



SCA 620C AIR COOLED SCREW CHILLER

New Release

“MV6” CONTROL

**Refrigerant:
R22 Standard**

**NOMINAL CAPACITY
620 kW(R)**

DUNNAIR INTERNATIONAL LIMITED

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Subject to change without notice.

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Features

FLEXIBILITY IN DESIGN

Each **SCA620** chiller delivers a nominal cooling capacity of 620 kW and contains two hermetic screw compressors. The cooling system consists of compressor, condenser, evaporator, thermal expansion valve, dry filter, solenoid valve, and sight glass.

SIMPLE OPERATION

All systems in the Chiller are controlled by the dedicated computer which records and displays the operating parameters of the Chiller-

ENVIRONMENTAL FRIENDLY

Multistack Chillers operate quietly capable of using both the well proven, non-toxic R22 refrigerant, approved under the Montreal Protocol for sale as our standard and environmental friendly refrigerant HFC134a and HFC407C as optional. The refrigerant charge is less than other comparable systems.

UNPARALLELED DEPENDABILITY

For critical air conditioning and industrial process cooling a Multistack modular Chiller inherently provides economical standby capacity and unparalleled dependability.

The use of standard components in our Chillers also enhances system reliability.

THE TOUGHEST QUALITY CODE IN EUROPE

This code requires an audit of the manufacturing process, and a report has been furnished that the requirements are according to ISO 9001-2000.

Every single heat exchanger has to pass quality control, over pressure and leak tests using state of the art helium detectors.

Multistack is an accredited manufacturer to ISO 9001-2000.

Computer Control System



COMPUTER CONTROL

A computer control with 5.7" touch panel and monitoring system runs the Multistack chiller bank and schedules each compressor off or on and capacity control of stages, depending on the changing cooling load. The system continuously and comprehensively monitors total operating conditions of all refrigeration circuits of the chiller bank. Maximum 32 compressors can be monitored.

TEMPERATURE CONTROL

Multistack chiller is controlled either by entering water temperature or leaving water temperature. For variable water flow (VWF) models, controller will use leaving chilled water temperature to operate.

SYSTEM DATA AND VARIABLES DISPLAY

A comprehensive range of Chiller system / slave data and variable settings can be selected from the Multistack computerised monitoring system for display on the menu.

System Information:	Water entering / leaving Temperature. Ambient temperature Loading / demand loading Capacity Load / unload time delay % of faults before remote alarm. Lead compressor Compressor run status.
Slave Information:	Suction and discharge pressure. Evaporate Temperature Water leaving Temperature Faults status
System Variables Settings	Password settings Entering / leaving water temperature Lead Compressor Integrating time Economy offset. Load / unload time delay Time and Date.
Slave Variables Settings	Suction and discharge pressure protection Evaporating temperature protection Compressor load / unload time delay.

COMPRESSOR SEQUENCE

MV6 accumulate running hours of each compressor and hence establish working sequence. A standby compressor with least working hours will be activated once call when loading. Same as a compressor with most working hours will be stopped once unloading.

LOAD PROFILE

Cooling capacity of Multistack chiller is divided into 10 sections from 0% to 100%. Controller accumulate the working time of the chiller in each section and each compressor automatically.

FAULT REVIEW

It displays the last 60-recorded faults identified with time and date, system temperatures, individual refrigeration circuit temperatures and type of abnormal conditions.

PASSWORD

For service and maintenance, only personnel with appropriate password can access and modify the controller.

INDIVIDUAL REFRIGERATION SYSTEM MONITORING

Conditions such as high pressure, low pressure, refrigerant temperature, leaving chilled water temperature of individual refrigeration circuits and system conditions are monitored.

SAFETY PROTECTION FEATURES

- High pressure cut out.
- Low pressure cut out.
- Compressor motor protection.
- Low leaving chilled water temperature cut out for each slave and system.
- Low suction pressure.
- High discharge temperature.
- Phase failure.
- Phase sequence.
- High oil differential pressure cut out.

REMOTE CONTROL & MONITORING (RCM)- OPTIONAL

MV6 is fitted with RS485 serial port, which enables remote control monitoring (RCM) :

1. Connect to PC Under software optional supplied by Multistack, and compatible with Window version, remote control is built to monitor chiller. Maximum communication cable length is 1200m.
2. MV6 is opened to ASCII agreement and communicated with BAS.
3. With Ethernet-card and a unique IP address, customer can built up its data transmission system via internet... of which is optionally supplied by Multistack.

PHISICAL DATA

R22 @AC380V-3PH-50HZ

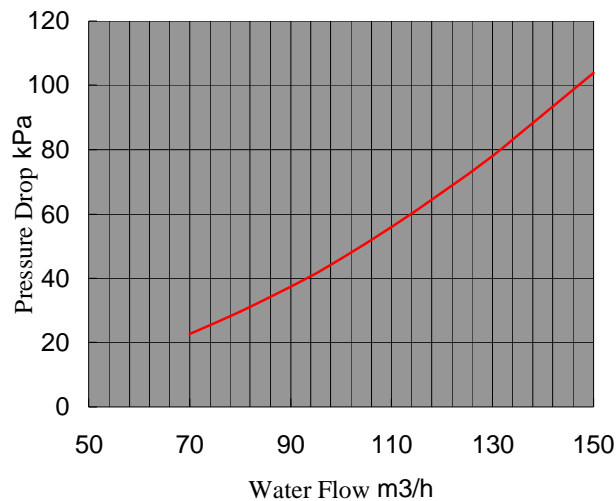
Performance Per Module			SCA620C
Cooling Capacity		kW	620
Compressor	Type		Semi-hermetic Screw
	Input	kW	103 x 2
	Refrigerant		R22
	Cooling Stage		8
Condenser Coil			
Fan	No.		12
	Type		Axial
	Power per fan	kW	1.72
Evaporator			
Type		Shell and Tube	
Chilled Water Flow rate		L/s	26.9
Chilled Water Pressure Drop		kPa	45
Physical Data			
Length		mm	5830
Width		mm	2200
Height		mm	2200
Shipping weight		kg	6710
Operating weight		kg	6800

Nominal Values Based Upon:

Cooling - Chilled Water Leaving Temp. 7.0°C
 Chilled water Entering Temp. 12.5°C
 Ambient Air Temp. 35.0°C

HEAT EXCHANGER WATER PRESSURE DROP

Pressure drop correction factor chart for chilled water circuit. Do not extrapolate.



Unit Capacity Per Module

COOLING CAPACITY

R22

Leaving Chilled Water Temp	Ambient Air Temperature									
	25°C		30°C		35°C		40°C		45°C	
	Unit Cap kW	Comp Power Input kW	Unit Cap kW	Comp Power Input kW	Unit Cap kW	Comp Power Input kW	Unit Cap kW	Comp Power Input kW	Unit Cap kW	Comp Power Input kW
4°C	632	154	590	169	543	202	493	221	428	243
6°C	694	155	639	171	593	204	539	221	473	245
7°C	710	156	663	172	620	205	557	223	456	246
8°C	725	158	678	173	630	205	574	224	507	247
10°C	757	159	705	174	654	206	570	227	532	248
12°C	788	160	735	174	678	207	622	228	556	249

Notes

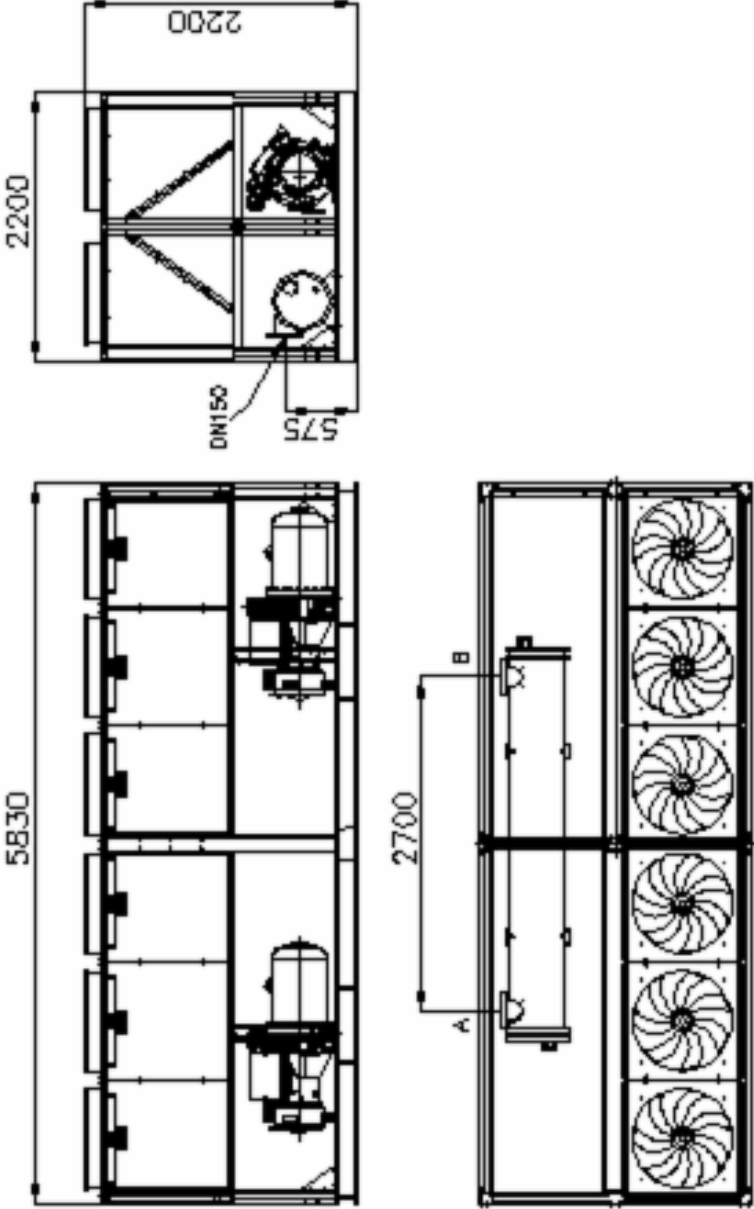
- This table is based on a 5.5°K difference in water temperature.
- Please contact your local Multistack Agent if you require performance data beyond the limits of the above table
- Interpolation is permissible. Do not extrapolate.

Electrical Data

Model		SCA620C	
Supply		AC380V-3Ph-50Hz	
Compressor	MRC	A	218
	STC	A	943
	RLA	A	168
Fan	STC	A	14.0
	RLA	A	3.9

MRC: Maximum rated current
 RLA: Rated load amperage
 STC: Starting Current

Dimensional Data



Guide Specification

AIR COOLED CHILLER SET

Supply and install where shown on plans, chiller sets of MULTISTACK design, having cooling capacity as scheduled. The chiller shall be suitable for the addition of further cooling modules as an integrated system, if and when required.

The compressor, evaporators and condensers shall be mounted on a heavy steel chassis fabricated using galvanised steel.

The module's outer metal frames and panels shall be powder coated to approved colour and oven baked. All refrigeration pipework and components including all necessary accessories shall be connected in accordance with the best refrigeration practice and shall be charged with R22, HFC134a or HFC407C as optional.

COMPRESSORS

Each module shall be equipped with high quality hermetic screw compressors, factory assembled and tested.

The compressors shall be of approved manufacture, screw type, hermetic having adequate motor capacity to achieve the required performance. The motor shall be equipped with a thermistor embedded in the windings for direct protection against overheating or single phasing. Each compressor shall be equipped with high and low suction pressure, and high motor temperature safety controls.

Each chiller shall be fitted and wired with part wind starters for each compressor and capable of operation for number of starts per hour stated by compressor manufacturer.

Shell and tube evaporator

The evaporator shall be shell and tube heat exchanger. The heat exchanger shall be suitable for a maximum working pressure of 2.5MPa on the refrigerant circuit and 1.0 MPa on the waterside.

Nominal chilled water flow through the heat exchangers shall be 26.9 L/s at a maximum pressure drop of 45 kPa.

The cooling capacity shall be selected with a fouling factor of 0.089 m²K/kW.

AIR COOLED CONDENSER

Each refrigeration circuit shall contain two coils of the tube and cross fin type. Tubes shall be internally grooved copper. Fins and tube sheets shall be aluminium with fins mechanically bonded to copper tubing to provide extended secondary surface area, which ensures the coil high running efficiency.

The coil shall be suitable for a maximum working pressure of 2.5MPa.

FANS

The fans shall be axial type with highest running at 720 RPM.

CENTRAL CONTROL SYSTEM

The chiller shall be complete with its own computer based inbuilt capacity controls adjusting both proportionally and integrally to match the required load.

Set point adjustment and interrogation of unit shall be via menu in the 5.7" touch panel

The contractor shall supply, install, wire and commission a flow switch in the chilled water pipe work external to the chiller. This flow switch shall stop and/or prevent operation of the chiller in the event of no flow or reduced flow below 85% of design conditions. (Pressure differential or static pressure sensing devices are not acceptable as a substitute for velocity sensors.)

COMMISSIONING

Supervision of connection and commissioning of modules shall be carried out by the manufacturer or factory trained representatives of the manufacturer.



FOR EXPORT
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