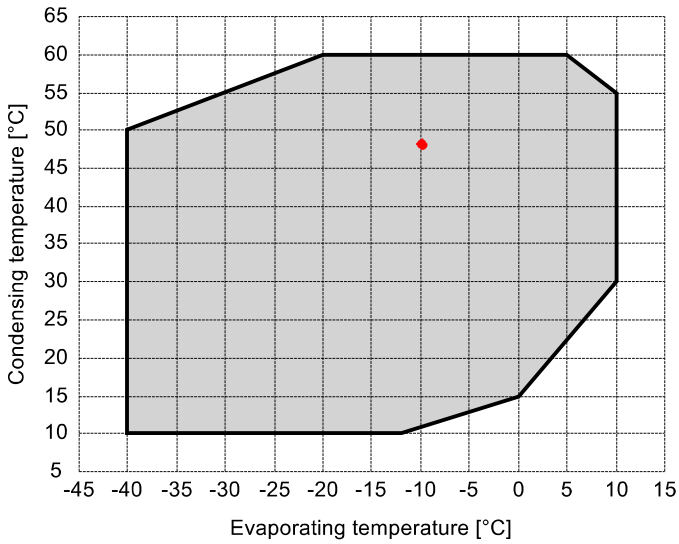
Input data

Refrigerant		R449A
Reference temperature		Dew point temperature
Calculation mode		Refrigeration / Air Cond.
Operating mode		Subcritical
Power supply		400/3/50
Ambient temperature	°C	32
Liquid subcooling	K	3
Liquid temperature	°C	40,83
Evaporating temperature	°C	-10
Evaporating pressure	bar	3,61
Suction gas superheating	K	10
Useful fraction of superheating	%	100



Output data

Compressor :		**LB2-Q524-0Y-2M**
Number of compressors :		FSx1
Refrigerating capacity	kW	10,966
Condensing temperature (dew point)	°C	47,99
Evaporator capacity	kW	10,966
Power input (with fan)	W	5312
Condenser capacity, theor.	kW	16,019
Current	A	9,09
COP/EER (with fan)	W/W	2,06
Mass flow	kg/h	281
Operating frequency	Hz	50
Connection	-	DOL-STAR
Operating mode	-	100%
Discharge temperature	°C	90,47
Ratio (%)	%	100,0%
Note	-	
Oil flow	l/min	-
Heat Exchanged (oil Cooler)	kW	-
Oil Temp. at Oil Cooler Outlet	°C	-
Certified by	-	Frascold

Compliant with EU Ecodesign Directive 2009/125/EC - Regulation EU 2015/1095.

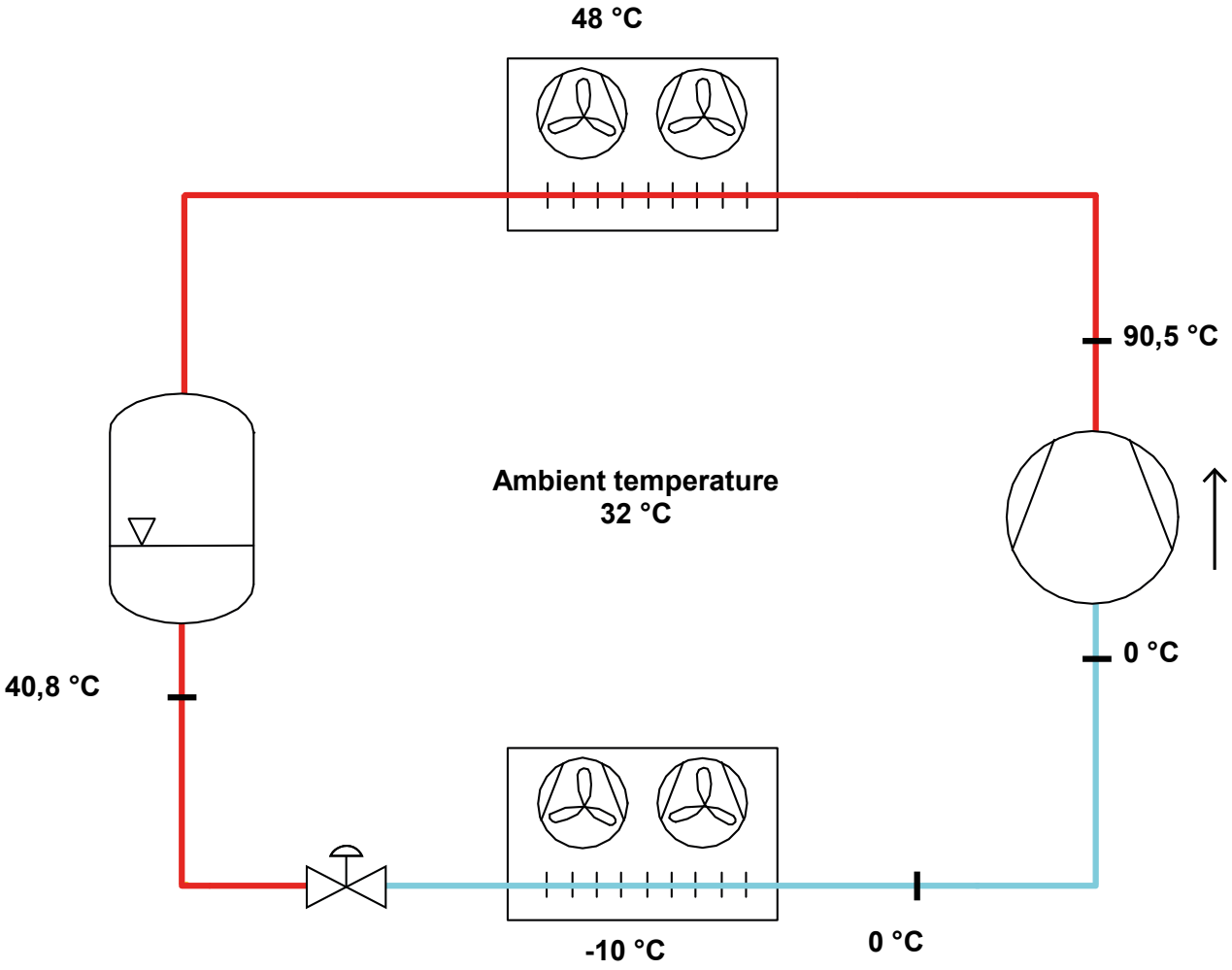
Certified by:

- Frascold Data

Legend:

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

P&I Diagram:



FRASCOLD SPA - via Barbara Melzi 103/105, IT 20027 Rescaldina MI - +39-0331-742201 - frascold@frascold.it - www.frascold.it

Model: LB2-Q524-0Y-2M

Refrigerant: R449A

Power supply: 400/3/50 DOL-STAR

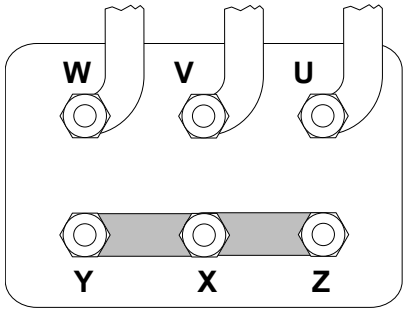
Technical data:

Compressor	
Compressor	Q5-24.1Y
Displacement	23,91 m³/h
Nominal compressor speed	1450 rpm
Motor voltage	400 V
Nominal operating frequency	50 Hz
Maximum allowed operating current (MRA)	13,8 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
Condenser	
Volume	2 l
Fan motor	
Number	2
Air flow	5000 m³/h
Power supply	230/1/50
Max power input (x1)	130 W
Max Current (x1)	0,6 A
Liquid receiver	
Code	USLR04
Volume	3,4 l
Net weight	
STANDARD	140 kg
with housing	176 kg

Sound level:

*half sphere model

Motor connections:



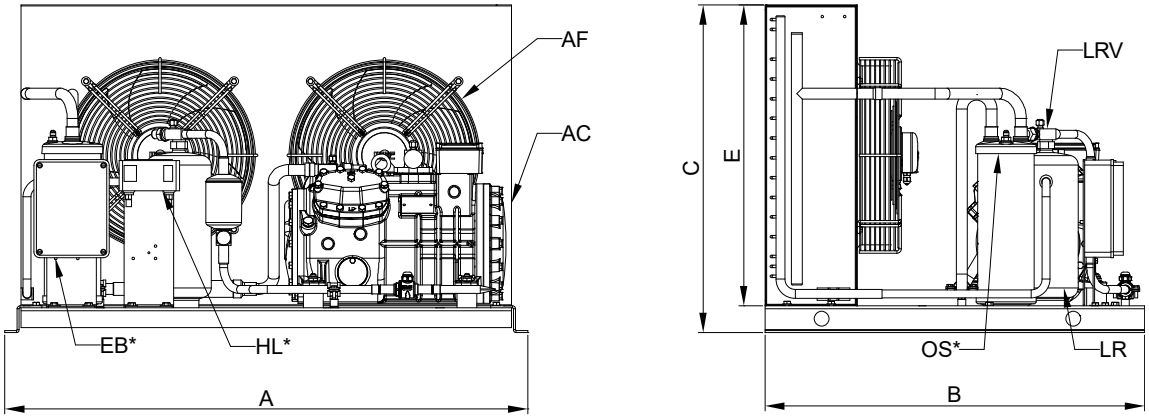
All data subject to change without notice

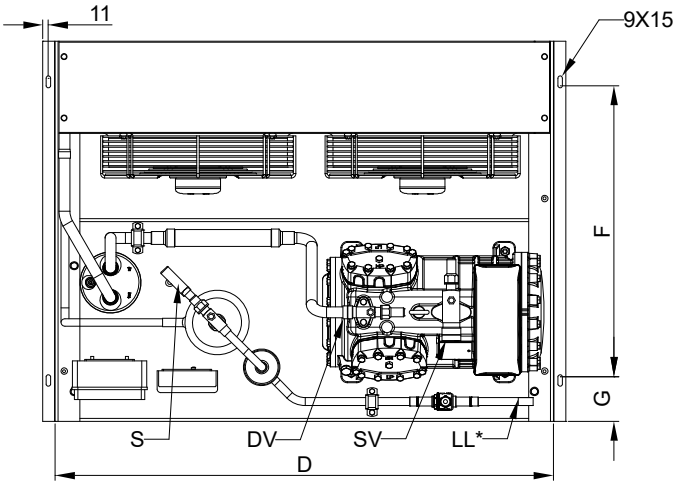
Model: LB2-Q524-0Y-2M

Refrigerant: R449A

Power supply: 400/3/50 DOL-STAR

Dimensions:





Legend:

SV: Suction Valve	28,6 mm - 1 1/8" in		
LRV: Liquid valve	15,8 mm - 5/8" in	S: Safety Valve	
A: Length	1060 mm	AC: Condenser	
B: Width	770 mm	AF: Fan motor	AC Type
C: Height	664 mm	DV: Discharge valve	
A: Length (with housing)	1060 mm	LR: Liquid receiver	
B: Width (with housing)	795 mm	OS*: Oil separator	
C: Height (with housing)	688 mm	EB*: Electric box	
D: Base length	1010 mm	HL*: High/Low pressure switch	
E: Condenser Height	610 mm	H*: High pressure switch	
F: Base mounting	600 mm	LL*: Liquid line	
G: Base mounting	90 mm	*Package	

Model: LB2-Q524-0Y-2M

Refrigerant: R449A

Power supply: 400/3/50 DOL-STAR

Polynomial coefficients according to EN12900 for Q5-24.1Y:

*S = Tevap ; D = Tcond

Reference conditions	
Refrigerant	R449A
Ambient temperature	32 °C
Suction gas temperature	20 °C
Liquid subcooling	3 K
Frequency	50 Hz

	Refrigerating capacity [W]	Power input [W]
C1	2,999980E+004	1,832970E+003
C2	1,126360E+003	-7,677880E+001
C3	-2,437080E+002	8,137560E+001
C4	1,535840E+001	-2,423830E+000
C5	-8,264950E+000	3,645960E+000
C6	-8,661430E-001	5,152910E-001
C7	7,655590E-002	-1,848130E-002
C8	-8,978160E-002	2,284050E-002
C9	-1,280170E-002	-7,130710E-003
C10	5,105050E-003	-8,509870E-003

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

Seasonal efficiency calculation according to EU Regulation 2015/1095

Model: LB2-Q524-0Y-2M

Refrigerant: R449A

Item	Symbol	Value		Unit
Evaporating temperature	t	-10	-35	[°C]
Annual electricity consumption	Q	23633	14685	[kWh/a]
Seasonal energy performance ratio	SEPR	2,96	1,73	[-]
Parameters at full load and ambient temperature 32°C (Point A)				
Rated cooling capacity	P_A	11,364	3,408	[kW]
Rated power supply	D_A	5,291	2,548	[kW]
Rated COP	**COP_A**	**2,15**	**1,34**	**[-]**
Parameters at part load and ambient temperature 25°C (Point B)				
Declared cooling capacity	P_B	12,607	3,906	[kW]
Declared power supply	D_B	4,995	2,522	[kW]
Declared COP	**COP_B**	**2,52**	**1,55**	**[-]**
Parameters at part load and ambient temperature 15°C (Point C)				
Declared cooling capacity	P_C	14,345	4,613	[kW]
Declared power supply	D_C	4,523	2,483	[kW]
Declared COP	**COP_C**	**3,17**	**1,86**	**[-]**
Parameters at part load and ambient temperature 5°C (Point D)				
Declared cooling capacity	P_D	16,036	5,303	[kW]
Declared power supply	D_D	4,018	2,476	[kW]
Declared COP	**COP_D**	**3,99**	**2,14**	**[-]**
Parameters at full load and ambient temperature 43°C (Point 3)				
Declared cooling capacity	P_3	9,447	2,667	[kW]
Declared power supply	D_3	5,653	2,546	[kW]
Declared COP	**COP_3**	**1,67**	**1,05**	**[-]**

Other Items			
Capacity control		Fixed	
Degradation coefficient for fixed and staged capacity units	Cdc	0.25	[-]
Power supply		400/3/50	
Fan speed regulation (Rated)	V	Fixed	[V]
Reference temperature		Dew point temperature	
Suction gas temperature	toh	20	[°C]
Subcooling	SC	3	[K]

Declaration of conformity - Directive 2009/125/UE Ecodesign -Condensing units LB2 series: FDEC151