

Scubapro / Uwatec Galileo G2 & G2 TEK Ox-Tox Check

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In-Door Pool @

Thursday, 16.08.2022: Dive Computer Test @ pure oxygen
the line-up →



Ox-Tox Check (%CNS, OTU)

air pressure: ca. 972 +/- 2 mBar @ 10.15 h

geometrical water depth: 5.1 & 5.5 m @ fresh water

water temp.: ca. 27 ° C:



Ox-Tox Check (%CNS, OTU)



The line-up from left to right:
Scubapro/UWATEC Galileo 2 / G2, (Aladin TEC 2G *), G2 TEK,
Shearwater PERDIX, (RATIO iX3M DEEP *)

(*): only for depth reference

Ox-Tox Check (%CNS, OTU)

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Used Hard- & Software Versions

from left to right:

- **Scubapro/UWATEC Galileo 2 / G2:** HW-Ver.: 0.0, SW-Ver.: 1.6
- **G2 TEK:** HW-Ver.: 1.0, SW-Ver.: 1.0
- **Shearwater PERDIX:** V 2009087 w.
Firmware: v87 / BT10
Hardware: SA-02A

Configured for: Süßwasser / fresh water

Ox-Tox Check (%CNS, OTU)

Log Book Entries after the test dive:



% CNS results and comparison with calculation; fO₂: 0.99 - 1.00, dive time: 73 min @ ca. 5 m:

<u>Dive Computers:</u>	measured depth [m]	%CNS	OTU	rem.:
PERDIX (+)	5.1	58	n.a.	
G2 TEK (++)	5.5	73	139	
Galileo 2 / G2 (++)	5.5	73	139	
Aladin TEC 2G (+)	5.5	71	n.a.	
<u>Software:</u>				
<u>DIVE 3 11</u> @ 70 min.	5.1 (*) 5.5 (*)	58.3 (+) 84.3 (++)	124.1 129.7	
(*) fresh water, compensated for Ambient Air Pressure, & Water Temperature Dive Time reduced by 3 min. for descent- & ascent phase		(+) EAN 99; i.e.: fO ₂ = 0.99 (++) EAN 100; i.e.: fO ₂ = 1.00		

% CNS & OTU comparison with other tools:

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Depth

MSW 5.1 FSW 16,73

Gas

O2% 100 HE%

PP02 1,51 PPN2 0

MOD msw 4 MOD fsw 13,2

EAD msw -10 EAD fsw -33

END msw N/A END fsw N/A

CNS/OTU

Time 69 CNS% 59 OTU 123,29

← DecoPlanner 3

OSTC Planner ↓

Depth

MSW 5.5 FSW 18,04

Gas

O2% 100 HE%

PP02 1,55 PPN2 0

MOD msw 4 MOD fsw 13,2

EAD msw -10 EAD fsw -33

END msw N/A END fsw N/A

CNS/OTU

Time 70 CNS% 80 OTU 129,16

OSTC.txt - Editor

Datei Bearbeiten Format Ansicht ?

Bühlmann ZH-L16C-1a 2002
with GRADIENT FACTOR decompression:
* computer = OSTC2c (fw 3.13)
* GF_low (CF32) = 100 %.
* GF_high (CF33) = 100 %.

*Tauchgang Start mit Pamb = 1013 mbar

OC Gas Liste:
* erstes Gas#3 = Sauerstoff
...

==== OC Runtime ====

73:00 5.0m ppo2=1.51 CNS=59%

==== OC Runtime ====

73:00 6.0m ppo2=1.61 CNS=138%

"There is no experimental basis on this!"

R.W. Bill Hamilton, 49th UHMS workshop, 2001, p. 70

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Comparison with other tools:

Subsurface (5.0.9.0) Plan erstellt am 20.08
Runtime: 73min

	Tiefe	Dauer	Runtime	Gas
↘	5m	0min	0min	Sauerstoff
→	5m	72min	72min	
↗	0m	1min	73min	

CNS: 69%
OTU: 131

Subsurface (5.0.9.0) Plan erstellt am 20.08
Runtime: 71min

	Tiefe	Dauer	Runtime	Gas
↘	6m	0min	0min	Sauerstoff
→	6m	70min	70min	
↗	0m	1min	71min	

CNS: 180%
OTU: 138

DIVE Version 3_11 free download software & manual:

https://www.divetable.info/DIVE_V3/V3e/index.htm

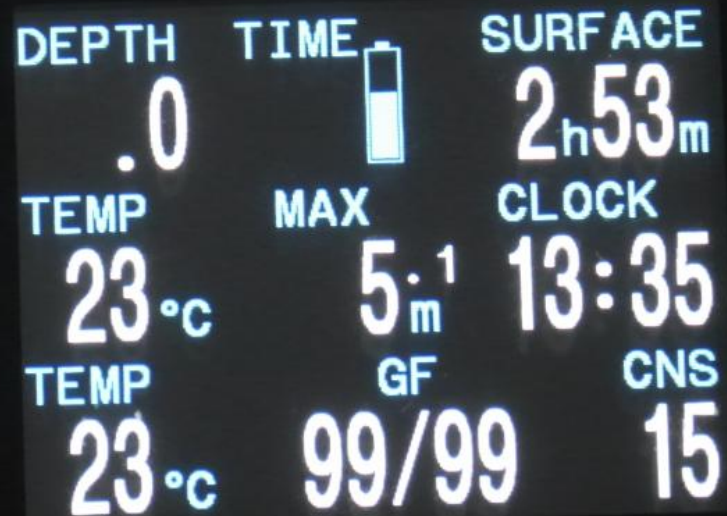
Latest BETA Version:

https://www.divetable.info/beta/index_e.htm

Ox-Tox Check (%CNS)

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% CNS Count Down during Surface Interval (SI):



Ox-Tox Check (%CNS)

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DEPTH	TIME	SURFACE
.0		3h48m
TEMP	MAX	CLOCK
24°C	5.1	14:30
TEMP	GF	CNS
24°C	99/99	10

% CNS Count Down during Surface Interval (SI):



Ox-Tox Check (%CNS)

% CNS Count Down during SI: ★

SI [hrs:min]	0:00	2:02	2:52	3:29	4:18	5:43	8:52	9:45
%CNS, G2 & G2 TEK:	73	30	20	15	10	5	1	0

SI [hrs:min]	0:00	2:02	2:53	3:00	3:48	4:07	4:19	5:08
%CNS, PERDIX:	58	23	15	14	10	9	8	5

SI [hrs:min]	7:57	8:54	9:42
%CNS, PERDIX:	1	1	1

%CNS reduction with a ca.
★ O₂ half-time of 90 min;
But NOAA standard *since 2013*
is: → 120 min!
(pls. cf. next slides)

"There is no experimental basis on this!"

R.W. Bill Hamilton, 49th UHMS workshop, 2001, p. 70

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Change of O₂ half-time:

since 2013 in the NOAA Diving Manual, p. 4-27:

Table 4.7 ...

**„ ... it is based on a 120 minute half time,
consistent with traditional NOAA practices.“**

Source # [149] @

http://www.divetable.eu/BOOKS/index_e.htm:

**Dinsmore David A., Bozanic Jeffrey E. (2013)
NOAA Diving Manual, Diving for Science and Technology,
Fifth Edition, Best Publishing Company, Florida, ISBN
9781930536630**

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Table 4.6: CNS O₂ toxicity surface interval

Initial %CNS	Surface Interval (hr)							
	0.5	1	1.5	2	2.5	3	3.5	4
0	0	0	0	0	0	0	0	0
5	4	4	3	3	2	2	1	1
10	8	7	6	5	4	4	3	3
15	13	11	9	8	6	5	4	4
20	17	14	12	10	8	7	6	5
25	21	18	15	13	11	9	7	6
30	25	21	18	15	13	11	9	8
35	29	25	21	18	15	12	10	9
40	34	28	24	20	17	14	12	10
45	38	32	27	23	19	16	13	11
50	42	35	30	25	21	18	15	13
55	46	39	33	28	23	19	16	14
60	50	42	36	30	25	21	18	15
65	55	46	39	33	27	23	19	16
70	59	49	42	35	29	25	21	18
75	63	53	45	38	32	27	22	19
80	67	57	48	40	34	28	24	20
85	71	60	51	43	36	30	25	21
90	76	64	54	45	38	32	27	23
95	80	67	56	48	40	34	28	24
100	84	71	59	50	42	35	30	25

**NOAA Diving Manual,
6th. Edition, p. 4-27, Table
4.6**

Source # [194] @
http://www.divetable.eu/BOOKS/index_e.htm:

NOAA Diving Manual (2017),
Diving for Science and
Technology, 6th Edition,
Best Publishing Company,
North Palm Beach, FL,
ISBN 9781930536883

Further reading with more information on the:

**G2 TEK V 1.0
and Gradient Factors
and Helium**

<https://dx.doi.org/10.13140/RG.2.2.22374.50247>

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