



## Selection: Semi-hermetic Reciprocating Compressors

### Input Values

Compressor model	(44J-44.2Y)	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

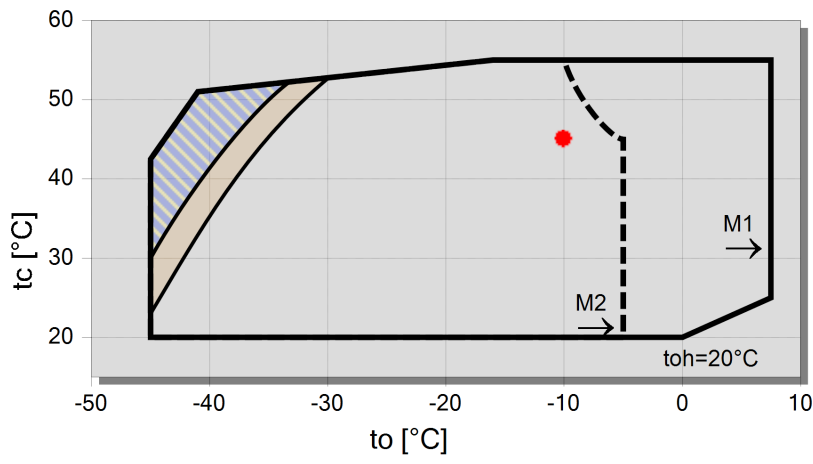
Q [W]	Cooling capacity	COP [ - ]	COP/EER
Qu* [W]	Evaporator capacity	m [kg/h]	Mass flow
P [kW]	Power input	Op.	Operating mode
I [A]	Current	th [°C]	Discharge gas temp. w/o cooling
Qc [W]	Condenser capacity		

tc	to	10°C	0°C	-10°C	-20°C	-30°C	-40°C	-50°C	-60°C
30°C	Q [W]	--	120269	82361	53943	32969	17836	--	--
	Qu* [W]		120269	82361	53943	32969	17836		
	P [kW]		26,2	24,2	20,9	16,73	12,10		
	I [A]		45,5	42,7	38,2	33,0	28,1		
	Qc [W]		146466	106575	74858	49701	29940		
	COP [ - ]		4,59	3,40	2,58	1,97	1,47		
	m [kg/h]		3057	2049	1321	799	429		
	Op.		Standard	Standard	Standard	Standard	Standard		
	th [°C]		62,4	75,9	91,2	109,7	134,6		
40°C	Q [W]	--	102934	70187	45548	27343	14229	--	--
	Qu* [W]		102934	70187	45548	27343	14229		
	P [kW]		31,0	27,4	22,7	17,47	12,03		
	I [A]		52,6	47,3	40,6	33,9	28,1		
	Qc [W]		133912	97572	68286	44817	26258		
	COP [ - ]		3,32	2,56	2,00	1,56	1,18		
	m [kg/h]		2953	1965	1253	743	383		
	Op.		Standard	Standard	Standard	Standard	Standard		
	th [°C]		73,5	87,0	102,4	121,1	0		
50°C	Q [W]	--	85742	58225	37447	22109	11127	--	--
	Qu* [W]		85742	58225	37447	22109	11127		
	P [kW]		35,7	30,5	24,6	18,23	12,00		
	I [A]		60,0	51,9	43,2	34,8	28,0		
	Qc [W]		121439	88743	62000	40344	23122		
	COP [ - ]		2,40	1,91	1,53	1,21	0,93		
	m [kg/h]		2856	1885	1188	692	345		
	Op.		Standard	Standard	Standard	Standard	Standard		
	th [°C]		85,1	98,7	114,4	133,5	0		






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

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

## Application Limits 100% 44J-44.2



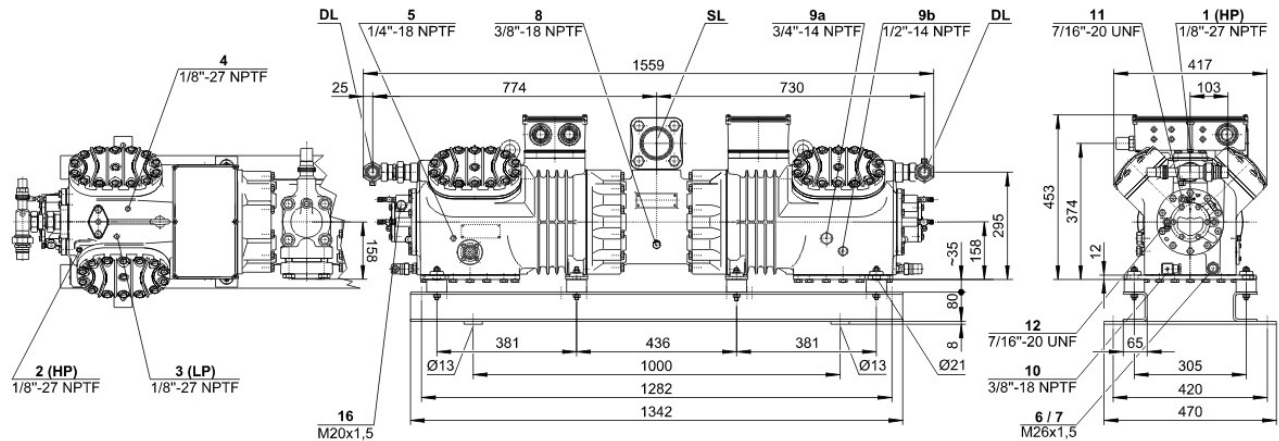
**Legend**

-  additional cooling & suction gas superheat  $\leq 20K$
-  additional cooling or max.  $t_{oh} < 0$  °C
-  M1: motor 1
-  M2: motor 2
-  A



## Technical Data: (44J-44.2Y)

### Dimensions and Connections



### Technical Data

#### Technical Data

Displacement (1450 RPM 50Hz)	127,0 m <sup>3</sup> /h
Displacement (1750 RPM 60Hz)	153,3 m <sup>3</sup> /h
No. of cylinder x bore x stroke	4+4 x 65 mm x 55 mm
Weight	426 kg
Max. pressure (LP/HP)	19 / 28 bar
Connection suction line	76 mm - 3 1/8"
Connection discharge line	2x28 mm - 1 1/8"
Connection cooling water	R 3/4"
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)

#### Motor data

Motor voltage (more on request)	380-420V PW-3-50Hz
Max operating current	2x39.0 A
Winding ratio	50/50
Starting current (Rotor locked)	2x97.0 A Y / 2x158.0 A YY
Max. Power input	2 x 21,5 kW

#### Extent of delivery (Standard)

Motor protection	SE-B2
Enclosure class	IP54 (Standard), IP66 (Option)
Vibration dampers	Standard
Oil charge	8,00 dm <sup>3</sup>

#### Available Options

Discharge gas temperature sensor	Option
Start unloading	Option
Capacity control	100-75-50-25% (Option)
Additional fan	Option
Water-cooled cylinder heads	Option
Oil service valve	Option
Crankcase heater	2 x 140 W (Option)
Oil pressure monitoring	MP54 (Option), Delta-PII (Option)

#### Sound measurement

Sound power level (+5°C / 50°C)	78,0 dB(A) @ 50Hz
Sound power level (-10°C / 45°C)	80,5 dB(A) @ 50Hz
Sound power level (-35°C / 40°C)	(84,0) dB(A) @ 50Hz
Sound pressure level @ 1m (+5°C / 50°C)	70,0 dB(A) @ 50Hz
Sound pressure level @ 1m (-10°C / 45°C)	72,5 dB(A) @ 50Hz
Sound pressure level @ 1m (-35°C / 40°C)	(76,0) dB(A) @ 50Hz



## Selection: Semi-hermetic Reciprocating Compressors

### Input Values

Compressor model	(44NCS-24.2Y)	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

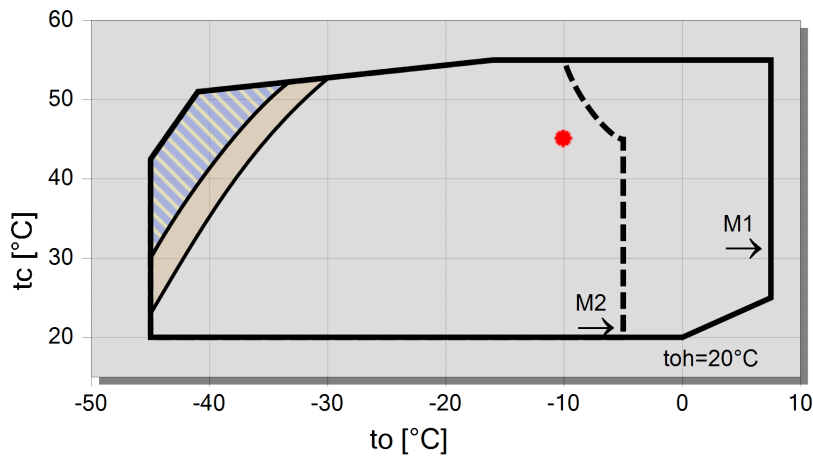
Q [W]	Cooling capacity	COP [ - ]	COP/EER
Qu* [W]	Evaporator capacity	m [kg/h]	Mass flow
P [kW]	Power input	Op.	Operating mode
I [A]	Current	th [°C]	Discharge gas temp. w/o cooling
Qc [W]	Condenser capacity		

tc	to	0°C	-10°C	-20°C	-30°C	-40°C	-50°C	-60°C	-70°C
30°C	Q [W]	--	72502	47537	29160	15961	--	--	--
	Qu* [W]	--	72502	47537	29160	15961	--	--	--
	P [kW]	--	22,3	18,71	14,59	10,37	--	--	--
	I [A]	--	38,0	32,6	26,7	21,4	--	--	--
	Qc [W]	--	94802	66245	43754	26332	--	--	--
	COP [ - ]	--	3,25	2,54	2,00	1,54	--	--	--
	m [kg/h]	--	1803	1164	706	384	--	--	--
	Op.	--	Standard	Standard	Standard	Standard	--	--	--
	th [°C]	--	77,7	92,0	108,7	130,7	--	--	--
	40°C	Q [W]	--	61247	39625	23686	12248	--	--
Qu* [W]		--	61247	39625	23686	12248	--	--	--
P [kW]		--	24,7	19,93	14,88	9,98	--	--	--
I [A]		--	41,6	34,4	27,1	20,9	--	--	--
Qc [W]		--	85914	59557	38569	22231	--	--	--
COP [ - ]		--	2,48	1,99	1,59	1,23	--	--	--
m [kg/h]		--	1715	1090	644	330	--	--	--
Op.		--	Standard	Standard	Standard	Standard	--	--	--
th [°C]		--	88,4	102,8	119,8	0	--	--	--
50°C		Q [W]	--	49694	31631	18247	8607	--	--
	Qu* [W]	--	49694	31631	18247	8607	--	--	--
	P [kW]	--	26,6	20,7	14,90	9,20	--	--	--
	I [A]	--	44,6	35,6	27,1	20,1	--	--	--
	Qc [W]	--	76246	52377	33145	17810	--	--	--
	COP [ - ]	--	1,87	1,52	1,22	0,94	--	--	--
	m [kg/h]	--	1609	1004	571	267	--	--	--
	Op.	--	Standard	Standard	Standard	Standard	--	--	--
	th [°C]	--	99,7	114,4	132,6	0	--	--	--






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

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

## Application Limits 100% 44NCS-24.2



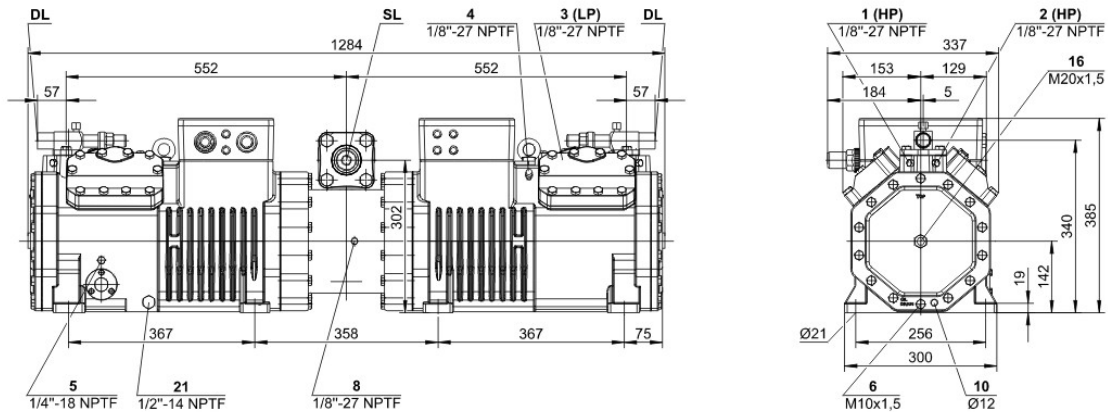
**Legend**

-  additional cooling & suction gas superheat  $\leq 20K$
-  additional cooling or max. toh  $< 0^\circ C$
-  M1: motor 1
-  M2: motor 2
-  A



## Technical Data: (44NCS-24.2Y)

### Dimensions and Connections



### Technical Data

#### Technical Data

Displacement (1450 RPM 50Hz)	112,5 m3/h
Displacement (1750 RPM 60Hz)	135,8 m3/h
No. of cylinder x bore x stroke	4+4 x 70 mm x 42 mm
Weight	296 kg
Max. pressure (LP/HP)	19 / 28 bar
Connection suction line	54 mm - 2 1/8"
Connection discharge line	2x28 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)

#### Motor data

Motor voltage (more on request)	380-420V PW-3-50Hz
Max operating current	2x24.0 A
Winding ratio	50/50
Starting current (Rotor locked)	2x69.0 A Y / 2x113.0 A YY
Max. Power input	2 x 14,1 kW

#### Extent of delivery (Standard)

Motor protection	SE-B1
Enclosure class	IP65
Vibration dampers	Standard
Oil charge	6,10 dm <sup>3</sup>

#### Available Options

Discharge gas temperature sensor	Option
Start unloading	Option
Capacity control	100-75-50-25% (Option)
Additional fan	Option
CIC System	Option
Oil service valve	Option
Crankcase heater	2 x 0..140 W PTC (Option)
Oil level monitoring	OLC-K1 (Option)

#### Sound measurement

Sound power level (-10°C / 45°C)	81,5 dB(A) @ 50Hz
Sound power level (-35°C / 40°C)	86,0 dB(A) @ 50Hz
Sound pressure level @ 1m (-10°C / 45°C)	73,5 dB(A) @ 50Hz
Sound pressure level @ 1m (-35°C / 40°C)	78,0 dB(A) @ 50Hz