

Type: Semi-hermetic twin screw compressors

Producer: Frascold

Series: R-TSL

Model: R-TSL1-90 300 Y ECO

Technical data

Nominal motor power [kW/HP]:	66,5 / 90
Displacement [m ³ /h]:	300
Capacity control [%]:	100 - 75 - 50
RPM [min ⁻¹]:	2960
Weight net [kg]:	340
Weight gross [kg]:	375

Electrical data

	<u>PWS</u>
Power supply [V/~/Hz]:	400/3/50
Locked rotor current [A]:	398
Locked rotor current (D.O.L. - $\Delta\Delta$) [A]:	653
Max. operating current [A]:	170
Max. power input [kW]:	104

Connections

	<u>millimeters</u>	<u>inches</u>
Suction line:	80	3 1/8
Discharge line:	67	2 5/8

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Cooling capacity [W]

$t_c \setminus t_e$	-20	-25	-30	-35	-40	-45	-50
30	150 330	123 930	100 990	81 120	63 960	49 320	36 930
40	142 160	116 660	94 450	75 180	58 490	44 220	-
50	132 220	107 670	86 230	67 580	51 390	-	-
55	128 450	104 240	83 070	64 620	48 590	-	-

Power input [kW]

$t_c \setminus t_e$	-20	-25	-30	-35	-40	-45	-50
30	56.99	52.26	47.67	43.47	39.85	37.14	36.25
40	63.94	58.84	54.06	49.86	46.49	44.62	-
50	72.85	67.24	62.30	58.25	55.57	-	-
55	81.22	74.84	69.38	65.31	63.43	-	-

Current [A]

$t_c \setminus t_e$	-20	-25	-30	-35	-40	-45	-50
30	98.20	91.50	85.10	79.50	74.80	70.60	69.30
40	108.40	100.90	94.00	88.10	83.50	81.00	-
50	121.70	113.40	105.90	100.00	96.20	-	-
55	134.40	124.70	116.50	110.40	107.60	-	-

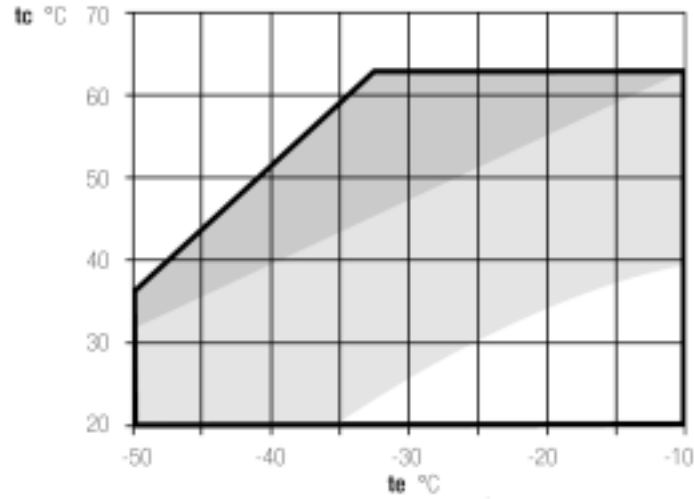
Mass flow [kg/h]

$t_c \setminus t_e$	-20	-25	-30	-35	-40	-45	-50
30	2 860	2 342	1 896	1 513	1 185	908	675
40	2 776	2 261	1 817	1 435	1 108	832	-
50	2 650	2 140	1 699	1 320	996	-	-
55	2 609	2 098	1 657	1 277	952	-	-

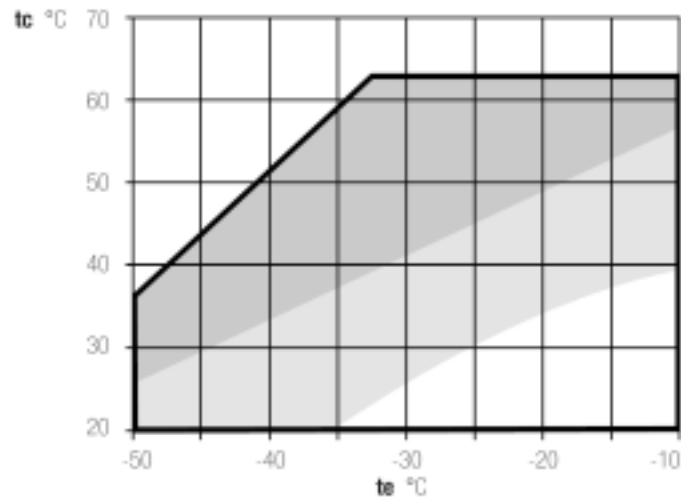
Operating conditions: suction gas overheating 10K, 10K subcooling

Application limits

Full load operation



Capacity control



- With oil cooler
- With liquid injection and oil cooler

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]

R404A/R507

Cooling capacity [W]

$t_c \setminus t_e$	-20	-25	-30	-35	-40	-45
30	162 970	135 200	111 580	90 630	72 750	56 250
40	149 330	123 140	100 550	80 570	63 500	47 530
50	132 500	108 440	87 670	69 080	-	-
55	129 310	105 240	84 570	-	-	-

Power input [kW]

$t_c \setminus t_e$	-20	-25	-30	-35	-40	-45
30	61.15	58.11	55.08	51.87	48.90	45.98
40	74.06	69.72	65.62	61.45	57.57	53.52
50	89.20	83.44	78.08	72.65	-	-
55	98.93	92.16	85.97	-	-	-

Current [A]

$t_c \setminus t_e$	-20	-25	-30	-35	-40	-45
30	104.20	99.80	95.50	90.90	86.80	82.90
40	123.50	117.00	110.90	104.70	99.00	93.20
50	146.80	137.90	129.60	121.40	-	-
55	160.70	150.10	140.60	-	-	-

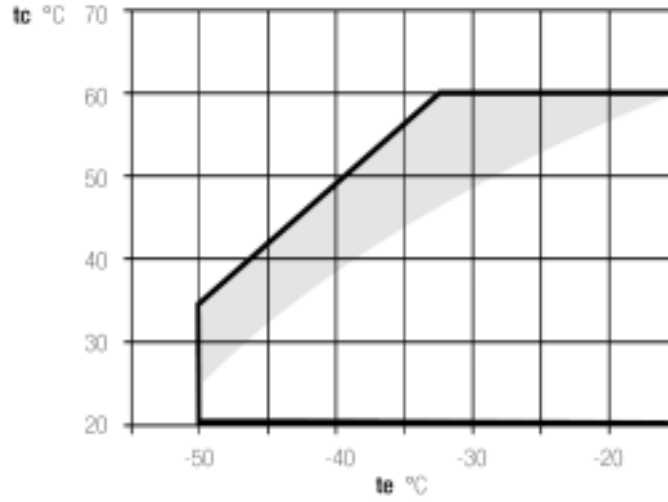
Mass flow [kg/h]

$t_c \setminus t_e$	-20	-25	-30	-35	-40	-45
30	4 011	3 311	2 717	2 195	1 755	1 339
40	3 828	3 132	2 542	2 022	1 583	1 168
50	3 546	2 873	2 301	1 798	-	-
55	3 480	2 807	2 235	-	-	-

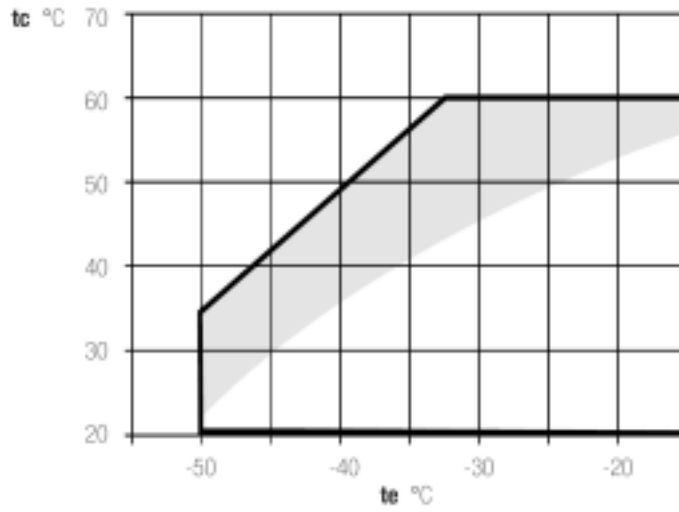
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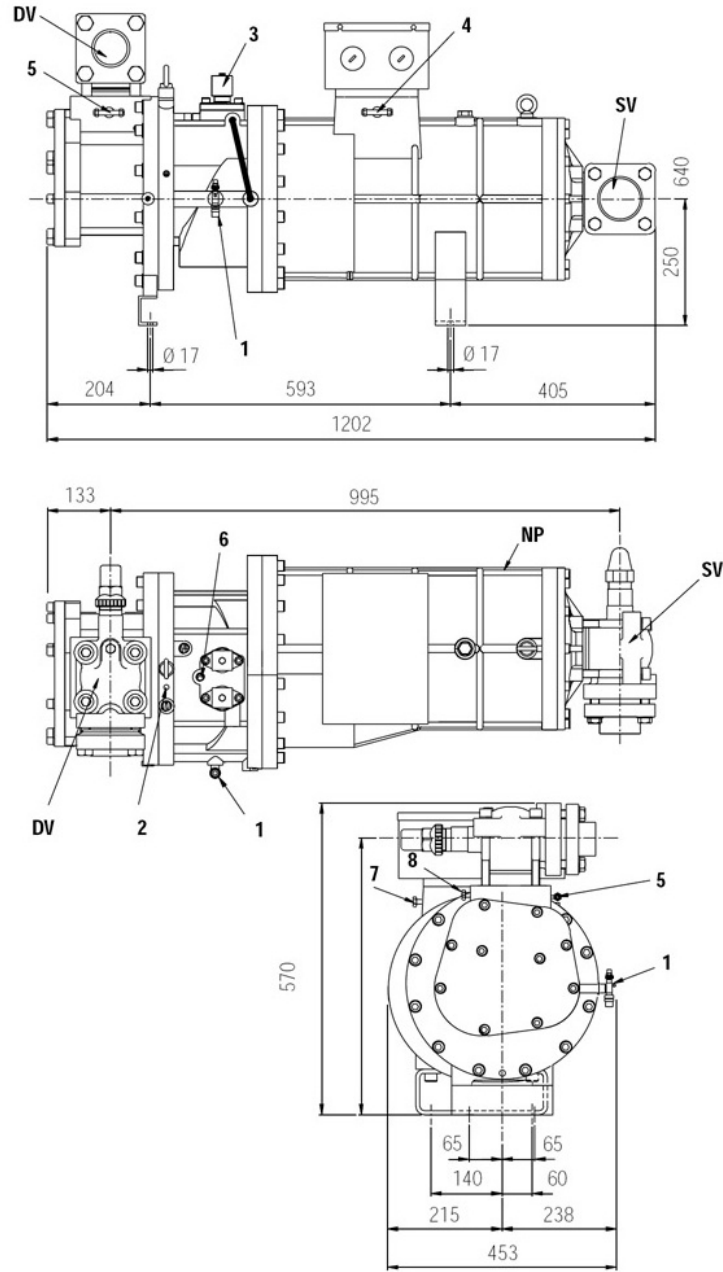
Capacity control



- With oil cooler
- With liquid injection and oil cooler

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]



- 1: connection of oil return valve
 3: capacity control valve
 5: high pressure plug
 7: plug for low pressure connection
 DV: discharge valve
 SV: suction valve

- 2: max. discharge temperature sensor
 4: low pressure plug
 6: liquid injection/economizer conn.
 8: plug for high pressure connection
 NP: name plate

