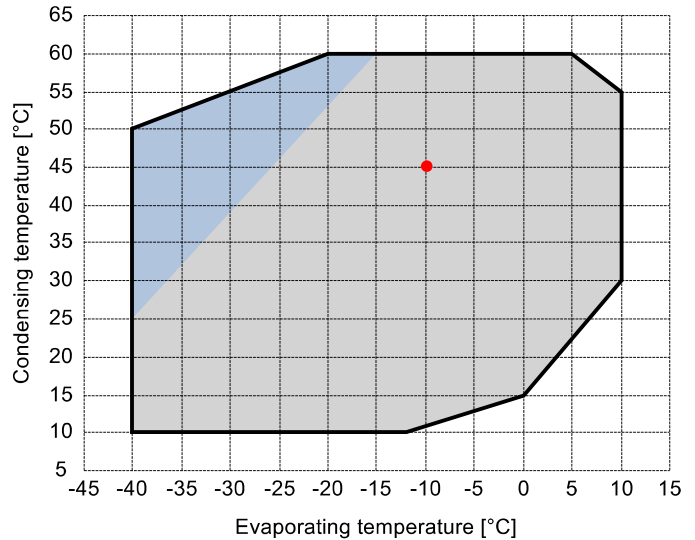


Input data

Refrigerant	R449A	
Reference temperature	Dew point temperature	
Calculation mode	Refrigeration / Air Cond.	
Operating mode	Subcritical	
Power supply	400/3/50	
Condensing temperature	°C	45
Condensing pressure	bar	18,86
Liquid subcooling	K	0
Liquid temperature	°C	40,72
Evaporating temperature	°C	-10
Evaporating pressure	bar	3,61
Suction gas superheating	K	10
Useful fraction of superheating	%	100

Additional cooling required



Output data

Compressor :	Q5-21.1Y	
Number of compressors :	FSx1	
Refrigerating capacity	kW	9,851
Refrigerating capacity [*ref]	kW	10,119
Evaporator capacity	kW	9,851
Power input	W	4337
Condenser capacity, theor.	kW	14,188
Current	A	8,09
COP/EER	W/W	2,27
Mass flow	kg/h	252
Operating frequency	Hz	50
Connection	-	DOL-STAR
Operating mode	-	100%
Discharge temperature	°C	86,33
Ratio (%)	%	100,0%
Note	-	
Oil flow	l/min	-
Heat Exchanged (oil Cooler)	kW	-
Oil Temp. at Oil Cooler Outlet	°C	-
Certified by	-	Frascold

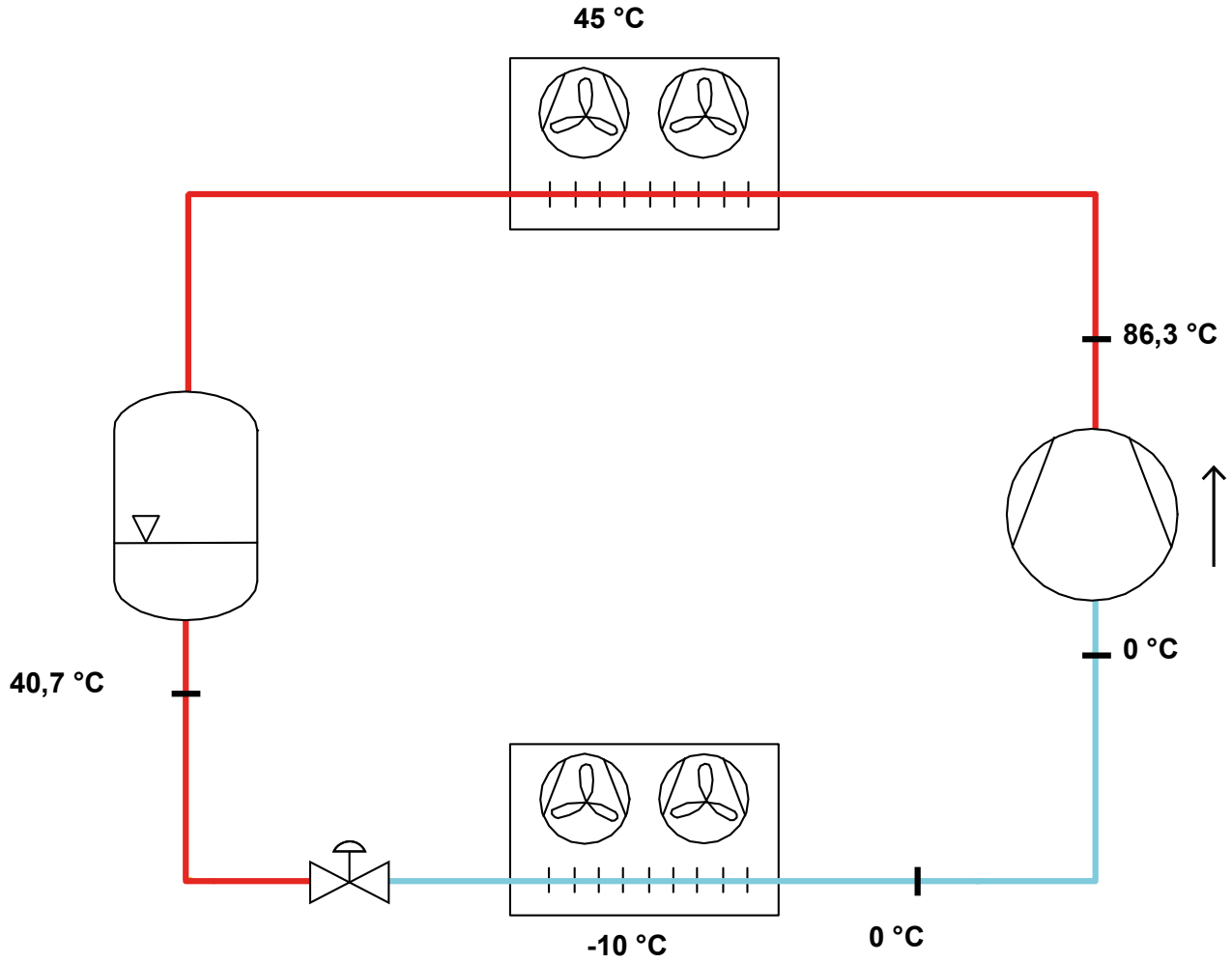
Certified by:

- Frascold tentative data

Legend:

- *ref: At conditions according to EN12900
- Suction gas temperature = 20 °C
- Liquid subcooling = 0 K

P&I Diagram:



All data subject to change without notice

Model: Q5-21.1Y

Refrigerant: R449A

Power supply: 400/3/50 DOL-STAR

Technical data:

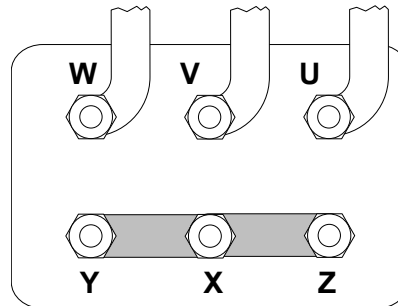
Displacement	21,18 m³/h
Nominal compressor speed	1450 rpm
Motor voltage	400 V
Nominal operating frequency	50 Hz
Maximum allowed operating current (MRA)	11,6 A
Locked rotor current (LRA)	63,1 A
Number of pistons	4
Net weight	79 kg
Lubricant	FRASCOLD POE32
Oil charge	1,6 l
Maximum static pressure LP	20,5 bar
Maximum operating pressure HP	30 bar

Sound level:

Sound power level 5/50°C R404A @50Hz	68,5 dB(A)
Sound pressure (*) - Distance: 1 m	60,5 dB(A)
Sound power level -10/45°C R404A @50Hz	70 dB(A)
Sound pressure (*) - Distance: 1 m	62 dB(A)

*half sphere model

Motor connections:



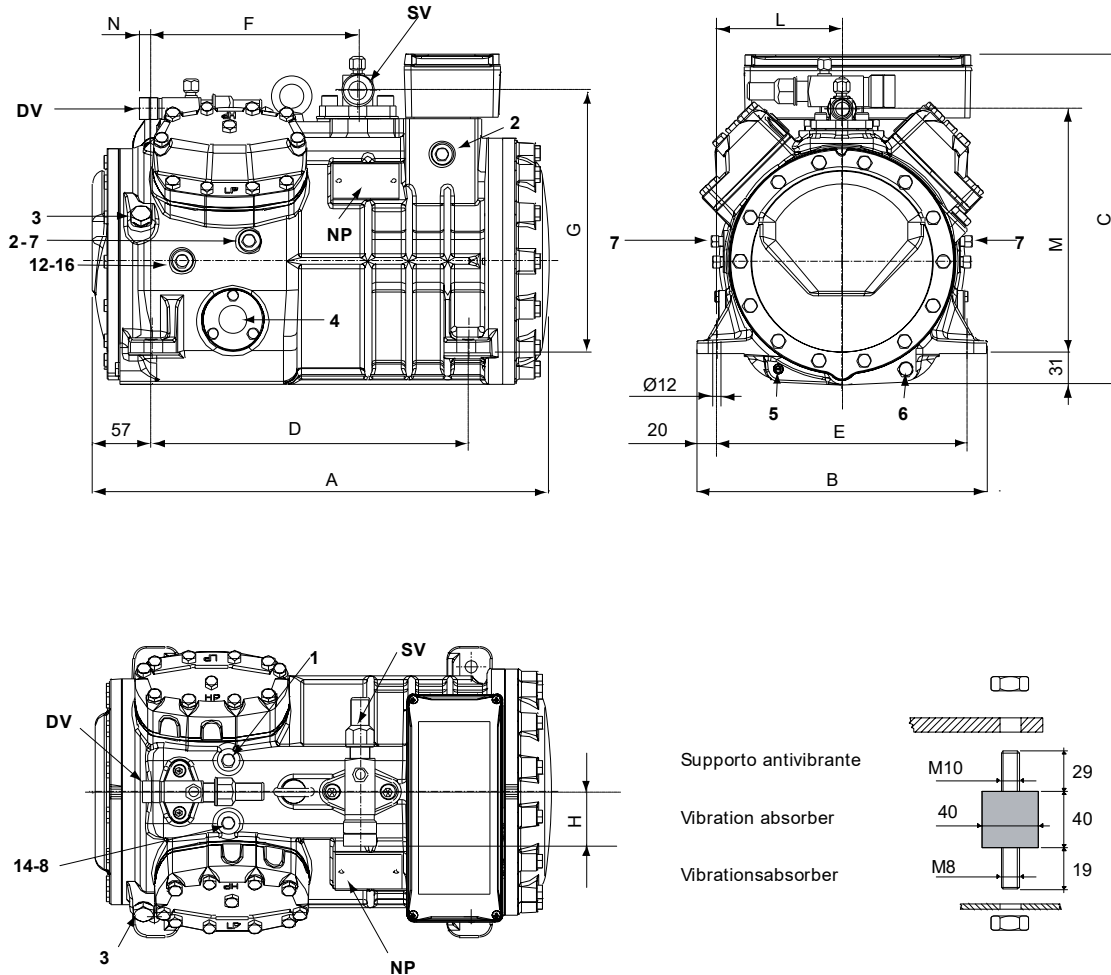
All data subject to change without notice

Model: Q5-21.1Y

Refrigerant: R449A

Power supply: 400/3/50 DOL-STAR

Dimensions:



Legend:

SV: Suction Valve	1 1/8" in - 28,575 mm	1: High pressure connection	1/8" NPT
DV: Discharge valve	3/4" in - 19 mm	2: Low pressure connection	1/8" NPT
A: Length	449 mm	3: Oil charge plug	1/4" GAS
B: Width	286 mm	4: Oil level sight glass	-
C: Height	325 mm	5: Crankcase heater seat	-
D: Base mounting	312 mm	6: Oil drain plug	M8 x 22
E: Base mounting	246 mm	7: Liquid injection plug	1/8" NPT
F: Suction Valve	203 mm	8: Liquid injection sensor plug	1/8" NPT
G: Suction Valve	258 mm	12: Oil return plug	1/8" NPT
H: Suction Valve	53 mm	14: Max discharge temperature sensor connection	1/8" NPT
L: Discharge valve	123 mm	16: Crankcase pressure plug	1/8" NPT
M: Discharge valve	239 mm	NP: Nameplate	
N: Discharge valve	12 mm		

All data subject to change without notice

Model: Q5-21.1Y

Refrigerant: R449A

Power supply: 400/3/50 DOL-STAR

Polynomial coefficients according to EN12900 for Q5-21.1Y:

*S = T_{evap} ; D = T_{cond}

Reference conditions

Refrigerant	R449A
Ambient temperature	35 °C
Suction gas temperature	20 °C
Liquid subcooling	0 K
Frequency	50 Hz

	Refrigerating capacity [W]	Power input [W]
C1	2,686960E+004	1,660860E+003
C2	1,008110E+003	-6,399840E+001
C3	-2,303420E+002	6,685400E+001
C4	1,382180E+001	-1,893740E+000
C5	-7,960020E+000	3,170670E+000
C6	-8,076630E-001	6,518540E-001
C7	7,375750E-002	-1,245580E-002
C8	-7,696850E-002	2,030580E-002
C9	-1,456690E-003	-5,085130E-003
C10	8,315060E-003	-9,692720E-003

$$Y = C1 + C2*S + C3*D + C4*S^2 + C5*S*D + C6*D^2 + C7*S^3 + C8*D*S^2 + C9*S*D^2 + C10*D^3$$