

A REVOLUTIONARY APPROACH

EXTEND YOUR



XR

mares | XR
extended range

SIMPLICITY AND SAFETY
BY DESIGN



HOR

XR

KEY CHARACTERISTICS

A REVOLUTIONARY APPROACH

- Extended dive time
- Lightweight
- As easy as nitrox diving
- Creates a natural diving position
- Fail-safe gas operation
- Easy to assemble and prepare
- Ready for advanced divers
- Intuitive interface
- CE approved for nitrox mixes from 30% - 99% O₂
(Maximum depth: 40m)



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KEY CHARACTERISTICS

A REVOLUTIONARY APPROACH **EXTENDED DIVE TIME**

The Horizon offers incredibly extended dive time compared to open circuit dives, giving the diver ample time to take in the wonderful underwater environment.

- Dive times are an average of 3-8 times longer
- Standard nitrox gas cylinders that are available at the dive destination can be used
- Additional cylinder rigging optional



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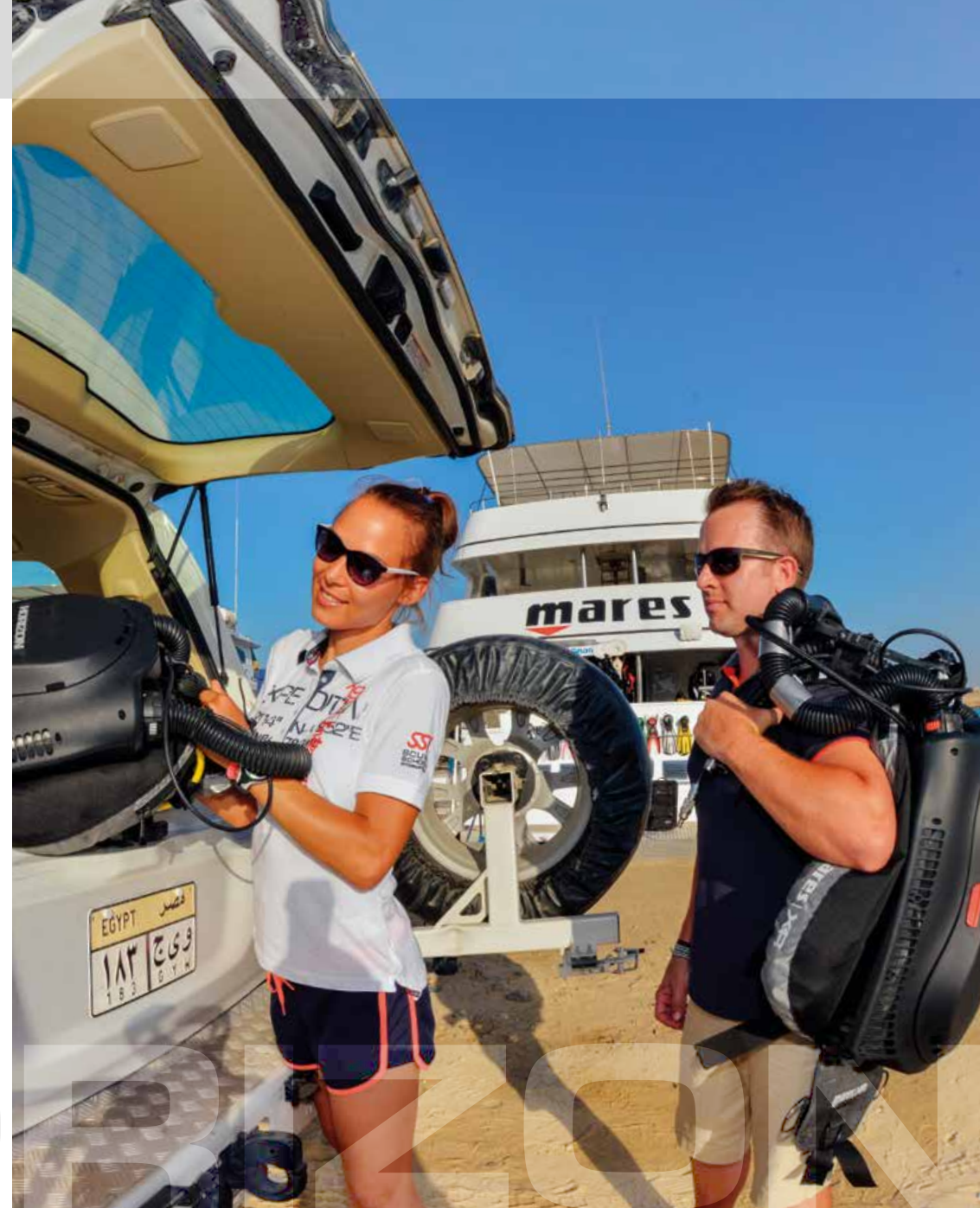
KEY CHARACTERISTICS

A REVOLUTIONARY APPROACH **LIGHTWEIGHT**

The lightweight system is the ideal travel companion and does not require dedicated cylinders or weights.

The unit's simple logistics allow the diver to use standard nitrox cylinders that are easily obtained from most dive destinations.

- Complete unit weighs only 12kg for easy transportation
- Comes with 1 bottom gas regulator set weighing 1.4kg
- Optional decompression gas regulator weighing 1.4kg is also available
- Combined, the Horizon unit and regulators should fit in a single suitcase, weighing less than 23kg in total – the standard checked baggage allowance for most airlines



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KEY CHARACTERISTICS

A REVOLUTIONARY APPROACH AS EASY AS NITROX DIVING

The Horizon SCR training builds on a foundation of open-circuit and nitrox diving knowledge, and the Horizon SCR controller intuitively maintains an ideal nitrox mix, depending on diver preferences. Fewer bubbles allow wildlife enthusiasts to experience close encounters like never before.

- The gas mix can be changed during the dive (using the controller) to extend dive time or decrease decompression time
- The controller will warn the diver if an inappropriate gas mix exists



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KEY CHARACTERISTICS

A REVOLUTIONARY APPROACH CREATES A NATURAL DIVING POSITION

The Horizon SCR provides warm and moist breathing gas, and an ergonomic design that intuitively improves the diver's trim position and comfort.

- The shape of the Horizon unit provides the ideal, horizontal trim
- The combination of warm air and improved dive position makes breathing natural and effortless
- The specially contoured, ergonomic unit includes a soft back plate, lumbar support, buttplate and padded harness straps



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KEY CHARACTERISTICS

A REVOLUTIONARY APPROACH **FAIL-SAFE GAS OPERATION**

The Horizon SCR was designed to maximize safety and ensure exceptional performance using multiple back-up safety systems and three sets of redundant electronics and power supplies. A smart, diver-adjustable HUD visual indicator informs the diver of their gas supply status using a pulsing LED light, and in the unlikely event of an electronic shutdown, the diver can switch to the BOV, ensuring a continuous and safe supply of breathing gas.

- During a total system failure, the unit supplies an open-circuit nitrox breathing gas mix
- A sophisticated monitoring system informs the diver of how much time remains before they must replace the scrubber material
- Regulator set(s) provide alternate gas sources that can be shared in an emergency situation



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KEY CHARACTERISTICS

A REVOLUTIONARY APPROACH EASY TO ASSEMBLE AND PREPARE

One of the key attractions of the Horizon SCR is its incredible ease of use.

It is simple to set up, requires no tools, has easy access to the scrubber canisters for filling, and has non-interchangeable, color-coded, quick release corrugated breathing hose connections.

- No tools required
- Harness can be fully adjusted according to need
- Nitrox cylinders can be obtained at the dive center on reaching your destination
- No pre-packed scrubber cartridges required – scrubber canisters can be re-filled by the diver
- No dedicated weights are required



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KEY CHARACTERISTICS

A REVOLUTIONARY APPROACH READY FOR ADVANCED DIVERS

For the more advanced diver, the Horizon offers a range of advantages.

As well as a longer dive duration, the diver has dual gas possibilities – with the option of attaching a second cylinder with a higher O₂ concentration for accelerated decompression.

- Uses the ZH-L16C Bühlmann algorithm with gradient factors
- Programmable bottom gas and decompression gas
- Within operational limits (up to 40m) the unit provides decompression obligations like that of a closed-circuit rebreather



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KEY CHARACTERISTICS

A REVOLUTIONARY APPROACH INTUITIVE INTERFACE

An integrated controller completes the Horizon, with a 2.8", easy-to-read color display and optional wireless gas integration. This intelligent computer is effortlessly operated via two large piezo elements, especially when wearing gloves, and includes a scrubber monitoring system to keep the diver informed of their scrubber status at all times, and an audible warning alarm.



PRE DIVE			POST DIVE		
0.0 _m	PRE-DIVE CHECK ✓		🕒 14:35:20	GF	30/70
NO DECO	TTS	O2 LOOP	📅 27/02/2017	AGF	35/85
-- _m 99: --:		29%	🌡️ 24°C	JOHN SMITH	
BOTTOM GAS	O2 SET	SCRUBBER	BATT 4h 35	🇨🇷 ICE 1: +39 0185 2011 ICE 2: +39 0185 2011	
36%	28%	2h 45	MIX	SET	MOD
MENU	INFO		BOTTOM	38%	32%
			DECO	80%	75%
				10m	200bar
			INFO		

NO DECO DIVE			DECO DIVE		
12.8 _m	0h 43		12.8 _m	1h 22	
NO DECO	TTS	O2 LOOP	STOP	DECO	TTS
-- _m 45: 2:		29%	6 _m	4:	15:
BOTTOM GAS	O2 SET	SCRUBBER	O2 LOOP		
36%	28%	2h 45	52%		
MENU	INFO		MENU	INFO	
			BOTTOM GAS	O2 SET	SCRUBBER
			60%	52%	1h 55
			INFO		

DIVE WARNINGS

WARNING			BAIL OUT			
STOP	DECO	TTS	O2 LOOP	STOP	DECO	
6 _m	4:	15:	52%	6 _m	4:	
BATTERY < 25%			SCRUBBER	GAS CHECK FAILED CHANGE TO OC		
			1h 55	SCRUBBER		
			1h 55			
MENU			CONFIRM			

Scale 1:1

XR

SYSTEM COMPONENTS

BOV - BAIL OUT VALVE

- Allows the diver to easily switch to open-circuit breathing, as with a standard open-circuit regulator

BREATHING LOOP

- Flexible corrugated silicone hose that allows unrestricted head movement

TOP INTEGRATED WEIGHT COMPARTMENT

- Can hold up to 2.5kg
- No specialized weights are required

NON-INTERCHANGEABLE QUICK RELEASE CONNECTIONS

- Breathing hoses have unique snap-in connectors and are color-coded, meaning they are easy to attach and cannot be interchanged

SPRING-LOADED CANISTER CAPS

- Canister caps are fixed in place using spring loaded clamps
- No tools required for set-up

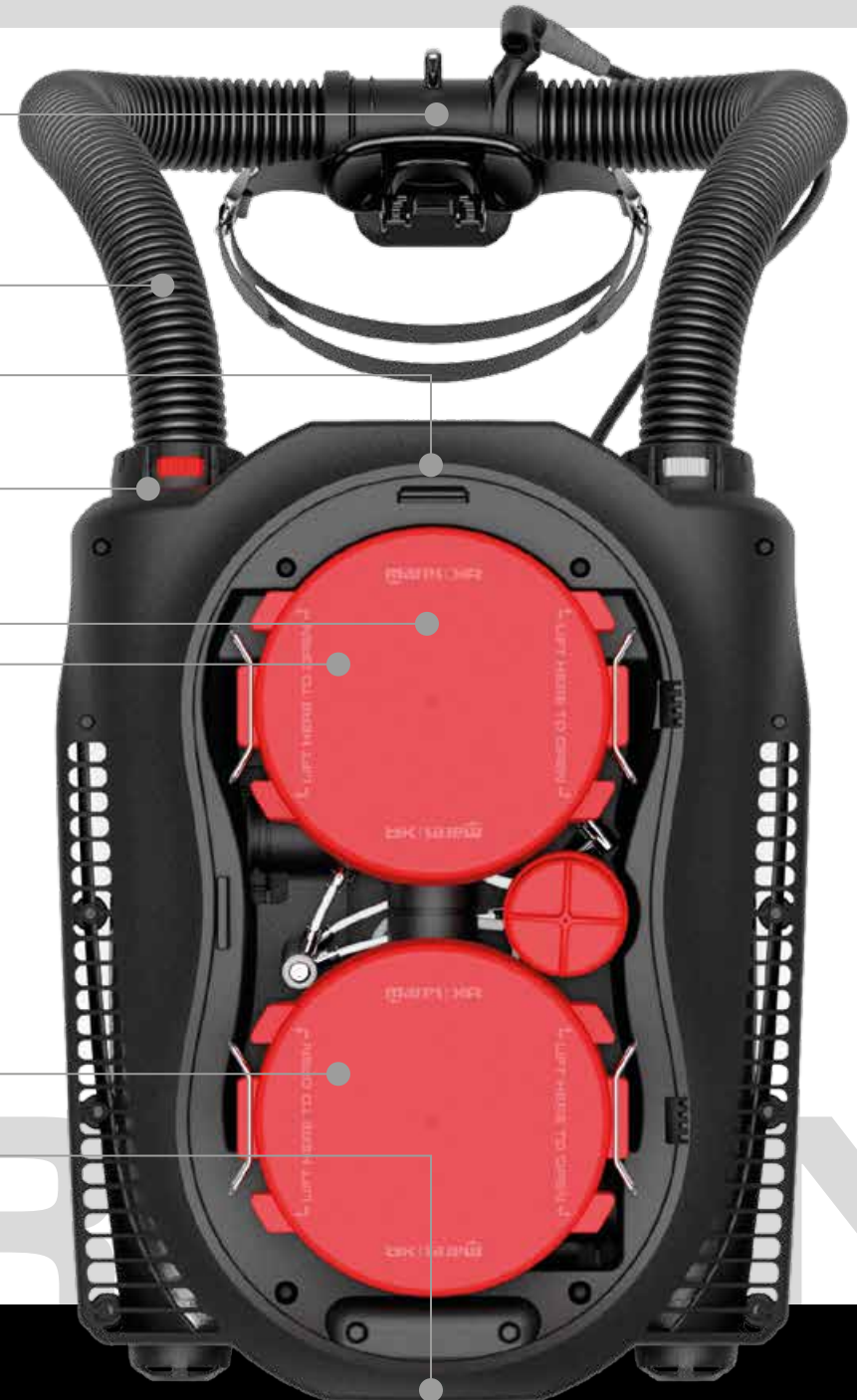
DUAL SCRUBBER CANISTER CONFIGURATION

(PAT. PENDING)

- Reduced scrubber material consumption
- Increased safety
- Reduced overall unit dimensions

BOTTOM INTEGRATED WEIGHT COMPARTMENT

- Can hold up to 2.5kg
- No specialized weights are required
- Unit can hold a combined overall weight of 5kg



SYSTEM COMPONENTS

HUD - HEADS-UP DISPLAY

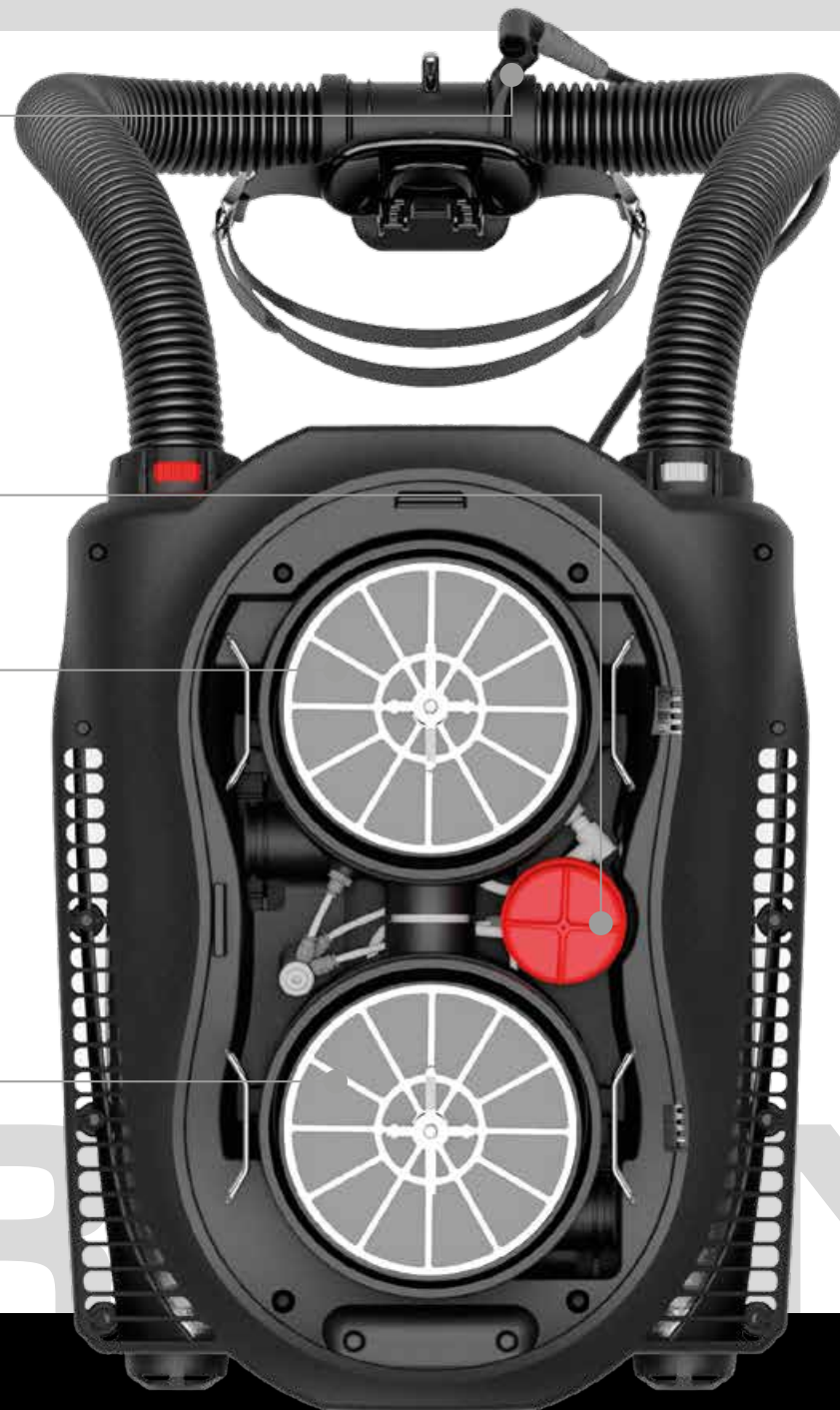
- A simple, pulsating, colored LED indicates the unit's status
- Can be assembled on the left- or right-hand side of the mouthpiece, according to preference
- Green soft pulsing light = Everything is functioning correctly
- Red flashing light = Check the dive computer
- Red fast flashing light = Bailout or do not dive

BATTERY PACK

- Standard USB port for recharging
- All three independent battery systems can be charged from this central port

TOP AND BOTTOM DUAL SCRUBBER SYSTEM

- Each canister contains 1 kg of scrubber material
- Scrubber canisters are easily refilled by the diver
- No pre-packed cartridge needed
- Requires easily-sourced scrubber material – SOFNOLIME 797



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SYSTEM COMPONENTS

GAG STRAP

- Keeps the mouthpiece comfortably and safely in place
- Conforms to CE requirements

AUTO-DELIVERY VALVE

- Allows natural breathing during descent by maintaining gas volume in the counter lungs

OVER-PRESSURE VALVE

- Releases gas on ascent

ORIFICE

- Continuously provides the minimum required nitrox supply

ELECTRONICS COMPARTMENT AND ELECTRONIC ADDITION VALVE

- Dual independent electronics (for the unit and computer) are installed in the bottom scrubber canister cavity
- Both sets have an independent power supply
- Each set of electronics can act as a back-up for the other in the event of a system failure

TWO O₂ SENSORS

- Automatically monitors the supplied gas
- Redundancy for greater reliability



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TECHNICAL FEATURES

DIMENSIONS AND WEIGHT

- Height: 54 cm
- Width: 40 cm
- Depth: 22 cm
- Unit weight: 12 kg (without regulator set)
- Complete non-deco version weight: 13.4 kg
- Complete full deco version weight: 14.8 kg

FEATURES

- Two (2) scrubber canisters, each containing 1 kg of CO2 absorbent that can be refilled by user
- Two (2) integrated weight pockets, each containing a maximum of 2.5 kg of weight
- Fully adjustable harness system, from XS to XXL
- Safety gag strap on mouthpiece
- 2 oxygen sensors
- Constant oxygen fraction supplied to the diver, adjustable during diving
- Reverts automatically to full nitrox breathing in case of failure
- Remaining scrubber time calculated by the dive computer
- No tools required for preparation, use, cleaning

LIMITS OF USE

- Maximum recommended depth using one stage cylinder as gas supply, no decompression: 30 m
- Maximum allowed depth using two stage cylinders as gas supply: 40 m
- ppO2 during use: minimum 0.22 bar, maximum 1.60 bar
- Water temperature: minimum 4°C, maximum 34°C
- Allowed nitrox mix: minimum 30%, maximum 99%
- Approved scrubber material: Sofnolime 797
- Scrubber material endurance depending on temperature and metabolic oxygen consumption: calculated by the dive computer (i.e. at 15°C or higher, with medium/high oxygen consumption, duration is > 3 h)

MAXIMUM WORK RATE CONDITIONS

- 75 RMV at 40 m, CO2 production of 3 l/min for 5 min

ELECTRONICS

- Three sets of redundant electronics, each with an individual battery system
- All battery systems can be charged from one single point
- 2.8" full color, high contrast dive computer screen
- User adaptable gradient factor decompression algorithm
- HUD with clear GOOD / FAIL indication
- CE approved to 40m

POWERED BY

