



World leaders in diving equipment technology

DEFENCE
COMMERCIAL

HEAD OFFICE
Enterprise Drive
Westhill
Aberdeen
AB32 6TQ
T: +44 (0)1224 740145
F: +44 (0)1224 740172

GLOBAL LOCATIONS
Aberdeen
Chertsey
Portsmouth
Bremen
Dubai
Cape Town
Perth
Sydney

discover more
www.divexglobal.com



The Divex Heater Chiller Skid (HCS) is a packaged, self contained unit specifically designed to provide supplies of heating and cooling fluids to be used for the environmental conditioning of Deck Decompression Chambers (DDC). This is achieved via the controlled distribution of these supplied fluids by a Chamber Environment Controller (CEC) unit to a Habitat Conditioning Unit (HCU) within the DDC. Once commissioned the above arrangement provides controlled delivery of heating, cooling and dehumidification capacity to a DDC, in order to create and maintain optimum living conditions for saturation diving personnel.

The HCS-1 assembly contains a refrigeration system, electrical heater with 2 immersion heaters and two fluid pumps to circulate hot and cold fluid for heating and/or cooling of the chamber. The fluid temperature is controlled to within 1°C of the set temperature by electronic controllers. The heater tank, refrigerator system, fluid pumps, interconnecting pipe work and electrical distribution box are built into a robust stainless steel frame. Inputs to the system are 440-480V, 3-phase, 60 Hz electricity and cooling seawater. The output is heated or chilled water/glycol mixture at pressures up to 5 bar and 30 litres/min. The HCS-1 with external controls is designed to supply a ring main system, from which the fluid is taken to perform heating or cooling within the chamber. The flow of the heating or chilling fluid is done using a Chamber Environmental Controller (CEC) which should be mounted next to the chamber.

Kinergetics Heater & Chiller Skid (HCS-1)

Theory of Operation Fluid Circuits

The HCS-1 uses a 70/30 water-glycol mixture as fluid for heat transfer. This mixture is used to prevent freezing of the fluid if exposed to cold ambient temperatures and also to prevent freezing inside the chiller refrigeration circuit. There are two separate circuits in the HCS-1 that produce fluids at controlled temperatures that will perform heating, cooling and dehumidification.

The fluid temperatures are controlled by two electronic controllers which control the temperature of the fluids by either switching on the heater elements or by opening a solenoid valve in the refrigeration circuit. The fluid circuits are run at a maximum pressure of 6 bar and the pumps used are multistage vertical axis pumps, driven directly by electric motor. Pressure gauges are mounted on the front of the HCS to monitor the out going fluid pressures. A pressure relief valve is provided in each circuit to prevent damage to the pumps and relieve any chamber gas that might find its way into the cooling/heating circuits.



KI-MDS-560 R0

World leaders in diving equipment technology



Specification

Shipping Weight	590 kg
Weight	Approx. 727 kg (1600 pounds)
Size (mm)	1626 mm, 914 mm, 864 mm
Electrical Input	440 VAC, 3 Phase, 60 Hz, 40 Amp
Heating Capacity	9 kW
Cooling Capacity	9 kW
Temperature Control	Adjustable set point, ±1°C hot/cold fluid
Circulation Pumps	35 litre /min at 4 bar
Cooling Water Input (sea water condenser)	47 ltr/min @ 32°C, 8 bar max
Skid Fluid Connections	1" NPT (F)

**DEFENCE
COMMERCIAL**

HEAD OFFICE
Enterprise Drive
Westhill
Aberdeen
AB32 6TQ
T: +44 (0)1224 740145
F: +44 (0)1224 740172

**GLOBAL
LOCATIONS**
Aberdeen
Chertsey
Portsmouth
Bremen
Dubai
Cape Town
Perth
Sydney

**Kinergetics Heater & Chiller Skid (HCS-1)
440VAC**

Order Code KI17058AB

**Kinergetics Heater & Chiller Skid (HCS-1)
380VAC**

Order Code KI17058AC

discover more
www.divexglobal.com