

Sabroe

Refrigeration Plant Computation

Version 15.00

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SINGLE STAGE COMPRESSOR

SAB 202 S female			
compressor type	drive	refrigerant	R 717
number of compressors	1.00	evaporating temperature	-37.0 deg.C
compressor load	100.0 %	condensing temperature	35.0 deg.C
drive shaft speed	3600.0 RPM (inp.)	total suction superheat	0.0 K
internal volume ratio	optimal	non useful suction superheat	0.0 K
suction line loss	0.5 K	total liquid subcooling	60.1 K
discharge line loss	0.0 K	condenser liquid subcooling	0.0 K
total cooling capacity	487.4 kW	total power consumption	337.6 kW
total heating capacity	825. kW	coeff. of performance (cooling)	1.44
economiser type (open)		side load	none
economiser evap. temp.	-25.1 deg.C		
liquid temp. after economiser	-25.1 deg.C		
line loss - eco. to port	0.5 K		
total eco. flash gas flow	0.0949 kg/s		
COP(with eco)/COP(without eco)	1.13		
total eco. capacity	101.5 kW		
oil cooling system	refrig. cooling	oil specifications	M1 (M68) 351
oil cooler type	OOSI 32142A	oil inlet temperature	50.0 deg.C
oil cooler load - actual	219.1 kW	total oil flow	9.0 m3/h
oil cooler load - min. cap. 15.0 %	203.2 kW	oil density	878.1 kg/m3
		oil specific heat capacity	1.96 kJ/kgK
oil separator:	OHU4131/3226D2	oil kinematic viscosity	39.4 cSt
number of oil separators:	1.0	oil heat conductivity	0.128 W/m.K
discharge check valve(s):	DN65 (2)	oil weight percentage	100.00 %
operating conditions:			
suction pressure	0.82 bar_a	discharge pressure	13.50 bar_a
suction temperature	-37.50 deg.C	discharge temperature	99.79 deg.C
suction specific volume	1.3715 m3/kg	discharge specific volume	0.1266 m3/kg
enthalpy difference (ref.)	1324.68 kJ/kg	liquid density	671.5 kg/m3
suction side mass flow	0.3679 kg/s	pressure ratio (p2/p1)	16.50
swept volume	2249.2 m3/h		
errors and warnings:			
NB: no motor defined - no power consumption check !			