

Selection: Semi-hermetic Reciprocating Compressors

Input Values

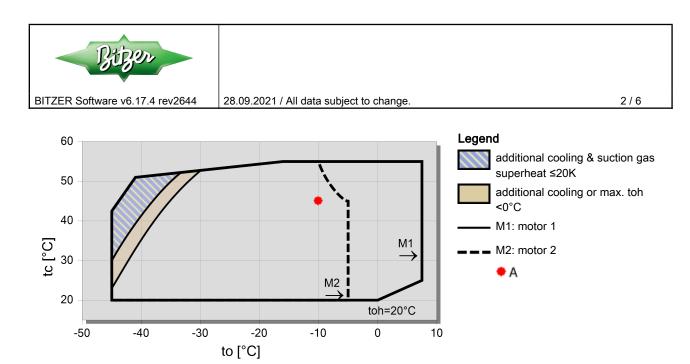
Compressor model Mode		(6H-25.2Y) Refrigeration and Air conditioning	Suction gas temperature Operating mode		20,00 °C Auto
Refrigerant Reference temperature Liq. subc. (in condenser) Result		R404A Dew point temp. 0 K	Power supply Capacity control Useful superheat		400V-3-50Hz 100% 100%
Q [W] Qu* [W] P [kW] I [A] Qc [W]	Cooling capacity Evaporator capacity Power input Current Condenser capacity		COP [-] m [kg/h] Op. th [°C]	COP/EER Mass flow Operating mode Discharge gas temp.	w/o cooling

tc	to	-5°C	-10°C	-15°C	-20°C	-25°C	-30°C	-35°C	-40°C
30°C	Q [W]	87943	72553	59256	47812	38014	29678	22638	16741
	Qu* [W]	87943	72553	59256	47812	38014	29678	22638	16741
	P [kW]	23,5	22,1	20,6	18,83	16,94	14,95	12,89	10,81
	I [A]	39,7	37,6	35,2	32,6	29,8	27,0	24,2	21,5
	Qc [W]	111443	94703	79836	66643	54955	44627	35531	27555
	COP [-]	3,74	3,28	2,88	2,54	2,24	1,99	1,76	1,55
	m [kg/h]	2209	1805	1462	1171	926	719	546	403
	Op.	Standard							
	th [°C]	70,7	77,4	84,5	92,1	100,2	109,1	119,0	130,1
40°C	Q [W] Qu* [W]	74665 74665	61562 61562	50196 50196	40375 40375	31933 31933	24718 24718	18595 18595	13438 13438
	P [kW]	27,2	25,2	23,0	20,7	18,28	15,83	13,36	10,92
	I [A]	45,5	42,3	38,9	35,4	31,8	28,2	24,8	21,7
	Qc [W]	101872	86750	73196	61060	50213	40544	31954	24357
	COP [-]	2,74	2,44	2,18	1,95	1,75	1,56	1,39	1,23
	m [kg/h]	2114	1723	1392	1111	873	672	503	362
	Op.	Standard							
	th [°C]	82,4	89,1	96,3	103,9	112,2	121,2	131,4	0
50°C	Q [W] Qu* [W]		50514 50514	41135 41135	32992 32992	25960 25960	19920 19920	14765 14765	10395 10395
	P [kW]		27,8	25,0	22,2	19,31	16,43	13,59	10,83
	I [A]		46,4	42,1	37,7	33,3	29,0	25,1	21,6
	Qc [W]		78300	66159	55178	45268	36350	28356	21223
	COP [-]		1,82	1,64	1,49	1,34	1,21	1,09	0,96
	m [kg/h]		1635	1317	1047	818	623	460	322
	Op.		Standard						
	th [°C]		101,1	108,3	116,0	124,3	133,5	0	0

-- No calculation possible (see message in single point selection)

*According to EN12900 (20°C suction gas temp., 0K liquid subcooling)

Application Limits 100% 6H-25.2



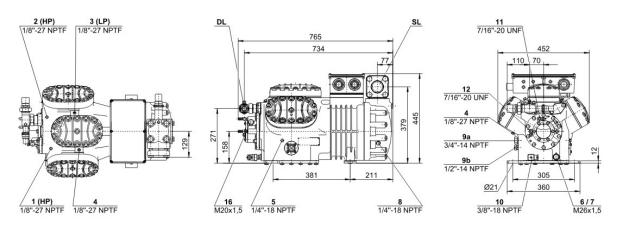


BITZER Software v6.17.4 rev2644 28.09.2021 / All data subject to change.

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Technical Data: (6H-25.2Y)

Dimensions and Connections



Technical Data

Displacement (1450 RPM 50Hz) 110,5 m³/h Displacement (1750 RPM 60Hz) 133,4 m³/h No. of cylinder x bore x stroke 6 x 70 mx x 55 mm Weight 224 kg Max. pressure (LP/HP) 19 / 28 bar Connection suction line 54 mm - 2 1/3" Connection cooling water R 3/4" Connection suction line Strome 2 (Standard) Oil type R 290/R1270 B5.2 (Standard) Oil type R 290/R1270 St0-20 Starting current 45.0 A Motor voltage (more on request) 380-420V PW-3-50Hz Max operating current 45.0 A Max operating current	Technical Data	
No. of cylinder x bore x stroke $6 \times 70 \text{ mm x} 55 \text{ mm}$ Weight 224 kg Max. pressure (LP/HP) $19 / 28 \text{ bar}$ Connection suction line $54 \text{ mm - 2} 1/8"$ Connection discharge line $35 \text{ mm - 1} 3/8"$ Connection gwater $R 3/4"$ Oil type R134a/R407C/R404A/R507A/R407A/R407Ftc>55°C: BS232 t>>55°C: BSE55 (Option)Oil type R22 (R12/R502)B5.2 (Standard)Oil type R22 (R12/R502)B5.2 (Standard)Oil type R290/R1270SBC226E (Standard)Motor otlage (more on request) $380-420V$ PW-3-50HzMax operating current 45.0 A Vinding ratio $50/50$ Starting current (Rotor locked) $116.0 \text{ A Y / 193.0 A YY}$ Max. Power input 28.9 kW Extent of delivery (Standard)Hotor oracle (Option)Vibration dampersStandardOil charge $4,75 \text{ dm}^3$ Available OptionsStandardConnection suction lineOptionDischarge gas temperature sensorOptionStant unloadingOptionCapacity control $00-66-33\%$ (Option)Additional fanOptionCirankcase heater $40 W$ (Option)Oil service valveOptionCirankcase heater $40 W$ (Option)Oil pressure monitoringMP54 (Option), Delta-PII (Option, not for R290/R1270)Sound power level (-10°C / 45°C) $9.5 \text{ dB}(A) @ 50Hz$	Displacement (1450 RPM 50Hz)	110,5 m³/h
Weight 224 kg Max. pressure (LP/HP) 19 / 28 bar Connection suction line 54 mm - 2 1/8" Connection cooling water 8 3/4" Oil type R134a/R407C/R404A/R507A/R407A/R407F tc>55°C: BSE32 tc>55°C: BSE55 (Option) Oil type R290/R1270 B5.2 (Standard) Oil type R290/R1270 SHC226E (Standard) Motor voltage (more on request) 380-420V PW-3-50Hz Max. operating current 45.0 A Winding ratio 50/50 Starting current (Rotor locked) 116.0 A Y / 193.0 A YY Max. Power input 28.9 kW Extent of delivery (Standard) F54 (Standard), IP66 (Option) Vibration dampers Standard Oil toparge as temperature sensor Option Discharge start-of valve Option Option Standard Vibration fan Option Start unoloding Option Option Option Start unoloding Option Connection suction line Option Discharge stemperature sensor Option Connection suction	Displacement (1750 RPM 60Hz)	133,4 m³/h
Max. pressure (LP/HP)19 / 28 barConnection suction line54 mm - 2 //8"Connection scharge line35 mm - 1 3/8"Connection cooling waterR 3/4"Oil type R134a/R407C/R404A/R507A/R407A/R407Ftc<55°C: BSE32 tc>55°C: BSE55 (Option)Oil type R29 (R12/R502)B5.2 (Standard)Oil type R29 (R12/R502)B5.2 (Standard)Motor data V Motor voltage (more on request)380-420V PW-3-50HzMax operating current45.0 AWinding ratio50/50Starting current (Rotor locked)116.0 A Y / 193.0 A YYMax. Power input28.9 kWExtent of delivery (Standard)F54 (Standard), IP66 (Option)Vibration dampersStandardOil charge4,75 dm³Available OptionsOptionDischarge gas temperature sensorOptionDischarge gas temperature sensorOptionOptionCapacity controlAdditional fanOptionVater-cooled cylinder headsOptionOil service valveOptionCrancase heater140 W (Option)Oil service valveOptionCrancase heater400 W (Option)Oil service valveOptionCapacity controlMP54 (Option), Delta-PII (Option, not for R290/R1270)Sound power level ($135^{\circ}C / 40^{\circ}C$)82.0 dB(A) @ 50HzSound power level ($135^{\circ}C / 40^{\circ}C$)82.0 dB(A) @ 50Hz	No. of cylinder x bore x stroke	6 x 70 mm x 55 mm
Connection suction line $54 \text{ mm} - 2 1/8"$ Connection discharge line $35 \text{ mm} - 1 3/8"$ Connection cooling waterR 3/4"Connection cooling waterR 3/4"Oil type R134a/R407C/R404A/R507A/R407A/R407Ftc>55°C: BSE32 tc>55°C: BSE55 (Option)Oil type R22 (R12/R502)B5.2 (Standard)Oil type R290/R1270SHC226E (Standard)Motor data M Motor voltage (more on request) $380-420V$ PW-3-50HzMax operating current 45.0 A Winding ratio $50/50$ Starting current (Rotor locked) $116.0 \text{ A Y} / 193.0 \text{ A YY}$ Max. Power input 28.9 KW Extent of delivery (Standard)SE-B2Enclosure classIP54 (Standard), IP66 (Option)Vibration dampersStandardOil charge $4,75 \text{ dm}^3$ Available OptionsConnection suction lineDischarge shut-off valveOptionDischarge shut-off valveOptionOtarge stup control100-66-33% (Option)Additional fanOptionVater-cooled cylinder headsOptionOil service valveOptionOil service valveOptionOil service valveOptionOil service valveOptionOil service valveOptionConnection lineDotionDischarge shut-off valveOptionOil charge shut-off valveOptionOil service valveOptionCapacity control100-66-33% (Option)Oil service valveOption<	Weight	224 kg
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Connection cooling waterR $3/4"$ Oil type R134a/R407C/R404A/R507A/R407A/R407FK 55° C: BSE32 tc>55°C: BSE55 (Option)Oil type R22 (R12/R502)B5.2 (Standard)Oil type R29/R1270SHC226E (Standard)Motor data380-420V PW-3-50HzMax operating current45.0 AWinding ratio50/50Starting current (Rotor locked)116.0 A Y / 193.0 A YYMax. Power input28.9 kWExtent of delivery (Standard)Motor datage (more on request)StandardMotor potectionSE-B2Enclosure classIP54 (Standard), IP66 (Option)Vibration dampersStandardOil charge4,75 dm³Available OptionsOptionDischarge shut-off valveOptionDischarge sture sensorOptionStart unloadingOptionCapacity control100-66-33% (Option)Additional fanOptionOti SystemOptionOli Service valveOptionOli service valveOptionOli pressure monitoringMP54 (Option), Delta-PII (Option, not for R290/R1270)Sound power level (-10°C / 45°C)82.0 dB(A) @ 50HzSound power level (-10°C / 45°C)90,5 dB(A) @ 50Hz	Connection suction line	54 mm - 2 1/8"
Oil type R134a/R407C/R404A/R507A/R407Ftc<55°C: BSE32 tc>55°C: BSE55 (Option)Oil type R22 (R12/R502)B5.2 (Standard)Motor data $S1226E$ (Standard)Motor voltage (more on request) $380-420V$ PW-3-50HzMax operating current 45.0 AWinding ratio $50/50$ Starting current (Rotor locked) 116.0 A Y / 193.0 A YYMax. Power input 28.9 kWExtent of delivery (Standard)Wotor protectionSE-B2Enclosure classIP54 (Standard), IP66 (Option)Vibration dampersStandardOil charge $4,75$ dm³Available OptionsOptionDischarge gas temperature sensorOptionDischarge gas temperature sensorOptionCapacity control $100-66-33\%$ (Option)Additional fanOptionQuiton fanOptionCli C SystemOptionOil service valveOptionOil service valveOptionOil service valveOptionOil service valveOptionCli SystemOptionOil service valveOptionOil service valveOptionOil service valveOptionOil service valveOptionOptionCranccase heaterMater cooled cylinder headsOptionOptionCranccase heaterMater cooled cylinder headsOptionOptionOptionOrdi service valveOptionOrdi service valveOptionOrdi service valveOption <td>Connection discharge line</td> <td>35 mm - 1 3/8"</td>	Connection discharge line	35 mm - 1 3/8"
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Motor dataMotor voltage (more on request)380-420V PW-3-50HzMax operating current45.0 AWinding ratio50/50Starting current (Rotor locked)116.0 A Y / 193.0 A YYMax. Power input28.9 kWExtent of delivery (Standard)116.0 A Y / 193.0 A YYMotor protectionSE-B2Enclosure classIP54 (Standard), IP66 (Option)Vibration dampersStandardOil charge4,75 dm³Available OptionsVibration 4Connection suction lineOptionDischarge gas temperature sensorOptionStart unloadingOptionCapacity control100-66-33% (Option)Aditional fanOptionOil service valveOptionOil service valveOptionOil service valveOptionOil service valveOptionOil service valveOptionOil pressure monitoringMP54 (Option), Delta-PII (Option, not for R290/R1270)Sound power level (-10°C / 45°C)82,0 dB(A) @ 50HzSound power level (-15°C / 40°C)90,5 dB(A) @ 50Hz	Oil type R22 (R12/R502)	B5.2 (Standard)
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Sound power level (-35°C / 40°C) 90,5 dB(A) @ 50Hz		
Sound pressure level @ 1m (-10°C / 45°C) 74,0 dB(A) @ 50Hz		
	Sound pressure level @ 1m (-10°C / 45°C)	74,0 dB(A) @ 50Hz



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Sound pressure level @ 1m (-35°C / 40°C)

82,5 dB(A) @ 50Hz

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Semi-hermetic Reciprocating Compressors

Motor 1 = e.g. 4TES-12 with 12"HP", primary for air-conditioning (e.g. R22,R407C) and air-conditioning with R134a at high ambient temperatures.

Motor 2 = e.g. 4TES-9 with 8"HP", universal Motor for medium and low temperature application (e.g. R404A, R507A, R407A, R407F) and air-conditioning with R134a

Motor 3 = e.g. 4TES-8, for medium temperature applications and R134a

For more information concerning the application range use the "Limits" button.

Operation modes 4VES-7 to 6FE-44 and 44JE-30 to 66FE-88 with R407F/R407A/R22

CIC = liquid injection with low temperature application, suction gas cooled motor.

ASERCOM certified performance data

The Association of European Refrigeration Component Manufacturers has implemented a procedure of certifying performance data. The high standard of these certifications is assured by:

* plausibility tests of the data performed by experts.

* regular measurements at independent institutes.

These high efforts result in the fact that only a limited number of compressors can be submitted. Due to this not all BITZER compresors are certified until now. Performance data of compressors which fulfil the strict requirements may carry the label "ASERCOM certified". In this software you will find the label at the respective compressors on the right side below the field "result" or in the print out of the performance data. All certified compressors and further information are listed on the homepage of ASERCOM.

Condensing capacity

The condensing capacity can be calculated with or without heat rejection. This option can be set in the menu Program
Options. 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.

Data for sound emission

Data based on 50 HZ apllication (IP-units 60 Hz) and R404A if not declared. Sound pressure level: values based on free field area conditions with hemisperhical sound emission in 1 meter distance.

General remarks regarding sound data

Listed sound data were measured under testing conditions in our laboratory. For this purpose the free-standing test sample is mounted on a solid foundation plate and the pipework is connected vibration-free to the largest extend possible. Suction and discharge lines are fixed in a flexible configuration, such that a transmission of vibrations to the environment can be largely excluded. In real installations considerable differences might be observed, compared to the measurements in the laboratory. The airborne sound emitted by the compressor can be reflected from surfaces of the system and this may increase the airborne sound level measured close to the compressor. Vibrations caused by the compressor are also transferred to the system by the compressor feet and piping depending on the damping ratio of the fixings. Thus, the vibrations can induce other components to such an extent that these components contribute to an increase in airborne sound emission. If required, the transfer of vibrations to the system can be minimized by suitable fixing and damping elements.

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)



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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 Referigerant 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)
- 24 IQ MODULE
- SL Suction gas line
- DL Discharge gas line

Dimensions can show tolerances according to EN ISO 13920-B.