

Type: Semi-hermetic twin screw compressors

Producer: Frascold

Series: R-TSL

Model: R-TSL1-30 120 Y ECO

Technical data

Nominal motor power [kW/HP]:	22 / 30
Displacement [m ³ /h]:	120
Capacity control [%]:	100 - 50
RPM [min ⁻¹]:	2960
Weight net [kg]:	175
Weight gross [kg]:	193

Electrical data

	<u>PWS</u>
Power supply [V/~/Hz]:	400/3/50
Locked rotor current [A]:	152
Locked rotor current (D.O.L. - $\Delta\Delta$) [A]:	270
Max. operating current [A]:	51
Max. power input [kW]:	33

Connections

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

R22

Cooling capacity [W]

$t_c \setminus t_e$	-20	-25	-30	-35	-40	-45	-50
30	61 880	50 820	41 200	32 870	25 670	19 530	14 320
40	57 680	47 150	37 980	30 020	23 120	17 220	-
50	52 960	42 950	34 190	26 570	19 960	-	-
55	51 330	41 450	32 800	25 270	18 710	-	-

Power input [kW]

$t_c \setminus t_e$	-20	-25	-30	-35	-40	-45	-50
30	23.00	20.95	19.01	17.28	15.85	14.90	14.91
40	25.93	23.77	21.77	20.04	18.70	18.08	-
50	29.24	26.84	24.69	22.90	21.68	-	-
55	32.49	29.81	27.45	25.64	24.72	-	-

Current [A]

$t_c \setminus t_e$	-20	-25	-30	-35	-40	-45	-50
30	35.20	32.20	29.50	27.10	25.10	23.80	23.80
40	39.50	36.30	33.40	30.90	29.00	28.20	-
50	44.60	40.90	37.70	35.00	33.30	-	-
55	49.70	45.50	41.80	39.10	37.70	-	-

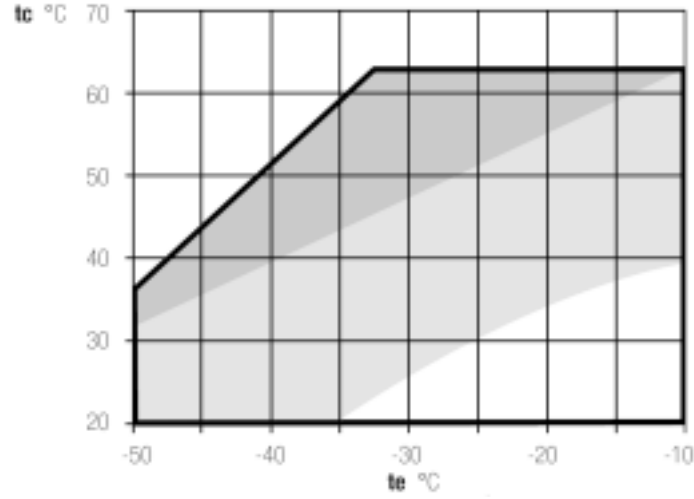
Mass flow [kg/h]

$t_c \setminus t_e$	-20	-25	-30	-35	-40	-45	-50
30	1 177	960	774	613	476	360	262
40	1 126	914	731	573	438	324	-
50	1 062	853	674	519	387	-	-
55	1 043	834	654	499	367	-	-

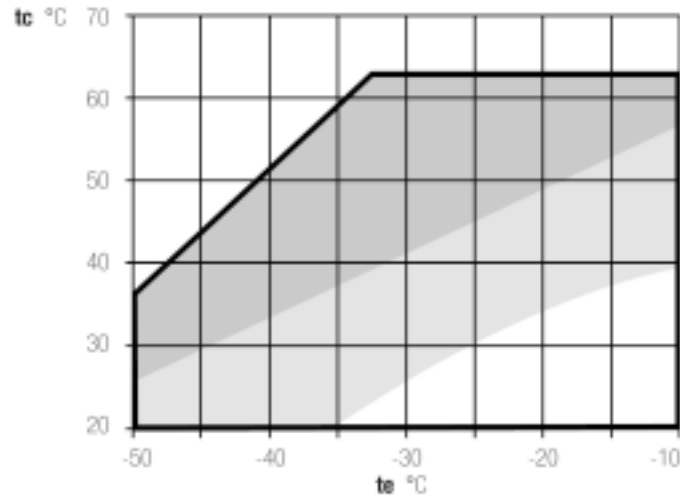
Operating conditions: suction gas overheating 10K, 10K subcooling

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	63 890	52 940	43 640	35 380	28 330	21 830
40	58 530	48 210	39 320	31 450	24 730	18 440
50	46 820	38 270	30 880	24 270	-	-
55	45 660	37 100	29 750	-	-	-

Power input [kW]

$t_c \setminus t_e$	-20	-25	-30	-35	-40	-45
30	24.74	23.52	22.30	21.00	19.79	18.57
40	30.29	28.34	26.52	24.73	23.16	21.75
50	32.48	29.64	28.82	32.19	-	-
55	35.04	33.03	34.12	-	-	-

Current [A]

$t_c \setminus t_e$	-20	-25	-30	-35	-40	-45
30	37.80	35.90	34.20	32.30	30.60	28.90
40	46.20	43.20	40.40	37.70	35.40	33.40
50	49.60	45.20	43.90	49.20	-	-
55	53.20	50.00	51.80	-	-	-

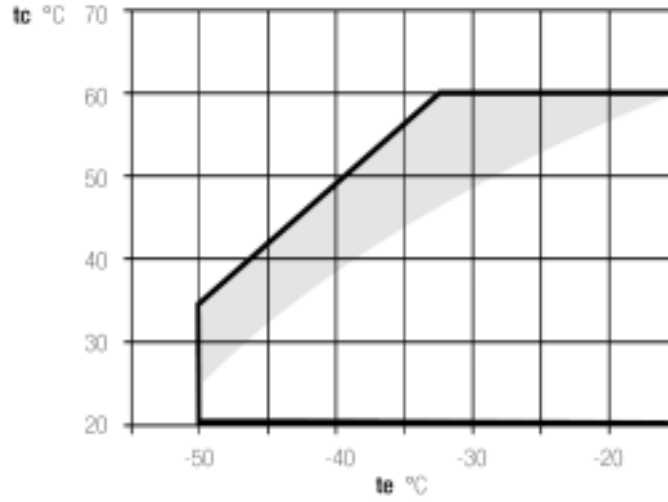
Mass flow [kg/h]

$t_c \setminus t_e$	-20	-25	-30	-35	-40	-45
30	1 572	1 296	1 063	857	683	520
40	1 500	1 226	994	789	616	453
50	1 253	1 014	811	632	-	-
55	1 229	990	786	-	-	-

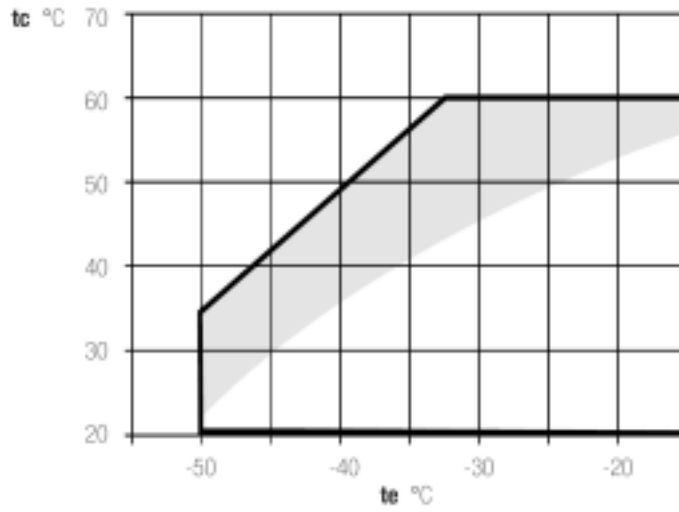
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Application limits

Full load operation



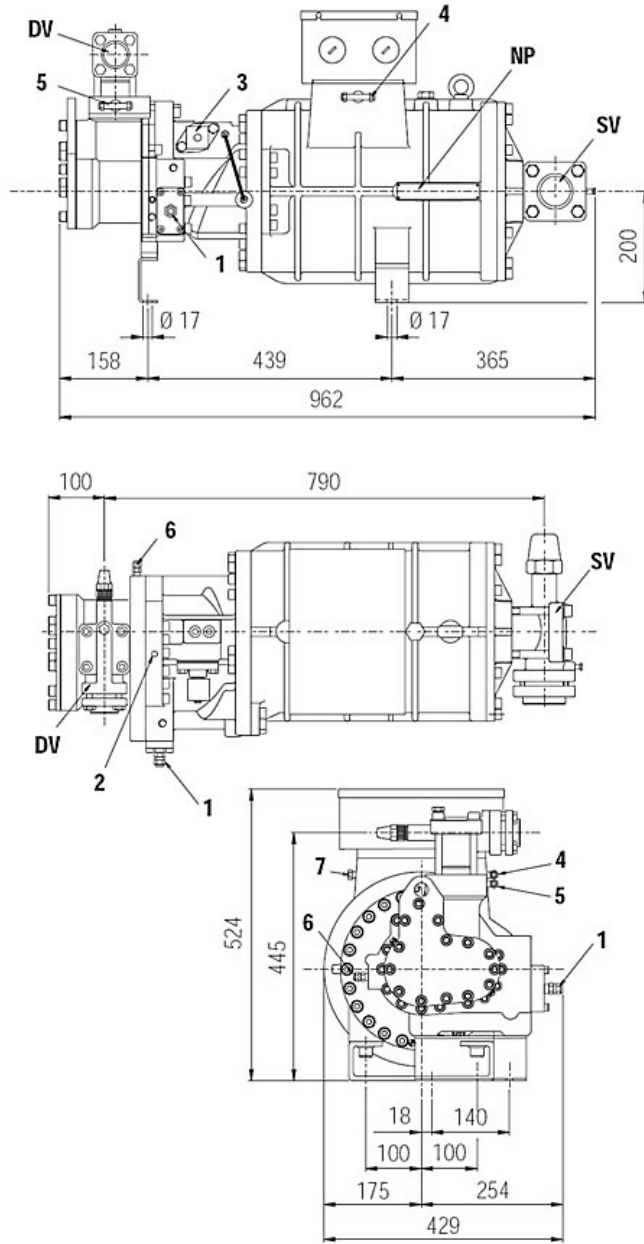
Capacity control



- With oil cooler
- With liquid injection and oil cooler

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]



- 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

