HIGH-CAPACITY DUCTED

Air conditioners with high external static pressure - R410A

HIGH-CAPACITY DUCTED
WITH HIGH EXTERNAL STATIC PRESSURE

Wired controller

Model	Code	Cooling capacity (kW)	Heating capacity (kW)
ABDGI 20 HW	398700005	20	22
ABDGI 20 SH3	398700006	20	22
ABDGI 25 HW	398700001	25	27.5
ABDGI 25 SH3	398700002	25	27.5
ABDGI 30 HW	398700003	30	33
ABDGI 30 SH3	398700004	30	33

- Ducted air conditioners with high external static pressure for the commercial/tertiary sector
- Suitable for shops, offices, meeting rooms, restaurants, clubs, gymnasiums and open-space areas
- High energy efficiency, in both cooling and heating mode, especially when used year-round (seasonal efficiency) thanks to the motors all of the DC inverter type, for maximum comfort and low consumption
- Advanced torque control technology: adopts the optimised control principle for generating the maximum torque delivered with minimum consumption and reducing the loss of the motor winding and the smart power module for improved energy efficiency
- High nominal external static pressure (120 Pa), adjustable to between 0 and 250 Pa, in manual or automatic mode: this is a very important feature for applications requiring a very long air launch
- 9 static pressure levels available, depending on the installation
- The combination with a wired controller allows for optimising the static pressure in relation to the various technical installation requirements
- 3 selectable fan speeds
- Equipped with a signalling system for filter cleaning: monitors changes in the motor's current draw along with the rotation speed to determine whether the filter needs servicing
- CAN Bus communication: the CAN communication protocol considerably improves the anti-interference capacity, controls the indoor unit precisely and improves the system's efficiency. The conventional communication wire can be used to increase the project's installation flexibility
- Considerable pipe length and large height difference between the units; the pipe connecting the indoor and outdoor units can be up to 70 m long and the height difference between the indoor and outdoor units can reach 30 m
- Broad operating range: the system can work constantly with outdoor temperatures between -7 °C~48 °C in cooling mode and between -15 °C~24 °C in heating mode

Auto restart memory | Intelligent defrosting | Auto diagnosis | Child lock | Low-voltage start-up | Full protection | Wide operating range | Compact design | Easy to maintenance | "Turbo" function | Sleep mode | Filter cleaning reminder

Auto X-FAN | Save energy

REFRIGERANT GAS R410A

TECHNICAL DATA

Indoor unit model		ABDGI 20 HW		ABDGI 25 HW	
Outdoor unit model		ABDGI 20 SH3		ABDGI 25 SH3	
	Units	Cooling	Heating	Cooling	Heating
Nominal capacity* (EN14511)	kW	20	22	25	27.5
	BTU/h	68200	75100	85300	93800
EER/COP* (EN14511)		2.55	3.25	2.65	3.10
Rated capacity (Prated,c/Prated,h)*	kW	2.55	3.25	25	27.5
Seasonal space energy efficency (ηs,c/ηs,h)*	%	191.1	133.6	181.2	141.4
I.U. air flow rate (H.)	m^3/h	3700		4200	
Dehumidification	l/h	1.4		1.8	
Fan speed (I.U./O.U.)	No.	4/2		4/2	
Sound pressure I.U. (H.-M.-L.)	dB(A)	52-51-50		53-52-51	
Sound pressure O.U. (H.)	dB(A)	62		63	
Sound pressure I.U. (H.-M.-L.)	dB(A)	62-61-60		63-62-61	
Sound pressure O.U. (H.)	dB(A)	72		73	
Power supply	V/Ph/Hz	380-415/3/50-60		380-415/3/50-60	
Factory external static pressure (ESP)	Pa	120		120	
External static pressure (ESP) (adjustment range)	Pa	0-250		0-250	
Electrical power input	kW	7.8	7.0	9.4	8.9
Compressor type		Scroll Inverter		Scroll Inverter	
Refrigerant type		R410A		R410A	
Refrigerant charge	kg/T.CO_2 eq.	6.4/13.36		8.0/16.70	
Liquid pipe diameter	mm (inch)	9.52 (3/8")		9.52 (3/8")	
Gas pipe diameter	mm (inch)	19.05 (3/4")		22 (7/8")	
Length of pipes with standard charge	m	7.5		7.5	
Maximum length of pipes with additional charge	m	70		70	
Additional charge	g/m	60		60	
Maximum height difference (outdoor unit above)	m	30		30	
Maximum height difference (indoor unit above)	m	30		30	
Net dimensions I.U. (H./W./D.)	mm	385/1315/760		450/1520/840	
Net dimensions O.U. (H./W./D.)	mm	1430/940/320		1615/940/460	
Net weight I.U./O.U.	kg	82/120		99/146	

OPERATING LIMITS (outdoor temperature)
Cooling: from -7 °C to +48 °C
Heating: from -15 °C to +24 °C
ROOM TEMPERATURE ADJUSTMENT RANGE: 16-30 °C.

*Nominal data tested according to EN14511 and certified by EUROVENT. Nominal cooling capacity test conditions: indoor unit 27 °C DB/19 °C WB, outdoor unit 35 °C DB; length of connecting pipe: 5 m, without height difference between the units - Nominal heat capacity test conditions: indoor unit 20 °C DB, outdoor unit 7 °C DB/6 °C WB; length of connecting pipe: 5 m, without height difference between the units - The sum of capacities of the indoor units connected must fall within the interval (50%~135%) of the capacity of the outdoor units. The pertinent parameters can be corrected by referring to correction table of the units' capacity. - The parameters shown above are tested on the basis of the standard length of the connecting pipe. In the actual project, the parameters must be corrected by referring to the correction of the capacities for the long connecting pipe of the units.

**Data declared in accordance with COMMISSION REGULATION (EU) 2016/2281 of 30 November 2016 implementing Directive 2009/125/EC of the European Parliament and of the Council establishing a framework for the setting of ecodesign requirements for energy-related products, with regard to ecodesign requirements for air heating products, cooling products, high temperature process chillers and fan coil units.

TECHNICAL DATA

Indoor unit model		ABDGI 30 HW	
Outdoor unit model		**ABDGI 30 SH3**	
	Units	Cooling	Heating
Nominal capacity* (EN14511)	kW	30	33
	BTU/h	102400	112600
EER/COP* (EN14511)		2.65	3.20
Rated capacity (Prated,c/Prated,h)*	kW	30	33
Seasonal space energy efficency (ηs,c/ηs,h)*	%	185.2	133.2
I.U. air flow rate (H.)	m^3/h	5200	
Dehumidification	l/h	2.0	
Fan speed (I.U./O.U.)	No.	4/2	
Sound pressure I.U. (H.-M.-L.)	dB(A)	55-54-53	
Sound pressure O.U. (H.)	dB(A)	65	
Sound pressure I.U. (H.-M.-L.)	dB(A)	65-64-63	
Sound pressure O.U. (H.)	dB(A)	75	
Electrical power supply	V/Ph/Hz	380-415/3/50-60	
Factory external static pressure (ESP)	Pa	120	
External static pressure (ESP) (adjustment range)	Pa	0–250	
Electrical power input	kW	11.3	10.3
Compressor type		Scroll Inverter	
Refrigerant type		R410A	
Refrigerant charge	kg/T.CO_2 eq.	9.5/19.84	
Liquid pipe diameter	mm (inch)	12.7 (1/2")	
Gas pipe diameter	mm (inch)	25.4 (1")	
Length of pipes with standard charge	m	7.5	
Maximum length of pipes with additional charge	m	70	
Additional charge	g/m	120	
Maximum height difference (outdoor unit above)	m	30	
Maximum height difference (indoor unit above)	m	30	
Net dimensions I.U. (H./W./D.)	mm	450/1520/840	
Net dimensions O.U. (H./W./D.)	mm	1615/940/460	
Net weight I.U./O.U.	kg	105/175	

OPERATING LIMITS (outdoor temperature)
Cooling: from -7 °C to +48 °C
Heating: from -15 °C to +24 °C
ROOM TEMPERATURE ADJUSTMENT RANGE: 16-30 °C.

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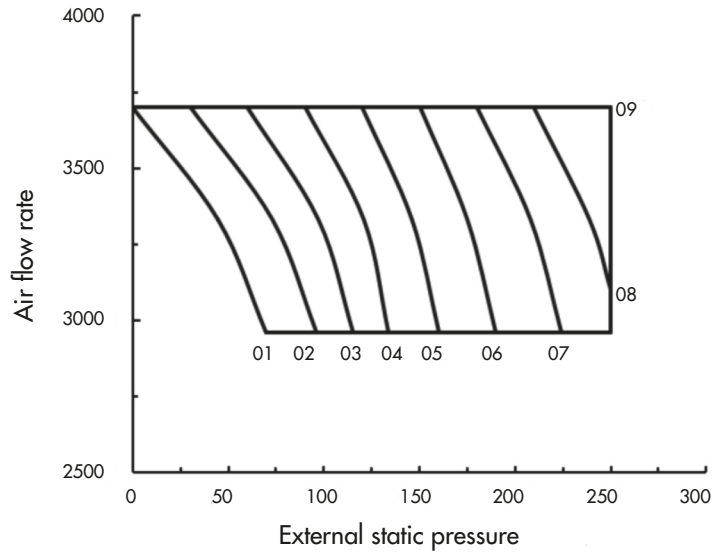
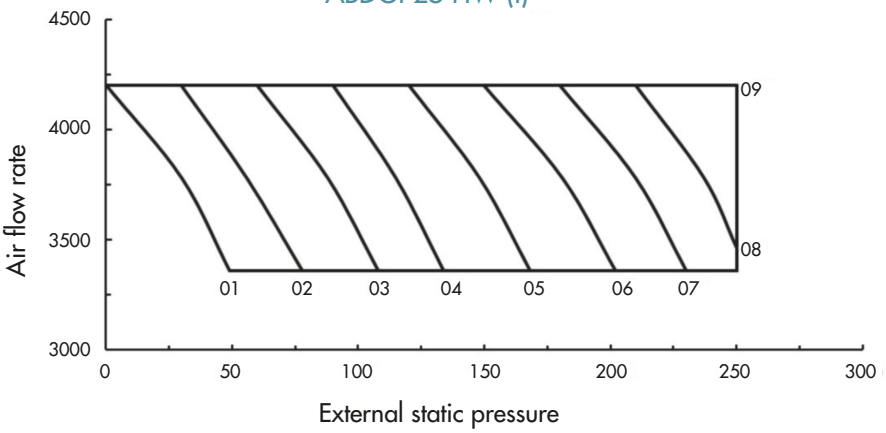
EXTERNAL STATIC PRESSURE CURVES

ABDGI 20 HW (I)



ABDGI 25 HW (I)



ABDGI 30 HW (I)