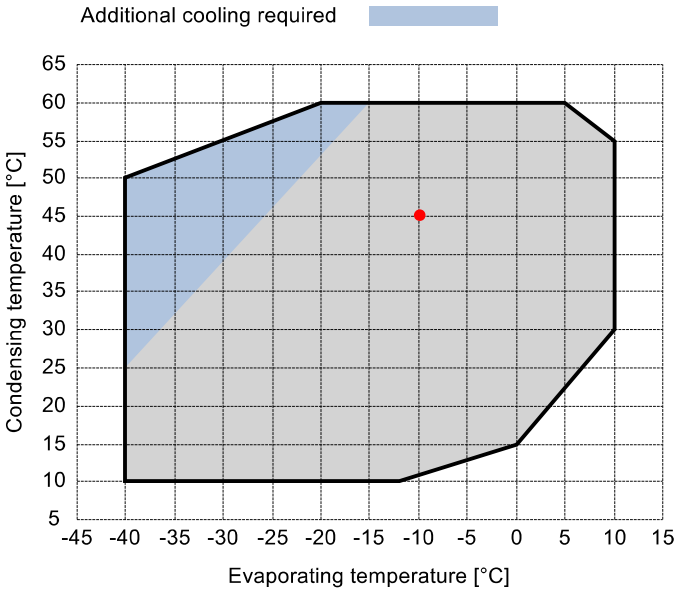
Customer: Kubitech.SRL
Project: frigotehnie.ro

Frascold Selection Software 3 v1.20.0 - joi.03.11.2022

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



Output data

Compressor :		**Z50-154Y**
Number of compressors :		FSx1
Refrigerating capacity	kW	73,875
Refrigerating capacity [*ref]	kW	75,884
Evaporator capacity	kW	73,875
Power input	W	30821
Condenser capacity, theor.	kW	104,696
Current	A	55,53
COP/EER	W/W	2,4
Mass flow	kg/h	1889
Operating frequency	Hz	50
Connection	-	PWS
Operating mode	-	100%
Discharge temperature	°C	83,46
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:

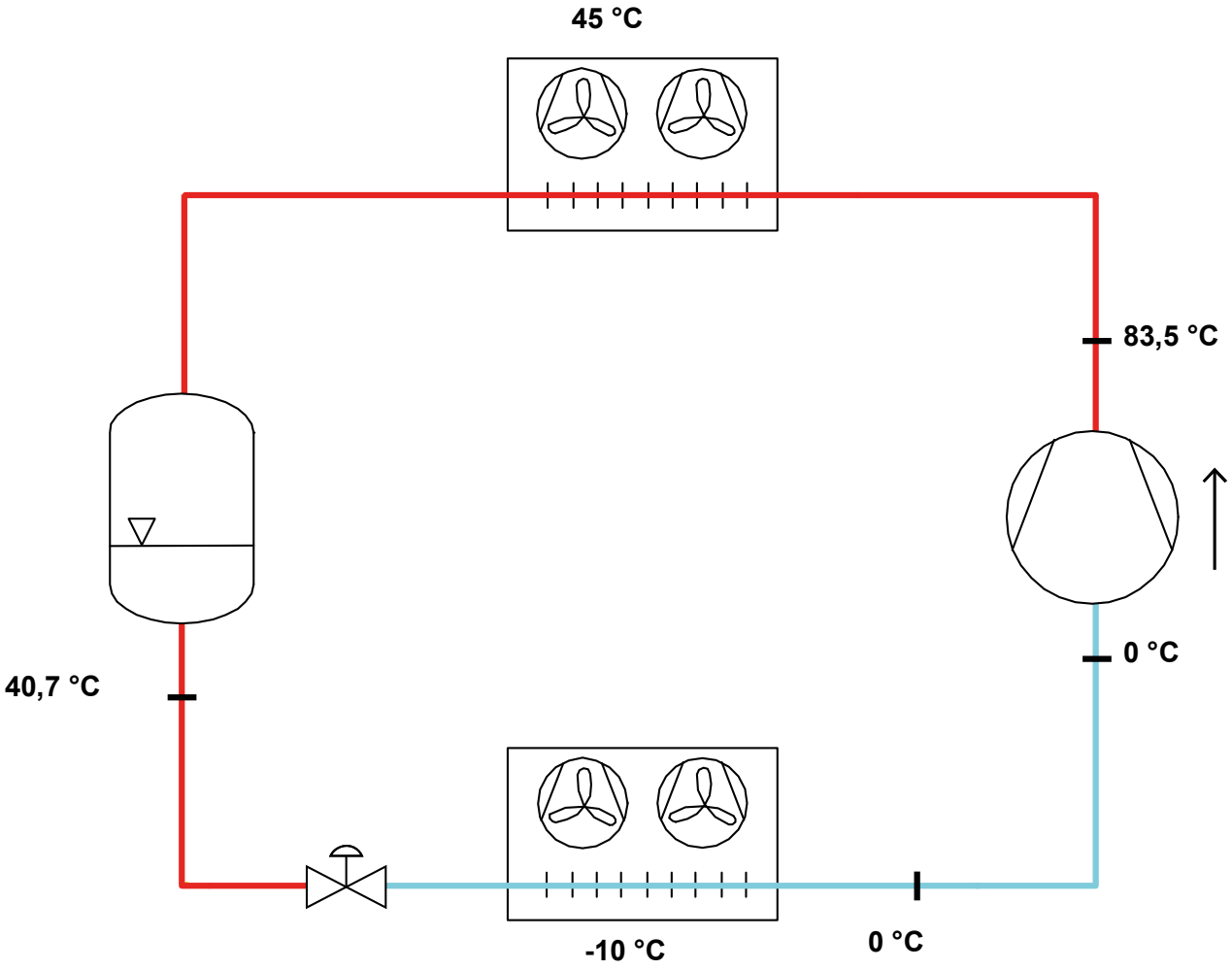
- Frascold tentative data

Legend:

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

All data subject to change without notice

P&I Diagram:



Model: Z50-154Y

Refrigerant: R449A

Power supply: 400/3/50 PWS

Technical data:

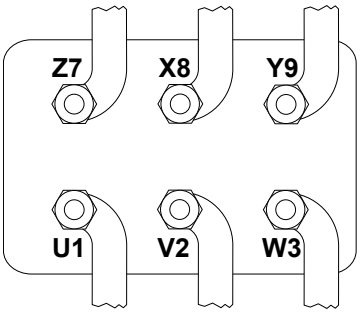
Displacement	154,38 m³/h
Nominal compressor speed	1450 rpm
Motor voltage	400 V
Nominal operating frequency	50 Hz
Maximum allowed operating current (MRA)	90,4 A
Locked rotor current (LRA)	188,6 A
Locked rotor current (LRA), DOL	321,4 A
Number of pistons	6
Net weight	244 kg
Lubricant	FRASCOLD POE68
Oil charge	7,2 l
Maximum static pressure LP	20,5 bar
Maximum operating pressure HP	30 bar

Sound level:

Sound power level 5/50°C R404A @50Hz	84 dB(A)
Sound pressure (*) - Distance: 1 m	76 dB(A)
Sound power level -10/45°C R404A @50Hz	83 dB(A)
Sound pressure (*) - Distance: 1 m	75 dB(A)

*half sphere model

Motor connections:

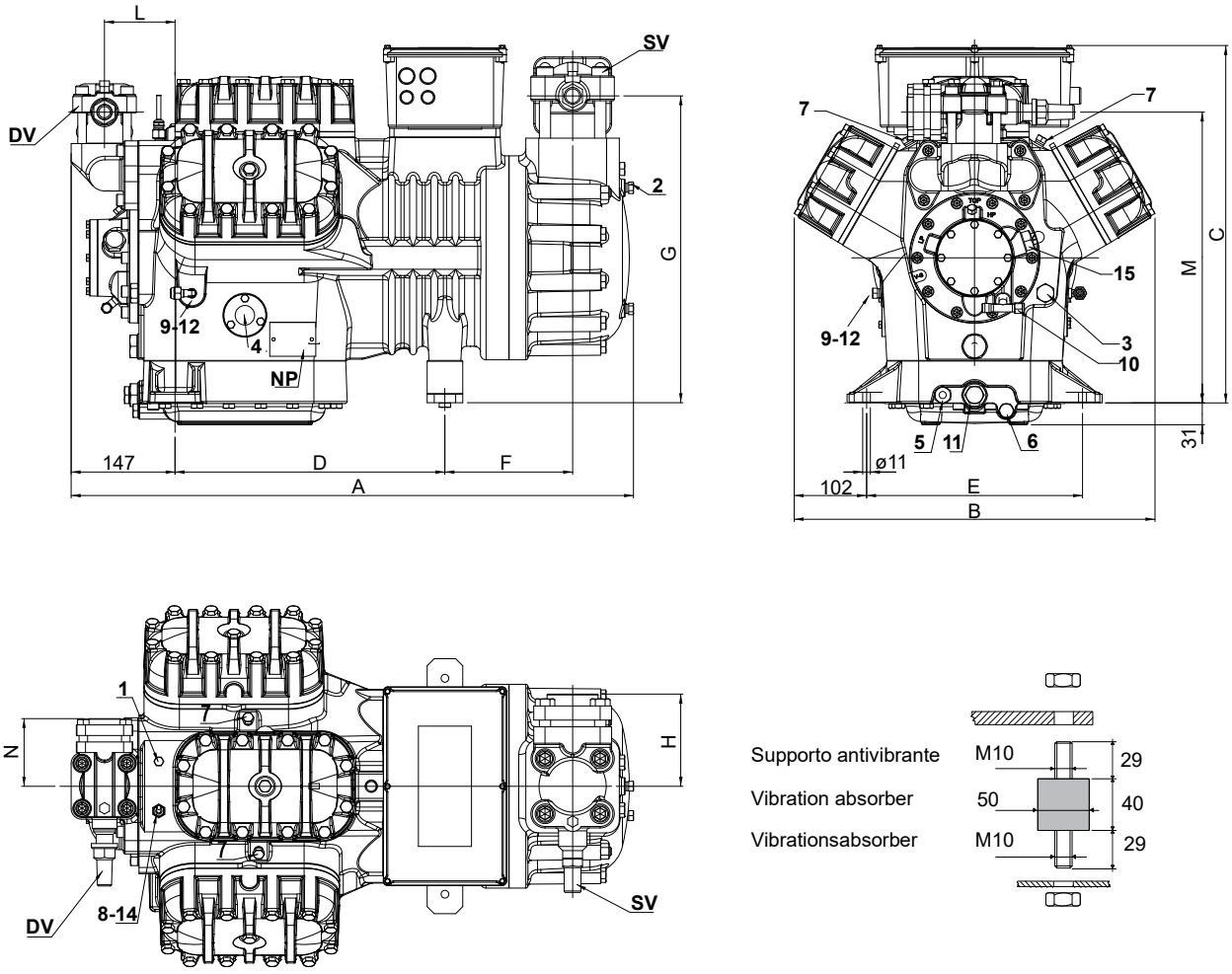


Model: Z50-154Y

Refrigerant: R449A

Power supply: 400/3/50 PWS

Dimensions:



Legend:

SV: Suction Valve	2 5/8" in - 67 mm	2: Low pressure connection	1/4" NPT
DV: Discharge valve	1 5/8" in - 42 mm	3: Oil charge plug	3/8" GAS
A: Length	794 mm	4: Oil level sight glass	-
B: Width	509 mm	5: Crankcase heater seat	-
C: Height	536 mm	6: Oil drain plug	1/4" GAS
D: Base mounting	381 mm	7: Liquid injection plug	1/8" NPT
E: Base mounting	305 mm	8: Liquid injection sensor plug	1/8" NPT
F: Suction Valve	180 mm	9: Oil pressure switch connection (LP)	1/4" NPT
G: Suction Valve	433 mm	10: Oil pressure switch connection (HP)	1/4" SAE
H: Suction Valve	130 mm	11: Oil filter	3/8" GAS
L: Discharge valve	100 mm	12: Oil return plug	1/4" NPT
M: Discharge valve	411 mm	14: Max discharge temperature sensor connection	1/8" NPT
N: Discharge valve	95 mm	15: Electronic oil pressure switch connection	-
1: High pressure connection	1/8" NPT	NP: Nameplate	

All data subject to change without notice

Model: Z50-154Y

Refrigerant: R449A

Power supply: 400/3/50 PWS

Polynomial coefficients according to EN12900 for Z50-154Y:

*S = Tevap ; D = Tcond

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	1,960020E+005	8,694560E+003
C2	7,332630E+003	-4,837710E+002
C3	-1,866290E+003	8,143140E+002
C4	9,972570E+001	-1,416170E+001
C5	-6,585410E+001	2,460010E+001
C6	2,566820E+000	-5,160010E+000
C7	4,665790E-001	-1,135590E-001
C8	-7,874770E-001	1,239360E-001
C9	-2,873010E-003	-1,098150E-001
C10	-4,017530E-002	7,513320E-003

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