



HKP

Air heaters

General information & application

HKP-air heaters are suitable for heating of workshops, factory spaces, industrial warehouses, parking garages, sports halls and corresponding spaces. Heat transfer medium is water. The smallest size (HKP-35- 4D-P) with 1-phase motor and foothold, is specifically designed for air heating of laundry drying rooms.

Coil

Heat transfer section is made of an efficient finned coil with copper tubes and aluminium fins. Water flow direction is marked on tube connections. Air heater is provided with venting- and draining screws. Max. operating temperature is 110 °C and pressure 6 bar.

On request the standard Cu/Al coil block can be replaced by hot dip galvanized finned coil made of steel tubes and steel fins or with acid-proof steel tubes and aluminium fins for demanding industrial use. Also available for steam.

Casing

Casing is made of grey coloured, PVC-coated, hot dip galvanized steel. Special constructed, adjustable air deflectors are made of hot dip galvanized steel. Also mounting bracket (AK) is made of hot dip galvanized steel plate.

Tube connections for HKP are made from the side of the device and electric connections directly to motor from outside.

Fan motors

Three fan sizes, -35, -45 and -56 with four (4) different fan speeds 700, 900, 1150 and 1400 rpm to achieve suitable heating capacity, air flow and sound levels.

Air heaters are equipped with axial fan unit, protection class IP44. Lower speed in the 3- phase, two-speed motors is obtained by changing the delta connection into star connection.

HKP-35-4D-P-air heater is provided with automatic internal thermal protection. HKP-35-4D/4Y-model is without thermal protection. All other models have prewired thermal protections.



HKP

Motors 400/50/3 with star (Y)- or delta (D) connection are delivered with delta (D) connection, and the rotation speed is 900 or 1400 rpm. The lower fan speed can be achieved by using star (Y) connection.

Low sound level is achieved by using fan unit (incl. fan motor, fan blade and fan guard). Air heaters are equipped with adjustable air deflectors for horizontal or vertical air flow.

Options

- Optional mounting bracket (AK) for each size for both wall and ceiling mounting. In laundry drying rooms mounting bracket can be also used as a foothold for air heater.

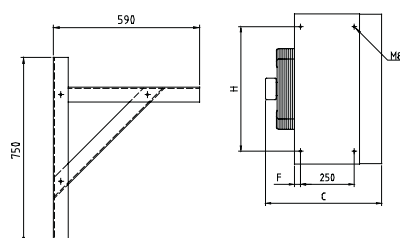
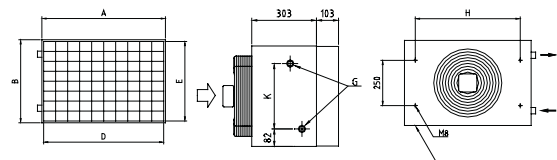
A service and installation instruction manual is delivered with each air heater.

Q = heating capacity, kW
 qv = water flow, l/s
 dPv = pressure drop, water, kPa

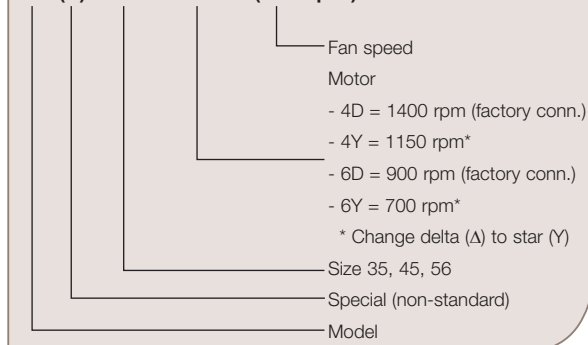
V_i = air volume flow, m³/s
 t_{ti} = air on temperature °C
 t_{2i} = air off temperature °C

Technical data

Size			Water °C																							
			90/70				80/60				80/40				70/40				60/40				50/40			
			t_{2i} °C	Q kW	V_v l/s	dPv kPa	t_{2i} °C	Q kW	V_v l/s	dPv kPa	t_{2i} °C	Q kW	V_v l/s	dPv kPa	t_{2i} °C	Q kW	V_v l/s	dPv kPa	t_{2i} °C	Q kW	V_v l/s	dPv kPa	t_{2i} °C	Q kW	V_v l/s	dPv kPa
35	700	0.38	48	22.2	0.27	7.4	42	19.2	0.23	5.8	32	14.7	0.09	1.1	30	13.8	0.11	1.7	28	13.0	0.16	3.1	27	12.3	0.30	9.8
	900	0.44	46	24.6	0.30	8.8	40	21.2	0.26	7.0	30	16.1	0.10	1.3	28	15.2	0.12	2.0	27	14.3	0.17	3.7	26	13.6	0.33	11.7
	1150	0.57	42	28.9	0.35	11.7	36	24.9	0.30	9.2	27	18.7	0.11	1.7	26	17.6	0.14	2.6	25	16.8	0.20	4.9	23	16	0.38	15.5
	1400	0.7	39	32.8	0.40	14.5	34	28.2	0.34	11.5	25	21.0	0.13	2.1	24	19.8	0.16	3.2	23	18.9	0.23	6.1	22	18.1	0.43	19.2
	700	0.38	52	19.3	0.24	5.8	46	16.3	0.20	4.4	35	11.5	0.07	0.7	34	10.9	0.09	1.1	32	10.1	0.12	2.0	31	9.4	0.23	6.1
	900	0.44	50	21.4	0.26	6.9	44	18	0.22	5.2	34	12.8	0.08	0.9	32	12	0.10	1.3	31	11.0	0.13	2.4	29	10.4	0.25	7.3
	1150	0.57	47	25.1	0.31	9.1	41	21.1	0.26	6.9	32	14.8	0.09	1.1	30	13.8	0.11	1.7	29	12.9	0.16	3.1	28	12.1	0.29	9.6
	1400	0.7	44	28.4	0.35	11.3	38	23.8	0.29	8.5	30	16.5	0.10	1.4	29	15.6	0.13	2.1	27	14.6	0.18	3.8	26	13.7	0.33	11.9
	700	0.38	54	17.9	0.22	5.0	47	14.8	0.18	3.7	37	9.9	0.06	0.6	36	9.4	0.08	0.9	34	8.6	0.10	1.5	32	7.9	0.19	4.5
	900	0.44	52	19.8	0.24	6.0	46	16.4	0.20	4.4	35	10.9	0.07	0.7	34	10.3	0.08	1.0	33	9.5	0.11	1.8	31	8.7	0.21	5.4
	1150	0.57	49	23.2	0.28	7.9	43	19.2	0.23	5.8	33	12.6	0.08	0.9	32	11.9	0.10	1.3	31	11.0	0.13	2.3	30	10.2	0.25	7.1
	1400	0.7	46	26.2	0.32	9.8	41	21.7	0.26	7.2	32	14.1	0.09	1.0	31	13.3	0.11	1.6	30	12.3	0.15	2.9	29	11.6	0.28	8.8
45	700	0.78	47	43.7	0.54	14.9	41	37.8	0.46	11.9	32	29.4	0.18	2.3	29	27.5	0.22	3.5	28	25.9	0.31	6.5	26	24.2	0.58	19.9
	900	1	43	51.4	0.63	19.8	37	44.4	0.54	15.8	28	33.9	0.21	3.0	27	32.1	0.26	4.6	25	30.3	0.36	8.6	24	28.4	0.68	26.4
	1150	1.22	40	58.2	0.71	24.7	34	50.3	0.61	19.6	26	38.0	0.23	3.7	25	36.2	0.29	5.7	23	34.2	0.41	10.6	22	32.2	0.78	32.9
	1400	1.44	37	64.4	0.79	29.4	32	55.6	0.68	23.3	24	42.1	0.25	4.4	23	39.9	0.32	6.7	22	37.7	0.45	12.6	21	35.6	0.86	39.3
	700	0.78	51	38.0	0.47	11.7	44	32.1	0.39	9.0	35	23.4	0.14	1.6	33	21.9	0.18	2.4	32	20.0	0.24	4.2	30	18.5	0.45	12.5
	900	1	47	44.7	0.55	15.5	41	37.7	0.46	11.8	33	27.1	0.16	2.0	31	25.2	0.20	3.0	30	23.5	0.28	5.5	28	21.7	0.52	16.5
	1150	1.22	45	50.6	0.62	19.3	39	42.6	0.52	14.7	31	30.3	0.18	2.5	29	28.2	0.23	3.7	28	26.5	0.32	6.8	27	24.6	0.59	20.5
	1400	1.44	42	55.9	0.69	23.0	37	47.1	0.57	17.5	29	33.2	0.20	2.9	28	31.2	0.25	4.4	27	29.2	0.35	8.1	26	27.2	0.65	24.5
	700	0.78	53	35.2	0.43	10.2	46	29.3	0.36	7.6	37	20.5	0.12	1.2	35	18.9	0.15	1.8	33	17.2	0.21	3.2	32	15.7	0.38	9.3
	900	1	49	41.3	0.51	13.5	44	34.3	0.42	10.0	35	23.7	0.14	1.6	33	21.9	0.18	2.4	32	20.1	0.24	4.2	30	18.4	0.44	12.3
	1150	1.22	47	46.8	0.57	16.8	41	38.8	0.47	12.5	33	26.4	0.16	1.9	32	24.4	0.20	2.9	30	22.6	0.27	5.2	29	20.8	0.50	15.3
	1400	1.44	45	51.7	0.63	20.0	40	42.8	0.52	14.8	32	29.1	0.18	2.3	30	26.7	0.22	3.3	29	24.9	0.30	6.1	28	23	0.55	18.2
56	700	1.28	44	67.3	0.82	7.9	38	57.9	0.71	6.3	28	43.5	0.26	1.2	27	41.2	0.33	1.8	26	39.9	0.47	3.4	24	37.1	0.89	10.5
	900	1.6	40	77.4	0.95	10.2	35	66.6	0.81	8.0	26	49.4	0.30	1.5	24	46.8	0.38	2.2	23	44.7	0.54	4.3	22	42.7	1.03	13.4
	1150	1.92	38	86.5	1.06	12.3	32	74.4	0.91	9.7	24	54.8	0.33	1.7	23	51.8	0.42	2.7	22	49.8	0.60	5.1	21	47.7	1.15	16.4
	1400	2.23	35	94.8	1.16	14.5	30	81.5	0.99	11.4	22	59.3	0.36	2.0	21	56.8	0.46	3.1	20	54.4	0.66	6.0	20	52.3	1.26	19.2
	700	1.28	48	58.4	0.72	6.2	42	49	0.60	4.7	33	34.6	0.21	0.8	31	32.3	0.26	1.2	30	30.0	0.36	2.1	28	28.2	0.68	6.5
	900	1.6	45	67.2	0.82	7.9	39	56.3	0.69	6.0	30	39.1	0.24	1.0	29	36.6	0.30	1.5	28	34.2	0.41	2.7	27	32.4	0.78	8.3
	1150	1.92	43	75.0	0.92	9.6	37	62.8	0.77	7.2	29	43.2	0.26	1.1	28	40.7	0.33	1.7	27	38.2	0.46	3.2	26	36.2	0.87	10.1
	1400	2.23	41	82.1	1.01	11.3	36	68.8	0.84	8.5	28	46.8	0.28	1.3	26	43.6	0.35	2.0	26	41.7	0.50	3.8	25	39.7	0.95	11.8
	700	1.28	50	53.9	0.66	5.4	44	44.6	0.54	4.0	34	29.3	0.18	0.6	33	27.8	0.22	0.9	32	25.6	0.31	1.6	31	23.8	0.57	4.8
	900	1.6	47	62.0	0.76	6.9	42	51.2	0.62	5.0	32	33.2	0.20	0.7	32	31.5	0.25	1.1	30	29.0	0.35	2.0	30	27.3	0.66	6.2
	1150	1.92	45	69.2	0.85	8.3	40	57.1	0.69	6.1	31	36.7	0.22	0.9	30	34.8	0.28	1.3	29	32.3	0.39	2.4	28	30.4	0.73	7.4
	1400	2.23	43	75.8	0.93	9.8	38	62.4	0.76	7.2	30	40.5	0.25	1.0	29	37.7	0.30	1.5	28	35.0	0.42	2.8	27	33.3	0.80	8.7



HKP(E) - 35 - 6D/6Y - (700 rpm)



Dimensions & weights

HMP	A	B	C	D	E	F	H	K	L	M	G	Weight kg	Int.vol. l
35	700	470	520	680	450	28	580	225	250	304	R3/4	36	1.5
45	850	642	545	830	620	28	730	190	250	477	R1	54	2.5
56	1000	760	540	980	740	28	880	190	250	593	R1 1/4	70	4.0

Size	HKP	rpm	Sound pressure level dB(A)*	Sound power level Lw1/octave band						Air throw		Motors 400/50/3	
				125	250	500	1000	2000	4000	8000	Lo.2**	Power	Full load current
35	6Y	700	55	56	59	55	53	52	46	37	3.0	0.04	0.08
	6D	900	59	62	63	60	57	57	54	46	4.0	0.07	0.17
	4Y	1150	66	65	69	67	63	63	62	53	5.0	0.11	0.18
	4D	1400	69	67	72	69	67	66	66	58	6.0	0.15	0.38
45	6Y	700	62	67	66	62	60	59	58	50	4.5	0.11	0.31
	6D	900	66	70	72	66	63	62	61	54	6.0	0.19	0.61
	4Y	1150	71	73	73	72	68	67	67	61	7.5	0.38	0.72
	4D	1400	74	76	77	75	72	70	71	66	9.0	0.54	1.15
56	6Y	700	65	72	69	65	63	61	59	52	7.5	0.16	0.40
	6D	900	67	73	75	67	66	62	56	49	10.0	0.33	0.72
	4Y	1150	73	76	78	73	72	69	69	63	12.5	0.52	1.00
	4D	1400	77	79	81	77	75	73	74	67	15.0	0.65	1.75
35-4D-P (1400 rpm, 230/50/1)												0.14	0.62

*) A-weighted sound pressure level is given in 10 m² Sabine room and observation point is 1 m distance from the middle of fan guard at 45 °C angle.

**) Air throw defines the horizontal distance from the device, where air velocity is 0,2 m/s. Air-on temperature +15 °C and air-off temperature +35 °C, provided that the air flow is not obstructed.