



**FOUR-AAP / FOUR-RAP**  
Unit Heater & Unit Cooler

**FOUR SEASONS**<sup>®</sup>

# Venues Breathe with DOGU HVAC Systems!

DOGU HVAC founded in 1999, and ever since has been manufacturing energy and cost efficient products as Air Handling Units, Rooftop Units, Air Distribution & Management & Movement Systems [HVAC Components] and constantly enhancing to provide an integrated solution for well-being. DOGU HVAC's core business products which are subsumed under 5 major groups as Air Handling Units, Rooftop Units, Heat/Energy Recovery Units, Air Distribution & Management Products and Kitchen Ventilation Equipment are all produced under the compliance with EU standards. Particularly AHU, Rooftop and HRU-ER units are entitled under the "FOUR SEASONS" brand name for domestic and foreign markets. DOGU HVAC's, headquarter in Izmir/Turkey, operates in a large-sized plant spread over 2 factories, in total area of 32.500 sqm in which 18.000 sqm indoor space that enables DOGU HVAC manufactures 180 various type of products. Additionally, DOGU HVAC has a powerful sales network with 4 sales offices located in İstanbul, Ankara, Antalya and Adana in Turkey as well as authorized dealers in many other countries for sales and after sales operations. DOGU HVAC has been exporting to more than 55 countries.

Thanks to our "Customer Satisfaction", "Zero-Defect Policy" motto and reinforced by complete certified products, more than 250 employees. DOGU HVAC R&D center developed exclusive products, such as Double Skin Make-Up Kitchen Hood, Recirculated Laminar Airflow Unit, Single Piece Square Ceiling Diffuser and Ecology Units, for the first time have brought to the sector. DOGU HVAC R&D has the ability to make customized production which can meet the requirement of the customers by means of special software such as "ANSYS FLUENT". DOGU HVAC guaranteed its quality of management by having advantages of ISO 9001, ISO 14001, ISO 18001 certifications. Air Handling Units have EUROVENT, TUV Hygiene [in accordance with DIN1946-4, VDI 6022-1, DIN EN 13053 standards], CE, TSEK, GOST-R certifications; Fire Dampers have EN 1366-2 and EN EN 15650:2010 CE certifications; Smoke Control Dampers have EN 1366-10 and 12101-8 CE certifications; Kitchen Ventilation Products have TSEK, CE and GOST-R quality certifications.



Devices can be used in large volumes where need heating needs such as factories, workshops, garages, hangars, gyms. As source, hot water, vapor and electrical energy with different regime are used. Four AAP series with axial fans is more convenient to use in place where the devices will work in room height up to 4 m, in case of room height is higher than 4m, Four RAP series with radial fans is more convenient.

## TECHNICAL SPECIFICATIONS

### CASE

Unit heaters of Four AAP and Four RAP series are formed by combining specially designed covers made of galvanized sheet. Internal and external surfaces are painted with electrostatic powder paint.



### RADIAL AND AXIAL FANS

In Four RAP series, sparsely bladed fans are used. Due to the wing structure of the fans, the drawn air is compressed better between the blades. Therefore, its forward launch capacity is high. Due to this working style, blowing distance is high. The fans, which work silent and safe, work with 230V 50Hz mains electricity. In Four AAP series, axial type fans, which have silent operation feature, are used. It provides the safety with protection grill. It works with 230V 50Hz main electricity.



### HEATING COIL

Copper tube aluminum fin heater coils are used in Four AAP and Four RAP series. In the use of 90/70 C hot water and 3 bar steam, standard copper pipe and thick flesh copper pipe up to 6 bar steam are used. In case of using 10 bar steam, steel pipe, steel finned serpentines are used. As a standard, input and output connection is bushed. For vaporous systems, it is manufactured flanged.



Four AAP series unit heaters with axial fan are convenient for connection from top or bottom with bracket. The brackets are optional. In Four RAP series unit heaters with radial fan, there are 4 connection points.

### EX-PROOF FAN OPTIONS



**FOUR RAP SERIES HOT WATER CAPACITY TABLE**

**WITH RADIAL FAN**

Models	Air Flow (m³/h)	Input Air (°C)	Hot Water Capacity (kcal/h)						
			B1	S	S	S	S	S	
			110/80°C	90/70°C	80/60°C	70/50°C	60/40°C	50/30°C	45/40°C
Four RAP 6	1050	18	7600	6200	4800	3100	1700	950	2500
		15	8000	6600	5200	3600	1900	1200	2950
		10	8700	7300	5900	4300	2300	1500	3550
		5	9400	8000	6500	5000	3200	1900	4200
Four RAP 10	1400	18	11900	10200	8100	5900	3400	1600	4100
		15	12500	10800	8700	6500	4100	1900	4700
		10	13500	11800	9800	7600	5300	2400	5800
		5	14500	12800	10800	8600	6300	3400	6700
Four RAP 15	1800	18	18800	15300	12400	9400	6300	2200	6100
		15	19800	16200	13300	10300	7200	3300	6900
		10	21300	17700	14800	11800	8700	5300	8400
		5	22900	19200	16300	13300	10200	6900	9800
Four RAP 19	2400	18	24000	20100	16100	12200	8000	2700	8000
		15	25200	21200	17200	13300	9100	3500	9100
		10	27200	23200	19300	15300	11200	6500	1100
		5	29200	25200	21200	17300	13100	8700	12900
Four RAP 24	3400	18	29600	24200	19500	14400	10200	3500	9600
		15	31000	25500	20900	16300	11500	6200	10900
		10	33400	27900	23100	18600	13800	8800	13300
		5	35800	30200	25500	20900	16200	11200	15400
Four RAP 28	3750	18	34900	28200	23000	17800	12400	6400	11300
		15	36500	29900	24700	19400	14000	8200	12800
		10	39300	32600	27400	22000	16700	11000	15300
		5	42000	35300	30000	24700	19400	13800	18000
Four RAP 38	5200	18	47100	38100	31300	24400	17300	9800	15200
		15	49300	40300	33400	26500	19400	12000	17200
		10	53000	43900	37000	30000	23000	15600	20700
		5	56700	47500	40600	33600	26500	19200	24100
Four RAP 50	5400	18	61400	52000	42600	32900	22900	10900	20600
		15	64300	55000	45500	35800	25800	14700	23400
		10	69200	60100	50400	40700	30800	20200	28200
		5	74300	65300	55700	45800	35700	25300	33100

**FOUR AAP SERIES HOT WATER CAPACITY TABLE**

**WITH AXIAL FAN**

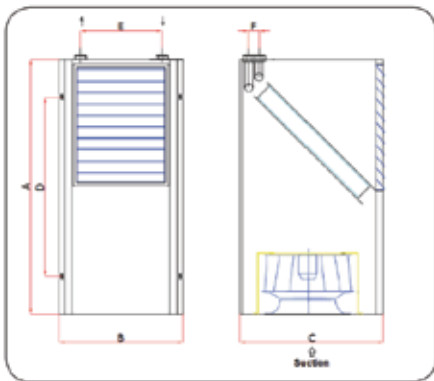
Models	Air Flow (m <sup>3</sup> /h)	Input Air (°C)	Hot Water Capacity (kcal/h)						
			B1	S	S	S	S	S	S
			110/80°C	90/70°C	80/60°C	70/50°C	60/40°C	50/30°C	45/40°C
Four AAP 6	1000	18	7900	7100	5900	4700	3500	2200	2800
		15	8300	7500	6400	5000	3800	2600	3200
		10	9000	8100	6900	5700	4500	3200	3800
		5	9600	8800	7500	6300	5100	3900	4400
Four AAP 9	1200	18	11300	9600	7900	6300	4700	3000	3800
		15	12000	10000	8400	6800	5200	3600	4300
		10	12900	11000	9300	7700	6000	4400	5100
		5	13900	12000	10200	8500	6900	5200	5900
Four AAP 12	1250	18	15000	12200	9800	7500	4900	2100	4900
		15	15700	12900	10500	8200	5600	2500	5500
		10	17000	14000	11700	9400	6800	3900	6700
		5	18200	15300	12900	10600	8100	5300	7900
Four AAP 16	2100	18	20200	16900	13500	10000	6300	2500	6700
		15	21200	17800	14500	11000	7300	3000	7700
		10	23000	19500	16100	12800	9100	4300	9400
		5	24700	21200	17900	14400	10800	6700	11000
Four AAP 20	2300	18	25100	21200	17700	14100	10500	6900	8400
		15	26300	22400	18800	15200	11600	8000	9400
		10	28400	24300	20700	17100	13500	9900	11300
		5	30400	26300	22600	19000	15400	11700	13100
Four AAP 25	2800	18	31300	25300	20600	15900	11000	5200	10000
		15	32700	26700	22000	17300	12400	7100	11400
		10	35200	29200	24500	19700	14900	9700	13700
		5	37800	31700	26900	22200	17300	12200	16100
Four AAP 30	3100	18	36600	30100	24700	19200	13600	7400	11900
		15	38600	31700	26300	20800	15200	9300	13500
		10	51200	34600	29200	23700	18100	12200	16300
		5	44200	37500	32000	26500	20900	15100	18900
Four AAP 40	4100	18	50500	40900	33300	25600	17500	6300	16200
		15	52900	43200	35600	27900	19900	10300	18500
		10	57000	47200	39500	31800	23800	15000	22200
		5	61200	51300	43500	35800	27800	19300	26000



**FOUR RAP / AAP SERIES CUPPER PIPE STEAM HEATER DIMENSION TABLE**

Models	Power Current [W/A]	Supply V/Hz	Pressure Drop in Water Regime kPa	Dimensions [mm]						Input/Output Diameter	Sound Level dB(A)	Weight kg
				A Height	B Length	C Width	D	E	F			
Four RAP 6	150/0,65	230/50	1,1	700	395	400	450	224	26	1/2"	70	19
Four RAP 10	200/0,9	230/50	2,9	800	460	430	500	290	26	1/2"	70	23
Four RAP 15	250/1,1	230/50	7,4	950	460	550	650	290	35	3/4"	79	29
Four RAP 19	210/1	230/50	9,9	1100	520	550	800	341	35	3/4"	60	36
Four RAP 24	500/1,8	230/50	7,2	1100	585	650	800	318	45	1"	66	43
Four RAP 28	500/1,8	230/50	11	1195	585	665	950	383	45	1"	66	47
Four RAP 38	800/3,7	230/50	22	1195	650	725	950	432	55	1 1/4"	-	56
Four RAP 50	800/3,7	230/50	10,3	1195	650	725	950	432	55	1 1/4"	-	60
Four AAP 6	90/0,38	230/50	1,9	420	460	380	280	222	26	1/2"	55	13
Four AAP 9	90/0,38	230/50	2,8	420	460	380	280	353	26	1/2"	55	14
Four AAP 12	90/0,38	230/50	5,2	500	470	380	280	416	35	3/4"	55	17
Four AAP 16	138/0,68	230/50	7,3	500	510	385	280	414	35	3/4"	62	19
Four AAP 20	138/0,68	230/50	12,4	620	540	385	280	536	43	3/4"	62	22
Four AAP 25	180/0,81	230/50	9,4	620	610	395	280	536	45	1"	67	26
Four AAP 30	180/0,81	230/50	14,1	690	655	395	280	583	45	1"	67	29
Four AAP 40	250/1,15	230/50	7,1	620	725	395	280	496	45	1 1/4"	70	33

Four RAP with Radial Fan



Four RAP

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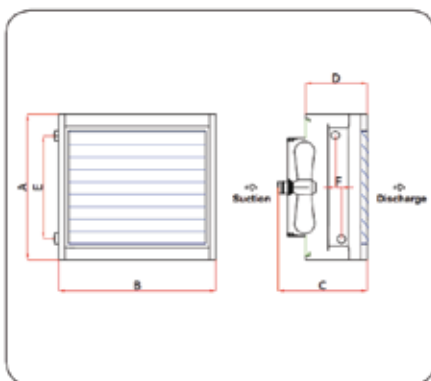
S

- **S:** Copper pipe aluminum fin, hot watery
- **B1:** Copper pipe aluminum fin, superheating water and 3 bar
- **B2:** Copper pipe aluminum fin, 5 and 6 bar vaporous
- **C:** Steel pipe-steel fin, vaporous

→ Model

→ Unit Heater with Radial Fan

Four AAP with Axial Fan



Four AAP

6

S

- **S:** Copper pipe aluminum fin, hot watery
- **B1:** Copper pipe aluminum fin, superheating water and 3 bar
- **B2:** Copper pipe aluminum fin, 5 and 6 bar vaporous
- **C:** Steel pipe-steel fin, vaporous

→ Model

→ Unit Heater with Axial Fan

**FOUR RAP SERIES STEAM CAPACITY TABLE**

**WITH RADIAL FAN**

Models	Air Flow (m³/h)	Input Air (°C)	Vapour Capacity kcal/h							
			B1	B2	B2	BC	BC	BC	BC	BC
			3 Bar	5 Bar	6 Bar	3 Bar	5 Bar	6 Bar	8 Bar	10 Bar
Four RAP 6	1050	18	7500	10400	10900	11700	13200	13900	14800	15500
		15	7700	10600	11200	12000	13500	14200	15100	15900
		10	8000	11000	11600	12400	14000	14700	15600	16400
		5	8300	11500	12000	13100	14800	15500	16500	17300
Four RAP 10	1400	18	10800	12600	13200	13800	15600	16300	17400	18300
		15	11100	12900	13500	14100	16000	16700	17800	18700
		10	11600	13400	14000	14600	16500	17300	18400	19300
		5	12100	13900	14500	15400	17400	18300	19400	20400
Four RAP 15	1800	18	15700	17200	18100	19900	22500	23600	25100	26400
		15	16100	17600	18500	20400	23000	24200	25700	27000
		10	16800	18300	19200	21100	23800	25000	26600	27900
		5	17500	19000	19900	22200	25100	26400	28100	29500
Four RAP 19	2400	18	19500	21100	22200	23000	26000	27300	29000	30500
		15	20000	21600	22700	23600	26600	28000	29800	31200
		10	20900	22500	23600	24400	27500	28900	30800	32300
		5	21800	23300	24400	25700	29100	30500	32500	34100
Four RAP 24	3400	18	25100	29900	31400	26500	30000	31500	33500	35200
		15	25700	30600	32100	27200	30700	32300	34300	36000
		10	26800	31700	33300	28100	31800	33400	35500	37300
		5	27900	32900	34400	29700	33500	35200	37400	39300
Four RAP 28	3750	18	29800	38100	40000	37100	42000	44000	46900	49200
		15	30600	39000	40900	38100	43000	45100	48000	50400
		10	31900	40400	42400	39300	44500	46700	49700	52200
		5	33200	41900	43900	41500	46900	49300	52400	55000
Four RAP 38	5200	18	39000	49600	52100	46100	52100	54700	58200	61100
		15	40000	50700	53300	47300	53400	56100	59700	62600
		10	41700	52600	55200	48900	55200	58000	61700	64800
		5	43400	54600	57100	51600	58300	61200	65100	68300
Four RAP 50	5400	18	49100	53000	55800	51500	58200	61100	65000	68300
		15	50400	54300	57100	52800	59600	62600	66600	70000
		10	52600	56400	59200	54600	61700	64800	68900	72300
		5	54800	58600	61300	57600	65100	68300	72700	76300

**NOTE:**

B1 with copper pipe is enduring up to 3 bars.  
 B2 with copper pipe is enduring up to 6 bars.  
 BC with steel pipe is enduring up to 10 bars.

**FOUR RAP SERIES STEAM CAPACITY TABLE**

**WITH AXIAL FAN**

Models	Air Flow (m³/h)	Input Air (°C)	Vapour Capacity kcal/h							
			B1	B2	B2	BC	BC	BC	BC	BC
			3 Bar	5 Bar	6 Bar	3 Bar	5 Bar	6 Bar	8 Bar	10 Bar
Four AAP 6	1000	18	8100	9700	10200	10800	12200	12800	13600	14300
		15	8300	9900	10400	11100	12500	13100	14000	14700
		10	8700	10300	10800	11400	12900	13600	14400	15200
		5	9100	10700	11200	12100	13600	14300	15200	16000
Four AAP 9	1200	18	9800	12300	13000	13300	15100	15800	16800	17700
		15	10000	12600	13300	13700	15400	16200	17200	18100
		10	10400	13100	13800	14100	16000	16700	17800	18700
		5	10900	13600	14300	14900	16800	17700	18800	19700
Four AAP 12	1250	18	12000	15000	15700	15000	17000	17800	18900	19900
		15	12300	15300	16100	15400	17400	18200	19400	20400
		10	12800	15900	16700	15900	18000	18900	20100	21100
		5	13400	16500	17300	16800	19000	19900	21200	22200
Four AAP 16	2100	18	16800	21300	22400	16900	19100	20100	21300	22400
		15	17300	21800	22900	17300	19600	20600	21900	23000
		10	18000	22700	23800	17900	20200	21300	22600	23700
		5	18700	23500	24600	18900	21400	22400	23900	25000
Four AAP 20	2300	18	20200	24000	25300	21400	24200	25400	27000	28400
		15	20700	24600	25800	22000	24800	26000	27700	29100
		10	21600	25600	26800	22700	25700	26900	28700	30100
		5	22500	26500	27800	24000	27100	28400	30200	31700
Four AAP 25	2800	18	25100	29900	31500	25600	29000	30300	32300	33900
		15	25700	30700	32300	26200	29600	31100	33100	34700
		10	26800	31900	33500	27100	30600	32200	34200	35900
		5	27900	33100	34700	28600	32300	33900	36100	37900
Four AAP 30	3100	18	29000	32300	34000	34200	38600	40600	43200	45300
		15	29800	33100	34800	35100	39600	41600	44300	46500
		10	31100	34400	36100	36200	41000	43000	45800	48000
		5	32400	35700	37400	38200	43200	45400	48300	50700
Four AAP 40	4100	18	40900	41800	44000	40800	46100	48400	51500	54100
		15	41800	42800	45000	41800	47300	49600	52800	55400
		10	43800	44500	46700	43200	48900	51300	54600	57300
		5	45700	46200	48400	45600	51500	54100	57600	60500

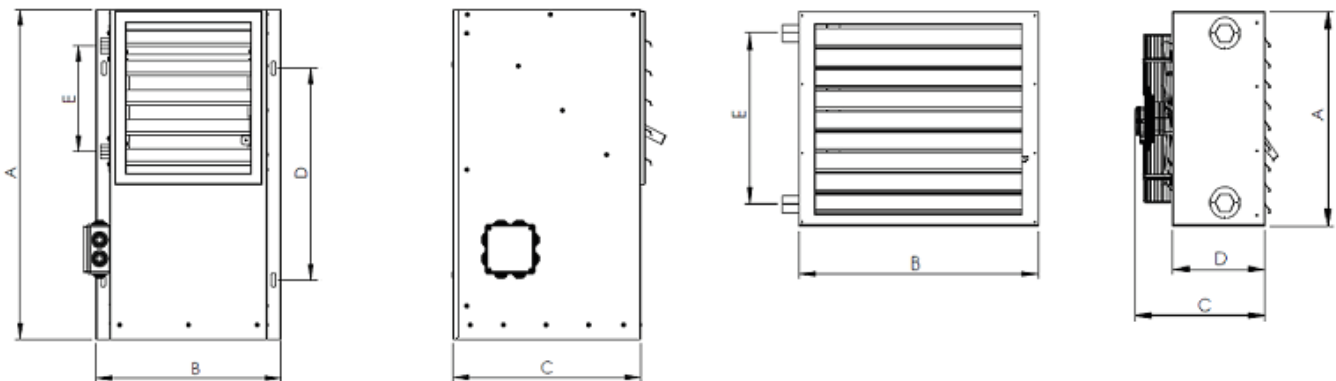
**NOTE:**

B1 with copper pipe is enduring up to 3 bars.  
 B2 with copper pipe is enduring up to 6 bars.  
 BC with steel pipe is enduring up to 10 bars.



**FOUR RAP / AAP SERIES CUPPER PIPE STEAM HEATER DIMENSION TABLE**

Models	Power/Current W/A	Supply V/Hz	Dimensions (mm)						Connection (B1) 3 bar	Connection (B2) 4-6 bar	Sound Level dB(A)
			A Height	B Length	C Width	D	E	F			
Four RAP 6	150/0,65	230/50	700	430	400	450	224	26	1/2"	3/4" - 3/4"	70
Four RAP 10	200/0,9	230/50	800	460	430	500	290	26	1/2"	3/4" - 3/4"	70
Four RAP 15	250/1,1	230/50	950	460	530	650	290	35	3/4"	1" - 3/4"	79
Four RAP 19	210/1	230/50	1100	520	550	800	341	35	3/4"	1" - 3/4"	60
Four RAP 24	500/1,8	230/50	1100	585	650	800	318	45	1"	1 1/4" - 1"	66
Four RAP 28	500/1,8	230/50	1250	585	665	950	383	45	1"	1 1/4" - 1"	66
Four RAP 38	800/3,7	230/50	1350	660	725	1050	432	55	1 1/4"	1 1/2" - 1 1/4"	-
Four RAP 50	800/3,7	230/50	1350	660	760	1050	432	55	2 1/4"	1 1/2" - 1 1/4"	-
Four AAP 6	90/0,38	230/50	440	460	380	280	367	26	1/2"	3/4" - 3/4"	55
Four AAP 9	90/0,38	230/50	440	460	380	280	367	26	1/2"	1" - 3/4"	55
Four AAP 12	90/0,38	230/50	520	470	380	280	450	35	3/4"	1" - 3/4"	55
Four AAP 16	138/0,68	230/50	630	550	385	260	414	35	3/4"	1 1/4" - 1"	62
Four AAP 20	138/0,68	230/50	690	580	385	260	536	35	3/4"	1 1/4" - 1"	62
Four AAP 25	180/0,81	230/50	690	610	425	280	536	45	1"	1 1/4" - 1"	67
Four AAP 30	180/0,81	230/50	760	680	425	280	583	45	1"	1 1/2" - 1 1/4"	67
Four AAP 40	250/1,15	230/50	700	760	425	300	496	45	1 1/4"	1 1/2" - 1 1/4"	71



**HEATING AND COOLING UNIT**

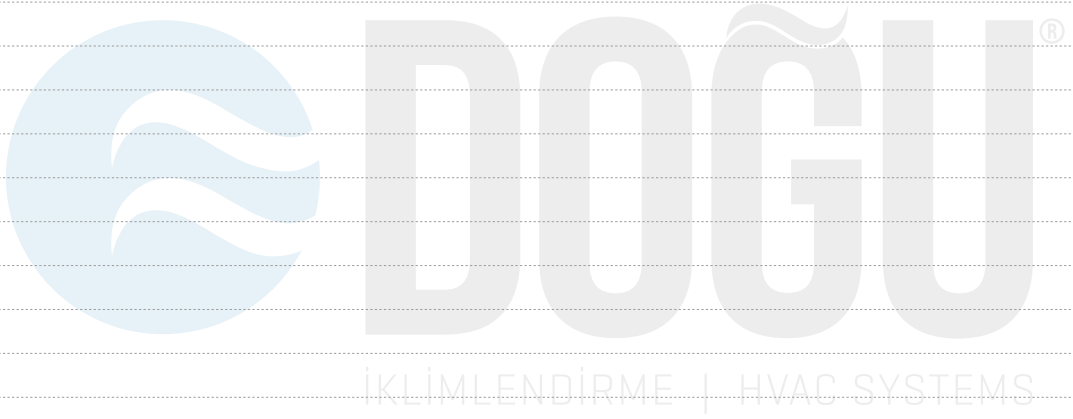
**WITH AXIAL FAN**

Models	Air Flow [m³/h]	Input Air °C	Cooling Capacity kcal/h		Input Air °C	Heating Capacity kcal/h		
			7/12°C	10/15°C		80/60°C	60/50°C	45/40°C
Four AAP 5 CH	2000	30°C-%55 RH	7300	5600	18 °C	16300	11600	7700
		28°C-%55 RH	6100	4600	15 °C	17300	12600	8700
		26°C-%55 RH	5100	3800	10 °C	19100	14300	10400
Four AAP 10 CH	2500	30°C-%55 RH	14000	10200	18 °C	30000	21600	14400
		28°C-%55 RH	11000	7600	15 °C	32000	23700	16400
		26°C-%55 RH	8300	5300	10 °C	35800	27100	19700
Four AAP 15 CH	3600	30°C-%55 RH	22100	16800	18 °C	42500	30300	20000
		28°C-%55 RH	18200	13200	15 °C	45400	33100	22700
		26°C-%55 RH	14500	10100	10 °C	50300	37800	27300
Four AAP 20 CH	4800	30°C-%55 RH	25000	18700	18 °C	51000	36750	24400
		28°C-%55 RH	20300	14700	15 °C	54500	40000	27700
		26°C-%55 RH	16200	11500	10 °C	60500	45850	33300
Four AAP 25 CH	6100	30°C-%55 RH	33650	25400	18 °C	66850	47900	31750
		28°C-%55 RH	27500	20000	15 °C	71400	52300	36000
		26°C-%55 RH	22100	15700	10 °C	79150	59700	43300
Four AAP 30 CH	7200	30°C-%55 RH	39800	30100	18 °C	78450	56150	37200
		28°C-%55 RH	32700	23850	15 °C	83800	61250	42150
		26°C-%55 RH	26250	18700	10 °C	92700	69900	50650

**WITH RADIAL FAN**

Models	Air Flow [m³/h]	Input Air °C	Cooling Capacity kcal/h		Input Air °C	Heating Capacity kcal/h		
			7/12°C	10/15°C		80/60°C	60/50°C	45/40°C
Four RAP 5 CH	1800	30 °C-%55	7100	5400	18°C	15900	11300	7500
		28 °C-%55	5900	4500	15°C	16800	12300	8500
		26 °C-%55	5000	3700	10°C	18600	13900	10100
Four RAP 10 CH	2400	24 °C-%55	13800	10100	18°C	29600	21300	14200
		22 °C-%55	10900	7500	15°C	31600	23400	16200
		20 °C-%55	8200	5200	10°C	35300	26700	19400
Four RAP 15 CH	3700	18 °C-%55	22300	16900	18°C	42800	30500	20100
		16 °C-%55	18300	13300	15°C	45700	33300	22900
		14 °C-%55	14600	10200	10°C	50700	38100	27500
Four RAP 20 CH	5000	12 °C-%55	25300	18900	18°C	51600	37200	24700
		10 °C-%55	20500	14900	15°C	55200	40500	28000
		8 °C-%55	16400	11600	10°C	61200	46400	33700
Four RAP 25 CH	5800	6 °C-%55	33200	25000	18°C	65900	47200	31300
		4 °C-%55	27100	19700	15°C	70400	51600	35500
		2 °C-%55	21800	15500	10°C	78000	58900	42700
Four RAP 30 CH	7000	0 °C-%55	39500	29800	18°C	77800	55700	36900
		2 °C-%55	32400	23700	15°C	83100	60700	41800
		4 °C-%55	26000	18500	10°C	91900	69300	50200

## NOTES









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