



## Compressor Selection: Semi-hermetic Reciprocating Compressors

### Input Values

Compressor model	(4EC-4.2Y)	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

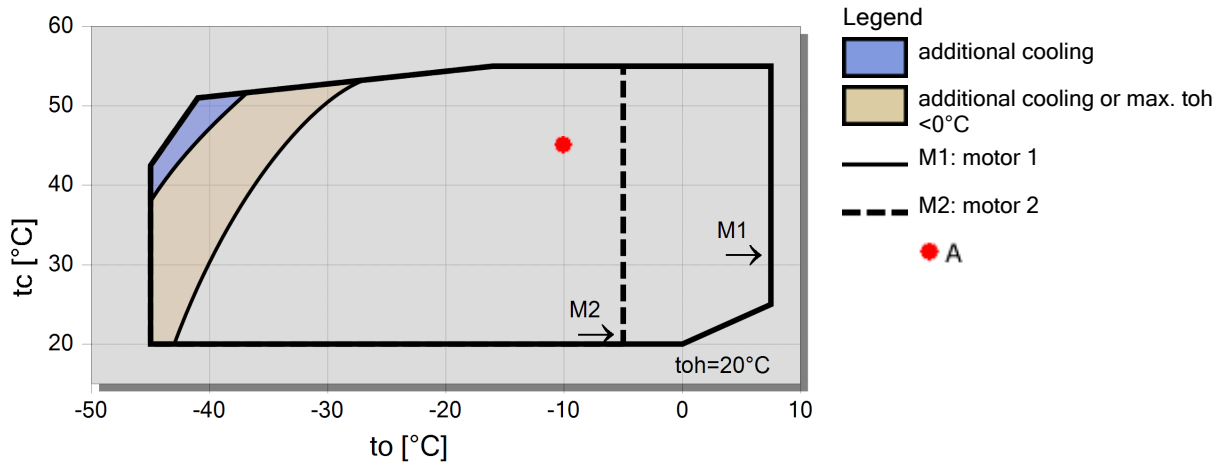
Q [W]	Cooling capacity	COP [ - ]	COP/EER
Qu* [W]	Evaporator capacity	m [kg/h]	Mass flow
P [kW]	Power input	Op.	Operating mode
I [A]	Current	th [°C]	Discharge gas temp. w/o cooling
Qc [W]	Condenser Capacity		

tc	to	-5°C	-10°C	-15°C	-20°C	-25°C	-30°C	-35°C	-40°C
30°C	Q [W]	17327	14291	11663	9398	7454	5796	4390	3206
	Qu* [W]	17327	14291	11663	9398	7454	5796	4390	3206
	P [kW]	4,61	4,39	4,12	3,81	3,45	3,06	2,65	2,22
	I [A]	7,90	7,58	7,19	6,73	6,23	5,69	5,15	4,63
	Qc [W]	21935	18684	15787	13204	10903	8856	7036	5423
	COP [ - ]	3,76	3,25	2,83	2,47	2,16	1,89	1,66	1,45
	m [kg/h]	435	355	288	230	181,5	140,4	105,9	77,1
	Op.	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
	th [°C]	70,5	77,7	85,3	93,6	102,5	112,5	123,5	136,3
	40°C	Q [W]	14438	11872	9645	7721	6067	4652	3451
Qu* [W]		14438	11872	9645	7721	6067	4652	3451	2439
P [kW]		5,28	4,93	4,53	4,10	3,64	3,15	2,65	2,14
I [A]		8,89	8,37	7,79	7,16	6,49	5,81	5,15	4,54
Qc [W]		19714	16799	14178	11821	9703	7802	6099	4578
COP [ - ]		2,74	2,41	2,13	1,88	1,67	1,48	1,30	1,14
m [kg/h]		409	332	267	212	165,8	126,4	93,4	65,7
Op.		Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
th [°C]		82,5	89,8	97,7	106,1	115,3	125,6	137,1	0
50°C		Q [W]	11653	9551	7721	6134	4765	3591	2592
	Qu* [W]	11653	9551	7721	6134	4765	3591	2592	1748
	P [kW]	5,86	5,39	4,87	4,33	3,77	3,19	2,60	2,02
	I [A]	9,76	9,05	8,29	7,49	6,68	5,86	5,09	4,41
	Qc [W]	17515	14937	12593	10464	8531	6779	5195	3766
	COP [ - ]	1,99	1,77	1,58	1,42	1,27	1,13	1,00	0,87
	m [kg/h]	382	309	247	194,7	150,1	112,4	80,7	54,2
	Op.	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
	th [°C]	94,9	102,4	110,5	119,3	128,9	139,7	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% Octagon



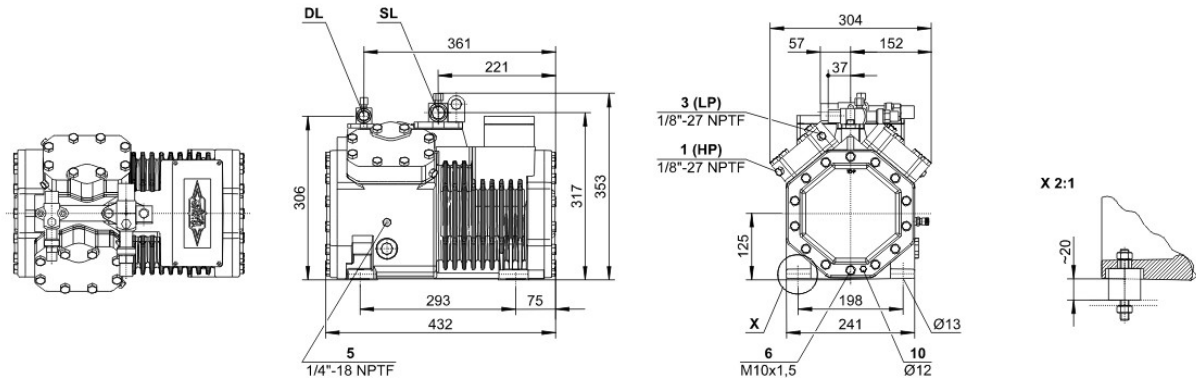
#### Legend

- additional cooling
- additional cooling or max. toh < 0°C
- M1: motor 1
- M2: motor 2
- A



## Technical Data: (4EC-4.2Y)

### Dimensions and Connections



### Technical Data

#### Technical Data

Displacement (1450 RPM 50Hz)	22,72 m3/h
Displacement (1750 RPM 60Hz)	27,42 m3/h
No. of cylinder x bore x stroke	4 x 46 mm x 39,3 mm
Weight	84 kg
Max. pressure (LP/HP)	19 / 28 bar
Connection suction line	28 mm - 1 1/8"
Connection discharge line	16 mm - 5/8"
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 Y-3-50Hz
Max operating current	10.7 A
Starting current (Rotor locked)	53.5 A
Max. Power input	6,4 kW

#### Extent of delivery (Standard)

Motor protection	SE-B1
Enclosure class	IP65
Vibration dampers	Standard
Oil charge	2,00 dm3

#### Available Options

Discharge gas temperature sensor	Option
Start unloading	Option
Capacity control	100-50% (Option)
Additional fan	Option
Crankcase heater	0..120 W PTC (Option)
Oil level monitoring	OLC-K1 (Option, not for R290/R1270)

#### Sound measurement

Sound power level (-10°C / 45°C)	70,0 dB(A) @ 50Hz
Sound power level (-35°C / 40°C)	72,0 dB(A) @ 50Hz
Sound pressure level @ 1m (-10°C / 45°C)	62,0 dB(A) @ 50Hz
Sound pressure level @ 1m (-35°C / 40°C)	64,0 dB(A) @ 50Hz



### Compressor Selection: Semi-hermetic Reciprocating Compressors

#### Input Values

Compressor model Mode	(4FC-3.2Y) 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

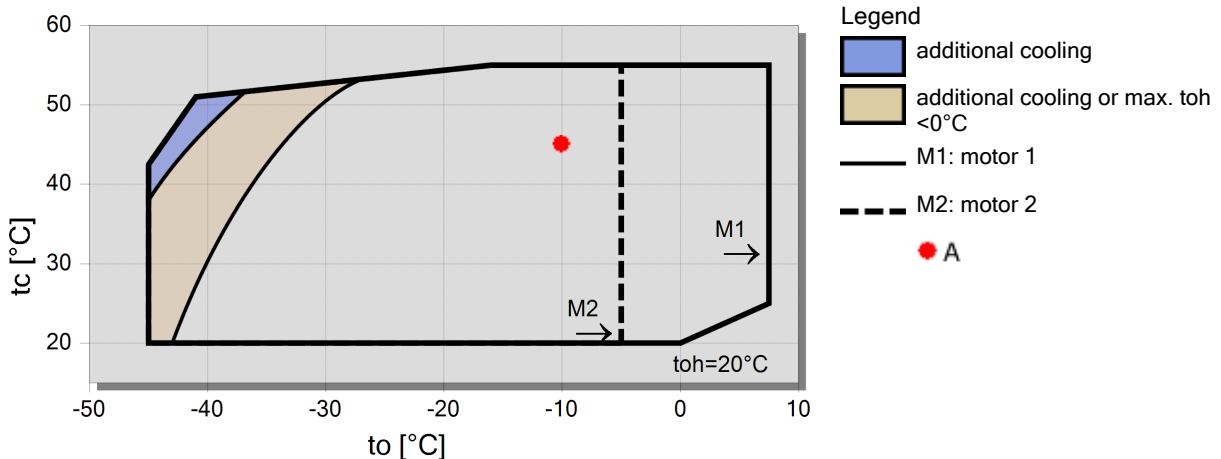
Q [W]	Cooling capacity	COP [ - ]	COP/EER
Q* [W]	Cooling capacity *	COP* [ - ]	COP/EER *
P [kW]	Power input	m [kg/h]	Mass flow
I [A]	Current	Op.	Operating mode
Qc [W]	Condenser Capacity	th [°C]	Discharge gas temp. w/o cooling

tc	to	-5°C	-10°C	-15°C	-20°C	-25°C	-30°C	-35°C	-40°C
30°C	Q [W]	13721	11328	9257	7470	5936	4626	3515	2579
	Q* [W]	13721	11328	9257	7470	5936	4626	3515	2579
	P [kW]	3,85	3,66	3,44	3,18	2,90	2,58	2,24	1,88
	I [A]	6,95	6,70	6,40	6,07	5,71	5,35	4,98	4,64
	Qc [W]	17568	14988	12695	10653	8833	7210	5759	4461
	COP [ - ]	3,57	3,10	2,69	2,35	2,05	1,79	1,57	1,37
	COP* [ - ]	3,57	3,10	2,69	2,35	2,05	1,79	1,57	1,37
	m [kg/h]	345	282	228	183,0	144,5	112,1	84,8	62,0
	Op.	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
	th [°C]	72,4	79,8	87,7	96,4	106,0	116,6	128,4	0
40°C	Q [W]	11564	9516	7739	6203	4882	3752	2792	1983
	Q* [W]	11564	9516	7739	6203	4882	3752	2792	1983
	P [kW]	4,42	4,10	3,76	3,40	3,03	2,63	2,23	1,82
	I [A]	7,76	7,31	6,84	6,36	5,87	5,40	4,97	4,58
	Qc [W]	15981	13618	11502	9606	7908	6386	5023	3802
	COP [ - ]	2,62	2,32	2,06	1,82	1,61	1,42	1,25	1,09
	COP* [ - ]	2,62	2,32	2,06	1,82	1,61	1,42	1,25	1,09
	m [kg/h]	327	266	215	170,7	133,4	102,0	75,5	53,4
	Op.	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
	th [°C]	84,3	91,6	99,5	108,2	117,7	128,5	0	0
50°C	Q [W]	9451	7742	6256	4968	3859	2911	2106	1428
	Q* [W]	9451	7742	6256	4968	3859	2911	2106	1428
	P [kW]	4,91	4,48	4,04	3,59	3,13	2,67	2,22	1,77
	I [A]	8,48	7,85	7,22	6,60	6,00	5,45	4,95	4,54
	Qc [W]	14363	12223	10294	8555	6991	5585	4324	3195
	COP [ - ]	1,92	1,73	1,55	1,38	1,23	1,09	0,95	0,81
	COP* [ - ]	1,92	1,73	1,55	1,38	1,23	1,09	0,95	0,81
	m [kg/h]	310	251	200	157,7	121,5	91,1	65,5	44,2
	Op.	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
	th [°C]	96,5	103,8	111,9	120,8	131,0	0	0	0

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

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

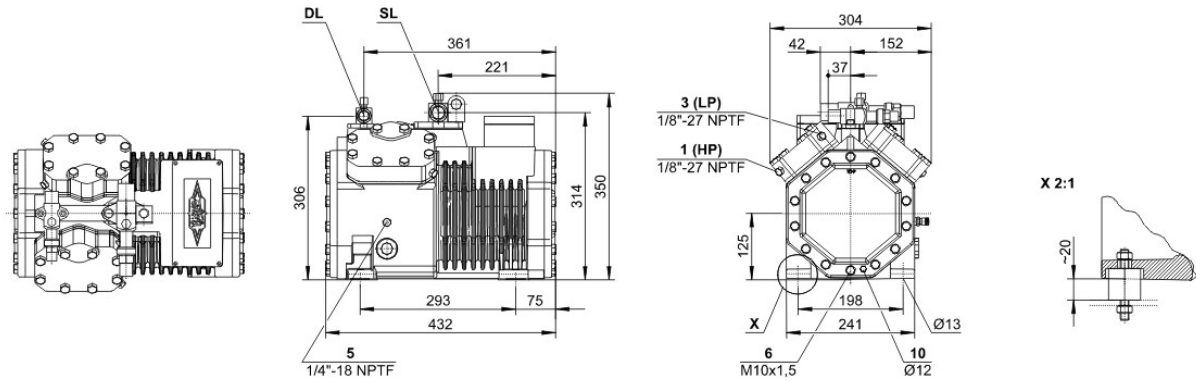
#### Application Limits 100% Octagon





## Technical Data: (4FC-3.2Y)

### Dimensions and Connections



### Technical Data

#### Technical Data

Displacement (1450 RPM 50Hz)	18,05 m <sup>3</sup> /h
Displacement (1750 RPM 60Hz)	21,78 m <sup>3</sup> /h
No. of cylinder x bore x stroke	4 x 41 mm x 39,3 mm
Weight	82 kg
Max. pressure (LP/HP)	19 / 28 bar
Connection suction line	22 mm - 7/8"
Connection discharge line	16 mm - 5/8"
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 Y-3-50Hz
Max operating current	9.2 A
Starting current (Rotor locked)	44.2 A
Max. Power input	5,4 kW

#### Extent of delivery (Standard)

Motor protection	SE-B1
Enclosure class	IP65
Vibration dampers	Standard
Oil charge	2,00 dm <sup>3</sup>

#### Available Options

Discharge gas temperature sensor	Option
Start unloading	Option
Capacity control	100-50% (Option)
Additional fan	Option
Crankcase heater	0..120 W PTC (Option)
Oil level monitoring	OLC-K1 (Option, not for R290/R1270)

#### Sound measurement

Sound power level (-10°C / 45°C)	67,0 dB(A) @ 50Hz
Sound power level (-35°C / 40°C)	70,0 dB(A) @ 50Hz
Sound pressure level @ 1m (-10°C / 45°C)	59,0 dB(A) @ 50Hz
Sound pressure level @ 1m (-35°C / 40°C)	62,0 dB(A) @ 50Hz