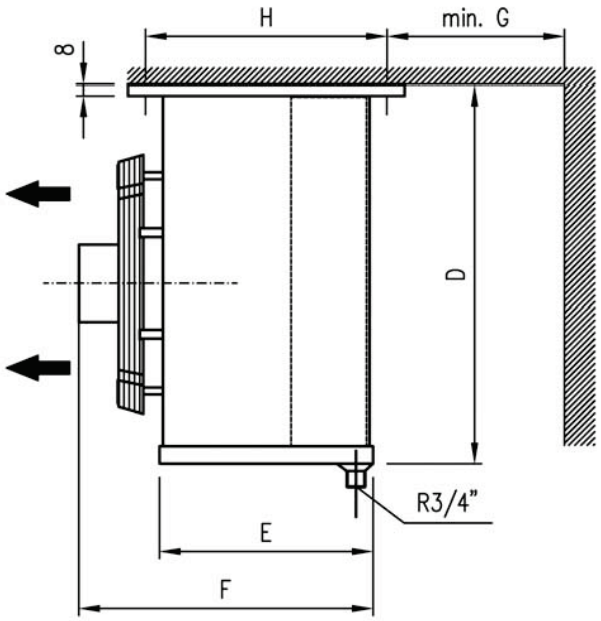
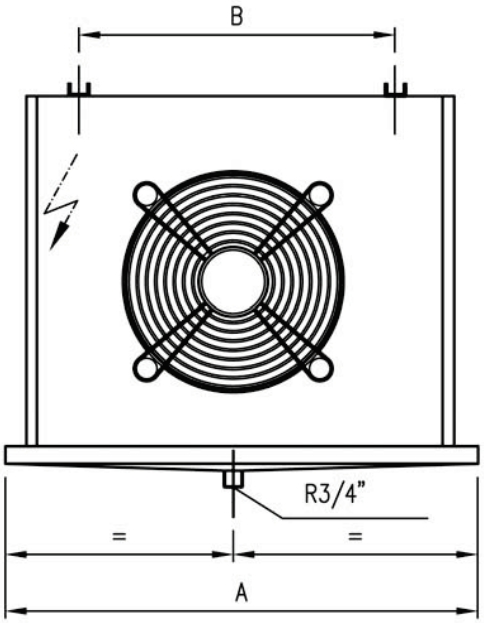
DESCRIPTION

Forced convection air cooler VHS is suitable for all cold storage and low temperature rooms, particular for unpacked goods (long time storage at high humidity). The VHS unit has got high efficiency heat exchanger with large surface area (long cooling time), silent fans with external rotor motor, fan guard mounted with sound absorbing elements. As additional equipment mounting holes for defrost safety thermostat and drain heater are available. The heat exchanger can be designed for water or brine circulation. The VHS units work in temperature range from 0°C to 50°C.

TECHNICAL SPECIFICATION & DIMENSIONS

Model		Dimensions [mm]							Tube volume [dm3]
		A	B	D	E	F	G	H	
400	700	575	370	398	257	355	150	375	1.1
401	701	575	370	398	257	355	150	375	1.6
402	702	625	420	448	307	435	175	375	2.1
403	703	625	420	448	307	435	175	375	2.8
404	704	725	520	548	307	435	175	375	3.1
405	705	725	520	548	307	435	175	375	4.2
406	706	805	600	548	357	485	200	405	5.8
407	707	855	625	660	437	560	200	465	5.9
408	708	855	625	660	437	560	200	465	7.3
409	709	955	725	760	437	560	250	465	9.6
410	710	1105	975	760	437	560	250	465	11.6
411	711	1255	1025	760	437	560	250	465	13.3
412	712	1755	1525	660	437	560	300	465	16.4
413	713	2055	1825	760	437	560	350	465	23.2
414	714	2455	2225	760	437	560	400	465	27.7





All below data is based upon measurements with R404A/R507A and fans operating on 50Hz supply.

HVS 400

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
0.59	-6	2	8	5.3	5	1180	62	4.5	12	12
0.59	-4	4	8	5.3	5	1180	62	4.5	12	12
0.59	0	8	8	5.3	5	1180	62	4.5	12	12
0.93	5	15	10	5.3	5	1180	62	4.5	12	12

HVS 401

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
0.88	-6	2	8	7.9	5	1130	62	4.5	12	12
0.88	-4	4	8	7.9	5	1130	62	4.5	12	12
0.89	0	8	8	7.9	5	1130	62	4.5	12	12
1.38	5	15	10	7.9	5	1130	62	4.5	12	12

HVS 402

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
1.27	-6	2	8	10.3	6	1590	64	4.5	12	15
1.27	-4	4	8	10.3	6	1590	64	4.5	12	15
1.27	0	8	8	10.3	6	1590	64	4.5	12	15
1.95	5	15	10	10.3	6	1590	64	4.5	12	15

HVS 403

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
1.67	-6	2	8	13.8	6	1530	64	4.5	12	15
1.67	-4	4	8	13.8	6	1530	64	4.5	12	15
1.68	0	8	8	13.8	6	1530	64	4.5	12	15
2.53	5	15	10	13.8	6	1530	64	4.5	12	15

HVS 404

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
2.13	-6	2	8	16.2	13	2760	74	4.5	12	15
2.14	-4	4	8	16.2	13	2760	74	4.5	12	15
2.14	0	8	8	16.2	13	2760	74	4.5	12	15
3.15	5	15	10	16.2	13	2760	74	4.5	12	15

HVS 405

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
2.76	-6	2	8	21.5	13	2660	74	4.5	12	18
2.76	-4	4	8	21.5	13	2660	74	4.5	12	18
2.77	0	8	8	21.5	13	2660	74	4.5	12	18
4.07	5	15	10	21.5	13	2660	74	4.5	12	18

HVS 406

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
3.29	-6	2	8	31.2	13	1240	74	4.5	12*	18
3.30	-4	4	8	31.2	13	1240	74	4.5	12*	18
3.30	0	8	8	31.2	13	1240	74	4.5	12*	18
4.86	5	15	10	31.2	13	1240	74	4.5	12*	18

*Multiple injection with Shrader valve at the outlet.

HVS 407

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
4.31	-6	2	8	31.0	14	4000	73	4.5	12*	22
4.32	-4	4	8	31.0	14	4000	73	4.5	12*	22
4.33	0	8	8	31.0	14	4000	73	4.5	12*	22
6.36	5	15	10	31.0	14	4000	73	4.5	12*	22

*Multiple injection with Shrader valve at the outlet.

HVS 408

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
5.45	-6	2	8	36.7	14	3940	73	4.5	12*	22
5.46	-4	4	8	36.7	14	3940	73	4.5	12*	22
5.47	0	8	8	36.7	14	3940	73	4.5	12*	22
8.05	5	15	10	36.7	14	3940	73	4.5	12*	22

*Multiple injection with Shrader valve at the outlet.

HVS 409

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
6.77	-6	2	8	50.0	15	4630	77	4.5	12*	22
6.79	-4	4	8	50.0	15	4630	77	4.5	12*	22
6.80	0	8	8	50.0	15	4630	77	4.5	12*	22
10.00	5	15	10	50.0	15	4630	77	4.5	12*	22

*Multiple injection with Shrader valve at the outlet.

HVS 410

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
8.05	-6	2	8	60.7	16	5530	78	4.5	12*	28
8.07	-4	4	8	60.7	16	5530	78	4.5	12*	28
8.08	0	8	8	60.7	16	5530	78	4.5	12*	28
11.89	5	15	10	60.7	16	5530	78	4.5	12*	28

*Multiple injection with Shrader valve at the outlet.

HVS 411

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
9.48	-6	2	8	71.4	17	6350	81	4.5	12*	28
9.51	-4	4	8	71.4	17	6350	81	4.5	12*	28
9.52	0	8	8	71.4	17	6350	81	4.5	12*	28
14.01	5	15	10	71.4	17	6350	81	4.5	12*	28

*Multiple injection with Shrader valve at the outlet.

HVS 412

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
13.15	-6	2	8	91.8	18	9160	80	4.5	15*	35
13.19	-4	4	8	91.8	18	9160	80	4.5	15*	35
13.21	0	8	8	91.8	18	9160	80	4.5	15*	35
19.43	5	15	10	91.8	18	9160	80	4.5	15*	35

*Multiple injection with Shrader valve at the outlet.

HVS 413

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
16.44	-6	2	8	128.5	19	11100	81	4.5	15*	42
16.48	-4	4	8	128.5	19	11100	81	4.5	15*	42
16.51	0	8	8	128.5	19	11100	81	4.5	15*	42
24.29	5	15	10	128.5	19	11100	81	4.5	15*	42

*Multiple injection with Shrader valve at the outlet.

HVS 414

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
19.83	-6	2	8	157.0	20	12900	84	4.5	15*	42
19.88	-4	4	8	157.0	20	12900	84	4.5	15*	42
19.92	0	8	8	157.0	20	12900	84	4.5	15*	42
29.30	5	15	10	157.0	20	12900	84	4.5	15*	42

*Multiple injection with Shrader valve at the outlet.

HVS 700

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
0.48	-6	2	8	3.5	6	1240	62	7	12	12
0.48	-4	4	8	3.5	6	1240	62	7	12	12
0.49	0	8	8	3.5	6	1240	62	7	12	12
0.78	5	15	10	3.5	6	1240	62	7	12	12

HVS 701

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
0.71	-6	2	8	5.2	6	1180	62	7	12	12
0.72	-4	4	8	5.2	6	1180	62	7	12	12
0.72	0	8	8	5.2	6	1180	62	7	12	12
1.13	5	15	10	5.2	6	1180	62	7	12	12

HVS 702

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
1.03	-6	2	8	6.8	7	1650	64	7	12	15
1.04	-4	4	8	6.8	7	1650	64	7	12	15
1.04	0	8	8	6.8	7	1650	64	7	12	15
1.61	5	15	10	6.8	7	1650	64	7	12	15

HVS 703

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
1.35	-6	2	8	9.1	7	1590	64	7	12	15
1.36	-4	4	8	9.1	7	1590	64	7	12	15
1.36	0	8	8	9.1	7	1590	64	7	12	15
2.08	5	15	10	9.1	7	1590	64	7	12	15

HVS 704

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
1.72	-6	2	8	10.6	14	2860	74	7	12	15
1.73	-4	4	8	10.6	14	2860	74	7	12	15
1.73	0	8	8	10.6	14	2860	74	7	12	15
2.58	5	15	10	10.6	14	2860	74	7	12	15

HVS 705

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
2.26	-6	2	8	14.2	14	2760	74	7	12	18
2.26	-4	4	8	14.2	14	2760	74	7	12	18
2.27	0	8	8	14.2	14	2760	74	7	12	18
3.39	5	15	10	14.2	14	2760	74	7	12	18

HVS 706

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
2.69	-6	2	8	20.6	14	2660	74	7	12*	18
2.70	-4	4	8	20.6	14	2660	74	7	12*	18
2.71	0	8	8	20.6	14	2660	74	7	12*	18
4.04	5	15	10	20.6	14	2660	74	7	12*	18

*Multiple injection with Shrader valve at the outlet.

HVS 707

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
3.44	-6	2	8	20.4	15	4060	73	7	12*	22
3.45	-4	4	8	20.4	15	4060	73	7	12*	22
3.46	0	8	8	20.4	15	4060	73	7	12*	22
5.16	5	15	10	20.4	15	4060	73	7	12*	22

*Multiple injection with Shrader valve at the outlet.

HVS 708

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
4.37	-6	2	8	24.2	15	4000	73	7	12*	22
4.38	-4	4	8	24.2	15	4000	73	7	12*	22
4.39	0	8	8	24.2	15	4000	73	7	12*	22
6.55	5	15	10	24.2	15	4000	73	7	12*	22

*Multiple injection with Shrader valve at the outlet.

HVS 709

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
5.43	-6	2	8	33.0	16	4700	77	7	12*	22
5.44	-4	4	8	33.0	16	4700	77	7	12*	22
5.45	0	8	8	33.0	16	4700	77	7	12*	22
8.17	5	15	10	33.0	16	4700	77	7	12*	22

*Multiple injection with Shrader valve at the outlet.

HVS 710

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
6.44	-6	2	8	40.0	17	5620	78	7	12*	28
6.46	-4	4	8	40.0	17	5620	78	7	12*	28
6.47	0	8	8	40.0	17	5620	78	7	12*	28
9.66	5	15	10	40.0	17	5620	78	7	12*	28

*Multiple injection with Shrader valve at the outlet.

HVS 711

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
7.59	-6	2	8	47.1	18	6450	81	7	12*	28
7.61	-4	4	8	47.1	18	6450	81	7	12*	28
7.63	0	8	8	47.1	18	6450	81	7	12*	28
11.39	5	15	10	47.1	18	6450	81	7	12*	28

*Multiple injection with Shrader valve at the outlet.

HVS 712

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
10.53	-6	2	8	60.6	19	9300	80	7	15*	35
10.56	-4	4	8	60.6	19	9300	80	7	15*	35
10.58	0	8	8	60.6	19	9300	80	7	15*	35
15.80	5	15	10	60.6	19	9300	80	7	15*	35

*Multiple injection with Shrader valve at the outlet.

HVS 713

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
13.23	-6	2	8	84.8	20	11400	81	7	15*	42
13.27	-4	4	8	84.8	20	11400	81	7	15*	42
13.30	0	8	8	84.8	20	11400	81	7	15*	42
19.86	5	15	10	84.8	20	11400	81	7	15*	42

*Multiple injection with Shrader valve at the outlet.

HVS 714

Input capacity [kW]	Evap. temp. [oC]	Temp. in room [oC]	ΔT [K]	Surface [m2]	Air throw [m]	Air flow [m3/h]	Sound power [dB(A)]	Fin spacing [mm]	Connections	
									Inlet Ø [mm]	Outlet Ø [mm]
15.83	-6	2	8	103.6	21	13100	84	7	15*	42
15.88	-4	4	8	103.6	21	13100	84	7	15*	42
15.91	0	8	8	103.6	21	13100	84	7	15*	42
23.76	5	15	10	103.6	21	13100	84	7	15*	42

*Multiple injection with Shrader valve at the outlet.