GEHP

GAS ENGINE HEAT PUMP

MADE IN JAPAN

TECNOCASA
CLIMATIZZAZIONE

AISIN

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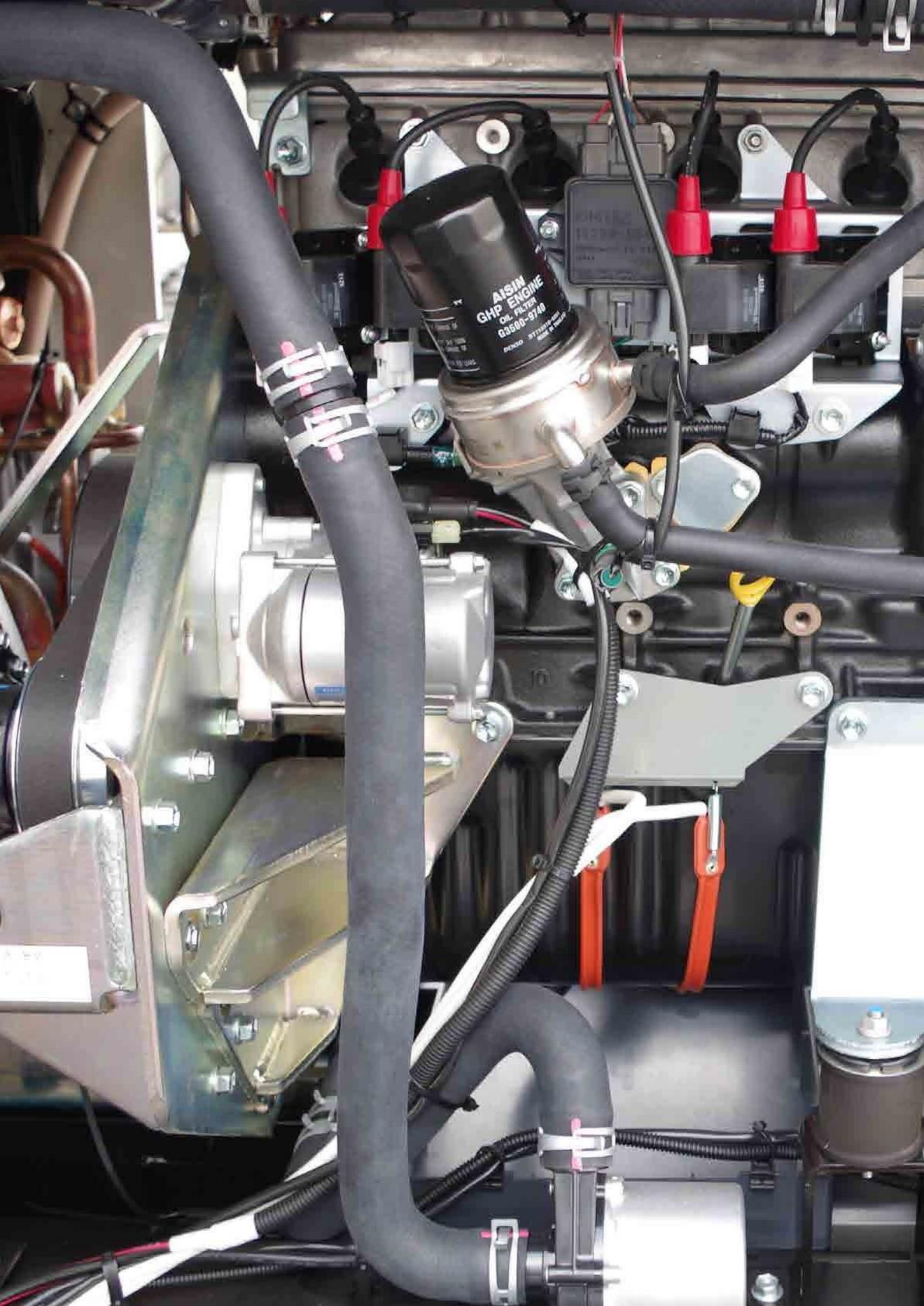
AISIN
GHP ENGINE
OIL FILTER
G3500-9740

GEHP

CLEAN ENERGY
FOR THE FUTURE

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WISE USE OF ENERGY

Higher comfort with less energy. That is the new challenge for air conditioning manufacturers. Only by turning to sustainable alternatives, good results can be achieved. Renewable sources and efficient use of primary energy are the key to success.

AISIN Gas Engine Heat Pumps (GEHP) can utilise heat from the most available renewable media: air. The use of TOYOTA specifically designed combustion engines ensures the best possible use of gas, one of the most environmental sustainable primary energy.

Centralised electrical production and transport loss can be avoided when using AISIN GEHP units. Exhaust gas and engine heat can also be recovered to provide an extra amount of energy free of charge.

GEHP: functioning principle

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AISIN Gas Engine Heat Pumps can convert primary energy in cooling and heating capacity available for the user with almost no loss, setting a new performance threshold in the HVAC market.

Overall efficiency exceeding 200% allows to equal the same level achieving a dramatic reduction of pollutant emissions. Improving the quality of the environment means ensuring social welfare.

Waste-free use of non-renewable sources combined with efficient use of renewable ones can be translated in one concept **Total Energy** The best and only possible way to set sustainable grounds for future technology.

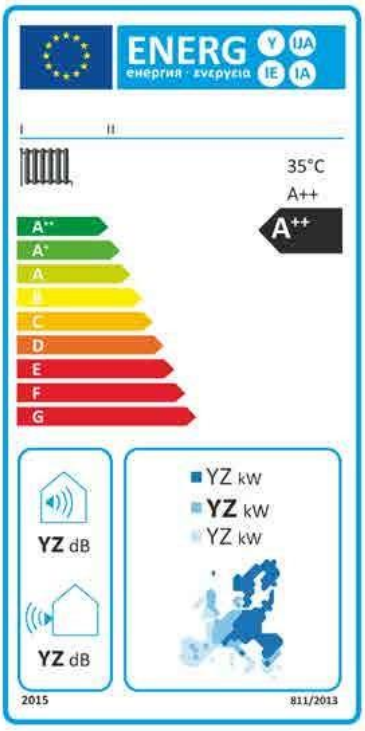
COOLING HEATING FOR THE FUTURE

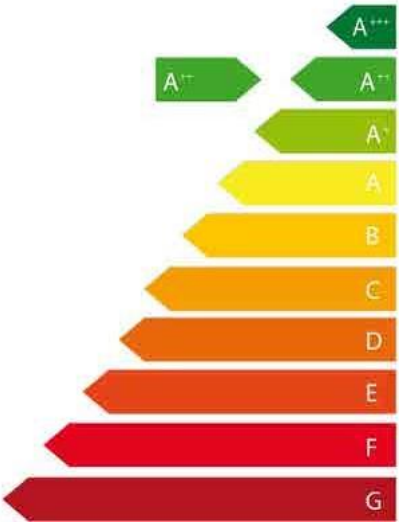
ANNUAL EFFICIENCY

New AISIN Gas Engine Heat Pumps represent an important step forward in efficiency and sustainability. They have been included in energy efficiency improvement subsidy programs in many countries and listed in possible methods of achieving NZEB (Nearly Zero Energy Buildings) conditions.

AISIN GEHP units use new variable capacity scroll compressors and can reach a wider range of partial loads without losing efficiency. The use of primary energy is adjusted to ensure the required comfort without any waste.

Reduced costs and emissions are achieved by improved features on the new AISIN units. A new type of high performance heat exchanger and a revised layout of the components in the engine room are the result of re-engineered design.





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Efforts were spent upgrading the gas engine and the refrigerant circuit in order to maximise the energy merit and reach top performances in both heating and cooling mode.

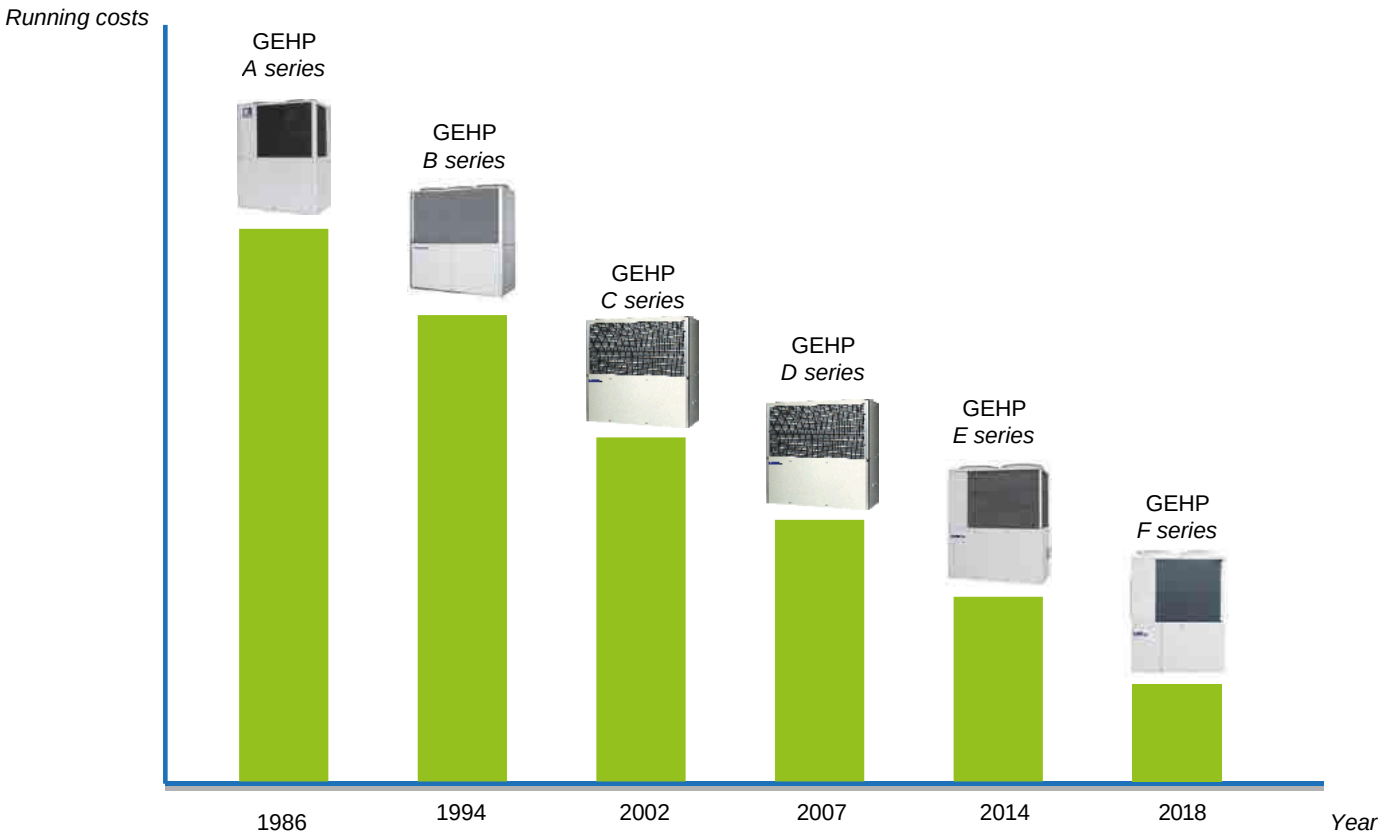
Seasonal performances in heating (SPER heating) get to the level of **class A^{++}.**

Also AISIN GEHP units are able to get to excellent seasonal performances in cooling mode too (SPER cooling), marking the difference between seasonal performances and annual performances.

SUSTAINABILITY FOR THE FUTURE

QUALITY AND DEVELOPMENT

Gas Engine Heat Pumps can accommodate the heating and air conditioning needs of any type of building.
Compact modular size and reduced running noise as well as the use of clean burning primary energy, even biomethane, with no need of HVAC related electrical upgrade are prerogatives of flexibility, high efficiency and reduced running costs.
Improved engine heat recovery results in reduced defrost cycles and higher room comfort and possible production of domestic hot water for free.



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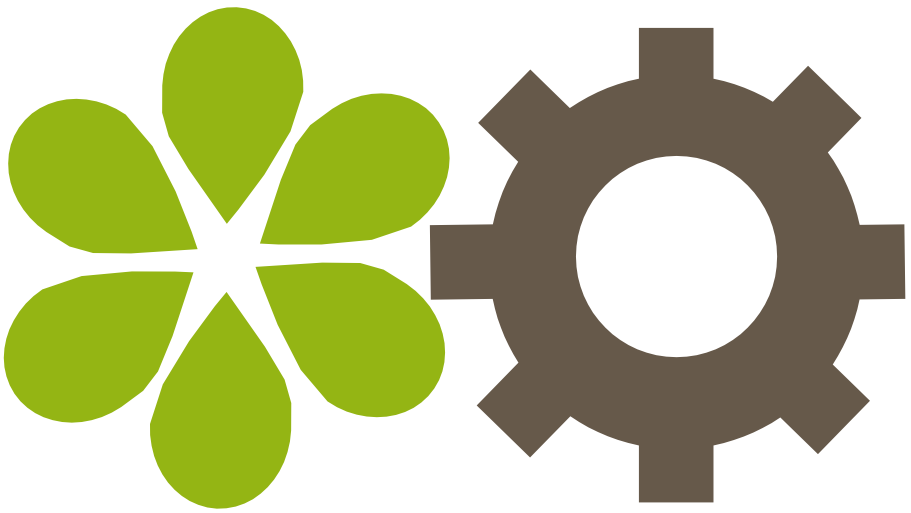
TOYOTA dedicated engines ensure durability and reliability. Minor mechanical periodical inspection is requested every 10.000 running hours while oil replacement is needed every 30.000 hours. Reducing waste materials is another way to make world a greener place.

The new YOSHI® AWS can reach 50°C water temperature. This new feature widens the applicability of Gas Engine Heat Pumps to all buildings in need of refurbishment, which used obsolete heat generators.

ECO-INNOVATION FOR THE FUTURE

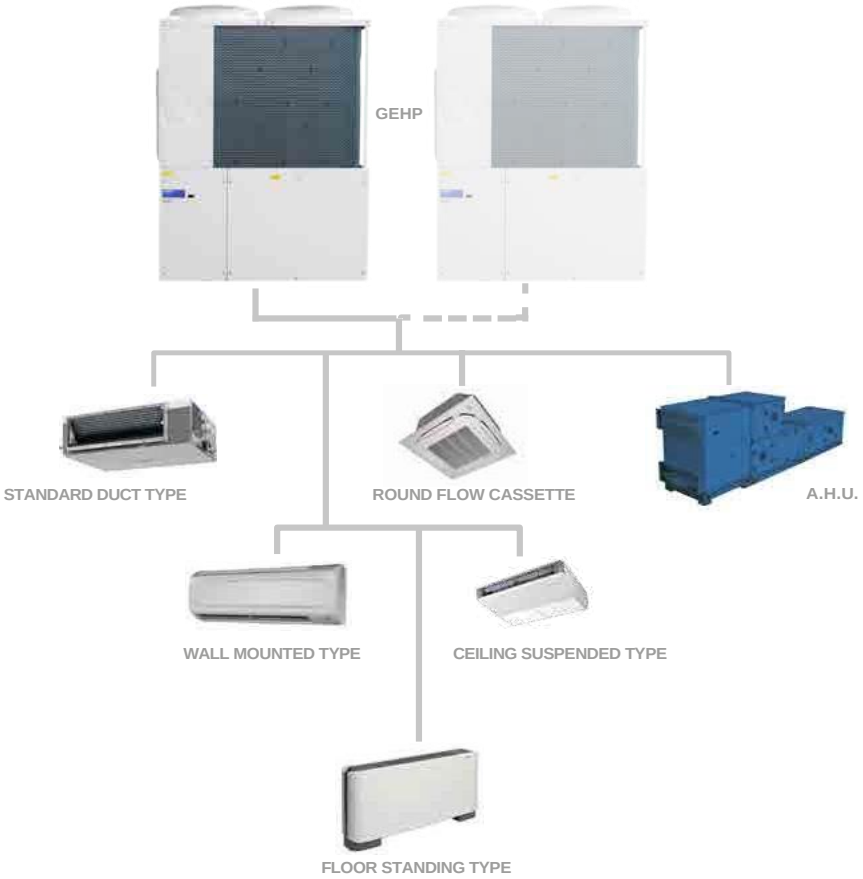


DIRECT EXPANSION

Direct expansion systems with simplified piping design are the easiest way of responding to the need of complex installations. There are no roof penetrations for exhaust venting or combustion air openings needed.

AISIN is the only manufacturer that offers a versatile array of GEHP outdoor units, indoor units and heat recovery systems. In other words, the widest line-up in the market.“Combination multi” systems provide superior flexibility for up to 63 connectable indoor units and an overall indoor capacity up to 160% of the rated one.

Comfort levels of each zone can be easily customised through individual and central controllers or form. Web server, LonWorks®, BACNet® e ModBUS® gateways allow easy and efficient remote management.



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SPECIFICATIONS 16-20-25-30 HP

Model		AWGP450F1 16 HP	AWSGP560F1 20 HP	AWGP710F1 25 HP	AWGP850F1 30 HP
Rated cooling capacity	kW	45,0	56,0	71,0	85,0
Rated cooling consumption	kW	31,4	38,9	54,4	71,2
GUE cooling		1,43	1,44	1,31	1,19
Rated heating capacity	kW	50,0	63,0	80,0	95,0
Maximum heating capacity (2°C)	kW	53,0	67,0	84,0	95,0
Rated heating consumption	kW	29,8	38,1	53,9	68,0
Maximum heating consumption (2°C)	kW	40,1	56,9	79,6	86,8
GUE heating		1,68	1,65	1,48	1,40
Maximum engine heat recovery	kW	15,7	19,5	27,2	35,6
SPER cooling		2,39	2,44	2,42	2,17
SPER heating		1,48	1,55	1,54	1,52
Power supply	V	AC 230 single phase			
Starting current	A	20			
Rated consumption (heating/cooling)	kW	0,50 / 0,64	0,62 / 0,91	0,74 / 1,19	1,12 / 1,49
Compressor		Variable capacity scroll x 2			Variable capacity scroll x 3
Refrigerant		R 410 A – 11,5 kg			
Sound pressure	dB(A)	58	59	62	65
Sound power	dB	75	76	82	86
Refrigerant piping (gas/liq.)	mm	Ø 15,9 / Ø 31,8			
Fuel gas piping	mm	R 3/4”			
Exhaust piping	mm	Ø 100			
Exhaust drain piping	mm	Ø 40			
Dimensions (HxWxD)	mm	2245 x 1660 x 880			
Weight	kg	765		795	870
Connectable indoor units nember		26	33	41	50
Scheduled maintenance interval	h	10.000			
Scheduled engine oil replacement	h	30.000			

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SPECIFICATIONS COMBINATION MULTI

Model		AWGP450F1 + AWGP450F1	AWGP450F1 + AWGP560F1	AWGP560F1 + AWGP560F1	AWGP560F1 + AWGP710F1	AWGP710F1 + AWGP710F1	AWGP710F1 + AWGP850F1	AWGP850F1 + AWGP850F1
		16+16 HP	16+20 HP	20+20 HP	20+25 HP	25+25 HP	25+30 HP	30+30 HP
Rated cooling capacity	kW	90,0	101,0	112,0	127,0	142,0	156,0	170,0
Rated cooling consumption	kW	62,8	70,3	77,8	93,3	108,8	125,6	142,2
GUE cooling		1,43	1,44	1,44	1,36	1,31	1,24	1,19
Rated heating capacity	kW	100,0	113,0	126,0	143,0	160,0	175,0	190,0
Maximum heating capacity (2°C)	kW	106,0	120,0	134,0	151,0	168,0	179,0	190,0
Rated heating consumption	kW	59,6	67,9	76,2	92,0	107,8	121,9	136,0
Maximum heating consumption (2°C)	kW	80,2	97,0	113,8	136,5	159,2	166,4	173,6
GUE heating		1,68	1,66	1,65	1,55	1,48	1,44	1,39
Maximum engine heat recovery	kW	31,4	35,6	39,0	46,7	54,4	62,8	71,2
SPER cooling		2,39	2,42	2,44	2,43	2,42	2,30	2,17
SPER heating		1,48	1,52	1,55	1,54	1,54	1,53	1,52
Power supply	V	AC 230 Single phase						
Connectable indoor units number		63						
Scheduled maintenance interval	h	10.000						
Scheduled engine oil replacement	h	30.000						

SPECIFICATIONS INDOOR UNITS

1-Way cassette		AXKP28	AXKP36	AXKP45	AXKP71
Cooling capacity	kW	2,8	3,6	4,5	7,1
	BTU	9.600	12.400	15.500	24.400
Heating capacity	kW	3,2	4,0	5,0	8,0
	BTU	11.000	13.700	17.200	27.500
Power consumption	W	69		92	120
Piping dimensions	liq. mm	6,4			9,5
	gas mm	12,7			15,9
Dimensions H/W/D without decoration panel	mm	215x1.110x710			
Dimensions H/W/D with decoration panel	mm	285x1.240x800			285x1.440x800
Weight	kg	31			34
Air flow ratemin/max	mc/h	540/660		600/780	900/1.080

2-Way cassette		AXCP22	AXCP28	AXCP36	AXCP45	AXCP56	AXCP71	AXCP90	AXCP140
Cooling capacity	kW	2,2	2,8	3,6	4,5	5,6	7,1	9,0	14,0
	BTU	7.500	9.600	12.400	15.500	19.200	24.400	30.900	48.200
Heating capacity	kW	2,5	3,2	4,0	5,0	6,3	8,0	10,0	16,0
	BTU	8.600	11.000	13.700	17.200	21.600	27.500	34.400	55.000
Power consumption	W	31	39		41	59	63	90	149
Piping dimensions	liq. mm	6,4					9,5		
	gas mm	12,7					15,9		
Dimensions H/W/D without decoration panel	mm	305x775x620				305x990x620		305x1.145x620	
Dimensions H/W/D with decoration panel	mm	360x1.070x700				360x1.285x700		360x1.740x700	
Weight	kg	19				22	25	33	38
Air flow ratemin/max	mc/h	450/630	480/690		510/720	630/900	690/960	1.110/1.560	1.350/1920

4-Way cassette (600x600)		AXJP22	AXJP28	AXJP36	AXJP45	AXJP56
Cooling capacity	kW	2,2	2,8	3,6	4,5	5,6
	BTU	7.500	9.600	12.400	15.500	19.200
Heating capacity	kW	2,5	3,2	4,0	5,0	6,3
	BTU	8.600	11.000	13.700	17.200	21.600
Power consumption	W	43		45	59	92
Piping dimensions	liq. mm	6,4				
	gas mm	12,7				
Dimensions H/W/D without decoration panel	mm	260X575X575				
Dimensions H/W/D with decoration panel	mm	315X700X700				
Weight	Kg	15,5		16,5		18,5
Air flow ratemin/max	mc/h	390/522	390/540	420/600	480/690	600/870

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SPECIFICATIONS INDOOR UNITS

4-Way cassette round flow		AXFP22	AXFP28	AXFP36	AXFP45	AXFP56	AXFP71	AXFP90	AXFP112	AXFP140
Cooling capacity	kW	2,2	2,8	3,6	4,5	5,6	7,1	9,0	11,2	14,0
	BTU	7.500	9.600	12.400	15.500	19.200	24.400	30.900	38.500	48.200
Heating capacity	kW	2,5	3,2	4,0	5,0	6,3	8,0	10,0	12,5	16,0
	BTU	8.600	11.000	13.700	17.200	21.600	27.500	34.400	43.000	55.000
Power consumption	W	38				53	61	92	115	186
Piping dimensions	liq. mm	6,4					9,5			
	gas mm	12,7					15,9			
Dimensions H/W/D without decoration panel	mm	204x840x840						246x840x840		288x840x840
Dimensions H/W/D with decoration panel	mm	264x950x950						306x950x950		348x950x950
Weight	Kg	19			20	21		24		26
Air flow ratemin/max	mc/h	528/750			570/816	630/900	630/990	744/1.368	744/1.590	1.194/1.980

Wall mounted		AXAP22	AXAP28	AXAP36	AXAP45	AXAP56	AXAP71
Cooling capacity	kW	2,2	2,8	3,6	4,5	5,6	7,1
	BTU	7.500	9.600	12.400	15.500	19.200	24.400
Heating capacity	kW	2.,5	3,2	4,0	5,0	6,3	8,0
	BTU	8.600	11.000	13.700	17.200	21.600	27.500
Power consumption	W	29	34	35	20	39	60
Piping dimensions	liq. mm	6,4					9,5
	gas mm	12,7					15,9
Dimensions H/W/D	mm	290x795x238			290x1.050x238		
Weight	Kg	11			14		
Air flow ratemin/max	mc/h	270/450	300/480	330/510	540/720	720/900	840/1.140

Standard duct type		AXSP22	AXSP28	AXSP36	AXSP45	AXSP56	AXSP71	AXSP90	AXSP112	AXSP140
Cooling capacity	kW	2,2	2,8	3,6	4,5	5,6	7,1	9,0	11,2	14,0
	BTU	7.500	9.600	12.400	15.500	19.200	24.400	30.900	38.500	48.200
Heating capacity	kW	2,5	3,2	4,0	5,0	6,3	8,0	10,0	12,5	16,0
	BTU	8.600	11.000	13.700	17.200	21.600	27.500	34.400	43.000	55.000
Power consumption	W	41		45	92	95		121	157	214
Piping dimensions	liq. mm	6,4					9,5			
	gas mm	12,7					15,9			
Dimensions H/W/D	mm	245x550x800			245x700x800		245x1.000x800		245x1.400x800	
Weight	Kg	24			29		36		46	
Air flow ratemin/max	mc/h	390/540		420/570	660/960		960/1.260	1.170/1.380	2.160/1.890	2.040/2.340

SPECIFICATIONS INDOOR UNITS

High static pressure duct type		AXMP56	AXMP71	AXMP90	AXMP112	AXMP140	AXMP224	AXMP280
Cooling capacity	kW	5,6	7,1	9,0	11,2	14,0	22,4	28,0
	BTU	19.200	24.400	30.900	38.500	48.200	77.100	96.000
Heating capacity	kW	6,3	8,0	10,0	12,5	16,0	25,0	31,5
	BTU	21.600	27.500	34.400	43.000	55.000	86.000	110.000
Power consumption	W	110	120	171	176	241	1.294	1.465
Piping dimensions	liq. mm	6,4	9,5					
	gas mm	12,7	15,9				19,1	22,2
Dimensions H/W/D	mm	300x1.000x700			300x1.400x700		470x1.380x1.100	
Weight	Kg	35			45	46	137	
Air flow rate min/max	Pa	900/1.080	960/1.170	1.200/1.500	1.380/1.920	1.680/2.340	3.000/3.480	3.720/4.320
Rtd/max. static pressure		100/200					132/221	191/270

Slim concealed ceiling unit		AXDP22	AXDP28	AXDP36	AXDP45	AXDP56	AXDP71
Cooling capacity	kW	2,2	2,8	3,6	4,5	5,6	7,1
	BTU	7.500	9.600	12.400	15.500	19.200	24.400
Heating capacity	kW	2,5	3,2	4,0	5,0	6,3	8,0
	BTU	8.600	11.000	13.700	17.200	21.600	27.600
Power consumption	W	71			78	99	110
Piping dimensions	liq. mm	6,4					9,5
	gas mm	12,7					15,9
Dimensions H/W/D	mm	200x750x620			200x950x620		200x1.150x620
Weight	Kg	22			26		29
Air flow rate min/max	mc/h	384/480			510/630	600/750	780/990

Small concealed ceiling unit		AXDP22	AXDP28
Cooling capacity	kW	2,2	2,8
	BTU	7.500	9.600
Heating capacity	kW	2,5	3,2
	BTU	8.600	11.000
Power consumption	W	50	
Piping dimensions	liq. mm	6,4	
	gas mm	12,7	
Dimensions H/W/D	mm	230x5 2x652	
Weight	Kg	17	
Air flow rate min/max	mc/h	312/402	384/444

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SPECIFICATIONS INDOOR UNITS

Floorstanding		AXLP22	AXLP28	AXLP36	AXLP45	AXLP56	AXLP71
Cooling capacity	kW	2,2	2,8	3,6	4,5	5,6	7,1
	BTU	7.500	9.600	12.400	15.500	19.200	24.400
Heating capacity	kW	2,5	3,2	4,0	5,0	6,3	8,0
	BTU	8.600	11.000	13.700	17.200	21.600	27.600
Power consumption	W	49		90		110	
Piping dimensions	liq. mm	6,4					9,5
	gas mm	12,7					15,9
Dimensions H/W/D	mm	600x1.000x232		600x1.140x232		600x1.420x232	
Weight	Kg	27		32		38	
Air flow rate min/max	mc/h	360/420		360/480	510/660	660/840	720/960

Ceiling suspended		AXHP36	AXHP71	AXHP112
Cooling capacity	kW	3,6	7,1	11,2
	BTU	12.400	24.400	38.500
Heating capacity	kW	4,0	8,0	12,5
	BTU	13.700	27.500	43.000
Power consumption	W	107	111	237
Piping dimensions	liq. mm	6,4	9,5	
	gas mm	12,7	15,9	
Dimensions H/W/D	mm	235x960x690	235x1.270x690	235x1.590x690
Weight	Kg	24	33	39
Air flow rate min/max	mc/h	600/840	840/1.200	1.140/1.770

Expansion valve kit (A.H.U.)		EVKIT224	EVKIT280	EVKIT450	EVKIT560
Cooling capacity	kW	22,4	28	44,8	56
Heating capacity	kW	25	31,5	50	63
Power consumption	W	25	25	30	30
Piping dimensions	liq. mm	9,5		12,7	15,9
	gas mm	19,1	22,2	28,6	
Dimensions H/W/D	mm	600x400x200		600x600x200	

SPECIFICATIONS INDOOR UNITS

Heat recovery VAM		VAM150	VAM250	VAM350	VAM500	VAM650	VAM800	VAM1000	VAM1500	VAM2000
Max air flow rate	mc/h	150	250	350	500	650	800	1000	1500	2000
External static pressure	Pa	69	64	98		93	137	157	137	
Power consumption	W	117	138	132	178	169	373	375	828	852
Enthalpy exchange efficiency	Cool %	58		51	58		60		61	
	Heat %	64		65	62	63	65		66	
Temperature exchange efficiency	%	74	72	75		74			75	
Dimensions H/W/D	mm	285x776x525		301x828x816			364x1.004x868		726x1.512x868	726x1.512x1.156
Weight	Kg	24		33		52	55	64	131	152
Duct diameter	mm	Ø100	Ø150		Ø200		Ø250		Ø350	

Heat recovery VKM		VKM50	VKM80	VKM100
Fresh air conditioning load cool	kW	4,71	7,46	9,12
Fresh air conditioning load heat	kW	5,58	8,79	10,69
Max air flow rate	mc/h	500	750	950
External static pressure	Pa	210		150
Power consumption	W	270	330	410
Refrigerant piping dimension	Liq. mm		6,4	
	Gas mm		12,7	
Enthalpy exchange efficiency	Cool %	64	66	62
	Heat %	67	71	65
Temperature exchange efficiency	%	76	78	74
Dimensions H/W/D	mm	387x1.764x832	387x1.764x1.214	
Weight	Kg	94	110	112
Duct diameter	mm	Ø200		Ø250

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CONTROLLERS

Central remote control

	I-Touch Manager	Timer: Yearly Connectable groups: Up to 2560 (with ITMP PLUS) Ethernet TCPIP: Yes
	I-Touch Controller	Timer: Yealy Connectable groups: 64 Connectable indoor units: 128
	Standard central controller	Connectable outdoor units: 10 Connectable groups: 64 Connectable indoor units: 128
	Central on/off controller	Operation mode indication: On/Off/Al. Connectable groups: 16 Connectable indoor units: 128
	Weekly timer	Weekly programs: 8 Connectable groups: 64 Backup battery: 48 h

Single remote controllers

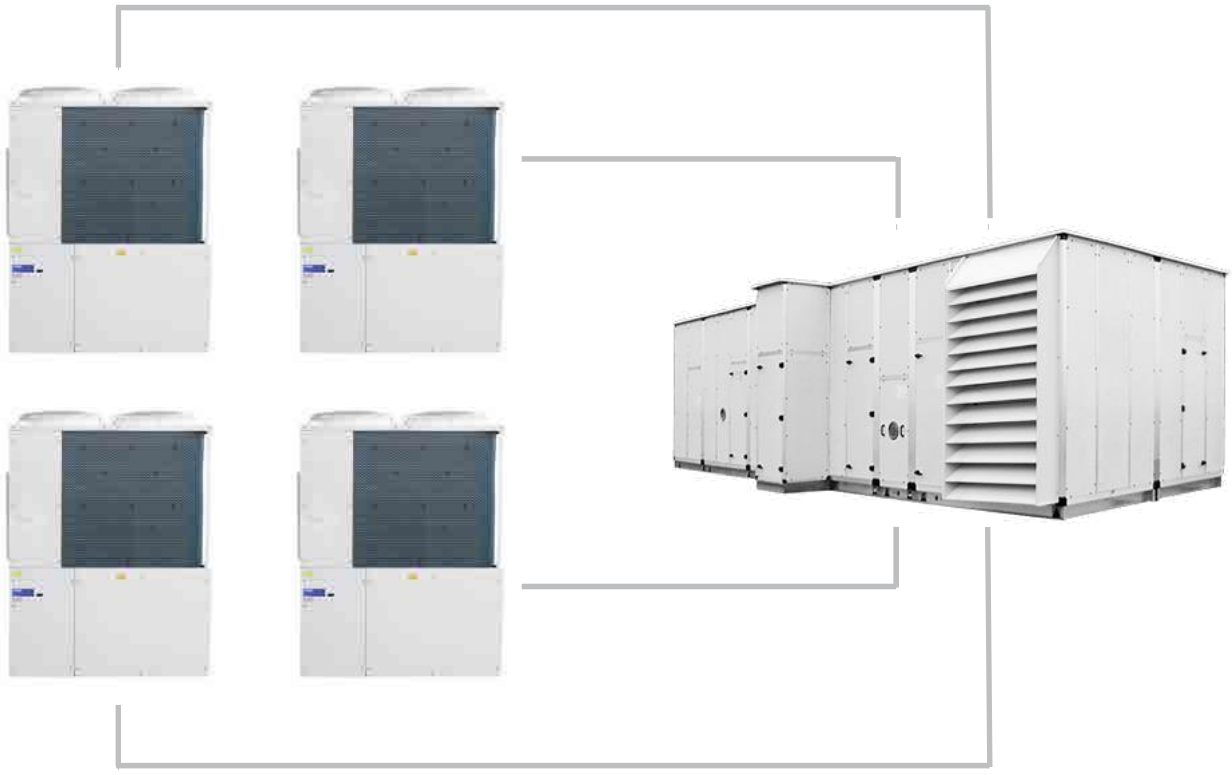
	Standard wired controller	Timer: Weekly Connectable indoor units: 16
	Standard wired controller	Timer: Weekly Connectable indoor units: 16
	Wireless controller	Timer: Weekly Connectable indoor units: 16

AIR HANDLING UNIT

Central air processing units are usually preferred to other systems in case of big volumes or anytime fresh air and heat recovery are managed.

The modular kit, up to four GEHP units on the same connection box, can be easily integrated with the power electronics of any kind of air handler, which can be tailored to end users' needs. Energy is produced upon request and never wasted.

As any other direct expansion system, when maintaining exterior visual appeal is a design priority, AISIN GEHP and AHU units can be located at convenient distance.



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SPECIFICATIONS AHU

A.H.U.		AHUKITEASY13	AHUKITEASY30	AHUKITEASY60	AHUKITEASY90	AHUKITEASY120
Cooling capacity	kW	Fino a 33,5 kW Up to 33,5 kW	Fino a 85 Kw Up to 85 kW	Fino a 2x85 kW Up to 2x85 kW	Fino a 3x85 kW Up to 3x85 kW	Fino a 4x85 kW Up to 4x85 kW
Heating capacity	kW	Fino a 40 kW Up to 40 kW	Fino a 97,4 kW Up to 97,4 kW	Fino a 2x97,4 kW Up to 2x97,4 kW	Fino a 3x97,4 kW Up to 3x97,4 kW	Fino a 4x97,4 kW Up to 4x97,4 kW
Circuits number		1	1	2	3	4
Piping dimension	Liq. mm	See GEHP to be connected datasheet				
	Gas mm	See GEHP to be connected datasheet				
Dimensions H/W/D	mm	600x400x200		600x600x250	800x600x250	1.000x600x250

AIR WATER SYSTEM

YOSHI
Experience & Technology

Anytime separate energy metering is crucial or in case of existing obsolete HVAC refurbishment, water distribution systems are preferred.

For this purpose, Tecnocasa Climatizzazione developed, patented and produced AWS and AWS TWIN units. When connected to AISIN GEHP units, they can transfer the energy collected by the refrigerant gas to water piping connected to fan coils, radiant heating, heat recovery units.

The new line-up adds to the well-known features a list of new ones, such as built in primary circuit management, weather compensation function, slave units management (up to 8 GEHP in one network), back up or integration boiler and heat pump control. The best way to improve the energy merit of the building.

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SPECIFICATIONS 16-20-25-30 HP

Model			AWS16HP-F1(J)	AWS20HP-F1(J)	AWS25HP-F1(J)	AWS30HP-F1(J)
Connectable GEHP			**AWGP450F1**	**AWGP560F1**	**AWGP710F1**	**AWGP850F1**
Rated cooling capacity		kW	42,5	53,0	63,5	74,5
Rated cooling consumption (GEHP)		kW	30,0	43,0	56,0	70,7
GUE cooling			1,42	1,23	1,13	1,05
Minimum water temperature out		°C	7			
Rated heating capacity		kW	50,0	62,5	77,0	87,5
Maximum heating capacity (2°C)		kW	53,5	68,0	77,0	91,0
Rated heating consumption (GEHP)		kW	34,0	42,5	54,2	61,5
Maximum heating consumption (GEHP) (2°C)		kW	37,3	53,2	58,5	75,7
GUE heating			1,47	1,47	1,42	1,42
Maximum engine heat recovery		kW	19,5	23,5	30,5	44,5
Maximum water temperature out		°C	50			
SPER cooling			1,89	1,89	1,87	1,91
SPER heating			1,57	1,55	1,54	1,51
Water flow rate		mc/h	8	10	12	14
Capacity modulation rate		%	35 – 100	28 – 100	23 – 100	22 - 100
Built in pump unit	Power supply	V/Ph/Hz	230/1/50			
	Rated consumption (optional pump)	W	550 (770)		700 (900)	
	Starting current	A	4			
	Available static pressure (optional pump)	mca	7,5 (11,0)	6,0 (7,0)	3,7 (6,5)	2,8 (7,0)
Unit without pump (J)	Power supply	V/Ph/Hz	230/1/50			
	Rated consumption	W	190			
	Starting current	A	1			
	Heat exchanger pressure drop	mca	2,2	3,3	4,6	4,8
Water ports		mm	40			
Primary circuit piping diameter		mm	DN40		DN50	
Refrigerant gas ports gas-liquid		mm	Ø 28,6 – 18,0			Ø 35,0-18,0
GHP-AWS piping diameter gas-liquidFuel gas piping		mm	Ø 28,6 - 15,88		Ø 35,0 – 15,88	Ø 35,0 – 19,0
Dimensions (HxWxD)		mm	915 X 710 X 1.020			
Weight (without pump)		kg	204 (177)			207 (180)
Connectable indoor units number			1			

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SPECIFICATIONS AWS TWIN

Model		AWS40HP-F1J			AWS50HP-F1J			AWS60HP-F1J
Connectable GEHP		**16+16 HP**	**16+20 HP**	**20+20 HP**	**16+25 HP**	**20+25 HP**	**25+25 HP**	**30+30 HP**
Rated cooling capacity	kW	85,0	95,5	106,0	106,0	116,5	127,0	149,0
Rated cooling consumption (GEHP)	kW	60,0	73,0	86,0	86,0	99,0	112,0	141,4
GUE cooling		1,42	1,31	1,23	1,24	1,17	1,13	1,05
Minimum water temperature out	°C				7			
Rated heating capacity	kW	100,0	112,5	125,0	127,0	139,5	154,0	175,0
Maximum heating capacity (2°C)	kW	107,0	121,5	136,0	130,5	145,0	154,0	182,0
Rated heating consumption (GEHP)	kW	68,0	76,5	85,0	88,2	96,7	108,4	123,0
Maximum heating consumption (GEHP) (2°C)	kW	74,6	90,5	106,4	95,8	111,7	117,0	151,4
GUE heating		1,47	1,47	1,47	1,44	1,44	1,42	1,42
Maximum engine heat recovery	kW	39,0	43,0	47,0	50,0	54,0	61,0	89,0
Maximum water temperature out	°C				50			
SPER cooling		1,89	1,89	1,89	1,88	1,88	1,87	1,91
SPER heating		1,57	1,56	1,55	1,55	1,54	1,54	1,53
Water flow rate	mc/h		13			24		28
Capacity modulation rate	%	35 - 100	31 - 100	28 - 100	29 - 100	25 - 100	23 - 100	22 – 100
Power supply	V/Ph/Hz				230/1/50			
Rated consumption	W				200			
Heat exchanger pressure drop	mca		3,3			4,6		4,8
Water ports	Inch				2 ½"			
Primary circuit piping diameter	Inch				2 ½"			
Refrigerant gas ports gas-liquid	Ø mm			2 x 28, ɜ – 18,0				2 x 35,0-18,0
GHP-AWS piping diameter gas-liquid	Ø mm		2 x 28,6 – 18,0		28,6 – 15,88 + 35,0 – 15,88		2 x 35,0 – 15,88	2 x 35,0 – 19,0
Dimensions (HxWxD)	mm				915 x 710 x 1.020			
Weight	kg				236			
Connectable indoor units number					2			

SPECIAL VERSIONS: ECO – LOW TEMP

The market is constantly requesting improvements in energy saving and efficiency. Special versions for water distribution systems (GEHP + AWS) have been developed by Tecnocasa Climatizzazione to adapt the operation of the units to specific needs of the end user.

The **special version ECO** aims to maximum efficiency to fulfil requirements in areas where subsidies and green energy promotion programs are in place.

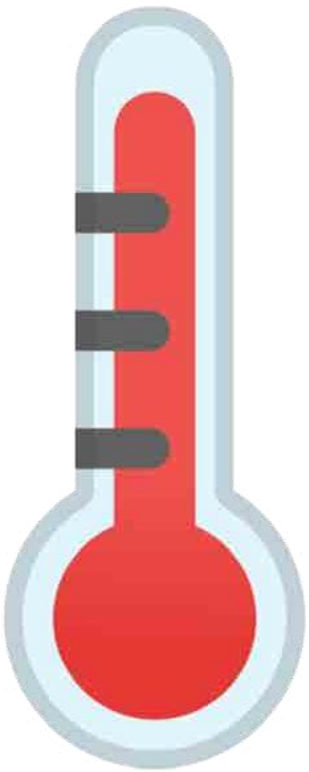
The **special version LOW TEMP** offers the highest performances at low outside temperature and can be successfully used in combination to back up or integration generators, which are not able to supply renewable energy and thus, are not subject to subsidies.

Model		16 HP ECO	20 HP ECO	25 HP ECO	30 HP ECO	25 HP LOW TEMP	30 HP LOW TEMP
Rated cooling capacity	kW	42,5	53,0	63,5	74,5	65,5	74,5
Rated cooling consumption	kW	30,0	43,0	56,0	70,7	58,2	70,7
GUE cooling	kW	1,42	1,23	1,13	1,05	1,13	1,05
Maximum engine heat recovery	kW	19,5	23,5	30,5	44,5	36,5	44,5
Rated heating capacity	kW	41,0	53,5	62,5	75,0	75,0	87,5
Rated heating consumption	kW	25,8	33,5	42,5	50,5	50,5	61,5
GUE heating	kW	1,59	1,60	1,47	1,49	1,49	1,42
SPER cooling	kW	1,89	1,89	1,87	1,87	1,93	1,87
SPER heating	kW	1,57	1,55	1,54	1,51	1,54	1,51

SPECIAL VERSIONS: FOR HEAT

The **special version FOR HEAT** targets all installations that require hot water all year long and can store energy in buffer tanks. It is suitable for several applications such as sports centres with swimming pools where water comfort temperature is major issue.

Total exhaust and engine heat recovery and top efficiency allow to cut running cost and emissions.



AWS EXPANSION MODULES

YOSHI® AWS line-up includes a whole set of expansion modules and accessories that can help designers and end users to create a customised solution for water distribution installations.

Expansion module 1: back up and integration units management. When installed, directly controls up to two boilers, one chiller and one heat pump.

Expansion module 2: domestic hot water management. When installed, directly controls GEHP built in W-kits, integration boilers, domestic hot water circulation pumps and recirculation mixing valve.

Expansion module 3: energy metering management. When installed, directly collects, logs and stores data from energy meters. Remote access is also possible.

Expansion module 4: water secondary circuits management. When installed, directly controls the operation of each branch of the secondary circuit.

Additional keypad: when installed, allows to bring the control panel of each system (single or multi-unit) in a detached position and manage operation, mode selection, weekly timer, alarm notifications of all connected units.

Optional temperature probe: when installed, allows to stop the operation of the water primary circuit circulation pump, either individual or collective, when not needed. As a result the efficiency of the distribution system improves and the electrical consumption drops.

Outdoor temperature probe: when installed, allows to change the AWS supply water temperature according to a weather compensation that can be selected by the user. Running costs can be further reduced and the overall comfort of the building can be kept to the level wish.

OPTIONALS

BASE MOUNTS

Some peculiar applications require special care in avoiding residual small vibrations to be transferred to the building. Specific base mounts have been developed for AISIN GEHP units.

V-REM

When remote monitoring of operating parameters is requested, this device allows to access GEHP telemetry from the web. In case of maintenance contracts with Authorised Service Centres, on-line troubleshooting can solve small issues in real time.

WILO® CIRCULATION PUMPS

In case of collective water circulation installations and/or domestic hot water management, this service provides one or more Wilo® pumps which are fully integrated in the built-in software of AWS and expansion units.

ABOUT US

Renewable, sustainable and breakthrough solutions for HVAC. Clean and efficient small-scale power generation. This is what we believe in.
Since the foundation of the company in 1978, we have been promoting wellbeing and comfort with innovative, eco-friendly, reliable and efficient product.
We have come a long way and achieved the European sole Distribution of AISIN, a member of TOYOTA Group, products in 2000. Gas Engine Heat pumps (GHEP) and Gas Engine Micro cogenerators (MCHP) retail and technical development made our partnership grow stronger year by year.

In 2012 we increased our offer of Micro cogenerators with EC Power XRGI® units and signed an exclusive Distribution agreement for Italian market.

We built a strong retail and after sales network which we train in our headquarter. Customers and partners recognise us as their reference for pre-and after-sales activities. No one else in Europe can claim the same level of experience and know-how we have.

AISIN

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SPORT CENTERS

COMMERCIAL MALLS

PUBLIC AUTHORITIES

SCHOOLS

HOSPITALS

COMPANIES

LOGISTICS

APARTMENT BUILDINGS

AISIN

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