Safety standard list

■AC Fan

✓…UL・CSA・TÜV and CE acquired

Model	Frame size	Thickness	Model No.	Voltage(V)	UL	CSA	TÜV	CE	PSE	Note	PAGE
San Ace 60	60mm sq.	28mm	**109-180**	100	✓		✓	✓			7
			109-183	115	✓		✓	✓			
		38mm	**109-130**	100	✓		✓	✓			9
			109-133	115	✓		✓	✓			
San Ace 80	80mm sq.	20mm	**109-210**	100	✓	✓	✓	✓			11
			109-213	115	✓	✓	✓	✓			
		25mm	**109S050**	100	✓	✓	✓	✓	✓		13
			109S053	115	✓	✓	✓	✓	✓		
			109S051	200	✓	✓	✓	✓	✓		
			109S054	230	✓	✓	✓	✓	✓		
			109S030	100	✓	✓	✓	✓	✓		
			109S033	115	✓	✓	✓	✓	✓		
			109S031	200	✓	✓	✓	✓	✓		
			109S034	230	✓	✓	✓	✓	✓		
		38mm	**109-150**	100	✓	✓	✓	✓	✓		15
			109-153	115	✓	✓	✓	✓	✓		
			109-151	200	✓	✓	✓	✓	✓		
			109-154	230	✓	✓	✓	✓	✓		
		42mm	**109-040UL**	100	✓	✓	✓	✓	✓		17
			109-043UL	115	✓	✓	✓	✓	✓		
			109-041UL	200	✓	✓	✓	✓	✓		
			109-044UL	230	✓	✓	✓	✓	✓		
			109-047UL	100	✓	✓	✓	✓	✓	Low-speed	
			109-033UL	115	✓	✓	✓	✓	✓	〃	
San Ace 92	92mm sq.	25mm	**109S091**	100	✓	✓	✓	✓	✓		19
			109S093	115	✓	✓	✓	✓	✓		
			109S092	200	✓	✓	✓	✓	✓		
			109S094	230	✓	✓	✓	✓	✓		
			109S095	100	✓	✓	✓	✓	✓		
			109S096	100	✓	✓	✓	✓	✓	Low-speed	
			109S193	115	✓	✓	✓	✓	✓	〃	
			109S192	200	✓	✓	✓	✓	✓	〃	
			109S194	230	✓	✓	✓	✓	✓	〃	
		25mm (with sensor)	**109S491**	100	✓		✓	✓	✓		19
			109S493	115	✓		✓	✓	✓		
			109S492	200	✓		✓	✓	✓		
			109S494	230	✓		✓	✓	✓		
			109S495	100	✓		✓	✓	✓		
			109S496	100	✓		✓	✓	✓	Low-speed	
San Ace 120	120mm sq.	25mm	**109S085**	100	✓	✓	✓	✓	✓		23
			109S084	115	✓	✓	✓	✓	✓		
			109S088	200	✓	✓	✓	✓	✓		
			109S087	230	✓	✓	✓	✓	✓		
			109S081	100	✓	✓	✓	✓	✓		
			109S083	115	✓	✓	✓	✓	✓		
			109S082	200	✓	✓	✓	✓	✓		
			109S089	230	✓	✓	✓	✓	✓		
			109S086	100	✓	✓	✓	✓	✓	Low-speed	
		25mm (with sensor)	**109S485**	100	✓		✓	✓	✓		
			109S484	115	✓		✓	✓	✓		
			109S488	200	✓		✓	✓	✓		
			109S487	230	✓		✓	✓	✓		
			109S486	100	✓		✓	✓	✓	Low-speed	
		38mm	**109S075UL**	100	✓	✓	✓	✓	✓		27
			109S074UL	115	✓	✓	✓	✓	✓		
			109S078UL	200	✓	✓	✓	✓	✓		
			109S072UL	230	✓	✓	✓	✓	✓		
			109S005	100					✓		
			109S005UL	100	✓	✓	✓	✓	✓		
			109S024	120					✓		
			109S024UL	115	✓	✓	✓	✓	✓		
			109S008	200					✓		
			109S008UL	200	✓	✓	✓	✓	✓		
			109S025	230					✓		
			109S025UL	230	✓	✓	✓	✓	✓		

Model	Frame size	Thickness	Model No.	Voltage(V)	UL	CSA	TÜV	CE	PSE	Note	PAGE
San Ace 120	120mm sq.	38mm	**109S029UL**	100	✓	✓	✓	✓	✓		27
			109S013	100					✓		
			109S013UL	100	✓	✓	✓	✓	✓		
			109S006	100					✓		
			109S006UL	100/115	✓	✓	✓	✓	✓		
			109S010	200					✓		
			109S010UL	200/240	✓	✓	✓	✓	✓		
		38mm (with sensor)	**109S405UL**	100	✓		✓	✓	✓		
			109S424UL	115	✓		✓	✓	✓		
			109S408UL	200	✓		✓	✓	✓		
			109S425UL	230	✓		✓	✓	✓		
			109S429UL	100	✓		✓	✓	✓		
			109S406UL	100	✓		✓	✓	✓	Low-speed	
			109S475UL	100	✓		✓	✓	✓		
			109S474UL	115	✓		✓	✓	✓		
			109S478UL	200	✓		✓	✓	✓		
			109S472UL	230	✓		✓	✓	✓		
San Ace 160	160mm sq.	51mm	**109-601**	100	✓	✓	✓	✓	✓		31
			109-604	115	✓	✓	✓	✓	✓		
			109-602	200	✓	✓	✓	✓	✓		
			109-603	230	✓	✓	✓	✓	✓		
		51mm (with sensor)	**109-641**	100	✓		✓	✓	✓		
			109-644	115	✓		✓	✓	✓		
			109-642	200	✓		✓	✓	✓		
			109-643	230	✓		✓	✓	✓		
San Ace 172	φ172mm	51mm (Sidecut type)	**109S301**	100	✓	✓	✓	✓	✓		33
			109S304	115	✓	✓	✓	✓	✓		
			109S302	200	✓	✓	✓	✓	✓		
			109S303	230	✓	✓	✓	✓	✓		
		51mm (Round type)	**109-311**	100	✓	✓	✓	✓	✓		35
			109-314	115	✓	✓	✓	✓	✓		
			109-312	200	✓	✓	✓	✓	✓		
			109-313	230	✓	✓	✓	✓	✓		
		51mm (with sensor)	**109-371**	100	✓		✓	✓	✓		
			109-374	115	✓		✓	✓	✓		
			109-372	200	✓		✓	✓	✓		
			109-373	230	✓		✓	✓	✓		

Plug Code

✓···UL・CSA・TÜV and CE acquired

Model.No	UL	CSA	TÜV	CE	Applicable model
489-008-L10					80×80×42mm
489-008-L21					80×80×42mm
489-008-L35					80×80×42mm
489-016-L10					120×120×25mm 92×92×25mm 80×80×25mm 80×80×38mm
489-016-L21					120×120×25mm 92×92×25mm 80×80×25mm 80×80×38mm
489-006-L10					120×120×38mm
489-006-L21					120×120×38mm
489-006-L35					120×120×38mm
489-037-L10					120×120×38mm
489-037-L21					120×120×38mm
489-037-L35					120×120×38mm
489-1618-L10					160×160×51mm
489-1618-L21					160×160×51mm
489-1618-L28					160×160×51mm

Model.No	UL	CSA	TÜV	CE	Applicable model
489-1619-L10					φ172mm×51mm 160×160×51mm
489-1619-L21					φ172mm×51mm 160×160×51mm
489-007-L10	✓	✓			120×120×38mm
489-007-L21	✓	✓			120×120×38mm
489-047-L10	✓	✓			120×120×25mm 92×92×25mm 80×80×25mm 80×80×38mm
489-047-L21	✓	✓			120×120×25mm 92×92×25mm 80×80×25mm 80×80×38mm
489-084-L10	✓	✓			φ172mm×51mm 160×160×51mm L-Shaped
489-084-L21	✓	✓			φ172mm×51mm 160×160×51mm L-Shaped
489-086-L10	✓	✓			160×160×51mm Straight
489-086-L21	✓	✓			160×160×51mm Straight

Safety standards

Description of safety standards

1. UL ratings (USA)

Underwriters Laboratories Inc. was established by the American Union of Fire Insurance Underwriters. The purpose of UL is to ensure safety of machines, equipment, and materials and protect human lives and property from fire and other accidents. To that end, UL has conducted numerous tests and extensive research and, as a result, set up UL ratings. Any seller of products in any of the majority of the states of the USA must produce their products according to the UL ratings, have them pass UL-specified safety inspections, and have them listed in UL's registration book. Therefore, to export and sell any product in the United States, one must in most cases apply for UL-listing.
Additionally, UL is accredited by The Standards Council of Canada (SCC) as both a Certification Organization (CO) and a Testing Organization (TO) and is officially recognized in all provinces and territories throughout Canada. Accordingly, our products can be tested by UL for compliance with Canadian safety standards. Certified products are entitled to display the C-UL Mark, which authorizes their use and sale in Canada. If products are deemed to be compliant with both U.S. and Canadian standards, then both the UL Mark and C-UL Mark can be displayed or a combination U.S. and Canadian mark (bottom left).
Our products are certified as satisfying all UL507 requirements.

2. CSA standards (Canada)

The Canadian Standards Association (CSA) was set up in response to the advice of the Canadian government. In Canada, the law prohibits the use and sale of any product other than those approved under CSA in terms of safety. CSA has set up CSA standards as inspection procedures and other requirements to ensure product safety.
Our products are certified as satisfying the CSA standard C22.2 No. 113.

3. EN standards (EU members)

In the EU territory, the harmonization of industrial standards and safety standards of different countries is under way. The unified standards are called Harmonized Standards. Each of these standards is marked EN above the standard number. EN standards offer the grounds in design and manufacture when one exports a product to the EU territory. In order for a product to receive a safety marking, the product must be found to conform to TÜV, VDE, or other relevant standard.
Our products are certified as satisfying all TÜV Rheinland EN60950 requirements.

4. Electrical Appliance and Material Safety Law

As of April 1, 2001, the Electrical Appliance and Material Control Law has been revised and reenacted as the Electrical Appliance and Material Safety Law.
AC fans are classified as 'Blowers' under 'Electric motor-operated appliances' . They are categorized as electrical products other than specific electrical appliances (with the exception of some models) and are required to be labeled to indicate PSE certification.

5. CE marking

CE marking

To distribute their equipment in the EU territory, manufacturers are obligated to give a CE marking as proof that the equipment conforms to related EU directives. Manufacturers use EN standards as criteria of judgment as to whether the equipment satisfies the requirements of specific directives or, in the absence of applicable EN standards, they use IEC standards. Manufacturers then prepare a self-declaration to indicate that the equipment conforms to related directives and apply a CE marking. (Depending on the degree of risk of the equipment, some kinds of equipment are required to receive type tests conducted by certified authorities and, after a type test certificate is obtained, manu-facturers make a self-declaration.)
Scope of application and compulsory timing of major EC directives
Machine directives (89/392/EEC, 91/368/EEC, and 93/44/EEC)
These directives apply to equipment that has a moving part that may injure humans. The directives generally apply to a wide range of machine tools and other industrial machines (became compulsory on January 1, 1995).
EMC directives (89/326/EEC and 92/31/EEC)
They apply to equipment which may be affected by electromagnetic interference (EMI) or has ele-ctromagnetic susceptibility (EMS) (became co-mpulsory on January 1, 1996).
Low-voltage directive (73/23/EEC)
This directive applies to equipment that is used in an AC range between 50 and 1,000V and in a DC range between 75 and 1,500V (became compulsory on January 1, 1997).

JIS: Japanese Industrial Standards
Japan's national standards related to mining and manufacturing industries

IEC : International Electrotechnical Commission
This is an international commission on electrical standardization. This commission promotes the unification and cooperation of international standards related to electric and electronics engineering and issues IEC standards in order eventually to allow different countries to conform to the international standards.

DIN : Deutsches Indstitut fur Normung e.V.
This is a German standards institute. The institute uses a wide-range set of standards covering many industrial sectors. The set of standards includes basic standards.

VDE : Verband Deutscher Elektrotechniker e.V.
It is a German association of electric engineers. VDE establishes safety standards related to electrical engineering and issues them as DIN-VDE standards.