

Elegant, High-efficiency Wall-mounted Room Air Conditioner featuring Italian Design



Mitsubishi Heavy Industries
Thermal Systems, Ltd.

In addition to energy-saving capability and extra functionality for comfort, wall-mounted room air conditioners are also required to be a cut above from an aesthetic point of view. Especially in the European market, design carries so much importance that there is an extra category devoted to it, in addition to categories such as high end, standard and popular. To meet such market demand, Mitsubishi Heavy Industries Thermal Systems, Ltd. has developed the “ZSX series” of wall-mounted room air conditioners for Europe, which not only feature superior performance and functionality, but also incorporate Italian design that can harmoniously blend in with any interior decor. This report introduces the well-designed high-end ZSX series.

1. Features

(1) Italian design

In collaboration with Italian industrial design studio Tensa srl (headquarters in Milan, Lombardia), we have created a form with sophisticated European aesthetics. To further polish this form, the configuration of components inside the indoor unit was optimized to give the new indoor unit a sleek streamlined contour with a slim, stylish design. Appearing as if wrapped in a soft veil, they nicely fit in with any interior decor. The ZS series (Premium series), the design of which has also been renewed to match the concept of the high-end ZSX series (Diamond series), is also available (**Figure 1**).



Figure 1 Indoor units with Italian design

(2) High performance

Our twin rotary compressors, in which high-efficiency motors are mounted, are used to deliver greater efficiency throughout the range (low to large capacities). Relative to the previous models, the seasonal energy efficiency has been improved by a maximum of 27% in cooling and a maximum of 22% in heating (**Figure 2**). As a result, the ZSX series has received Europe’s highest energy rating (EU Energy Label of A+++).

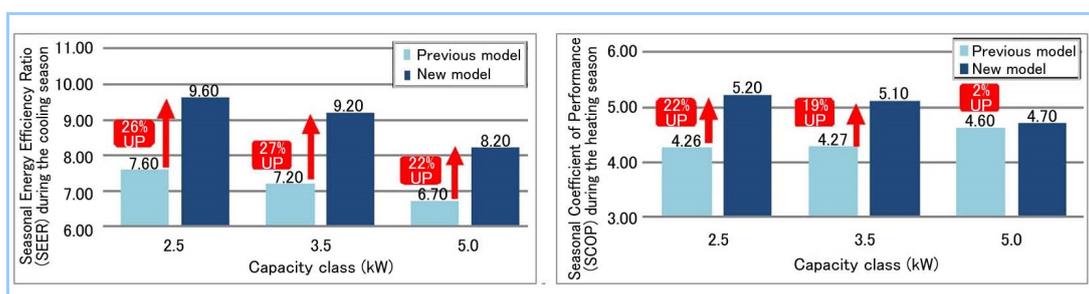


Figure 2 Improved seasonal energy efficiency

(3) Noiseless

Quiet operation of air conditioners has been realized by optimizing the air duct shape using computational fluid dynamics (CFD). Although it is normally used to design jet engine blades, the use of CFD has made both a slim design of the indoor unit and noiseless operation simultaneously possible. The low-noise operation mode, which is especially important in Europe, makes an operating noise of only 19 decibels (dB), the top level in the industry.

(4) Use of motion sensors to save energy and control comfort

Motion sensors are used to automatically control the room temperature according to the level of human activity, thereby enabling energy-saving air conditioning without compromising comfort. Once unoccupied, the ZSX series will automatically shut down after a certain period of absence to prevent unnecessary operation (auto-off function).

(5) Promotion as commercial/office air conditioners

In Europe, as there is no distinct boundary between residential use and commercial/office use, residential air conditioners may often be installed in shops or offices. Therefore, we have enabled the ZSX series to be centrally controlled via the Super Link air conditioning control system (our proprietary interface available separately) or be connected to wired remote controllers.

The indoor units of 5.0 kW and 6.0 kW classes can also be connected to commercial/office outdoor units. We can thus satisfy a wide range of needs including both residential and commercial/office use of air conditioners.

2. Specifications

Table 1 shows the main specifications.

Table 1 Specifications of the ZSX series

Indoor unit		SRK20ZSX-S	SRK25ZSX-S	SRK35ZSX-S	SRK50ZSX-S	SRK60ZSX-S	
Outdoor unit		SRC20ZSX-S	SRC25ZSX-S	SRC35ZSX-S	SRC50ZSX-S	SRC60ZSX-S	
Power supply voltage		Single phase 220-240 V					
Rated capacity	Cooling	kW	2.0	2.5	3.5	5.0	6.1
	Heating		2.7	3.2	4.3	6.0	6.8
Seasonal energy efficiency	Cooling		9.50	9.60	9.20	8.20	7.60
	Heating		5.20	5.20	5.10	4.70	4.70
Noise level (Indoor/Outdoor)	Cooling	dB(A)	53/53	55/56	58/58	59/62	62/63
	Heating		56/58	57/58	61/62	63/63	65/64
External dimensions	Indoor unit	mm	305(H)×920(W)×220(D)				
	Outdoor unit		640(H)×800(W)×290(D)				
Weight	Indoor unit	kg	13				
	Outdoor unit		43			45	

3. Future direction

Since good design can be appreciated by many other regions as well, the ZSX series will be promoted not only in the European market, but also in other countries around the world. In order to satisfy more diverse individual tastes, we will increase the variation of available colors. We will also develop air conditioning systems with better environmental compatibility by adopting R32 refrigerant.