

## TECHNICAL DATA SHEET PROCESS COOLING UNIT SUK

Editor / Rev. / Status / Date	Alfred Semrau / Rev. 0 / 27.10.2021
Type	SUK400L with single stage screw compressor
Project no. / Article no. / Serial no.	Budgetary Quotation

TECHNICAL DATA HEAT TRANSFER FLUID (HTF) SYSTEM	
Heat transfer fluid [HTF]	Water / Ethylenglycole 50/50
Min. / max. operating temperature	-25 °C...40 °C
Min. / max. allowable temperature [TS]	-20 °C...40 °C
Operating pressure	Max. 10 bar
Design pressure [PS]	-1...16 bar
Flow rate	12-16 m <sup>3</sup> /h , see pump curve
Pump type	Mag drive pump – speed control by VSD included
Pump motor	5,5 kW@2900 1/min
Expansion tank/Cold storage	500 L
Heat transfer fluid filling capacity LAUDA system	approx. 400 L
Heat transfer fluid filling capacity external system	client to confirm
Setting range of pressure overlay Nitrogen	Not applicable
Safety valve design pressure	Not applicable
Piping material	Copper
Gasket material	Graphite with metal inlay

TECHNICAL DATA REFRIGERANT SYSTEM	
Compressor	1-stage screw compressor Bitzer Type HSK 6461-60
Refrigerant	R-407C
Filling capacity	Approx. 20 kg
Condenser	Lamella condenser air-cooled
Evaporator	Plate heat exchanger
Operating pressure	Max. 19/25 bar
Design pressure [PS]	-1...28 bar

Energy consumption in operation	100% COOLING	50% Cooling
Total electrical consumption	37 kW	26 kW
Operation mode	Full load	Part load ( average 50%)
Power	72 kW@ -15°C	36 kW@ -15°C
Temperature HTF supply/return	-15 °C/-9 °C	-15 °C/-12 °C
Colling Air requirement	Air 8 m <sup>3</sup> /sec	Air 5 m <sup>3</sup> /sec

NOTES	

TEMPERATURE CONTROL SYSTEM	
Temperature control	Siemens SPS ET200
Temperature probe	PT 100, class A sensor
Control accuracy	± 0,5K (in steady conditions)
Actuator cooling / chilling	2-way control valve
Control function	Control of heat transfer fluid temperature outflow
Electrical Interface	Modbus TCP/IP
System safety equipment	<ul style="list-style-type: none"> <li>• Flow Switch with Indication (Hard wired)</li> <li>• Pump / Compressor Motor Overload Protection (Hard wired)</li> <li>• High pressure Protection (Hard wired)</li> <li>• Level min Protection (Software)</li> <li>• Leakage Alarm (Software)</li> </ul>

DESIGN AND INSTALLATION	
Mains voltage	400V/3/PE/50Hz
Power connection value (max.)	73,5 kW
Current consumption	124 A
Required main fuse	140 A
Degree of protection	IP 54
ATEX-marking	No
Noise level	< 75 dB(A) in 1 meter distance
Site of installation	Outdoor location, no shelter
Min./max. ambient temperature	-20...42 °C
Overall dimensions (WxDxH)	2000mm x 3200mm x 2820mm
Weight (empty)	2200 kg

LAYOUT AND CONNECTIONS			
Description	Nominal size	max. allowable pressure [PS]	Remarks
HTF outlet Q100	DN 50	16 bar	DIN EN 1092-1/11
HTF inlet Q102	DN 50	16 bar	DIN EN 1092-1/11
Drains X100, X102, X104, X128	DN 15	10 bar	G ½" i

REMARKS