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HGZ7 — Two-Stage Compressors

Type	Number of cylinders	Displacement 50 Hz (1450 rpm)		Displacement 60Hz (1,740 rpm)		Voltage [1]	Electrical data: Max. Working current [2]	Electrical data: Max. Power consumption [2]	Electrical data: Starting current (rotor locked)		Weight	Oil charge
		m^3/h		m^3/h			A	kW	A		kg	
		LP**	HP**	LP**	HP**		Δ / Y		Δ	Y		Ltr.
							PW1+2*		PW1 / PW1+2*			
HGZ7/1620-4 R448A/R449A HGZX7/1620-4 R404A HGZX7/1620-4 R410A HGZ7/1620-4 R22	6	93.70	46.90	112.50	56.20	3)	50	27.0	175	269	294	4.5
HA34e/215-4 HA34e/255-4 HA34e/315-4 HA34e/380-4	6	107.60	53.80	129.10	64.60	3)	55	30.0	175	269	291	4.5
HA34e/215-4 HA34e/255-4 HA34e/315-4 HA34e/380-4	6	122.40	61.20	146.90	73.40	3)	68	36.0	232	357	289	4.5

*PW = Part Winding, motors for part winding start 1 = first part winding 2 = second part winding ** LP = low pressure HP = high pressure

Oil sump heater 230 V - 1 - 50 / 60 Hz (option)

- Permanently set version, installation in immersion sleeve

Explanations

1) Tolerance (± 10 %) relates to the mean value of the voltage range. Other voltages and current types on request.

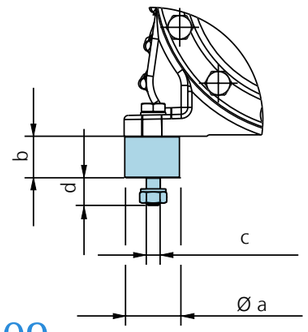
2) • The specifications for max. power consumption apply for 50 Hz operation. For 60 Hz operation, the specifications have to be multiplied by the factor 1.2. The max. working current remains unchanged.
• Take account of the max. operating current / max. power consumption when designing contactors, leads and fuses. Switches: Service category AC3

3) 380 – 420 V Y/YY - 3 - 50 Hz PW
440 – 480 V Y/YY - 3 - 60 Hz PW
PW = Part Winding, motors for part winding start (no start unloaders required)
Winding ratios: 50 % / 50 %

Dimensions for anti-vibration pad

Type	Ø a	b	c	d
HGZ7	50	30	M10	25

Dimensions in mm



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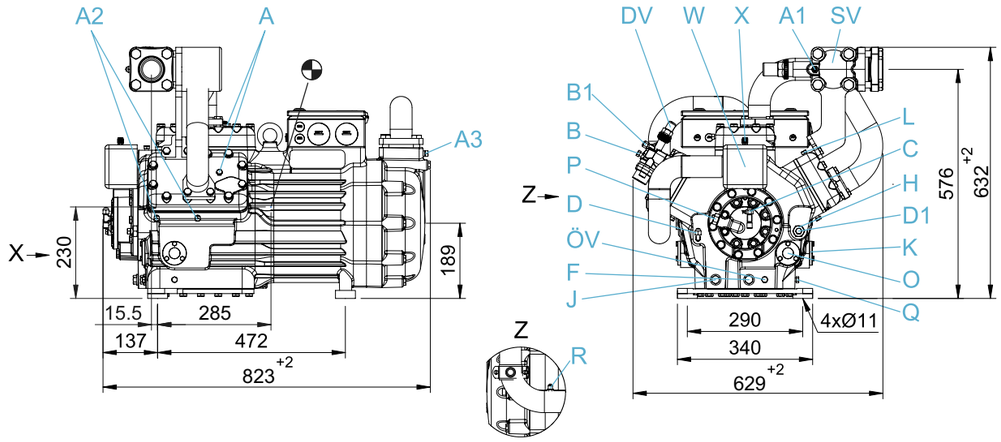
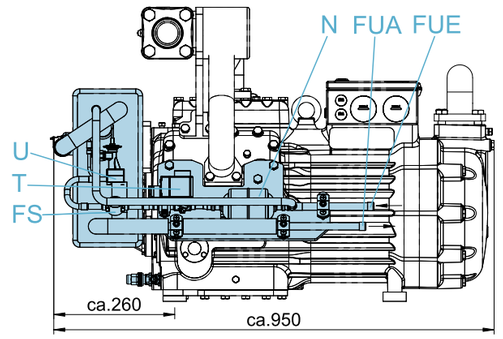
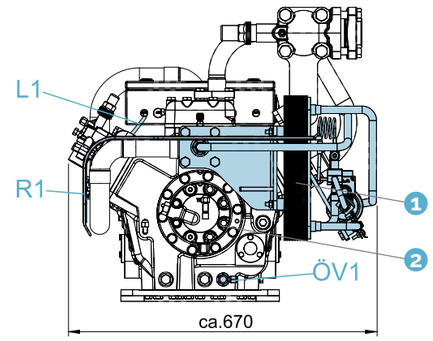
HGZ7 - Series — Liquid subcooler with accessories supplied separately



HGZ7 - Option — Liquid subcooler with complete accessories directly mounted onto the compressor



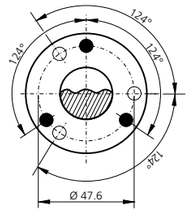


1 Liquid subcooler with accessories 2 Oil service valve

Dimensions in mm
Center of gravity

Connections see page 109
Rigid fixing without anti-vibration pad
Dimensions for view X see below

View X



Possibility to connect to oil level regulator

HGZ7

- ● Three-hole connection for oil level regulator of brands ESK, AC+R, CARLY (3 x M 6 x 10 deep)
- ○ Three-hole connection for oil level regulator of brand TRAXOIL (3 x M 6 x 10 deep)

Dimensions in mm

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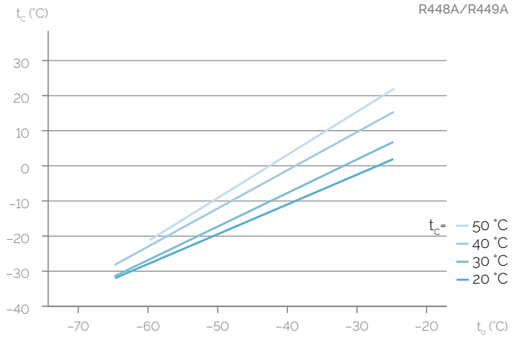
Subcooling temperature

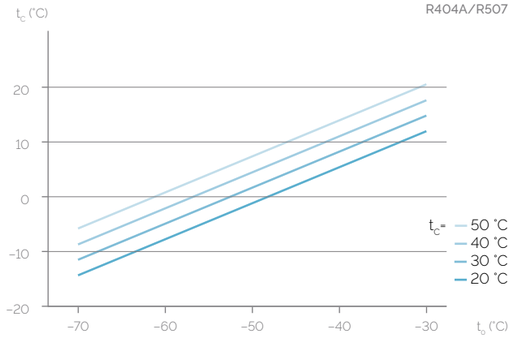
Defined with the help of the diagram by approximately calculating the subcooling temperature arising in the relevant operating conditions (to/tc).

Subcooling temperature calculation diagram for the intermediate cooler outlet

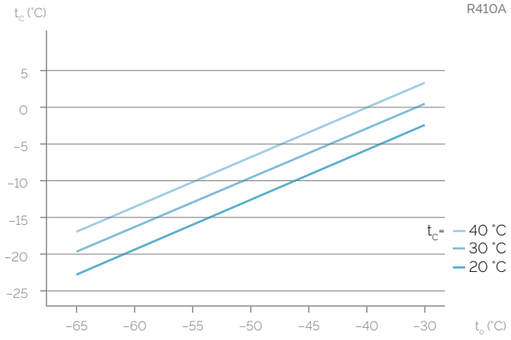
R448A/R449A



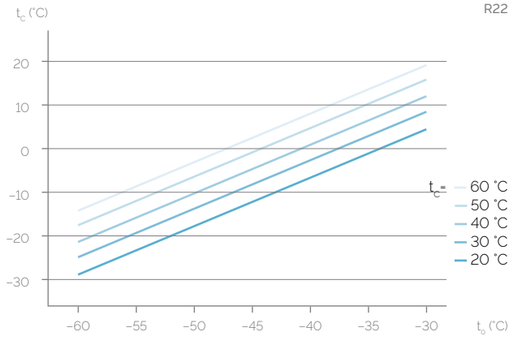
R404A/R507



R410A



R22



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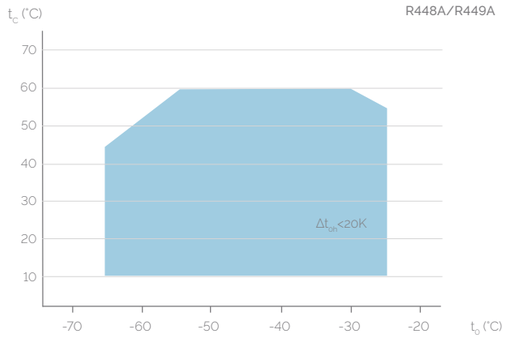
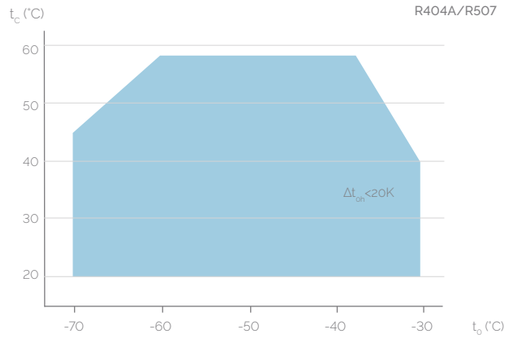
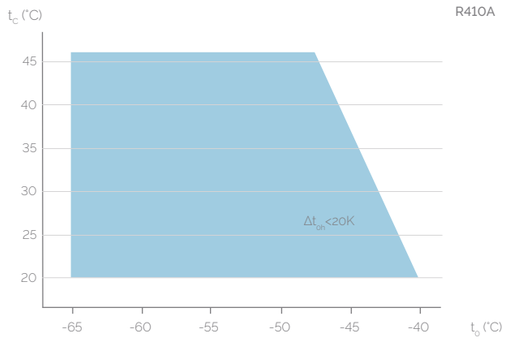
R448A/R449A



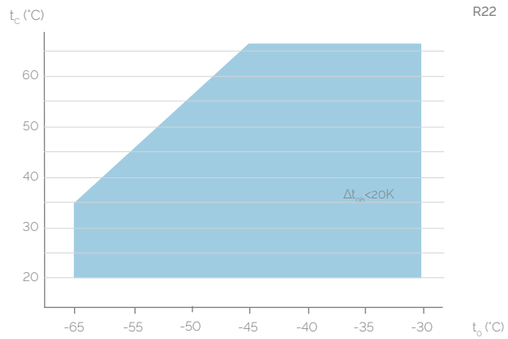
R404A/R507



R410A



R22



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

Application range

Max. permissible operating pressure (LP/HP) [1]: 19/28 bar
[1] LP = low pressure, HP = high pressure

Notes

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Performance data

The stated performance values are based on 10 K suction gas superheat with liquid subcooling, operating at 50 Hz.

Performance data were compiled for R404A and R507.
The base values are the data for R404A.

Conversion factor für 60 Hz = 1.2

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R448A | 50 Hz

Type	Cond. temp. °C		Cooling capacity Q_o [W] Evaporating temperature °C -30	-35	-40	-45	-50	-55	-60	Power consumption P_e [kW]
HGZX7/1620-4	30	Q	30500	25000	19900	15500	11700	8650	6420	
		P	17.10	15.50	13.90	12.30	10.80	9.51	8.32	
	40	Q	28900	23700	19000	14900	11400	8460	6360	
		P	19.10	17.20	15.40	13.60	12.00	10.40	9.06	
	50	Q	27000	22300	18000	14200	10900	8260	6330	
		P	21.00	19.00	17.00	15.10	13.20	11.50	9.95	
HGZX7/1860-4	30	Q	35100	28700	22900	17800	13500	9930	7370	
		P	19.70	17.80	15.90	14.10	12.40	10.90	9.56	
	40	Q	33100	27200	21800	17100	13000	9720	7300	
		P	21.90	19.80	17.70	15.70	13.80	12.00	10.40	
	50	Q	31000	25600	20600	16300	12500	9480	7270	
		P	24.20	21.80	19.60	17.30	15.20	13.20	11.40	
HGZX7/2110-4	30	Q	39900	32600	26000	20200	15300	11300	8380	
		P	22.40	20.20	18.10	16.10	14.10	12.40	10.80	
	40	Q	37700	31000	24800	19400	14800	11100	8310	
		P	24.90	22.50	20.20	17.80	15.60	13.60	11.80	
	50	Q	35200	29100	23500	18500	14200	10800	8260	
		P	27.50	24.90	22.30	19.70	17.30	15.00	13.00	

R449A | 50 Hz

Type	Cond. temp. °C		Cooling capacity Q_o [W] Evaporating temperature °C -30	-35	-40	-45	-50	-55	-60	Power consumption P_e [kW]
HGZX7/1620-4	30	Q	30500	24900	19900	15500	11700	8660	6430	
		P	17.00	15.40	13.80	12.30	10.80	9.49	8.31	
	40	Q	28800	23700	19000	14900	11400	8470	6370	
		P	19.00	17.20	15.40	13.60	11.90	10.40	9.05	
	50	Q	26900	22200	17900	14100	10900	8260	6340	
		P	20.90	18.90	17.00	15.00	13.20	11.50	9.93	
HGZX7/1860-4	30	Q	35000	28600	22900	17800	13500	9950	7390	
		P	19.60	17.70	15.90	14.10	12.40	10.90	9.55	
	40	Q	33000	27200	21800	17100	13000	9730	7320	
		P	21.80	19.70	17.60	15.60	13.70	11.90	10.30	
	50	Q	30800	25500	20600	16200	12500	9490	7280	
		P	24.00	21.80	19.50	17.30	15.10	13.20	11.40	
HGZX7/2110-4	30	Q	39800	32500	26000	20200	15300	11400	8400	
		P	22.30	20.20	18.10	16.00	14.10	12.40	10.80	
	40	Q	37600	30900	24800	19400	14800	11100	8330	
		P	24.80	22.40	20.10	17.80	15.60	13.60	11.80	
	50	Q	35100	29000	23400	18500	14200	10800	8280	
		P	27.40	24.80	22.20	19.60	17.20	15.00	12.90	

R404A/R507 | 50 Hz

Type	Cond. temp. °C		Cooling capacity Q_o [W] Evaporating temperature °C -30	-35	-40	-45	-50	-55	-60	-65	-70	Power consumption P_e [kW]
HGZX7/1620-4	30	Q	34869	28471	23098	18628	14936	11899	9394	7296	5482	
		P	21.17	19.41	17.63	15.84	14.05	12.31	10.61	8.99	7.46	
	40	Q	33437	27315	22181	17910	14380	11467	9047	6997	5192	
		P	23.42	21.42	19.40	17.39	15.41	13.48	11.61	9.84	8.17	
	50	Q	-	25860	20950	16866	13484	10680	8332	6315	-	
		P	-	23.49	21.24	19.02	16.84	14.72	12.68	10.75	-	
HGZX7/1860-4	30	Q	40042	32694	26525	21391	17152	13665	10787	8378	6294	
		P	24.31	22.29	20.24	18.18	16.14	14.13	12.19	10.32	8.56	
	40	Q	38397	31367	25471	20567	16514	13169	10390	8035	5962	
		P	26.90	24.60	22.28	19.97	17.70	15.48	13.34	11.30	9.38	
	50	Q	-	29696	24057	19367	15484	12265	9568	7252	-	
		P	-	26.98	24.39	21.84	19.33	16.90	14.56	12.35	-	
HGZX7/2110-4	30	Q	45550	37191	30173	24334	19511	15544	12271	9530	7160	
		P	27.66	25.36	23.03	20.69	18.36	16.08	13.86	11.74	9.74	
	40	Q	43679	35681	28974	23396	18785	14980	11819	9140	6782	
		P	30.60	27.98	25.34	22.72	20.13	17.61	15.17	12.85	10.67	
	50	Q	-	33780	27366	22031	17614	13952	10884	8249	-	
		P	-	30.69	27.75	24.84	21.99	19.23	16.57	14.04	-	

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R410A | 50 Hz

Type	Cond. temp. °C		Cooling capacity Q_o [W] Evaporating temperature °C -45	-50	-55	-60	-65	Power consumption P_e [kW]
HGZX7/1620-4	30	Q	25354	19967	15285	11396	8385	
		P	22.89	20.80	18.67	16.43	14.00	
	50	Q	-	19131	14630	10868	7930	
		P	-	22.87	20.63	18.25	15.68	
HGZX7/1860-4	30	Q	29182	22859	17530	13136	9614	
		P	26.28	23.89	21.44	18.87	16.08	
	50	Q	-	21959	16774	12508	9101	
		P	-	26.26	23.68	20.96	18.00	
HGZX7/2110-4	30	Q	33195	26003	19941	14943	10937	
		P	29.90	27.17	24.39	21.46	18.29	
	50	Q	-	24980	19082	14229	10352	
		P	-	29.87	26.94	23.84	20.48	

R449A | 50 Hz

Type	Cond. temp. °C		Cooling capacity Q_o [W] Evaporating temperature °C -30	-35	-40	-45	-50	-55	-60	Power consumption P_e [kW]
HGZX7/1620-4	30	Q	29711	24214	19448	15365	11921	9070	6765	
		P	18.26	16.81	15.40	14.03	12.70	11.41	10.16	
	40	Q	29059	23630	18930	14914	11537	8753	-	
		P	20.23	18.52	16.86	15.23	13.64	12.10	-	
	50	Q	28355	22992	18360	14411	11100	-	-	
		P	22.30	20.33	18.41	16.53	14.69	-	-	
	60	Q	27598	22302	17736	13854	-	-	-	
		P	24.47	22.25	20.07	17.93	-	-	-	
HGZX7/1860-4	30	Q	30088	27881	22408	17669	13664	10393	7855	
		P	20.97	19.31	17.69	16.11	14.58	13.10	11.67	
	40	Q	33296	27181	21800	17153	13240	10061	-	
		P	23.23	21.27	19.36	17.49	15.67	13.89	-	
	50	Q	32434	26411	21122	16567	12746	-	-	
		P	25.60	23.35	21.14	18.98	16.68	-	-	
	60	Q	31503	25572	20375	15912	-	-	-	
		P	28.09	25.54	23.04	20.59	-	-	-	
HGZX7/2110-4	30	Q	38811	31632	25406	20072	15573	11848	8837	
		P	23.86	21.96	20.12	18.33	16.59	14.91	13.27	
	40	Q	37960	30868	24729	19483	15071	11433	-	
		P	26.43	24.20	22.02	19.89	17.82	15.80	-	
	50	Q	37040	30035	23984	18825	14500	-	-	
		P	29.13	26.56	24.05	21.59	19.18	-	-	
	60	Q	36050	29133	23169	18097	-	-	-	
		P	31.96	29.06	26.21	23.42	-	-	-	

* Performance data 50 Hz relative to 10 K suction gas superheat with liquid subcooling

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