



SYNERGY

INNOVATIVE DIVING EQUIPMENT TRADING LLC

INSPIRING • ENGINEERING • INNOVATION

UAE • UK • INDIA • AZERBAIJAN



IMCA STANDARD 60" DIVING DECOMPRESSION CHAMBER IN 20FT CONTAINER # DDC-4



IMCA Code:	Description:
IMCA D018:	Code of Practice for the Initial and Periodic Examination, Testing, and Certification of Diving Plant and Equipment
IMCA D023:	Design for Surface Oriented (Air) Diving Systems



IMCA STANDARD 60" DIVING DECOMPRESSION CHAMBER IN 20FT CONTAINER # DDC-4



Feature:	Description:
Diving Chamber	Installed in a 20FT DNV Offshore Container with complete internal and external fit-out
Chamber Control Panel	Includes O ₂ /CO ₂ analyzers and ambient atmosphere O ₂ analyzer
UPS System	Provided for chamber with integrated charger
Breathing Mask	Chamber operator full-face mask with positive pressure regulator
Emergency Communication	10-meter air hose with comms for emergency use
CCTV System	Main Lock CCTV Recorder (1TB) and Main Lock CCTV Monitor
Power Stabilizer	Single Phase Servo Stabilizer – 5 kVA
Fire Safety	Fire Extinguisher included
Safety Valves	Pressure Relief Valves for chamber protection
Penetration Plates	Installed for sealed and safe incoming/outgoing air and gas lines

CHAMBER ENTRY LOCK WITH ALL FITOUT AS BELOW



Sr.	Part Number	Description	Qty
1	SY-SP-V	Viewport	1
2	SY-350M-01	Amron avox hyperbaric bibs, dual hose ,350 msw rated	2
3	SY-7140-01	Amron led hyperbaric light unit	1
4	SY-3114	Amron internal talk back speaker	1
5	SY-SPT-550RC	Sound powered phone	1
6		Stainless Steel foldable seats	2
7		Aluminum checkered floor plate	1
8		Drain valve connected with flexible hoses for flushing	1
9		All valves and fittings as required	

CHAMBER MAIN LOCK WITH ALL FITOUT AS BELOW

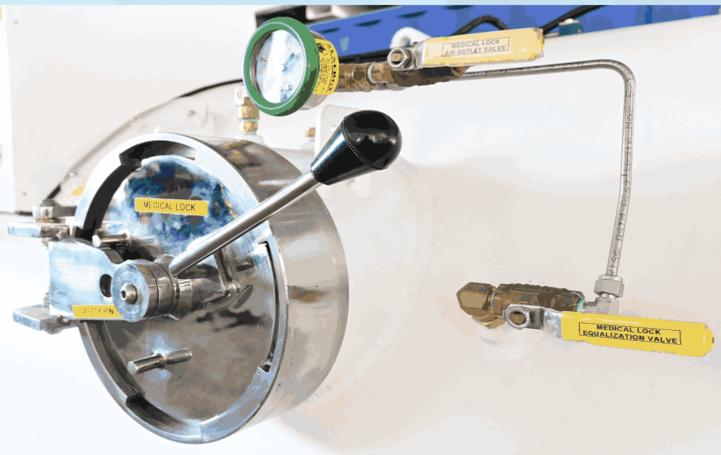


CHAMBER MAIN LOCK WITH ALL FITOUT AS BELOW



Sr.	Part Number	Description	Qty
1	SY-SP-V	Viewport	2
2	SY-SP-VSY-240-FE	Amron Hyperbaric fire extinguisher	1
3	SY-CO2-SCR	Synergy Co2 scrubber unit, 12v, stainless steel	1
4	SY-350M-01	Amron avox hyperbaric bibs, dual hose , 350 msw rated	4
5	SY-7140-01	Amron led hyperbaric light unit	1
6	SY-3114	Amron talk back speaker internal	1
7	SY-CG-230	Internal caisson gauge, 0-230 fsw	1
8	SY-SPT-550RC	Dynalec sound powered phone	1
9	SY-UWC-325/P/E	Internal hyperbaric camera with view of main lock connected to monitor on chamber panel	1
10	SY-EP-4C	Electrical penetration	2
11	SY-FRM	Hyperbaric fire retardant mattress (one for each bed)	
12	SY-FRP	Fire retardant pillows (one for each bed)	1
13		Stainless Steel foldable beds	2
14		Aluminium checkered floor plate	2
15		Drain valve connected with flexible hoses for flushing	2
16		All valves and fittings as required	1
17		Air - all tubing will be stainless steel with brass fittings	1
18		Oxygen- all tubing will be tungum with brass fittings and O2 approved Teflon tape	

CHAMBER MEDICAL LOCK – STAINLESS STEEL WITH AUTOMATIC INTERLOCK



Sr.	Description	Qty
1	External Medical lock, stainless steel with easy to use handle (for open/ close)	1
2	Internal medical lock door, stainless steel	1
3	Automatic interlock (will lock external door under pressure) (door cannot be opened when interlock is engaged)	1
4	Equilization valve	1
5	Pressure gauge with valve (to show pressure inside medical lock)	1
6	Silencer	1

CHAMBER SHELL - DESIGN & AS BUILT STANDARDS

Sr.	Description
1	Dnv approved as built drawings
2	Pneumatic test witnessed / stamped by Dnv
3	Hydrostatic test witnessed / stamped by Dnv
4	Design code ASME SEC VIII DIV 1 - PVHO
5	Data plate stamped by Dnv / stamp on chamber lip along with serial number for identification
6	Dimensions of the DDC: (LXWXH) – 3796mm X 1500mm X 1687mm
7	Overall height including lifting eyes - 1798mm
8	Overall width including control panel - 1500mm
9	Material boiler steel working pressure - Shell - SA 516 GR.70 / Skid IS2062 GR.B
10	Test pressure - Hydro - 15 KGF / Pneumo - 11 Bar
11	Design Pressure - Internal - 10 Bar
12	Design Code - ASME SEC. VIII DIV-1, 2007 ADD 08 + ASME PVHO-1,2002

ELEVATION VIEW

PLAN VIEW

SECTION B-B

SIDE VIEW FROM 'X'

REV.	DESCRIPTION	REV. BY	CHK. BY	APP. BY	DATE
01	ISSUE FOR CONSTRUCTION	SAH	NAH	DNV-GL	01/15/2015
02	ISSUE FOR CONSTRUCTION	SAH	NAH	DNV-GL	01/15/2014

APPROVED
By: [Signature]
DNV-GL

Material List:

ITEM NO.	DESCRIPTION	QTY	UNIT	REMARKS
01	SA 516 GR.70 SHELL	1	PIECE	
02	SA 516 GR.70 HEAD	2	PIECE	
03	SA 516 GR.70 RIB	1	PIECE	
04	SA 516 GR.70 RIB	1	PIECE	
05	SA 516 GR.70 RIB	1	PIECE	
06	SA 516 GR.70 RIB	1	PIECE	
07	SA 516 GR.70 RIB	1	PIECE	
08	SA 516 GR.70 RIB	1	PIECE	
09	SA 516 GR.70 RIB	1	PIECE	
10	SA 516 GR.70 RIB	1	PIECE	
11	SA 516 GR.70 RIB	1	PIECE	
12	SA 516 GR.70 RIB	1	PIECE	
13	SA 516 GR.70 RIB	1	PIECE	
14	SA 516 GR.70 RIB	1	PIECE	
15	SA 516 GR.70 RIB	1	PIECE	
16	SA 516 GR.70 RIB	1	PIECE	
17	SA 516 GR.70 RIB	1	PIECE	
18	SA 516 GR.70 RIB	1	PIECE	
19	SA 516 GR.70 RIB	1	PIECE	
20	SA 516 GR.70 RIB	1	PIECE	

CHAMBER CONTROL PANEL – INCLUDING HP MANAGEMENT PANEL



0-230 fsw/70 msw Depth gauge, 6", 0.25 % accuracy, mirror scale, with calibration point ,
Entry lock, Color coded **Red**



1 x 0-230 fsw/70 msw Depth gauge, 6", 0.25 % accuracy, mirror scale, with calibration point ,
Main lock, Color coded **Green**



1 x 0-70 fsw/21 msw Depth gauge, 8.5", 0.25 % accuracy, mirror scale, with calibration point ,
Therapeutic, Color coded **Black**



Sr.	Part Number	Description	Qty
1	SY-PRO-O2	Oxygen analyzer (O2) with high low alarm connected with a Dwyer VFA 22 BV flow meter to chamber (can read from both entry and main lock by opening valve as required)	1
2	SY-PRO-CO2	Carbon dioxide analyzer (CO2) with high alarm connected with a Dwyer VFA 22 BV flow meter to chamber (can read from both entry and main lock by opening valve as required)	1
3	SY-PG-O2-2.5-500	Gauge for oxygen supply to chamber (oxygen approved gauge)	1
4	SY-PG-A-2.5-500	Gauge for low Pressure air supply to chamber	1
5	SY-2820A-02	chamber communicator, Amron (with push to talk microphone)	1
6	SY-873-400	Option 1 Aqua environment high pressure regulator w/gauges	
7	SY-SPT-550RC	Dynalec sound powered phone (connected to entrance/main lock spt)	1
8	SYTRAN220/24/12	(2 x 24v, 2 x 12v, switch for emergency battery power)	1
9	All inlet and outlet connections provided on the panel frame itself		



INSPIRING • ENGINEERING • INNOVATION

UAE • UK • INDIA • AZERBAIJAN

BUREAU VERITAS CLASS CERTIFICATE PROVIDED WITH EACH DDC

Industry & Facilities Division
Third Party Inspection Report

Page 1 of 6

INSPECTION REPORT Nr: DBA 4.21.324/IR-10 Revision Nr: 0

Initial Interim Final Revisors

Inspection required by: **MS. SYNERGY INNOVATIVE DIVING EQUIPMENT TRADING**

Inspection performed as Recognised Authority: Yes, (Recognition) No

BV Job Nr: DBA 4.21.324

Project: **THIRD PARTY INSPECTION SERVICE** IPO Ref (if applicable): 6121961-1002 (EU Internal Proj)

BV Client: **MS. SYNERGY INNOVATIVE DIVING EQUIPMENT TRADING** P/O nr: Email Confirmation (client to BV)

Manufacturer/Vendor: **MS. SYNERGY INNOVATIVE DIVING EQUIPMENT TRADING** P/O nr: TBA (client to Manufacturer)

Sub-Vendor (if applicable): n/a

Inspection Location: **SYNERGY INNOVATIVE DIVING EQUIPMENT TRADING, Al Quesba, Dubai** Previous Inspection (if applicable): N/A (Date)

Inspection performed on: **01.04.2021** Next Inspection (if applicable): TBA (Date)

MATERIAL / SUBJECT OF INSPECTION	ITEM / TAG Nr	QTY As per P/O	QTY Offered for inspection
60" Diving decompression chamber / Pneumatic over pressure test	Serial No: MEW/640ADC Model 2	01	01

A - INSPECTION RESULT

Satisfactory (Without comments) Satisfactory with comments (Any of trailing Punches or Non Conformity items is still open) Not Satisfactory (NCR raised during the inspection)

Inspection Summary: (for details refer to section E)

Witness of pneumatic over pressure test of 60" Diving decompression chamber @151 psi Serial No.: MEW/640ADC Model 2 as per Annexure -01 and found satisfactory.

Open Non Conformities: Yes, details in section G No

Open Punch List Items: Yes, details in section H No

Release Note Issued: Yes, number(s): (Release Note number) No

BV Traceability Stamping: Yes, No

GM-SI-101 INSP002-En Rev. 3 Copyright Bureau Veritas 10/2019

This template is intended exclusively when BV is acting as 3rd party inspection body. The use of present template is forbidden in the frame of 2nd party services where Client specification and templates must be used.

Industry & Facilities Division
Third Party Inspection Report

Page 2 of 6

INSPECTION REPORT Nr: DBA 4.21.324/IR-10 Revision Nr: 0

BV Inspector: **Pranam P Kumar** BV Coordinator: **Santhosh Patil** (Name and Signature)

BV Office: **Dubai** Inspection Report Date: **01.04.2021**

Distribution: CLIENT BV MANUFACTURER OTHER: Attachments Report: Yes, details in section J No

B - REFERENCE DOCUMENTATION: Refer to attachment section J instead (Indicate if separate document list is provided in attachment)

Title	Reference n°	Rev.	Approval Status	Approved by	Date
Diving Equipment System Inspection Guidance	IMCA D023	01	Approved	Synergy	January 2014
Pneumatic Over Pressure Test	SSELQMSM-01	02	Approved	Synergy	May 2016

C - ATTENDEES

Name	Position	Representing
Mr. Ajal S Siddiqui	Technical Supervisor	Synergy
Mr. Pranam P Kumar	Inspector	Bureau Veritas

D - MEASURING & TESTING EQUIPMENT USED Refer to attachment section J instead (Indicate if separate equipment list is provided in attachment)

Equipment Type	Equipment Identity n°	Last Calibration Date	Expiry Date
Digital Pressure Gauge	95242	15.12.2020	15.12.2021

E - INSPECTION DETAILS

E1 - Details of Witness (W) & Hold (H) Inspection Points

- Visual Inspection of 60" Diving decompression chamber and found satisfactory.
- Verified the serial No. MEW/640ADC model 2 of 60" Diving decompression chamber.
- Witnessed pneumatic over pressure of 60" Diving decompression chamber @151psi (30 min Holding) and found no leakages and pressure drop and found satisfactory at the time of inspection.
- Soap Solution leak test was performed on piping, fittings, valves, and no leakages found and hence satisfactory.

GM-SI-101 INSP002-En Rev. 3 Copyright Bureau Veritas 10/2019

This template is intended exclusively when BV is acting as 3rd party inspection body. The use of present template is forbidden in the frame of 2nd party services where Client specification and templates must be used.

Industry & Facilities Division
Third Party Inspection Report

Page 3 of 6

INSPECTION REPORT Nr: DBA 4.21.324/IR-10 Revision Nr: 0

E2 - Details of Monitoring and Surveillance Patrols Tick if conducted during the visit

- Witnessed pneumatic over pressure of 60" Diving decompression chamber as found Satisfactory at the time of inspection.

E3 - Details of Certificates Review Tick if conducted during the visit

- Verified the calibration certificates of measuring instruments and found in order.

F - HEALTH, SAFETY & ENVIRONMENT COMMENTS (Comment on Observations and Actions Taken During the Inspection)

Two minutes check for my safety was carried out, work location was observed as safe for inspection.

G - NON CONFORMITIES Refer to attachment section J instead (Indicate if separate punch list is provided in attachment)

Item	Description	Status	Raised on	Report Nr.	Closed on	Report Nr.	Comments
N/A							

H - PUNCH LIST ITEMS Refer to attachment section J instead (Indicate if separate punch list is provided in attachment)

Item	Description	Status	Raised on	Report Nr.	Closed on	Report Nr.	Comments
N/A							

GM-SI-101 INSP002-En Rev. 3 Copyright Bureau Veritas 10/2019

This template is intended exclusively when BV is acting as 3rd party inspection body. The use of present template is forbidden in the frame of 2nd party services where Client specification and templates must be used.

Industry & Facilities Division
Third Party Inspection Report

Page 4 of 6

INSPECTION REPORT Nr: DBA 4.21.324/IR-10 Revision Nr: 0

I - DIGITAL PICTURES

1. Visual Inspection (Description: Visual Inspection)

2. Gauge calibration (Description: Gauge calibration)

3. Visual Inspection (Description: Visual Inspection)

4. Application of soap solution (Description: Application of soap solution)

5. Application of soap solution (Description: Application of soap solution)

6. Name Plate (Description: Name Plate)

GM-SI-101 INSP002-En Rev. 3 Copyright Bureau Veritas 10/2019

This template is intended exclusively when BV is acting as 3rd party inspection body. The use of present template is forbidden in the frame of 2nd party services where Client specification and templates must be used.

Industry & Facilities Division
Third Party Inspection Report

Page 5 of 6

INSPECTION REPORT Nr: DBA 4.21.324/IR-10 Revision Nr: 0

1. Application of soap solution (Description: Application of soap solution)

2. Gauge Reading (Description: Gauge Reading)

J - ATTACHMENTS

Item	Attachment Name	Total Pages	Description
01	2 Min Safety	01	2 Min Safety checklist
02	Time Sheet	01	Time Sheet

Annexure -01

Inspection Details:

- Witnessed Pneumatic over pressure test of the Diving decompression chamber with the following details:
 - Description: 60" Diving decompression chamber
 - Design Code: ASME Sec VIII Div -1 PVHO
 - Country of origin: India
 - Manufacturer: Mukul Engineering Works
 - Manufacturer Serial No.: MEW/640ADC Model 02
 - Year of Manufacture: 2021
 - Design pressure: 135.12 psi / 9.5 Kgfsq/cm (g)
 - Max. Pressure: 135.12 psi / 9.5 Kgfsq/cm (g)
 - Pneumatic Over pressure test: 149.34 psi / 10.5 Kgfsq/cm (g)
 - Pneumatic Test Date: 01.04.2021
 - Mini Max. Temperature: 0-50 °C
 - Radiography: 100 %

Pneumatic Test:

- Pneumatic over pressure test of Diving decompression chamber (Serial No.: MEW/640ADC model 2) has been witnessed as per the approved procedure and

GM-SI-101 INSP002-En Rev. 3 Copyright Bureau Veritas 10/2019

This template is intended exclusively when BV is acting as 3rd party inspection body. The use of present template is forbidden in the frame of 2nd party services where Client specification and templates must be used.

Industry & Facilities Division
Third Party Inspection Report

Page 6 of 6

INSPECTION REPORT Nr: DBA 4.21.324/IR-10 Revision Nr: 0

Found the following

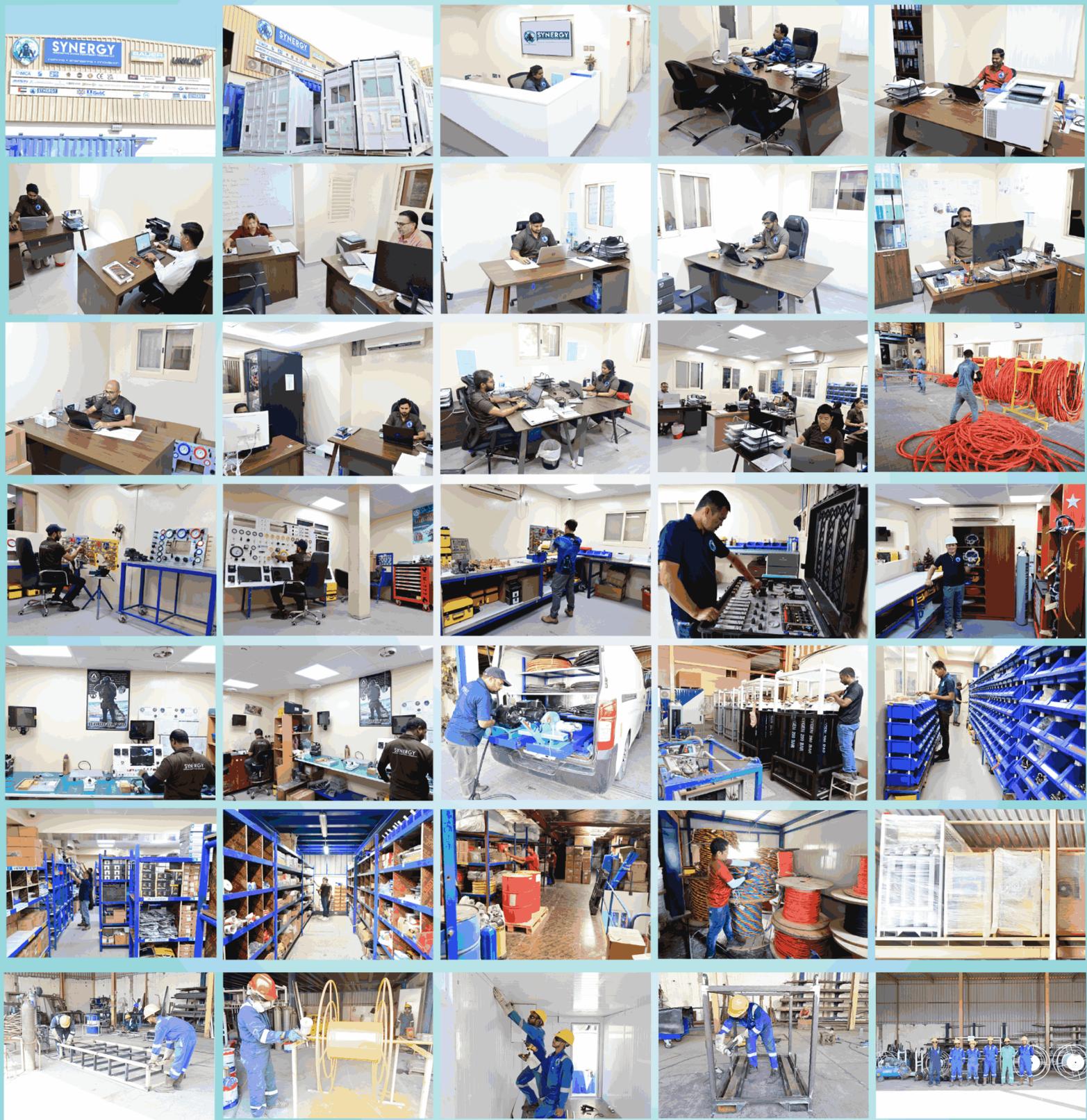
- Test Pressure gauge calibration certificate was review and found satisfactory
- Chamber was tested for a pressure of 151 psi for 30 minutes and found to be Satisfactory.
- Soap solution leak test was performed for verification of the leakage & found Satisfactory at the time of inspection.

END OF REPORT

GM-SI-101 INSP002-En Rev. 3 Copyright Bureau Veritas 10/2019

This template is intended exclusively when BV is acting as 3rd party inspection body. The use of present template is forbidden in the frame of 2nd party services where Client specification and templates must be used.

SYNERGY INFRASTRUCTURE





SYNERGY

INNOVATIVE DIVING EQUIPMENT TRADING LLC

INSPIRING • ENGINEERING • INNOVATION

UAE • UK • INDIA • AZERBAIJAN

IMCA STANDARD 60" DIVING DECOMPRESSION CHAMBER IN 20FT CONTAINER # DDC-4

Contact us



Synergy Innovative Diving Equipment Trading LLC

P.O. Box: 237849, Warehouse No.242, 29th street, Behind Al Huraiz Est, For Industry, Al Qusais, Industrial Area - 1, Dubai - U.A.E

+9714 2580533 / +971 50 564 8178
ram@synergyequipment.com
www.synergyequipment.com



Synergy Diving & Oilfield Equipments Trading LLC

P.O. Box: 2419, Office: 216, 2nd Floor, Dar Al Salaam Building Hamdan Street, Abu Dhabi - U.A.E

+971 50 564 8178 / +971 54 460 1492
ram@synergyequipment.com
unilok@synergyequipment.com
www.synergyequipment.com



iSubC Diving Equipment Ltd

Units 10 Holly Close, Whitehills Business Park Westby With Plumpton, Blackpool, FY4 5QP, United Kingdom

+44 1253 767 788 / + 44 7951 966 260
info@isubc.com
www.isubc.com



Synergy Viking Offshore Engineering

Rabale Ttc Industrial Area Road no 20, Near Narayan dairy, Navi Mumbai, Thane - 400701, Maharashtra, India

+91 98218 90129
ram@synergyequipment.com
www.synergyviking.com



Synergy Group Azerbaijan

Gasan Aliyev, 14A
Baku
Azerbaijan

+99470 330 35 20
infoazerbajian@synergyequipment.com
www.synergyazerbajian.com

