications: ②)	Standard Type	VAC	Hz	A	W	r/min	m³/min	CFM	Pa	inH₂O	dB (A)	µF
MRS20-BM	MRS20-BUL	Single-Phase 100	50	0.8	75	2850	13.2	466	221	0.886	56	6.0
		Single-Phase 100	60	1.0	95	3350	15.5	547	186	0.746	60	
		Single-Phase 110	60	1.0	95	3400	15.5	547	255	1.02	61	
		Single-Phase 115	60	1.0	95	3400	15.5	547	265	1.06	61	
MRS20-DM	MRS20-DUL	Single-Phase 200	50	0.4	75	2850	13.2	466	221	0.886	56	6.0
		Single-Phase 200	60	0.5	95	3350	15.5	547	186	0.746	60	
		Single-Phase 230	60	0.5	95	3400	15.5	547	265	1.06	61	
MRS20-TM	MRS20-TUL	Three-Phase 200	50	0.4	75	2850	13.2	466	221	0.886	56	–
		Three-Phase 200	60	0.4	95	3350	15.5	547	265	1.06	60	
		Three-Phase 220	60	0.4	95	3400	15.5	547	265	1.06	61	
		Three-Phase 230	60	0.4	95	3400	15.5	547	265	1.06	61	

● Alarm specifications ② → Page F-21 ● Details of safety standards → Page H-2

The following items are included in each product.

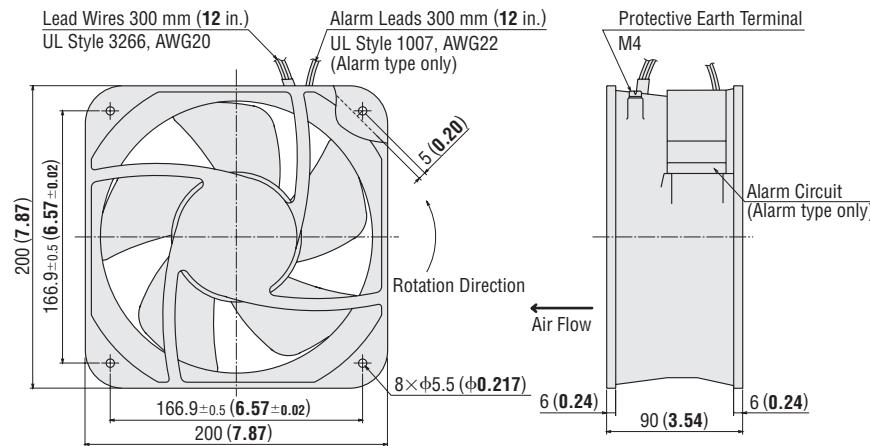
Fan, Capacitor*, Capacitor Cap*, Operating Manual

*Single-phase fans only

■ Air Flow – Static Pressure Characteristics**■ Dimensions Unit = mm (in.)**

Mass: 2.5 kg (5.5 lb.)

DXF E001

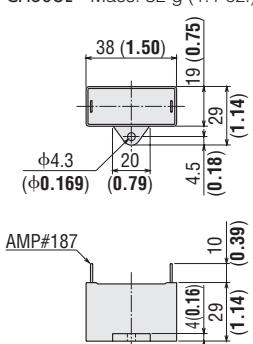


- Capacitor (Included)

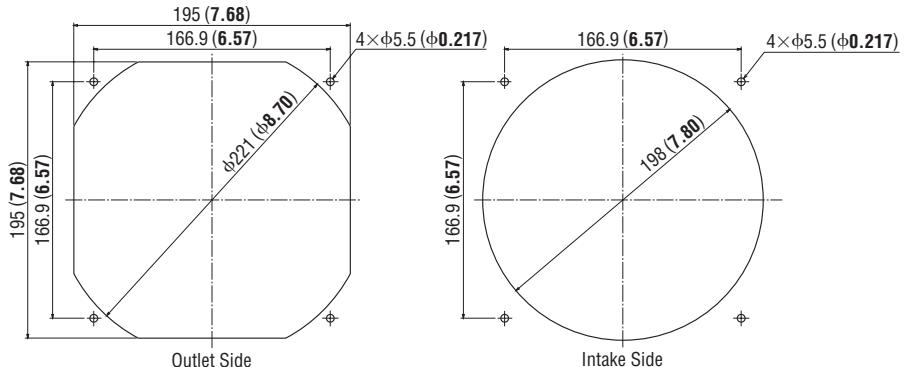
(A capacitor and capacitor cap are included with single-phase fans.)

◇For **MRS20-B**□□ and **MRS20-D**□□

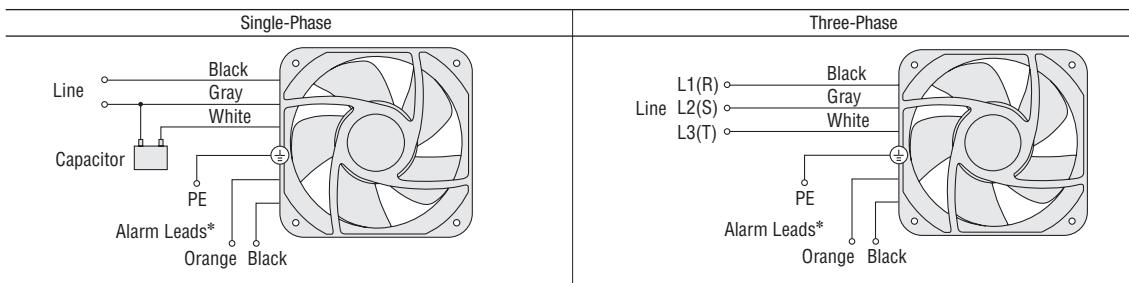
CH60UJ Mass: 32 g (1.1 oz.)



Panel Cut-Out Unit = mm (in.)



■ Connection Diagrams



* Alarm type only

- How to connect a capacitor → Page F-129

Accessories

Product	Model	Page
Finger Guard	FG20D	F-118

Thermostats

A thermostat makes it possible for fans to operate only when cooling is necessary, thereby conserving energy.

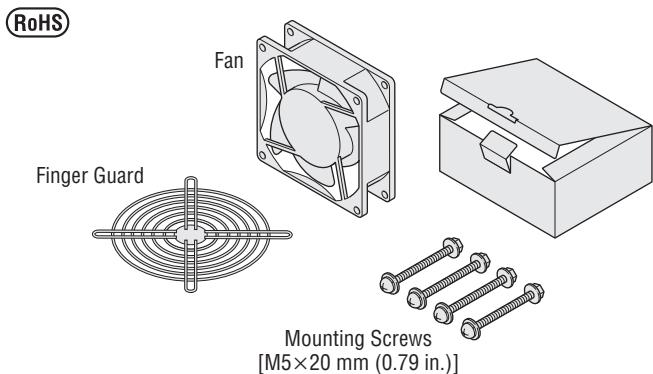


Thermostats **AM1-WA1/AM1-XA1**

● Page → F-113

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.



● Product Line

Fan Kit Model

T-MRS20-BM-G	T-MRS20-BUL-G
T-MRS20-DM-G	T-MRS20-DUL-G
T-MRS20-TM-G	T-MRS20-TUL-G

- See page F-34 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

(□250 mm
□9.84 in.)
(□200 mm
□7.87 in.)
(□180 mm
□7.09 in.)
(□160 mm
□6.30 in.)
(□140 mm
□5.51 in.)
(□119 mm
□4.69 in.)
(□92 mm
□3.62 in.)
(□80 mm
□3.15 in.)

MRS Series

180 mm – 90 mm Thick
 (□7.09 in. – 3.54 in. Thick)



Terminal Box Type

Operating Voltage Range: ±10%

Materials

Frame: Die Cast Aluminum

Blades: Polycarbonate (Flammability grade V-0)

Overheat Protection: Built-in Thermal Protector

Bearings: Ball Bearings

**Specifications (RoHS)**

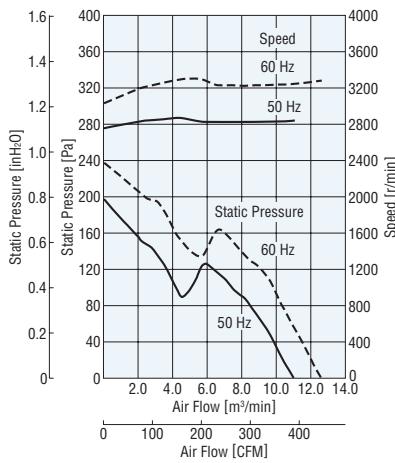
Model			Voltage	Frequency	Current	Input	Speed	Max. Air Flow		Max. Static Pressure	Noise Level	Capacitor	
Type	Connector Type	Terminal Box Type	VAC	Hz	A	W	r/min	m³/min	CFM	Pa	inH ₂ O	dB (A)	µF
Low-Speed Alarm, Electronic Alarm Type (Alarm specifications: ②)	MRS18-BMH	MRS18-BTM	Single-Phase 100	50	0.8	54.5	2850	11.0	388	196	0.786	56	6.0
			Single-Phase 100	60	1.0	76	3300	12.8	452	245	0.982	60	
			Single-Phase 110	60	1.0	81	3350	12.8	452	245	0.982	61	
			Single-Phase 115	60	1.0	84	3350	12.8	452	245	0.982	61	
	MRS18-DMH	MRS18-DTM	Single-Phase 200	50	0.4	54.5	2850	11.0	388	196	0.786	56	6.0
			Single-Phase 200	60	0.5	70	3300	12.8	452	245	0.982	60	
			Single-Phase 230	60	0.5	77	3350	12.8	452	245	0.982	61	
	MRS18-TMH	MRS18-TTM	Three-Phase 200	50	0.4	52	2850	11.0	388	196	0.786	56	—
			Three-Phase 200	60	0.4	70	3300	12.8	452	245	0.982	60	
			Three-Phase 220	60	0.4	74	3350	12.8	452	245	0.982	61	
			Three-Phase 230	60	0.4	76	3350	12.8	452	245	0.982	61	
Standard Type	MRS18-BH	MRS18-BUL	Single-Phase 100	50	0.8	54.5	2850	11.0	388	196	0.786	56	6.0
			Single-Phase 100	60	1.0	76	3300	12.8	452	245	0.982	60	
			Single-Phase 110	60	1.0	81	3350	12.8	452	245	0.982	61	
			Single-Phase 115	60	1.0	84	3350	12.8	452	245	0.982	61	
	MRS18-DH	MRS18-DUL	Single-Phase 200	50	0.4	54.5	2850	11.0	388	196	0.786	56	6.0
			Single-Phase 200	60	0.5	70	3300	12.8	452	245	0.982	60	
			Single-Phase 230	60	0.5	77	3350	12.8	452	245	0.982	61	
	MRS18-TH	MRS18-TUL	Three-Phase 200	50	0.4	52	2850	11.0	388	196	0.786	56	—
			Three-Phase 200	60	0.4	70	3300	12.8	452	245	0.982	60	
			Three-Phase 220	60	0.4	74	3350	12.8	452	245	0.982	61	
			Three-Phase 230	60	0.4	76	3350	12.8	452	245	0.982	61	

● Only terminal box type is VDE certified.

● Alarm specifications ② → Page F-21 ● Details of safety standards → Page H-2

The following items are included in each product.

- **MRS18-□H**
Fan, Cable with Connector, Operating Manual
- **MRS18-□TM**
Fan, Capacitor*, Capacitor Cap*, Operating Manual
* Single-phase fans only
- **MRS18-□UL**
Fan, Operating Manual

Air Flow – Static Pressure Characteristics**Long-Life Axial Flow Fans
MRE Series NEW**

The **MRE** Series is available as a long life version of the **MRS** Series products.

These AC input long-life axial flow fans have 100,000 hour life expectancy. For more details on the **MRE** Series, please visit www.orientalmotor.com



Dimensions Unit = mm (in.)

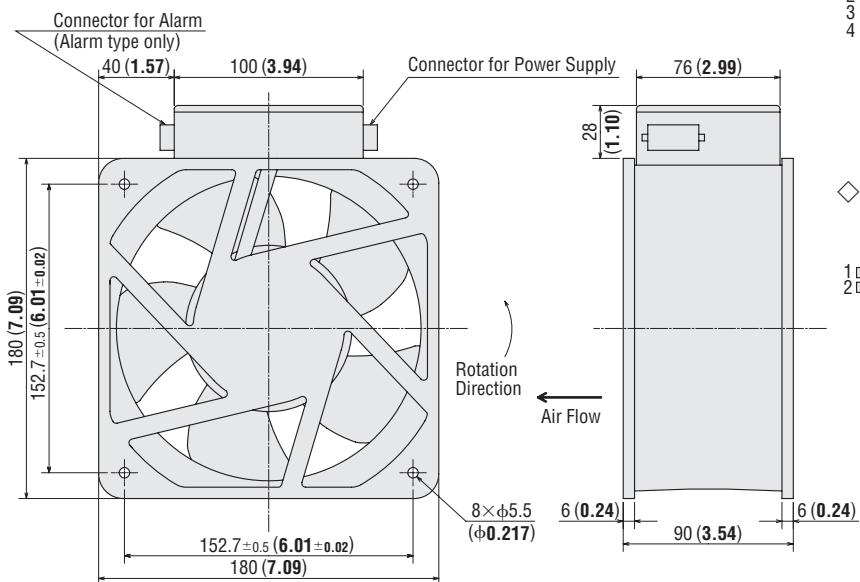
Connector Type

Fan

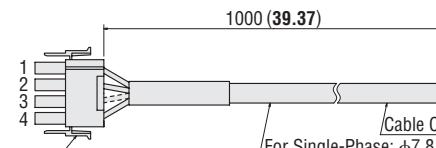
Mass: 2.5 kg (5.5 lb.)

Alarm Type/ **DXF** E126

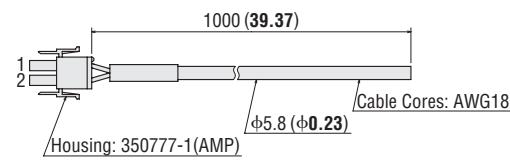
Standard Type/ **DXF** E127



Cable for Connection to Power Supply (Included)



Cable for Alarm (Included with alarm type)



Terminal Box Type

Fan

Mass: 2.5 kg (5.5 lb.)

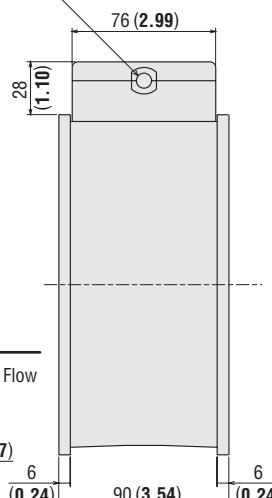
DXF E002

Alarm Leads 300 mm (12 in.)

UL Style 1007, AWG22
(Alarm type only)

40 (1.57) 100 (3.94)

Plastic Grommet Inner Diameter
Φ8 (Φ0.31)

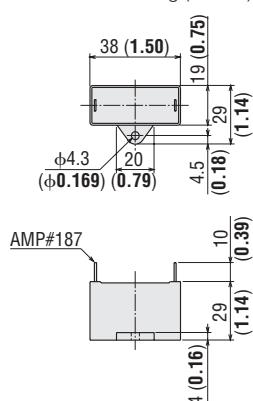


Capacitor (Included)

Capacitor and capacitor cap are included with single-phase alarm type fans. Single-phase standard type fans contain a built-in capacitor.

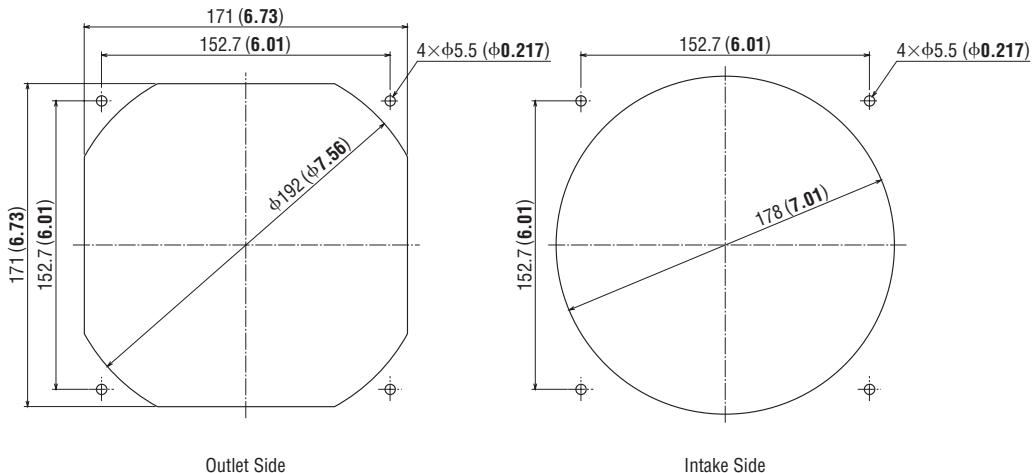
For **MRS18-BTM** and **MRS18-DTM**

CH60UL Mass: 32 g (1.1 oz.)



□ 250 mm
(□ 9.84 in.)
□ 200 mm
(□ 7.87 in.)
□ 180 mm
(□ 7.09 in.)
□ 160 mm
(□ 6.30 in.)
□ 140 mm
(□ 5.51 in.)
□ 119 mm
(□ 4.69 in.)
□ 92 mm
(□ 3.62 in.)
□ 80 mm
(□ 3.15 in.)

Panel Cut-Out Unit = mm (in.)



Connection Diagrams

Connector Type

MRS18-BMH MRS18-DMH	Alarm Cable Orange Blue Power Supply Cable Black White N Green/Yellow PE	MRS18-BH MRS18-DH	Power Supply Cable Black White N Green/Yellow PE
MRS18-TMH	Alarm Cable Orange Blue Power Supply Cable Red White L1 (R) L2 (S) Black L3 (T) Green/Yellow PE	MRS18-TH	Power Supply Cable Red White L1 (R) L2 (S) Black L3 (T) Green/Yellow PE

Terminal Box Type

MRS18-BTM MRS18-DTM	Line Capacitor PE Orange Black Alarm Leads	MRS18-BUL MRS18-DUL	Line PE	Inside of the Terminal Box
MRS18-TTM	Line L1(R) L2(S) L3(T) PE Orange Black Alarm Leads	MRS18-TUL	Line L1(R) L2(S) L3(T) PE	Protective Earth Terminal M4 Lead Wire Entry Terminal Attachment Screws 3×M4

● How to connect a capacitor → Page F-129

■ Accessories

Product	Model	Page
Finger Guard	FG18D	F-118
Filter	FL18	F-120

■ Thermostats

A thermostat makes it possible for fans to operate only when cooling is necessary, thereby conserving energy.

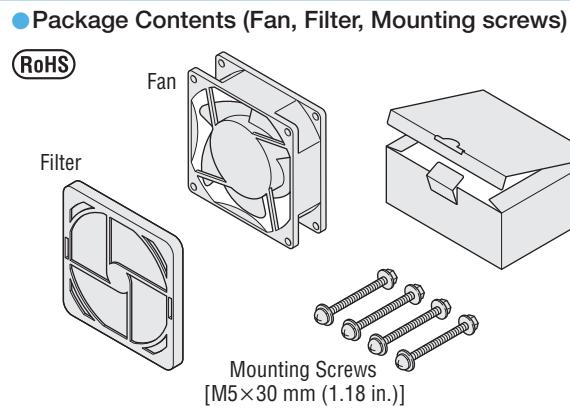
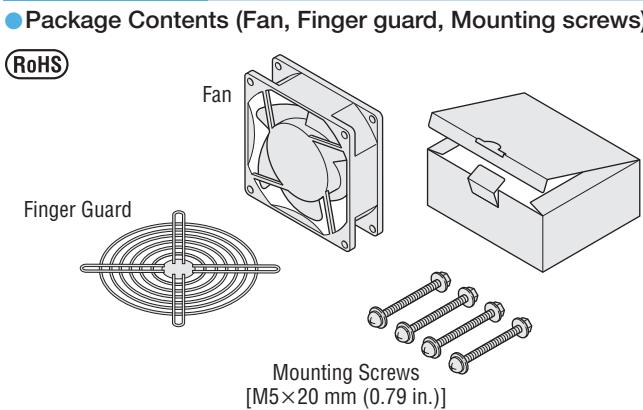


Thermostats **AM1-WA1/AM1-XA1**

● Page → F-113

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.



◇ Product Line (Fan, Finger guard, Mounting screws)

- Connector Type

Fan Kit Model
T-MRS18-BMHG
T-MRS18-DMHG
T-MRS18-TMHG
T-MRS18-BHG
T-MRS18-DHG
T-MRS18-THG

- Terminal Box Type

Fan Kit Model
T-MRS18-BTM-G
T-MRS18-DTM-G
T-MRS18-TTM-G
T-MRS18-BUL-G
T-MRS18-DUL-G
T-MRS18-TUL-G

● See page F-36 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

◇ Product Line (Fan, Filter, Mounting screws)

- Connector Type

Fan Kit Model
T-MRS18-BMF
T-MRS18-DMF
T-MRS18-TMF
T-MRS18-BHF
T-MRS18-DHF
T-MRS18-THF

- Terminal Box Type

Fan Kit Model
T-MRS18-BTM-F
T-MRS18-DTM-F
T-MRS18-TTM-F
T-MRS18-BUL-F
T-MRS18-DUL-F
T-MRS18-TUL-F

● See page F-36 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

(□250 mm
□9.84 in.)
(□200 mm
□7.87 in.)
(□180 mm
□7.09 in.)
(□160 mm
□6.30 in.)
(□140 mm
□5.51 in.)
(□119 mm
□4.69 in.)
(□92 mm
□3.62 in.)
(□80 mm
□3.15 in.)

MRS Series

160 mm – 62 mm Thick
 (□6.30 in. – 2.44 in. Thick)



Operating Voltage Range: ±10%

Materials

Frame: Die Cast Aluminum

Blades: Polycarbonate (Flammability grade V-0)

Overheat Protection: Built-in Thermal Protector

Bearings: Ball Bearings

**Specifications (RoHS)**

Model		Voltage	Frequency	Current	Input	Speed	Max. Air Flow		Max. Static Pressure		Noise Level	Capacitor
Low-Speed Alarm	Standard Type						VAC	Hz	A	W	r/min	
MRS16-BTM	MRS16-BTA	MRS16-BUL	Single-Phase 100	50	0.47	39	2800	6.2	219	127	0.509	49
			Single-Phase 100	60	0.46	41	3250	7.3	258	157	0.63	52
			Single-Phase 110	60	0.48	48	3300	7.3	258	157	0.63	53
			Single-Phase 115	60	0.49	51	3300	7.3	258	157	0.63	53
MRS16-DTM	MRS16-DTA	MRS16-DUL	Single-Phase 200	50	0.24	39	2800	6.2	219	127	0.509	49
			Single-Phase 200	60	0.24	41	3250	7.3	258	157	0.63	52
			Single-Phase 230	60	0.25	51	3300	7.3	258	157	0.63	53
MRS16-TTM	MRS16-TTA	MRS16-TUL	Three-Phase 200	50	0.19	33	2800	6.2	219	127	0.509	49
			Three-Phase 200	60	0.17	37	3250	7.3	258	157	0.63	52
			Three-Phase 220	60	0.18	41	3300	7.3	258	157	0.63	53
			Three-Phase 230	60	0.18	43	3300	7.3	258	157	0.63	53

● Alarm specifications ②, ⑥ → Page F-21 ● Details of safety standards → Page H-2

The following items are included in each product.

● MRS16-□TM

Fan, Capacitor*, Capacitor Cap*, Operating Manual

*Single-phase fans only

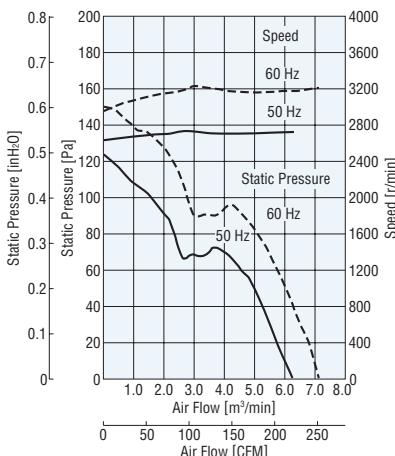
● MRS16-□TA

Fan, Capacitor*, Operating Manual

*Single-phase fans only

● MRS16-□UL

Fan, Operating Manual

Air Flow – Static Pressure Characteristics**Long-Life Axial Flow Fans****MRE Series** NEW

The **MRE** Series is available as a long life version of the **MRS** Series products.

These AC input long-life axial flow fans have 100,000 hour life expectancy.

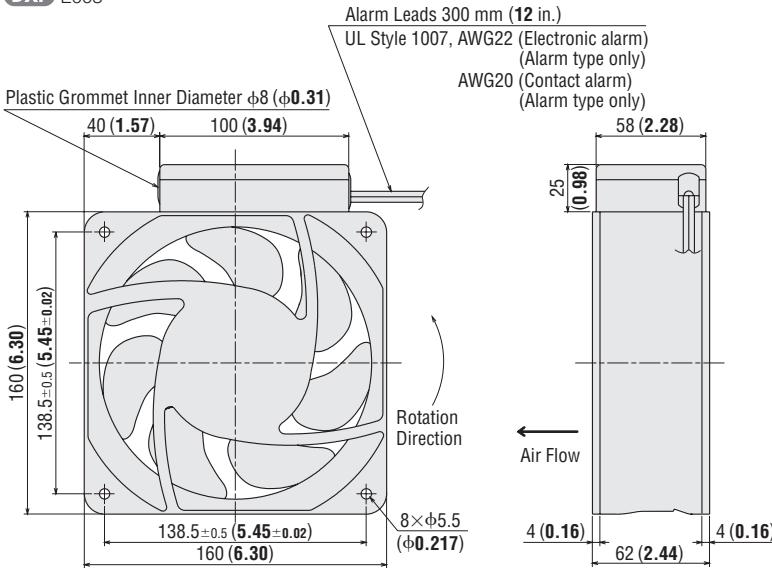
For more details on the **MRE** Series, please visit www.orientalmotor.com



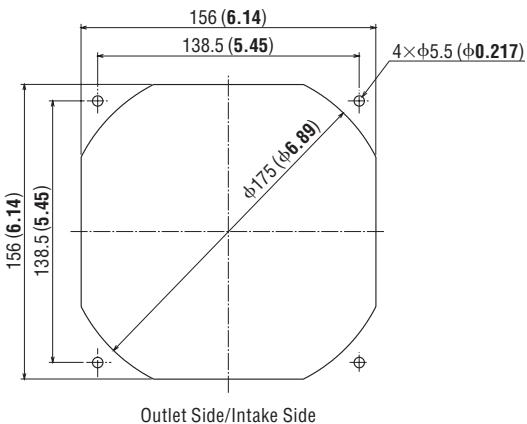
Dimensions Unit = mm (in.)

Mass: 1.35 kg (3.0 lb.)

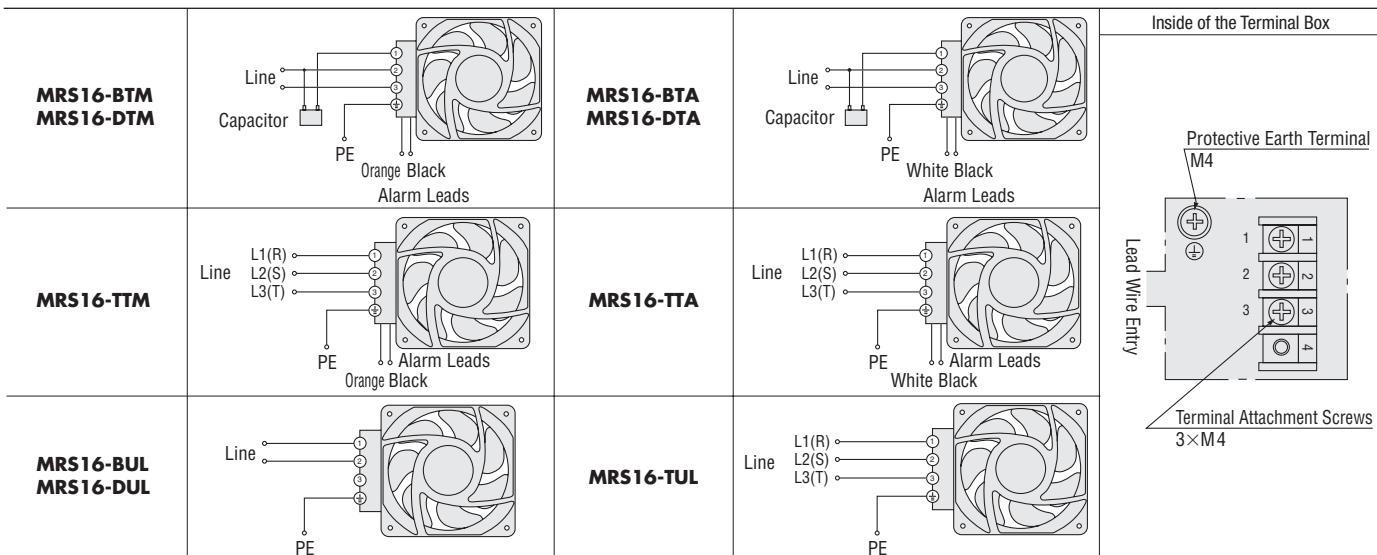
DXF E003



Panel Cut-Out Unit = mm (in.)



■ Connection Diagrams



- How to connect a capacitor → Page F-129

(□250 mm
□9.84 in.)
(□200 mm
□7.87 in.)
(□180 mm
□7.09 in.)
(□160 mm
□6.30 in.)
AC Input
(□140 mm
□5.51 in.)
(□119 mm
□4.69 in.)
(□92 mm
□3.62 in.)
(□80 mm
□3.15 in.)

Accessories

Product	Model	Page
Finger Guard	FG16D	F-118
Filter	FL16	F-120

Thermostats

A thermostat makes it possible for fans to operate only when cooling is necessary, thereby conserving energy.



RoHS
Thermostats **AM1-WA1/AM1-XA1**

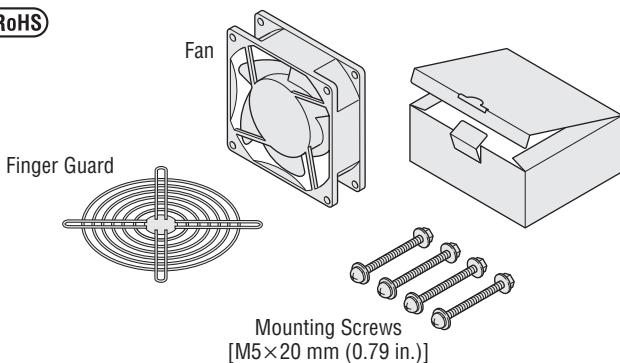
● Page → F-113

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.

● Package Contents (Fan, Finger guard, Mounting screws)

RoHS



◇ Product Line (Fan, Finger guard, Mounting screws)

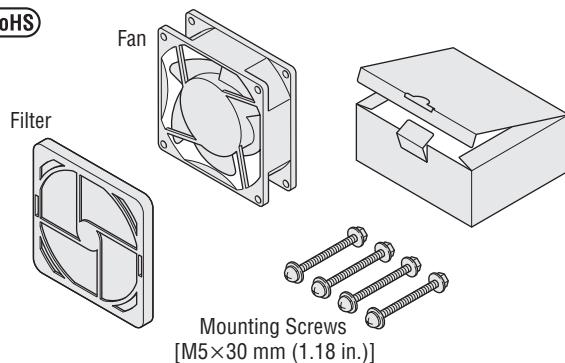
Fan Kit Model

- T-MRS16-BTM-G**
- T-MRS16-DTM-G**
- T-MRS16-TTM-G**
- T-MRS16-BTA-G**
- T-MRS16-DTA-G**
- T-MRS16-TTA-G**
- T-MRS16-BUL-G**
- T-MRS16-DUL-G**
- T-MRS16-TUL-G**

● See page F-40 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

● Package Contents (Fan, Filter, Mounting screws)

RoHS



◇ Product Line (Fan, Filter, Mounting screws)

Fan Kit Model

- T-MRS16-BTM-F**
- T-MRS16-DTM-F**
- T-MRS16-TTM-F**
- T-MRS16-BTA-F**
- T-MRS16-DTA-F**
- T-MRS16-TTA-F**
- T-MRS16-BUL-F**
- T-MRS16-DUL-F**
- T-MRS16-TUL-F**

● See page F-40 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

Introduction

MRS

Variable Flow MRS

AC Input MU

DC Input MDS/MU

Long-Life MDE

MRS Series

140 mm - 47 mm Thick
 (5.51 in. - 1.85 in. Thick)



Operating Voltage Range: ±10%

Materials

Frame: Die Cast Aluminum

Blades: Polycarbonate (Flammability grade V-0)

Overheat Protection: Built-in Thermal Protector

Bearings: Ball Bearings

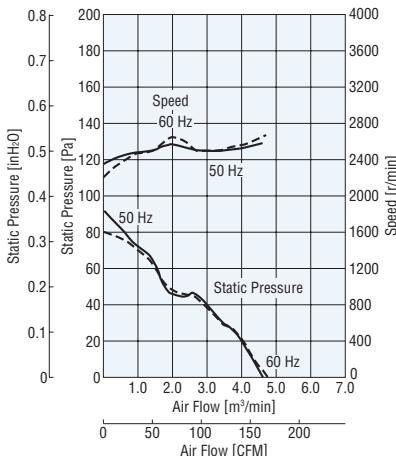
**Specifications (RoHS)**

Model		Voltage	Frequency	Current	Input	Speed	Max. Air Flow		Max. Static Pressure		Noise Level
Low-Speed Alarm, Electronic Alarm Type (Alarm specifications: ③)	Standard Type	VAC	Hz	A	W	r/min	m³/min	CFM	Pa	inH₂O	dB (A)
	MRS14-TUL	Three-Phase 200	50	0.08	14	2600	4.5	159	92	0.369	48
		Three-Phase 200	60	0.09	17	2650	4.6	162	81	0.325	49
		Three-Phase 220	60	0.09	19	2900	5.0	177	107	0.43	51
		Three-Phase 230	60	0.09	20	2950	5.0	177	109	0.437	51

● Alarm specifications ③ → Page F-21 ● Details of safety standards → Page H-2

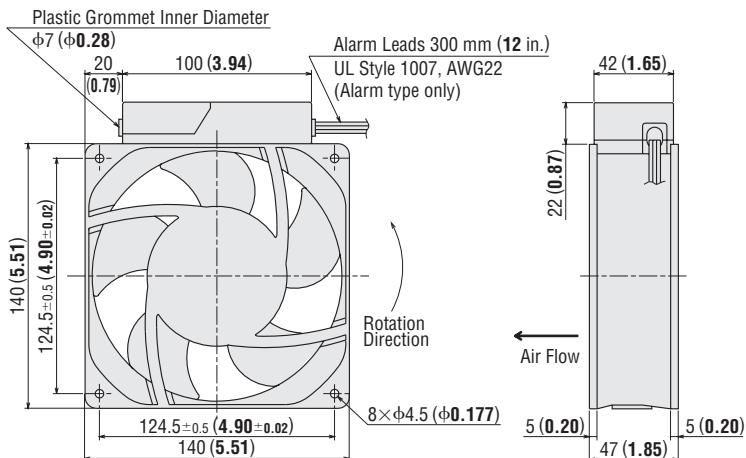
The following items are included in each product.

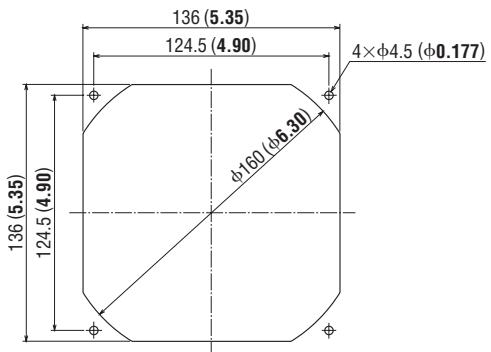
Fan, Operating Manual

Air Flow – Static Pressure Characteristics**Dimensions Unit = mm (in.)**

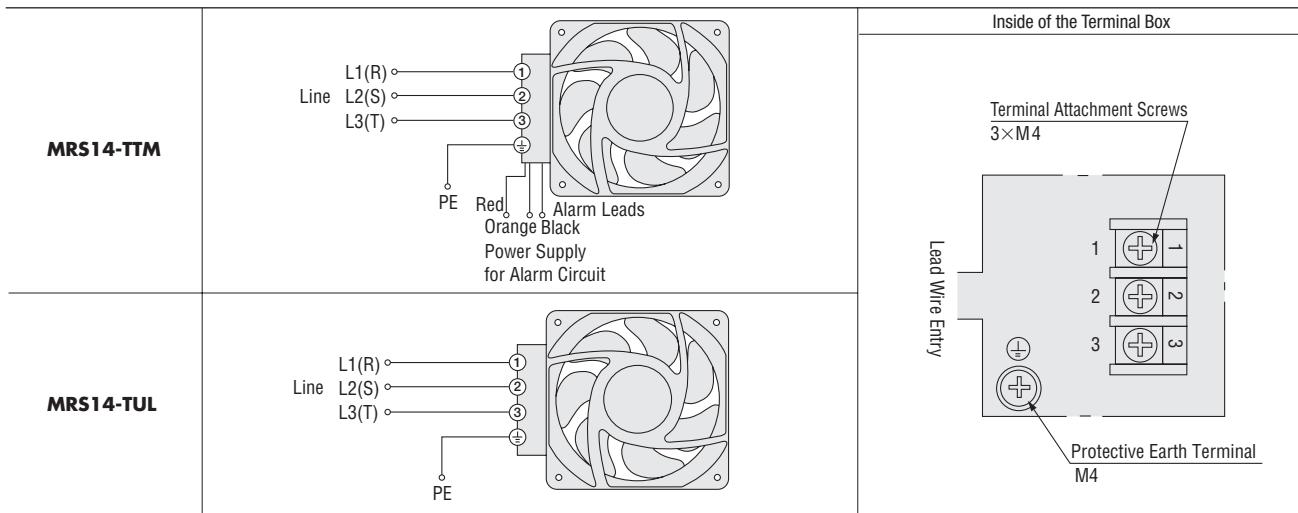
Mass: 0.9 kg (2.0 lb.)

DXF E004



Panel Cut-Out Unit = mm (in.)

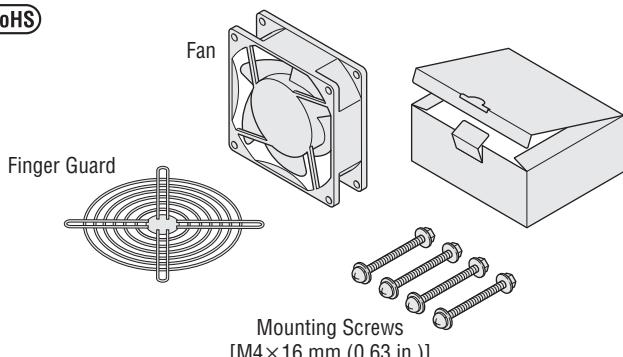
Outlet Side/Intake Side

Connection Diagrams**Accessories**

Product	Model	Page
Finger Guard	FG14D	F-118
Filter	FL14	F-120

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.

**Product Line**

Fan Kit Model

T-MRS14-TTM-G**T-MRS14-TUL-G**

● See page F-44 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

(□250 mm
(□9.84 in.)

(□200 mm
(□7.87 in.)

(□180 mm
(□7.09 in.)

(□160 mm
(□6.30 in.)

(□140 mm
(□5.51 in.)

(□119 mm
(□4.69 in.)

(□92 mm
(□3.62 in.)

(□80 mm
(□3.15 in.)

AC Input

VARIOFLOW**MRS Series Variable Flow Type****□180 mm – 90 mm Thick****(□7.09 in. – 3.54 in. Thick)**

Operating Voltage Range: ±10%

Materials

Frame: Die Cast Aluminum

Blades: Polycarbonate (Flammability grade V-0)

Overheat Protection: Built-in Thermal Protector

Bearings: Ball Bearings

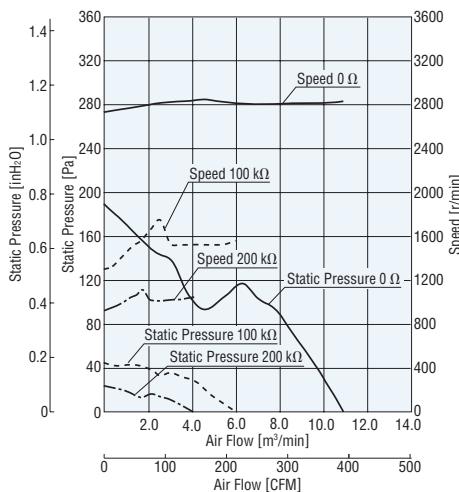
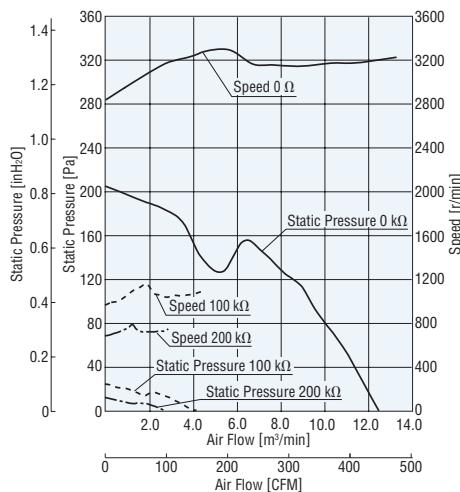
**■ Specifications**

Model	Voltage VAC	Frequency Hz	Current A	Input W	Speed r/min	Max. Air Flow m³/min	Max. Static Pressure Pa	Noise Level dB (A)	Resistance of Potentiometer kΩ
MRS18V2-B	Single-Phase 100	50	1.2	74	2800 1000	11.0 3.9	388 138	186 19.6	0.746 0.0786
	Single-Phase 100	60	1.4	100	3200 750	12.0 2.8	424 98.8	196 11.8	0.786 0.0472
	Single-Phase 115	60	1.4	100	3350 1100	12.8 4.0	452 141	255 23.5	1.02 0.0942
MRS18V2-D	Single-Phase 200	50	0.6	74	2800 1000	11.0 3.9	388 138	186 19.6	0.746 0.0786
	Single-Phase 200	60	0.7	100	3200 750	12.0 2.8	424 98.8	196 11.8	0.786 0.0472
	Single-Phase 230	50	0.6	84	2850 1350	11.0 5.0	388 177	196 36.3	0.786 0.146
	Single-Phase 230	60	0.7	100	3350 1100	12.8 4.0	452 141	255 23.5	1.02 0.0942

● Details of safety standards → Page H-2

The following items are included in each product.

Fan, External Speed Potentiometer, Operating Manual

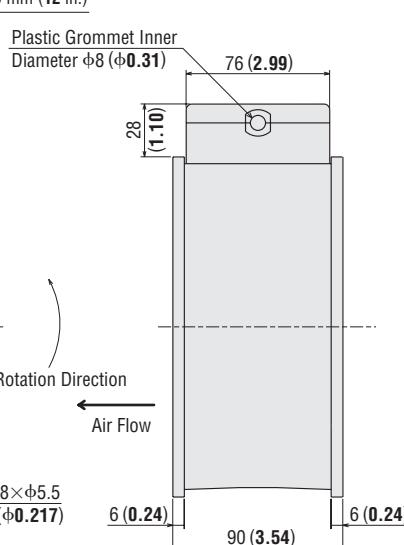
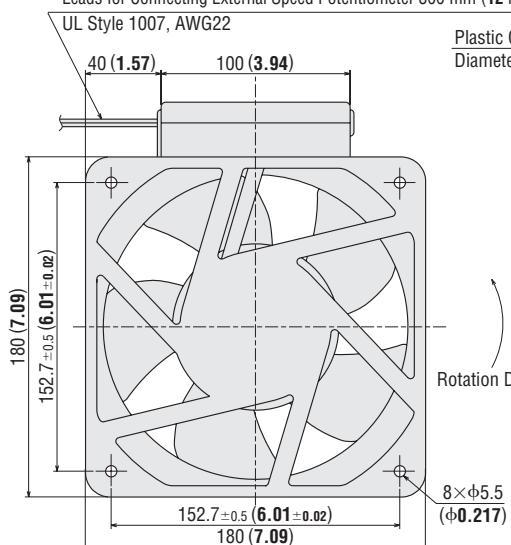
■ Air Flow – Static Pressure Characteristics**● 50 Hz****● 60 Hz**

Dimensions Unit = mm (in.)

Mass: 2.5 kg (5.5 lb.)

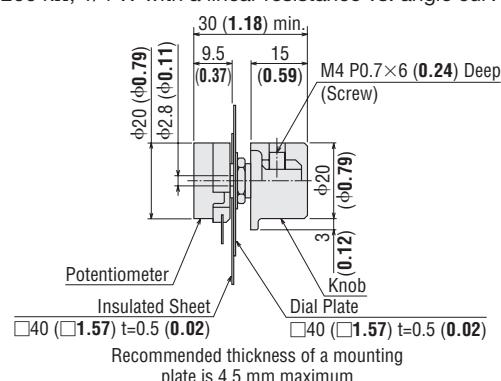
DXF E002

Leads for Connecting External Speed Potentiometer 300 mm (12 in.)

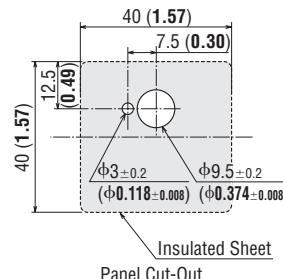


External Speed Potentiometer (Included)

200 kΩ, 1/4 W with a linear resistance vs. angle curve

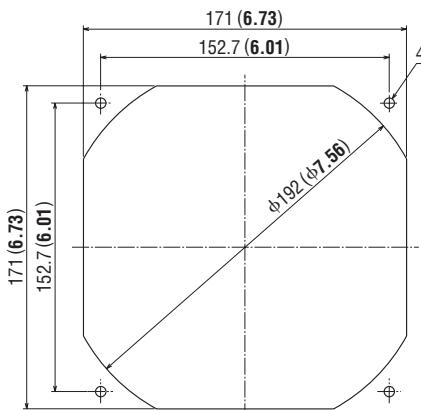


Recommended thickness of a mounting plate is 4.5 mm maximum

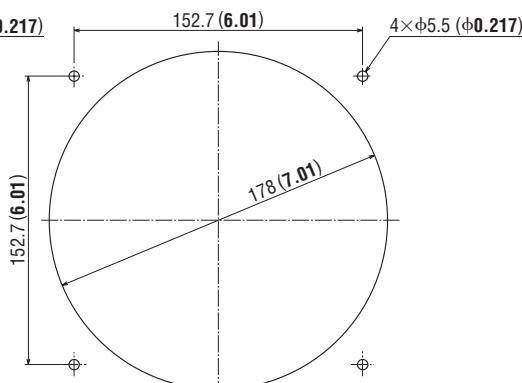


Panel Cut-Out

Panel Cut-Out Unit = mm (in.)

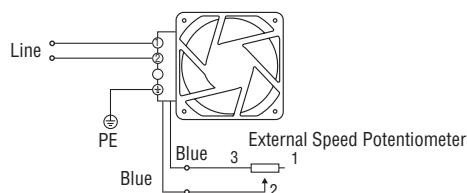


Outlet Side



Intake Side

Connection Diagram



Leads for connecting external speed potentiometer

Accessories

Product	Model	Page
Finger Guard	FG18D	F-118
Filter	FL18	F-120

MU Series

119 mm – 38 mm Thick
 (4.69 in. – 1.50 in. Thick)



Operating Voltage Range: ±10%

Materials

Frame: Die Cast Aluminum

Blades: Polycarbonate (Flammability grade V-0)

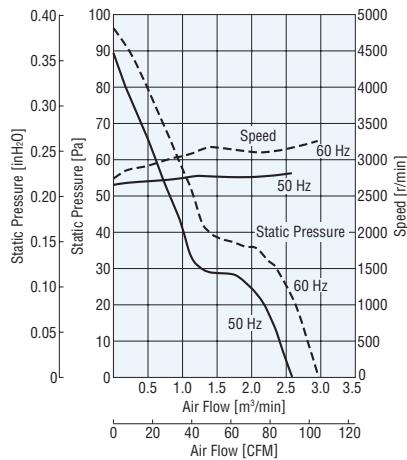
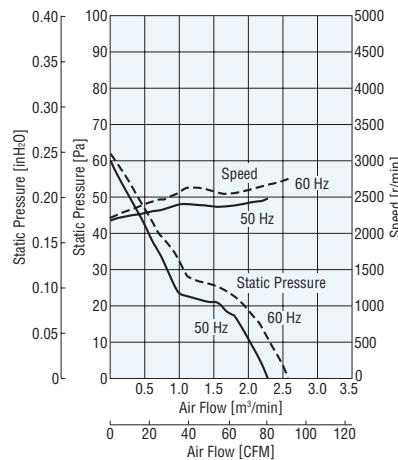
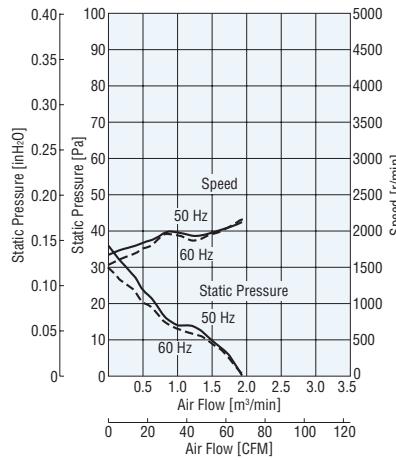
Overheat Protection: Impedance Protected

Bearings: Ball Bearings

**Specifications (RoHS)**

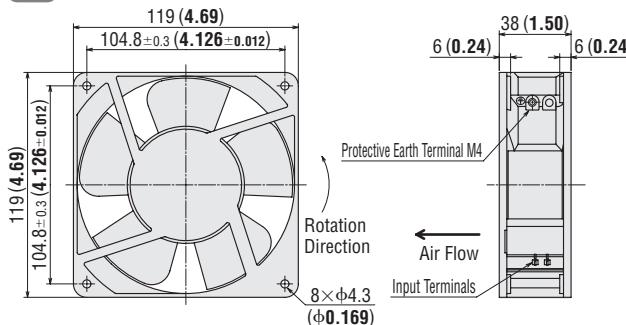
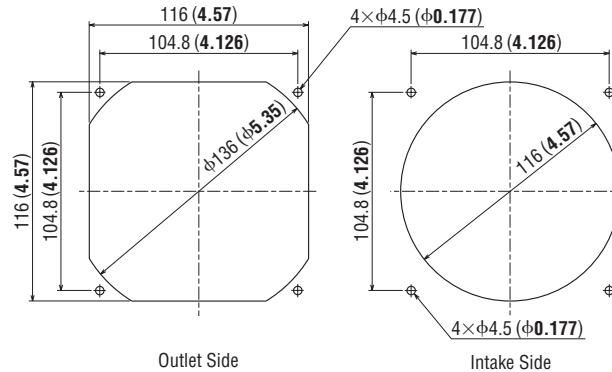
Speed Type	Model	Voltage VAC	Frequency Hz	Current A	Input W	Speed r/min	Max. Air Flow m³/min	CFM	Max. Static Pressure Pa	inH₂O	Noise Level dB (A)
Standard Speed	MU1238A-21B	Single-Phase 115	50	0.20	14.0	2800	2.7	95.3	81	0.325	43
			60	0.18	13.0	3250	3.0	106	81	0.325	46
Middle Speed	MU1238B-21B	Single-Phase 115	50	0.10	13.5	2800	2.7	95.3	81	0.325	43
	MU1238B-51B	Single-Phase 220 Single-Phase 230 Single-Phase 230	50	0.11	16.0	2800	2.7	95.3	81	0.325	43
			60	0.10	13.5	3250	3.0	106	81	0.325	46
Low Speed	MU1238L-21B	Single-Phase 115	50	0.16	12.5	2500	2.2	77.7	52	0.209	38
			60	0.15	11.5	2800	2.5	88.3	52	0.209	40
	MU1238L-51B	Single-Phase 220 Single-Phase 230 Single-Phase 230	50	0.09	11.5	2500	2.2	77.7	52	0.209	38
			50	0.09	14.0	2500	2.3	81.2	59	0.237	39
			60	0.09	11.5	2800	2.5	88.3	52	0.209	40
	MU1238L-21B	Single-Phase 115	50	0.10	8.0	2100	1.9	67.1	34	0.137	33
			60	0.09	7.5	2100	1.8	63.5	27	0.11	32
	MU1238L-51B	Single-Phase 220 Single-Phase 230 Single-Phase 230	50	0.06	7.5	2100	1.85	65.3	34	0.137	33
			50	0.06	9.5	2100	1.9	67.1	34	0.137	34
			60	0.06	7.5	2200	1.9	67.1	29	0.118	33

● Details of safety standards → Page H-2

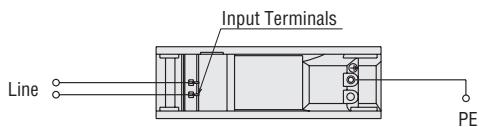
The following items are included in each product.
Fan, Operating Manual**Air Flow – Static Pressure Characteristics****MU1238A****MU1238B****MU1238L****Dimensions Unit = mm (in.)**

Mass: 0.53 kg (1.2 lb.)

DXF E010

**Panel Cut-Out Unit = mm (in.)**

■ Connection Diagram



■ Accessories

Product	Model	Page
Finger Guard	FG12D	F-118
Filter	FL12	F-120
Screen	FS12S	F-123
Plug Cord	PCA2B [1 m (3.3 ft.)]	F-124
	PCA2B2 [2 m (6.6 ft.)]	

■ Thermostats

A thermostat makes it possible for fans to operate only when cooling is necessary, thereby conserving energy.



RoHS

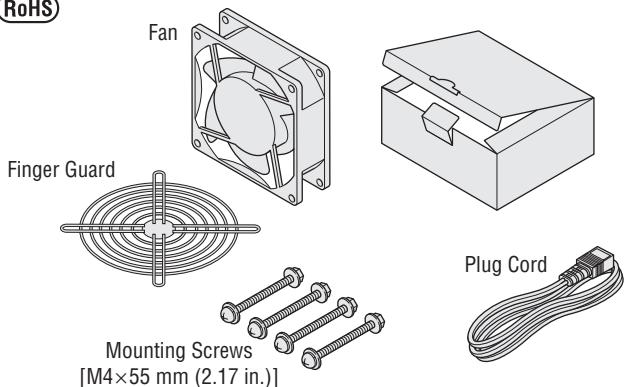
Thermostats **AM1-WA1/AM1-XA1**

● Page → F-113

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.

RoHS



● Product Line

Fan Kit Model

- T-MU1238A-21-GP**
- T-MU1238A-51-GP**
- T-MU1238B-21-GP**
- T-MU1238B-51-GP**
- T-MU1238L-21-GP**
- T-MU1238L-51-GP**

● See page F-48 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

MU Series

**□ 119 mm – 25 mm Thick
(□ 4.69 in. – 0.98 in. Thick)**



Operating Voltage Range: ±10%

Materials

Frame: Die Cast Aluminum

Blades: Polycarbonate (Flammability grade V-0)

Overheat Protection: Impedance Protected

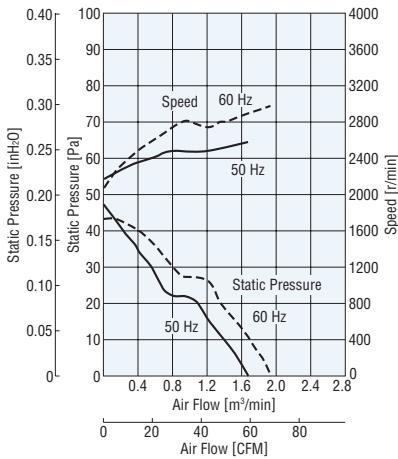
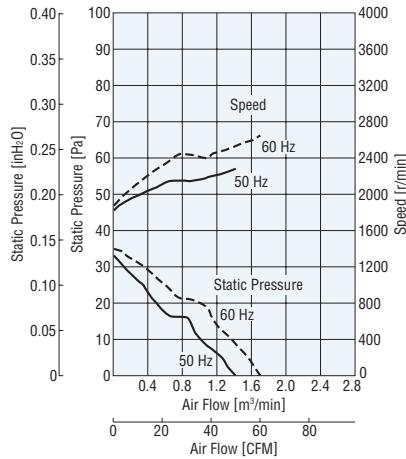
Bearings: Ball Bearings

**■ Specifications (RoHS)**

Speed Type	Model	Voltage VAC	Frequency Hz	Current A	Input W	Speed r/min	Max. Air Flow m³/min	CFM	Max. Static Pressure Pa	inH₂O	Noise Level dB (A)
Standard Speed	MU1225S-21	Single-Phase 115	50	0.14	11.0	2500	1.6	56.5	49	0.196	36
			60	0.12	9.5	2950	1.9	67.1	44	0.176	40
Middle Speed	MU1225M-21	Single-Phase 115	50	0.07	10.5	2500	1.6	56.5	49	0.196	36
	MU1225M-51	Single-Phase 220	50	0.08	12.0	2500	1.6	56.5	49	0.196	36
		Single-Phase 230	60	0.07	10.0	2950	1.9	67.1	44	0.176	40
	MU1225M-21	Single-Phase 115	50	0.13	10.5	2250	1.4	49.4	32	0.129	33
			60	0.11	9.0	2600	1.7	60	31	0.125	37
	MU1225M-51	Single-Phase 220	50	0.07	10.0	2250	1.4	49.4	32	0.129	33
		Single-Phase 230	50	0.07	12.0	2250	1.4	49.4	32	0.129	33
		Single-Phase 230	60	0.07	9.5	2600	1.7	60	31	0.125	37

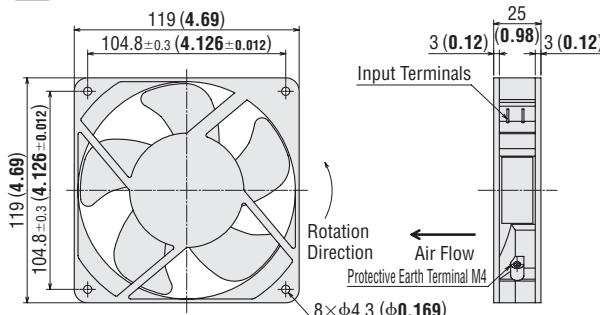
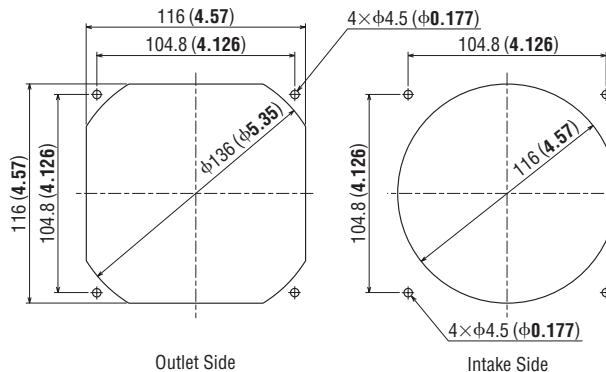
● Details of safety standards → Page H-2

The following items are included in each product.
Fan, Operating Manual

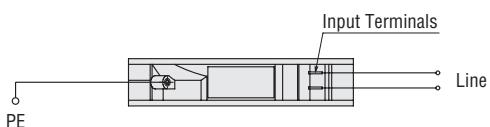
■ Air Flow – Static Pressure Characteristics**● MU1225S****● MU1225M****■ Dimensions Unit = mm (in.)**

Mass: 0.31 kg (0.68 lb.)

DXF E012

**■ Panel Cut-Out Unit = mm (in.)**

■ Connection Diagram



■ Accessories

Product	Model	Page
Finger Guard	FG12D	F-118
Filter	FL12	F-120
Screen	FS12S	F-123
Plug Cord	PCA2B [1 m (3.3 ft.)]	F-124
	PCA2B2 [2 m (6.6 ft.)]	

■ Thermostats

A thermostat makes it possible for fans to operate only when cooling is necessary, thereby conserving energy.



RoHS

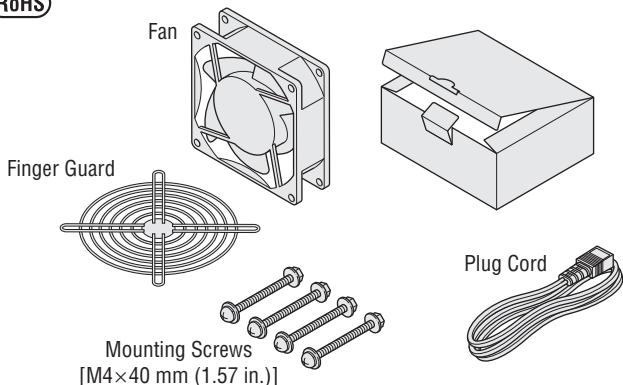
Thermostats **AM1-WA1/AM1-XA1**

● Page → F-113

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.

RoHS



● Product Line

Fan Kit Model

- T-MU1225S-21-GP**
- T-MU1225S-51-GP**
- T-MU1225M-21-GP**
- T-MU1225M-51-GP**

● See page F-50 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

(□250 mm)
 (□9.84 in.)
 (□200 mm)
 (□7.87 in.)
 (□180 mm)
 (□7.09 in.)
 (□160 mm)
 (□6.30 in.)
 (□140 mm)
 (□5.51 in.)
 (□119 mm)
 (□4.69 in.)
 AC Input
 (□92 mm)
 (□3.62 in.)
 (□80 mm)
 (□3.15 in.)

MU Series

□92 mm – 25 mm Thick
(□3.62 in. – 0.98 in. Thick)



Operating Voltage Range: ±10%

Materials

Frame: Die Cast Aluminum

Blades: Polycarbonate (Flammability grade V-0)

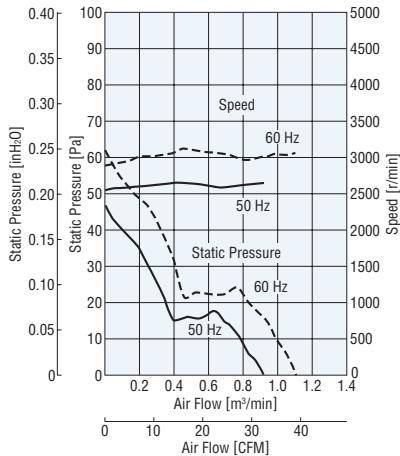
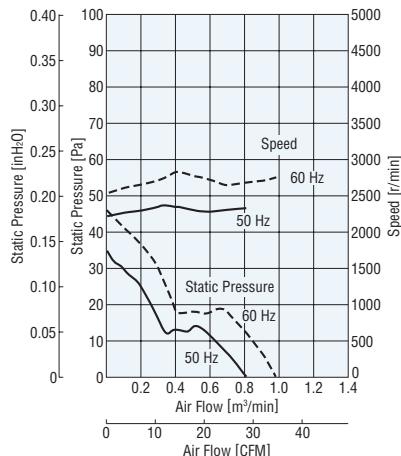
Overheat Protection: Impedance Protected

Bearings: Ball Bearings

**■ Specifications (RoHS)**

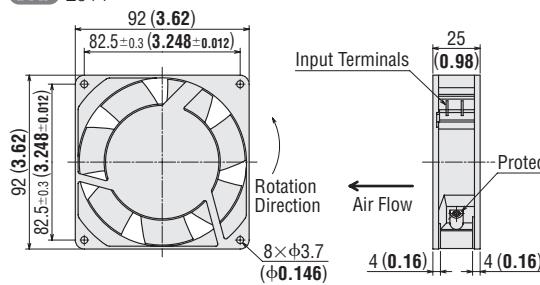
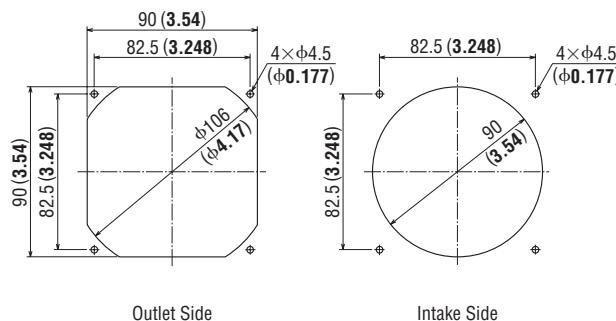
Speed Type	Model	Voltage VAC	Frequency Hz	Current A	Input W	Speed r/min	Max. Air Flow m³/min	CFM	Max. Static Pressure Pa	inH₂O	Noise Level dB (A)
Standard Speed	MU925S-21	Single-Phase 115	50	0.11	9.5	2600	0.95	33.5	44	0.176	35
			60	0.10	8.0	3000	1.10	38.8	59	0.237	39
Middle Speed	MU925M-21	Single-Phase 115	50	0.06	8.5	2600	0.95	33.5	44	0.176	35
	MU925M-51	Single-Phase 220 Single-Phase 230 Single-Phase 230	50	0.07	10.5	2600	0.95	33.5	44	0.176	35
			60	0.06	8.0	3000	1.10	38.8	59	0.237	39
	MU925M-21	Single-Phase 115	50	0.11	9.0	2300	0.85	30.0	34	0.137	31
			60	0.10	8.0	2700	1.00	35.8	44	0.176	36
	MU925M-51	Single-Phase 220 Single-Phase 230 Single-Phase 230	50	0.06	8.5	2300	0.85	30.0	34	0.137	31
			60	0.06	9.5	2300	0.85	30.0	34	0.137	32
			60	0.06	8.0	2700	1.00	35.8	44	0.176	36

● Details of safety standards → Page H-2

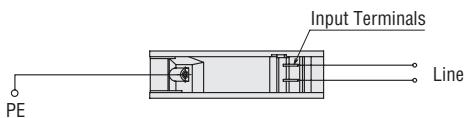
The following items are included in each product.
Fan, Operating Manual**■ Air Flow – Static Pressure Characteristics****● MU925S****● MU925M****■ Dimensions Unit = mm (in.)**

Mass: 0.27 kg (0.59 lb.)

DXF E014

**■ Panel Cut-Out Unit = mm (in.)**

■ Connection Diagram



■ Accessories

Product	Model	Page
Finger Guard	FG9D	F-118
Filter	FL9	F-120
Screen	FS9S	F-123
Plug Cord	PCA2B [1 m (3.3 ft.)]	F-124
	PCA2B2 [2 m (6.6 ft.)]	

■ Thermostats

A thermostat makes it possible for fans to operate only when cooling is necessary, thereby conserving energy.

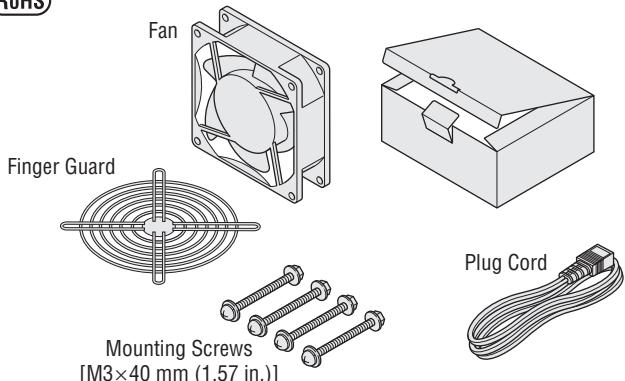


(RoHS)
Thermostats **AM1-WA1/AM1-XA1**

● Page → F-113

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.



● Product Line

Fan Kit Model

- T-MU925S-21-GP**
- T-MU925S-51-GP**
- T-MU925M-21-GP**
- T-MU925M-51-GP**

● See page F-52 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

MU Series

80 mm – 25 mm Thick
 (3.15 in. – 0.98 in. Thick)



Operating Voltage Range: ±10%

Materials

Frame: Die Cast Aluminum

Blades: Polycarbonate (Flammability grade V-0)

Overheat Protection: Impedance Protected

Bearings: Ball Bearings

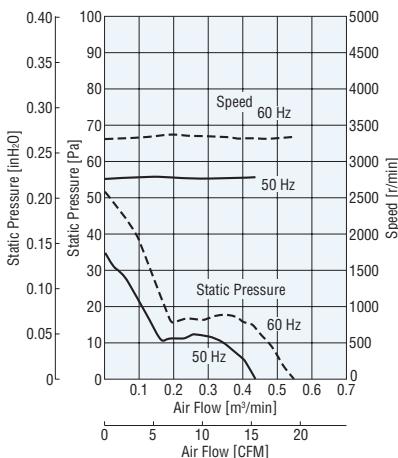
**Specifications (RoHS)**

Speed Type	Model	Voltage VAC	Frequency Hz	Current A	Input W	Speed r/min	Max. Air Flow m³/min	CFM	Max. Static Pressure Pa	inH₂O	Noise Level dB (A)
Standard Speed	MU825S-23	Single-Phase 115	50	0.11	9.5	2750	0.45	15.9	34	0.137	28
			60	0.09	8.0	3250	0.55	19.4	49	0.196	35
	MU825S-53	Single-Phase 220	50	0.06	8.5	2750	0.45	15.9	34	0.137	28
		Single-Phase 230	50	0.07	10.5	2750	0.45	15.9	34	0.137	28
		Single-Phase 230	60	0.06	8.0	3250	0.55	19.4	49	0.196	35

● Details of safety standards → Page H-2

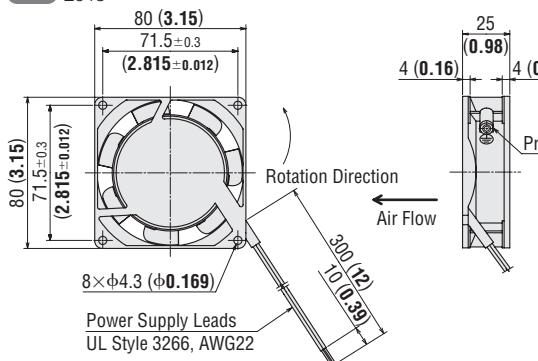
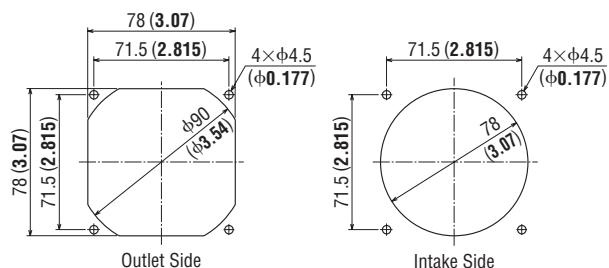
The following items are included in each product.

Fan, Operating Manual

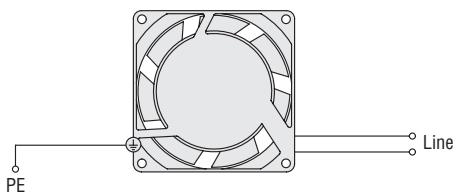
Air Flow – Static Pressure Characteristics**Dimensions Unit = mm (in.)**

Mass: 0.25 kg (0.55 lb.)

DXF E015

**Panel Cut-Out Unit = mm (in.)**

■ Connection Diagram

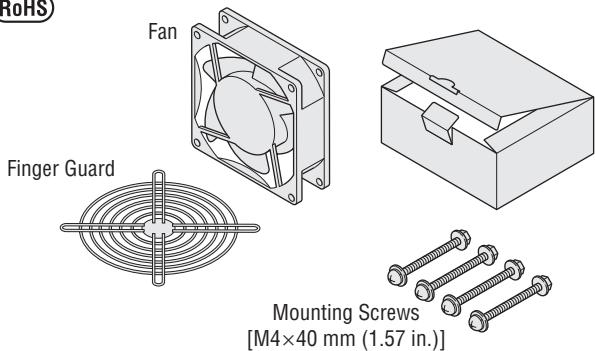


■ Accessories

Product	Model	Page
Finger Guard	FG8D	F-118
Filter	FL8	F-120
Screen	FS8S	F-123

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.



● Product Line

Fan Kit Model

T-MU825S-23-G

T-MU825S-53-G

● See page F-54 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

Introduction

MRS

AC Input

Variable Flow

MRS

Axial Flow Fans

MU

MDS/MD

DC Input

Long-Life

MDE

Centrifugal Blowers

MB

AC Input

MBD

AC Input

MF

Cross Flow Fans

MFD

AC Input

FM

Cooling Module

Thermostats

Accessories

Installation

MDS Series

**Φ172 mm – 51 mm Thick
(Φ6.77 in. – 2.01 in. Thick)**



Lead Wire Type

Operating Voltage Range: ±15%

Materials

Frame: Die Cast Aluminum

Blades: Polycarbonate (Flammability grade V-0)

Overheat Protection: Built-in Overheat Protection Circuit

Bearings: Ball Bearings

**Specifications (RoHS)**

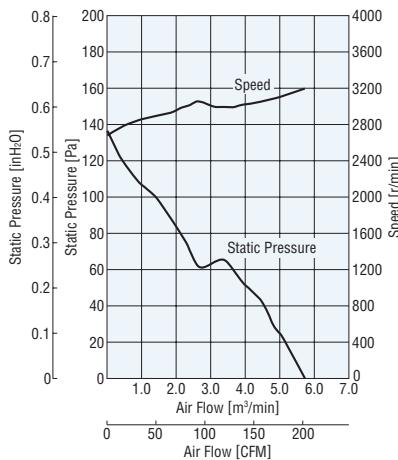
Function	Model		Voltage VDC	Current A	Speed r/min	Max. Air Flow		Max. Static Pressure Pa	Noise Level dB (A)
	Connector Type	Lead Wire Type				m³/min	CFM		
Low-Speed Alarm, Contact Alarm Type (Alarm specifications: ⑧)	MDS1751-24BH	MDS1751-24B	24	0.7	3200	6	212	137	0.549
Pulse Sensor Type (Alarm specifications: ⑨)	MDS1751-24SH	MDS1751-24S							
Standard Type	MDS1751-24H	MDS1751-24							

● Only standard type lead wire model is DEMKO certified.

● Alarm specifications ⑧, ⑨ → Page F-22 ● Details of safety standards → Page H-2

The following items are included in each product.

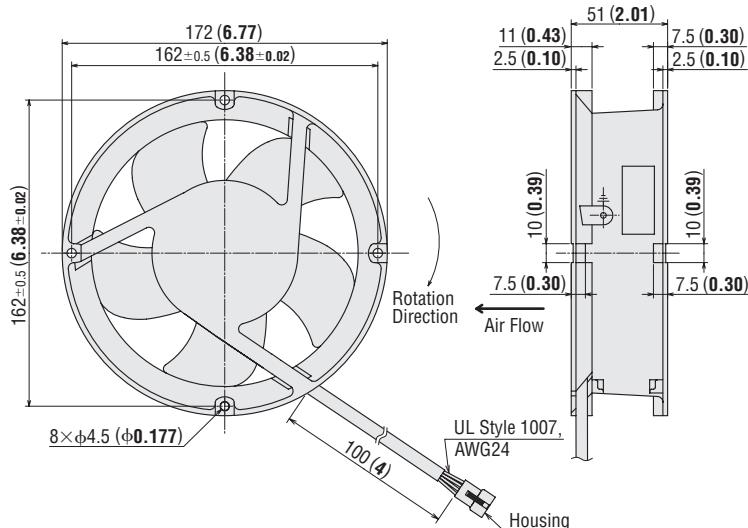
- Connector Type
Fan, Cable with Connector, Operating Manual
- Lead Wire Type
Fan, Operating Manual

Air Flow – Static Pressure Characteristics**Dimensions Unit = mm (in.)**

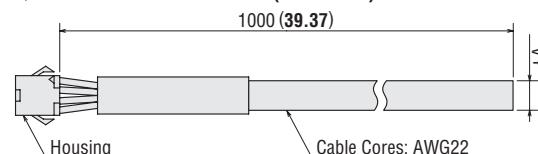
● Connector Type

◇ Fan

Type	Housing P/N	Mass kg (lb.)	DXF
Low-Speed Alarm, Contact Alarm Type	SMR-04V-N (J.S.T.)	0.9 (2.0)	E115
Pulse Sensor Type / Standard Type	SMR-03V-N (J.S.T.)		E116



◇ Cable with Connector (Included)

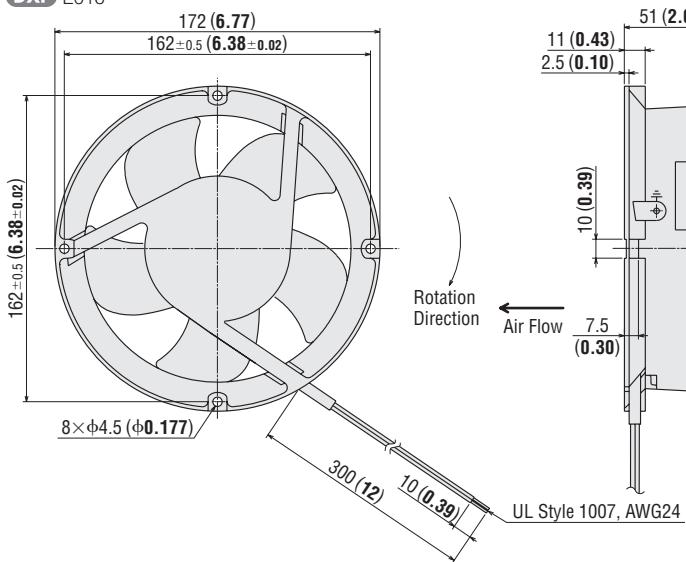
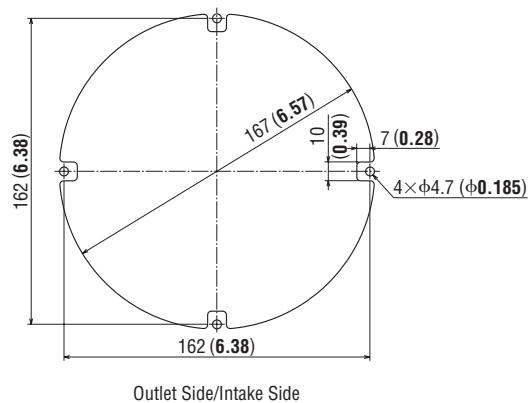


Type	ΦA	Housing P/N
Low-Speed Alarm, Contact Alarm Type	Φ5.1 (Φ0.20)	SMP-04V-NC (J.S.T.)
Pulse Sensor Type	Φ4.8 (Φ0.19)	SMP-03V-NC (J.S.T.)
Standard Type	Φ4.5 (Φ0.18)	

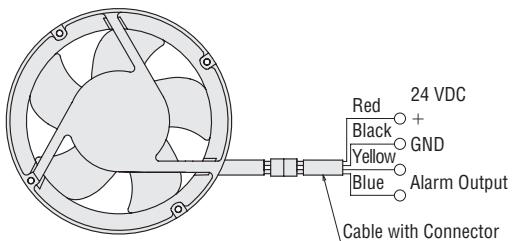
Lead Wire Type

Mass: 0.9 kg (2.0 lb.)

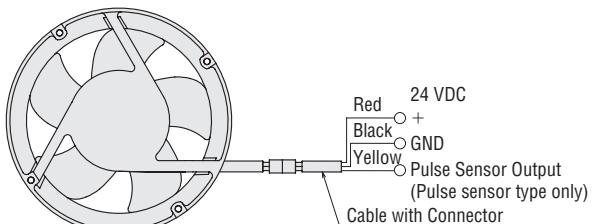
DXF E016

**Panel Cut-Out Unit = mm (in.)****Connection Diagrams****Connector Type**

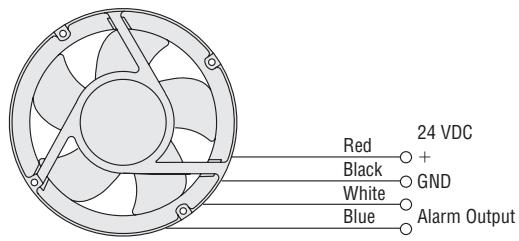
◇ Low-Speed Alarm, Contact Alarm Type



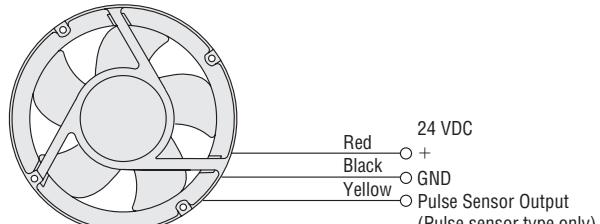
◇ Pulse Sensor Type, Standard Type

**Lead Wire Type**

◇ Low-Speed Alarm, Contact Alarm Type



◇ Pulse Sensor Type, Standard Type

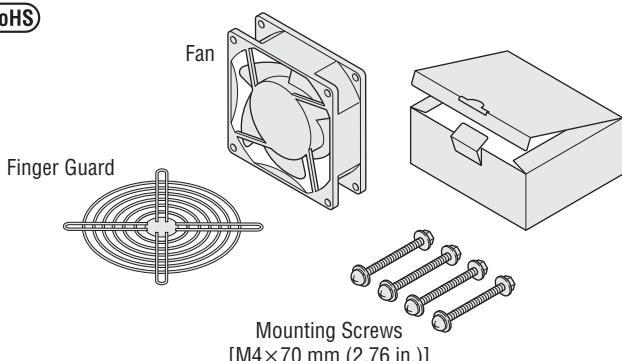
**Accessories**

Product	Model	Page
Finger Guard	FG17D	F-118

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.

RoHS

**Product Line**

◇ Connector Type

Fan Kit Model

T-MDS1751-24BHG
T-MDS1751-24SHG
T-MDS1751-24HG

◇ Lead Wire Type

Fan Kit Model

T-MDS1751-24B-G
T-MDS1751-24S-G
T-MDS1751-24-G

● See page F-56 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

$\phi 172\text{ mm}$
($\phi 6.77\text{ in.}$) $\square 140\text{ mm}$
($\square 5.51\text{ in.}$) $\square 119\text{ mm}$
($\square 4.69\text{ in.}$) $\square 92\text{ mm}$
($\square 3.62\text{ in.}$) $\square 80\text{ mm}$
($\square 3.15\text{ in.}$) $\square 62\text{ mm}$
($\square 2.44\text{ in.}$) $\square 52\text{ mm}$
($\square 2.05\text{ in.}$) $\square 42\text{ mm}$
($\square 1.65\text{ in.}$)

MDS Series

140 mm – 51 mm Thick
 (5.51 in. – 2.01 in. Thick)



Lead Wire Type

Operating Voltage Range: $\pm 15\%$

Materials

Frame: Die Cast Aluminum

Blades: Polycarbonate (Flammability grade V-0)

Overheat Protection: Built-in Overheat Protection Circuit

Bearings: Ball Bearings



Specifications (RoHS)

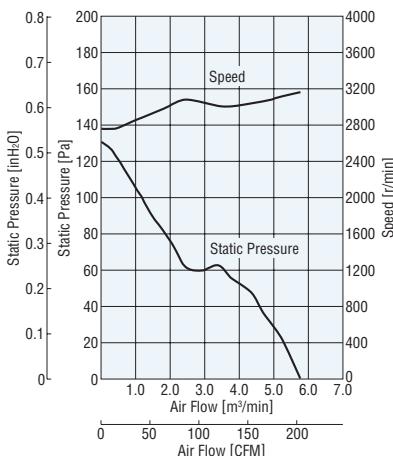
Speed Type	Function	Model		Voltage VDC	Current A	Speed r/min	Max. Air Flow		Max. Static Pressure		Noise Level dB (A)
		Connector Type	Lead Wire Type				m³/min	CFM	Pa	inH₂O	
Standard Speed	Stall Alarm, Electronic Alarm Type (Alarm specifications: ①)	MDS1451-24LH	MDS1451-24L	24	0.7	3150	5.8	205	130	0.521	49
	Pulse Sensor Type (Alarm specifications: ⑩)	MDS1451-48LH	MDS1451-48L	48	0.35						
	Standard Type	MDS1451-24SH	MDS1451-24S	24	0.7						
		MDS1451-48SH	MDS1451-48S	48	0.35						
		MDS1451-24H	MDS1451-24	24	0.7						
		MDS1451-48H	MDS1451-48	48	0.35						

● Alarm specifications ①, ⑩ → Page F-21 ● Details of safety standards → Page H-2

The following items are included in each product.

- Connector Type
- Fan, Cable with Connector, Operating Manual
- Lead Wire Type
- Fan, Operating Manual

Air Flow – Static Pressure Characteristics



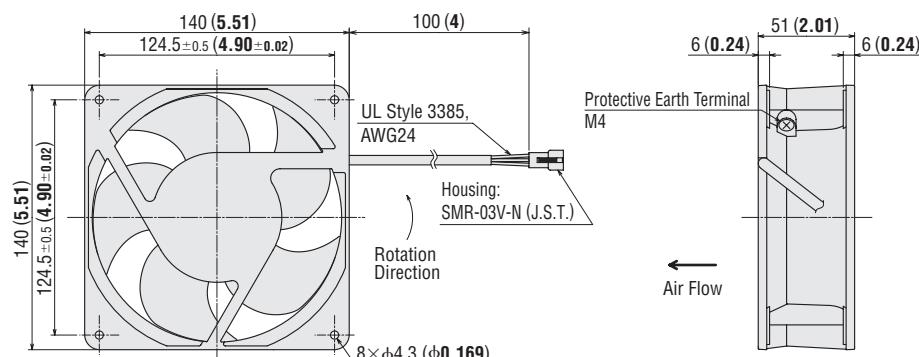
Dimensions Unit = mm (in.)

● Connector Type

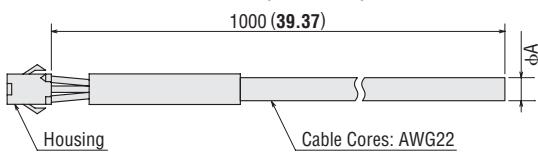
◇ Fan

Mass: 0.65 kg (1.43 lb.)

DXF E117



◇ Cable with Connector (Included)

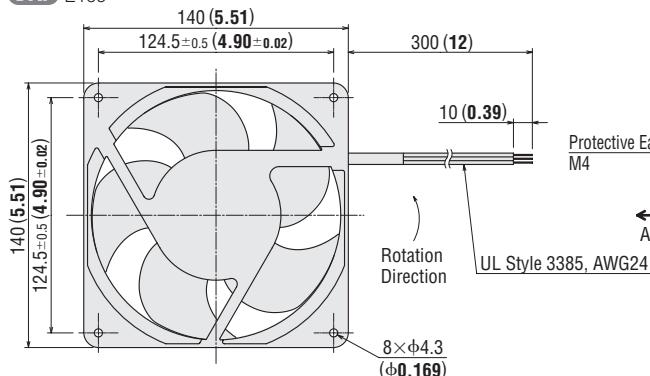
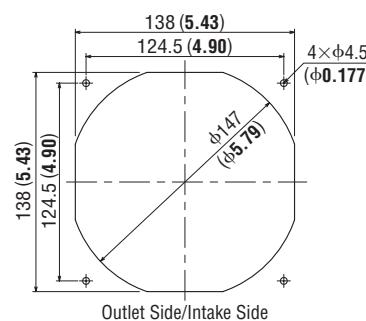
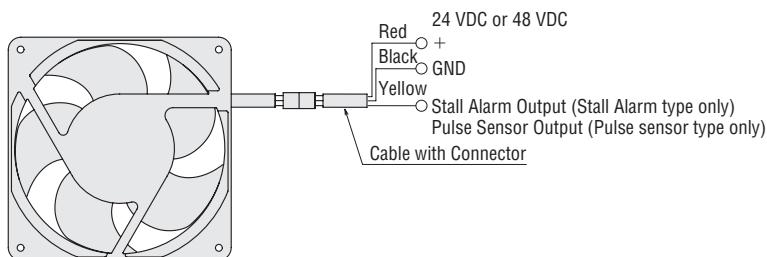
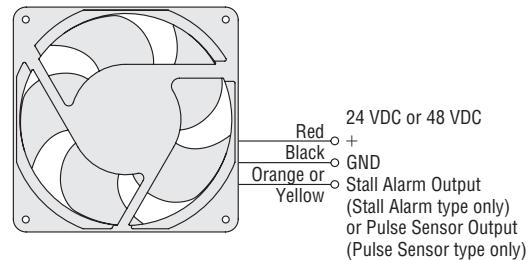


Type	φA	Housing P/N
Stall Alarm, Electronic Alarm Type	φ4.8 (φ0.19)	SMP-03V-NC (J.S.T.)
Pulse Sensor Type	φ4.5 (φ0.18)	
Standard Type		

● Lead Wire Type

Mass: 0.65 kg (1.43 lb.)

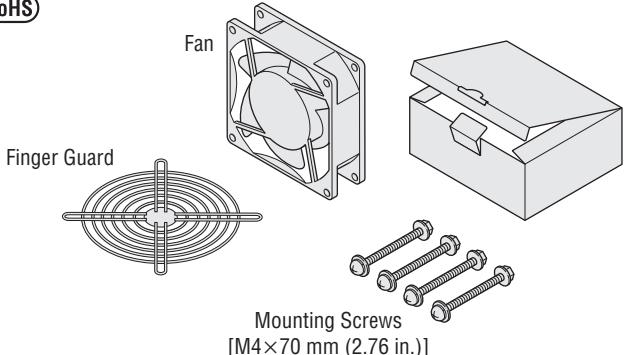
DXF E109

**■ Panel Cut-Out Unit = mm (in.)****■ Connection Diagrams****● Connector Type****● Lead Wire Type****■ Accessories**

Product	Model	Page
Finger Guard	FG14D	F-118
Filter	FL14	F-120

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.

**● Product Line****◇ Connector Type**

Fan Kit Model	
T-MDS1451-24LHG	T-MDS1451-48LHG
T-MDS1451-24SHG	T-MDS1451-48SHG
T-MDS1451-24HG	T-MDS1451-48HG

◇ Lead Wire Type

Fan Kit Model	
T-MDS1451-24L-G	T-MDS1451-48L-G
T-MDS1451-24S-G	T-MDS1451-48S-G
T-MDS1451-24-G	T-MDS1451-48-G

● See page F-58 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

**DC Axial Flow Fans with Low-Speed Alarm
MDA Series (NEW)**

The **MDA** Series is similar to the **MDS** Series and available with a low-speed alarm function. An alarm is output when the fan speed drops to approximately 70% of the rated level. For more details on the **MDA** Series, please visit www.orientalmotor.com.



Φ172 mm
(Φ6.77 in.)
□140 mm
(□5.51 in.)
□119 mm
(□4.69 in.)
□92 mm
(□3.62 in.)
□80 mm
(□3.15 in.)
□62 mm
(□2.44 in.)
□52 mm
(□2.05 in.)
□42 mm
(□1.65 in.)
DC Input

MDS Series

119 mm – 25.4 mm Thick
(4.69 in. – 1.00 in. Thick)



Lead Wire Type

Operating Voltage Range: ±15%
(MDS1225-12M, -24M: ±10%)

Materials

Frame: Die Cast Aluminum

Blades: Polycarbonate (Flammability grade V-0)

Overheat Protection: Built-in Overheat Protection Circuit

Bearings: Ball Bearings

**Specifications (RoHS)**

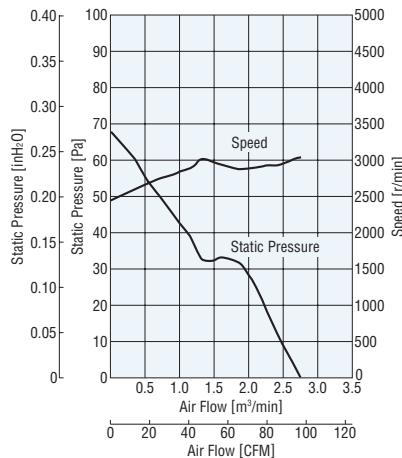
Speed Type	Function	Model		Voltage VDC	Current A	Speed r/min	Max. Air Flow m³/min	CFM	Max. Static Pressure Pa	inH₂O	Noise Level dB (A)
		Connector Type	Lead Wire Type								
Standard Speed	Low-Speed Alarm, Electronic Alarm Type (Alarm specifications: ④)	MDS1225-12MH	MDS1225-12M	12	0.63	3000	2.7	95.3	70	0.281	46
		MDS1225-24MH	MDS1225-24M	24	0.34						
	Standard Type	MDS1225-12H	MDS1225-12	12	0.58						
		MDS1225-24H	MDS1225-24	24	0.30						

● Only lead wire type is DEMKO certified.

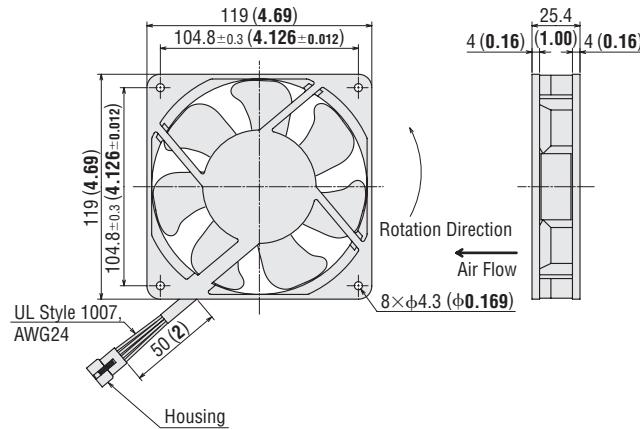
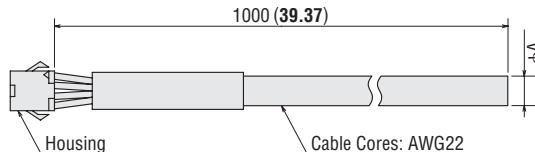
● Alarm specifications ④ → Page F-21 ● Details of safety standards → Page H-2

The following items are included in each product.

- Connector Type
- Fan, Cable with Connector, Operating Manual
- Lead Wire Type
- Fan, Operating Manual

Air Flow – Static Pressure Characteristics**Dimensions Unit = mm (in.)****Connector Type****Fan**

Type	Housing P/N	Mass kg (lb.)	DXF
Low-Speed Alarm, Electronic Alarm Type	SMR-04V-N (J.S.T.)	0.3 (0.66)	E118
Standard Type	SMR-03V-N (J.S.T.)		E119

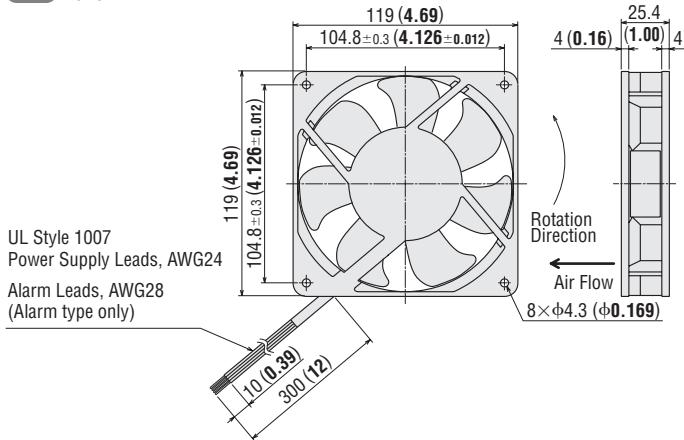
**Cable with Connector (Included)**

Type	ΦA	Housing P/N
Low-Speed Alarm, Electronic Alarm Type	Φ5.1 (Φ0.20)	SMP-04V-NC (J.S.T.)
Standard Type	Φ4.5 (Φ0.18)	SMP-03V-NC (J.S.T.)

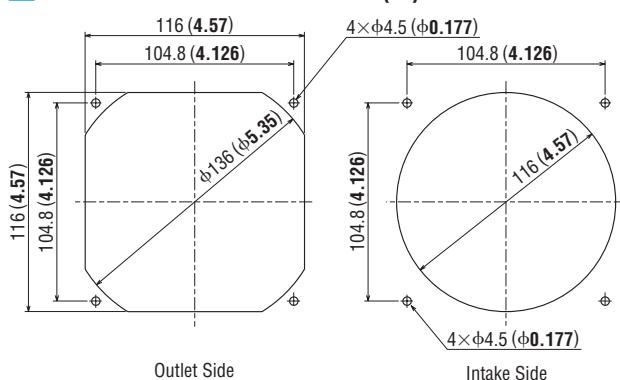
● Lead Wire Type

Mass: : 0.3 kg (0.66 lb.)

DXF E020

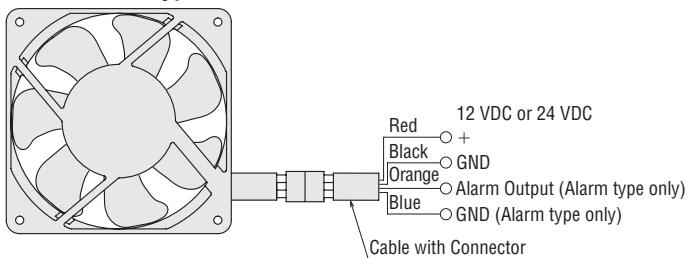


■ Panel Cut-Out Unit = mm (in.)

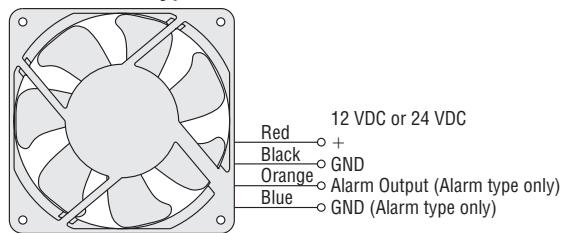


■ Connection Diagrams

● Connector Type



● Lead Wire Type



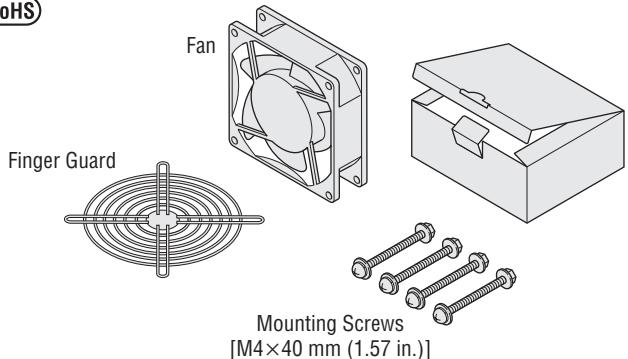
■ Accessories

Product	Model	Page
Finger Guard	FG12D	F-118
Filter	FL12	F-120
Screen	FS12S	F-123

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.

(RoHS)



● Product Line

◇ Connector Type

Fan Kit Model

- T-MDS1225-12MHG**
- T-MDS1225-24MHG**
- T-MDS1225-12HG**
- T-MDS1225-24HG**

◇ Lead Wire Type

Fan Kit Model

- T-MDS1225-12M-G**
- T-MDS1225-24M-G**
- T-MDS1225-12-G**
- T-MDS1225-24-G**

● See page F-60 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

DC Axial Flow Fans with Low-Speed Alarm **MDA Series** (NEW)

The **MDA** Series is similar to the **MDS** Series and available with a low-speed alarm function. An alarm is output when the fan speed drops to approximately 70% of the rated level. For more details on the **MDA** Series, please visit www.orientalmotor.com.



$\phi 172\text{ mm}$
($\phi 6.77\text{ in.}$) $\square 140\text{ mm}$
($\square 5.51\text{ in.}$) $\square 119\text{ mm}$
($\square 4.69\text{ in.}$) $\square 92\text{ mm}$
($\square 3.62\text{ in.}$) $\square 80\text{ mm}$
($\square 3.15\text{ in.}$) $\square 62\text{ mm}$
($\square 2.44\text{ in.}$) $\square 52\text{ mm}$
($\square 2.05\text{ in.}$) $\square 42\text{ mm}$
($\square 1.65\text{ in.}$)

MD Series

119 mm – 25.4 mm Thick
 (4.69 in. – 1.00 in. Thick)



Lead Wire Type

Operating Voltage Range: $\pm 15\%$

Materials

Frame: Die Cast Aluminum

Blades: Polycarbonate (Flammability grade V-0)

Overheat Protection: Built-in Overheat Protection Circuit

Bearings: Ball Bearings



Specifications (RoHS)

Speed Type	Model		Voltage VDC	Current A	Speed r/min	Max. Air Flow		Max. Static Pressure Pa	Noise Level dB (A)
	Connector Type	Lead Wire Type				m³/min	CFM		
Standard Speed	MD1225-12H	MD1225-12	12	0.47	3100	2.5	88.3	43	0.172
	MD1225-24H	MD1225-24	24	0.26					45

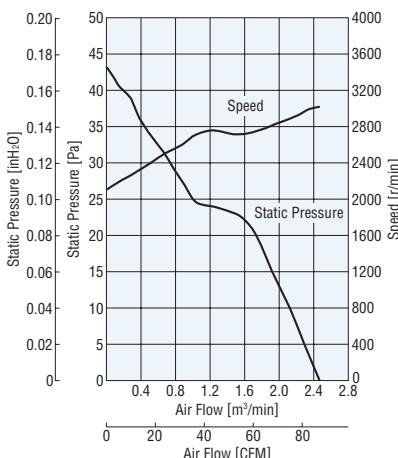
● Only lead wire model is DEMKO certified.

● Details of safety standards → Page H-2

The following items are included in each product.

- Connector Type
Fan, Cable with Connector, Operating Manual
- Lead Wire Type
Fan, Operating Manual

Air Flow – Static Pressure Characteristics



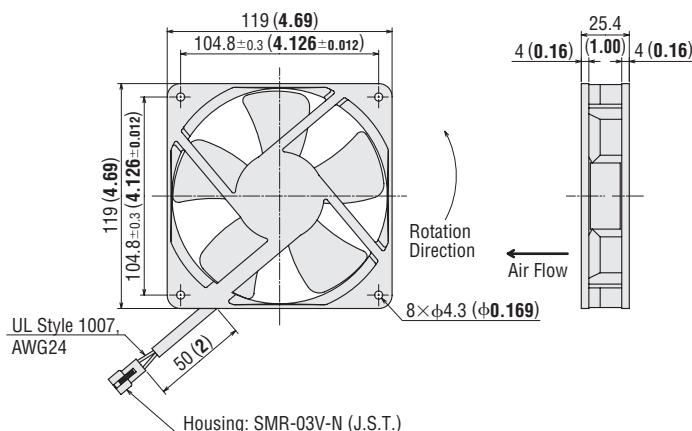
Dimensions Unit = mm (in.)

● Connector Type

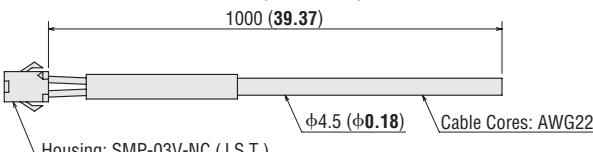
◇ Fan

Mass: 0.19 kg (0.42 lb.)

DXF E120



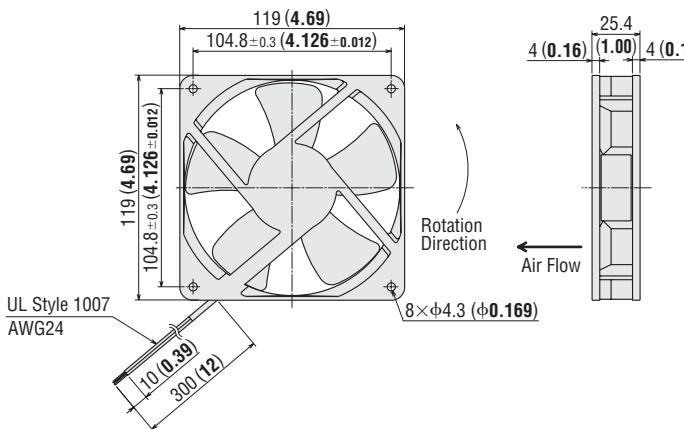
◇ Cable with Connector (Included)



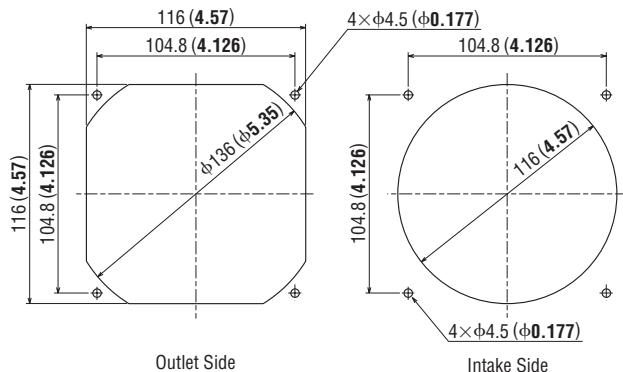
● Lead Wire Type

Mass: 0.19 kg (0.42 lb.)

DXF E021

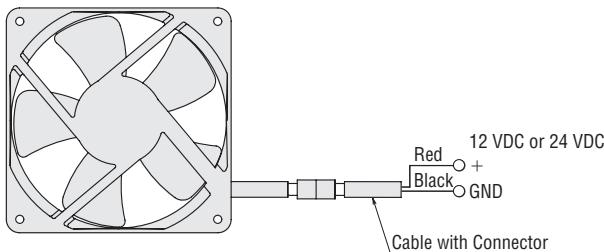


■ Panel Cut-Out Unit = mm (in.)

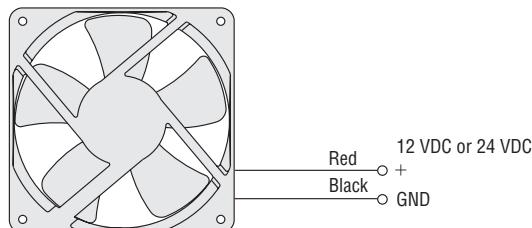


■ Connection Diagrams

● Connector Type



● Lead Wire Type

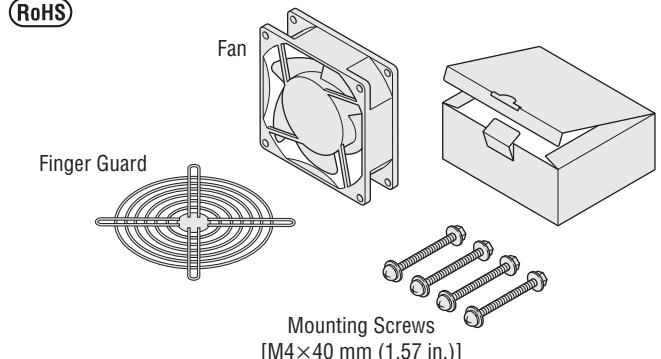


■ Accessories

Product	Model	Page
Finger Guard	FG12D	F-118
Filter	FL12	F-120
Screen	FS12S	F-123

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.



● Product Line

◇ Connector Type

Fan Kit Model

T-MD1225-12HG

T-MD1225-24HG

◇ Lead Wire Type

Fan Kit Model

T-MD1225-12-G

T-MD1225-24-G

● See page F-62 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

(Φ172 mm)
(Φ6.77 in.)(□140 mm)
(□5.51 in.)(□119 mm)
(□4.69 in.)DC Input
(□92 mm)
(□3.62 in.)(□80 mm)
(□3.15 in.)(□62 mm)
(□2.44 in.)(□52 mm)
(□2.05 in.)(□42 mm)
(□1.65 in.)**MD Series**

**□ 92 mm – 25.4 mm Thick
(□ 3.62 in. – 1.00 in. Thick)**



Lead Wire Type

Operating Voltage Range: ±15%

Materials

Frame: Polycarbonate (Flammability grade: V-0)

Blades: Polycarbonate (Flammability grade V-0)

Overheat Protection: Built-in Overheat Protection Circuit

Bearings: Ball Bearings

**Specifications (RoHS)**

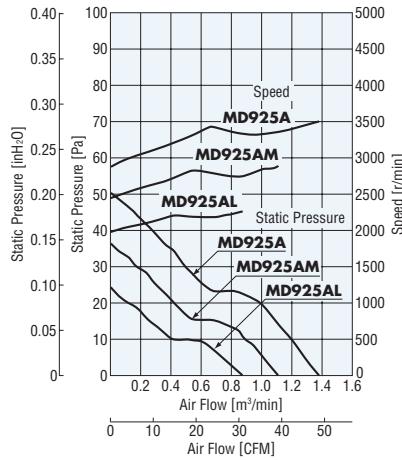
Speed Type	Function	Model		Voltage VDC	Current A	Speed r/min	Max. Air Flow m³/min	Max. Static Pressure CFM Pa	Max. Static Pressure inH₂O	Noise Level dB (A)
		Connector Type	Lead Wire Type							
Standard Speed	Stall Alarm, Electronic Alarm Type (Alarm specifications: ①)	MD925A-12LH	MD925A-12L	12	0.24	3400	1.30	45.9	49	0.196
	Pulse Sensor Type (Alarm specifications: ⑨)	MD925A-24LH	MD925A-24L	24	0.12					
	Standard Type	MD925A-12SH	MD925A-12S	12	0.24					
Middle Speed	Standard Type	MD925A-24SH	MD925A-24S	24	0.12	2800	1.10	38.8	34	0.137
		MD925A-12H	MD925A-12	12	0.24					
Low Speed	Standard Type	MD925A-24H	MD925A-24	24	0.12	2200	0.90	31.8	22	0.0882
		—	MD925AM-12	12	0.15					
		—	MD925AM-24	24	0.09					31
		—	MD925AL-12	12	0.10					25
		—	MD925AL-24	24	0.07					

● For detailed product safety standard information including standards, file number and certification body, please visit www.orientalmotor.com.

● Alarm specifications ①, ⑨ → Page F-21 ● Details of safety standards → Page H-2

The following items are included in each product.

- Connector Type
Fan, Cable with Connector, Operating Manual
- Lead Wire Type
Fan, Operating Manual

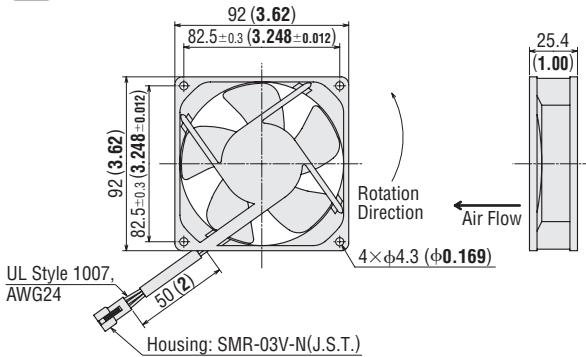
Air Flow – Static Pressure Characteristics**Dimensions Unit = mm (in.)**

● Connector Type

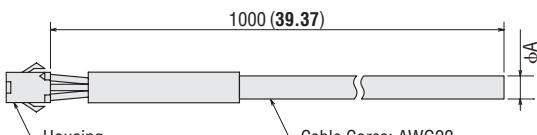
◊ Fan

Mass: 0.12 kg (0.26 lb.)

DXF E121



◊ Cable with Connector (Included)

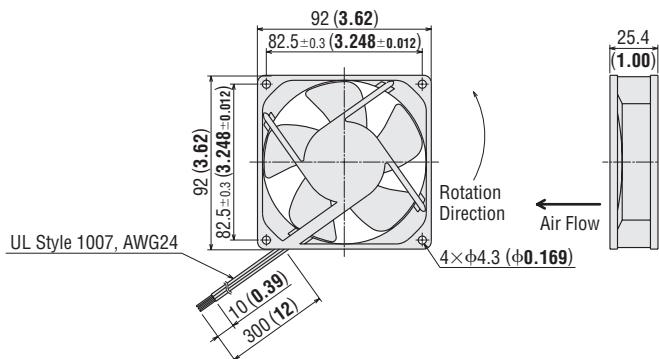
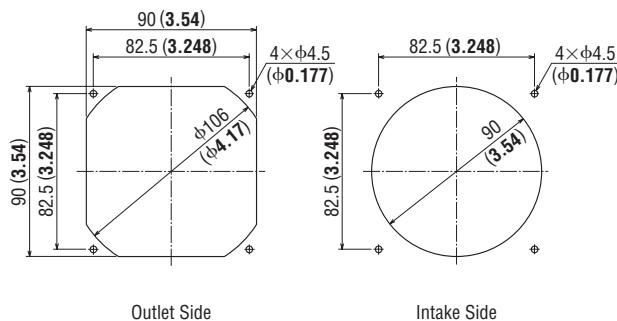


Type	ΦA	Housing P/N
Stall Alarm, Electronic Alarm Type	Φ4.8 (Φ0.19)	SMP-03V-NC (J.S.T.)
Pulse Sensor Type		
Standard Type	Φ4.5 (Φ0.18)	

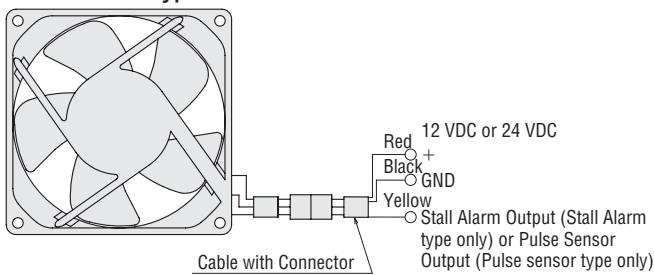
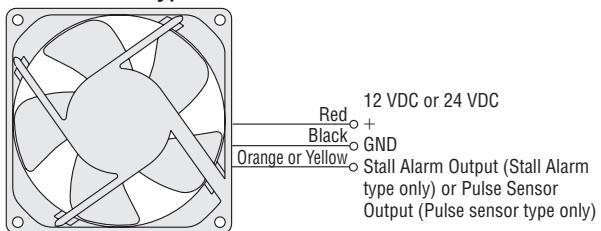
● Lead Wire Type

Mass: 0.12 kg (0.26 lb.)

DXF E022

**■ Panel Cut-Out Unit = mm (in.)**

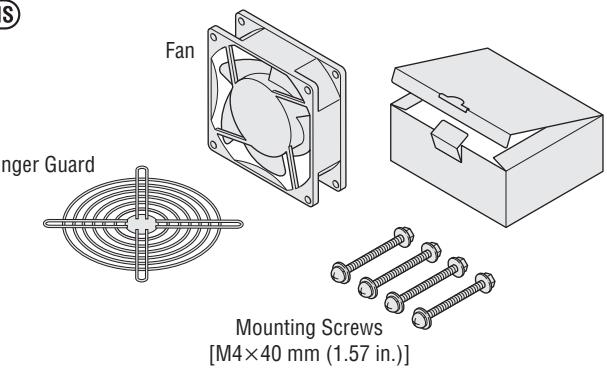
Outlet Side Intake Side

■ Connection Diagrams**● Connector Type****● Lead Wire Type****■ Accessories**

Product	Model	Page
Finger Guard	FG9D	F-118
Filter	FL9	F-120
Screen	FS9S	F-123

● Use M3 screws to install the **FL9** filter to the fan frame.**Fan Kit**

The lineup includes a product configuration containing all necessary accessories in one package.

**● Product Line****◇ Connector Type**

Fan Kit Model

T-MD925A-12LHG	T-MD925A-24LHG
T-MD925A-12SHG	T-MD925A-24SHG
T-MD925A-12HG	T-MD925A-24HG

◇ Lead Wire Type

Fan Kit Model

T-MD925A-12L-G	T-MD925A-24L-G
T-MD925A-12S-G	T-MD925A-24S-G
T-MD925A-12-G	T-MD925A-24-G
T-MD925AM-12-G	T-MD925AM-24-G
T-MD925AL-12-G	T-MD925AL-24-G

● See page F-64 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

DC Axial Flow Fans with Low-Speed Alarm**MDA Series**

The **MDA** Series is similar to the **MD** Series and available with a low-speed alarm function. An alarm is output when the fan speed drops to approximately 70% of the rated level. For more details on the **MDA** Series, please visit www.orientalmotor.com.



MD Series

**□ 80 mm – 25.4 mm Thick
(□ 3.15 in. – 1.00 in. Thick)**



Lead Wire Type

Operating Voltage Range: ±15%

Materials

Frame: Polycarbonate (Flammability grade: V-0)

Blades: Polycarbonate (Flammability grade V-0)

Overheat Protection: Built-in Overheat Protection Circuit

Bearings: Ball Bearings

**■ Specifications (RoHS)**

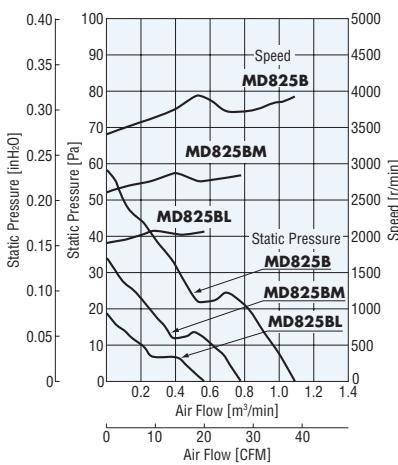
Speed Type	Function	Model		Voltage VDC	Current A	Speed r/min	Max. Air Flow m³/min	Max. Static Pressure CFM Pa	Max. Static Pressure inH₂O	Noise Level dB (A)
		Connector Type	Lead Wire Type							
Standard Speed	Stall Alarm, Electronic Alarm Type (Alarm specifications: ①)	MD825B-12LH	MD825B-12L	12	0.25	3800	1.00	35.3	49	0.196
	Pulse Sensor Type (Alarm specifications: ⑨)	MD825B-24LH	MD825B-24L	24	0.14					
	Standard Type	MD825B-12SH	MD825B-12S	12	0.25					
Middle Speed	Standard Type	MD825B-24SH	MD825B-24S	24	0.14	2850	0.73	25.8	29	0.116
	Standard Type	MD825B-12H	MD825B-12	12	0.25					
Low Speed	Standard Type	MD825B-24H	MD825B-24	24	0.14	2100	0.55	19.4	16	0.0642
	Standard Type	–	MD825BM-12	12	0.15					
Middle Speed	Standard Type	–	MD825BM-24	24	0.09	2850	0.73	25.8	29	0.116
	Standard Type	–	MD825BL-12	12	0.07					

● For detailed product safety standard information including standards, file number and certification body, please visit www.orientalmotor.com.

● Alarm specifications ①, ⑨ → Page F-21 ● Details of safety standards → Page H-2

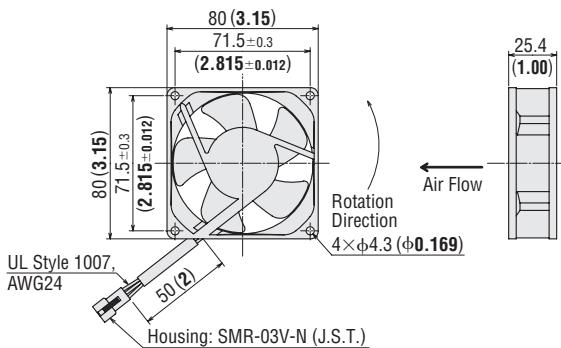
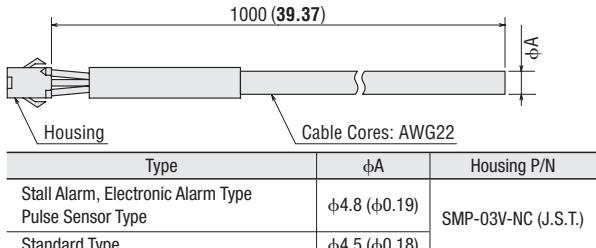
The following items are included in each product.

- Connector Type
Fan, Cable with Connector, Operating Manual
- Lead Wire Type
Fan, Operating Manual

■ Air Flow – Static Pressure Characteristics**■ Dimensions Unit = mm (in.)****● Connector Type****◇ Fan**

Mass: 0.11 kg (0.24 lb.)

DXF E122

**◇ Cable with Connector (Included)**(φ172 mm)
(□5.51 in.)DC Input
(□4.69 mm)
(□3.62 in.)(□80 mm)
(□2.44 in.)(□52 mm)
(□2.05 in.)(□42 mm)
(□1.65 in.)

(□3.15 in.)

(□2.05 in.)

(□1.65 in.)

(□3.15 in.)

(□2.44 in.)

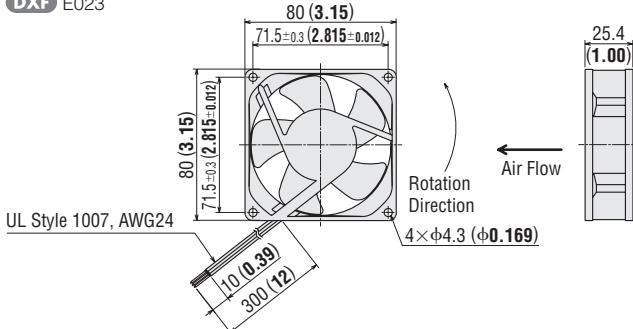
(□2.05 in.)

(□1.65 in.)

● Lead Wire Type

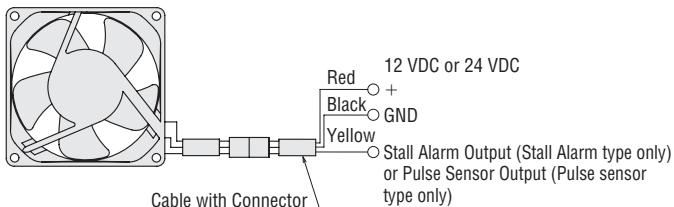
Mass: 0.11 kg (0.24 lb.)

DXF E023

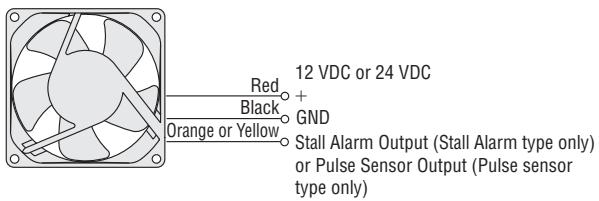


■ Connection Diagrams

● Connector Type



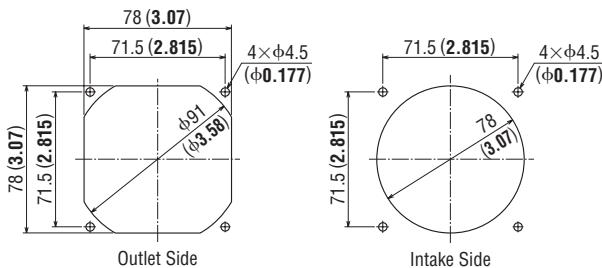
● Lead Wire Type



■ Accessories

Product	Model	Page
Finger Guard	FG8D	F-118
Filter	FL8	F-120
Screen	FS8S	F-123

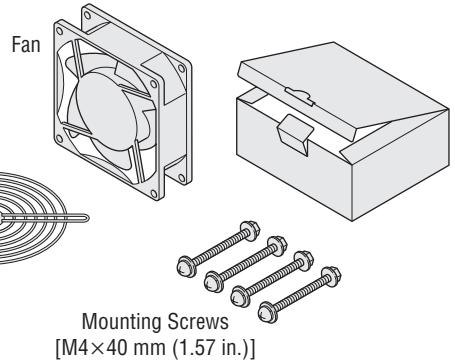
■ Panel Cut-Out Unit = mm (in.)



Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.

RoHS



● Product Line

◇ Connector Type

Fan Kit Model	
T-MD825B-12LHG	T-MD825B-24LHG
T-MD825B-12SHG	T-MD825B-24SHG
T-MD825B-12HG	T-MD825B-24HG

◇ Lead Wire Type

Fan Kit Model	
T-MD825B-12L-G	T-MD825B-24L-G
T-MD825B-12S-G	T-MD825B-24S-G
T-MD825B-12-G	T-MD825B-24-G
T-MD825BM-12-G	T-MD825BM-24-G
T-MD825BL-12-G	—

● See page F-66 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

DC Axial Flow Fans with Low-Speed Alarm

MDA Series **NEW**

The **MDA** Series is similar to the **MD** Series and available with a low-speed alarm function. An alarm is output when the fan speed drops to approximately 70% of the rated level. For more details on the **MDA** Series, please visit www.orientalmotor.com.



$\phi 172$ mm
($\phi 6.77$ in.)

$\square 140$ mm
($\square 5.51$ in.)

$\square 119$ mm
($\square 4.69$ in.)

$\square 92$ mm
($\square 3.62$ in.)

$\square 80$ mm
($\square 3.15$ in.)

DC Input

$\square 62$ mm
($\square 2.44$ in.)

$\square 52$ mm
($\square 2.05$ in.)

$\square 42$ mm
($\square 1.65$ in.)

MD Series

62 mm – 25.4 mm Thick
(**2.44 in. – 1.00 in. Thick**)



Lead Wire Type

Operating Voltage Range: $\pm 15\%$

Materials

Frame: Polycarbonate (Flammability grade: V-0)

Blades: Polycarbonate (Flammability grade V-0)

Overheat Protection: Built-in Overheat Protection Circuit

Bearings: Ball Bearings

**Specifications (RoHS)**

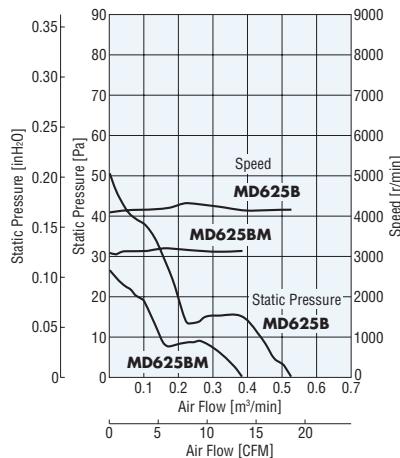
Speed Type	Function	Model		Voltage VDC	Current A	Speed r/min	Max. Air Flow m³/min CFM		Max. Static Pressure Pa inH₂O		Noise Level dB (A)
		Connector Type	Lead Wire Type								
Standard Speed	Stall Alarm, Electronic Alarm Type (Alarm specifications: ①)	MD625B-12LH	MD625B-12L	12	0.16	4000	0.50	17.7	49	0.196	30
	Pulse Sensor Type (Alarm specifications: ②)	MD625B-24LH	MD625B-24L	24	0.10						
	Standard Type	MD625B-12SH	MD625B-12S	12	0.16						
Middle Speed	Standard Type	MD625B-24SH	MD625B-24S	24	0.10	3000	0.37	13.1	27	0.109	20
		–	MD625BM-12	12	0.10						
		–	MD625BM-24	24	0.07						

For detailed product safety standard information including standards, file number and certification body, please visit www.orientalmotor.com.

● Alarm specifications ①, ② → Page F-21 ● Details of safety standards → Page H-2

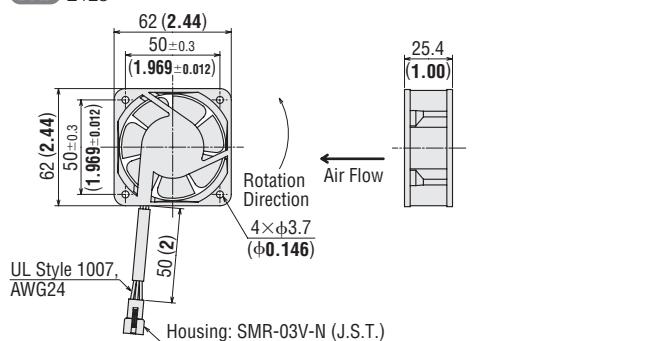
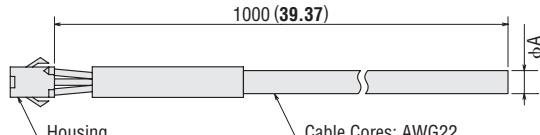
The following items are included in each product.

- Connector Type
Fan, Cable with Connector, Operating Manual
- Lead Wire Type
Fan, Operating Manual

Air Flow – Static Pressure Characteristics**Dimensions Unit = mm (in.)****● Connector Type****◇ Fan**

Mass: 0.1 kg (0.22 lb.)

DXF E123

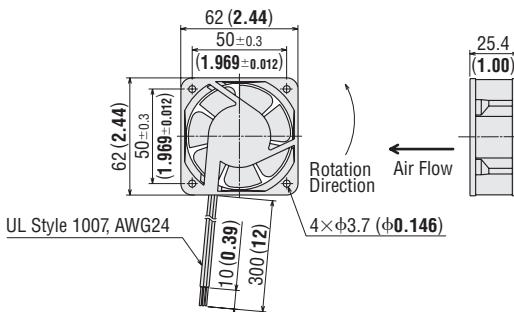
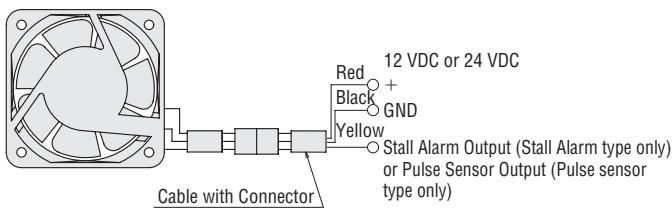
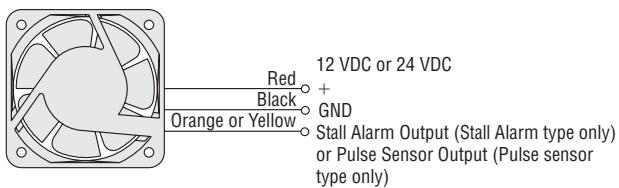
**◇ Cable with Connector (Included)**

Type	φA	Housing P/N
Stall Alarm, Electronic Alarm Type	Φ4.8 (Φ0.19)	SMP-03V-NC (J.S.T.)
Pulse Sensor Type	Φ4.5 (Φ0.18)	
Standard Type		

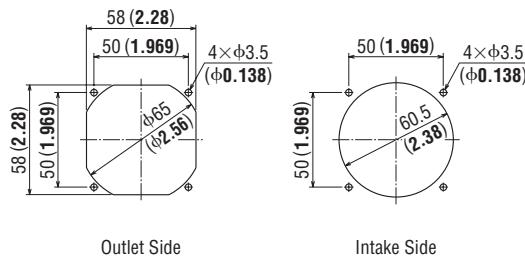
● Lead Wire Type

Mass: 0.1 kg (0.22 lb.)

DXF E024

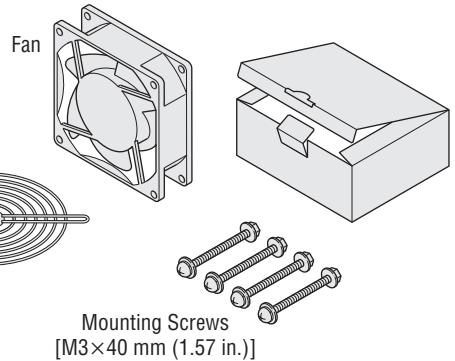
**■ Connection Diagrams****● Connector Type****● Lead Wire Type****■ Accessories**

Product	Model	Page
Finger Guard	FG6D	F-118
Filter	FL6	F-120
Screen	FS6S	F-123

■ Panel Cut-Out Unit = mm (in.)**Fan Kit**

The lineup includes a product configuration containing all necessary accessories in one package.

RoHS

**● Product Line****◇ Connector Type**

Fan Kit Model	
T-MD625B-12LHG	T-MD625B-24LHG
T-MD625B-12SHG	T-MD625B-24SHG
T-MD625B-12HG	T-MD625B-24HG

◇ Lead Wire Type

Fan Kit Model	
T-MD625B-12L-G	T-MD625B-24L-G
T-MD625B-12S-G	T-MD625B-24S-G
T-MD625B-12-G	T-MD625B-24-G
T-MD625BM-12-G	T-MD625BM-24-G

● See page F-68 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

DC Axial Flow Fans with Low-Speed Alarm**MDA Series** NEW

The **MDA** Series is similar to the **MD** Series and available with a low-speed alarm function. An alarm is output when the fan speed drops to approximately 70% of the rated level. For more details on the **MDA** Series, please visit www.orientalmotor.com.



Ⓛ 172 mm
 Ⓛ 140 mm
 Ⓛ 119 mm
 Ⓛ 4.69 in.
 Ⓛ 92 mm
 Ⓛ 80 mm
 Ⓛ 62 mm
 Ⓛ 52 mm
 Ⓛ 42 mm
 DC Input
 Ⓛ 1.77 in.
 Ⓛ 5.51 in.
 Ⓛ 4.89 in.
 Ⓛ 3.62 in.
 Ⓛ 3.15 in.
 Ⓛ 2.44 in.
 Ⓛ 2.05 in.
 Ⓛ 1.65 in.

MDS Series

52 mm – 10 mm Thick
 2.05 in. – 0.39 in. Thick)



Lead Wire Type

Operating Voltage Range: ±10%

Materials

Frame: Polycarbonate (Flammability grade: V-0)

Blades: PBT (Flammability grade: V-0)

Overheat Protection: Built-in Overheat Protection Circuit

Bearings: Ball Bearings



Specifications (RoHS)

Speed Type	Function	Model		Voltage VDC	Current A	Speed r/min	Max. Air Flow m³/min	Max. Static Pressure CFM	Max. Static Pressure Pa	Noise Level inH₂O	Noise Level dB (A)
		Connector Type	Lead Wire Type								
Standard Speed	Stall Alarm, Electronic Alarm Type (Alarm specifications: ①)	MDS510-12LH	MDS510-12L	12	0.14	7000	0.27	9.53	54	0.217	36
	Standard Type	MDS510-24LH	MDS510-24L	24	0.08						
Middle Speed	Standard Type	MDS510-12H	MDS510-12	12	0.14	5500	0.20	7.06	32	0.129	30
		MDS510-24H	MDS510-24	24	0.08						
		MDS510M-5H	MDS510M-5	5	0.20						
		–	MDS510M-12	12	0.12						
		–	MDS510M-24	24	0.06						

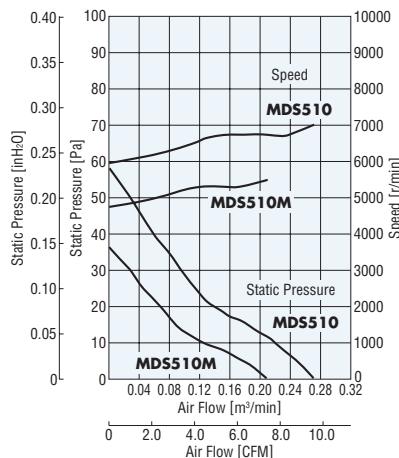
● Only lead wire type is DEMKO certified.

● Alarm specifications ① → Page F-21 ● Details of safety standards → Page H-2

— The following items are included in each product.

- Connector Type
Fan, Cable with Connector, Operating Manual
- Lead Wire Type
Fan, Operating Manual

Air Flow – Static Pressure Characteristics



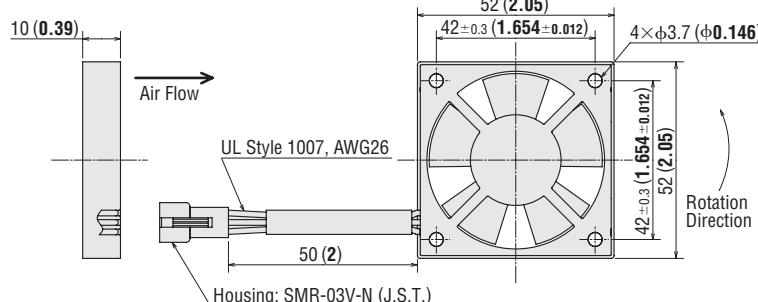
Dimensions Unit = mm (in.)

● Connector Type

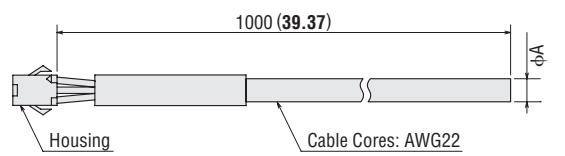
◇ Fan

Mass: 30 g (1.06 oz.)

DXF E124



◇ Cable with Connector (Included)

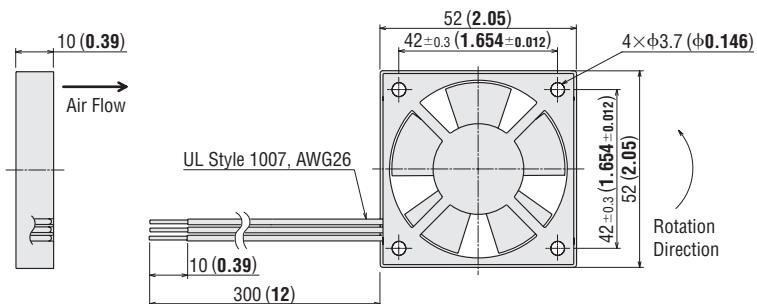


Type	φA	Housing P/N
Stall Alarm, Electronic Alarm Type	φ4.8 (φ0.19)	SMP-03V-NC (J.S.T.)
Standard Type, Standard Speed	φ4.5 (φ0.18)	
Standard Type, Middle Speed		

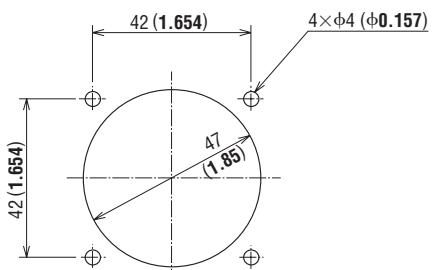
● Lead Wire Type

Mass: 30 g (1.06 oz.)

DXF E018



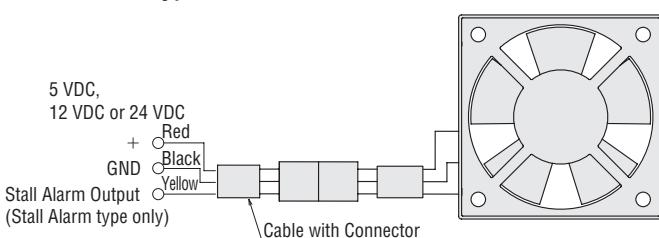
■ Panel Cut-Out Unit = mm (in.)



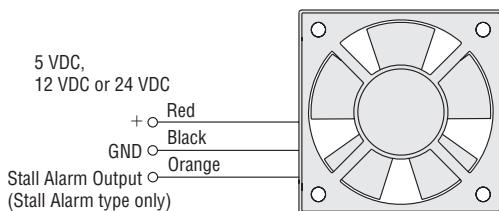
Outlet Side/Intake Side

■ Connection Diagrams

● Connector Type



● Lead Wire Type

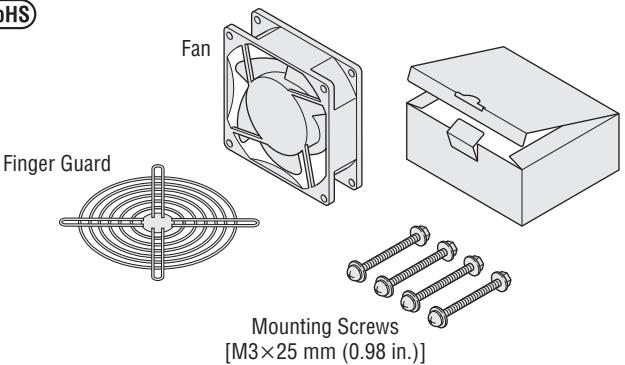


■ Accessories

Product	Model	Page
Finger Guard	FG5D	F-118

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.



● Product Line

◇ Connector Type

Fan Kit Model	
T-MDS510-12LHG	T-MDS510-24LHG
T-MDS510-12HG	T-MDS510-24HG
T-MDS510M-5HG	—

◇ Lead Wire Type

Fan Kit Model	
T-MDS510-12L-G	T-MDS510-24L-G
T-MDS510-12-G	T-MDS510-24-G
T-MDS510M-5-G	—
T-MDS510M-12-G	T-MDS510M-24-G

● See page F-70 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

(φ172 mm)
(φ6.77 in.)(□140 mm)
(□5.51 in.)(□119 mm)
(□4.69 in.)DC Input
Standard Speed(□92 mm)
(□3.62 in.)(□80 mm)
(□3.15 in.)(□62 mm)
(□2.44 in.)(□52 mm)
(□2.05 in.)(□42 mm)
(□1.65 in.)**MDS Series**

42 mm – 10 mm Thick
 (1.65 in. – 0.39 in. Thick)



Lead Wire Type

Operating Voltage Range: ±10%

Materials

Frame: Polycarbonate (Flammability grade: V-0)

Blades: PBT (Flammability grade: V-0)

Overheat Protection: Built-in Overheat Protection Circuit

Bearings: Ball Bearings

**Specifications** RoHS

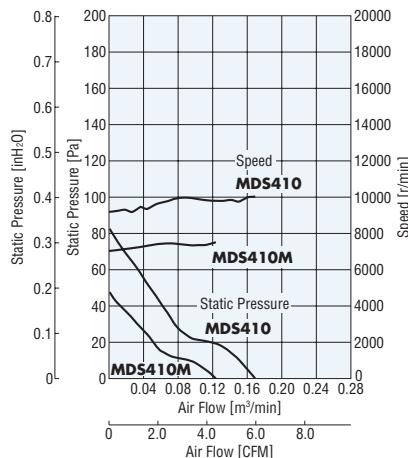
Speed Type	Function	Model		Voltage VDC	Current A	Speed r/min	Max. Air Flow m³/min	Max. Static Pressure CFM	Max. Static Pressure Pa	Noise Level inH₂O	Noise Level dB (A)
		Connector Type	Lead Wire Type								
Standard Speed	Stall Alarm, Electronic Alarm Type (Alarm specifications: ①)	MDS410-12LH	MDS410-12L	12	0.16	10000	0.18	6.35	86	0.345	34
		MDS410-24LH	MDS410-24L	24	0.09						
	Standard Type	MDS410-12H	MDS410-12	12	0.16						
		MDS410-24H	MDS410-24	24	0.09						
Middle Speed	Standard Type	MDS410M-5H	MDS410M-5	5	0.20	7500	0.13	4.59	47	0.188	25

● Only lead wire type is DEMKO certified.

● Alarm specifications ① → Page F-21 ● Details of safety standards → Page H-2

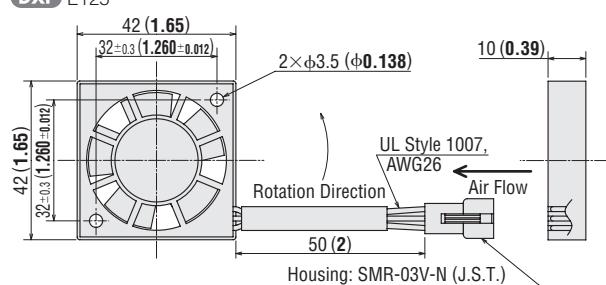
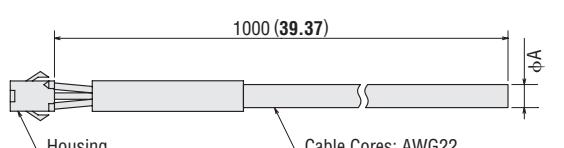
The following items are included in each product.

- Connector Type
Fan, Cable with Connector, Operating Manual
- Lead Wire Type
Fan, Operating Manual

Air Flow – Static Pressure Characteristics**Dimensions** Unit = mm (in.)**Connector Type****Fan**

Mass: 25 g (0.88 oz.)

DXF E125

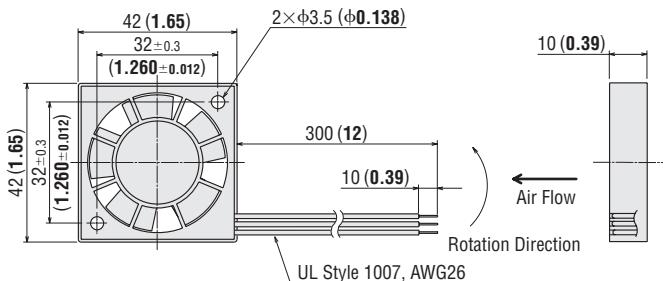
**Cable with Connector (Included)**

Type	φA	Housing P/N
Stall Alarm, Electronic Alarm Type	φ4.8 (φ0.19)	SMP-03V-NC (J.S.T.)
Standard Type, Standard Speed	φ4.5 (φ0.18)	
Standard Type, Middle Speed	φ4.5 (φ0.18)	

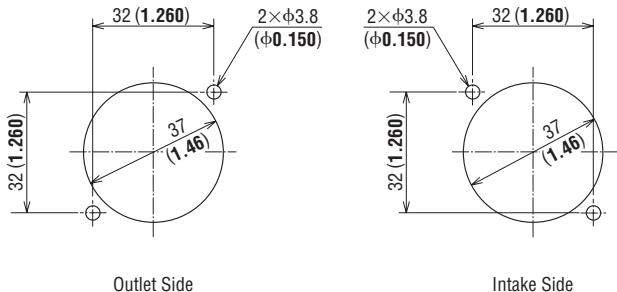
● Lead Wire Type

Mass: 25 g (0.88 oz.)

DXF E019



■ Panel Cut-Out Unit = mm (in.)

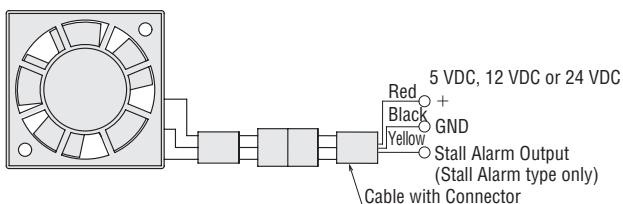


Outlet Side

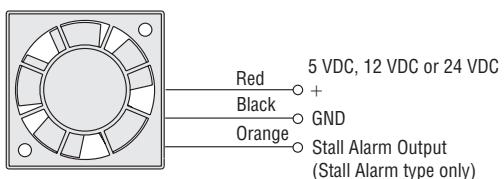
Intake Side

■ Connection Diagrams

● Connector Type



● Lead Wire Type



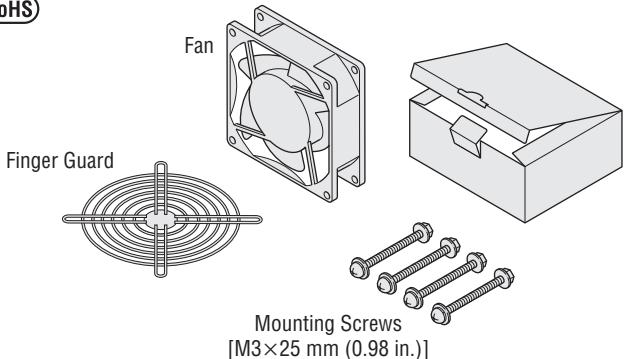
■ Accessories

Product	Model	Page
Finger Guard	FG4D	F-118

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.

RoHS



● Product Line

◇ Connector Type

Fan Kit Model	
T-MDS410-12LHG	T-MDS410-24LHG
T-MDS410-12HG	T-MDS410-24HG
T-MDS410M-5HG	—

◇ Lead Wire Type

Fan Kit Model	
T-MDS410-12L-G	T-MDS410-24L-G
T-MDS410-12-G	T-MDS410-24-G
T-MDS410M-5-G	—

● See page F-72 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.



Long-Life Fans

MDE Series

140 mm – 51 mm Thick
(5.51 in. – 2.01 in. Thick)



Operating Voltage Range: ±15%
Materials
Frame: Die Cast Aluminum
Blades: Polycarbonate (Flammability grade V-0)
Overheat Protection: Built-in Overheat Protection Circuit
Bearings: Ball Bearings

The 100,000 hours of expected life indicates that more than 90% of fans will satisfy the following criteria when used at an ambient temperature of 60°C (140°F).

Criteria: Speed (at rated voltage): Greater than 70% of rated speed
Input Current (at rated voltage): Less than 130% of rated current

Specifications



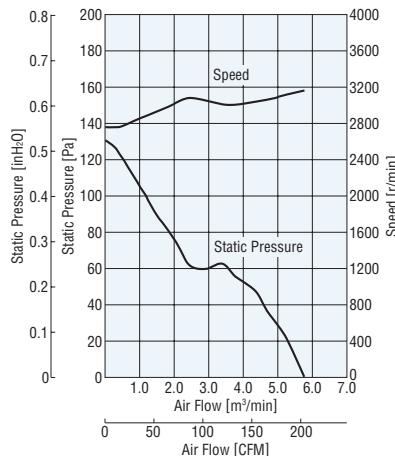
Speed Type	Function	Model	Voltage VDC	Current A	Speed r/min	Max. Air Flow m³/min	Max. Static Pressure Pa	Noise Level inH₂O	Noise Level dB (A)
Standard Speed	Stall Alarm, Electronic Alarm Type (Alarm specifications: ①)	MDE1451-24L2	24	0.7	3150	5.8	205	0.521	49
		MDE1451-48L2	48	0.35					

● Alarm specifications ① → Page F-21 ● Details of safety standards → Page H-2

— The following items are included in each product.

Fan, Operating Manual

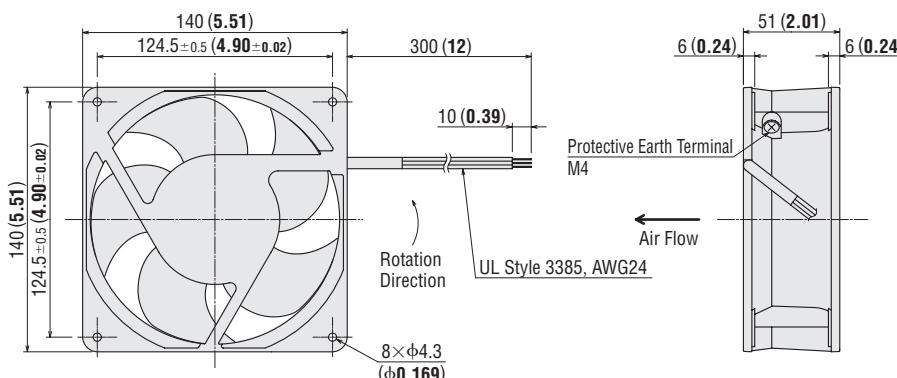
Air Flow – Static Pressure Characteristics

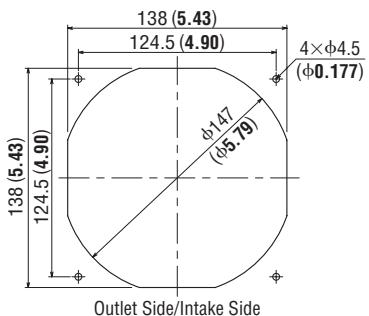
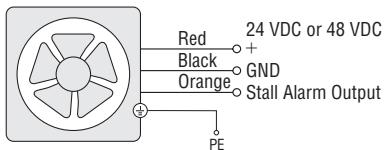


Dimensions Unit = mm (in.)

Mass: 0.65 kg (1.43 lb.)

DXF E109

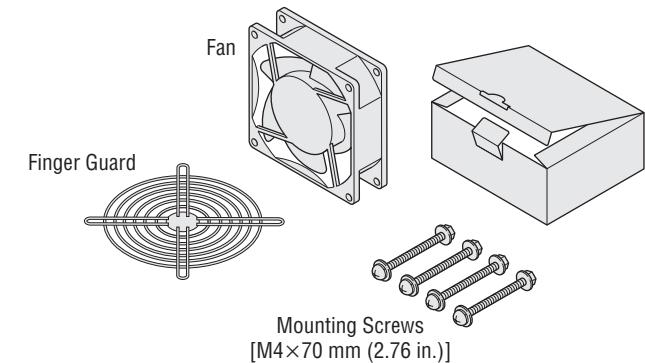


Panel Cut-Out Unit = mm (in.)**Connection Diagram****Accessories**

Product	Model	Page
Finger Guard	FG14D	F-118
Filter	FL14	F-120

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.

**Product Line**

Fan Kit Model

T-MDE1451-24L2G
T-MDE1451-48L2G

- See page F-74 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

$\phi 172$ mm
(6.77 in.)

$\square 140$ mm
(5.51 in.)

$\square 119$ mm
(4.69 in.)

$\square 92$ mm
(3.62 in.)

$\square 80$ mm
(3.15 in.)

$\square 62$ mm
(2.44 in.)

$\square 52$ mm
(2.05 in.)

$\square 42$ mm
(1.65 in.)

Long-Life Fans

MDE Series

$\square 119$ mm – 25.4 mm Thick
(4.69 in. – 1.00 in. Thick)



Operating Voltage Range: $\pm 15\%$

Materials

Frame: Die Cast Aluminum

Blades: Polycarbonate (Flammability grade V-0)

Overheat Protection: Built-in Overheat Protection Circuit

Bearings: Ball Bearings

The 100,000 hours of expected life indicates that more than 90% of fans will satisfy the following criteria when used at an ambient temperature of 60°C (140°F).

Criteria: Speed (at rated voltage): Greater than 70% of rated speed
Input Current (at rated voltage): Less than 130% of rated current

Specifications (RoHS)

Speed Type	Function	Model	Voltage VDC	Current A	Speed r/min	Max. Air Flow m³/min	Max. Static Pressure Pa	Noise Level inH₂O	Noise Level dB (A)
Standard Speed	Stall Alarm, Electronic Alarm Type (Alarm specifications: ①)	MDE1225-12L	12	0.58	3000	2.7	95.3	70	0.281
		MDE1225-24L	24	0.30					46

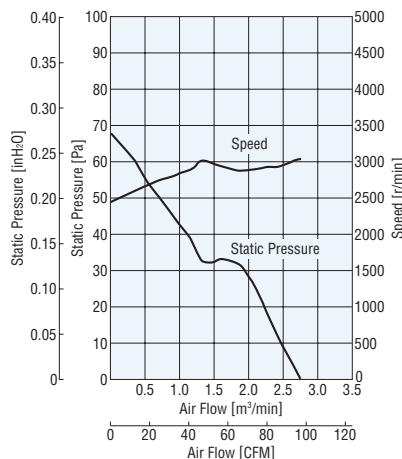
① Alarm specifications ① → Page F-21 ② Details of safety standards → Page H-2

The following items are included in each product.

Fan, Operating Manual



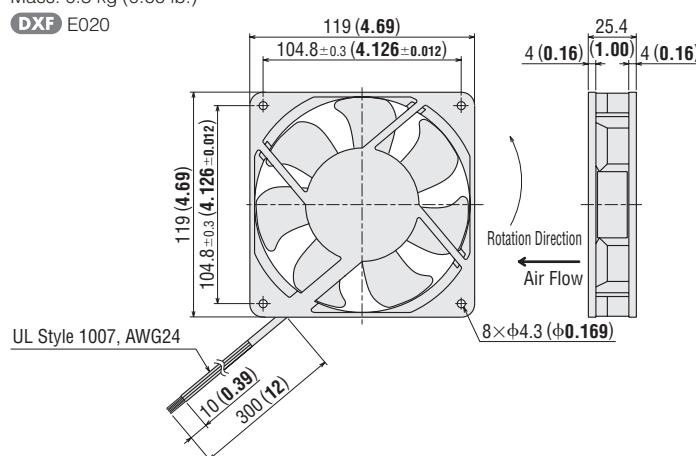
Air Flow – Static Pressure Characteristics

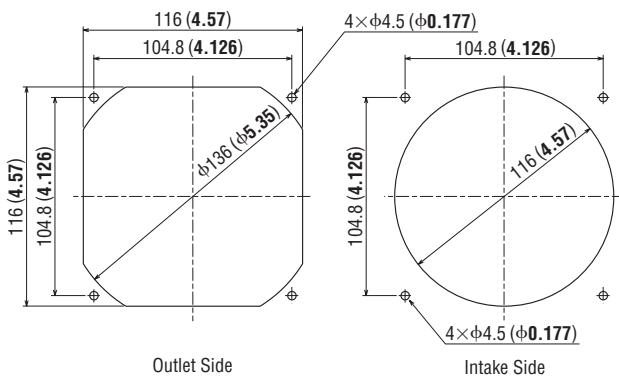
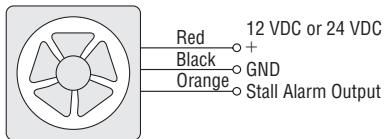


Dimensions Unit = mm (in.)

Mass: 0.3 kg (0.66 lb.)

DXF E020

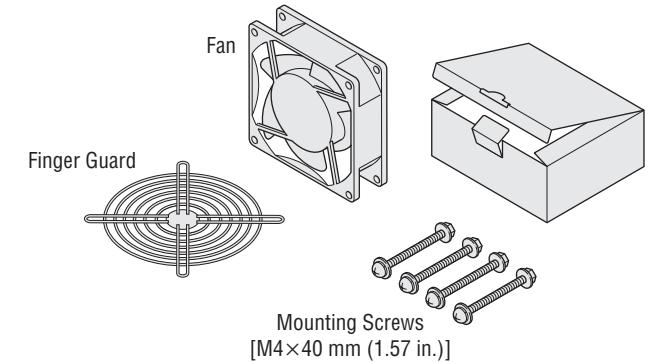


Panel Cut-Out Unit = mm (in.)**Connection Diagram****Accessories**

Product	Model	Page
Finger Guard	FG12D	F-118
Filter	FL12	F-120
Screen	FS12S	F-123

Fan Kit

The lineup includes a product configuration containing all necessary accessories in one package.

**Product Line**

Fan Kit Model

T-MDE1225-12L-G**T-MDE1225-24L-G**

- See page F-76 to determine base fan required (Voltage/Alarm) and page F-30 for fan kits product number code.

