



Bitzer 4NCS-12.2

BITZER Software v6.4.3 rev1353

11.06.2015 / All data subject to change.

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Compressor Selection: Semi-hermetic Reciprocating Compressors

Input Values

Compressor model	(4NCS-12.2Y)	Suction gas temperature	20,00 °C
Mode	Refrigeration and Air conditioning	Operating mode	Auto
Refrigerant	R404A	Power supply	400V-3-50Hz
Reference temperature	Dew point temp.	Capacity Control	100%
Liq. subc. (in condenser)	0 K	Useful superheat	100%

Result

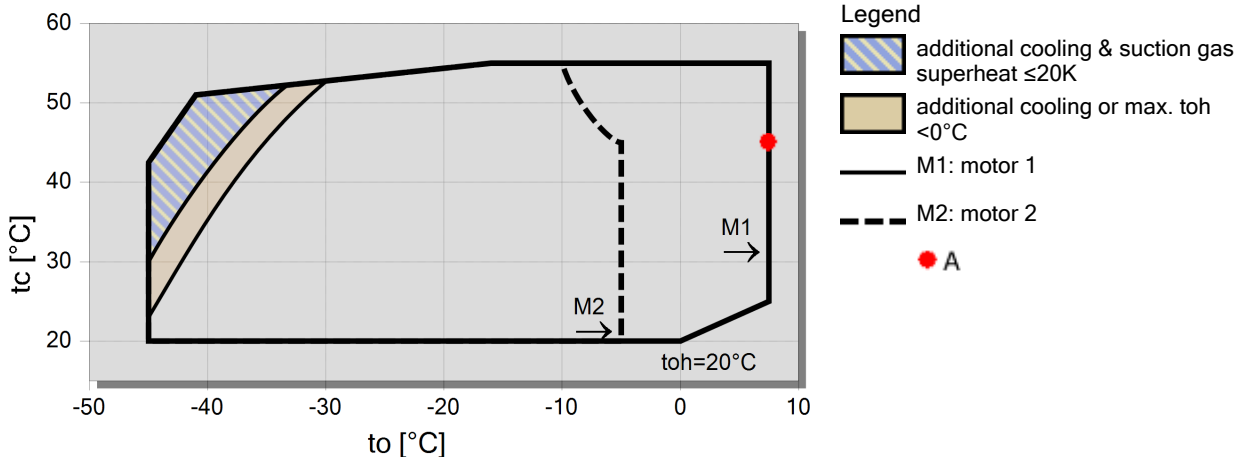
Q [W]	Cooling capacity	COP [-]	COP/EER
Q* [W]	Cooling capacity *	COP* [-]	COP/EER *
P [kW]	Power input	m [kg/h]	Mass flow
I [A]	Current	Op.	Operating mode
Qc [W]	Condenser Capacity	th [°C]	Discharge gas temp. w/o cooling

tc	to	-5°C	-10°C	-15°C	-20°C	-25°C	-30°C	-35°C	-40°C
30°C	Q [W]	43999	36251	29547	23768	18810	14580	10995	7980
	Q* [W]	43999	36251	29547	23768	18810	14580	10995	7980
	P [kW]	11,88	11,15	10,30	9,35	8,35	7,30	6,23	5,19
	I [A]	20,1	18,99	17,70	16,29	14,83	13,37	11,97	10,69
	Qc [W]	55883	47401	39845	33123	27155	21877	17230	13166
	COP [-]	3,70	3,25	2,87	2,54	2,25	2,00	1,76	1,54
	COP* [-]	3,70	3,25	2,87	2,54	2,25	2,00	1,76	1,54
	m [kg/h]	1105	902	729	582	458	353	265	191,9
	Op.	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
	th [°C]	71,1	77,7	84,6	92,0	100,0	108,7	118,7	130,7
40°C	Q [W]	37317	30624	24821	19812	15512	11843	8735	6124
	Q* [W]	37317	30624	24821	19812	15512	11843	8735	6124
	P [kW]	13,39	12,33	11,18	9,97	8,71	7,44	6,19	4,99
	I [A]	22,5	20,8	19,04	17,20	15,35	13,56	11,92	10,47
	Qc [W]	50703	42957	36005	29778	24221	19284	14928	11115
	COP [-]	2,79	2,48	2,22	1,99	1,78	1,59	1,41	1,23
	COP* [-]	2,79	2,48	2,22	1,99	1,78	1,59	1,41	1,23
	m [kg/h]	1056	857	688	545	424	322	236	165,0
	Op.	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
	th [°C]	81,8	88,4	95,4	102,8	110,9	119,8	130,3	0
50°C	Q [W]	--	24847	20006	15815	12208	9123	6506	4303
	Q* [W]	--	24847	20006	15815	12208	9123	6506	4303
	P [kW]	--	13,28	11,83	10,37	8,91	7,45	6,01	4,60
	I [A]	--	22,3	20,0	17,81	15,64	13,57	11,69	10,03
	Qc [W]	--	38123	31840	26188	21115	16572	12515	8905
	COP [-]	--	1,87	1,69	1,52	1,37	1,22	1,08	0,94
	COP* [-]	--	1,87	1,69	1,52	1,37	1,22	1,08	0,94
	m [kg/h]	--	804	641	502	384	285	202	133,3
	Op.	--	Standard	Standard	Standard	Standard	Standard	Standard	Standard
	th [°C]	--	99,7	106,7	114,4	122,9	132,6	0	0

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

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

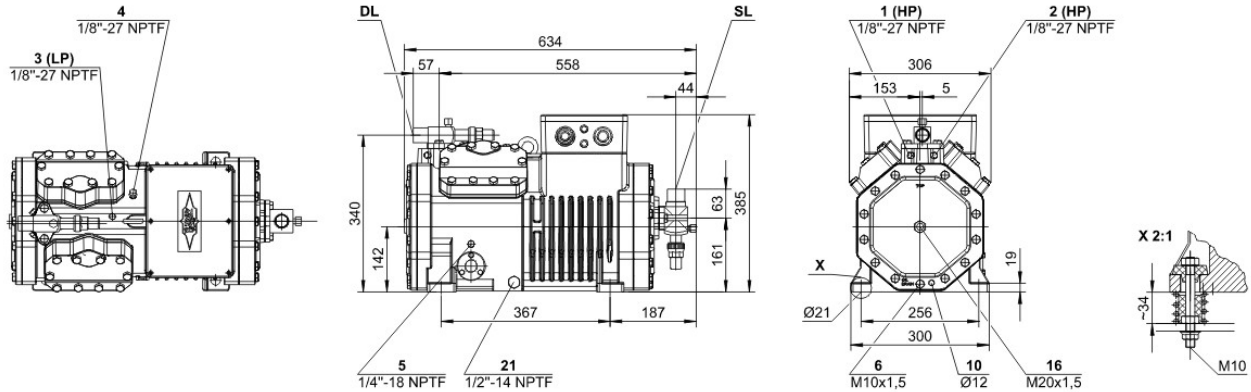
Application Limits 100%





Technical Data: (4NCS-12.2Y)

Dimensions and Connections



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Displacement (1450 RPM 50Hz)	56,25 m ³ /h
Displacement (1750 RPM 60Hz)	67,89 m ³ /h
No. of cylinder x bore x stroke	4 x 70 mm x 42 mm
Weight	141 kg
Max. pressure (LP/HP)	19 / 28 bar
Connection suction line	35 mm - 1 3/8"
Connection discharge line	28 mm - 1 1/8"
Oil type R134a/R407C/R404A/R507A/R407A/R407F	tc<55°C: BSE32 / tc>55°C: BSE55 (Option)
Oil type R22 (R12/R502)	B5.2 (Standard)
Oil type R290/R1270	SHC226E (Standard)

Motor data

Motor voltage (more on request)	380-420V PW-3-50Hz
Max operating current	24.0 A
Winding ratio	50/50
Starting current (Rotor locked)	69.0 A Y / 113.0 A YY
Max. Power input	14,1 kW

Extent of delivery (Standard)

Motor protection	SE-B1
Enclosure class	IP65
Vibration dampers	Standard
Oil charge	2,60 dm ³

Available Options

Discharge gas temperature sensor	Option
Start unloading	Option
Capacity control	100-50% (Option)
Additional fan	Option
CIC System	Option
Oil service valve	Option
Crankcase heater	0..140 W PTC (Option)
Oil level monitoring	OLC-K1 (Option, not for R290/R1270)

Sound measurement

Sound power level (-10°C / 45°C)	78,5 dB(A) @ 50Hz
Sound power level (-35°C / 40°C)	83,0 dB(A) @ 50Hz
Sound pressure level @ 1m (-10°C / 45°C)	70,5 dB(A) @ 50Hz
Sound pressure level @ 1m (-35°C / 40°C)	75,0 dB(A) @ 50Hz