



Bitzer 4N-20.2

BITZER Software v6.4.3 rev1353

29.05.2015 / All data subject to change.

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Compressor Selection: Semi-hermetic Reciprocating Compressors

Input Values

Compressor model Mode	(4N-20.2Y) Refrigeration and Air conditioning	Suction gas temperature Operating mode	20,00 °C Auto
Refrigerant Reference temperature Liq. subc. (in condenser)	R404A Dew point temp. 0 K	Power supply Capacity Control Useful superheat	400V-3-50Hz 100% 100%

Result

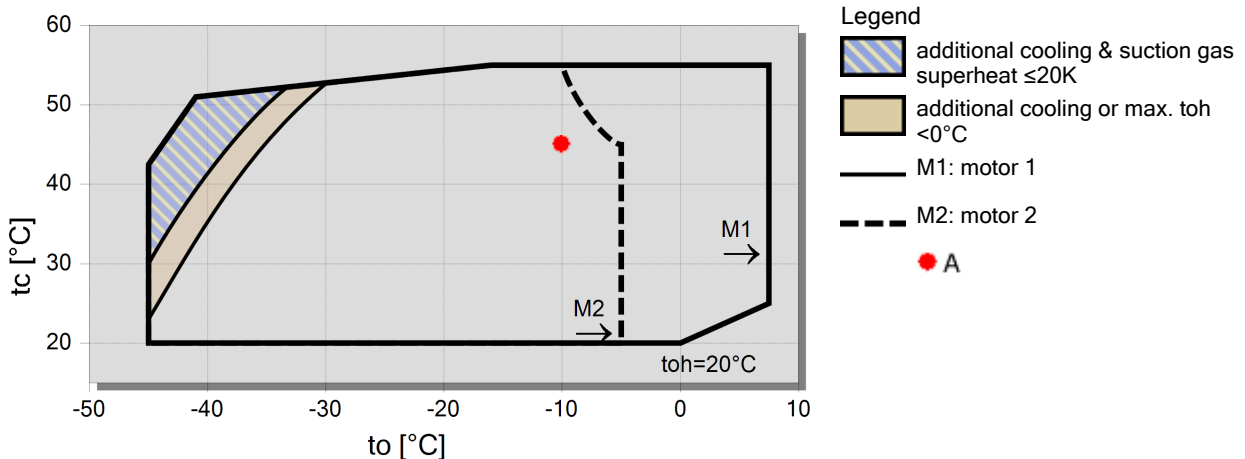
Q [W]	Cooling capacity	COP [-]	COP/EER
Q* [W]	Cooling capacity *	COP* [-]	COP/EER *
P [kW]	Power input	m [kg/h]	Mass flow
I [A]	Current	Op.	Operating mode
Qc [W]	Condenser Capacity	th [°C]	Discharge gas temp. w/o cooling

tc	to	5°C	0°C	-5°C	-10°C	-15°C	-20°C	-25°C	-30°C
30°C	Q [W]	63606	53277	44316	36552	29842	24067	19121	14913
	Q* [W]	63606	53277	44316	36552	29842	24067	19121	14913
	P [kW]	12,20	11,68	11,13	10,53	9,86	9,12	8,29	7,36
	I [A]	21,5	20,8	19,99	19,19	18,33	17,41	16,42	15,38
	Qc [W]	75810	64959	55444	47077	39704	33190	27414	22271
	COP [-]	5,21	4,56	3,98	3,47	3,03	2,64	2,31	2,03
	COP* [-]	5,21	4,56	3,98	3,47	3,03	2,64	2,31	2,03
	m [kg/h]	1640	1354	1113	909	736	589	466	361
	Op.	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
	th [°C]	57,0	62,6	68,6	75,1	82,2	90,1	98,6	107,7
40°C	Q [W]	54802	45848	38056	31289	25434	20390	16071	12398
	Q* [W]	54802	45848	38056	31289	25434	20390	16071	12398
	P [kW]	14,11	13,42	12,66	11,81	10,89	9,91	8,87	7,77
	I [A]	24,2	23,2	22,1	20,9	19,68	18,39	17,10	15,83
	Qc [W]	68913	59272	50712	43100	36327	30301	24940	20169
	COP [-]	3,88	3,42	3,01	2,65	2,33	2,06	1,81	1,60
	COP* [-]	3,88	3,42	3,01	2,65	2,33	2,06	1,81	1,60
	m [kg/h]	1597	1315	1077	876	705	561	439	337
	Op.	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
	th [°C]	66,7	72,6	78,9	85,6	92,9	100,9	109,8	119,6
50°C	Q [W]	44845	37506	31089	25496	20645	16459	12871	9820
	Q* [W]	44845	37506	31089	25496	20645	16459	12871	9820
	P [kW]	16,05	15,21	14,24	13,16	11,98	10,73	9,42	8,09
	I [A]	27,2	25,9	24,4	22,8	21,2	19,46	17,78	16,19
	Qc [W]	60896	52719	45331	38653	32623	27186	22295	17908
	COP [-]	2,79	2,47	2,18	1,94	1,72	1,53	1,37	1,21
	COP* [-]	2,79	2,47	2,18	1,94	1,72	1,53	1,37	1,21
	m [kg/h]	1521	1249	1020	825	661	522	405	307
	Op.	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
	th [°C]	77,8	84,1	90,8	97,9	105,6	114,0	123,1	133,3

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

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

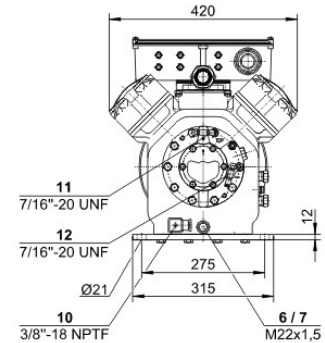
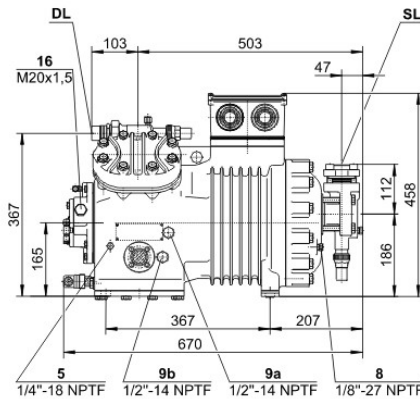
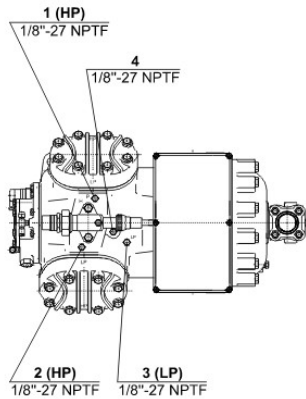
Application Limits 100%





Technical Data: (4N-20.2Y)

Dimensions and Connections



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Displacement (1450 RPM 50Hz)	56,10 m ³ /h
Displacement (1750 RPM 60Hz)	67,71 m ³ /h
No. of cylinder x bore x stroke	4 x 60 mm x 57 mm
Weight	155 kg
Max. pressure (LP/HP)	19 / 28 bar
Connection suction line	42 mm - 1 5/8"
Connection discharge line	28 mm - 1 1/8"
Connection cooling water	R 1/2"
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	37.0 A
Winding ratio	50/50
Starting current (Rotor locked)	97.0 A Y / 158.0 A YY
Max. Power input	19,5 kW

Extent of delivery (Standard)

Motor protection	SE-B2
Enclosure class	IP54 (Standard), IP66 (Option)
Vibration dampers	Standard
Oil charge	3,00 dm ³

Available Options

Discharge gas temperature sensor	Option
Start unloading	Option
Capacity control	100-50% (Option)
Additional fan	Option
Water-cooled cylinder heads	Option
Oil service valve	Option
Crankcase heater	100 W (Option)
Oil pressure monitoring	MP54 (Option), Delta-PII (Option, not for R290/R1270)

Sound measurement

Sound power level (+5°C / 50°C)	78,0 dB(A) @ 50Hz
Sound power level (-10°C / 45°C)	78,5 dB(A) @ 50Hz
Sound power level (-35°C / 40°C)	(84,5) dB(A) @ 50Hz
Sound pressure level @ 1m (+5°C / 50°C)	70,0 dB(A) @ 50Hz
Sound pressure level @ 1m (-10°C / 45°C)	70,5 dB(A) @ 50Hz
Sound pressure level @ 1m (-35°C / 40°C)	(76,5) dB(A) @ 50Hz