

All Technologies. One European Partner.

Reliable HVAC-R Components for a Sustainable Future

Compressors | Motors | Pumps



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Heating, cooling, and refrigeration systems are essential to modern life—and their performance depends on the quality and interaction of the components at their core. Compressors, motors, and pumps play a critical role in achieving energy efficiency, reliability, and long-term operating performance across a wide range of applications.

At Panasonic Industry, we bring these technologies together in a single portfolio, giving manufacturers and system designers the advantage of working with one trusted supplier for their complete component needs.

From HVAC systems and heat pumps to commercial refrigeration and cooling equipment, our solutions are engineered to work seamlessly together, simplifying development and ensuring optimal system performance.

We believe that sustainability is about more than energy efficiency alone. Reliability and longevity are equally important.

Components that deliver consistent performance over many years reduce maintenance, conserve resources, and minimize environmental impact throughout their lifecycle.

Backed by decades of expertise, European quality standards, and local support, Panasonic Industry helps customers create solutions that combine efficiency, durability, and value. Whether your goal is improved performance, quieter operation, or greater system reliability, we provide the technologies and know-how to help you succeed.

One supplier. One portfolio. One trusted partner for heating, cooling, and refrigeration solutions.



SUSTAINABILITY STARTS AT THE CORE.

Every Component Counts

The transition to sustainable heating and cooling is one of the most significant energy challenges of our time. Today, heating accounts for a major share of building-related energy consumption, while heat pumps have emerged as a key technology for reducing emissions and dependence on fossil fuels. Heat pumps are typically 3 to 5 times more energy efficient than conventional gas boilers, making system efficiency a decisive factor in achieving climate targets.

At Panasonic Industry, sustainability begins with the components at the heart of every heat pump. Our rotary compressors enable compact systems to deliver high cooling and heating capacity within a reduced footprint. They are ideally suited for next generation heat pump applications including systems using R290 or CO₂. Our DC motors achieve efficiencies above 85%, combining low noise, low vibration, and reduced power consumption.

Our latest circulation pumps support lower operating costs and a smaller environmental footprint.

Together, compressors, motors, and pumps determine how efficiently a heat pump converts electricity into comfort. By optimizing every watt across the system, Panasonic Industry helps OEMs create solutions that are quieter, more reliable, and more sustainable.

As heat pump adoption continues to grow across Europe, we remain committed to enabling the next generation of high-performance heating systems. Because sustainability is not built by one component alone. It is achieved when every component performs at its best.



ADVANCED TECHNOLOGY THAT POWERS PROGRESS.

Engineering the Future of Heat Pumps

Behind every efficient heat pump stands a collection of advanced technologies working seamlessly together. At Panasonic Industry, innovation is not limited to a single component. It is embedded in every compressor, motor, and pump we develop.

Our rotary compressor technology, refined through more than 60 years of compressor innovation, combines high-efficiency motors, inverter control, and advanced twin-rotary designs to deliver exceptional performance, low vibration, and quiet operation. Many models are compatible with refrigerants such as R290 and CO₂, helping OEMs meet evolving sustainability requirements without compromising efficiency.

Our EC motor technology leverages decades of expertise in electromagnetic design, motor control

software, and material engineering. Features such as sine-wave drive control, anti-vibration rotor structures, and optimized magnetic circuits enable efficiencies exceeding 85%, while reducing noise and improving long-term reliability.

Our circulation pumps combine optimized hydraulics, intelligent control, and compact design to achieve high heat-transfer efficiency.

By combining advanced component technology with deep application expertise, Panasonic Industry helps manufacturers create heat pumps that are more efficient, quieter, smaller, and ready for the challenges of tomorrow. Because the future of heating depends on technology that performs beyond expectations.



RELIABILITY & ENGINEERING EXCELLENCE

One System. One Partner. Complete Confidence.

A heat pump is only as reliable as the interaction between its components. Compressors, motors, and pumps must work together seamlessly to achieve maximum efficiency, durability, and performance. That is why Panasonic Industry offers a unique advantage: one trusted partner supplying the core technologies at the heart of the system.

Drawing on decades of experience in compressor, motor, and pump development, our engineering teams understand the challenges faced by OEMs across a wide range of heat pump applications. From initial concept discussions through product selection and validation, we provide local technical support to help customers identify the most suitable solution for their specific requirements.

Panasonic technologies are developed according to our renowned engineering standards, combining Japanese design excellence with dedicated European engineering and customer support.

Extensive testing, quality control, and application know-how help ensure reliable performance under demanding operating conditions.

Beyond our standard product portfolio, we work closely with customers to evaluate application-specific needs and, where appropriate, support the development of customized solutions. This flexibility allows OEMs to address unique design challenges while benefiting from Panasonic's proven technology platform.

By combining reliable products, responsive local support, and a collaborative approach to engineering, Panasonic Industry helps customers reduce development risks, accelerate design decisions, and bring high-performance heat pump solutions to market with confidence. Because successful heat pump designs start with trusted components and expert engineering support.



Scroll Compressors

Introduction of New Technology and Product



EVI Technology

With high compression ratio and stable operation, it is suitable for ultra-low temperature environment applications.

Small Diameter and Lightweight Design

Smaller diameter design contributes to reduced R290 refrigerant usage.

Low Oil Split Design

The oil return pipe is designed in coordination with the oil circuit to reduce oil consumption.

Low Noise Design

Low noise design operation is realized by distributed coil motor.

High Reliability and High Efficiency Design

Oil pump

Equipped with a small displacement gear oil pump for efficient lubrication.

Sliding bearing

Using low-friction and durable bearing materials to ensure reliable operation and high efficiency.

Reduce shaft deflection

Shaft deflection can be reduced by shortening the bearing span and increasing the shaft diameter at the rotor support section.

Refrigerant	Power	Series	Compressors capacity range (kW) – under development													
			15	18	20	25	30	35	40	45	50	55	60	65	70	75
R290	DC inverter	A														
R32	DC inverter	A														
		H														



Rotary Compressors

The Pulse of Efficient Refrigeration

The compressors play a crucial role in the re-
frigeration cycle of heat pumps, effectively
controlling the transfer of heat. Their significance lies
in their impact on efficiency, power, and the longevity
of the system.

At Panasonic Industry, our comprehensive know-
ledge of compressors extends beyond technical
specifications. We appreciate the art and function-
ality of their design and operation. Leveraging our
extensive experience, we will guide you in selecting
compressors that align with your system's require-
ments, ensuring smooth and efficient performance.
Join us as we highlight the precision and capabilities
of these essential components.

Key Technologies Behind Panasonic Twin Rotary

Motor Technology

- Split-core motor
- Rare earth magnet
- High low-speed efficiency

R290 Optimization

- Oil/refrigerant management
- Dedicated R290 design

Patented EVI

- Extended operating envelope
- Up to 80°C condensing temperature

Twin Rotary Mechanism

- Reduced torque fluctuation
- Low vibration
- High reliability

Line-up of Rotary Compressors

Variable Speed, Heating Capacity

Refrigerant	Series	Compressors capacity range (kW)																	
		0,2	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	25
R290	M																		
	T																		
	S																		
	W																		
	R																		
	K																		
	V																		
	J																		
R454B	R																		
	K																		
R454C	R																		
	K																		
R1234yf/ze	M																		
	S																		
	T																		
	R																		
	V																		
R744	C																		
	15F																		
	20F																		
	33F																		
R513A	V																		

Specifications of Rotary Compressors

Inverter R290 Rotary Compressors

Series		M		T		S			W	
Model		7MS020Z*	7MD030Z*	7TD058Z*	7TD075Z*	7SS064Z*	7SD092Z*	7SD110Z*	7WD138Z*	7WD220Z*
Diameter Ø [mm]		53	53	84	84	95	95	95	104	104
Height LT [mm]		109	145	203	203	247	225	225	267	306
Compressor Type		Single	Twin	Twin	Twin	Single	Twin	Twin	Twin	Twin
Displacement [cm³]		2.0	3.0	5.8	7.5	6.4	9.2	11.2	13.9	22.0
Nominal Performance	Heating Capacity [W]	621	714	1476	1731	1636	2247	2560	3365	5065
	Cooling Capacity [W]	354	-	-	1340	-	-	1990	-	-
	Input [W]	150	220	499	380	330	671	570	725	1090
	COP	2.36	3.25	2.96	3.53	4.53	3.35	4.49	4.64	4.6
Nominal conditions		CT 54.4°C / ET 7.2°C / Ts: 35.0°C / Tex 46.1°C								

Series		R	K			V		J	
Model		7RD220Z*	H330D7KZ*	H420D7KZ*	H550D7KZ*	H550D7VZ*	H650D7VZ*	H800D7JZ*	H1000D7JZ*
Diameter Ø [mm]		110	132	132	132	143	143	157	157
Height LT [mm]		226 - 328	421	323 - 421	421	467	467	366 - 497	408
Power Supply (to inverter)		1Ph 220-240V	1Ph 220-240V 3Ph 380-415V	1Ph 220-240V 3Ph 380-415V	1Ph 220-240V 3Ph 380-415V	1Ph 220-240V 3Ph 380-415V	1Ph 220-240V 3Ph 380-415V	1Ph 220-240V 3Ph 380-415V	1Ph 220-240V 3Ph 380-415V
Compressor Type		Twin	Twin	Twin	Twin	Twin	Twin	Twin	Twin
Displacement [cm³]		22,0	33,0	42,0	55,0	55,1	65,0	80,0	100,0
Nominal Performance	Heating Capacity [W]	5115	8135	10285	13600	13875	16515	20195	25200
	Input [W]	1140	1740	2210	3060	3185	3745	4610	5670
	COP	4.49	4.68	4.65	4.44	4.36	4.41	4.38	4.44
Speed Range [rps]		15-120	15-110	15-110	15-110	15-110	15-110	15-100	15-100
Manufacturing Country		China	China	China	China	China	China	China	China
Nominal conditions		CT 54.4°C / ET 7.2°C / Ts: 35.0°C / Tex 46.1°C							

* Presented are base value for reference, The values may slightly different for specifications.

CO₂ Compressors R744 for Heat Pumps

Series		C
Model		8CS044XJA64*
Diameter Ø [mm]		124
Height LT [mm]		284
Compressor Type		Single
Displacement [cm³]		4.4
Nominal Performance	Cooling Capacity [W]	3180
	Input [W]	1295
	COP	2.41
	Nominal conditions	
Gas Cooler Outlet Temp.		41°C

Fixed Speed R290 Rotary Compressors

Series		T		S	T			P	K
Model		7TS027EA*	7TD058EA*	7SS064E*	7TS035EB*	7TD052EB*	7TD075EA*	7PS192EA*	7KS280EA*
Diameter Ø [mm]		84	84	95	84	84	84	118	132
Height LT [mm]		139	176	166	148	176	183	253	268
Compressor Type		Single	Twin	Single	Single	Twin	Twin	Single	Single
Displacement [cm³]		2.7	5.8	6.5	3.5	5.3	7.5	19.2	28.2
Nominal Performance	Cooling Capacity [W]	-	-	-	485	735	1050	2830	4110
	Input [W]	170	375	420	185	265	407	905	1360
	COP	3.24	3.20	3.21	2.62	2.77	2.58	3.13	3.02
Nominal conditions		CT 54.4°C / ET 7.2°C / Ts: 35.0°C / Tex 46.1°C							

Fixed Speed R454C Rotary Compressors

Series		R		P	K	V	
Model		GRS102EAA41*	GRS132EAA41*	GPS192EA41*	GKS280EAA41*	GVS355EAA41*	GVD485EA
Diameter Ø [mm]		110	10	118	132.6	142.6	142.6
Height LT [mm]		210	220	253	268	282	299
Compressor Type		Single	Single	Single	Single	Single	Twin
Displacement [cm³]		10.3	13.2	19.1	28.2	35.6	48.8
Nominal Performance	Cooling Capacity [W]	1193	1530	2810	3290	5395	7460
	Input [W]	405	520	1100	1070	1790	2605
	COP	2.95	2.94	2.55	3.07	3.01	2.86
Nominal conditions		CT 54.4°C / ET 7.2°C / Ts: 35.0°C / Tex 46.1°C					

Fixed Speed R1234YF/ZE Rotary Compressors

Series	S	R			P			K	
Model	1SS072ABA41*	1RS102AAA41*	1RS182RAA41*	1RS132EAA41*	*1PS132AAA41	1PS192AAA41	1PS192EAA41*	1KS280AAA41*	1KS280EAA41*
	220V-240V 50Hz/60Hz	220V-240V 50Hz/60Hz	220V-240V 50Hz	220V-240V 50Hz	220V-240V 50Hz/60Hz	220V-240V 50Hz/60Hz	220V-240V 50Hz	220V-240V 50Hz/60Hz	220V-240V 50Hz
Diameter Ø [mm]		95	110	110	110	118	118	132.6	132.6
Height LT [mm]		213	210	210	220	220	253	268	268
Compressor Type		Single	Single	Single	Single	Single	Single	Single	Single
Displacement [cm³]		7.3	10.3	10.3	13.2	13.2	19.1	28.2.6	28.2
Nominal Performance	Cooling Capacity [W]	835/990	1211/1444	1205	1530	1510/1815	2170/2605	2160	3270/3965
	Input [W]	347/353	463/570	430	520	505/625	805/865	740	1060/1270
	COP	2.39/2.80	2.62/2.53	2.80	2.94	2.99/2.90	2.70/3.01	2.92	3.08/3.12
Nominal conditions		CT 54.4°C / ET 7.2°C / Ts: 35.0°C / Tex 46.1°C							

Motors

The technology behind an efficient and silent ventilation

Motors are crucial for the operation of heat pumps, ensuring smooth coordination among components. As the central system component, motor performance significantly impacts efficiency and durability. At Panasonic Industry, we thoroughly analyze motor mechanisms, ensuring they deliver maximum power with optimal efficiency. Our motors stand out for their exceptional **quietness** and **low energy consumption**, positioning them as industry leaders. Drawing upon our extensive experience and expertise, we will assist you in selecting motors that not only meet but enhance the potential of your heat pump.

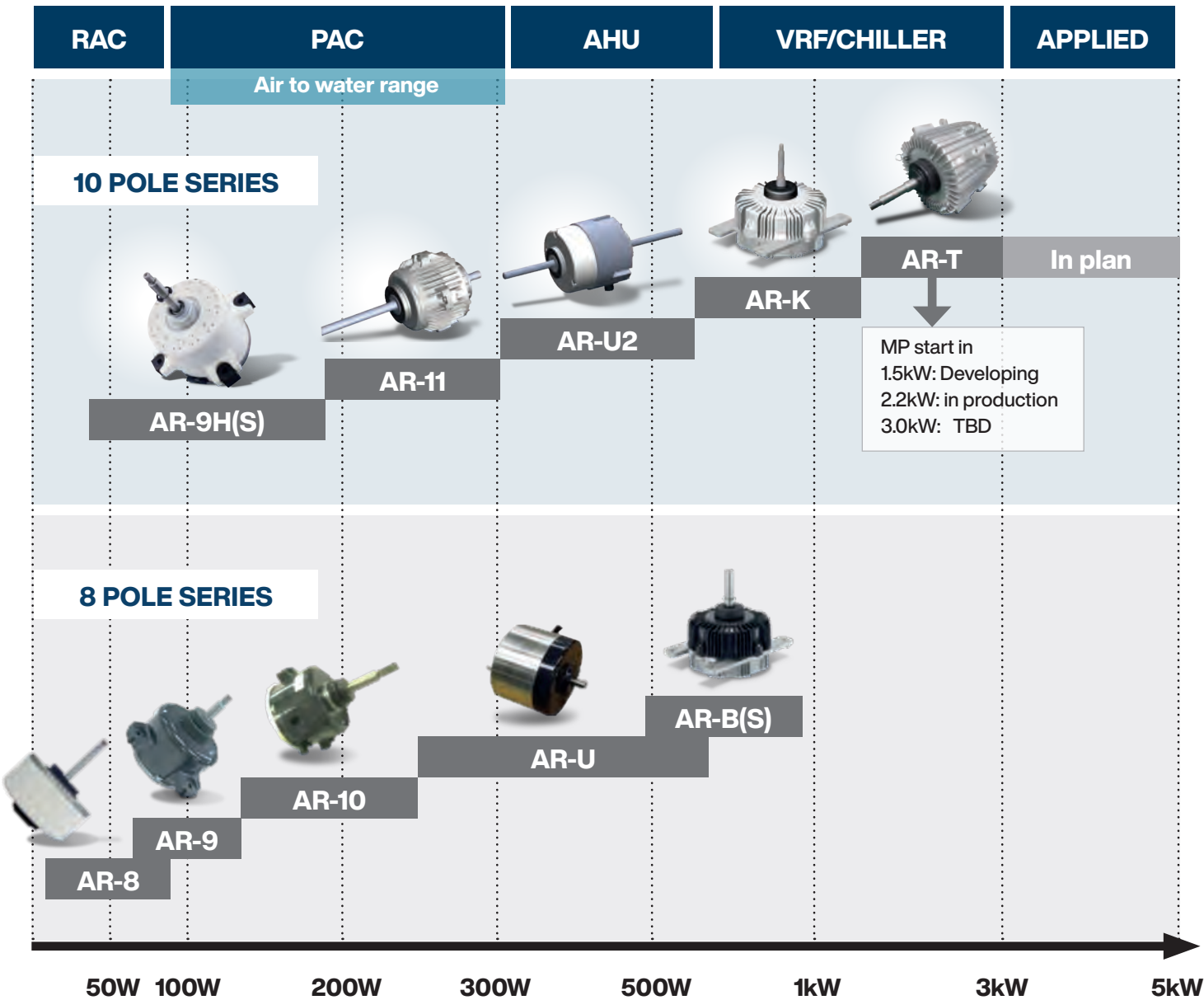
Quiet motion during product life	Power saving across the low - high speed
10 pole, 12 slot to cease cogging	10 pole, 12 slot for higher output
Anti-vibration rubber-integrated rotor (patented by Panasonic)	Spoke-rotor structure
Sine-wave drive	3D analysis to optimize
Optimized IC, Microcontroller to cease torque ripple	Magnetic field
Insulated rotor to prevent bearing damage in product life	Advanced angle control to optimize phase

Features

- Fused technology
- Precise Motor control
- Energy saving efficiency >85%
- Low noise and Low vibration
- New compact design and lightweight
- Environmentally friendly products

Product Line-up

- Flexible output by customizing core design of wide platforms
- 30 years experience in outdoor unit

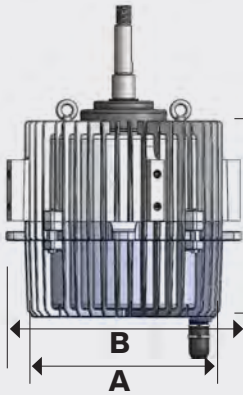


Motors

Features and Specifications

All motors available with built-in driver or without driver

AR-T



A Body diameter Ø220mm
B Mold leg pitch Ø256mm
C Body height 212.6mm

Product Features

- High power, high efficiency
- Compact and lightweight
- Low vibration and noise
- Aluminum wiring
- Modbus communication
- UL and CE approval is currently being obtained

Applications

Outdoor unit fan motor

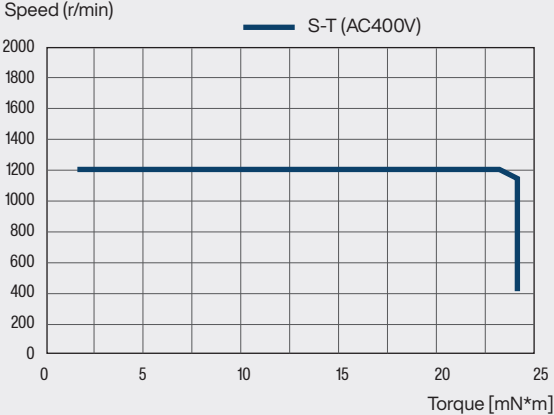
- Roof top unit
- Module chiller
- Close control

Specifications

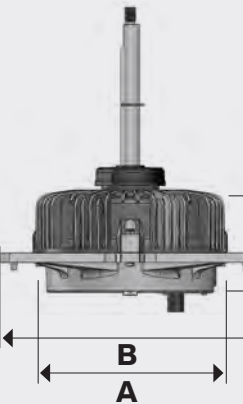
Model		1.5kW	2.2kW	* 3.0kW
Rated voltage		AC 3phase 400V		
Tolerance		AC 380 ~ 480V		
Operating temperature		-30 to +65°C		
Efficiency	w/o circuit	93%		
	with circuit	90%		
Life		100,000 hours (L50 calculation)		
Insulation class		E (B)		
Protection		IP54 or IP65 (Cable ground is used)		
Weight		14kg	15kg	20kg

*3.0kW under development

Speed – Torque characteristic *2.2kW



AR-BS



A Body diameter Ø205mm
B Mold leg pitch Ø275mm
C Body height 109mm

Product Features

- Support for higher output (max 1.2kW)
- 10 poles Ferrite spoke rotor
- High efficiency, low vibration and low noise
- Copper or aluminum winding available
- Long life operation

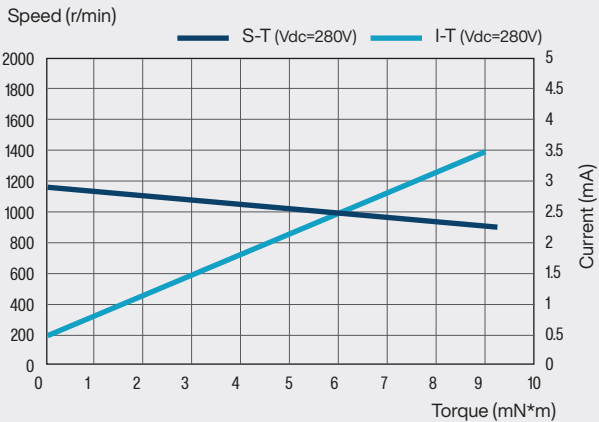
Applications

Large outdoor unit fan motor VRF

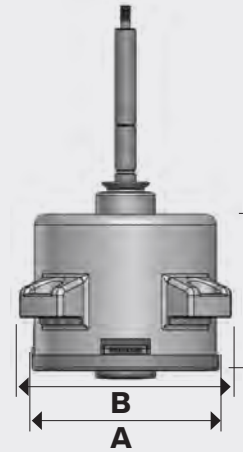
Specifications

Model	AR-BS
Rated output	450 – 750 W
Vdc	DC 264 ~ 358Z
Sensor type	Sensor less
Motor structure	New stator core design + Aluminum wire
	Ferrite 10 pole spoke rotor
IP grade	IP23
Insulation class	E / B
Weight	10kg

Speed – Torque characteristic *2.2kW



AR-9HS



A Body diameter Ø103mm
B Mold leg pitch Ø127mm
C Body height 77.3mm

Product Features

- 10-pole spoke rotor for high efficiency
- MCU vector control for low vibration and low noise
- Aluminum winding for lower weight and cost

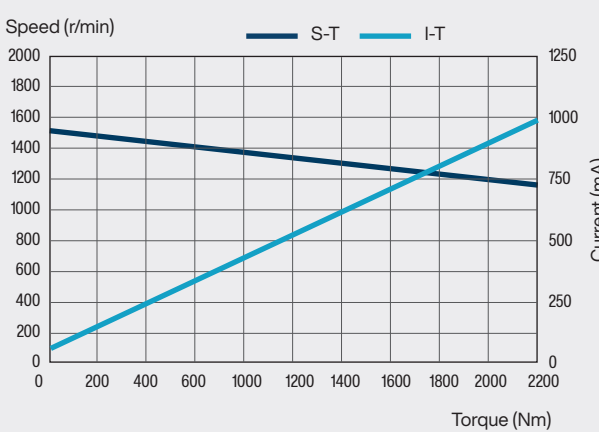
Applications

Outdoor unit fan motor
Multi-split air conditioners

Specifications

Model	AR-9HS
Rated voltage	DC 280 ~ 339V
Rated output	70 ~ 200 W
Rated speed	200 ~ 1200 r/min
Operating temperature	-20 to +60°C
Operating humidity	≤ 95% RH
Core Dia / Core Thickness (Electric Wire)	Ø 97 / L45 (AL Wire)
Pole/ Slots	10 Pole Spoke / 12 Slots
Motor weight	2.1kg
Motor efficiency	84% with circuit (MUC)

Speed – Torque characteristic



Pumps

Excellence in water circulating system

Pumps are crucial for regulating water flow and ensuring uniform thermal distribution across systems. Despite their critical role in heat transfer efficiency, their importance is often underappreciated. At Panasonic Industry, we leverage our technical expertise to select pumps that are not only efficient but also adaptable to varying system demands. We offer a comprehensive analysis of these essential components, combining technical accuracy with system-wide considerations to optimize performance.

Environmentally Friendly Product:

- Built on decades of experience with over 55 million+ pumps installed worldwide
- Compact and lightweight design that helps save space within the equipment
- Low-vibration operation for quieter equipment performance
- Shared power supply with DC fan and compressor for monobloc heat pump systems
- Mass customization capabilities to support customer-specific integration
- High-performance output suitable for heat pumps up to 8 horsepower



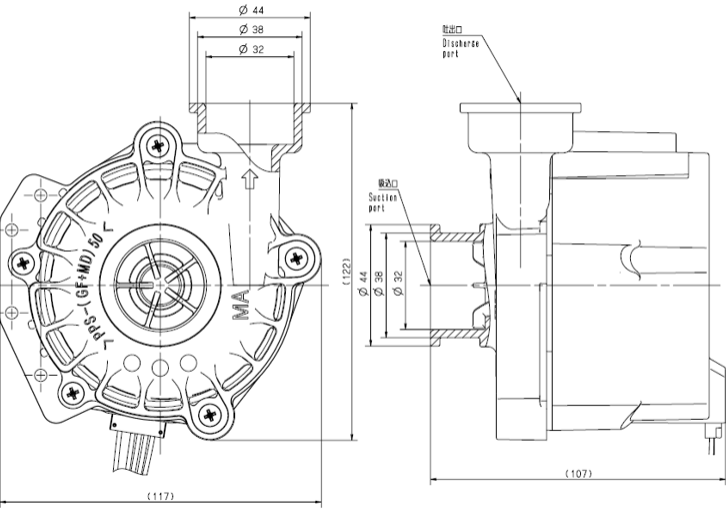
Main specifications

Covers the capacity range of heat pump units up to 22.4 kW (8 horsepower) with a single model.
Low-vibration operation enables quieter equipment performance (EEI ≤ 0.23 - Part 3)

Specifications

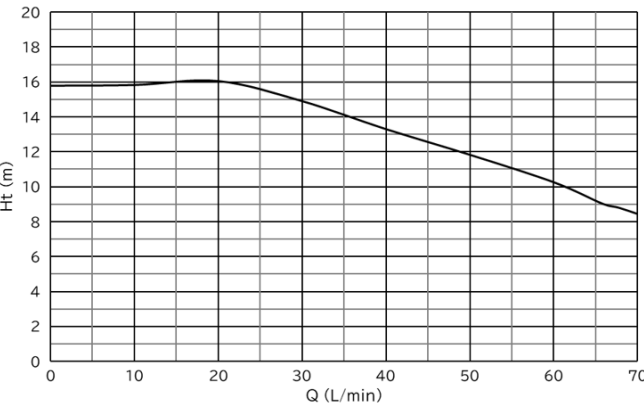
Rated voltage	325VDC
Drive power supply range	280VDC to 373VDC
Variable flow rate signal range	0VDC to 6VDC
Power consumption	215W ±15% (at rated point)
Water pressure resistance	500kPa
Circulating water temperature	-20°C to 80°C
Ambient temperature	-20°C to 60°C
Protection grade	IPX4
Size	W117×H122×D107mm
Weight	Approx. 1.3kg

Dimensions



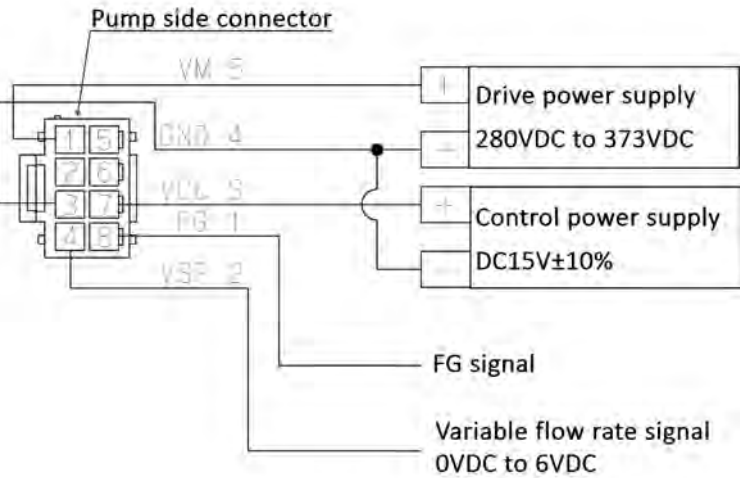
Pipe Connection
Suction : Clip fastening type/ Inner diameter of joint: Ø 32mm
Discharge : Clip fastening type/ Inner diameter of joint: Ø 32mm

Performance



Drive power supply: 325VDC
Variable flow rate signal: 6.0VDC

Electrical interfaces



Panasonic

INDUSTRY



We are dedicated to the highest standards of global sustainability as
Your Committed Enabler. Learn more on our website via the QR code.

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