



IMCA D023 air dive system

Containerized air diving system with LARS and machinery container

System specifications

One unit

20 Ft x 8 Ft x 8 ½ Ft

ISO offshore container c/w exterior corrugated steel, white colour

Interior liner with laminated white Formica for walls and ceiling, compliance with the design requirements of codes:

- EN 12079-1: 2006 (E)
- EN 12079-3: 2006 (E)
- DNV 2.7-1 (2006, A2009) in support of IMO
- MSC/Circ. 860 (1998)
- CSC 1972 (2012E)
- LRCCS (2013)

25mm thick heat insulation

Exterior sand blasted and painted with Epoxy paint

ABS interim class certificate will be provided for complete spread.





Container

Features

Flooring – original steel
1 x Main double door
1 x Recess steel door c/w level lockset and closer
1 x Air- conditioner 18,000 btu
3 x Marine windows
2 x Twin lighting 4 ft fluorescent light c/w wire guard
2 x Emergency lights
2 x Emergency doors
3 x 13amp power points
1 x 15amp power point – Air-con
1 x D/B board (2 MCB / 1 ELCB) 230 volt 50 Hz
1 x Smoke detector
1 x Fire extinguisher
1 x CCTV to A-frame
3 x Recess flood lights on external of container for deck perimeter lighting
1 x Recess electrical penetrator plate
1 x Recess pneumatic penetrator panel
1 x S/S cable tray
1 x Writing table
4 x Power take off sockets (Note: the other 4 in dive control)



One unit double-lock decompression chamber installed in container

Dimensions

Length over all	± 3885mm
Diameter	± 1516mm
Weight	± 3000kg (empty) (+120 kg standard layout)
Length of entrance lock	± 1210mm
Length of main chamber	± 2570mm
Length of medical lock	± 453mm
Diameter of the medical lock	Ø 324 mm (outer diameter)
Viewports diameter	Ø 140 mm
Door diameter	Ø 690 mm
Material	SA516GR70N carbon steel plate
Working pressure	8.80Bar
Test pressure	13.20Bar
Medical lock with interlock	
Test pressure	8.80 Bar
Built to	ASME SECT. VIII DIV 1, 2013ed ASME PVHO, 2012ed
ABS Rules for Building Underwater Vehicles, Systems and Hyperbaric Facilities, 2014	
Design pressure	128 psi design
Temperature	-18°C to 51°C
Inspection	ASME and ABS
Certification	ASME 'U' STAMP, ABS component certificate

Chamber internal (main and entry lock)

Features

1 x Hyperbaric chamber, light internal chamber

1 x Hyperbaric chamber, light entrance lock

1 x Aiphone internal chamber

1 x Aiphone entrance lock

1 x Sound-powered phone, internal chamber

1 x Sound-powered phone, entrance lock

1 x Caisson gauge internal chamber

1 x Caisson gauge entrance lock

2 x S/S folded bunks

2 x Fire retardant mattresses, internal lock

1 x Hyperbaric fire extinguisher, internal lock

1 x Hyperbaric fire extinguisher, entrance lock

3 x O₂ bibs, internal lock

3 x O₂ bibs, entrance lock

2 x Aluminium grating for chamber deck floor

1 x Temperature and humidity gauge, internal lock

1 x Temperature and humidity gauge, entrance lock

1 x Oxygen distribution block to be mounted inside the main chamber, with 3 x 2 connections and consisting of:

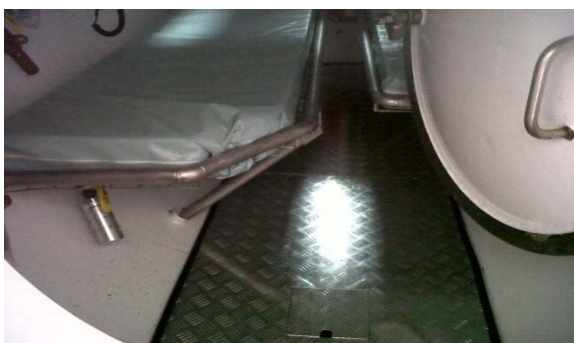
- 1 x External oxygen shut off valve for oxygen inlet (needle valve)
- 1 x External oxygen shut off valve for oxygen outlet (needle valve)
- 1 x Internal oxygen shut off valve for oxygen inlet (needle valve)
- 1 x Internal oxygen shut off valve for oxygen outlet (needle valve)
- 1 x Brass TEE
- 3 x Integrated shut off valves for the oxygen inlet system (needle valve), with Hansen quick connect socket per Scott Dump mask
- 1 x Brass machined manifold block
- 3 x Integrated shut off valves for the oxygen inlet system (needle valve), with Hansen quick connect socket
- 3 x Integrated shut off valves for the oxygen outlet system (needle valve), with Hansen quick connect socket.

1 x Oxygen distribution block to be mounted inside the entrance lock with 3 x 2 connections, and consisting of:

- 1 x External oxygen shut off valve for oxygen inlet (needle valve)
- 1 x External oxygen shut off valve for oxygen outlet (needle valve)
- 1 x Internal oxygen shut off valve for oxygen inlet (needle valve)
- 1 x Internal oxygen shut off valve for oxygen outlet (needle valve)
- 1 x Brass machined manifold block
- 3 x Integrated shut off valves for the oxygen inlet system (needle valve), with Hansen quick connect socket
- 3 x Integrated shut off valves for the oxygen outlet system (needle valve), with Hansen quick connect socket

1 x Chamber external panel and hull consisting of:

- Sound power phone for main lock
- Air phone for main lock
- Air phone for entrance lock
- Oxygen analyser
- Over pressure relief valve
- Oxygen line pressure gauge
- Blow power valve for main lock and pressure gauge
- Blow power valve for entrance lock and pressure gauge
- Inlet pressure gauge
- Exhaust valve for main lock
- Exhaust valve for entrance lock
- Equalization valve for main lock
- Equalization valve for entrance lock
- Bilge valve for main lock
- Bilge valve for entrance lock
- U.P.S
- Chamber depth gauge
- Plumbing S/S 316L and hard plumb to bulkhead



Dive control

Features

One unit

10 Ft x 8 Ft x 8Ft

ISO offshore container c/w exterior corrugated steel painted blue

White interior and laminated white Formica for walls and ceiling complies with the design requirements of codes:

- DNV 2.7-1 (2006)
- EN 12079-1: 2006 (E)
- MSC/Cir.860
- CSC and LR CCS (2005)

Insulation – 25mm thick heat insulation consisting of gas panel, communications and TV system

1 x 3-man panel 75 meter capability

3 x Depth gauges

3 x O₂ analysers

3 x Tescom regulators

1 set D.P alarm system

1 set individual diver supply to diver

3 x Marine windows

1 x Recess marine door

1 x Air conditioner

1 x White fluorescent light with guard

1 x Emergency light

4 x 13 amp power points

1 x Smoke detector

1 x Fire extinguisher

1 x Junction box

1 x Writing table

1 set B.A set

1 set S/S 316 plumbing and hard pipe to bulkhead

1 set P.A system and loud hailer

4 x Power take off sockets (Note: the other 4 in dive chamber)

Exterior of container

3 x Deck lights

4 x Lifting PAD eyes

1 x Recess pneumatic penetrator plate

3 x Fibron diver's umbilical consisting of:

- Air supply hose
- Pneumo
- Individual video and light cable
- Umbilical length is 200m
- Hot water hose

3 x Pigtails for camera lighting systems

Diver's personal equipment

3 x Video cameras

3 x Underwater lights

2 x Air diving helmets – Superlite 37



TV system twin control

The UTS TV system twin control unit houses two fully independent TV control systems within the same rack space as the UTS TV system single control unit.

Each independent control provides connections and control to a single diver's helmet, camera and light. Helmet light intensity is controlled via a simple knob. Video output for each diver is via a RCA phono socket and a BNC socket, allowing simple connection to video display or recording equipment.

Technical specifications - TV system (each independent control unit)

Monitors	4 x 19in
Input voltage range	176 ~ 264
VAC frequency range	47 ~ 63 HZ
Power consumption	90w max
Protection	Overload protection with thermal overload circuit breaker and fuse
Dimensions	W483 x H177 x D287 mm (4U on 19" rack)
Power supply unit	125 W quad output switching power supply with 110~150% overload protection
Video output	RCA phono socket and BNC socket
Light control system	Constant current and constant lumen with variable light control switch (24VDC)

HDD video recorder

Hard disk-based video recording unit capable of high-definition recording. The unit has a large capacity hard disk to provide extended recording periods. Multi-format DVD recordable disk drive allows recorded videos to be extracted easily for archiving or analysis off site.

Power requirements	200~240 VAC, 50/60 Hz
Power consumption	35W
Recording format	PAL
Total HDD capacity	Up to 2 TB
Recording resolution	704 × 576 (PAL standard)
Recorded frame rate	25 frames per second per channel (max. 4 channels)
Recorded duration	Up to 2 weeks on 1 TB HDD, up to 4 weeks on 2 TB HDD
DVD format	DVD±RW, DVD±R, DVD+R (DL)



Plant container

Features

One unit

20 Ft x 8 Ft x 8.5 Ft

ISO offshore container c/w exterior corrugated steel painted blue

White interior colour and water tight side louvres for ventilation which complies with design requirements of codes:

- EN12 07 9 -1:2 00 6 (E)
- EN12 07 9 - 3:2 00 6 (E)
- DNV 2. 7 -1 (2006, A2 0 09) in support of IMO
- MSC/Circ. 860 (1998)
- CSC 1 97 2 (2012E)
- LR CCS (2013)



Pneumatic and electrical recess penetrator plate

- 2 x Quincy 5120 type LP compressor two-stage compressors
 - Pressure 200 psig continuously, 250 psig intermittently
 - Intercooler
 - Volume tank at 445L built to ASME 'U' STAMP and ABS inspection
 - Intake suction from bulkhead of container 3 stage Dominic Hunter filter set
 - Discharge pressure gauge
 - Discharge manifold hard plate to bulkhead of penetrator
 - Volume tank relief valve
- Electrical
 - 440 V 50/60 Hz
 - Indicating light
 - 50 Amp breakers

Quincy 5120LP air compressor

Electric-driven 2-stage LP compressor

Quincy's high performance 2-stage, fully packaged air compressors offer maximum performance in a durable, high quality package for the most demanding applications where dependable air supply is essential.

The compressor may be installed without the standard air receiver to allow direct connection to a UTS large volume receiver. This is necessary in applications with high but intermittent demand.

Heavy duty cast iron pump

Full time low oil level protection switch

Efficient 30HP electric motor

Highly reliable Star-Delta magnetic starter

Air-cooled intercooler

Totally enclosed sheet metal belt guard

ASME coded air receiver with ABS certification



Technical specifications

Model	5120
Motor power	30hp (22.4 kW)
Motor speed	6000/150ppm
Free air delivery	92 CFM
Rated delivery pressure	200/250PSIG (23.8/27.2)
Receiver size	117.6 Gallons (445 Litres)

Coltri sub MCH-36 HP compressor

Complete package high pressure compressor with forced air cooling and four compression stages for delivery of charging air to air bottles or quads. The open back version is optimal for use in hot, humid environments.

Features

All stainless steel inter and after coolers for superior corrosion resistance

Interstage and final moisture separators with automatic condensate drain

Soft start (star/delta) electric switchboard with hour-meter

Inter-stage pressure gauges

Inter-stage and final relief valves

Lubricant oil pressure gauge

Cabin temperature thermostat auto shut off

Oil levels switch auto shut off

Dial-a-Pressure (DAP) fingertip control of auto-stop pressure

Two active carbon filter / molecular sieve



Technical specifications

Power requirements 400/440 VAC, 50/60 Hz

Motor power 15 kW (20 hp)

Max. peak pressure 225 bar (3300 PSI)

Flow rate 600 L/min (21 CFM)

Cylinder diameters 130 – 60 – 32 – 14 mm

Piston stroke 50 mm

Noise level 98.5 Db RPM 1300 rpm

High pressure compressor with forced air cooling and 4 compression stages max. peak non-continuous pressure at 225bar – 3300PSI

Flow rate at 600 l/min – 30 m³/h – 21 CFM

Cylinder diameter –13-60-32-14mm – 0,51-2,36-1,25-0,55 inches

Piston stroke – 50 mm

Pumping unit at 1100 rpm

Intermediate pressures

- 1st stage – 3.5bar – 50PSI
- 2nd stage – 18bar – 260PSI
- 3rd stage – 70bar – 1000PSI
- 4th stage – 225bar – 3300PSI
- 4th stage – 300bar – 4300PSI
- 4th stage – 330bar – 4700PSI
- 4th stage – 425bar – 6000PSI

Oil pressure

- 4bar cold
- 1.5bar during routine use
- 1bar minimum pressure

Motor power

- 11Kw – 15 HP voltage

Frequency

- 400V – 50Hz
- 400V – 60Hz
- 1x Exhaust fan and intake grill mounted on opposite side



Hydraulic power pack

One spare unit hydraulic power pack consisting of:

Tank capacity at 250L level gauge oil-filler cap with strainer suction strainer return line filter inspection plate

Danfoss multi-displacement pump with variable speed relief valve

Direct couple – electrical motor electric motor 30 HP, 380/440V non- return valve

Electrical start box

Step-down transformer 20 KVA 3 phase 440/230V, 45A/87A auto heavy duty on/off for burning gear



Technical specifications

Electric motor model	TECO AEED, frame 160M
Electrical power	415 VAC, 50/60Hz
Shaft power	15 HP (11.19 kW)
No. of poles	4
Max. shaft speed	1455 rpm
Tank capacity	250 Litres (66 gallons)
Pump displacement	38cm ³ /rev (2.32 in ³ /rev)
Max. flow rate	55.29 L/min at 73.44 bar flow
Rate at max. pressure	25.82 L/min at 260 Bar
Typical flow rate	33.57 L/min @ 200 Bar

Main supply and emergency electrical supply

Ship supply and generator supply:

Electrical power with changeover switch: supply no.1 from ship, supply no.2 from generator

Changeover switch: 125A main breaker MCCB, 125A spare MCB

63A/3P+E MCB to transformer

2 x 63A/3P+E MCB for A-frame

25A MCB for hydraulic power pack

40A MCB for HP compressor

2 x 50A MCB for LP compressor

32A MCB for chamber container

32A MCB for control van

10A MCB for deck light

Light indicator

Recess hydraulic and pneumatic penetrator plate

Recess electrical penetrator plate



Welding / control and safety switch

The UTS MAC II welding control unit is a 400 Amp DC isolating station with dual line isolation and monitoring with local and remote control options, which provides safe isolation of welding current and voltage. Each unit is fitted with local ammeter and voltmeter indication; lamps also indicate condition of contactors, i.e. opened or closed.

The remote control may be mounted on a panel on a 19" rack, or incorporated in to other suitable panels. As shown, it is part of a typical indicator panel featuring host vessel DP status indicators and general alarm.



Female DIN style connectors (clearly marked) for quick connection and disconnection are fitted, allowing for quick and easy polarity changes if required. The unit is designed to be located between machine and operator. It may be used for underwater welding and cutting operations as well as controlling surface systems, which for instance may be located in a potentially hazardous environment. The unit is housed in a stainless steel enclosure, which may be wall mounted or located on the deck as required.

Duty cycle rating

100% 300A
65% 350A
45% 400A
400A 600V DC
Isolation local
Switching as
Standard
Remote
Switching option
Switch status indication

Technical specifications

Ammeter	0-500A
Voltmeter	0-150V
Switch box dimensions	500 (H) x 400 (W) x 200 (D)
Remote panel dimension	222.25 (H) x 483 (W) x 287 (D) mm (5U on 19" rack)
Supply voltage	100 to 240 VA



Launch and recovery system (LARS)

2x Unit LARS built to IMCA specification

Launch and recovery system has a S.W.L of 1.5 ton consisting of:

- LARS is constructed from pipe
- Flush mounted galvanized grating deck
- Protection frame for hydraulic pipe work on hydraulic cylinder pivot points for frame king post
- Main winch P15D-3B twin brakes with counter balance valve. Brake panel test kit.
- Clump weight winch P15D-3B twin brakes with counter balance valve. Brake panel test kit.
- Clump Weight
- Dive basket complete with 2 x 50L cylinders, adapter block, 2 x 1st stage regulator with pressure gauge
- Low oil level cut off switch

Main winch

Minimum lift capability	Hydraulically set to 1.5 Ton (1500kg)
Maximum lifting speed	Operator controllable up to 60 Ft per minute
Wire diameter	14mm non-spin
Wire length	80m
Drive system	Direct hydraulic
Braking	Shaft mounted non-rotating multi disc internal gearbox brake <ul style="list-style-type: none"> • Dynamic – Hydraulic over-centre valve • Emergency – Drum brake
Finish	Painted steel construction with marine grade primer and high gloss topcoat

Clump weight winch

Minimum lift capability	Hydraulically set to 1.0 Ton (1000 kg) (14.715kN)
Maximum lifting speed	Operator controllable up to 18m per minute
Wire diameter	12mm non-spin
Wire length	130m
Drive system	Direct hydraulic
Braking	Shaft mounted non-rotating multi disc internal gearbox brake <ul style="list-style-type: none"> • Dynamic – Hydraulic over-centre valve • Automatic hydraulic drum brake
Finish	Painted steel construction with marine grade primer and high gloss topcoat

