

Mist Collector

Mistrésa



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SHOWA DENKI CO., LTD.

Mistresa®

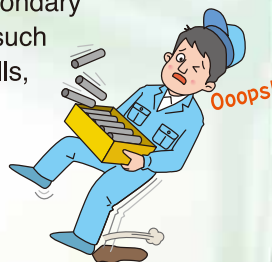
Effects on health of personnel

Depending on the kind of mist, it can cause headaches or skin rashes or make skin sticky.



Causes of secondary accidents

When the mist sticks to the floor, it can make it slippery and lead to secondary accidents such as slips, falls, etc.



Effects on manufacturing machinery

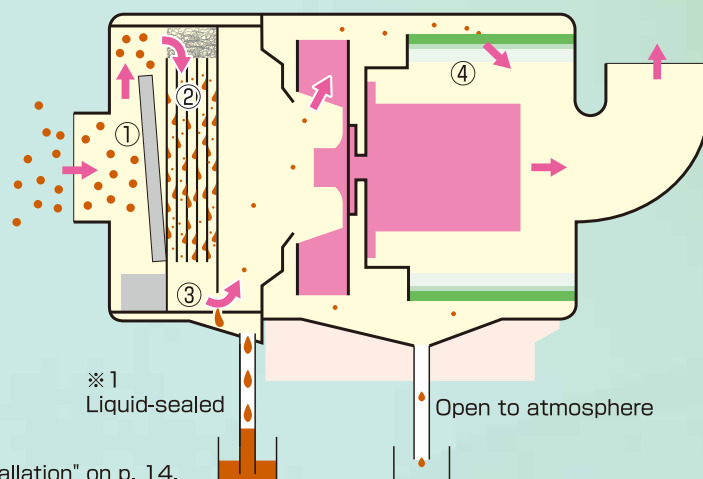
If nothing is done about the mist, it may cause malfunctions in the electrical systems inside manufacturing machinery.



This is how mist is collected.

Mistresa's mechanism (Reduced-maintenance series CRX type example)

- ① First, part of the sucked-in mist strikes the collision plate (with demister), forming droplets which are collected. The dust contained in the mist also strikes the collision plate and is removed.
- ② Small mist particles adhere to the air pass and fall, growing into larger droplets.
- ③ The liquid droplets fall downward along the inner walls of the air pass due to gravity and the flow of air and are discharged.
- ④ The end filter has a 3-layer structure. The first layer removes large particles and the high-performance filter of the second filter catches and removes small mist particles.



※1 Refer to "Easy installation" on p. 14.

solves the bad effects caused by mist coming from machine tools, etc.

Reduced will to work

Mist filling the workplace or mist that comes out when the door of a machine tool is opened reduces the will to work of workers, leading to a decline in production efficiency.



Environmental destruction/energy loss

Systems that exhaust the mist outdoors lead to environmental destruction, and also reduce the effects of heating/cooling systems which greatly increases air-conditioning expenses.

The air conditioning doesn't have much effect.



Are your countermeasures for mists generated by processes such as cutting, grinding, heat-treatment, rolling, pressing, etc. complete? We would like to propose how to use Mistresa effectively to improve the working environment and increase productivity.

Features

Since the start of sales of Showa Denki's Mistresa in 1993, total sales have already exceeded 60,000 units (as of February 2009). In addition, through model improvements and development of new products, we currently offer a lineup of 23 models with motor outputs from 0.2kW to 2.2kW which are actively employed for improving working environments.

Reliability

A total of more than 60,000 Mistresa units are already being used in a variety of workplaces.

Compact design

An easy-to-install design and lower weight reduces the load on machinery, etc.

Optional accessories

A wide range of accessories enables compatibility in a variety of workplaces. (See p. 11 and 12.)

Customization






We can also create a variety of custom specifications to meet the needs of customers.

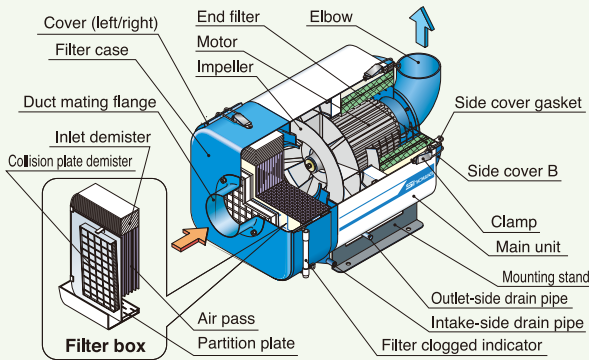
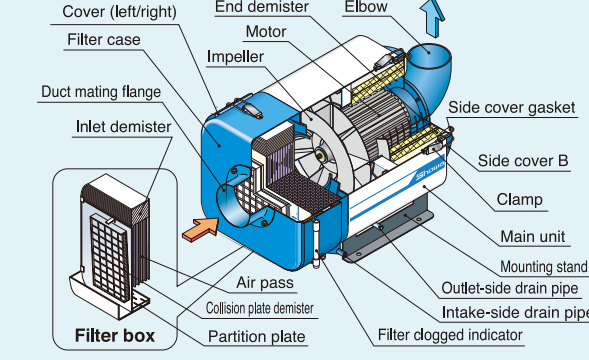
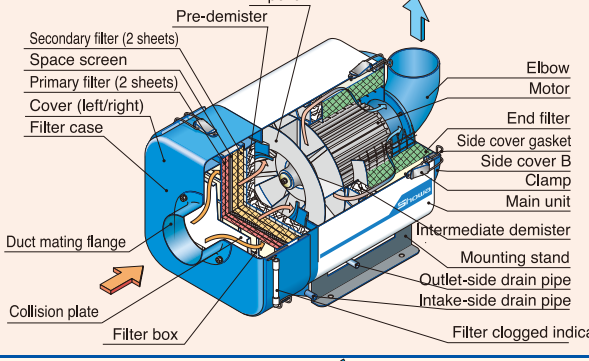
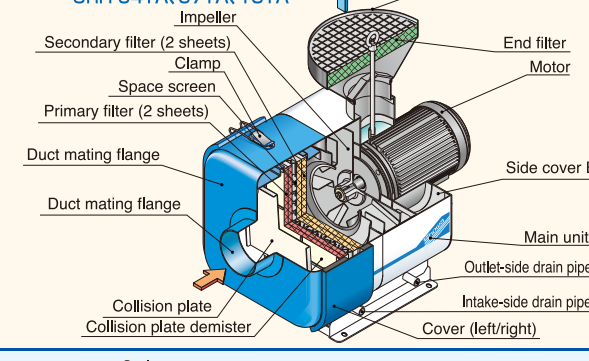
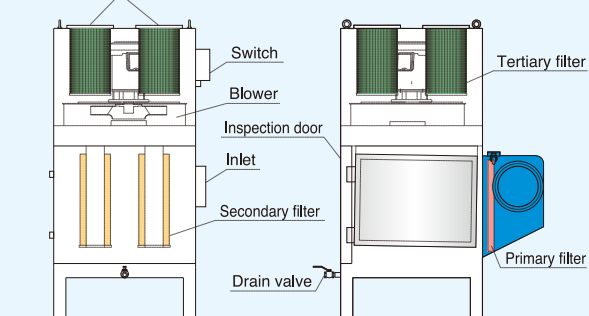
Technical prowess

The motors are safe designs developed in-house. The motors of CRX and CRD types meet IP65 standards (dust-tight, protected against water jets).

Comprehensive service

From installation of Mistresa to follow-up service after sales, our nationwide sales staff provide quick response.

Page	Model	Features	Application
P.5	Reduced-maintenance series (CRX type) 	Unlike filter filtration types, an air pass system that collects and discharges mist by air flow and gravity is employed, greatly reducing maintenance and waste such as filters, etc.	Machine tools NC lathes, general-purpose lathes, milling machines, machining centers, electro-discharge machines, die-casting machines Other Machines that generate mist
P.6	Reduced-maintenance series (CRX -NS type) 	Unlike filter filtration types, an air pass system that collects and discharges mist by air flow and gravity is employed together with an end demister, greatly reducing maintenance and waste.	Machine tools NC lathes, general-purpose lathes, milling machines, machining centers, electro-discharge machines Other Machines that generate mist
P.7	Mist- (dust-) handling series (CRD type) 	Can also handle mist containing fine dust particles. Filter can be replaced even with the duct hose connected, making maintenance easy.	Machine tools NC lathes, general-purpose lathes, cylindrical grinders, inside grinders, milling machines, machining centers, electro-discharge machines, die-casting machines Other Machines that generate mist
P.8	High-temperature-mist-handling series (CRH type) 	Can handle high-temperature (up to 80°C) mists generated by parts washers, etc.	Parts washers (water-type, hydrocarbon type) Other Machines that generate mist
P.9	High-air-flow type (CRL-2200) 	Ideal for when high air flow is necessary, such as for open-type machining centers, etc.	Machine tools (for water-soluble cutting fluid) Machining centers, die-casting machines Other Machines that generate mist

Structure and names of parts	Model	Output (kW)	Maximum air flow (m ³ /min) 50/60Hz	Operating noise (dB(A)) 50/60Hz		Collection efficiency (%)	Applicable mists ※1	
							Water- soluble	Oil- based
	CRX-04A	0.4	3.4/4.0	1m from machine side	60/64	99.8 by weight oil mist	○	○
	CRX-07A	0.75	6.5/7.5		66/71			
	CRX-15A	1.5	12/14.5		71/75			
	CRX-22A	2.2	16/19		75/79			
	CRX-04NSA	0.4	5.1/6.0	1m from machine side	Not determined	98.3 by weight oil mist	○	
	CRX-07NSA	0.75	9.4/11		Not determined			
	CRX-15NSA	1.5	16/19		Not determined			
	CRX-22NSA	2.2	20.5/24.5		Not determined			
	CRD-400RA	0.4	4.2/5.0	1m from machine side	59/63	99.8 by weight oil mist	○	○
	CRD-750RA	0.75	8.0/9.6		64/68			
	CRD-1500RA	1.5	15/18		70/74			
	CRD-2200RA	2.2	20/24		71/75			
	CRH-100TA	0.2	2.1/2.4	1m from machine side	56/60	99.4 by weight oil mist	○	○
	CRH-200TA	0.2	2.7/3.2		59/63			
	CRH-04TA	0.4	4.8/5.7		58/64			
	CRH-07TA	0.75	7.6/9.2		63/66			
	CRH-15TA	1.5	13.6/16		68/72			
	CRL-2200	2.2	30 Rated air flow	1m from front	69	98.0 by weight oil mist	○	

※1 Refer to Mistresa installation notes on p.13.

Mistrésa® Reduced-maintenance series (CRX type)

Air pass reduces waste and maintenance Features



Application

Machine tools

NC lathes, general-purpose lathes, milling machines, machining centers, electro-discharge machines, die-casting machines

Other

Machines that generate mist

Features

Greatly reduces waste

Use of the air pass (patent pending) and the increased life of the end filter greatly reduce filter waste.

Greatly reduces maintenance frequency and time

Use of the air pass which rarely clogs means that maintenance involves only the end filter. Since the air pass by itself has a collection efficiency of 99.2%, the load on the end filter is greatly reduced, meaning it is maintenance-free for approximately a year. (Based on our company's test results.)

Equipped with filter clogged indicator

The filter clogged indicator enables checking the filter clogged status during operation. (Can be mounted on either the left or right side.)

High collection efficiency

Achieves a mist collection efficiency of 99.8%.

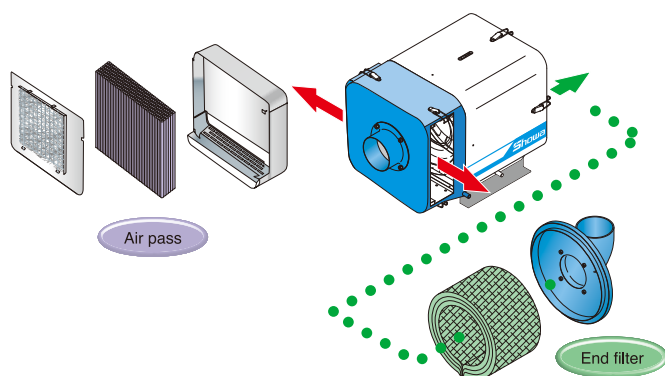
Excellent motor performance

The motor which is used was developed within our company and has a protection class of IP65 (dust-tight, protected against water jets) to provide a worry-free design.

Equipped with motor burnout prevention terminal

To prevent burnout, a thermally reactive thermal protector is attached to the windings. Burnout can be prevented by connecting this terminal to the operating circuits of the motor relay.

Air pass and filter structure



Standard specifications

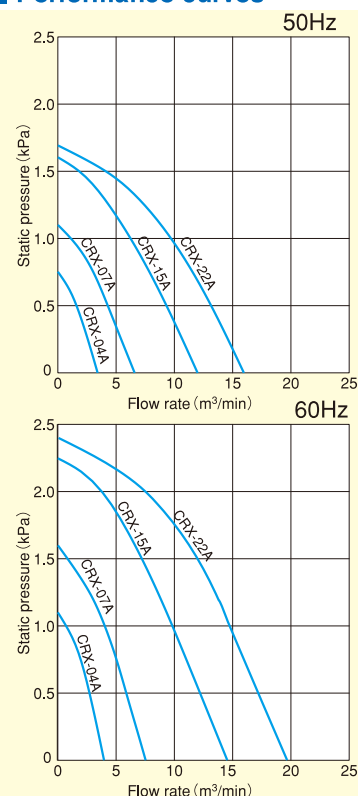
Item	Model	CRX-04A	CRX-07A	CRX-15A	CRX-22A
Power source		3-Phase 50Hz/60Hz Refer to the nameplate.			
Output (kW)		0.4	0.75	1.5	2.2
Frequency (Hz)		50/60/60	50/60/60	50/60/60	50/60/60
Maximum flow rate (m³/min)		3.4/4.0	6.5/7.5	12/14.5	16/19
Maximum static pressure (kPa)		0.75/1.10	1.10/1.60	1.60/2.25	1.70/2.40
Operating noise (1m from machine side; dB (A))		60/64	66/71	71/75	75/79
Collection efficiency (%)		99.8 (by weight : oil mist)			
Maximum intake air temperature (°C)		50			
Weight (kg)		33	43	62	75
Suction inlet diameter (mm)		φ98	φ123	φ148	φ198
Ambient temperature (°C)		MAX.50			
Paint color		Main body: N8 (White); Side cover, etc.: 2,5PB 3.5/10 (Blue); Mounting stand: N-1 (Black)			
Standard accessories		Drain tubes (2.5m) 2 Hose bands (for drain tube) 2 Crimp terminals (TMEV2Y-3.5) 7 Anti-vibration pads 4 Mounting hole template 1 Duct mating flange set 1			

※ Operating noise was measured according to JIS B8330 "Testing Methods For Turbo-Fans". Further, operating noise will vary depending on operating environment and operating conditions.

Consumables list

Product name		CRX-04A	CRX-07A	CRX-15A	CRX-22A
End filter set	Model	3KE-175A	3KE-190A	3KE-235A	3KE-265A
	Product code	10002584	10002585	10002586	10003672

Performance curves



Mistrésa® Reduced-maintenance series (CRX-NS type)

Air pass and end demister greatly reduces waste and maintenance



Application

Machine tools

NC lathes, general-purpose lathes, milling machines, machining centers, electro-discharge machines

Other

Machines that generate mist

Features

Greatly reduces waste and maintenance

Waste and maintenance are greatly reduced by the use of the air pass and end demister.

Equipped with filter clogged indicator

The filter clogged indicator enables checking the filter clogged status during operation. (Can be mounted on either the left or right side.)

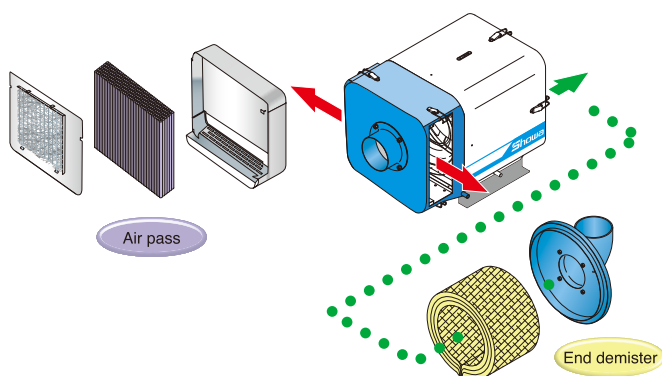
Excellent motor performance

The motor which is used was developed within our company and has a protection class of IP65 (dust-tight, protected against water jets) to provide a worry-free design.

Equipped with motor burnout prevention terminal

To prevent burnout, a thermally reactive thermal protector is attached to the windings. Burnout can be prevented by connecting this terminal to the operating circuits of the motor relay.

Air pass and filter structure



Standard specifications

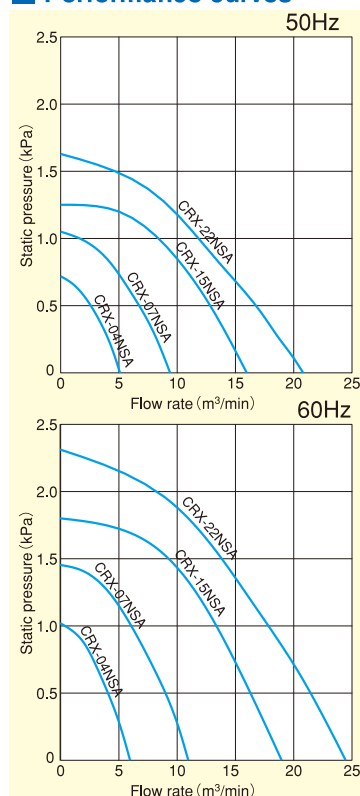
Item	Model	CRX-04NSA	CRX-07NSA	CRX-15NSA	CRX-22NSA
Power source		3-Phase 50Hz/60Hz Refer to the nameplate.			
Output (kW)		0.4	0.75	1.5	2.2
Frequency (Hz)		50/60/60	50/60/60	50/60/60	50/60/60
Maximum flow rate (m³/min)		5.1/6.0	9.4/11	16/19	20.5/24.5
Maximum static pressure (kPa)		0.72/1.02	1.05/1.45	1.25/1.80	1.63/2.30
Operating noise (1m from machine side; dB (A))		69/74	78/82	81/86	83/87
Collection efficiency (%)		98.3 (by weight : oil mist)			
Maximum intake air temperature (°C)		50			
Weight (kg)		32	42	62	74
Suction inlet diameter (mm)		φ98	φ123	φ148	φ198
Ambient temperature (°C)		MAX.50			
Paint color		Main body: N8 (White); Side cover, etc.: 2.5PB 3.5/10 (Blue); Mounting stand: N-1 (Black)			
Standard accessories		Drain tubes (2.5m)2 Hose bands (for drain tube)2 Crimp terminals (TMEV2Y-3.5)7 Anti-vibration pads4 Mounting hole template1 Duct mating flange set1			

※ Operating noise was measured according to JIS B8330 "Testing Methods For Turbo-Fans". Further, operating noise will vary depending on operating environment and operating conditions.

Consumables list

Product name		CRX-04NSA	CRX-07NSA	CRX-15NSA	CRX-22NSA
End demister set	Model	3KED-175A	3KED-190A	3KED-235A	3KED-265A
	Product code	10008112	10008113	10008114	10008115

Performance curves

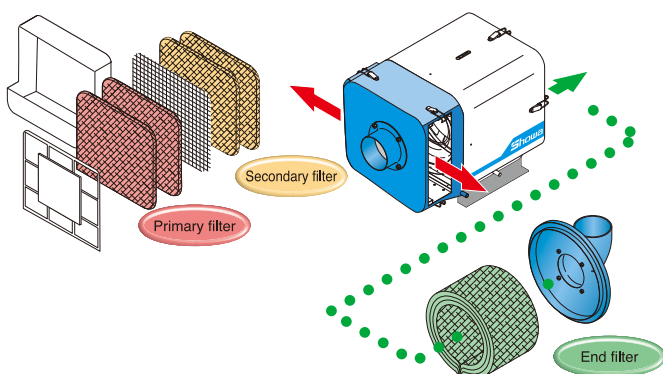


Mistresa® Mist- (dust-) handling series (CRD type)

Also handles dust included in mist



Filter structure



Application

- **NC lathes, general-purpose lathes, cylindrical grinders, inside grinders, centerless grinders, milling machines, machining centers, electro-discharge machines, die-casting machines**
- **Other**
Machines that generate mist

Features

- **Also handles dust included in mists**
Also handles the grinding dust (included in mist) generated by grinding machines and centerless grinders, so dust can be exhausted easily.
- **Simple, safe maintenance**
Filter can be replaced without disconnecting the duct hose. In addition, since the rotating part (impeller) is not exposed, safety is ensured during maintenance.
- **Equipped with filter clogged indicator**
The filter clogged indicator enables checking the filter clogged status during operation. (Can be mounted on either the left or right side.)
- **High collection efficiency**
Achieves a mist collection efficiency of 99.8%.
- **Excellent motor performance**
The motor which is used was developed within our company and has a protection class of IP65 (dust-tight, protected against water jets) to provide a worry-free design.
- **Equipped with motor burnout prevention terminal**
To prevent burnout, a thermally reactive thermal protector is attached to the windings. Burnout can be prevented by connecting this terminal to the operating circuits of the motor relay.



Standard specifications

Item	Model	CRD-400RA	CRD-750RA	CRD-1500RA	CRD-2200RA
Power source		3-phase 50Hz 200V Refer to the nameplate.			
Output (kW)		0.4	0.75	1.5	2.2
Frequency (Hz)		50/60/60	50/60/60	50/60/60	50/60/60
Maximum flow rate (m³/min.)		4.2/5.0	8.0/9.6	15/18	20/24
Maximum static pressure (kPa)		0.75/1.10	1.10/1.60	1.60/2.25	1.70/2.40
Operating noise (1m from machine side; dB (A))		59/63	64/68	70/74	71/75
Collection efficiency (%)		99.8 (by weight : oil mist)			
Maximum intake air temperature (°C)		50			
Weight (kg)		30	41	59	70
Suction inlet diameter (mm)		φ98	φ123	φ148	φ198
Ambient temperature (°C)		MAX.50			
Paint color		Main body: N8 (White); Side cover, etc.: 2.5PB 3.5/10 (Blue); Stand: N-1 (Black)			
Standard accessories		Primary filter (for replacement)1 Drain tube 2.5m2 Hose bands (for drain tube)2 Crimp terminals (TMEV2Y-3.5)7 Anti-vibration pads4 Mounting hole template1 Duct mating flange set1			

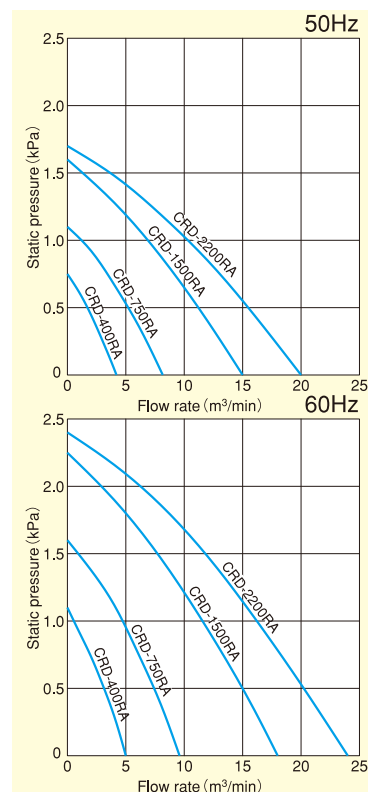
※ Operating noise was measured according to JIS B8330 "Testing Methods For Turbo-Fans". Further, operating noise will vary depending on operating environment and operating conditions.

Consumables list

Product name		CRD-400R	CRD-750R	CRD-1500R	CRD-2200R
Primary/secondary filter set	Model	3K12-300R	3K12-350R	3K12-420R	3K12-460R
	Product code	10006491	10006498	10006501	10006505
End filter set	Model	3KE-175A	3KE-190A	3KE-235A	3KE-265A
	Product code	10002584	10002585	10002586	10003672

The primary/secondary filter set can be washed and reused.

Performance curves



Mistrésa® High-temperature-mist-handling series (CRH type)

Also handles high-temperature mists such as from parts washers



Cautions:

- * Steam (water steam: Particle diameter=0.0004μm) that has cooled and formed tiny water droplets that look like white smoke cannot be collected due to the small particle diameter.
- * Certain kinds of cleaning fluids may cause deterioration of the filters, gaskets, seals, and paint.
- * For the high-temperature model (CRH), if mist, etc. that does not contain rust preventatives is sucked in, to prevent the formation of rust (on inside parts) be sure to operate the product empty for several minutes to dry it.

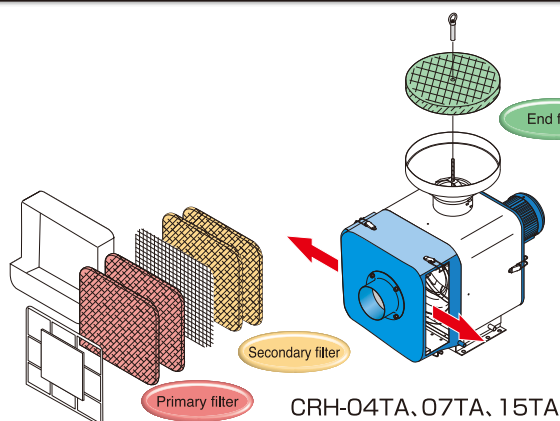
Application

- Parts washers (water-type, hydrocarbon type)
- Other
Machines that generate mist

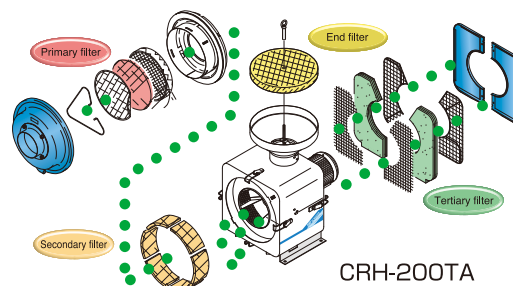
Features

- Can handle high-temperature mists (up to 80°C)
A structure with the motor unit outside the machine enables mists with high temperatures of up to 80°C to be sucked in.
- Simple, safe maintenance
Filter can be replaced without disconnecting the duct hose.
(CRH-04TA, 07TA, 15TA)
- Strongly rust-resistant paint
High-grade acrylic enamel paint is used to provide resistance against rust.

Filter structure



CRH-04TA, 07TA, 15TA



CRH-200TA

Standard specifications

Item	Model	CRH-100TA	CRH-200TA	CRH-04TA	CRH-07TA	CRH-15TA
Power source		3-phase 50Hz 200V Refer to the nameplate.				
Output (kW)		0.2	0.2	0.4	0.75	1.5
Motor specifications		Fully-sealed external-impeller type	Fully-sealed external-impeller type	Fully-sealed external-impeller type	Fully-sealed external-impeller type	Fully-sealed external-impeller type
Frequency (Hz)		50/60/60	50/60/60	50/60/60	50/60/60	50/60/60
Maximum flow rate (m³/min.)		2.1/2.4	2.7/3.2	4.8/5.7	7.6/9.2	13.6/16
Maximum static pressure (kPa)		0.30/0.42	0.50/0.73	0.82/1.18	1.05/1.48	1.47/2.08
Operating noise (1m from machine side; dB (A))		56/60	59/63	58/64	63/66	68/72
Collection efficiency (%)		99.4 (by weight : oil mist)				
Maximum intake air temperature (°C)		80				
Weight (kg)		13	20	26	37	57
Suction inlet diameter (mm)		φ98	φ98	φ98	φ123	φ148
Ambient temperature (°C)		MAX.40				
Paint color		Main body: N8 (White); Side cover, etc.: 2.5PB 3.5/10 (Blue); Stand: N-1 (Black)				
Standard accessories		Primary filter (for replacement)1 Drain tube 2.5m2 Hose bands (for drain tube)2 Anti-vibration pads4 Mounting hole template1 Duct mating flange set1				

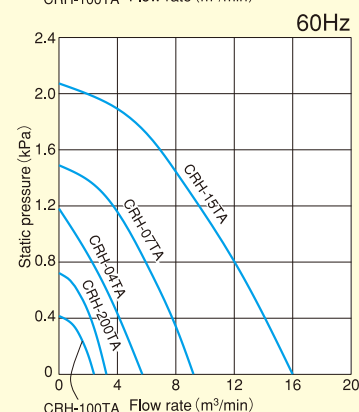
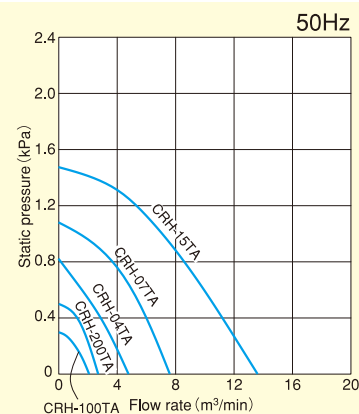
※ Operating noise was measured according to JIS B8330 "Testing Methods For Turbo-Fans". Further, operating noise will vary depending on operating environment and operating conditions.

Consumables list

Product name		CRH-100TA	CRH-200TA	Product name		CRH-04TA	CRH-07TA	CRH-15TA
Primary filter	Model	3K1-170A	3K1-170A	Primary/secondary filter set	Model	3K12-300R	3K12-350R	3K12-420R
	Product code	10002567	10002567		Product code	10006491	10006498	10006501
Secondary filter	Model	3K2-130B	3K2-133A					
	Product code	10002573	10002574					
H-type tertiary filter	Model	3K3-715A	3K3-270A	End filter	Model	3K4-240A	3K4-315A	3K4-400A
	Product code	10002580	10002581		Product code	10002588	10002590	10003524
End filter	Model	3K4-180A	3K4-240A					
	Product code	10002587 (Metallic filter)	10002588					

Primary, secondary, tertiary, and end filters can be washed and reused.

Performance curves



Mistresa® High-air-flow type (CRL-2200) High-air-flow type compatible with open-type machining centers



Application

- Machine tools (for water-soluble cutting fluid)
Machining centers, die-casting machines
- Other
Machines that generate mist

Filter structure

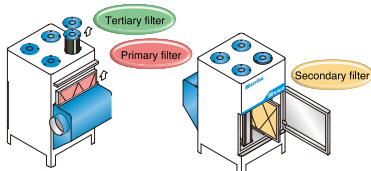
Features

- High efficiency**
Uses blowers designed for Mistresa to maximize performance in the application range.
- Handles coarse dust and grinder dust**
Coarse dust and grinder dust generated by grinding work is shut out by the primary filter. (A spare primary filter is included, and the primary filter can be washed and reused.)
- Excellent collection efficiency**
The primary filter combined with high-performance special filters separate and collect mists.
- Simple maintenance**
Opening the door enables easy inspection of the inside and easy inspection and replacement of all filters.

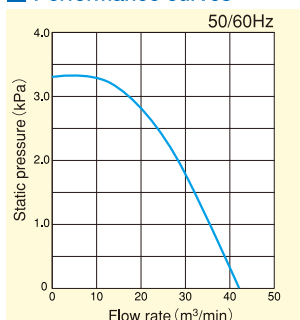
Consumables list

Product name	
	Primary filter
	Secondary filter
	Tertiary filter

The primary filter can be washed and reused.



Performance curves



Standard specifications

Item	Model	CRL-2200
Power source		3-Phase 50Hz/60Hz Refer to the nameplate.
Output (kW)		2.2
Frequency (Hz)		50/60/60
Rated air flow (m³/min)		30
Rated static pressure (kPa)		1.80
Operating noise (1m from front)		69
Collection efficiency (%)		98.0 (by weight : oil mist)
Maximum intake air temperature (°C)		40
Weight (kg)		174
Suction inlet diameter (mm)		φ200
Ambient temperature (°C)		MAX.40
Paint color		Main body: N8.5 (White)

*Operating noise depends on operating environment and operating conditions.

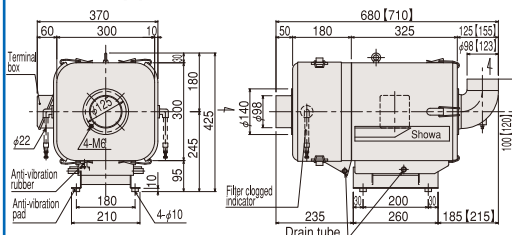
Diagrams of outside dimensions

CRX/CRX-NS/CRD types

Outside diameter of drain tube is φ15. Inside diameter has PF1/4 female threads. The clogged filter indicator can be mounted on either the left or right side.

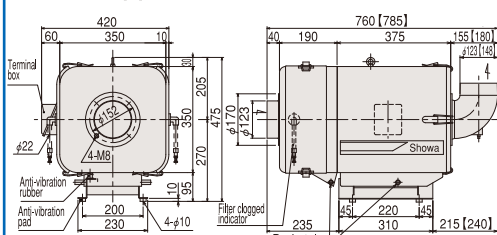
CRX-04A/04NSA·CRD-400RA

Dimensions in brackets () are for CRX-04NSA.



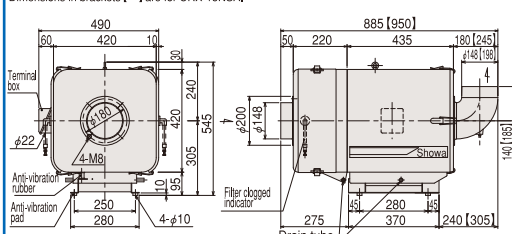
CRX-07A/07NSA·CRD-750RA

Dimensions in brackets () are for CRX-07NSA.

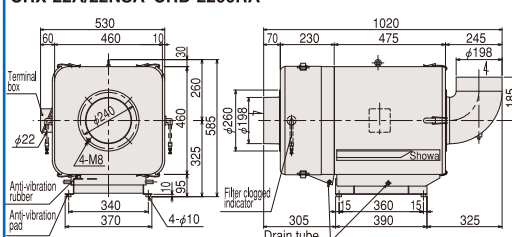


CRX-15A/15NSA·CRD-1500RA

Dimensions in brackets () are for CRX-15NSA.

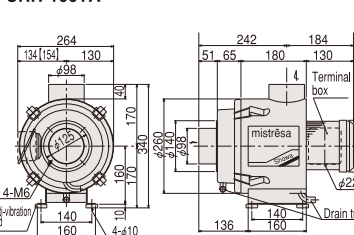


CRX-22A/22NSA·CRD-2200RA

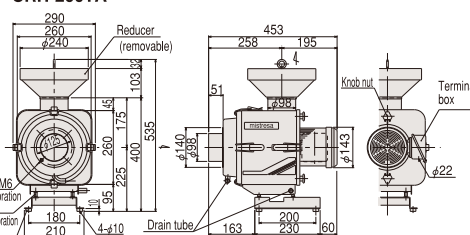


CRH types

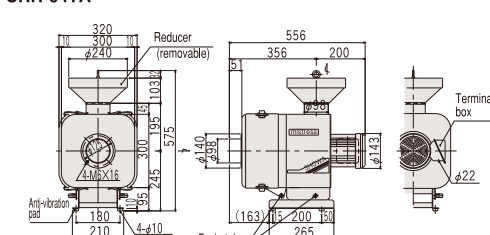
CRH-100TA



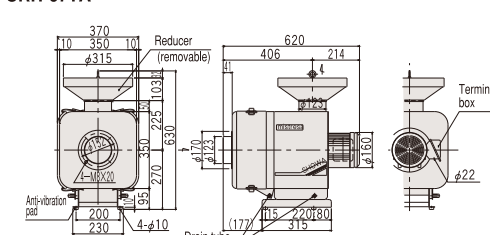
CRH-200TA



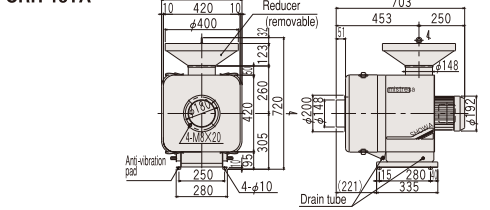
CRH-04TA



CRH-07TA

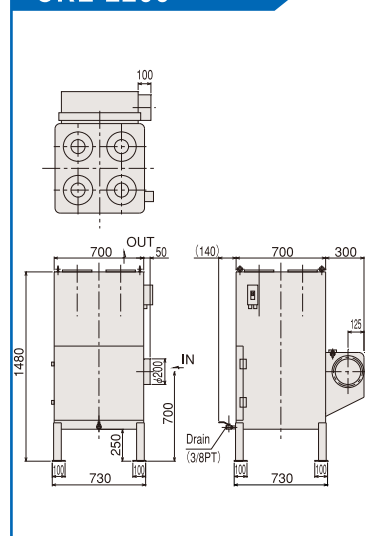


CRH-15TA



Outside diameter of drain tube is φ15.

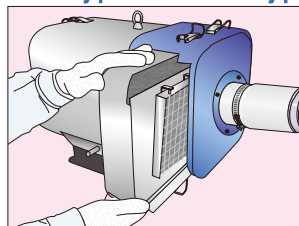
CRL-2200



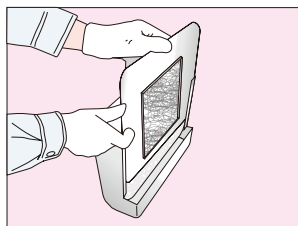
Outside diameter of drain tube is φ15. Inside diameter has PF1/4 female threads.

Easy maintenance with no-tool filter replacement

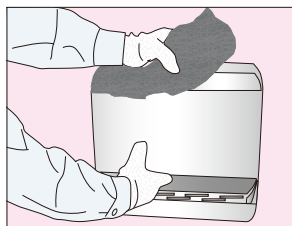
CRX type/CRX-NS type



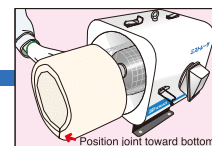
■ **Air pass and demister replacement**
(Can be washed and reused.)
Release the clamp and pull out the air pass unit.



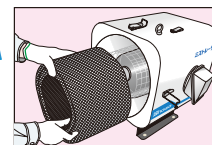
Lift the partition plate upward and remove it.



Remove the inlet demister and air pass and wash them.

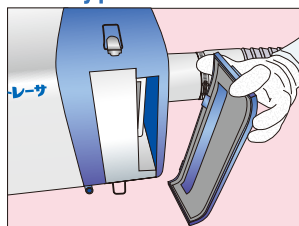


■ **End filter replacement (CRX type)**
Remove the side cover and replace the end filter.

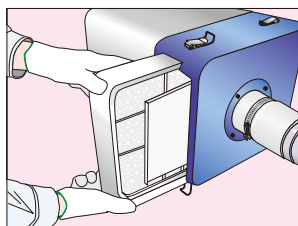


■ **End demister washing/replacement (CRX-NS type)**
(Can be washed and reused.)
Remove the side cover and wash/replace the end demister.

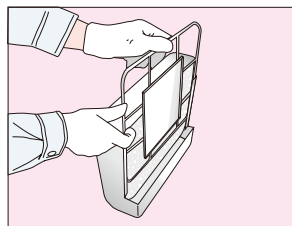
CRD type



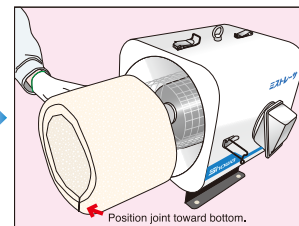
■ **Primary/secondary filter replacement**
(Can be washed and reused.)
Release the clamp and remove the cover.



Pull out the filter box.

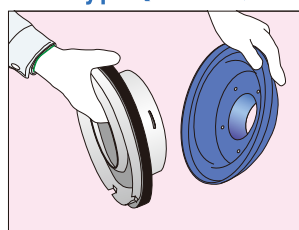


Remove the filter holder and replace the primary and secondary filters.

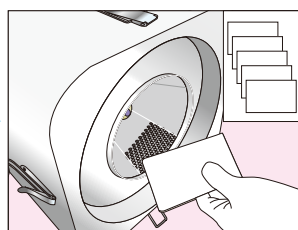


■ **End filter replacement**
Remove the side cover and replace the end filter.

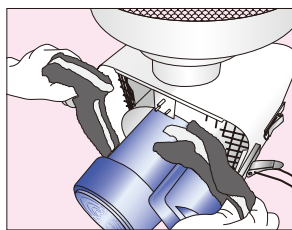
CRH type (100TA, 200TA)



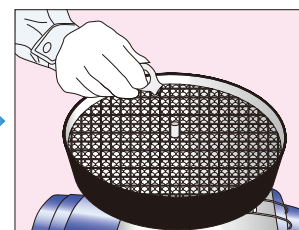
■ **Primary filter replacement**
(Can be washed and reused.)
Release the clamp, remove side cover A and the suction cone, and replace the primary filter.



■ **Secondary filter replacement**
(Can be washed and reused.)
Replace the secondary filter which is set inside the impeller.

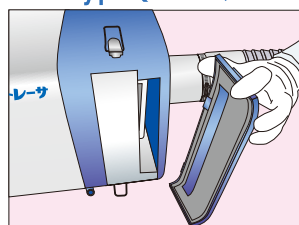


■ **Tertiary filter replacement**
(Can be washed and reused.)
Remove the motor-side side cover and replace the tertiary filter.

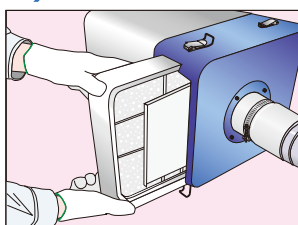


■ **End filter replacement**
(Can be washed and reused.)
Remove the eyebolt nut and replace the end filter.

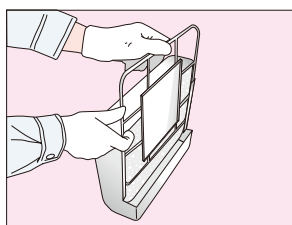
CRH type (04TA, 07TA, 15TA)



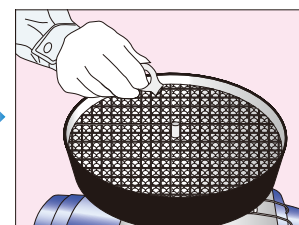
■ **Primary/secondary filter replacement**
(Can be washed and reused.)
Release the clamp and remove the cover.



Pull out the filter box.

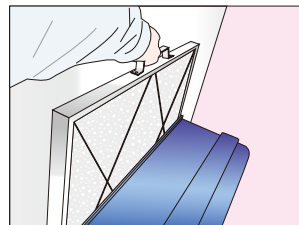


Remove the filter holder and replace the primary and secondary filters.

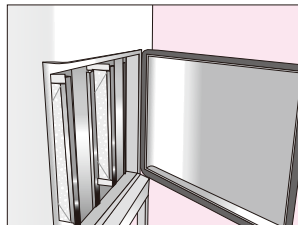


■ **End filter replacement**
(Can be washed and reused.)
Remove the eyebolt nut and replace the end filter.

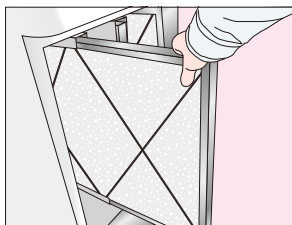
CRL-2200



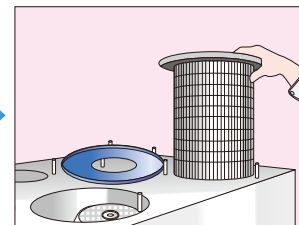
■ **Primary/secondary filter replacement**
(Primary filter can be washed and reused.)
Release the clamp on the back surface of the intake box and pull out the filter frame.



Open the door on the front surface and pull out the filter frame.



Remove the filters from the pulled-out filter frames and replace them.



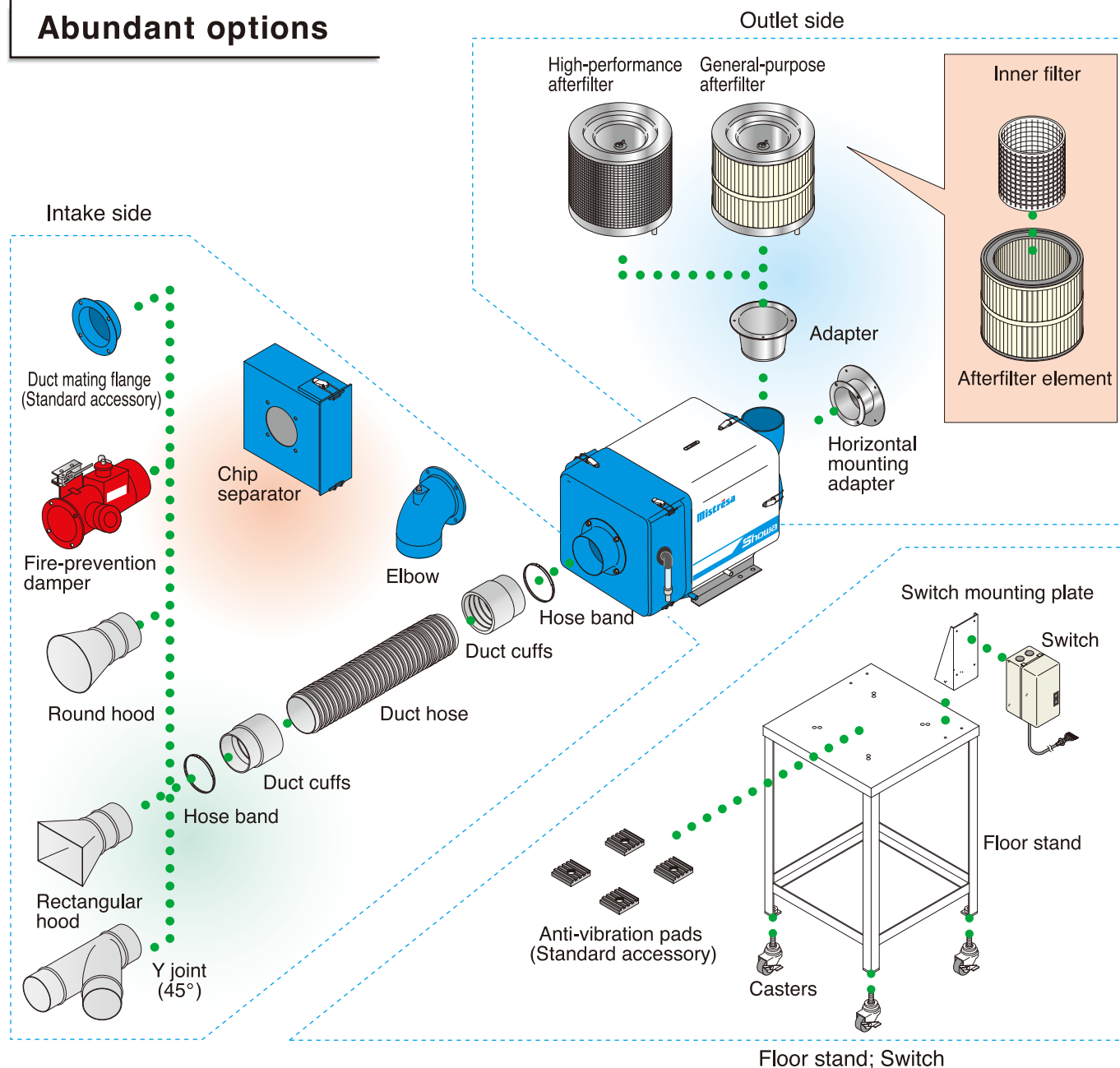
■ **Tertiary filter replacement**
Remove the filter holder wing nuts on the top surface and replace the tertiary filter.

Mistresa inspection/replacement criteria

Name	CRX type	CRX-NS type	CRD type	CRH type(100TA,200TA)	CRH type (04TA,07TA,15TA)	CRL-2200
Primary filter	—	—	1 to 6 months	1 to 6 months	1 to 6 months	1 to 6 months
Secondary filter	—	—	1 to 6 months	1 to 6 months	1 to 6 months	3 to 12 months
Tertiary filter	—	—	—	6 to 12 months	—	2 to 12 months
End filter	12 to 24 months	—	6 to 12 months	6 to 12 months	6 to 12 months	—
Air pass	6 to 12 months	—	—	—	—	—
End demister	—	12 to 24 months	—	—	—	—

Able to handle a variety of situations





Abundant options


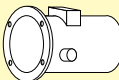


















The following products can also be manufactured according to customer requests.

■ Different voltage ■ Specified color ■ Use of stainless steel in mist passage section ■ Use of stainless steel for demister material ■ Etc.

■ Optional accessories (Compatible models are indicated by ●.)

	Optional accessory Shape and part name	Application	Type	Part code	CRX/CRD, CRX-NS								CRH				
					04A 400RA	04NSA	07A 750RA	07NSA	15A 1500RA	15NSA	22A 2200RA	22NSA	100TA	200TA	04TA	07TA	15TA
Intake side	 Rectangular hood	Attaches to end of duct hose to effectively suck in mist, etc.	3S-100	10002631	●	●							●	●	●		
			3S-125	10002632			●	●								●	
			3S-150	10002633					●	●							●
			3S-200	10003699							●	●					
	 Round hood		3R-100	10002646	●	●							●	●	●		
			3R-125	10002647			●	●								●	
			3R-150	10002648					●	●							●
			3R-200	10003700							●	●					
	 Y joint (45°)	Used when sucking in mist from two positions.	3Y-100	10002640	●	●							●	●	●		
			3Y-125	10002641			●	●								●	
			3Y-150	10002642					●	●							●
			3Y-200	10003701							●	●					
	 Elbow	Attaches to Mistresa or machine tool to connect duct hose.	3E-100	10002643	●	●							●	●	●		
			3E-125	10002644			●	●								●	
			3E-150	10002645					●	●							●
			3E-200	10003703							●	●					

	Optional accessory Shape and part name	Application	Type	Part code	CRX/CRD、CRX-NS								CRH									
					04A 400RA	04NSA	07A 750RA	07NSA	15A 1500RA	15NSA	22A 2200RA	22NSA	100TA	200TA	04TA	07TA	15TA					
Intake side	 Duct mating flange (Standard accessory)	Attaches to machine tool for connecting duct hose.	3T-100C	627300110	●	●								●	●	●						
			3T-125D	627300140			●	●									●					
			3T-150C	627300480					●	●								●				
			3T-200C	627302500							●	●										
	 Fire-prevention damper	Thermal fuse(71℃) detection shuts out high-temperature air.	3FD-100-SS	10003240	●	●								●	●	●						
			3FD-125-SS	10003425			●	●									●					
			3FD-150-SS	10003513					●	●								●				
			3FD-200-SS	10003514							●	●										
	※1  Duct hose (1m units)	For use when mist is water-soluble and does not contain much oil.	3DH-100	61600006	●	●								●	●	●						
			3DH-125	61600007			●	●									●					
			3DH-150	61600008					●	●								●				
			3DH-200	61600024							●	●										
	※1  Oil-resistant duct hose (1m units)	For use when mist is oil-based or contains a lot of oil. Resistant to deterioration due to oil.	3DHT-100	61600025	●	●								●	●	●						
			3DHT-125	61600026			●	●									●					
			3DHT-150	61600027					●	●								●				
			3DHT-200	61600028							●	●										
	※2  Duct cuffs	By connecting duct hose to duct cuff, oil leakage is less likely to occur.	3DC-100	63540002	●	●								●	●	●						
			3DC-125	63540001			●	●									●					
			3DC-150	63540003					●	●								●				
			3DC-200	63540004							●	●										
	 Hose band	For fastening duct hose or duct cuff in place.	3HB-100	92170003	●	●								●	●	●						
			3HB-125	92170004			●	●									●					
			3HB-150	92170005					●	●								●				
			3HB-200	92170024							●	●										
	 Chip separator	For use when mist contains a lot of cutting dust (chips).	3CS-100	10002623	●	●								●	●	●						
			3CS-125	10002624			●	●									●					
			3CS-150	10002625					●	●								●				
Outlet side	※3  General-purpose afterfilter	For use when mist volume is high or for oil-based mists.	3AF-10A	10003619	●	P l e a s e s k o u r s a i e s m a n .	●	P l e a s e s k o u r s a i e s m a n .	●	P l e a s e s k o u r s a i e s m a n .	●	P l e a s e s k o u r s a i e s m a n .	●	●	●							
			3AF-20A	10003606												●	●	●				
			3AF-30A	10003608																●		
	※3 ※4  High-performance afterfilter	For use with oil-based mists or oil smoke.	3AF-10E	10007330	●				●				●		●		●	●	●			
			3AF-20E	10007331			●				●			●				●				
			3AF-30E	10007332					●		●								●			
			3AF-40E	10007333					●		●							●				
			3AF-41E	10007340							●								●			
	 Adapter	For attaching afterfilter.	3AD-100	10002603	●								●	●	●							
			3AD-125	10002604					●											●		
			3AD-150	10002605									●	●							●	
	 Horizontal mounting adapter	For attaching afterfilter horizontally.	3AD-100Z	10003212	●								●	●	●							
			3AD-125Z	10003213					●													
			3AD-150Z	10003214									●	●								
	※5 ※6  Inner filter	Extends afterfilter service life when installed inside the afterfilter.	3IF-10	10003677	●								●	●	●							
			3IF-20	10003678			●												●			
			3IF-30A	10003679					●		●									●		
			3IF-30C	10003680					●		●								●			
			3IF-40S	10006560					●		●								●			
			3IF-40	10003681											●							
	 General-purpose afterfilter element	Replacement filter	3FE-10A	10003633	●								●	●	●							
			3FE-20A	10003635					●											●		
			3FE-30A	10003637									●	●							●	
	 High-performance afterfilter element	Replacement filter	3FE-10E	10007336	●								●	●	●							
			3FE-20E	10007337					●												●	
			3FE-30E	10007338									●	●								●
			3FE-40E	10007339									●	●								●
※7  Inner-filter replacement filter	Replacement filter	3IFK-10	10003683	●				●	●	●												
		3IFK-20	10003684			●																
		3IFK-30A	10003685				●	●								●						
		3IFK-30C	10003686				●	●								●						
		3IFK-40S	10006561				●	●								●						
		3IFK-40	10003687					●									●					
												●										
Floor stand, Switch	 Switch (With internal thermal relay and 3m cord)	Switch exclusively for Mistresa (with internal thermal relay to prevent motor burnout).	3SW-020	10002607										●	●							
			3SW-040	10002608	●	●										●						
			3SW-075	10002609			●	●									●					
			3SW-150	10002610					●	●							●					
			3SW-220	10003702							●	●										
	Switch mounting plate	For use when mounting the switch on the floor stand.	3TS-2	10002611	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
 Floor stand	Stand exclusively for Mistresa	3BD-2	10002612	●	●	●	●						●	●	●	●						
		3BD-3	10002613					●	●	●	●						●					
 Floor stand casters	Set of 4 casters	3CK-50	10002943	●	●	●	●	●	●	●	●	●	●	●	●	●	●					

※1 Length in 1m units. Input the desired length in meters after the product code.

※2 Apply adhesive or liquid packing to the screwed-in section of the duct hose and duct cuff to prevent oil leakage.

※3 When using a 3AF-type afterfilter, the 3AD adapter is required. (The 3AD adapter is not used when connecting 3AF-41E.)

※4 3AF-40E has a larger filter surface area and longer life than 3AF-30E. Use 3FE-40E as the replacement element.

※5 The inner filter cannot be used by itself. 3IF-30A is for use with the general-purpose afterfilter, 3IF-30C is for use with the high-performance afterfilter, and 3IF-40S is for use with 3AF-40E.

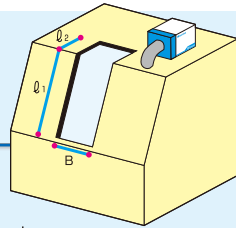
※6 Be sure to use the proper inner filter for the afterfilter being used.

※7 3IFK-30A is for use with the general-purpose afterfilter, 3IFK-30C is for use with the high-performance afterfilter, and 3IFK-40S is for use with 3IF-40S.

How to select the model effectively

If the highest-performance model is selected, excess dust and cutting dust is sucked in, resulting in the filter becoming clogged more quickly. In addition, the initial cost (installation cost) and running cost (operating costs) will also be higher. On the other hand, if the minimum-performance model is selected, mist cannot be sucked in sufficiently and it will not be effective. At Showa Denki, based on our abundant installation experience, we recommend the following method for model selection.

When the mist-generating source is covered:



$$\text{Door opening area (m}^2\text{)} \times \text{Flow speed (m/min)} = \text{Flow rate Q (m}^3\text{/min)}$$

$$B \times (L_1 + L_2) \times \text{Flow speed} = \text{Flow rate Q}$$

0.6 × 5~9 = 3~5.4

For equipment such as an NC lathe where the opening area is completely covered by a door, the equation above can be used to determine the flow rate.

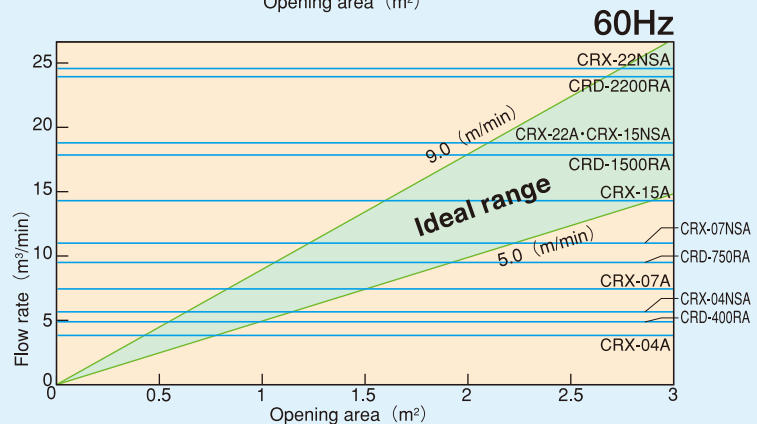
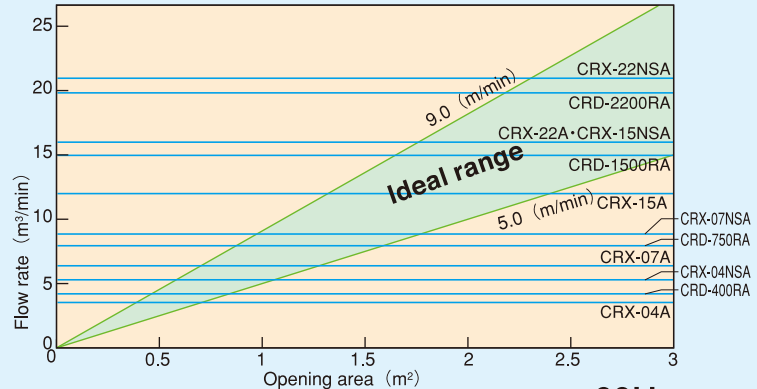
From values based on experience, a flow speed of 5 to 9m/min. can be considered appropriate. For example, if the opening area is 0.6m², when a flow speed of 9m/min. is applied, the flow rate becomes 5.4m³/min.

The graph at right can be used to easily select the model based on the opening area.

Conditions

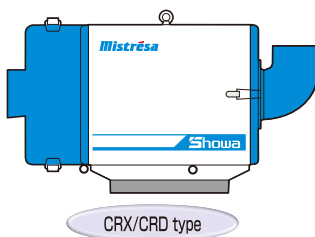
- When the door is opened, the main shaft is stopped and mist is not being generated.
- The door is closed during machining.
- Mistresa is run continuously, and is always performing suction.
- The duct hose is the same diameter as the main body, and length is within 1 to 3m.

Maximum flow rate for each model 50Hz

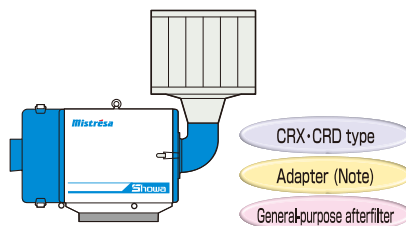


Effective combinations with afterfilters, etc.

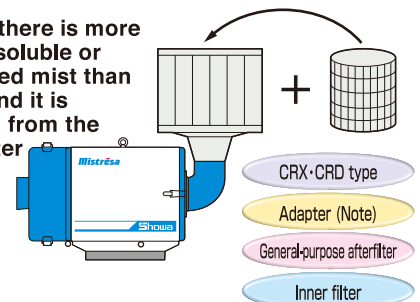
1 Standard use



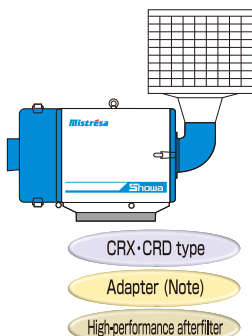
2 When there is a lot of water-soluble or oil-based mist



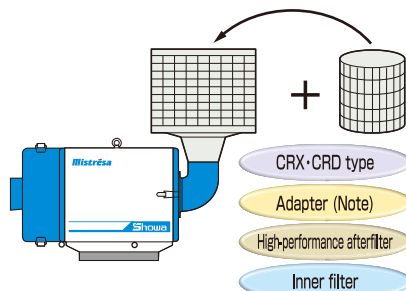
3 When there is more water-soluble or oil-based mist than in [2] and it is leaking from the afterfilter



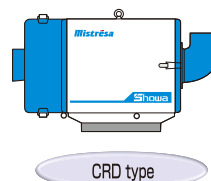
4 When oil smoke is being generated



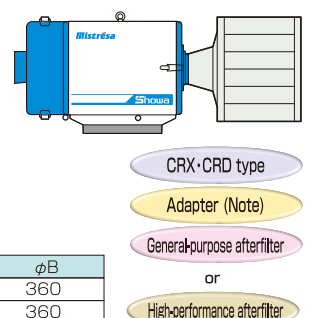
5 When a lot of oil smoke is being generated



6 When the sucked-in mist contains dust or cutting dust



7 When there is a lot of water-soluble or oil-based mist and the ceiling of the workspace is low



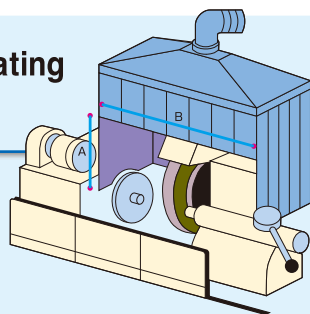
Type	A	φB
3AF-10A/E	345	360
3AF-20A/E	475	360
3AF-30A	635	360
3AF-30E	610	360
3AF-40E	515	400
3AF-41E	625	400

*For details regarding the type and appropriate model, refer to p. 12.

(Note) Adapter is not used when attaching to CRX-22A, CRX-22NSA, CRX-15NSA, or CRD-2200RA.

Achieving maximum effectiveness without excess cost

When the mist-generating source is exposed:



In such cases, equipment such as a ceiling-hung hood should be used. Further, in order to reduce the flow rate, a vinyl curtain, etc. should be hung to reduce the opening area. The flow rate equation then become as follows:

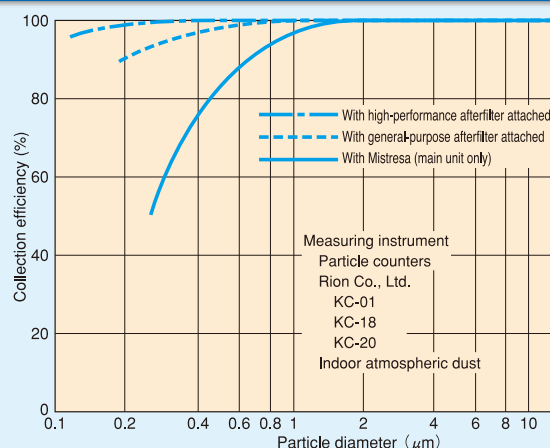
$$\begin{matrix} \text{Opening area (m}^2\text{)} \\ \text{A} \times \text{B} \\ \text{1.2} \end{matrix} \times \begin{matrix} \text{Flow speed} \\ \text{(m/min)} \\ \text{7} \sim \text{15} \end{matrix} = \begin{matrix} \text{Flow rate Q} \\ \text{(m}^3\text{/min)} \\ \text{8.4} \sim \text{18} \end{matrix}$$

The flow speed should be set fast to around 7 to 15m/min. Also, for machinery such as large grinders, etc. on which the rotation of the grinding stone creates air currents or when the mist-generating source is close to the opening, it is necessary to set the flow speed to faster than 15m/min.

Applicable range

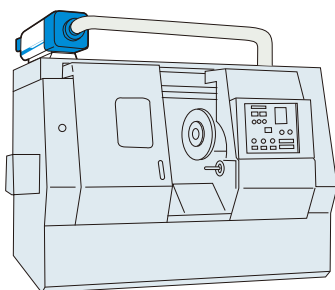
	Mistresa applicable range			
	Applicable range when using general-purpose or high-performance afterfilter			
Particle diameter (μm)	0.1	1	10	100
Solid	Tobacco smoke			
Solid	Fumes		Dust	
Liquid	Oil smoke		Mist	Spray

Collection efficiency of Mistresa and afterfilters

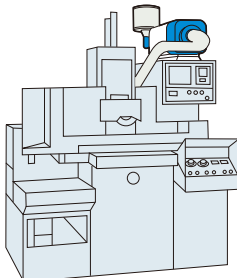


Mistresa installation examples

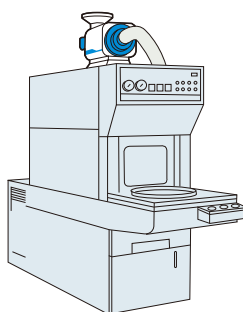
NC lathe
(CRX/CRX-NS/CRD types)



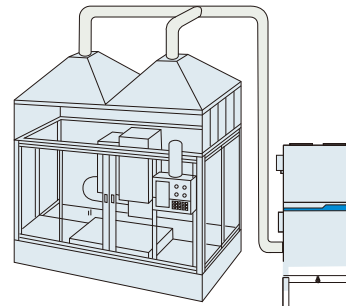
Grinder
(CRD type)



Parts washer
(CRH type)

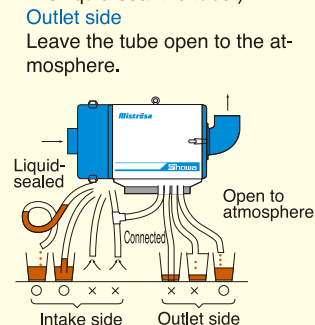
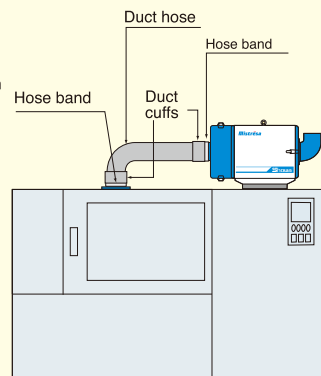
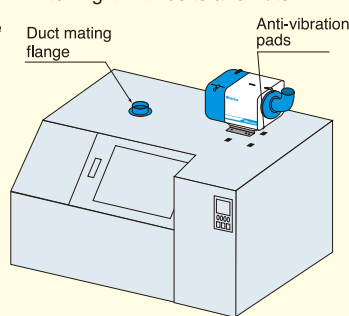
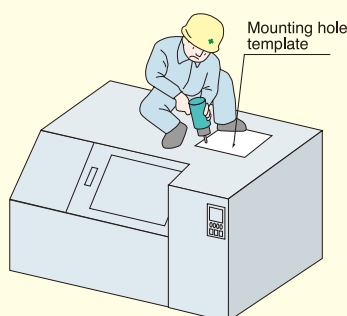


Open-type machining center
(CRL-2200)



Easy installation (Common for CRX, CRX-NS, CRD, and CRH types)

1. Position the included Mounting Hole Template on the top surface of the machinery and drill the holes (4 holes) corresponding to the model to be installed. (Hole positions for each model are shown on the template.)
2. Place the included anti-vibration pads on the 4 holes and place the main unit on top of the pads with the holes of the stand, pads, and machinery top surface aligned, and secure it with bolts and nuts. After that, cut a hole for the duct mating flange in the top of the machinery and install the flange, fastening it with bolts and nuts.
3. Finally, connect the duct hose between the mating flange and the main unit. (Use the hose cuffs and hose bands.)
4. In order to promote good drainage, install the drain tubes as shown below.





Business lines

■ Electric blowers

- All-purpose series
- Low-noise series
- High-pressure series
- General-purpose series
- Flange-installed series
- Multi-stage series
- Explosion-proof series
- Large-sized series (Denchoku)
- High pressure vortex series (Gust Blower)
- Agitating/circulating series (Double volute)

■ Fans/Blowers

- Turbo fan (Delturbo)
- Turbo blower
- Air foil fan
- Sirocco fan
- Plate fan
- Axial fan with a variable pitch (Kairyu)

■ Environmental equipment

- Mist collectors (Mistresa)
- Portable fan (Windback)

■ Dust collectors

- Dustresa
 - Compact series
 - Small-size pulse-jet series
 - Portable open series
 - Pulse-jet series
- Fumeresa



Cautions regarding safety

In order to ensure proper use of the products listed in this catalog, be sure to read the instruction manual thoroughly before use.

The contents of this catalog are specified based on use in Japan.



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