

THREE DIVER SCUBA REPLACEMENT PACKAGE (SRP) WITH CARBON COMPOSITE CYLINDERS
SY-3DAP-D040-CSRP-X-XXX

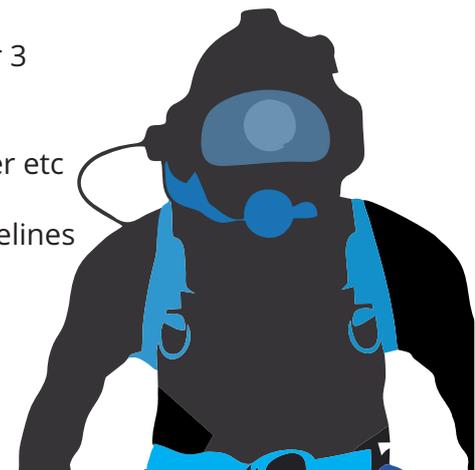


PART NO : SY-SRP-3DAP-D040-CSRP-X-XXX

Design

- All Stainless Steel 316 construction, four diagonal lifting points with ringed pad eyes and fork lift slots.
- Dedicated lifting slings, certified, provided with SRP
- 6 X 50 LTR X 200 BAR Carbon Composite cylinders, light weight
- State of the art dive panels, fully engraved, color coded per diver, built into a waterproof, dust proof, unbreakable Pelican case
- Built to utilize 3 x 100 mtr / 150 mtr / 200 mtr diving umbilicals.
- Various options – Inbuilt radio, inbuilt CCTV systems for diver 1, diver 2, diver 3
- 12v battery pack to run the video systems
- High pressure air hoses with ss fittings from cylinders to dive panel
- Bespoke panels can also be supplied, with client company logo, asset number etc printed on the system
- The system is supplied with complete certification package as per IMCA guidelines and class witness certification

DESIGN for Mobile/Portable Surface Supplied Systems IMCA D040



THREE DIVER SCUBA REPLACEMENT PACKAGE (SRP) WITH CARBON COMPOSITE CYLINDERS
SY-3DAP-D040-CSRP-X-XXX



TECHNICAL DATA SHEET:

Frame Dimensions

Umbilical Hook	55 cm (550mm)
Construction	316 Stainless Steel (mirror finish)
SRP complete unit	2250mm (L) x 1700mm (H) x 1350mm (W)
Ringed Pad Eye	100mm (H) x 100mm(W) x 30mm (T) (with ring)
Pad eye design	DNV 2.7-1

Optional Extras

Wheels	Bolted wheels for easy transport
DC power	Battery pack 12v complete with fast charger in water proof junction box and battery leads

THREE DIVER PORTABLE PANEL - SY-3DAP-D040-X-XXX



PART NO : SY-3DAP-D040-R-2DV

Three diver panel with radio and diver 1 / diver 2 cctv system

THREE DIVER PORTABLE PANEL - SY-3DAP-D040-X-XXX



PART NO : SY-3DAP-D040-R-1DV

Three diver panel with radio and diver 1 cctv

PART NO : SY-3DAP-D040-R

Three diver panel with radio



THREE DIVER PORTABLE PANEL - SY-3DAP-D040-X-XXX

DIVING PANEL WITH D1/D2/D3 INLET FITTINGS (AIR SUPPLIES HP/LP) ON LEFT SIDE AND D1/D2/D3 OUTLET FITTINGS (TO DIVER) ON RIGHT SIDE



DIVING PANEL WITH D1/D2/D3 INLET (HP/LP) AND OUTLET FITTINGS (TO DIVER) FROM THE BACKSIDE OF THE PANEL



THREE DIVER PORTABLE PANEL - SY-3DAP-D040-X-XXX

Information Two Diver Panel

Case	Model 1650, Black, Interior (28.57" L x 17.52" W x 10.65" H), with wheels and handle, water, rust and dust proof), Pelican USA Exterior dimensions: 80.14 x 52.1 x 31.67cm (31.55" x 20.51" x 12.47") Interior dimensions: 72.16 x 44.2 x 27.03cm (28.41" x 17.40" x 10.64") Weight without foam: 10.9kg (24.03lbs)
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1 x 0-230 fsw/70 msw Depth gauge, 3.5", 0.25 % accuracy, mirror scale, with calibration point, Diver 1, Color coded Green 

1 x 0-230 fsw/70 msw Depth gauge, 3.5", 0.25 % accuracy, mirror scale, with calibration point, Diver 2, Color coded Blue 
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1 x 0-230 fsw/70 msw Depth gauge, 3.5", 0.25 % accuracy, mirror scale, with calibration point, Diver 3, Color coded Red 

Air Supplies	HP - 3 independent supplies, one per diver, LP - 3 independent supplies, one per diver
Communication	Amron 2830A-11 Three diver radio with ac/dc power supply
Regulator	1 x per diver, suitable for breathing air, Inlet : 6000 psi, outlet : 400 psi
Relief valves	0-250 psi on regulated diver supply line, 100 psi on pneumo gauges

Air supply ports:

Option 1	All fittings provided on both sides of case – Left side all inlet fittings for hp air, lp air, right side divers air supply and pneumo fittings.
Option 2	All fittings provided from behind the panel for inlets and outlets
Calibration	Inbuilt calibration points for pneumo gauges

Optional :

CCTV	Can be provided for both diver 1 and diver 2
Monitor	TFT 15.5" (splitter will be provided if both diver CCTV options are required)
Surface control unit	All touch button controls with backlight for low visibility operations, video and light control
Primary recording	1 TB hard drive to record all diver video simultaneously
Secondary back up recording	1 TB backup hard drive to record all diver video simultaneously

THREE DIVER PORTABLE PANEL - SY-3DAP-D040-X-XXX

Emergency panel provision – extra protection for diver safety



Information	Emergency Panel
Cylinder Charging	HP charging valve/Gauge
Regulator	HP regulator, inlet 6000 psi Outlet 400 psi
Supplies to Dive Panel	D1/D2/D3 HP valves/Gauges
Regulated Supply	D1/D2/D3 LP valves/Gauges
Connections	Valves/fittings/piping from cylinders to panel

THREE DIVER SCUBA REPLACEMENT PACKAGE (SRP) WITH CARBON COMPOSITE CYLINDERS
SY-3DAP-D040-CSRP-X-XXX



SYNERGY COMPOSITE CYLINDER is unique in the gas distribution business. Not only do we sell gas, but we also sell innovation and high technology.

Since gas distribution commenced, with liquefied air gases, there have been very few significant changes in the way in which the product is presented to clients. The cylinder entails a revolution in the sector and the democratisation of high technology. This is because the investment cost now makes mass distribution possible to end clients purchasing carbon fibre cylinders, regardless of their sector, industrial, food or pharmaceutical.

THREE DIVER SCUBA REPLACEMENT PACKAGE (SRP) WITH CARBON COMPOSITE CYLINDERS # SY-3DAP-D040-CSRP-X-XXX

Description

This lightweight smart cylinder is available in three standard sizes, with 13.3, 20 and 50 litre capacities. It is wholly designed and manufactured in Spain and provides an innovative and absolutely revolutionary solution for the high pressure gas cylinders market.

Its special patented design lets it be packaged in a completely secure manner on standard pallets. This eliminates the need to use steel cages, which considerably simplifies transport and, indeed, represents a revolution in current distribution models. It includes an RFID chip that lets purchase orders be generated totally automatically, as well as real-time traceability controls and access to all information on the cylinder at any time, from the start of the manufacturing process through its final application.

The next generation lightweight materials employed to produce it, such as high-performance carbon fibre and thermoplastic polymers with UV protection, ensure that its weight barely exceeds one-third the weight of conventional steel cylinders, although our cylinder maintains its great mechanical and chemical resistance. It also has an aluminium alloy liner subjected to our exclusive in-house thermal treatment, which gives it high elasticity and resistance to fatigue cycles, despite its thinness, which gives the cylinder a 30 year lifecycle, as well as full aptitude for food, medicinal and pharmaceutical uses.



Regulations

The cylinders produced comply with the most demanding quality and security standards. They also hold product certification from AENOR under European Standard EN12245, Directive 2035/10/EU (TPED) and International Standard ISO 11119-2.

Applications

This innovative cylinder was designed especially for containing the most common industrial gases, both in mix and in their pure state:

- Oxygen (O2)
- Nitrogen (N2)
- Hydrogen (H2)
- Argon (Ar)
- Helium (He)
- Carbon dioxide (Co2)
- Compressed Carbon monoxide (CO)
- Hydrogen Sulphide (H2O)
- Nitrogen Oxide (N2O)
- Sulphure dioxide (So2)



ACCESSORIES

12V 75 AMPS CAR BATTERY WITH FAST BATTERY CHARGER IN WATER PROOF JUNCTION BOX PROVIDED WITH SRP



PART NO : SY-SRP-3DAP-D040-CSRP-X-XXX

SY-2830A-11 AMCOM III THREE-DIVER RECHARGEABLE BASIC PORTABLE COMMUNICATOR

SY-2830A-11 AMCOM III THREE-DIVER RECHARGEABLE PORTABLE COMMUNICATOR 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 band width 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:

- 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.
- 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.

SY-2830A-11 AMCOM III THREE-DIVER RECHARGEABLE BASIC PORTABLE COMMUNICATOR

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): 0.5 mV
- Output Power (RMS @ 4 Ohm Load, 12 VDC): 10 Watts Audio
- Battery Life: 41 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: 17.05 Lbs. (7.73 Kg)

INCLUDED WITH COMMUNICATOR:

SY-2830A-11 AMCOM III Two-Diver Rechargeable Basic Portable Communicator with Outdoor 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:

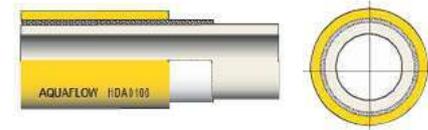
- SY-2460SM-28 Amron Single Muff Operator Headset with Boom Mic and Dual Banana Plugs
- SY-2401-28 Amron Deluxe Headset with Boom Mic
- SY-2822-28 Amron Remote Walk-and-Talk (4-wire mode)
- SY-2821-28 Amron Remote Walk-and-Talk (2-wire mode)

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, topside. 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.

SYNERGY SURFACE DIVING HOSES AND UMBILICALS SY-AQUAFLOW

Known worldwide for its lightweight and ultra flexible construction, Aquaflow hoses are ideal for surface demand applications. Aquaflow kink resistant construction comprises of an extruded core tube, reinforcement of high strength yarn and a bonded outer cover. Both tube and cover are extruded from high performance thermoplastic polymers which are particularly clean and free from odors often associated with conventional rubber hoses. Coupled with the wide operating temperature range this ensures breathing gas quality is maintained under all conditions from -20°C to +66°C.



Part No.	Nominal Bore		O.D.		Min. bend radius		Working pressure		Nom. burst pressure		Weight in air		Weight in sea water		Typical application
	in	mm	in	mm	in	mm	psi	bar	psi	bar	lb/ft	g/m	lb/ft	g/m	
SY-HDA0104	1/4	6.3	0.50	12.7	1.25	32	300	21	1200	84	0.078	116	-0.009	-14	Pneumo
SY-HDA0106	3/8	9.5	0.66	16.8	2	50	500	35	2000	140	0.119	177	-0.034	-50	Air/Gas
SY-HDA1108	1/2	12.7	0.83	21.0	3	76	300	25	1200	84	0.178	265	-0.054	-80	Hot water

Aquaflow Umbilicals



Lightweight, ultra flexible and kink resistant, Aquaflow Umbilicals are ideal for breathing gas supply, comms and pneumo service for surface demand umbilicals. They can be produced in production runs up to 740 meters long and can be over extruded or braided for additional protection against abrasion and use in contaminated waters. The unique materials and cabled "rope-like" construction combine to produce the most flexible, controlled buoyancy umbilicals available today. The umbilicals have no need

for tape, the repairs are much reduced and they have a longer life. They keep the professional diver safer and more efficient both while diving and on deck. They will ultimately reduce costs for the operator. The highest quality materials, workmanship with competitive pricing and unmatched service to our clients worldwide. SYNERGY invites you to visit our website or contact us directly so that we can assist you with all your Diving Umbilical needs.

SYNERGY SURFACE DIVING HOSES AND UMBILICALS SY-AQUAFLOW

SY-UDA0103

3 part surface demand



SY-UDA0204

3 part plus video



SYNERGY SURFACE DIVING HOSES AND UMBILICALS SY-AQUAFLOW



Diving Umbilical with protective outer sheet



Diving Umbilical with spiral wrap



Diving Umbilical without protective outer sheet

OUTLAND VIDEO CAMERA / LIGHTS / UMBILICALS

Mechanical	Specification
Weight	6 oz (.2kg) Dry, 3 oz(.06kg) wet
Depth Rating	2000 ft (600m)
Housing	Black delrin
Electrical	
Image Device	1/3" CCD sensor (412k pixel)
Sensitivity	.001 lux @f1.4
Resolution	600 TV lines standard
Video Out	1.2 Vpp
Power	12 VDC @ 110 ma.
Optical	
Lens	3.6mm, Electronic-Iris
Focus	Fixed 4" to infinity
Angle of View	70 horz. (in water)



PART NO : SY-UWC-325/p/e



Mechanical	Specification
Weight	7oz(0.2kg) Dry, 3 oz.(.1kg) Wet
Depth Rating	2000 ft (600m)
Housing	6061-16 Anodized Aluminium
Electrical	
Power	12 VDC @ 110 ma.
Wattage	18 watt (Eq to 150 watt halogen)
Output	700 lux at 1 meter

PART NO : SY-UWL-401

Mechanical	Specification
Conductors	16ea #22 awg 1 RG-59 Coax
Length (mtrs)	100/150/200 as per requirement
Diameter	8.5mm (0.35")
Materials	Orange Polyurethane jacket
Breaking Strength	1200 lbs
End fittings	
Diver End	Moulded Y connection
Camera	Rmk-5-fs with locking sleeve
Light	Rmg-3-fs with locking sleeve
Surface end	Soldered connection
Cable	8 pin amphenol connector



PART NO : SY-VC-150M

SYNERGY PIGTAILS AND CONNECTORS

Connector	SY-RMK-5-FS
Type	5 Female Sockets
Cable	18 in Pigtail of 18 SO AWG Cable
Material	Special Neoprene, Molded
Contacts	Copper Alloy, Hard Gold Plated per ASTM-B-488
Voltage Rating	600 VDC
Pressure Rating, Mated	Up to 20,000 psi
Mates with	SY-XSL-5-BCL on Outland Camera SY-UWC-325/p/e

PART NO : SY-RMK-5-FS



PART NO : SY-RMG-3FS



Connector	SY-RMG-3-FS
Type	3 Female Sockets
Cable	18 in Pigtail of 18 SO AWG Cable
Material	Special Neoprene, Molded
Contacts	Copper Alloy, Hard Gold Plated per SY-ASTM-B-488
Voltage Rating	600 VDC
Pressure Rating, Mated	Up to 20,000 psi
Mates with	SY-XSG-3-BCL on Outland light SY-UWL-401

Locking sleeve for Rmk-5-fs



PART NO : SY-K-FLS-D

Locking sleeve for Rmg-3-fs

PART NO : SY-G-FLS-D



PART NO : SY-MS3108B-18-08P

Certifications	Provided with each system
International	IMCA D023
Manufacturer	Synergy Certificates
Electrical	Continuity/Function test



PART NO : SY-CLBRK

SS camera and light bracket with jubilee clamp

Cannon Right Angle Amphenol Connector is used for connecting the video camera umbilical to the surface video console unit.

THREE DIVER SCUBA REPLACEMENT PACKAGE (SRP) WITH CARBON COMPOSITE CYLINDERS # SY-3DAP-D040-CSRP-X-XXX

ORDERING INFORMATION

Sr.	Part Number	Description
1	SY-3DAP-D040-CSRP-X-XXX	Three diver scuba replacement panel with ss frame, emergency panel, 6 x breathing air light weight carbon composite cylinders, all plumbing with fittings , valves, hoses to connect from cylinders to diving panel (diving panel not included, please choose from panel options below)

Sr.	Part Number	Description
1	SY-3DAP-D040-SF	Portable three diver panel, offshore, imca (no radio, no diver cctv), side inlet and outlet fittings
2	SY-3DAP-D040-BF	Portable three diver panel, offshore, imca (no radio, no diver cctv), back inlet and outlet fittings
3	SY-3DAP-D040-R-SF	Portable three diver panel, offshore, imca with radio (no diver cctv), side inlet and outlet fittings
4	SY-3DAP-D040-R-BF	Portable three diver panel, offshore, imca with radio (no diver cctv), back inlet and outlet fittings
5	SY-3DAP-D040-R-1DV-SF	Portable three diver panel , offshore, imca with radio and diver 1 cctv, side inlet and outlet fittings
6	SY-3DAP-D040-R-1DV-BF	Portable three diver panel , offshore, imca with radio and diver 1 cctv, back inlet and outlet fittings
7	SY-3DAP-D040-R-2DV-SF	Portable three diver panel, offshore, imca with radio and diver 1 and diver 2 cctv, side inlet and outlet fittings
8	SY-3DAP-D040-R-2DV-BF	Portable three diver panel, offshore, imca with radio and diver 1 and diver 2 cctv, back inlet and outlet fittings

Sr.	Part Number	Description
1	SY-2830A-11	Amcom iii three-diver rechargeable basic portable communicator
2	SY-UDA-0204	4 core Umbilical air/gas, pneumo, communication and video cables
3	SY-UDA-0103	3 core Umbilical air/gas, pneumo, communication
4	SY-ORANGESHEATH	Full braided protective outer sheath (for complete protection of umbilicals)
5	SY-SPIRAL WRAP	Spiral wrap (in 10 mtr lengths) (for umbilical protection)
	Fittings as below	
6	SY-386-PB-AIR	3/8"x 6 jic phosphor bronze reusable umbilical air/gas hose end fitting
7	SY-144-PB-PNEUMO	1/4" x 4 jic phosphor bronze reusable umbilical pneumo end fitting
8	SY-RMG-3-FS	Marsh marine, 3 pin, Female, 18"
9	SY-BANPLUGS-TWIN	Twin banana plugs surface communication end fitting (Red/Black)
10	SY-RMK-5-FS	Marsh marine, 5 pin, female, 18"
11	SY-K-FLS-D	Locking sleeve, delrin , for RMK-5-FS
12	SY-RMG-3-FS	Marsh marine, 3 pin, female, 18"
13	SY-G-FLS-D	Locking sleeve, delrin, for RMG-3-FS
14	SY- MS3108B-18-08P	Cannon right angle amphenol connector is used for connecting the Surface end of the video camera umbilical to the surface video console unit

BESPOKE DESIGNS – ANY CONFIGURATION AS PER CLIENT REQUIREMENT

THREE DIVER SCUBA REPLACEMENT PACKAGE (SRP) WITH CARBON COMPOSITE CYLINDERS
SY-3DAP-D040-CSRP-X-XXX

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