



## Technical Datasheet

<i>Air-cooled chiller with Scroll compressors</i>		<i>Model: AR-280AL4</i>
System		Scroll
Type		Air Cooled
Cooling Capacity	kW	219.88
Inlet Water Fluid Temperature	°C	12
Outlet Water Fluid Temperature	°C	7
Fluid Type		Water
Minimum Ambient Temperature	°C	-20
Maximum Ambient Temperature	°C	45
Design Ambient Temperature	°C	37
Type of Refrigerant Gas		R407C
Power Supply	V/Ph/Hz	380/3/50
Power Input	kW	75.04
Number of Compressors	N°	4
Number of Circuits	N°	2
Number of Evaporators	N°	1
Type of Evaporators		Shell & Tube
Type of Condenser		Double V-Type
Dimension (L×H×W)	mm	4650×2750×2550
Shipping Weight	kg	2640
Working Weight	kg	2700



## Compressor

COMPRESSOR DATA		
Compressor type		Hermetic Scroll
Manufacturer		Danfoss
Number of compressors	N°	4
Nominal absorbed power per compressor	kW	16.81
Max absorbed working current per compressor	A	28.88
Max running current per compressor (RLA)	A	35.7
Max peak start current per compressor (LRA)	A	215
Unload starting	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Oil level switch	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Oil heater	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Discharge shut - off valve	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Suction shut - off valve	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Motor winding temp. control	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Motor rotation control	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Oil temp. and pressure control	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Oil filter	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>



## Evaporator

EVAPORATOR DATA		
Type of evaporator		Shell & tube
Manufacturer		Aren
Number of evaporator	N°	1
Number of refrigeration circuits	N°	2
Shell material		Carbon steel - ASME B36.10
Tube Sheet		33-40 mm - carbon steel (ST-52) – ASTM A572
Tube material		Copper
Tube geometry		Diameter: 3/8 inch Wall thickness: 0.9mm
Test pressure (refrigerant side)	bar	14
Test pressure (fluid side)	bar	10
Fluid Pressure drop	bar	0.6
Isolator material		EPDM / PE



## Condenser

CONDENSER DATA		
Type of condenser		Air-cooled Fin & Tube
Configuration		Double V-type
Number of refrigeration circuits	N°	2
Fan manufacturer		ZIEHL-ABEGG / ebm-papst
Fan Type and model		Axial
Fan specification		Low Noise and Aerodynamically Optimized
Number of fans	N°	6
Fan diameter	mm	800
Absorbed power (each fan)	kW	1.95
Absorbed current (each fan)	A	3.9
Fan speed	RPM	1350
Air flow (each fan)	m <sup>3</sup> /hr	18,000
Fin material		Aluminum
Fin type		Waved
Fin spacing	FPI	10
Tube material		Copper (Inner Grooved)
Tube geometry		Diameter: 3/8 inch Wall thickness: 0.9mm
Test pressure	bar	28

**ZIEHL-ABEGG** 

**ebmpapst**



Inner Grooved  
Copper Tube

## Electric

ELECTRIC DATA		
PLC		CAREL
Controller		CAREL
Number of panels	N°	1
Electrical feed	V/ph/Hz	400/3/50
Electrical cabinet	IP	54
Signal LED		SCHNEIDER / TELEMECANIQUE
Circuit breakers		SIEMENS
Thermal magnetic Breakers		SCHNEIDER / TELEMECANIQUE / SIEMENS
Automatic		SCHNEIDER / TELEMECANIQUE
Contactors		SCHNEIDER / TELEMECANIQUE
Fuse		LINDER
Selector switch		SCHNEIDER / TELEMECANIQUE
Panel cooling	Fan	RITTAL
Condenser fan cycling		DANFOSS / CAREL
Temperature control		CAREL



## Controllers

CONTROLLERS		
Expansion valve	Electronically	CAREL
Solenoid valve	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	DANFOSS / CASTEL
Sight glass (Liquid line)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CASTEL
HP limiter / LP limiter	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	DANFOSS
Oil level	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	DANFOSS
Filter drier	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CASTEL
Digital thermometer	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CAREL
Ball valve	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CASTEL
HP transmitter	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	DANFOSS
LP transmitter	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	DANFOSS
Liquid filled pressure gage	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	WIKA / LR
Check valve	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CASTEL
Discharge gas temp. sensor	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	-
Suction gas temp. sensor	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	-
Relief valve	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	-





## Vendor List

<i>Brand</i>	<i>Originality</i>	<i>Brand</i>	<i>Originality</i>
CAREL	Italy	RITTAL	Germany
CASTEL	Italy	SCHNEIDER	France
DANFOSS	Denmark	SIEMENSE	Germany
EBM-PAPST	Germany	TELEMECANIQUE	France
LR	Germany	WIKA	Germany
LINDER	Germany	ZIEHL-ABEGG	Germany



## BUSINESS PARTNERS



*Manufacturing, Equipping Refrigeration & Air Conditioning systems*