



DAS HERZ DER FRISCHE

SEMI-HERMETIC

COMPACT SCREW COMPRESSORS

50 Hz // SP-170-8 EN



WITH IQ MODULE



CSH // CSW



CSVH // CSVW



AIR
CONDITIONING



PROCESS
COOLING

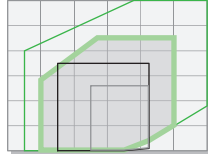


HEAT
PUMPS

CSH.6

Applications

- // air cooled liquid chillers in temperate and cold climate zones
- // data center cooling
- // typical heat pump operation of liquid chillers for air conditioning
- // liquid chillers with high efficiency requirements



Technical details

- // economiser (ECO) at full load
- // optimised for refrigerants with low pressure, also A2L

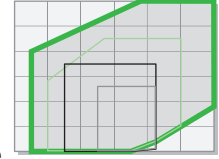
Refrigerants

- // R134a // R1234yf
- // R450A // R1234ze(E)
- // R513A // R515B

CSH.5

Applications for CSH.5 with the most powerful motor

- // very broad and flexible application range
- // data center cooling
- // air cooled liquid chillers for air conditioning for all climate zones
- // heat pumps with high condensing temperatures or low evaporation temperatures
- // process cooling



Technical details

- // economiser (ECO) at full and part load
- // liquid injection (LI)
- // oil cooler connection
- // 2 motor sizes can be selected
- // wide refrigerant selection, also A2L

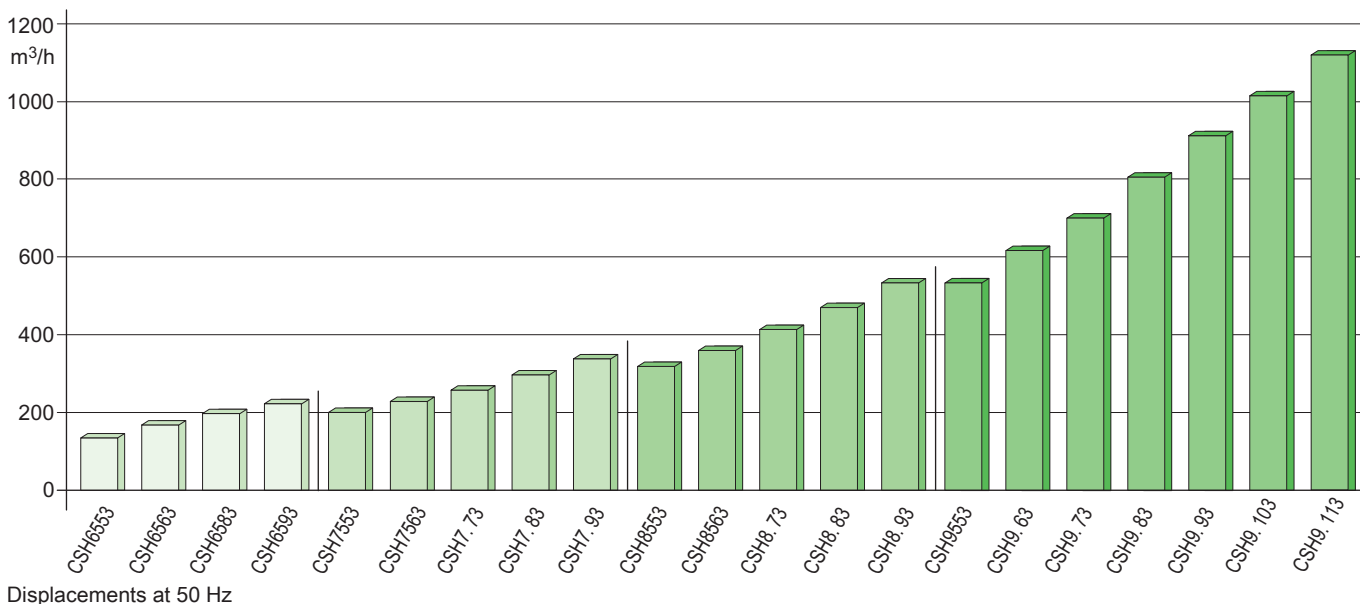
Refrigerants

- // R134a // R407A
- // R450A // R407C
- // R513A // R407F
- // R1234yf // R22
- // R1234ze(E) // R245fa
- // R515B // R290: special design CSHP



For the operation in ATEX zone 1 and 2 a special design of each CSH.5 compressor is available.

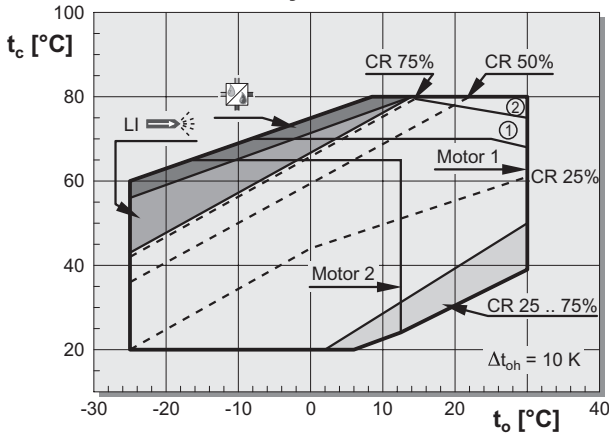
The CSH capacity range



Displacements at 50 Hz

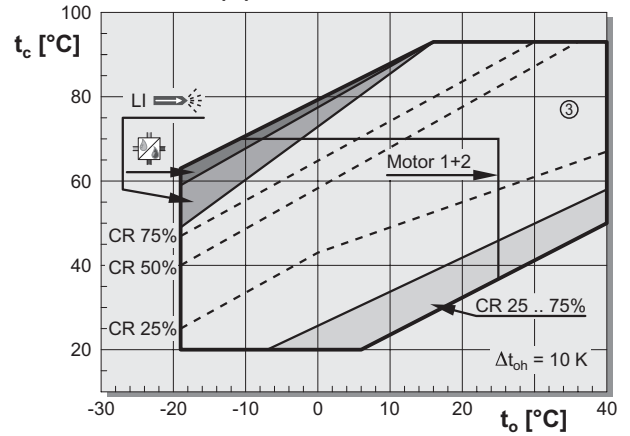
Application limits for CSH

CSH.5: R134a ■ R1234yf ■ R450A ■ R513A

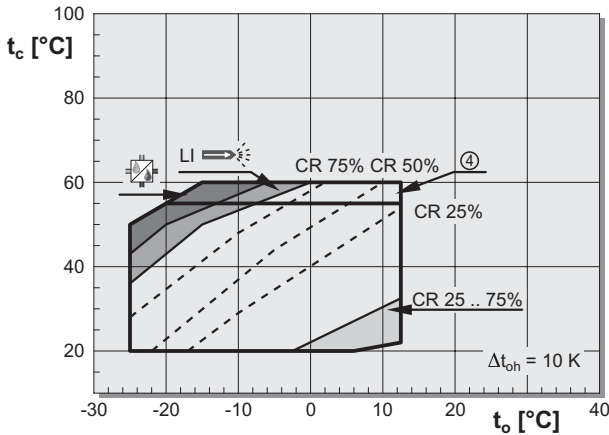


R450A: minimum evaporation temperature: -22°C

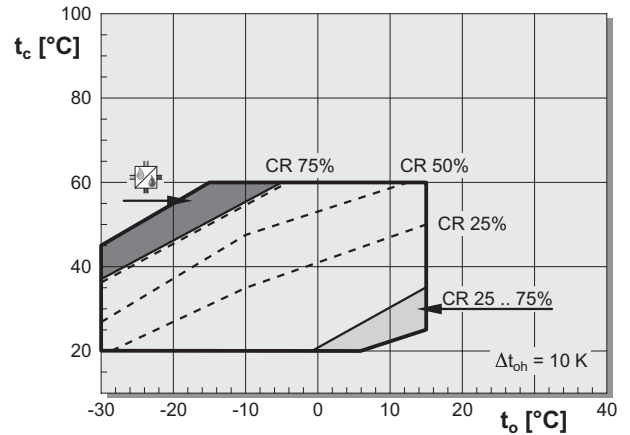
CSH.5: R1234ze(E) ■ R515B



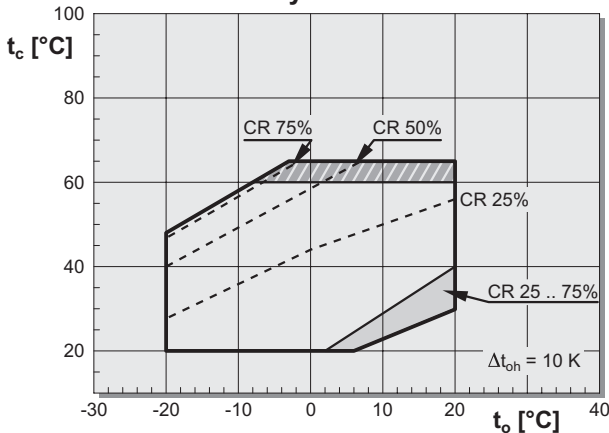
CSH.5: R407C



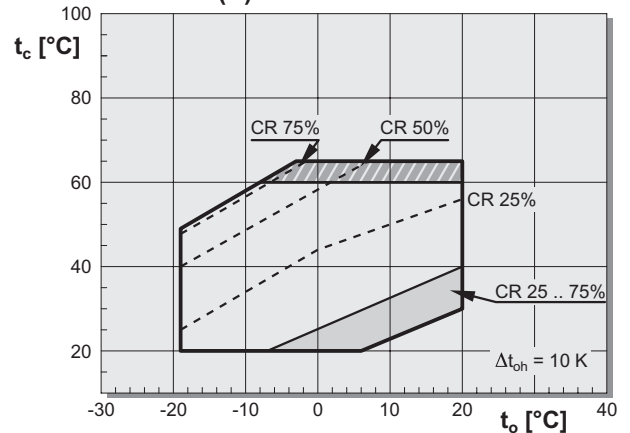
CSH.5: R290



CSH.6: R134a ■ R1234yf ■ R450A ■ R513A



CSH.6: R1234ze(E) ■ R515B



Legend

t_o Evaporation temperature (°C)
 t_c Condensing temperature (°C)
 Δt_{oh} Suction gas superheat (K)

■ Liquid injection or external oil cooling required.
 For part load operation the respective application limits (CR 75%, CR 50% and CR 25%) can be lifted by 5 K condensing temperature through liquid injection (up to the full load limits).

■ External oil cooling required
 ■ Capacity control CR 25% .. max. CR 75%
 ■ Operation only possible with BSE170
 Further explanations see next page.



Technical data: CSH

Compressor model	Motor version	Displacement 50/60 Hz m ³ /h ^①	Refrigerating capacity Q ₀				Oil charge dm ³	Motor connection ②	Maximum operating current A	Maximum power consumption kW
			R134a R1234yf ^③ R513A ^③ t ₀ /t _c 5°C/50°C kW	R1234ze(E) t ₀ /t _c 5°C/50°C kW	R407C t ₀ /t _c 5°C/50°C kW	R290 t ₀ /t _c 5°C/50°C kW				
CSH6553-35Y	2	137/165	75.6	57.0	-	-	8.5	400V(±10%) Δ-3-50Hz 460V(±10%) Δ-3-60Hz Y/Δ	58	34
CSH6553-50(Y)	1	137/165	75.1	56.6	106.4	-	8.5		86	52
CSHP6553-50P	1	137/165	-	-	-	100.6	8.5		79	52
CSH6563-40Y	2	170/205	94.3	71.3	-	-	8.5		66	41
CSH6563-60(Y)	1	170/205	94.3	71.3	133.7	-	8.5		108	65
CSHP6563-60P	1	170/205	-	-	-	128.8	8.5		105	65
CSH6583-50Y	2	195/236	108.8	82.1	-	-	9		86	51
CSH6593-60Y	2	220/266	122.8	92.6	-	-	9		108	56
CSH7553-50Y	2	197/238	106.7	80.7	-	-	14		79	52
CSH7553-70(Y)	1	197/238	108.4	82.0	155.0	-	14		128	78
CSHP7553-70P	1	197/238	-	-	-	145.3	14	124	78	
CSH7563-60Y	2	227/274	125.8	95.1	-	-	14	98	65	
CSH7563-80(Y)	1	227/274	125.0	94.5	175.4	-	14	144	88	
CSHP7563-80P	1	227/274	-	-	-	168.6	14	144	88	
CSH7673-70Y	2	258/311	150.2	114.5	-	-	14	123	73	
CSH7573-70Y	2	258/311	144.6	109.4	-	-	14	124	78	
CSH7573-90(Y)	1	258/311	145.0	109.7	204	-	14	162	96	
CSHP7573-90P	1	258/311	-	-	-	194.4	14	162	96	
CSH7683-80Y	2	295/356	174.9	131.7	-	-	14	140	83	
CSH7583-80Y	2	295/356	168.6	127.2	-	-	14	144	88	
CSH7583-100(Y)	1	295/356	169.1	127.6	238	-	14	170	102	
CSH7583-100P	1	295/356	-	-	-	226	14	170	102	
CSH7693-90Y	2	336/406	199.2	150.6	-	-	14	160	96	
CSH7593-90Y	2	336/406	192.0	144.9	-	-	14	162	93	
CSH7593-110(Y)	1	336/406	192.5	145.3	270	-	14	180	112	
CSHP7593-110P	1	336/406	-	-	-	252	14	180	112	
CSH8553-80Y	2	315/380	177.5	134.0	-	-	21	144	88	
CSH8553-110(Y)	1	315/380	181.7	137.2	257	-	21	185	112	
CSHP8553-110P	1	315/380	-	-	-	229	21	185	112	
CSH8563-90Y	2	359/433	205	154.4	-	-	21	155	96	
CSH8563-125(Y)	1	359/433	207	155.9	293	-	21	216	132	
CSHP8563-125P	1	359/433	-	-	-	261	21	215	132	
CSH8673-110Y	2	410/495	243	184.1	-	-	21	195	114	
CSH8573-110Y	2	410/495	240	180.5	-	-	21	182	110	
CSH8573-140(Y)	1	410/495	239	179.7	338	-	21	246	150	
CSHP8573-140P	1	410/495	-	-	-	301	21	246	150	
CSH8683-125Y	2	470/567	273	210	-	-	18	221	129	
CSH8583-125Y	2	470/567	265	199.9	-	-	18	196	120	
CSH8583-160(Y)	1	470/567	259	195.4	379	-	18	260	160	
CSHP8583-160P	1	470/567	-	-	-	333	18	260	160	
CSH8693-140Y	2	535/646	311	237	-	-	18	254	148	
CSH8593-140Y	2	535/646	301	228	-	-	18	214	131	
CSH8593-180(Y)	1	535/646	302	229	455	-	18	310	186	
CSHP8593-180P	1	535/646	-	-	-	390	18	310	186	
CSH9553-180(Y)	1	535/646	304	231	444	-	29	330	205	
CSHP9553-180P	1	535/646	-	-	-	383	29	330	205	
CSH9663-160Y	2	615/742	361	276	-	-	29	291	173	
CSH9563-160Y	2	615/742	357	264	-	-	29	280	155	
CSH9563-210(Y)	1	615/742	354	262	505	-	29	370	246	
CSHP9563-210P	1	615/742	-	-	-	449	29	370	246	
CSH9673-180Y	2	700/845	420	316	-	-	29	333	200	
CSH9573-180Y	2	700/845	417	310	-	-	29	310	175	
CSH9573-240(Y)	1	700/845	409	304	601	-	29	420	255	
CSHP9573-240P	1	700/845	-	-	-	522	29	420	255	
CSH9683-210Y	2	805/972	486	366	-	-	29	383	226	
CSH9583-210Y	2	805/972	480	358	-	-	29	320	204	
CSH9583-280(Y)	1	805/972	472	352	689	-	29	450	280	
CSHP9583-280P	1	805/972	-	-	-	612	29	450	280	
CSH9693-240Y	2	910/1098	552	414	-	-	29	384	255	
CSH9593-240Y	2	910/1098	546	407	-	-	29	360	222	
CSH9593-300(Y)	1	910/1098	546	407	783	-	29	450	280	
CSHP9593-300P	1	910/1098	-	-	-	700	29	450	280	
CSH96103-280Y	2	1015/1225	594	454	-	-	31	456	271	
CSH95103-280Y	2	1015/1225	588	440	-	-	31	413	254	
CSH95103-320(Y)	1	1015/1225	588	440	868	-	31	566	332	
CSHP95103-320P	1	1015/1225	-	-	-	758	31	566	332	
CSH96113-320Y	2	1120/1351	651	507	-	-	31	510	301	
CSH95113-320Y	2	1120/1351	644	481	-	-	31	447	277	

Technical data