

THREE DIVER MIX GAS PANEL (OPEN PLUMBING) SY-3DMGP-OP-D037-X-XXX-XX

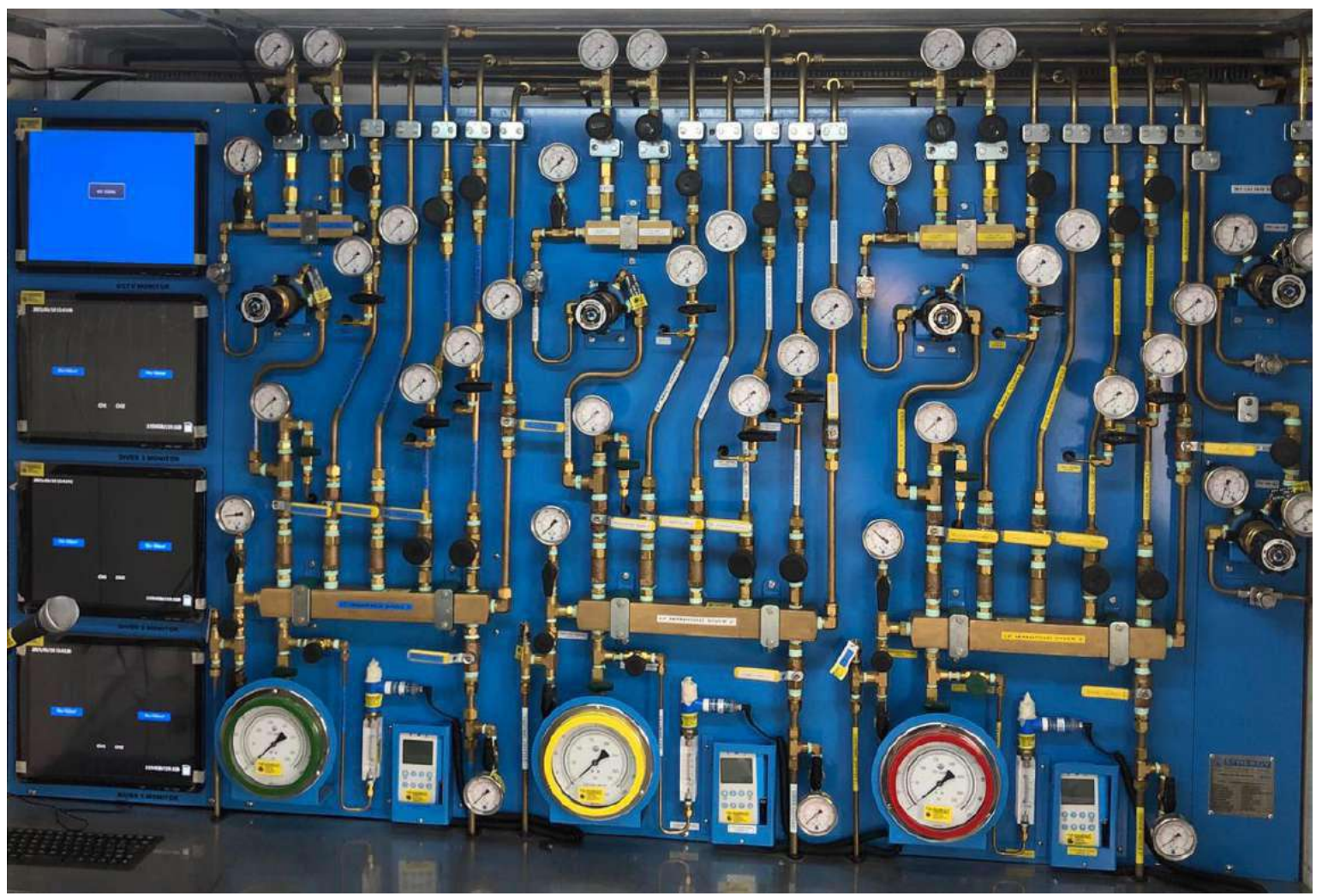


PART NO : SY-3DMGP-OP-D037-R-3DV-4M

IMCA D037	DESIGN for Surface Oriented (Mix Gas) Diving Systems
IMCA D018	Code of Practice for The Initial and Periodic Examination, Testing and Certification of Diving Plant and Equipment



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TECHNICAL SPECIFICATIONS OF THREE DIVER MIX GAS PANEL

Sr.	Description
1	Matt Blue fine powder coated aluminum non rust facia
2	All lines with each valve/fitting/regulator etc clearly marked
3	Frame mounted
4	All panel controls are plumbed in front of the panel, with all plumbing visible along with regulators.

Design criteria for dive panel

Sr.	Description	Qty
1	Diver pneumo gauges – traffic light system for easy understanding, size 6"	
	Diver 1 – with individual calibration point GREEN 	1
	Diver 2 – With individual calibration point YELLOW 	1
	Diver 3 – With individual calibration point RED 	1
	Each Diver provided with 5 supply lines (all mix gas regulated at source)	
A	Diver 1 – Common mix gas line 1 Diver 2 - Common mix gas line 1 Diver 3 - Common mix gas line 1	
B	Diver 1 – Common mix gas line 2 Diver 2 - Common mix gas line 2 Diver 3 - Common mix gas line 2	
C	Diver 1 – Common mix gas line 3 Diver 2 - Common mix gas line 3 Diver 3 - Common mix gas line 3	
D	Diver 1 – Independent high pressure line 1 Diver 2 – Independent high pressure line 1 Diver 3 – Independent high pressure line 1	
E	Diver 1 – Common low pressure Oxygen line 1 Diver 2 – Common low pressure Oxygen line 1 Diver 3 – Common low pressure Oxygen line 1	
F	Diver 1 – Common low pressure Air line 1 Diver 2 – Common low pressure Air line 1 Diver 3 – Common low pressure Air line 1	
2	All air supply lines (inlet and outlet) are color coded per diver	
3	Mastec Oxygen analyzers with high low alarm (one per diver) (for mix gas use)	3
4	Flow meters (per analyzer)	3
5	Pressure gauges Diver 1 hp 1/Diver 1 hp 2/Diver 1 LP Diver 2 hp 1/Diver 2 hp 2/Diver 2 LP Diver 3 hp 1/Diver 3 hp 2/Diver 3 LP	
6	Tescom High pressure regulator, (Inlet 3,750 psi, outlet 1,000 psi) (one per diver)	3
7	Downstream gauges (one per diver) to show umbilical air supply pressure	3
8	Flow Restrictor (one per diver)	3
9	Quick disconnect fitting plumbed into air supply for BA mask	1
10	All tubing used will be tungum tubing , high pressure	
11	All valves for incoming air supplies will be brass , high pressure	
12	All valves for regulated supplies will be brass, high pressure	
13	Diver communication Amron 3 diver helium unscramber Push to talk microphone for above	2 2
14	Diver underwater video system Diver 1/Diver 2 / Diver 3 with individual surface control unit for Video / Light operation Diver 1/Diver 2 / Diver 3 videos recorded on individual Mini Dvr with 32 GB Sd card Backup recorder (black box) 1 TB hard drive (simultaneous recording of all dives) Diver 1/Diver 2 / Diver 3 individual monitor 15"	3 3 1 3

THREE DIVER MIX GAS PANEL (OPEN PLUMBING) SY-3DMGP-OP-D037-X-XXX-XX

Sr.	Description	Qty
	Optional	
1	Surface External Camera (mounted on container above chamber entrance) with 15" monitor	1
2	Rov Camera monitor (connected to Rov operations)	1
3	Navigation camera monitor (connected to Bridge navigation)	1
4	Hot water panel with hi /low alarm fitted to dive panel	1
5	Dynamic positioning Hi Low alarm fitted to dive panel	1

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AMRON INTERNATIONAL

SY-2830A-12 AMCOM III THREE-DIVER PORTABLE DSP3 HELIUM SPEECH UNSCRAMBLER WITH OUTDOOR AC POWER MODULE AND INTERNATIONAL LOCKING POWER CORD



NEWLY DESIGNED ENHANCEMENTS:

High Audio Fidelity

Ultra-low noise circuit combined with noise suppression circuitry produces crystal clear speech. Automatic gain adjustment will guard audio signal from distortion, enhance speaker protection and audio quality. Increases bandwidth 47%.

Extended Battery Operation Time

Audio amplifier card deploys the state-of-the-art Class-D digital audio power amplifier. Has very low power dissipation, produces less heat, and extends battery life up to 32%.

Flexible Gain Settings

The audio amplifier card has adjustable gain settings to accommodate different communication applications and environments.

Ultra-Low Electromagnetic Interference (EMI)

EMI is achieved through spread-spectrum and de-phase control techniques providing for optimum integration with diving systems.

Outdoor Rated AC Power Module

Weather resistant, IP65 rated AC power entry module accommodates country specific AC power cords.

Country Specific V-Lock AC Power Cord

At time of order, simply choose the IP54 rated Locking AC power cord you need.

FEATURES:

- Helium Speech Unscrambler (HSU) is conveniently installed in the option panel of this portable communicator incorporates a state-of-the-art digital signal processor to correct raw helium speech to clear, intelligible voice. The Depth Control can be finely-tuned using a multi-turn potentiometer providing the tender with better speech quality.
- The Noise Reduction Filter (NRF) uses a complex Digital Signal Processor algorithm to capture the background noise and reduce it without affecting the diver's speech. Noise reduction levels can be reduced by up to 17 dB.
- Real-time audio processing uses both frequency and time domain technologies for optimized performance over a wide range of depths and background noise.
- Improved Treble Boost Control feature allows for optimum frequency enhancement and improved intelligible speech from the diver's voice.
- Separate channels and volume controls for each diver and tender to accommodate individual earphone and microphone adjustments, equipment variations and individual comfort levels.
- Divers' umbilicals can be set to 4-wire mode (full duplex) or 2-wire mode (push-to-talk) or any combination of the two modes for any diver.

AMRON INTERNATIONAL

- Ability to use both dynamic and pre-amplified diver microphones with a unique circuit that detects microphone type and automatically adjusts volume levels.
- Weatherproof push-to-talk microphone for better voice intelligibility topside. For optimum clarity, see Tech Note (below) for other recommended equipment.
- Internal charger allows for simultaneous charging and operation of the unit while protecting the rechargeable battery from being over-charged. Automatically supplies power to the audio amplifier when AC power is disconnected to allow for continued operation.

SPECIFICATIONS:

- Input Impedance (Each Input): 250 Ohms
- Frequency Response: 300 - 10000 Hz
- Common Mode Rejection: 40 dB Minimum
- Current Drain Maximum Full Volume: 3 Amps
- Minimum Quiescent: 0.190 Amps
- Output Impedance: 4 Ohm
- Power Supply Voltage: 12 VDC Nominal (9 Volts Minimum - 16 Volts Maximum)
- AC Power Operating Range: 90-264 VAC, 50-60 Hz
- Sensitivity (Input): 5 mV
- Output Power (RMS @ 4 Ohm Load, 12 VDC): 10 Watts Audio
- Battery Life: 29 hours
- Dimensions: 10 in. H x 9 in. W x 14.5 in. L (25.4 cm x 22.9 cm x 36.8 cm)
- Weight: 17.45 Lbs. (7.92 Kg)

INCLUDED WITH COMMUNICATOR:

SY-2830A-12 AMCOM™ II Three-Diver Portable DSP3 Helium Speech Unscrambler with Outdoor AC Power Module and International Locking Power Cord includes:

- (1) SY-2405-28 Amron Hand-Held Push-to-Talk Microphone
- (1) SY-2890-05 Amron 12 VDC Sealed Lead Acid Gel-Cell Rechargeable Battery with Slide terminals
- (1) SY-283XA-UM Amron Three-Diver Portable Communicator User Manual

AVAILABLE OPTIONS:

- SY-2460SM-28 Amron Single Muff Operator Headset with Boom Mic and Dual Banana Plugs
- SY-2401-28 Amron Deluxe Headset with Boom Mic
- SY-2822-28 Amron Remote Walk-and-Talk (4-wire mode)
- SY-2821-28 Amron Remote Walk-and-Talk (2-wire mode)

TECH NOTE:

All communicators will inherently transfer topside noise to the divers when the tender speaks directly into the communicator's panel speaker. To eliminate background noise at the surface, use the 2405-28 Push-to-Talk Microphone, included with this model. For optimum communications, we recommend purchasing the 2401-28 Deluxe Headset with Boom Mic for topside operation. For tender mobility, use the 2401-28 Deluxe Headset with Boom Mic along with the 2822-28 Remote Walk-and-Talk (4-wire mode) or the 2821-28 Remote Walk-and-Talk (2-wire mode). For wireless tender communications, order the 2830A-03 Three-Diver Deluxe Portable Communicator with Wireless Tender Option.

CERTIFICATES PROVIDED WITH EACH THREE DIVER MIX GAS PANEL

Diving panel	Bureau Veritas
Imca	D018 / D037
Class	Bureau Veritas pressure test witness for entire system
Fmea	As built by Synergy
Fmea stamped by class	As built by Synergy and reviewed by Class (optional)
Warranty	One year Synergy manufacturing warranty

Industry & Facilities Division
Third Party Inspection Report
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INSPECTION REPORT No.: DQA-D018-D037-IR-04 Revision No: 1

Project: Third Party Inspection Service
Client: M/S SYNERGY INNOVATIVE DIVING EQUIPMENT LLC, Dubai, UAE
Inspector: M/S SYNERGY INNOVATIVE DIVING EQUIPMENT LLC, Dubai, UAE
Inspected: M/S SYNERGY INNOVATIVE DIVING EQUIPMENT LLC, Dubai, UAE
Inspection Location: At Client's Site
Inspection performed on: 07.06.2019
By: Mr. S. S. S. S.

A - INSPECTION RESULT

Satisfactory
 Satisfactory with comments
 Not Satisfactory

Inspection Summary: (If details refer to section D)

Open Non-Conformities: Yes, details in section G
 No
Open Partial List Items: Yes
 No
Residual Non-Conformities: Yes
 No

BY Inspector: M/S SYNERGY INNOVATIVE DIVING EQUIPMENT LLC, Dubai, UAE
BY Client: M/S SYNERGY INNOVATIVE DIVING EQUIPMENT LLC, Dubai, UAE
Inspection Report Date: 31.05.2019

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B - REFERENCE DOCUMENTATION

Title	Reference No.	Rev.	Approved Status	Approved by	Date
Diving Equipment System Inspection Guidelines <td>IMCA D 037 <td>01 <td>Approved <td>Synergy <td>August 2019 </td></td></td></td></td>	IMCA D 037 <td>01 <td>Approved <td>Synergy <td>August 2019 </td></td></td></td>	01 <td>Approved <td>Synergy <td>August 2019 </td></td></td>	Approved <td>Synergy <td>August 2019 </td></td>	Synergy <td>August 2019 </td>	August 2019
Pressure Over Pressure Test <td>SSEI QMS 01 <td>02 <td>Approved <td>Synergy <td>May 2019 </td></td></td></td></td>	SSEI QMS 01 <td>02 <td>Approved <td>Synergy <td>May 2019 </td></td></td></td>	02 <td>Approved <td>Synergy <td>May 2019 </td></td></td>	Approved <td>Synergy <td>May 2019 </td></td>	Synergy <td>May 2019 </td>	May 2019

C - ATTENDANCE

Name	Position	Representing
M. S. S. S.	Supervising Inspector	Synergy
M. S. S. S.	QC Engineer	Synergy

D - MEASURING & TESTING EQUIPMENT USED

Equipment Type	Manufacturer	Model	Serial No.	Calibration Date	Exp. Date
Digital Pressure Gauge	OMEGA	110-3-2000	110-3-2000	18-12-2018	18-12-2021

E - INSPECTION DETAILS

E1 - Details of Witness (W) & Visual (V) Inspection Points

- Visual inspection of three diver mix gas panel found satisfactory.
- Verified the serial no. TRITON 428 of three diver mix gas panel.
- Witnessed pneumatic over pressure test of three diver mix gas panel found satisfactory at the time of inspection.

E2 - Details of Monitoring and Surveillance Points

- Witnessed pneumatic over pressure test of three diver mix gas panel found satisfactory at the time of inspection.

E3 - Details of Certificate Review

- Verified the calibration certificate of measuring instruments and found satisfactory.

F - HEALTH, SAFETY & ENVIRONMENT COMMENTS

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G - NON CONFORMITIES

No.	Description	Status	Raised on	Report No.	Closed on	Report No.	Comments

H - PURCHASE ITEMS

No.	Description	Status	Raised on	Report No.	Closed on	Report No.	Comments

I - DIGITAL PICTURES



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J - ATTACHMENTS

No.	Attachment Name	Total Pages	Description
1	Issuing the report	1	2 DIV SAFETY CHECK LIST

Inspection Details:

Annexure - 01

- Witnessed Pneumatic over pressure test of Three Diver Mix Gas panel with the following details:

Description	Value
Three Diver Mix Gas panel	TRITON 428
Country of origin	U.S.A.
Manufacturer Serial No.	TRITON 428
Year of Manufacture	2019
Design pressure	1.8 MPa (g) / 26.25 MPa (g)
Test pressure	1.8 MPa (g) / 26.25 MPa (g)
Pressure: Test time	15 min

Pneumatic Test:

- Pneumatic over pressure test of three diver mix gas panel (Serial No. TRITON 428) has been witnessed as per the approved procedure and found the following:

- Test Pressure gauge calibration certificate was correct and found satisfactory.
- Test Pressure of 1.8 MPa was applied to the test pressure piping of three diver mix gas panel and found satisfactory at the time of inspection.
- High Pressure of 2.25 MPa was applied to the high pressure piping of three diver mix gas panel and found satisfactory at the time of inspection.
- Seep column leak test performed on piping, fittings & valves, no leakage found at the time of inspection. Results satisfactory.

END OF REPORT

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ORDERING INFORMATION

Sr.	Part Number	Description
1	SY-3DMGP-OP-D037-R-3DV-4M	THREE DIVER MIX GAS PANEL, OPEN PLUMBING WITH 2 X AMRON HELIUM UNSCRAMBLER, D1 / D2 / D3 VIDEO SYSTEMS, AND 4TH MONITOR FOR EXTERNAL INPUT
2	SY-3DMGP-OP-D037-R-3DV-3M	THREE DIVER MIX GAS PANEL, OPEN PLUMBING WITH 2 X AMRON HELIUM UNSCRAMBLER, D1 / D2 / D3 VIDEO SYSTEMS
3	SY-3DMGP-OP-D037-R-2DV-2M	THREE DIVER MIX GAS PANEL, OPEN PLUMBING WITH 2 X AMRON HELIUM UNSCRAMBLER, D1 / D2 VIDEO SYSTEMS
4	SY-3DMGP-OP-D037-R	THREE DIVER MIX GAS PANEL, OPEN PLUMBING WITH 2 X AMRON HELIUM UNSCRAMBLER (NO CCTV)
5	SY-3DMGP-OP-D037	THREE DIVER MIX GAS PANEL, OPEN PLUMBING (NO RADIO , NO CCTV)
6	SY-2830A-12	THREE-DIVER PORTABLE DSP3 HELIUM SPEECH UNSCRAMBLER WITH OUTDOOR AC POWER MODULE AND INTERNATIONAL LOCKING POWER CORD

Sr.	Part Number	Description
1	SY-HWP	HOT WATER MANAGEMENT PANEL
2	SY-HWA	HOT WATER ALARM PANEL WITH HI/LOW AUDIBLE ALARM AND LIGHT
3	SY-DPA	DYNAMIC POSITIONING ALARM WITH HI/LOW AUDIBLE ALARM, LIGHT AND MUTE BUTTON

BESPOKE DESIGNS – ANY CONFIGURATION AS PER CLIENT REQUIREMENT

THREE DIVER MIX GAS PANEL (OPEN PLUMBING) SY-3DMGP-OP-D037-X-XXX-XX

Contact us



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