

**Type: Semi-hermetic twin screw compressors**

**Producer: Frascold**

**Series: R-TSL**

## **Model: R-TSL1-90 300 Y**

### **Technical data**

|                                   |               |
|-----------------------------------|---------------|
| Nominal motor power [kW/HP]:      | 66,5 / 90     |
| Displacement [m <sup>3</sup> /h]: | 300           |
| Capacity control [%]:             | 100 - 75 - 50 |
| RPM [min <sup>-1</sup> ]:         | 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. - ΔΔ) [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]

| $t_c \setminus t_e$ | -10     | -15     | -20     | -25     | -30    | -35    | -40    | -45    | -50    |
|---------------------|---------|---------|---------|---------|--------|--------|--------|--------|--------|
| 30                  | 185 990 | 153 200 | 124 960 | 100 790 | 80 290 | 63 000 | 48 460 | 36 400 | 26 490 |
| 40                  | 167 900 | 137 690 | 111 700 | 89 480  | 70 650 | 54 790 | 41 490 | 30 460 | -      |
| 50                  | 149 060 | 121 460 | 97 750  | 77 520  | 60 410 | 46 010 | 33 970 | -      | -      |
| 55                  | 140 210 | 113 890 | 91 300  | 72 030  | 55 760 | 42 080 | 30 650 | -      | -      |

### Power input [kW]

| $t_c \setminus t_e$ | -10   | -15   | -20   | -25   | -30   | -35   | -40   | -45   | -50   |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 30                  | 59.48 | 55.30 | 50.94 | 46.55 | 42.39 | 38.64 | 35.54 | 33.64 | 34.14 |
| 40                  | 66.76 | 61.92 | 57.10 | 52.42 | 48.18 | 44.63 | 42.15 | 41.78 | -     |
| 50                  | 75.41 | 70.05 | 64.94 | 60.21 | 56.13 | 53.10 | 51.89 | -     | -     |
| 55                  | 84.77 | 78.29 | 72.32 | 66.98 | 62.72 | 60.07 | 60.44 | -     | -     |

### Current [A]

| $t_c \setminus t_e$ | -10    | -15    | -20    | -25    | -30    | -35    | -40    | -45   | -50   |
|---------------------|--------|--------|--------|--------|--------|--------|--------|-------|-------|
| 30                  | 101.80 | 95.80  | 89.60  | 83.60  | 78.10  | 72.90  | 68.30  | 65.60 | 66.30 |
| 40                  | 112.60 | 105.40 | 98.30  | 91.70  | 85.80  | 81.10  | 77.80  | 77.30 | -     |
| 50                  | 125.60 | 117.50 | 109.90 | 102.90 | 96.90  | 92.60  | 91.00  | -     | -     |
| 55                  | 139.90 | 130.00 | 120.90 | 113.00 | 106.60 | 102.70 | 103.20 | -     | -     |

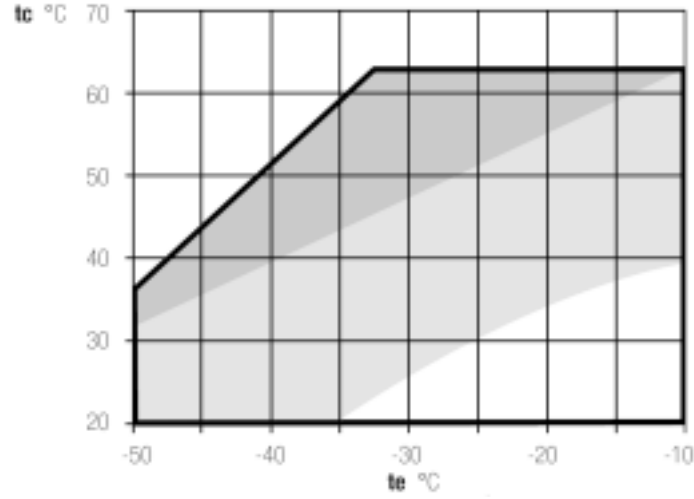
### Mass flow [kg/h]

| $t_c \setminus t_e$ | -10   | -15   | -20   | -25   | -30   | -35   | -40   | -45 | -50 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-----|-----|
| 30                  | 3 885 | 3 243 | 2 682 | 2 194 | 1 774 | 1 413 | 1 105 | 843 | 624 |
| 40                  | 3 793 | 3 155 | 2 598 | 2 114 | 1 696 | 1 338 | 1 030 | 770 | -   |
| 50                  | 3 683 | 3 048 | 2 494 | 2 012 | 1 596 | 1 238 | 931   | -   | -   |
| 55                  | 3 643 | 3 009 | 2 454 | 1 971 | 1 555 | 1 196 | 889   | -   | -   |

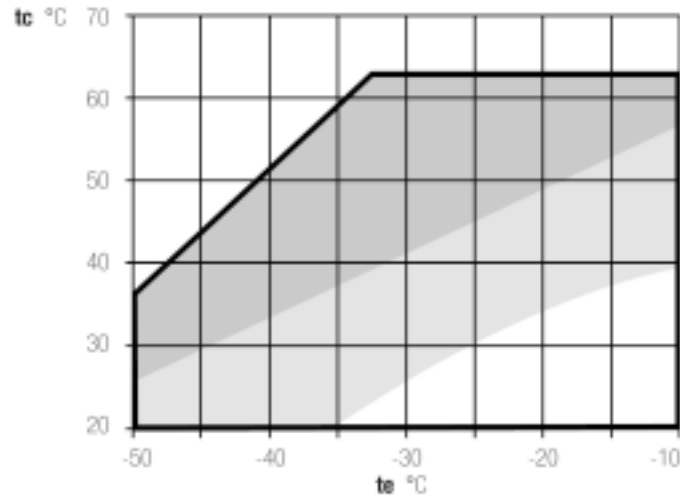
Operating conditions: suction gas overheating 10K, 0K subcooling

## Application limits

### Full load operation



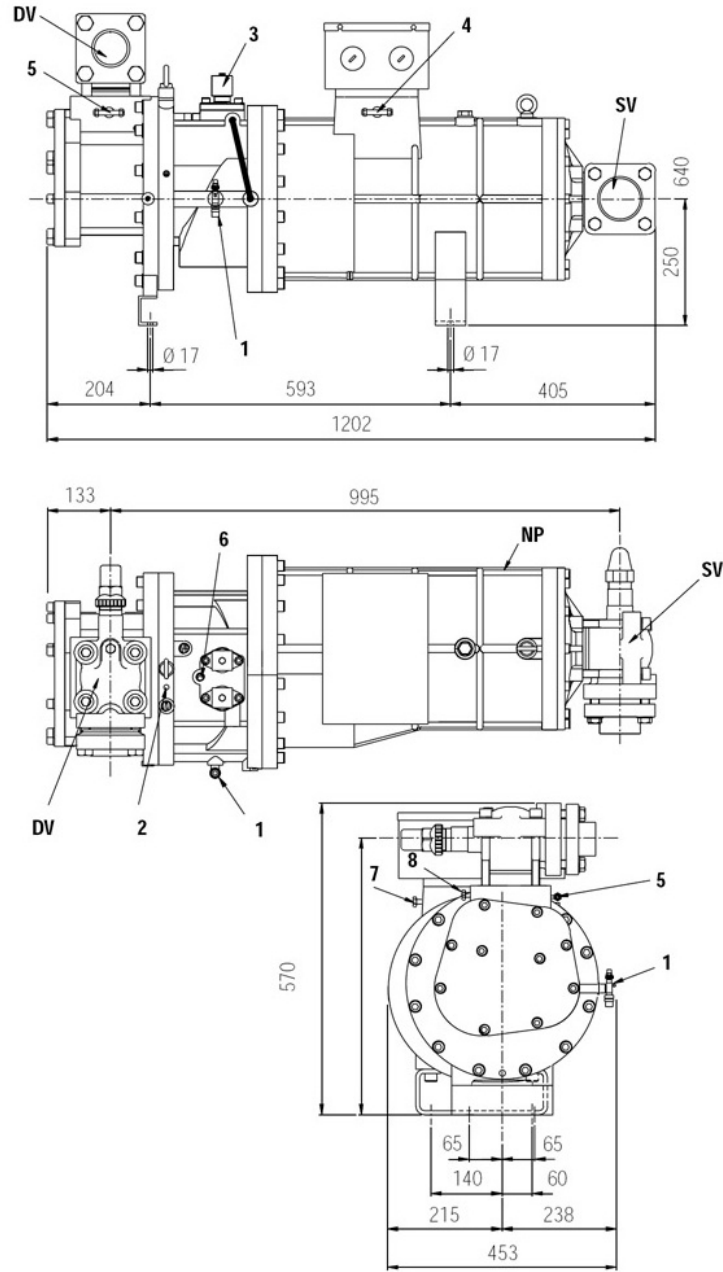
### Capacity control



- With oil cooler
- With liquid injection and oil cooler

$t_c$  - Condensing temperature [°C]

$t_e$  - Evaporating temperature [°C]



- |     |                                  |     |                                   |
|-----|----------------------------------|-----|-----------------------------------|
| 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                    |     |                                   |

