



IDREO REBREATHING CLASSIFICATION

The purpose of the **IDREO REBREATHING CLASSIFICATION** is to make RB Divers aware of the complexity involved in available rb unit operation, paramount in proper rebreather technology choices upon application.

IDREO doesn't support or is against any type of rb unit, testing methods or certifications. Furthermore **IDREO** supports that all rb types have benefits and drawbacks. However instead of the traditional Diving Industry tendency to catalog Rebreathers by injection method overlooking RB unit applications, **IDREO RB CLASSIFICATION** is focusing in real gas-rebreathing efficiency, organized by a combination of both rb unit operation in combination of practical diver task loading and skill need.

The **IDREO RB CLASSIFICATION** method divides available rb technology in 4 levels, from **A** to **C**, with sub levels. Each level is followed by an increase of RB Diver skill need while reducing RB unit passive safety.

The **IDREO RB CLASSIFICATION** method assumes diver willingness to carry bailout gas to surface without using primary rb unit, assuming catastrophic failure, which other way results in diver fatality.

Each level determines the following KEY points :

OPERATION REQUIRED- Diver task loading resulting after required input in order to maintain breathable gas within the dive limits.

APPLICATIONS - Diving risk conditions and suitable range of operation.

UNIT TYPES - by efficiency type in comparison to oc, not brand.

BAILOUT - Gas required to surface in OC for two divers under stress & at higher Diver task loading.

IDREO RB CLASSIFICATION

LEVEL A-

OPERATION REQUIRED : No Diver Mixing
Back Mount
No Off-board switches
APPLICATIONS : OW "Nitrox" Depths
UNIT TYPES : cfSCR, pSCR, eCCR (Constant PO₂)
BAILOUT : NDL Ascent

LEVEL A+

OPERATION REQUIRED : Single Gas Monitoring/Assistance,
Chest or Side Mount
APPLICATIONS : OW, Decompression
UNIT TYPE : O₂CCR, dCCR
BAILOUT : NDL ascent up to 1 Deco Bottle (al40)



IDREO REBREATHING CLASSIFICATION

LEVEL B-

OPERATION REQUIRED : Dual Gas Mixing Monitoring/Assistance
Back or Sidemount
No Off-board Gas Switches
APPLICATIONS : OW Technical Diving, Cave Diving
UNIT TYPE : eCCR
BAILOUT : Limited up to 2 stages (al80) without removal

LEVEL B+

OPERATION REQUIRED : Diver Gas Mixing Operation
Back or Side Mount
No Off-board Gas Switches
APPLICATIONS : OW Technical Diving, Cave Diving
UNIT TYPE : mCCR, ApSCR
BAILOUT : Limited up to 2 stages (al80) without removal

LEVEL C-

OPERATION REQUIRED : Diver Gas Mixing Operation
Back & Side mount
APPLICATIONS : Long Range Cave Diving, Extreme DEEP Diving
UNIT TYPES : ApSCR
BAILOUT : Extensive Bailout 3+ stages with removal (Stage Drop)

LEVEL C+

OPERATION REQUIRED : Diver Gas Mixing Operation and/or Multiple Off-board Gas Switches
Back & Side mount
APPLICATIONS : Long Range Cave Diving, Extreme DEEP Diving
UNIT TYPES : pSCR, mCCR
BAILOUT : Extensive Bailout 3+ stages with removal (Stage Drop)

LEVEL D

OPERATION REQUIRED : Multiple units simultaneously Diver Gas Mixing Operation and/or
Multiple Off-board Gas Switches
Back + Side Mount simultaneously
Double Back Mount
Double Side mounts
APPLICATIONS : Remote Diving
UNIT TYPE : All Types
BAILOUT : Limited to double RB drive bottles



IDREO RB EXPLORER
www.idreo.org

IDREO REBREATHING CLASSIFICATION

DEFINITIONS

ADV : Automatic Diluent Valve (Main Gas)

ApSCR : Passive injection SCR with two gases, Manual Assistance of O₂ rich gas
CAVE DIVING : Overhead diving within 100m/330ft depth & -4hr rb time

CCR : Closed Circuit Rebreather

CF : Constant Flow, Constant injection

cfSCR : Constant Flow SCR with a single gas

Classification : The process in which ideas and objects are recognized, differentiated, and understood

dCCR : Decompression Rebreather

eCCR : Electronically injected CCR with two gases

EXTREME DEEP DIVING : Higher CO₂ toxicity risk +100m/330ft depth or beyond 6+hrs rb time

LONG RANGE CAVE DIVING : Beyond constant pO₂ limits and/or 6+hrs rb time.
mCCR : Diver Manual injection CCR, with or without ADV, CF

O₂CCR : Oxygen Rebreather

OC : Open Circuit Diving

OW : Diving within direct surface ascent

pSCR : Passive injection SCR with single gas

REMOTE DIVING : Remote location (i.e. multiple sumps)

SCR : Semi-closed Circuit Rebreather

TECHNICAL DIVING : Mixed gas diving within 100m/330ft depth & -4hr rb time

FEEDBACK AND CONTACT

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