

SERVI - SHCA

AIR/OIL COOLERS

SHCA-aircooler, with AC-motor

This cooler type with alternating current motor is basically for stationary applications and has been developed for efficient cooling of hydraulic and lubrication oil and for water/glycol mixtures (at least 20 % glycol). Designs available incl. various accessories and as 1-pass or 2-pass.

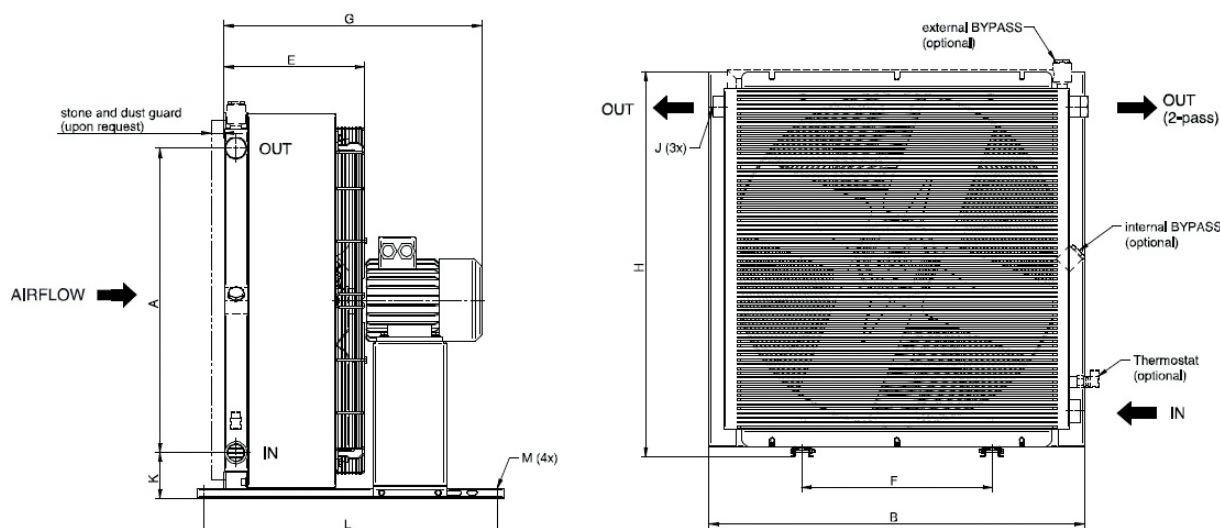


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1. TECHNICAL DATA - SHCA

MATERIAL	
Cooling element	Aluminium (copper or stainless steel upon request)
Air fan	Glass fibre reinforced plastic (PAG/PPG)
Sheet metall parts	C-steel powder coated
Protection grid	C-steel galvanised (Cr-VI-free)
Main parts	Black color RAL 9005 (excl. air fan, grid and motor)



SERVI SHCA standard sizes		Noise level LpA dB (A) 1m*	Pole-Pow- er [kW]	Mass [kg]	B	F	H	J	L	A	E	G	
SHCA	B21.21-2 1-phase**	61	2-0.07	5	235	230	253	G 3/4"	70	135	140	145	9
SHCA	B21.21-2 3-phase**	62	2-0.07	6	235	230	253	G 3/4"	70	135	140	145	9
SHCA	C27.21-2 1-phase**	62	2-0.07	6	320	230	253	G 1"	70	-	160	165	9
SHCA	C27.21-2 3-phase**	64	2-0.07	7	320	230	253	G 1"	70	-	160	165	9
SHCA	C33.26-2 1-phase**	76	2-0.14	10	340	300	345	G 1"	130	160	189	200	9
SHCA	C33.26-2 3-phase**	77	2-0.18	11	340	300	345	G 1"	130	160	189	200	9
SHCA	C33.26-4 3-phase	63	4-0.25	15	367	203	396	G 1"	510	159	225	440	13
SHCA	C33.26-2 3-phase	78	2-0.55	17	367	203	396	G 1"	510	159	225	440	13
SHCA	C40.33-4 3-phase	68	4-0.25	20	442	203	471	G 1"	510	234	245	460	13
SHCA	C40.33-2 3-phase	81	2-1.10	27	442	203	471	G 1"	510	234	245	490	13
SHCA	C47.40-6 3-phase	62	6-0.18	23	498	203	527	G 1"	510	225	265	480	13
SHCA	C47.40-4 3-phase	70	4-0.37	24	498	203	527	G 1"	510	225	265	500	13
SHCA	C47.40-2 3-phase	81	2-1.10	30	498	203	527	G 1"	510	225	265	510	13
SHCA	C55.48-6 3-phase	65	6-0.18	35	582	356	611	G 1"	510	308	280	490	13
SHCA	C55.48-4 3-phase	74	4-0.75	39	582	356	611	G 1"	510	308	280	520	13
SHCA	C64.59-6 3-phase	72	6-0.55	50	694	356	723	G 1 1/4"	510	415	315	540	13
SHCA	C64.59-4 3-phase	82	4-2.20	57	694	356	723	G 1 1/4"	510	415	315	660*	13
SHCA	C64.76-6 3-phase	73	6-0.55	68	694	356	867	G 1 1/4"	510	593	340	570	13
SHCA	C64.76-4 3-phase	83	4-2.20	69	694	356	867	G 1 1/4"	510	593	340	680*	13

1. TECHNICAL DATA - SHCA

SHCA-aircooler with AC-motor

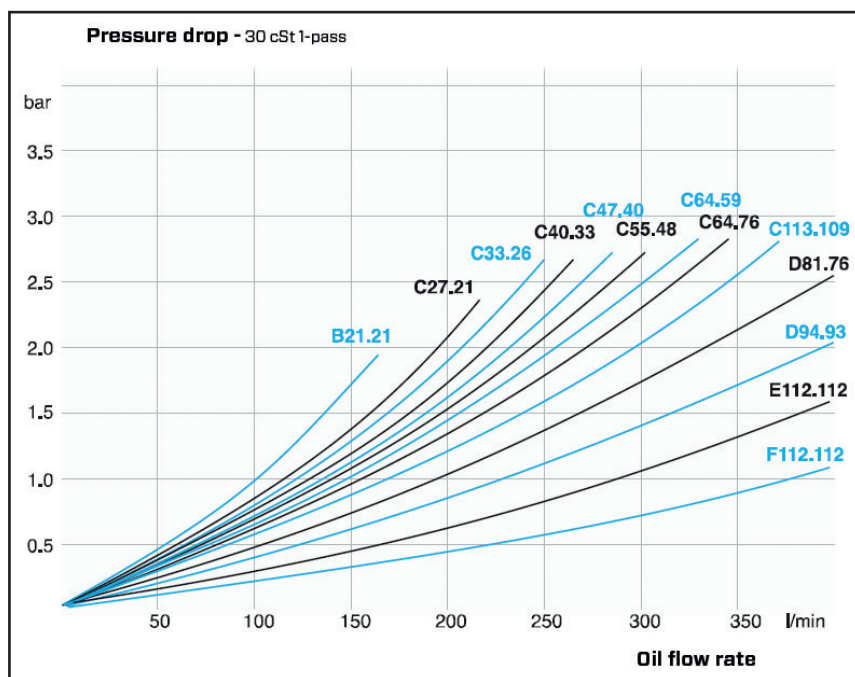
SERVI SHCA standard sizes			Noise level LpA dB (A) 1m*	Pole-Pow- er [kW]	Mass [kg]	B	F	H	J	L	A	E	G	
SHCA	D81.76-8	3-phase	73	8-0.75	85	870	508	900	G2"	510	585	380	730*	13
SHCA	D81.76-6	3-phase	78	6-1.50	86	870	508	900	G2"	510	585	380	730*	13
SHCA	D81.76-4	3-phase	84	4-2.20	87	870	508	900	G2"	510	585	380	730*	13
SHCA	D94.93-8	3-phase	78	8-1.50	140	1025	518	1053	G2"	800	830	410	780*	14
SHCA	D94.93-6	3-phase	85	6-2.20	150	1025	518	1053	G2"	800	830	410	780*	14
SHCA	C113.109-8	3-phase	84	8-2.20	165	1190	600	1220	G2"	800	990	415	830*	14
SHCA	C113.109-6	3-phase	90	6-5.50	175	1190	600	1220	G2"	800	990	415	830*	14
SHCA	E112.112-8	3-phase	82	8-2.20	225	1190	600	1220	SAE2"	800	982	460	880*	14
SHCA	E112.112-6	3-phase	89	6-5.50	245	1190	600	1220	SAE2"	800	982	460	880*	14
SHCA	F112.112-4	3-phase	92	4-7.50	260	1190	600	1220	SAE	800	982	460	910	14

* Dimension „G“ variable acc. motordesign

** 1- and 3-phase motor as external rotor

Other cooler types / dimensions upon request

Noise level tolerance +/- 3 dB(A)



3-phase motor

IP55, Insulation class F
temperature class B

* 1- and 3-phase motor as external rotor

IP44, Insulation class B
temperature class B

Max. oil temperature [Tmax]

120 °C

Max. oil pressure

26 bar
(Max 24 bar from 94.93 and up)

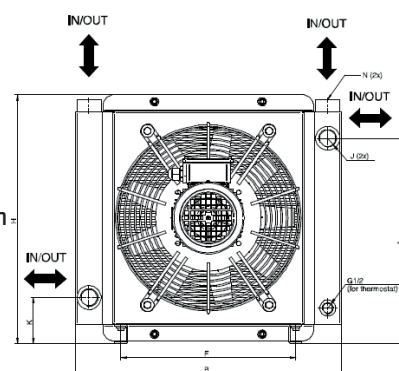
Special HCAF: The Flex-Design => with in and outlets in all directions => for flexible connection

New: High Efficiency Range HCAE: => significant better cooling efficiency!

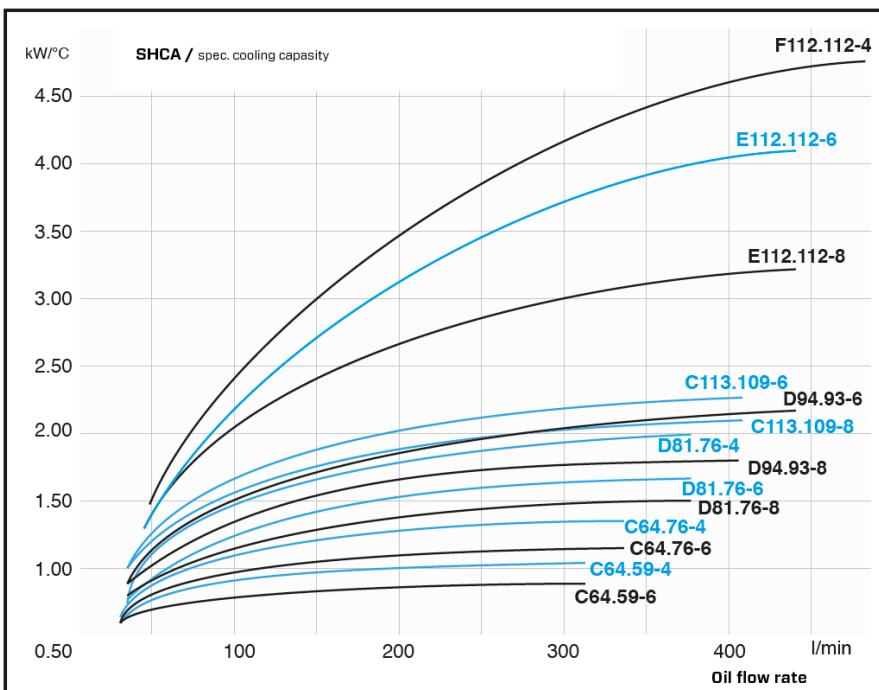
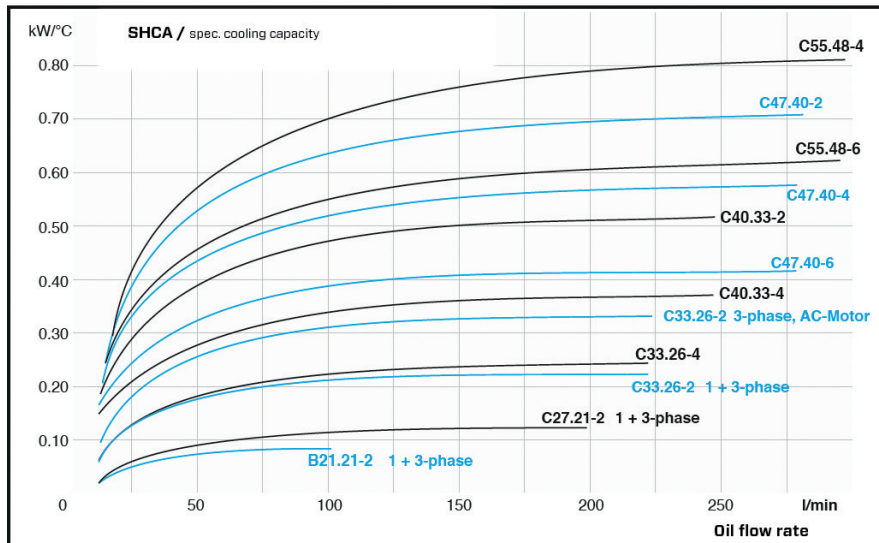
Selection of cooler:

The pressure drop can be determined for each type by using the oil flow rate based on a viscosity of 30cst. For other viscosities please ask our application engineers.

The specific cooling capacity (y-axis) can be determined with the oil flow rate (x-axis) and the intersection of the cooler type. In order to get the actual cooling capacity it has to be multiplied with the temperature-difference of the max. oil temperature (= cooler inlet) and the max. air temperature suctioned to the cooler.



1. TECHNICAL DATA - SHCA



Example:

Max. oil temperature: 70 °C

Max. air temperature: 30 °C

($\Delta t = 40$ °C temperature difference)

Oil flow rate: 300 l/min

For cooler type E112.112-8 with spec. cooling capacity of 3,0 kW / °C (acc. chart) multiplied by $\Delta t = 40$ °C results a cooling capacity of 120 kW.

To calculate thermal dissipation loss or cooling power we provide support in any case!

The characteristic curves are based on data of typical hydraulic oil at 60 °C and can differ due to other physical figures.

Please note that dust, dirt or circulating air can cause a loss of capacity. Therefore consider some safety or contact a Hennlich Cooling technician!

Motor type plate has to be noted as well. For higher temperatures up to 250 °C compact solutions are going to be provided.

Higher pressure rates upon request.

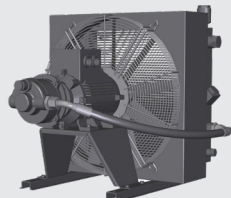
If water/glycol is used, the cooling characteristics are better.

Please send us the mixture and the technical data or fill in and send us the technical questionnaire on our website: www.hennlich.at

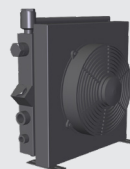
Other types:



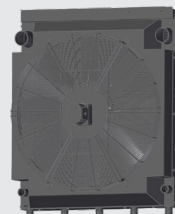
SHCH with hydraulic motor



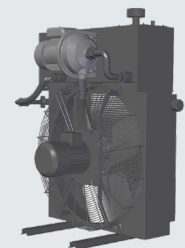
SHCP with AC-Motor + pump



SHCD with 12/24VDC



SHCC for diesel engines

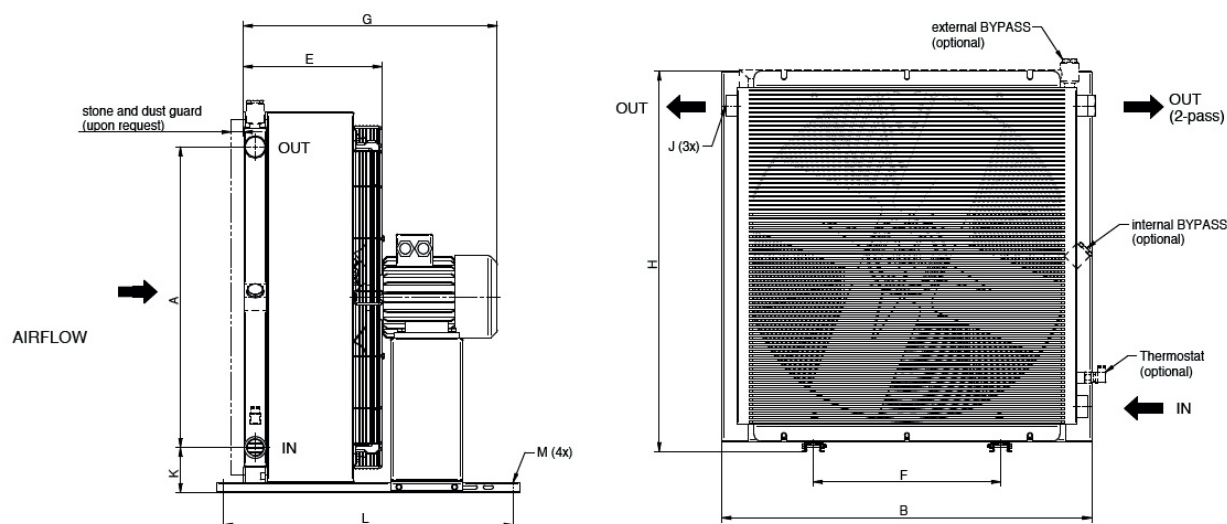


SHCS cooling systems

1. TECHNICAL DATA - SHCA

MATERIAL

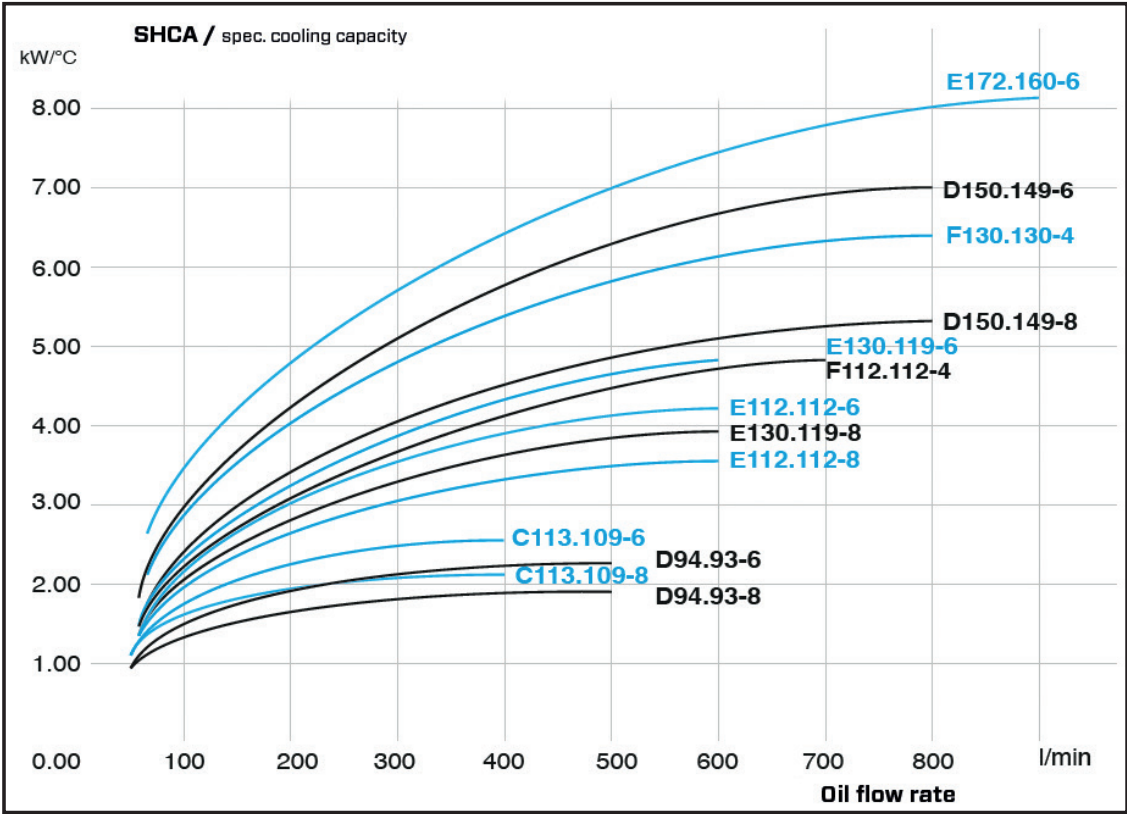
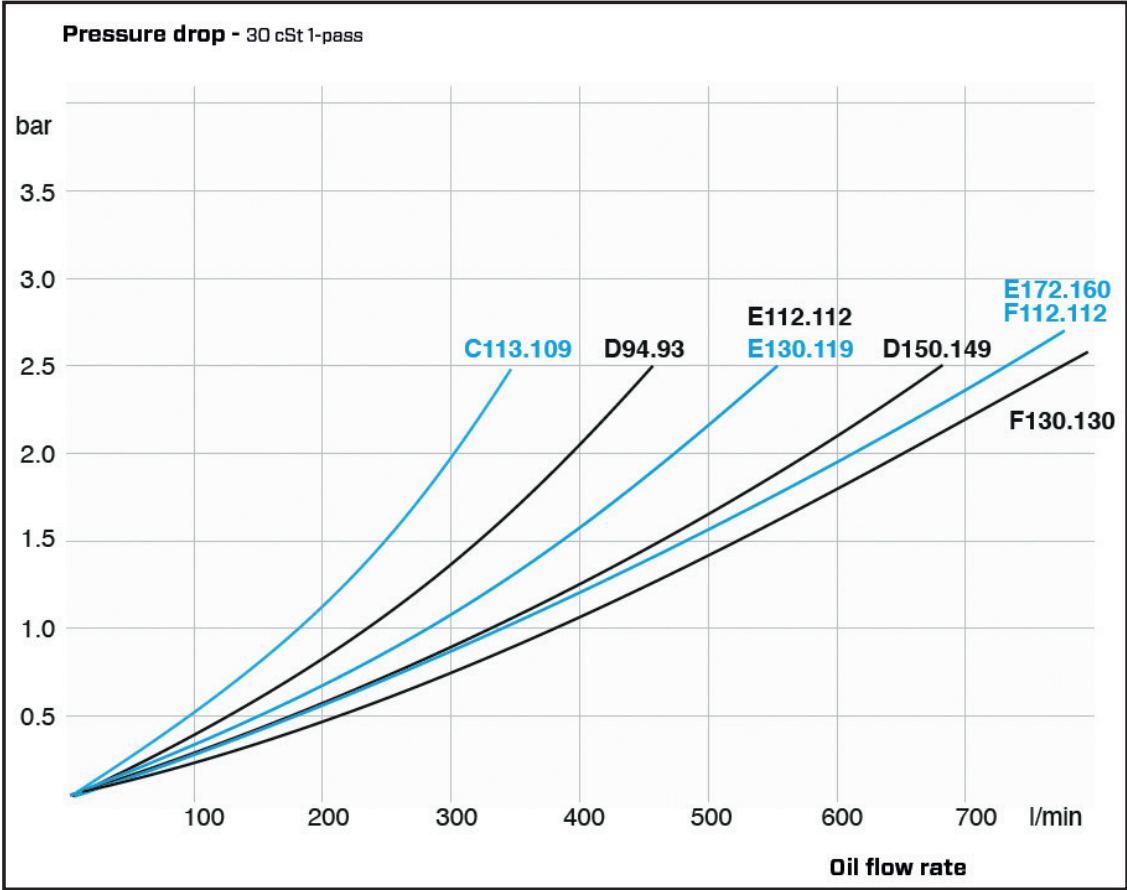
Cooling element	Aluminium (copper or stainless steel upon request)
Air fan	Glass fibre reinforced plastic (PAG/PPG)
Sheet metall parts	C-steel powder coated
Protection grid	C-steel galvanised (Cr-VI-free)
Main parts	black color RAL 9005 (excl. air fan, grid and motor)



SERVI SHCA standard sizes		Noise level LpA dB (A) 1m*	Pole-Pow- er [kW]	Mass [kg]	B	F	H	J	L	A	E	G	
SHCA	D94.93-8 3-phase	78	8-1.50	140	1025	518	1053	G2"	800	830	410	780*	14
SHCA	D94.93-6 3-phase	85	6-2.20	150	1025	518	1053	G2"	800	830	410	780*	14
SHCA	C113.109-8 3-phase	84	8-2.20	165	1190	600	1220	G2"	800	990	415	830*	14
SHCA	C113.109-6 3-phase	90	6-5.50	175	1190	600	1220	G2"	800	990	415	830*	14
SHCA	E112.112-8 3-phase	82	8-2.20	225	1190	600	1220	SAE2"	800	982	460	880*	14
SHCA	E112.112-6 3-phase	89	6-5.50	245	1190	600	1220	SAE2"	800	982	460	880*	14
SHCA	F112.112-4 3-phase	90	4-7.50	285	1190	600	1220	SAE2"	800	982	485	910	14
SHCA	E130.119-8 3-phase	82	8-2.20	255	1300	600	1230	SAE2"	800	900	460	880*	14
SHCA	E130.119-6 3-phase	89	6-5.50	275	1300	600	1230	SAE2"	800	900	460	880*	14
SHCA	F130.130-4 3-phase	90	4-7.50	360	1300	600	1335	SAE3"	800	1000	465	900*	14
SHCA	D150.149-8 3-phase	85	8-4.00	390	1510	1420	1630	SAE2"	900	1390	470	1000	14
SHCA	D150.149-6 3-phase	92	6-11.00	430	1510	1420	1630	SAE2"	900	1390	470	960*	14
SHCA	E172.160-6 3-phase	93	6-11.00	540	1720	1420	1630	SAE2"	900	1390	500	1020	14

* Dimension „G“ variable acc. motordesign

Other cooler types / dimensions upon request. Noise level tolerance +/- 3 dB(A)



[illegible]

Cooler type	
SHCA	Air cooler with AC-motor
SHCAE	Air cooler as „High Efficiency“
SHCAF	Flex-design with AC-motor
SHCAX	Aircooler with ATEX-design
SHCAM	Aircooler with marine-design
Cooler size	
B21.21 to XXXX	acc. table
Pole quantity	
2	2-pole (3000 1/min)
4	4-pole (1500 1/min)
6	6-pole (1000 1/min)
8	8-pole (750 1/min)
Z	special
Motor voltage	
A	230/400V, 50 Hz / 3-phase
B	265/460V, 60 Hz / 3-phase
C	230V, 50/60 Hz / 1-phase
D	230/400V, 50 Hz; 265/460V, 60 Hz
E	500V, 50 Hz / 3-phase
F	400/690 V, 50 Hz / 3-phase
G	special voltage
Z	special motor
X	without motor
Bypass-accessories	
1XX	1-pass excl. bypass valve)
2XX	standard 2-pass
3XX	standard 3-pass
5XX	2-pass with accesories
X2X	bypass valve (2bar)
X5X	bypass valve (5bar)
XX4	thermostat 40°
XX5	thermostat 50°
XX6	thermostat 60°
XX7	thermostat 70°
XX8	thermostat 80°
XX9	thermostat 90°
X25	with internal thermal-bypass (2 bar, 50 °C)
Internal codes	
TSS	internal codes
Internal codes	
Z	Options for stone and dust guard, painting, filter, accessories, ...

