

COMPREHENSION OF UNIT PARAMETERS AMONG REBREATHER OWNERS

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Divers Alert Network

Photo courtesy Celia Evesque



Questionnaire

Our aim was to evaluate comprehension and use of existing CO₂ tracking technology by recreational and technical divers

REDCap - Nashville, TN <http://project-redcap.org/>

Data was collected from December 16th, 2011 to January 31st, 2012.

505 survey responses with 328 of these considered 'complete'

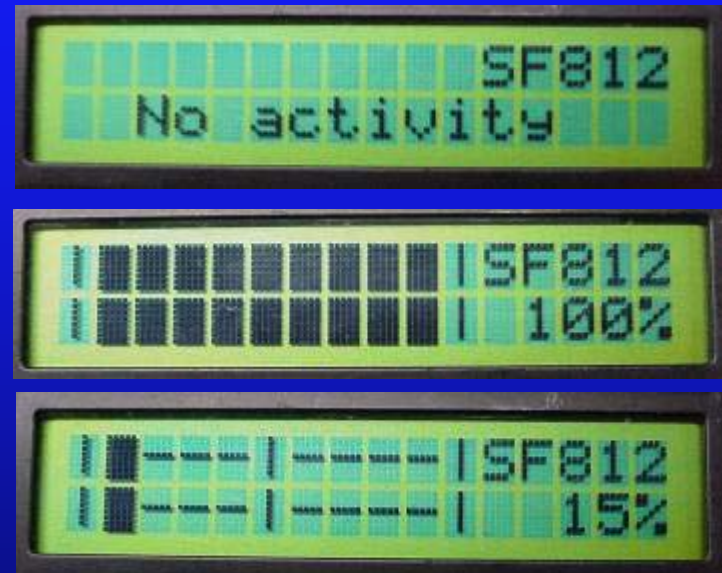
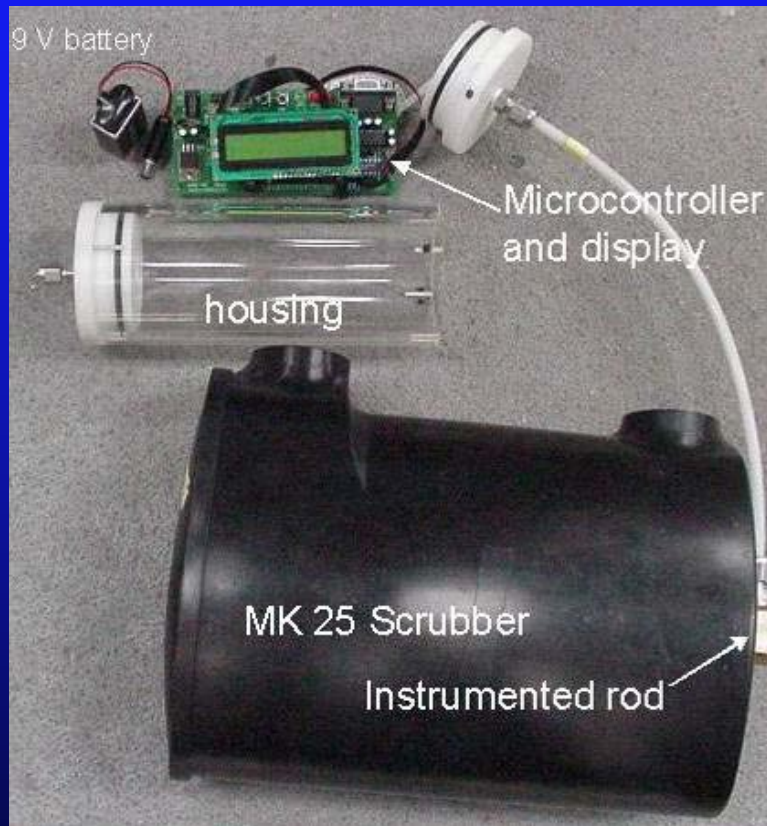
Canister Duration



Courtesy Shearwater Research



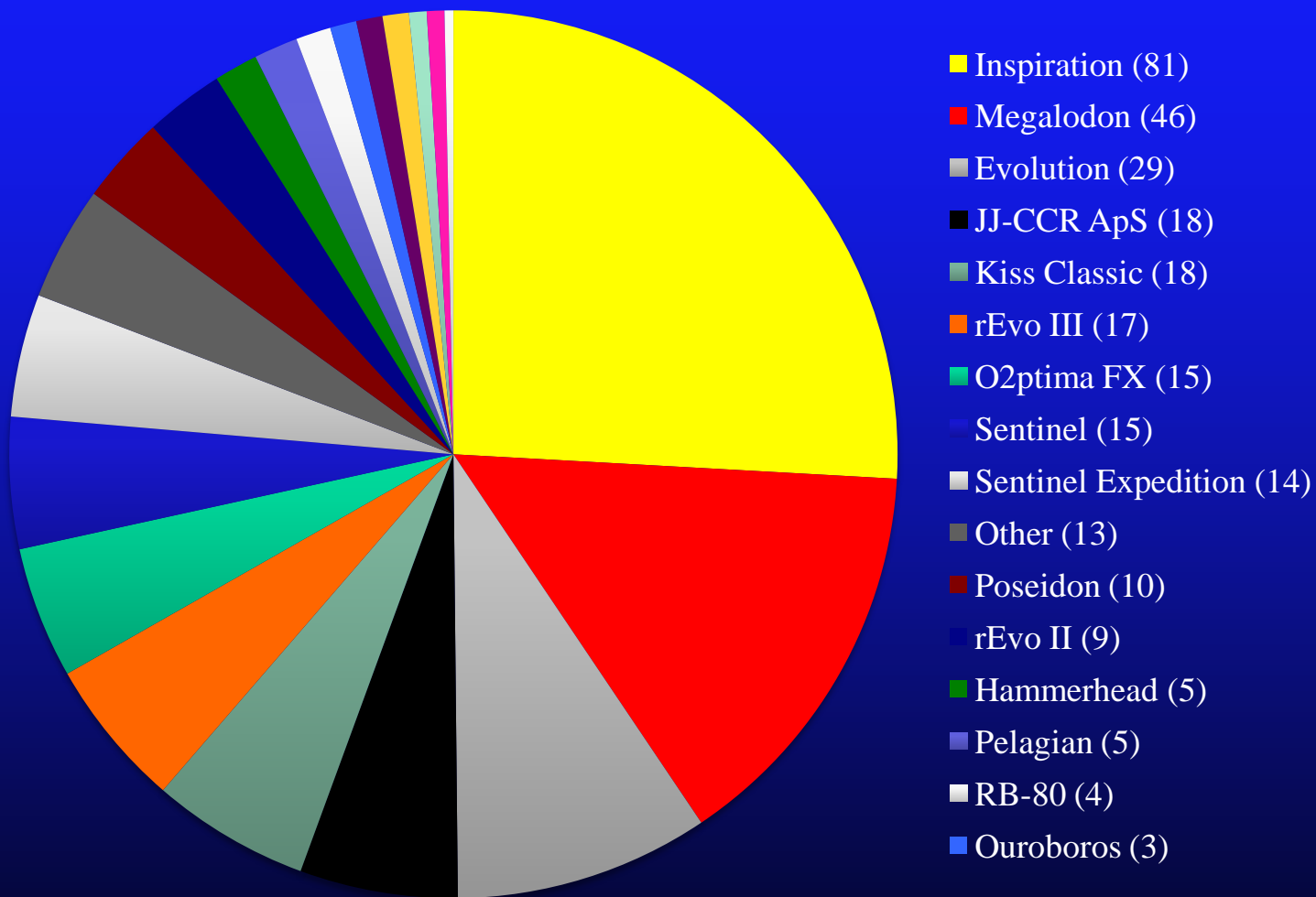
Canister Duration



Canister Duration

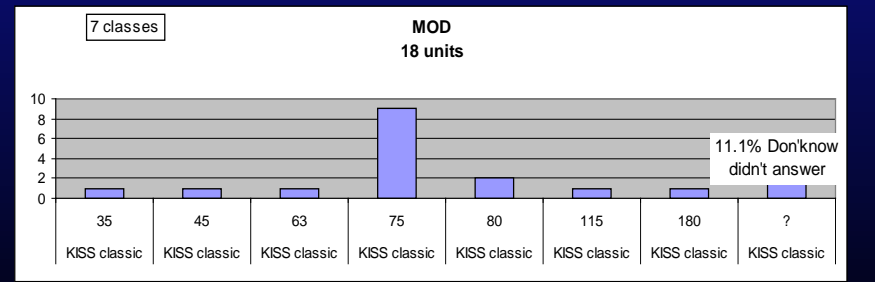
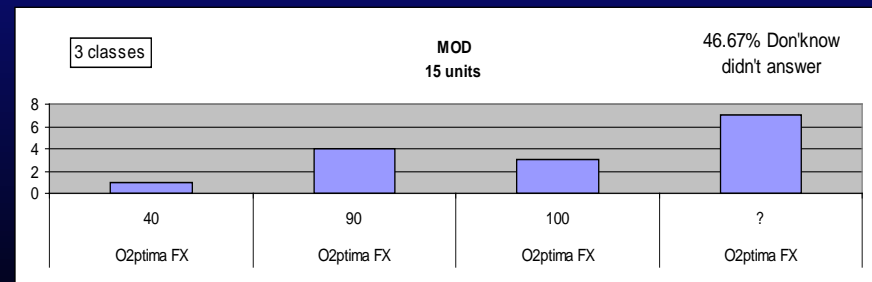
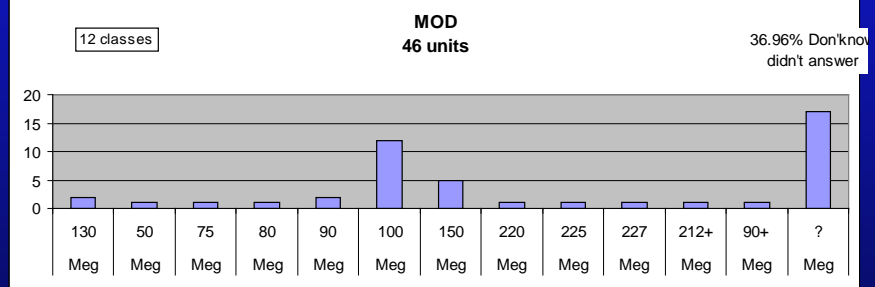
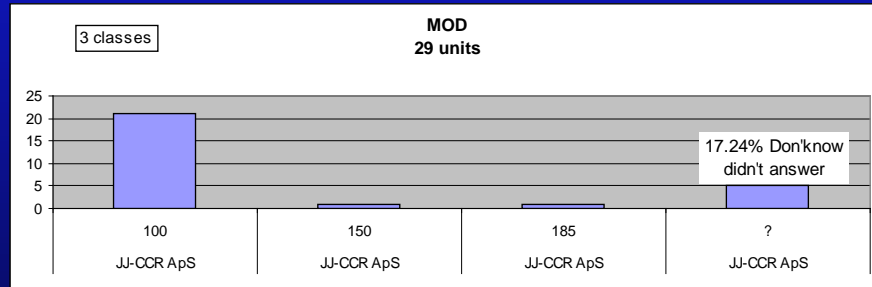
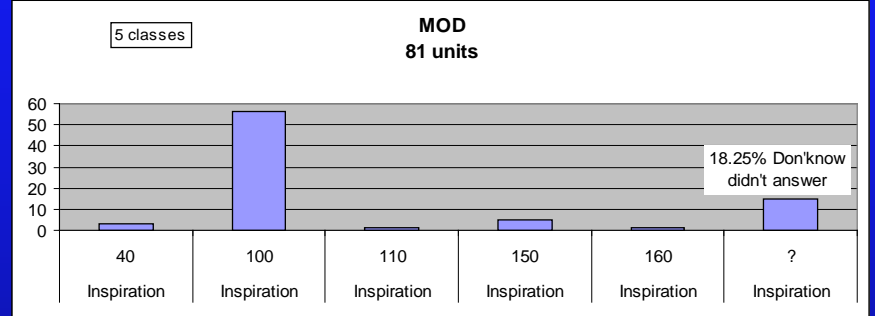
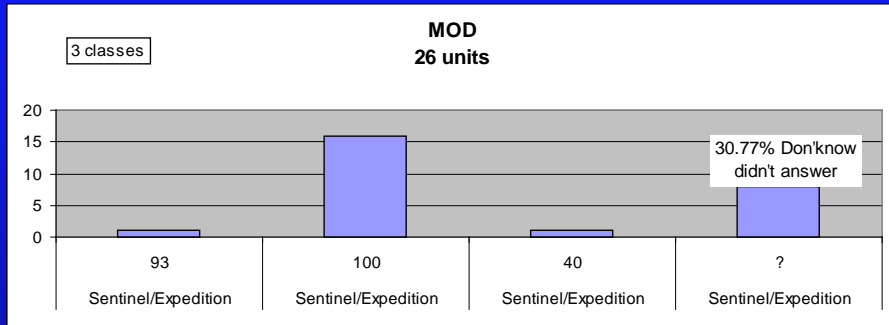
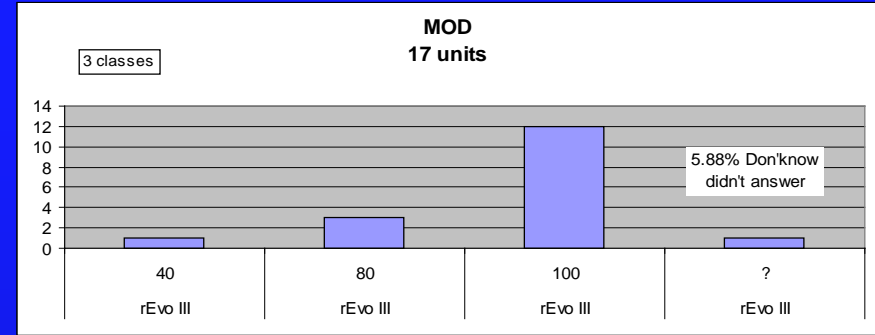
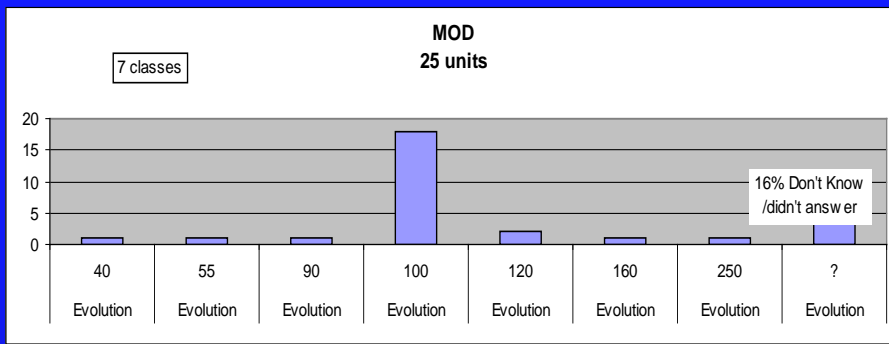


Rebreathers



Results

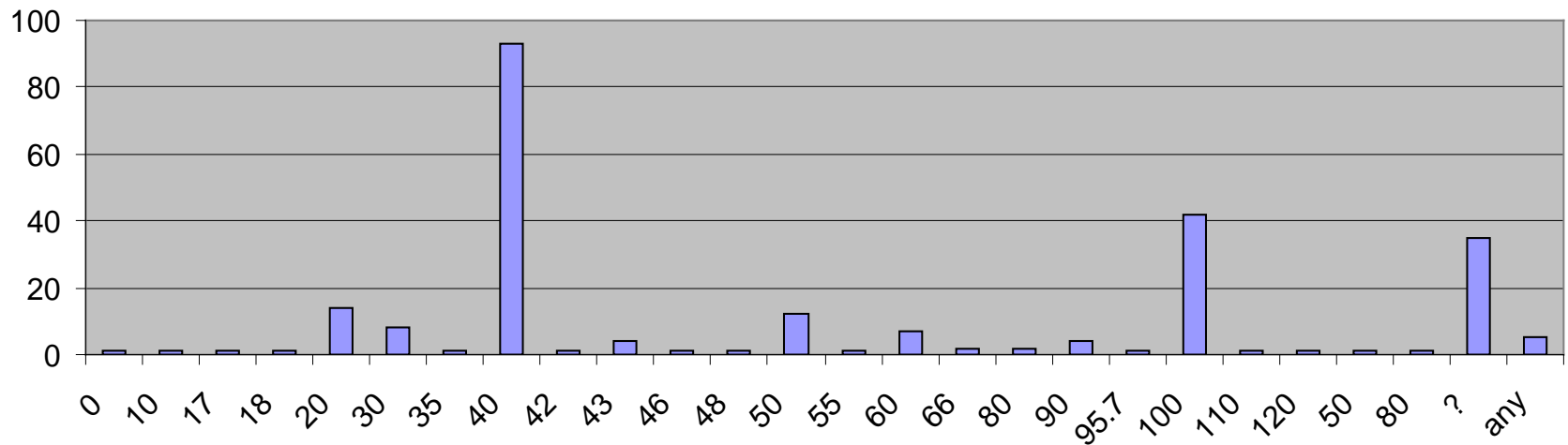
	Knows	Doesn't know	Knows where to find	No Response
Do you know the recommended maximum operating depth (MOD) of the rebreather unit you dive most often?	243	31	44	5
Do you know the maximum recommended carbon dioxide (CO ₂) canister duration for your configuration?	263	9	49	2



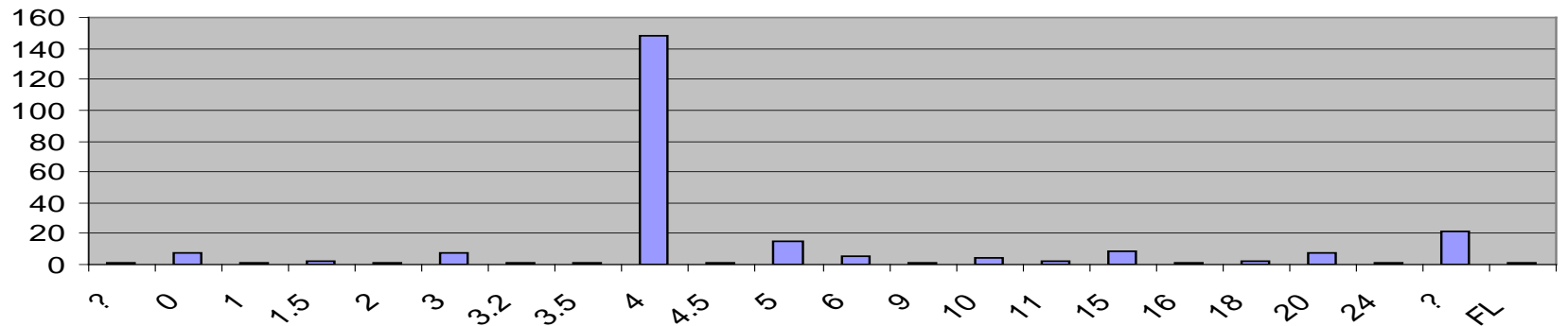
Summary

- Although 243 people said they knew the MOD of their units, in many cases there were several answers (classes) to the depth limit.
- Some responses (by unit) showed a high % (over 30%) of 'don't know's' to the MOD question

Canister Duration Limit Depth



Canister Duration Limit Temp



colder than i dive here in FL

Summary

- 17.96% appeared not to know the duration of their CO₂ absorbent
- 22 operating temperatures were quoted for the CO₂ duration including “colder than I dive in Florida”
 - Most manufacturers seem to specify a maximum of 2
- 26 operating depths for the CO₂ duration were quoted
 - Most manufacturers seem to specify a maximum of 2 operating depths (40m and 100m)

Results

	Yes	No	Blank
Does your unit have a timer designated to monitor canister duration?	88	229	6
Does your unit have a thermal monitor for canister duration?	120	198	5
Experienced symptoms of hypercapnia?	147	176	n/a

NOTE: 41.51% of divers surveyed have exceeded their canister alarm

Rebreather Forum 3

Consensus Statements

DESIGN AND TESTING 3.

The forum acknowledges recent survey data indicating a poor understanding of rebreather operational limits in relation to depth and carbon dioxide scrubber duration among trained users, and therefore recommends:

1. that training organizations emphasize these parameters in training courses.
2. that manufacturers display these parameters in places of prominence in device documentation and on websites.