



Guiden til HFC-fyldning < 10 kg er et værktøj til brug ved dimensionering af køle- og fryseanlæg.

Indeholder oplysninger om nødvendig kølemiddelmængde i kg, for Bock luftkølede aggregater, Bock receiver aggregater, Roller fordampere samt for kobberør pr. m.

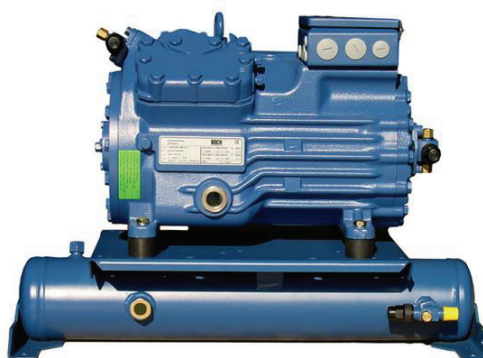
Alle data er beregnede værdier og skal derfor betragtes som retningsgivende.

FK Teknik A/S forbeholder sig ret til at ændre denne guide uden varseling.

SHG12/22P-RU



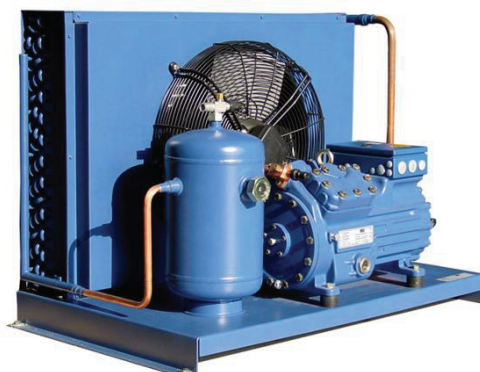
SHG34P-RU



SHG12/22P-4L



SHG34P-4L



Kølemiddelmængde i kg - Bock aggregater

R134a	Luftkølet aggregat type L *	Luftkølet aggregat type SL *	Receiver aggregat type RU	Receiver aggregat type SRU
Type	kg	kg	kg	kg
HA/HG12P/60	0.72	0.72	0.23	0.23
HA/HG12P/75	0.72	0.95	0.23	0.23
HA/HG12P/90	0.95	1.30	0.23	0.23
HA/HG12P/110	1.30	1.30	0.23	0.23
HA/HG22P/125	2.10	3.36	0.28	0.28
HA/HG22P/160	3.36	3.36	0.28	0.28
HA/HG22P/190	4.05	4.05	0.28	0.28
HA/HG34P/215	4.05	4.10	0.28	1.03
HA/HG34P/255	4.05	4.10	0.28	1.03
HA/HG34P/315	4.05	5.85	0.28	1.03
HA/HG34P/380	5.85	8.15	0.28	1.03
HA/HG4/465	8.15	10.80	1.03	1.03
HA/HG4/555	8.15	13.30	1.03	1.15
HA/HG4/650	10.90	13.30	1.15	1.15
HA/HG5/725	-	-	1.15	1.38
HA/HG5/830	-	-	1.15	1.38
HA/HG5/945	-	-	1.15	1.38
HA/HG6/1080	-	-	1.15	1.38
HA/HG6/1240	-	-	1.15	1.38
HA/HG6/1410	-	-	1.15	1.38
HG7/1620	-	-	2.12	3.13
HG7/1860	-	-	2.12	3.13
HG7/2110	-	-	2.12	3.13

R404A	Luftkølet aggregat type L *	Luftkølet aggregat type SL *	Receiver aggregat type RU	Receiver aggregat type SRU
Type	kg	kg	kg	kg
HA/HG12P/60	0.56	0.56	0.18	0.18
HA/HG12P/75	0.56	0.73	0.18	0.18
HA/HG12P/90	0.73	1.00	0.18	0.18
HA/HG12P/110	1.00	1.00	0.18	0.18
HA/HG22P/125	1.62	2.59	0.22	0.22
HA/HG22P/160	2.59	2.59	0.22	0.22
HA/HG22P/190	3.13	3.13	0.22	0.22
HA/HG34P/215	3.13	3.17	0.22	0.80
HA/HG34P/255	3.13	3.17	0.22	0.80
HA/HG34P/315	3.13	4.52	0.22	0.80
HA/HG34P/380	4.52	6.29	0.22	0.80
HA/HG4/465	6.29	8.34	0.80	0.80
HA/HG4/555	6.29	10.27	0.80	0.89
HA/HG4/650	8.42	10.27	0.89	0.89
HA/HG5/725	-	-	0.89	1.07
HA/HG5/830	-	-	0.89	1.07
HA/HG5/945	-	-	0.89	1.07
HA/HG6/1080	-	-	0.89	1.07
HA/HG6/1240	-	-	0.89	1.07
HA/HG6/1410	-	-	0.89	1.07
HG7/1620	-	-	1.64	2.42
HG7/1860	-	-	1.64	2.42
HG7/2110	-	-	1.64	2.42

R407C	Luftkølet aggregat type L *	Luftkølet aggregat type SL *	Receiver aggregat type RU	Receiver aggregat type SRU
Type	kg	kg	kg	kg
HA/HG12P/60	0.68	0.68	0.21	0.21
HA/HG12P/75	0.68	0.88	0.21	0.21
HA/HG12P/90	0.88	1.21	0.21	0.21
HA/HG12P/110	1.21	1.21	0.21	0.21
HA/HG22P/125	1.95	3.12	0.27	0.27
HA/HG22P/160	3.12	3.12	0.27	0.27
HA/HG22P/190	3.77	3.77	0.27	0.27
HA/HG34P/215	3.77	3.82	0.27	0.96
HA/HG34P/255	3.77	3.82	0.27	0.96
HA/HG34P/315	3.77	5.45	0.27	0.96
HA/HG34P/380	5.45	7.58	0.27	0.96
HA/HG4/465	7.58	10.06	0.96	0.96
HA/HG4/555	7.58	12.38	0.96	1.07
HA/HG4/650	10.15	12.38	1.07	1.07
HA/HG5/725	-	-	1.07	1.29
HA/HG5/830	-	-	1.07	1.29
HA/HG5/945	-	-	1.07	1.29
HA/HG6/1080	-	-	1.07	1.29
HA/HG6/1240	-	-	1.07	1.29
HA/HG6/1410	-	-	1.07	1.29
HG7/1620	-	-	1.98	2.92
HG7/1860	-	-	1.98	2.92
HG7/2110	-	-	1.98	2.92

* Incl. nødvendig fyldning i receiver

Beregnet ved kondenseringstemp. +40°C

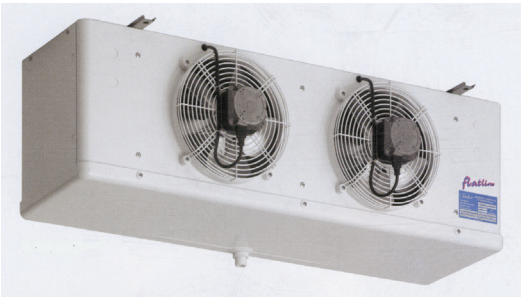
FKN/T



UV/T



FAV/T



DLK/T



DHN



HVS/T + HVS/T-EP



Kølemiddelmængde i kg - Roller fordampere

Type	R134a	R134a	R407C	R407C	R404A	R404A	R404A
	Ford.temp. +5°C	Ford.temp. -10°C	Ford.temp. +5°C	Ford.temp. -10°C	Ford.temp. +5°C	Ford.temp. -10°C	Ford.temp. -30°C
	kg	kg	kg	kg	kg	kg	kg
FKN/T-411/611	0.15	0.16	0.14	0.15	0.13	0.14	0.14
FKN/T-412/612	0.23	0.24	0.22	0.23	0.20	0.21	0.22
FKN/T-423/623	0.27	0.28	0.26	0.27	0.23	0.24	0.26
FKN/T-424/624	0.38	0.39	0.36	0.38	0.32	0.34	0.37
FKN/T-436/636	0.54	0.56	0.51	0.54	0.46	0.49	0.52
UV/T-410/610	0.35	0.36	0.33	0.35	0.30	0.32	0.34
UV/T-415/615	0.61	0.63	0.58	0.61	0.52	0.55	0.59
UV/T-420/620	0.61	0.63	0.58	0.61	0.52	0.55	0.59
UV/T-425/625	1.00	1.04	0.95	0.99	0.85	0.91	0.96
UV/T-430/630	1.00	1.04	0.95	0.99	0.85	0.91	0.96
UV/T-440/640	1.30	1.35	1.23	1.29	1.11	1.18	1.25
FAV/T-401/601	0.69	0.72	0.66	0.69	0.59	0.62	0.66
FAV/T-411/611	0.92	0.96	0.87	0.91	0.79	0.83	0.89
FAV/T-402/602	1.23	1.28	1.17	1.22	1.05	1.11	1.18
FAV/T-412/612	1.65	1.71	1.57	1.64	1.41	1.49	1.59
FAV/T-403/603	1.80	1.87	1.71	1.79	1.54	1.63	1.73
FAV/T-404/604	2.34	2.43	2.22	2.33	2.00	2.12	2.25
FAV/T-421/621	2.11	2.19	2.00	2.10	1.80	1.91	2.03
FAV/T-413/613	2.38	2.47	2.26	2.37	2.03	2.15	2.29
FAV/T-414/614	3.15	3.27	2.99	3.13	2.69	2.85	3.03
FAV/T-406/606	3.34	3.47	3.17	3.32	2.85	3.02	3.22
FAV/T-422/622	4.03	4.18	3.83	4.01	3.44	3.65	3.88
FAV/T-416/616	4.45	4.62	4.23	4.42	3.80	4.03	4.29
FAV/T-423/623	5.95	6.18	5.65	5.91	5.08	5.39	5.73
DLK/T-441/741	0.73	0.76	0.69	0.73	0.62	0.66	0.70
DLK/T-461/761	1.11	1.15	1.05	1.10	0.95	1.00	1.07
DLK/T-442/742	1.34	1.39	1.27	1.33	1.14	1.21	1.29
DLK/T-462/762	2.07	2.15	1.97	2.06	1.77	1.87	1.99
DLK/T-443/743	1.99	2.07	1.89	1.98	1.70	1.80	1.92
DLK/T-463/763	2.99	3.10	2.84	2.97	2.55	2.71	2.88
DLK/T-444/744	2.61	2.71	2.48	2.59	2.23	2.36	2.51
DLK/T-464/764	3.95	4.10	3.75	3.93	3.37	3.58	3.80
DHN-401/601-L/N	1.30	1.35	1.23	1.29	1.11	1.18	1.25
DHN-402/602-L/N	2.45	2.54	2.33	2.44	2.09	2.22	2.36
DHN-403/603-L/N	3.57	3.71	3.39	3.55	3.05	3.23	3.44
DHN-404/604-L/N	4.72	4.90	4.48	4.69	4.03	4.27	4.55
HVS/T-400/700	0.42	0.44	0.40	0.42	0.36	0.38	0.40
HVS/T-401/701	0.61	0.63	0.58	0.61	0.52	0.55	0.59
HVS/T-402/702	0.81	0.84	0.77	0.81	0.69	0.73	0.78
HVS/T-403/703	1.07	1.11	1.02	1.06	0.91	0.97	1.03
HVS/T-404/704	1.19	1.24	1.13	1.18	1.02	1.08	1.15
HVS/T-405/705	1.57	1.63	1.49	1.56	1.34	1.42	1.51
HVS/T-406/706	2.22	2.30	2.11	2.21	1.90	2.01	2.14
HVS/T-407/707	2.26	2.35	2.15	2.25	1.93	2.05	2.18
HVS/T-408/708	2.80	2.91	2.66	2.78	2.39	2.53	2.70
HVS/T-409/709	3.68	3.82	3.49	3.66	3.14	3.33	3.54
HVS/T-410/710	4.45	4.62	4.23	4.42	3.80	4.03	4.29
HVS/T-411/711	5.10	5.29	4.84	5.07	4.36	4.62	4.91
HVS/T-412/712	6.29	6.53	5.97	6.25	5.37	5.69	6.06
HVS/T-413/713	8.90	9.24	8.45	8.85	7.60	8.06	8.57
HVS/T-414/714	10.63	11.04	10.09	10.57	9.08	9.62	10.24
HVS/T-400/700/1000 EP	0.42	0.44	0.40	0.42	0.36	0.38	0.40
HVS/T-401/701/1001 EP	0.61	0.63	0.58	0.61	0.52	0.55	0.59
HVS/T-402/702/1002 EP	0.81	0.84	0.77	0.81	0.69	0.73	0.78
HVS/T-403/703/1003 EP	1.07	1.11	1.02	1.06	0.91	0.97	1.03
HVS/T-404/704/1004 EP	1.19	1.24	1.13	1.18	1.02	1.08	1.15
HVS/T-405/705/1005 EP	1.61	1.67	1.53	1.60	1.37	1.46	1.55
HVS/T-406/706/1006 EP	2.22	2.30	2.11	2.21	1.90	2.01	2.14
HVS/T-408/708/1008 EP	2.26	2.35	2.15	2.25	1.93	2.05	2.18
HVS/T-409/709/1009 EP	2.95	3.06	2.80	2.93	2.52	2.67	2.84
HVS/T-410/710/1010 EP	3.57	3.71	3.39	3.55	3.05	3.23	3.44
HVS/T-411/711/1011 EP	4.07	4.23	3.86	4.05	3.48	3.68	3.92
HVS/T-412/712/1012 EP	5.02	5.21	4.77	4.99	4.29	4.54	4.83
HVS/T-413/713/1013 EP	7.13	7.40	6.77	7.09	6.09	6.45	6.87
HVS/T-414/714/1014 EP	8.52	8.85	8.09	8.47	7.28	7.71	8.21



Kølemiddelmængde i kg pr. mtr. kobberør

Rørdimension	Væskeledning	Trykgasledning	Sugeledning		
	Væsketemp. +30°C	Kond.temp. +40°C	Fordampningstemp. i °C		
			+5	-10	-30
1/4"	0.0218	0.0009	0.0003	0.0002	0.0001
3/8"	0.0584	0.0025	0.0008	0.0005	0.0002
1/2"	0.1146	0.0049	0.0017	0.0010	0.0004
5/8"	0.1898	0.0081	0.0028	0.0016	0.0007
3/4"	0.2784	0.0118	0.0040	0.0024	0.0010
7/8"	0.3821	0.0162	0.0055	0.0032	0.0014
1-1/8"	0.6596	0.0280	0.0096	0.0056	0.0025
1-3/8"	1.0038	0.0427	0.0146	0.0085	0.0038
1-5/8"	1.4084	0.0599	0.0204	0.0120	0.0053
2-1/8"	2.4800	0.1054	0.0360	0.0211	0.0093
2-5/8"	3.8527	0.1638	0.0559	0.0328	0.0145
3-1/8"	5.4081	0.2299	0.0785	0.0460	0.0203

Rørdimension	Væskeledning	Trykgasledning	Sugeledning		
	Væsketemp. +30°C	Kond.temp. +40°C	Fordampningstemp. i °C		
			+5	-10	-30
1/4"	0.0175	0.0018	0.0006	0.0004	0.0002
3/8"	0.0470	0.0049	0.0017	0.0011	0.0005
1/2"	0.0921	0.0096	0.0034	0.0021	0.0010
5/8"	0.1526	0.0160	0.0056	0.0035	0.0017
3/4"	0.2238	0.0234	0.0082	0.0051	0.0025
7/8"	0.3072	0.0322	0.0113	0.0070	0.0034
1-1/8"	0.5302	0.0555	0.0195	0.0120	0.0058
1-3/8"	0.8069	0.0845	0.0297	0.0183	0.0089
1-5/8"	1.1322	0.1185	0.0417	0.0257	0.0125
2-1/8"	1.9936	0.2087	0.0734	0.0452	0.0219
2-5/8"	3.0972	0.3242	0.1140	0.0702	0.0341
3-1/8"	4.3475	0.4551	0.1600	0.0986	0.0479

Rørdimension	Væskeledning	Trykgasledning	Sugeledning		
	Væsketemp. +30°C	Kond.temp. +40°C	Fordampningstemp. i °C		
			+5	-10	-30
1/4"	0.0204	0.0012	0.0004	0.0002	0.0001
3/8"	0.0547	0.0032	0.0011	0.0007	0.0003
1/2"	0.1073	0.0063	0.0022	0.0013	0.0006
5/8"	0.1778	0.0104	0.0036	0.0021	0.0010
3/4"	0.2608	0.0152	0.0052	0.0031	0.0014
7/8"	0.3578	0.0209	0.0072	0.0043	0.0020
1-1/8"	0.6177	0.0360	0.0124	0.0074	0.0034
1-3/8"	0.9401	0.0549	0.0189	0.0112	0.0051
1-5/8"	1.3190	0.0770	0.0265	0.0158	0.0072
2-1/8"	2.3227	0.1355	0.0467	0.0278	0.0127
2-5/8"	3.6084	0.2105	0.0725	0.0432	0.0197
3-1/8"	5.0650	0.2955	0.1018	0.0606	0.0276



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