Type: Semi-hermetic twin screw compressors
Producer: Frascold
Series: R-TSH

Model: R-TSH8-40 120 Y

Technical data

Nominal motor power [kW/HP]:	30 / 40
Displacement [m³/h]:	120
Capacity control [%]:	100 - 50
RPM [min^{-1}]:	2960
Weight net [kg]:	180
Weight gross [kg]:	198

Electrical data

	PWS
Power supply [V/~/Hz]:	400/3/50
Locked rotor current [A]:	194
Locked rotor current (D.O.L. - ΔΔ) [A]:	322
Max. operating current [A]:	68
Max. power input [kW]:	43

Connections

	milimeters	inches
Suction line:	54	2 1/8
Discharge line:	42	1 5/8

R22

Cooling capacity [W]

t_c \ t_e	12.5	10	5	0	-5	-10	-15	-20
30	-	147 810	125 380	105 690	88 510	73 550	60 600	49 450
40	147 170	135 680	114 770	96 420	80 420	66 510	54 470	44 120
50	131 340	120 790	101 610	84 790	70 140	57 420	46 430	3 699
55	124 390	114 310	95 960	79 890	65 900	53 760	43 280	34 280

Power input [kW]

t_c \ t_e	12.5	10	5	0	-5	-10	-15	-20
30	-	27.86	26.56	25.20	23.89	22.65	21.67	21.15
40	32.91	32.16	30.53	28.91	27.48	26.33	25.73	26.14
50	38.05	37.35	35.73	34.01	32.54	31.30	30.60	30.96
55	45.13	43.97	41.52	39.16	37.23	35.87	35.55	37.36

Current [A]

t_c \ t_e	12.5	10	5	0	-5	-10	-15	-20
30	-	43.40	41.30	39.10	37.10	35.30	33.90	33.20
40	51.90	50.60	47.80	45.10	42.80	40.90	39.90	40.60
50	59.80	58.80	56.40	53.80	51.30	49.10	47.90	48.50
55	70.20	68.40	64.80	61.40	58.70	56.60	56.20	58.80

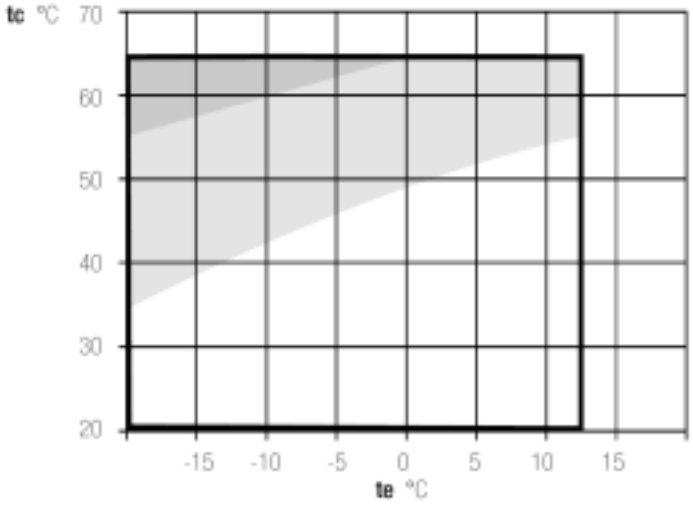
Mass flow [kg/h]

t_c \ t_e	12.5	10	5	0	-5	-10	-15	-20
30	-	2 945	2 525	2 153	1 825	1 536	1 283	1 061
40	3 141	2 912	2 493	2 120	1 792	1 502	1 248	1 026
50	3 050	2 823	2 405	2 034	1 707	1 419	1 165	944
55	3 029	2 802	2 384	2 013	1 685	1 397	1 143	921

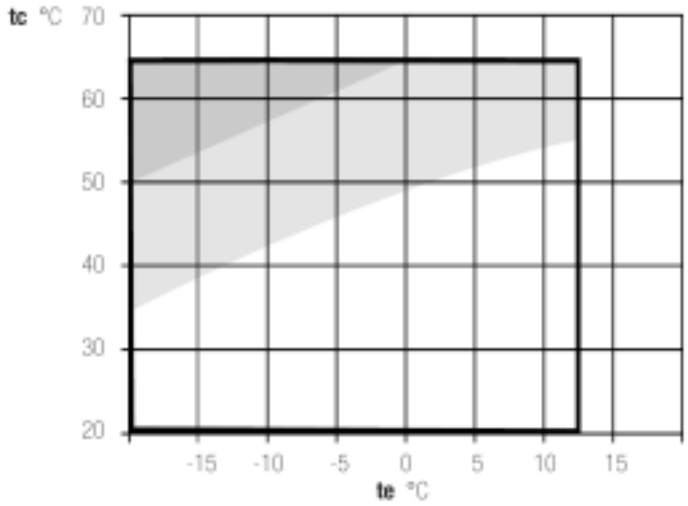
Operating conditions: suction gas overheating 10K, 0K subcooling

Application limits

Full load operation



Capacity control



With oil cooler
With liquid injection and oil cooler

t_c - Condensing temperature [ºC]
t_e - Evaporating temperature [ºC]

R134a

Cooling capacity [W]

t_c \ t_e	20	15	10	5	0	-5	-10
30	-	-	-	-	69 040	56 210	45 340
40	-	108 960	90 650	74 850	61 280	49 710	39 920
50	114 920	95 760	79 190	64 920	52 680	42 280	33 510
55	98 300	81 220	66 490	53 840	43 040	33 880	26 190

Power input [kW]

t_c \ t_e	20	15	10	5	0	-5	-10
30	-	-	-	-	16.60	15.93	15.23
40	-	20.34	19.78	19.06	18.29	17.57	17.01
50	25.62	25.02	24.15	23.15	22.15	21.24	20.54
55	32.06	31.03	29.84	28.69	27.72	27.13	27.30

Current [A]

t_c \ t_e	20	15	10	5	0	-5	-10
30	-	-	-	-	27.40	26.60	25.90
40	-	32.10	31.30	30.40	29.40	28.60	27.90
50	39.80	38.80	37.50	36.00	34.60	33.30	32.30
55	50.40	48.60	46.60	44.70	43.10	42.20	42.50

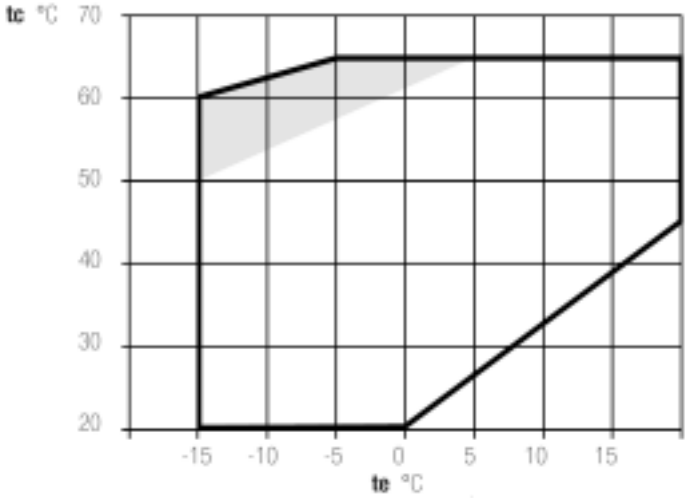
Mass flow [kg/h]

t_c \ t_e	20	15	10	5	0	-5	-10
30	-	-	-	-	1 499	1 244	1 023
40	-	2 448	2 075	1 748	1 461	1 210	993
50	2 798	2 379	2 008	1 683	1 397	1 148	932
55	2 683	2 267	1 900	1 577	1 294	1 046	831

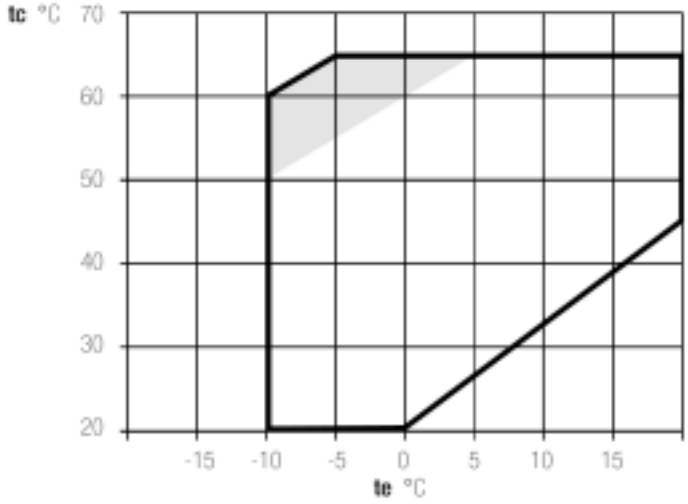
Operating conditions: suction gas overheating 10K, 0K subcooling

Application limits

Full load operation



Capacity control



With oil cooler
With liquid injection and oil cooler

t_c - Condensing temperature [ºC]
t_e - Evaporating temperature [ºC]

R404A/R507

Cooling capacity [W]

t_c \ t_e	7.5	5	0	-5	-10	-15	-20
30	143 540	131 280	109 550	90 750	74 900	61 050	49 320
40	122 050	111 290	92 260	75 840	62 020	50 000	39 870
50	98 480	89 260	72 970	58 980	47 270	37 140	28 680
55	87 600	79 180	64 340	51 640	41 030	31 910	24 320

Power input [kW]

t_c \ t_e	7.5	5	0	-5	-10	-15	-20
30	23.49	24.02	24.68	24.79	24.60	24.07	23.37
40	32.46	32.41	32.03	31.25	30.33	29.20	28.11
50	41.39	40.77	39.29	37.46	35.61	33.61	31.85
55	46.92	45.95	43.87	41.53	39.21	36.82	34.71

Current [A]

t_c \ t_e	7.5	5	0	-5	-10	-15	-20
30	36.50	37.30	38.30	38.50	38.20	37.40	36.30
40	51.10	51.10	50.40	49.00	47.50	45.60	43.80
50	64.60	63.70	61.60	59.00	56.20	53.20	50.10
55	72.80	71.40	68.30	64.80	61.50	58.10	54.90

Mass flow [kg/h]

t_c \ t_e	7.5	5	0	-5	-10	-15	-20
30	3 747	3 462	2 951	2 501	2 114	1 767	1 465
40	3 619	3 339	2 836	2 392	2 011	1 668	1 371
50	3 449	3 169	2 667	2 223	1 841	1 498	1 200
55	3 404	3 124	2 622	2 178	1 795	1 451	1 153

Operating conditions: suction gas overheating 10K, 0K subcooling

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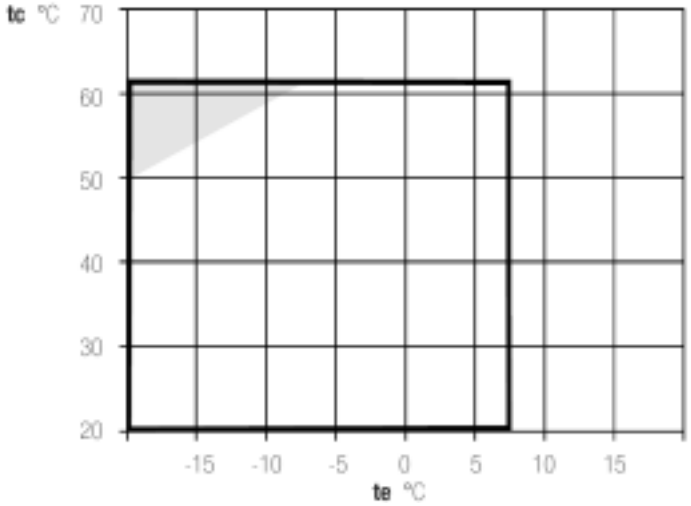
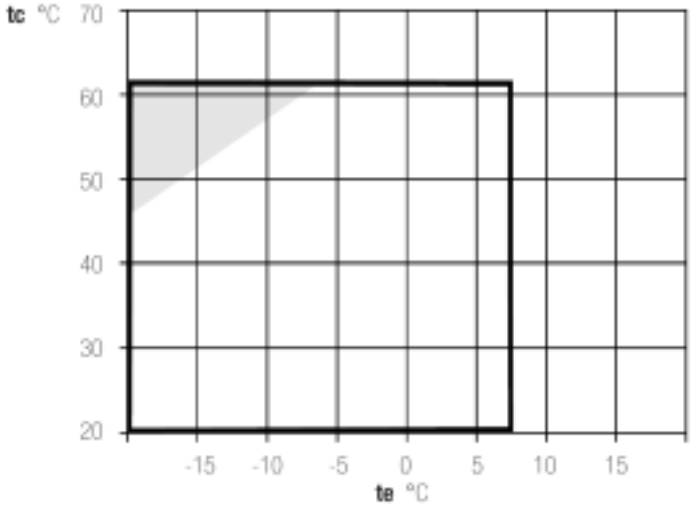
Application limits

Full load operation

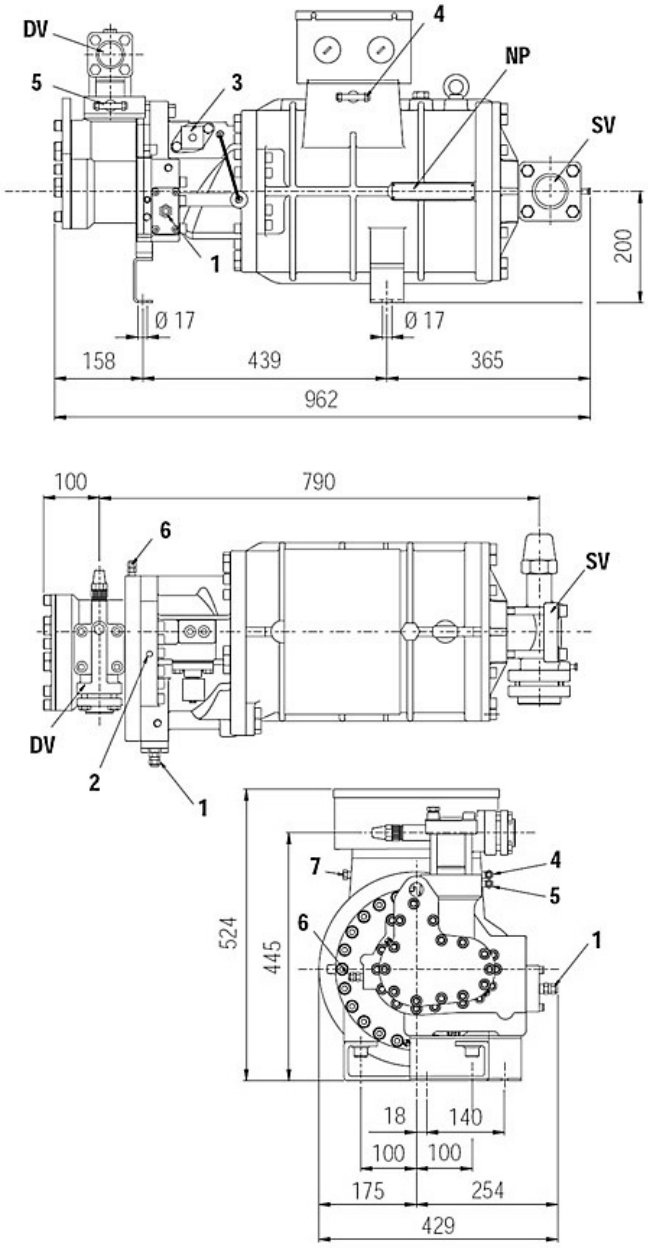


Capacity control



With oil cooler
With liquid injection and oil cooler

t_c - Condensing temperature [ºC]
t_e - Evaporating temperature [ºC]



1:	connection of oil return valve	2:	max. discharge temperature sensor
3:	capacity control valve	4:	low pressure plug
5:	high pressure plug	6:	liquid injection/economizer conn.
7:	plug for low pressure connection	8:	plug for high pressure connection
DV:	discharge valve	NP:	name plate
SV:	suction valve		

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