



Selection: 2-stage Semi-hermetic Reciprocating Compressors

Input Values

| | | | |
|-----------------------|-----------------|-------------------------|-------------|
| Compressor model | S6F-30.2Y | Suction gas temperature | 20,00 °C |
| Refrigerant | R404A | Useful superheat | 100% |
| Reference temperature | Dew point temp. | Power supply | 400V-3-50Hz |
| Operating mode | with sub cooler | | |

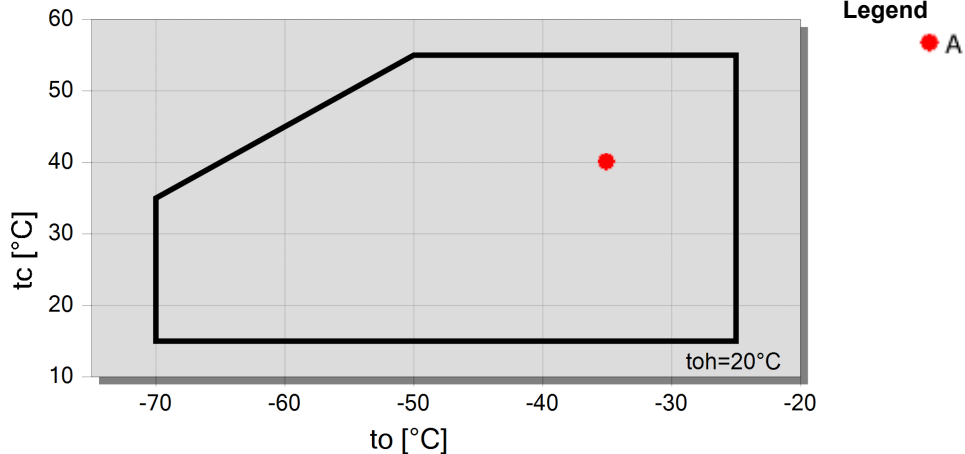
Result

| | | | |
|--------|--------------------|-------------|--------------------|
| Q [W] | Cooling capacity | COP [-] | COP/EER |
| Q* [W] | Cooling capacity * | COP* [-] | COP/EER * |
| P [kW] | Power input | mLP [kg/h] | Mass flow LP |
| I [A] | Current | pm [bar(a)] | Intermed. pressure |
| Qc [W] | Condenser capacity | | |

| tc | to | -25°C | -30°C | -35°C | -40°C | -45°C | -50°C | -55°C | -60°C |
|-------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 30°C | Q [W] | 43398 | 37364 | 31720 | 26476 | 21683 | 17403 | 13681 | 10525 |
| | Q* [W] | 38061 | 31728 | 26046 | 21007 | 16617 | 12884 | 9788 | 7281 |
| | P [kW] | 22,5 | 20,6 | 18,78 | 16,94 | 15,15 | 13,42 | 11,77 | 10,20 |
| | I [A] | 38,0 | 35,3 | 32,7 | 30,2 | 27,8 | 25,6 | 23,6 | 21,8 |
| | Qc [W] | 65931 | 58009 | 50495 | 43414 | 36830 | 30821 | 25446 | 20727 |
| | COP [-] | 1,93 | 1,81 | 1,69 | 1,56 | 1,43 | 1,30 | 1,16 | 1,03 |
| | COP* [-] | 1,69 | 1,54 | 1,39 | 1,24 | 1,10 | 0,96 | 0,83 | 0,71 |
| | mLP [kg/h] | 927 | 769 | 628 | 505 | 398 | 308 | 234 | 173,5 |
| | pm [bar(a)] | 6,87 | 6,01 | 5,20 | 4,46 | 3,78 | 3,17 | 2,64 | 2,17 |
| | 40°C | Q [W] | 41459 | 35708 | 30285 | 25259 | 20702 | 16663 | 13153 |
| Q* [W] | | 33796 | 28022 | 22889 | 18393 | 14532 | 11281 | 8592 | 6397 |
| P [kW] | | 25,2 | 23,1 | 21,0 | 18,96 | 16,95 | 15,00 | 13,14 | 11,37 |
| I [A] | | 41,8 | 38,8 | 35,8 | 32,9 | 30,2 | 27,6 | 25,2 | 23,1 |
| Qc [W] | | 66656 | 58807 | 51299 | 44217 | 37650 | 31666 | 26292 | 21515 |
| COP [-] | | 1,65 | 1,55 | 1,44 | 1,33 | 1,22 | 1,11 | 1,00 | 0,89 |
| COP* [-] | | 1,34 | 1,21 | 1,09 | 0,97 | 0,86 | 0,75 | 0,65 | 0,56 |
| mLP [kg/h] | | 924 | 762 | 619 | 496 | 390 | 302 | 230 | 170,7 |
| pm [bar(a)] | | 7,48 | 6,55 | 5,70 | 4,92 | 4,21 | 3,56 | 2,98 | 2,46 |
| 50°C | | Q [W] | 39476 | 33950 | 28813 | 24105 | 19850 | 16042 | 12634 |
| | Q* [W] | 28962 | 23983 | 19587 | 15764 | 12489 | 9713 | 7364 | |
| | P [kW] | 28,1 | 25,7 | 23,3 | 21,0 | 18,75 | 16,57 | 14,49 | |
| | I [A] | 45,9 | 42,5 | 39,1 | 35,8 | 32,6 | 29,7 | 26,9 | |
| | Qc [W] | 67542 | 59635 | 52139 | 45113 | 38602 | 32616 | 27127 | |
| | COP [-] | 1,41 | 1,32 | 1,24 | 1,15 | 1,06 | 0,97 | 0,87 | |
| | COP* [-] | 1,03 | 0,93 | 0,84 | 0,75 | 0,67 | 0,59 | 0,51 | |
| | mLP [kg/h] | 912 | 750 | 610 | 488 | 386 | 299 | 226 | |
| | pm [bar(a)] | 8,15 | 7,16 | 6,26 | 5,44 | 4,68 | 3,99 | 3,36 | |

-- No calculation possible (see message in single point selection)
 *According to EN12900 (20°C suction gas temp., 0K liquid subcooling)

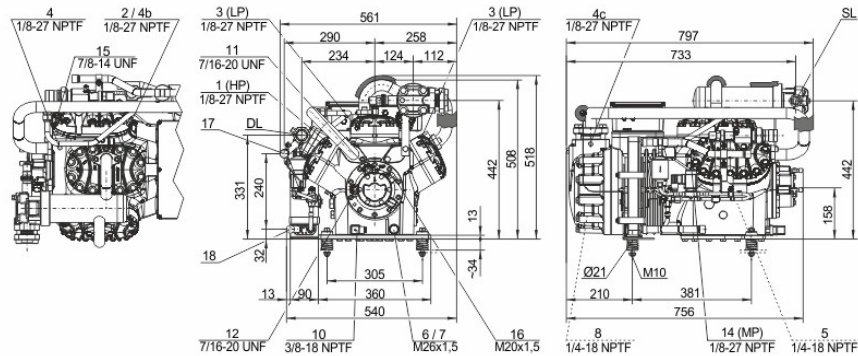
Application Limits S6F-30.2





Technical Data: S6F-30.2Y

Dimensions and Connections



Technical Data

Technical Data

| | |
|---------------------------------------|----------------------------------|
| Displacement (1450 RPM 50Hz) | 101.10 / 50.50 m ³ /h |
| Displacement (1750 RPM 60Hz) | 122.02 / 60.95 m ³ /h |
| No. of cylinder x bore LP/HP x stroke | 6 x 82/ 82 mm x 55 mm |
| Weight | 234 kg |
| Max. pressure (LP/MP/HP) | 19 / 19 / 28 bar |
| Connection suction line | 42 mm - 1 5/8" |
| Connection discharge line | 35 mm - 1 3/8" |
| Oil type R404A/R507A | BSE32 (Standard) |
| Oil type R448A/R449A | BSE32 (Standard) |
| Oil type R22 | B5.2 (Option) |

Motor data

| | |
|---------------------------------|------------------------|
| Motor voltage (more on request) | 380-420V PW-3-50Hz |
| Max operating current | 51.0 A |
| Winding ratio | 50/50 |
| Starting current (Rotor locked) | 135.0 A Y / 220.0 A YY |
| Max. Power input | 31,9 kW |

Extent of delivery (Standard)

| | |
|-------------------------------|--------------------------------|
| Motor protection | SE-B2 (Standard) |
| Enclosure class | IP54 (Standard), IP66 (Option) |
| Vibration dampers | Standard |
| TX valve for liquid injection | Standard |
| Sight glass | Standard |
| Filter Drier | Standard |
| Solenoid valve | Standard |
| Oil charge | 4.75 dm ³ |

Available Options

| | |
|--|------------------------------------|
| Crankcase heater | 140 W (Option) |
| Oil pressure monitoring | MP54 (Option), Delta P II (Option) |
| Oil service valve | Option |
| Discharge gas temperature sensor | Option |
| CIC (only for R22, instead of TX valve for LI) | Option |
| Liquid sub cooler (also mounted) | Option |



2-stage Semi-hermetic Reciprocating Compressors

Note

For R22 / R407F / R448A / R449A applications the CIC-system can be used instead of a thermostatic post-injection valve.
For R404A / R507A applications the use of the CIC-system is not recommended.

Condensing capacity

Condensing capacity: The condensing capacity can be calculated with or without heat rejection. This option can be set in the menu Program Optionen. The heat rejection is constantly 5% of the power consumption. The condensing capacity is to be found in the line Condensing cap. (with HR) resp. Condensing capacity.

Legend of connection positions according to "Dimensions":

- 1 High pressure connection (HP)
 - 2 Connection for discharge gas temperature sensor (HP) (for 4VE(S)-6Y .. 4NE(S)-20(Y) connection for CIC sensor as alternative)
 - 3 Low pressure connection (LP)
 - 4 CIC system: injection nozzle (LP)
 - 4b Connection for CIC sensor
 - 4c Connection for CIC sensor (MP / operation with liquid subcooler)
 - 5 Oil fill plug
 - 6 Oil drain
 - 7 Oil filter (magnetic screw)
 - 8 Oil return (oil separator)
 - 8* Oil return with NH₃ and insoluble oil
 - 9 Connection for oil and gas equalization (parallel operation)
 - 9a Connection for gas equalization (parallel operation)
 - 9b Connection for oil equalization (parallel operation)
 - 10 Oil heater connection
 - 11 Oil pressure connection +
 - 12 Oil pressure connection –
 - 13 Cooling water connection
 - 14 Intermediate pressure connection (MP)
 - 15 Liquid injection (operation without liquid subcooler and with thermostatic expansion valve)
 - 16 Connection for oil monitoring (opto-electrical oil monitoring "OLC-K1" or differential oil pressure switch "Delta-PII")
 - 17 Refrigerant inlet at liquid subcooler
 - 18 Refrigerant outlet at liquid subcooler
 - 19 Clamp space
 - 20 Terminal plate
 - 21 Maintenance connection for oil valve
 - 22 Pressure relief valve to the atmosphere (discharge side)
 - 23 Pressure relief valve to the atmosphere (suction side)
 - SL Suction gas line
 - DL Discharge gas line
- Dimensions can show tolerances according to EN ISO 13920-B.