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Historical Dive Tables
Historische Tauchtabellen

Version 2020

THE

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GROUP

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Historische Tauchtabellen /

Historical Dive Tables (english version on p. 14)

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Ein Überblick über ca. 110 Jahre Geschichte der Tauchtabellen, manchesmal nicht ganz so gebräuchliche / bekannte Tabellen, in etwa in zeitlicher Reihenfolge.

Zum Vergleich, wie sich diese Tabellen im Laufe der Zeit und mit zunehmendem Verständnis der Dekompressions-Physiologie entwickelten (oder eben doch nicht entwickelten) …

Die Zahlen in eckigen Klammern [xxx] bei den jeweiligen Quellen zeigen auf die entsprechende Nummer unter:
https://www.divetable.info/books/index.htm

Benutzt diese Tabellen nicht! Aktuelle und geprüfte Tauchtabellen sind am Ende des Dokuments aufgeführt. Für den Umgang mit diesen Tabellen müßt ihr gezielt ausgebildet sein und auch spezielle Vorsichtsmaßnahmen ausüben!

Macht ihr trotzdem Tauchgänge mit den alten Tabellen, müßt ihr euch im Klaren sein, daß ihr experimentelle Dekompressionsforschung betreibt mit einer Stichprobengröße = 1, d.h.: mit euch selber als Versuchskaninchen.

→ Haldane, die Ur-Version, sozusagen die Mutter aller Tabellen, als Ergebnis von ca. 1000 Druckkammer-Tauchgängen mit ca. 80 Ziegen (und auch mit anderem Viech-Zeugs …) wurde die „2:1“ Theorie präsentiert. Der Auszug aus der Original-Veröffentlichung: The Prevention of Compressed-Air Illness; Boycott, Damant, Haldane in: J. Hyg. Camb. 1908; 8: 342 – 443 (auch, z.B. in [78], p. 626)

Die Mutter-Version basiert auf:

- ➔ 5 Kompartimenten mit den Halbwertszeiten: 5, 10, 20, 40 & 75 min
- ➔ auf einer symmetrischen Auf- & Entsättigung dieser Kompartimente
- ➔ auf einer erlaubten / tolerierten Übersättigung von ca. „2:1“ (*)

(bezogen auf den N_2 Partialdruck bedeutet dies: 1,58 : 1)
(*) und ca. bedeutet hier: wirklich circa! Vgl.:
https://www.divetable.info/skripte/TDM/TDM_Issue025.pdf

→ Haldane komplett, als Kombination aus Tabelle I & II: in [89] auf den S. 100 – 108,

→ Hawkins, Shilling, Hansen aus: U.S. Nav. Med. Bull. 1935; 33:327 – 338
A suggested change in calculating decompression tables for diving
(auch, z.B. in [78], p. 741): aus 2.341 Tauchgängen während dreier Jahre. Die „2:1“ Basis von Haldane et al. wurde deutlich modifiziert und die Tabelle lediglich mit den 20, 40 & 75 min. Kompartimenten berechnet und den folgenden Übersättigungstoleranzen:

- ➔ 20 min.: 2,8 : 1
- ➔ 40 & 75 min.: 2,0 : 1

→ USN Air 1937

→ USN Heliox 1939
Aus: Report on Use of Helium Oxygen Mixtures for Diving, NEDU Report April 1939
(auch, z.B. in [78], p. 1012 - 1029)

→ Dänische Pumpen-Tabelle (aus [70], S. 55)

→ Siebe, Gorman & Co.: Air / Ox until 300 feet (and beyond …) aus:
[89] Robert Henry Davis: Deep Diving and Submarine Operations: A Manual for Deep Sea Divers and compressed Air workers, p. 160 -179

→ USN 1957 im PADI (Plastik-)Formfaktor (und wie viele, viele andere Tauchausbildungs-Organisationen eben auch!). Die Mutter aller Sporttaucher-Tabellen basiert auf 6 Kompartimenten mit den Halbwertszeiten 5, 10, 20, 40, 80 min (NEDU Research Report 4-56 und 5 – 57) und dem 120 min Kompartiment für die Entsättigung während der Oberflächenpause zur Berechnung von Wiederholungstauchgängen.

→ Cross Corrections: das sind eigentlich keine Tabellen sondern eine Prozedur, benannt nach Ellis Royal Cross (1913 – 2000). Er hat als einer der Ersten ca. 1967 den Vorschlag

gemacht, die geplante Tauchtiefe mit einem vom barometrischen Umgebungsdruck abhängigen Faktor zu multiplizieren. Mit dieser sogenannten „fiktiven“ Tauchtiefe kann dann mit einer normalen Luft-Tauchtabelle für NN ein Tauchgang im Bergsee geplant werden. Alle großen Tabellenwerke (USN, DCIEM, NOAA) benutzen diese Anpassungen für reduzierten Umgebungsdruck (CRT). Die ZH-86 Tabellen benutzen eine andere Methode, die lineare Extrapolation (LEM).

Aktuell gibt es gerade *4 verschiedene Methoden*, die kritischen Übersättigungen von Meereshöhe auf Bergseehöhe umzurechnen:

➔ Lineare Extrapolation (LEM):
Methode Bühlmann-Hahn, Deco-Brain, Aladin etc.
➔ Constant Ratio Translation (CRT):
Methode Cross für USN, DCIEM, NOAA, NAUI (Dacor OmniPro, Oceanic DataMax)
➔ Constant Ratio Extrapolation (CRE):
Methode Boni, Wienke (exponential)
➔ Non-linear hypobaric extrapolation (NLHE):
Methode Egi & Gürmen

Da aber viel zu wenig belastbare Daten (= dokumentierte Tauchgänge unter reproduzierbaren Bedingungen) vorliegen, kann auch nicht entschieden werden, welche Methode nun die sicherste ist.

→ aber, um dem Manne noch eine Ehre zu erweisen, aus [206], S. 37: die USN Tabelle auf einem Blechkreis zum einstellen

→ Dräger:
[70] Physiologie des Tauchers, (Auszug aus der "Tauchertechnik") von Herrmann Stelzner, Dritte überarbeitete Auflage von 1962, Herausgeber: Drägerwerk Lübeck, Verlag Charles Coleman, Lübeck. Mit der hübschen Ansage (auf S. 45, Zitat): *„Die Haltezeiten sind so bemessen, daß ernste Erkrankungen nicht zu erwarten sind. Wohl aber muß mit geringen Gelenkschmerzen oder dgl. gerechnet werden.“*

→ DRÄGER 1970, erstmals ca. 1931 in der ersten Auflage von [70], hier auf den S. 46 – 54, mit nur ganz geringfügigen Abweichungen / Rundungen auf das „modulo 5“- Raster der Stoppzeiten (*). Diese Tabelle ist noch heute (2020) als Marinedienstvorschrift: MDv 450/1, S. A 6-7 gebräuchlich. Die Sicherheit ist unglaublich gut, was, im Umkehrschluß bedeutet:
→ die Tabelle wird so nicht benutzt, sie wird „padded“ (Erklärung: siehe unten)
→ es gibt zuwenige Tauchgänge an der Tabellen-Genze, ganz lange und / oder ganz tiefe Tauchgänge.

(*) das „modulo 5“- Raster hat keinerlei physiologische Grundlagen, ebensowenig wie eine maximale Auftauchgeschwindigkeit von 18 m / min (= 60 feet / min, also 1 foot / 1 Sekunde); aber dient der leichteren Merkbarkeit / praktischen Durchführung der Dekompression.

... if you go to the U.S. Navy Experimental Diving Unit and ask, "Have you ever had any problems with the 150 feet for a 30-minute dive schedule?" they'll look up the 150/30, which we all know bends people like pretzels, and they'll say, "No, we've got no problems with it", and it's because it's never been used as the 150/30 schedule. This is because experienced Navy master divers never use the tables as written. They always pad them. “
Dr. Eric P. Kindwall, 38th UHMS workshop, p. 369

(sinngemäß: *“ …wenn du zur NEDU gehst und fragst: “Hattet ihr jemals Probleme mit dem Tauchplan 150 feet für 30 min. gehabt?” dann werden die Jungs sich die Tabelle für 150 / 30 anschauen, und wir wissen, dies faltet alle zusammen wie ‘ne Brezel, und sie werden sagen: “Nö: ‘ham ‘wer nich’.” Nämlich genau aus dem Grund, weil sie diesen Tauchplan so nie benutzen. Erfahrene USN Master Diver benutzen Tabellen nie so, wie sie gedruckt sind. Immer werden die nächstgrößeren Tiefen und/oder Zeitstufen benutzt.*”)

→ RNPL Air Diving Table 1972

→ Druckkammerlabor Universität Zürich 0 – 700 müM: ca. 1982, verkürzte Tabelle auf einem Alu-Chip mit Loch, zum mitnehmen für Sporttaucher.

→ Bühlmann / Hahn: Dekompressionstabelle für Taucher, ca. 1983/1984, als Plastik-Version aus Ehm [6]. Basis ist das ZH-L 12 System.

→ ZH-86 Tabellen, komplett, incl. Bergseetabellen, gebraut nach dem ZH-L 16 Rezept, incl. einer EAN50 Tabelle bis 30 m (sic!) und 30 min (sic) und 60 min (sic) als „NDL“ …

→ BSAC 1988, British Sub-Aqua Club
(auch, z.B. in [78], p. 743 - 753)

→ HUGI Table: modifizierte USN, von meinem Freund Karl; besonders mag ich den kleinen Totenkopf links oben… Auch hier der Standard-Ansatz der empirisch (= zunächst völlig willkürlich) verkürzten „Nullzeiten“ der alten USN Tabelle. Hiermit sollte die Tabelle besser an die nicht-militärisch trainierte Klientel (Sporttaucher) angepaßt werden.

→ Maxe Spezial: aus meinem privaten Archiv, FAX von Max Hahn an mich mit der Tabelle, in etwa passend zum Scubapro NC/DC 11/12, ca. 1990 - 1995. Die darunterliegende Motivation für diese Tabelle ist schlichtweg die Vermeidung von „micro bubbles“!
Siehe auch da, im „kleinen virtuellen Tauchcomputermuseum“:
https://www.divetable.info/kap4.htm

→ PADI Wheel® (1988): die damals revolutionären Plastik-Scheiben, auf den theoretischen Grundlagen des RDP®, dem Recreational Dive Planner ([3] The DSAT Recreational Dive Planner: Development and validation of no-stop decompression procedures for recreational diving, Hamilton, Rogers, Powell, Vann, 28 Februar 1994): aber für Multi-Level Tauchgänge gestaltet, so daß 3 unterschiedliche Tiefen während des Tauchganges aufgesucht werden konnten.

Basis sind 14 Kompartimente mit Halbwertszeiten von 5 bis 480 min und mit den M_0-Werten, die gegenüber der USN um ca. 10 % gekürzt wurden.

→ Max Hahn & Jürg Wendling: No-Bubbles – Decompression Table (0,4 Bar Oversaturation), in:
Safety Limits of Dive Computers – Decompression Computers in SCUBA Diving Workshop 18.09.1992 Basel, Switzerland, ISBN 3-908229-06-5

→ F.F.E.S.S.M: Table Marine National 1990 (MN90), Version 03/05/1999, Haldane basierend mit G.E.R.S 1965 Modifikationen. 12 Kompartimente mit den Halbwertszeiten: 5, 7, 10, 15, 20, 30, 40, 50, 60, 80, 100, 120 min und den zugehörigen erlaubten Übersättigungen von: 2,72 bis 1,54 und 15 – 17 m/min Aufstiegsgeschwindigkeit.

→ Dutch Caisson Table (Auszug, von 1993); Quelle: 49th. UHMS workshop 2001 (Arthur Bornstein workshop, S.34) sowie ein Auszug aus einer „Wet Bell“ Tabelle, also einer unten offenen Taucherglocke (S.31).

„When they got out in that cold, open, salty ocean it was an entirely different ballgame. A third of the people got bends with the same set ot tables.“
[206]: The History of Oilfield Diving, S. 275, Murray Black, Divcon Management über die Kammertests der RNPL von 1966

*(*Sinngemäß: *„Wenn du aus der Glocke ‚raus mußt in den kalten, salzigen, weiten Ozean ist das ein ganz anderes Scheiß-Spiel: ein Drittel unserer Taucher kriegte die Bends, aber mit dem gleichen Satz an getesteten Tabellen.“)*

→ British Tunnelling Society: Compressed Air Working Group;
Work in Compressed Air Regulations 1996. Die Tabellen für Caisson- & Tunnelarbeiten; Basis sind die sogenannten „HSE Regulations“ von 1958, auch als „Blackpool“ Tabellen bekannt geworden, auf den Seiten 100 – 104.

→ Max Hahn: DECO 2000 (2000); die wohl auch heute noch am weitesten verbreitete Tabelle für europäische Sporttaucher, etwas konservativer als die ZH-83 / ZH-86 Tabellen aus Zürich.

→ NAUI: RGBM Air (2001) NAUI prod.# 35511: noch weiter verkürzte „NDL“ und restriktive Regeln für Wiederholungs-Tauchgänge, nach dem proprietären (d.h. kryptischen) Reduced Gradient Bubble Model von Bruce R. Wienke

→ RGBM Air 180 - 170 feet: eine Luft-Tabelle nach dem gleichen Rezept von BRW, hier ein Auszug von 180 bis 170 feet (55 – 52 m) für Dekompressions-TG. Man konnte die Tabelle käuflich erwerben bei rgbmdiving.com, ziemlich gleich danach war diese Firma / die web-Seite off-line … Es gibt aber die komplette Tabelle zum kostenlosen herunterladen immer noch hier: https://www.divetable.info/skripte/ntable.pdf

→ USN NEDU: Air / P(DCS): 2004
Ein Auszug aus einer typischen, modernen P(DCS) Tabelle. Quelle: Van Liew, H.D.; Flynn, E.T. (2004) A simple probabilistic model for estimating the risk of standard air dives, USN NEDU, TA 01-07, TR 04-41, p. 40 - 43. Die Methode ist üblicherweise so: aus einem „best fit“ Anpassungsvorgang mit mehreren tausend sogen. „Kalibrier Tauchgängen“ werden die Parameter zur Berechnung der P(DCS), der „probability of decompression sickness“ gewonnen (engl. Abkürzung für die statistische Wahrscheinlichkeit (P) sich eine Dekompressionskrankheit (DCS) zuzuziehen). Dargestellt wird für die üblichen Daten aus der USN Tabelle (bottom time [Grundzeit in min] und depth [Tiefe in feet] eine TDT (total decompression time) so daß die P(DCS) < ca. 2 % liegt. Zum Vergleich werden die Daten auf der rechten Seite, dem VVAL18 Modell für die neue USN Tabelle herangezogen.
Zu P(DCS) noch ein paar weitere Infos:
CAISSON 30. Jg./ 2015 / Nr. 4, 31. Jg./ Januar 2016 / Nr. 1, S. 20 - 30:
Der etwas andere Vergleich - Teil III Über P(DCS)
CAISSON 30/31 2015/2016, S. 20 - 30

→ „The SAA Bühlmann Deep-Stop System“ (2008); eine SAA / BSAC Tabelle, zusammengebastelt nach einem Züricher Rezept (ZH-L 16 C) mit integrierten tiefen Stopps (aus [183] und [187])

→Tables Ministere du Travail, 13.12.2012, Annexe 3: Heliox mit O_2 Deko

→ NOAA Nitrox / EAN Tabellen (2016): EAN Tabellen basierend auf den neuesten USN Lufttabellen

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Aktuelle und gleichwohl durch viele hundertausend Tauchgänge erprobte und bewährte Tabellen:

➔ (damals) DCIEM (heute: DRDC)
https://www.divetable.info/manuals_4_free/p125936.pdf

alle USN (United States Navy) Manuals:
https://www.navsea.navy.mil/Home/SUPSALV/00C3-Diving/Diving-Publications/

und das USN Manual neu:

➔ US Navy Diving Manual Rev. 7 Change A SS521-AG-PRO-010 / 0910-LP-115-1921 04/30/2018

https://www.divetable.info/manuals_4_free/15.pdf

➔ the Norwegian Diving- and Treatment Tables, 5th. edition, 12.08.2019, erhältlich unter:
www.dykketabeller.no

Folgendes Entwicklungsmuster hat sich im Laufe der letzten 110 Jahre kristallisiert:

→ (regelmäßig) verkürzte „NDL / Nullzeiten“ gegenüber den älteren Tabellen-Versionen

→ (manchesmal) tiefere Stopps

→ (oft) höherer pO_2

→ (immer) größere TTS

(TTS = time-to-surface, d.h.:
Summe aller Stopp-Zeiten + (Grundtiefe / Aufstiegsgeschwindigkeit))

Aber auch für die o.g. aktuell gültigen Tabellenwerke gelten weitere Sicherheitsmaßnahmen, vor allem, wenn du nicht zur Klientel der beabsichtigten Benutzer (junge, gesunde, trainierte Männer) gehörst, insbesondere bei:

→ hoher körperliche Belastung
→ geringer Umgebungstemperatur
→ hoher pO_2
→ schlechte Hydrierung

→ schlechte körperliche Fitness
→ hoher BMI
→ hohes Alter.

Eine recht kreatives, dabei aber völlig kompetentes, ziemlich vollständiges (Dehydrierung würden wir noch hinzunehmen …) und auch transparent nachvollziehbares „Risk Assessment“ (Risiko-Enschätzung oder -Bewertung) dazu liefert das vollständige Tabellenwerk der norwegischen Berufstaucher (Quelle: [219] oder auch unter: www.dykketabeller.no) auf der S. 65:

8. **Recommended adjustment of decompression for standard air decompression dives.** To simplify the assessment of the individual risk factors, the table below may be used.

Score Risk factor	1	2	3
Work load	Low	Medium	High
Thermal comfort during decompression	Neutral/warm	Cold	
Individual factors Age > 50 BMI > 30 Sedentary	0-1 individual factors	2-3 individual factors	

By adding the scores for the various groups of risk factors you will achieve a total score ranging 3 to 7. The highest score will be achieved with a dive with a high work load, where the diver has been cold during decompression and has 2 or 3 of the individual risk factors. For score 5 we recommend that the decompression is adjusted according to a bottom time one step longer than the required. For scores 6 and 7 we recommend decompression according to a bottom time two steps longer than prescribed.

Figure 1: Risiko-Bewertung & Anpassung einer Tauchtabelle, Quelle: [219]

Je nach der subjektiven Bewertung der vorliegenden Faktoren

- ➔ Arbeitslast
- ➔ Wärmeempfinden während der Dekompression
- ➔ Alter > 50
- ➔ BMI > 30
- ➔ mangelnde körperliche Fitness

in den Stufen: „gering“, „mittel“ oder „hoch“ werden Punkte vergeben. Die Summe aller Punkte entscheidet, ob die nächste oder die übernächste Zeitstufe benutzt wird für die Dekompressions-Planung.

Grundsätzlich muß bei der Betrachtung / Anwendung eines Tabellenwerkes oder den Koeffizienten eines geprüften Dekompressions-Algorithmus‘ folgendes berücksichtigt werden: an den Tabellengrenzen (große Tauch-Tiefe / lange Tauch-Zeit) liegen i.d.R. nur wenige bis garkeine belastbaren Daten, d.h. dokumentierte Tauchgänge vor, um die Festlegungen der Tabelle/des Algorithmus zu bestätigen!

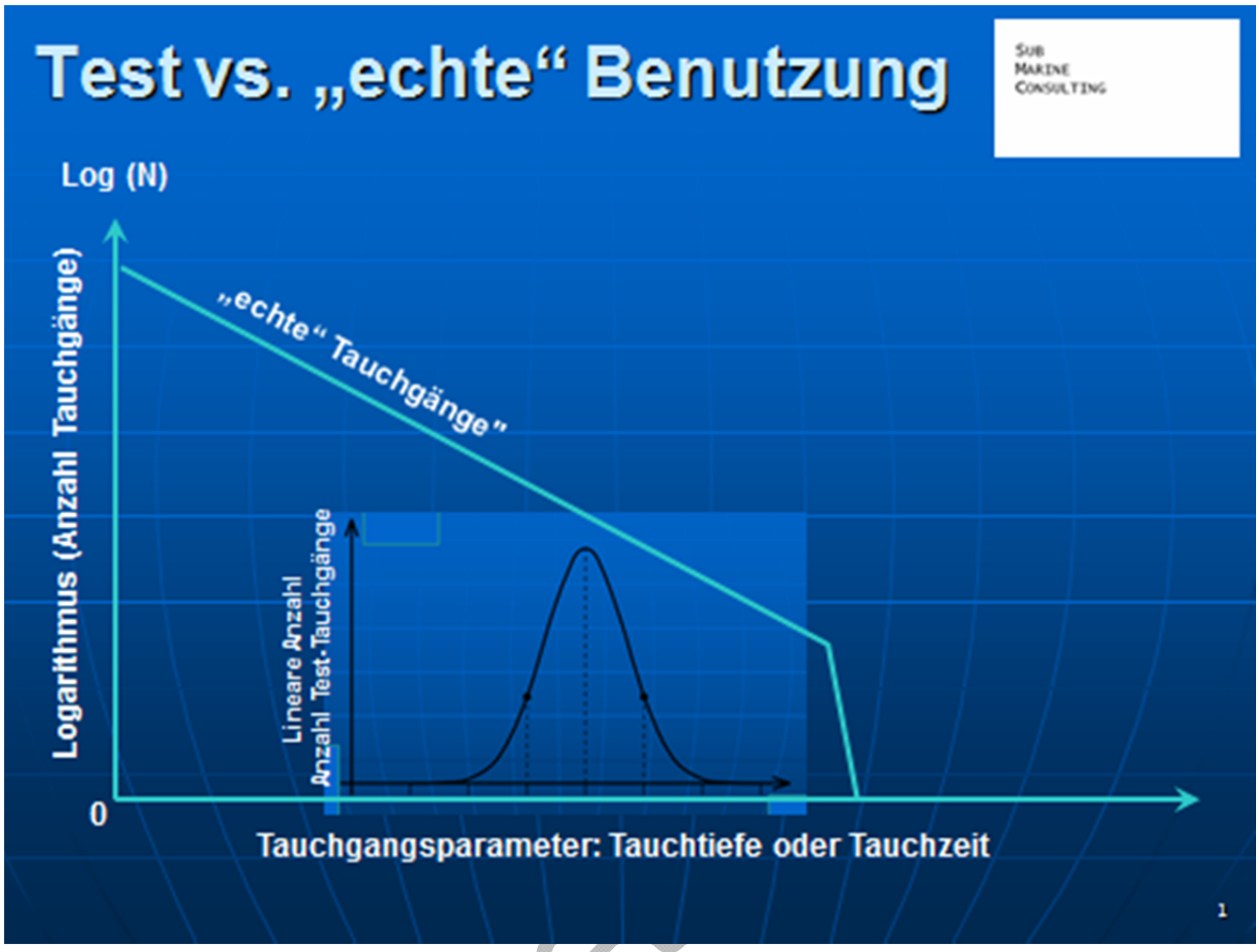

Figure 2: Testtauchgänge versus echter Tabellenbenutzung

Z.B. folgen die Testtauchgänge zum PADI© DSAT RDP ® einem ganz ähnlichen Muster:

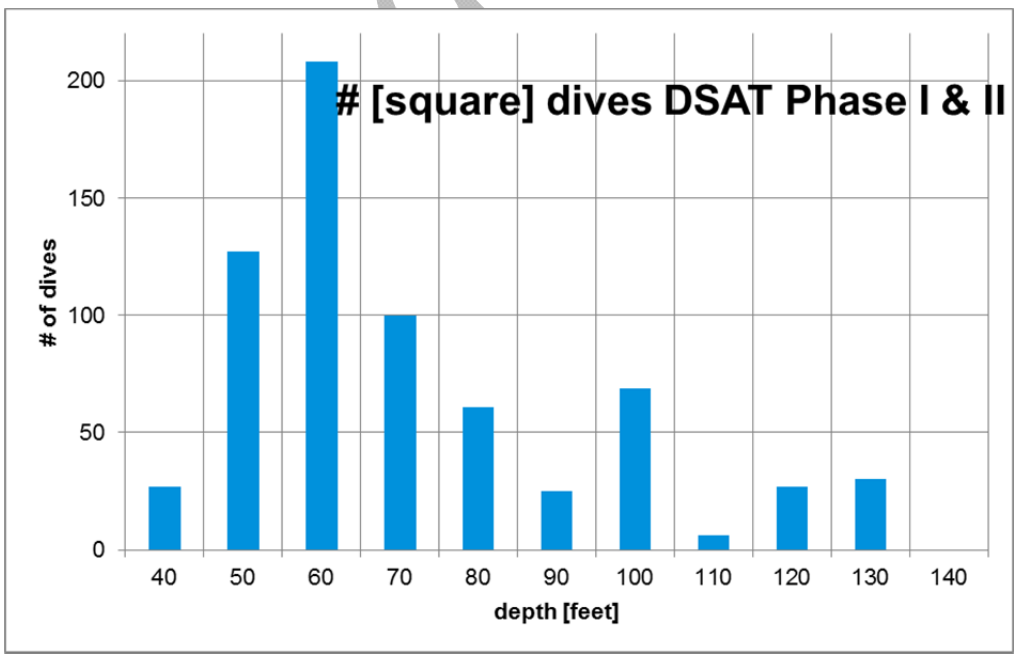

Figure 3: Frequenzanalyse der DSAT Testtauchgänge Phase I & II

(Quelle: [3] The DSAT Recreational Dive Planner: Development and validation of no-stop decompression procedures for recreational diving, Hamilton, Rogers, Powell, Vann, 28 Februar 1994)

Für die alte USN Tabelle von 1957 schaut das ganz vergleichbar aus:

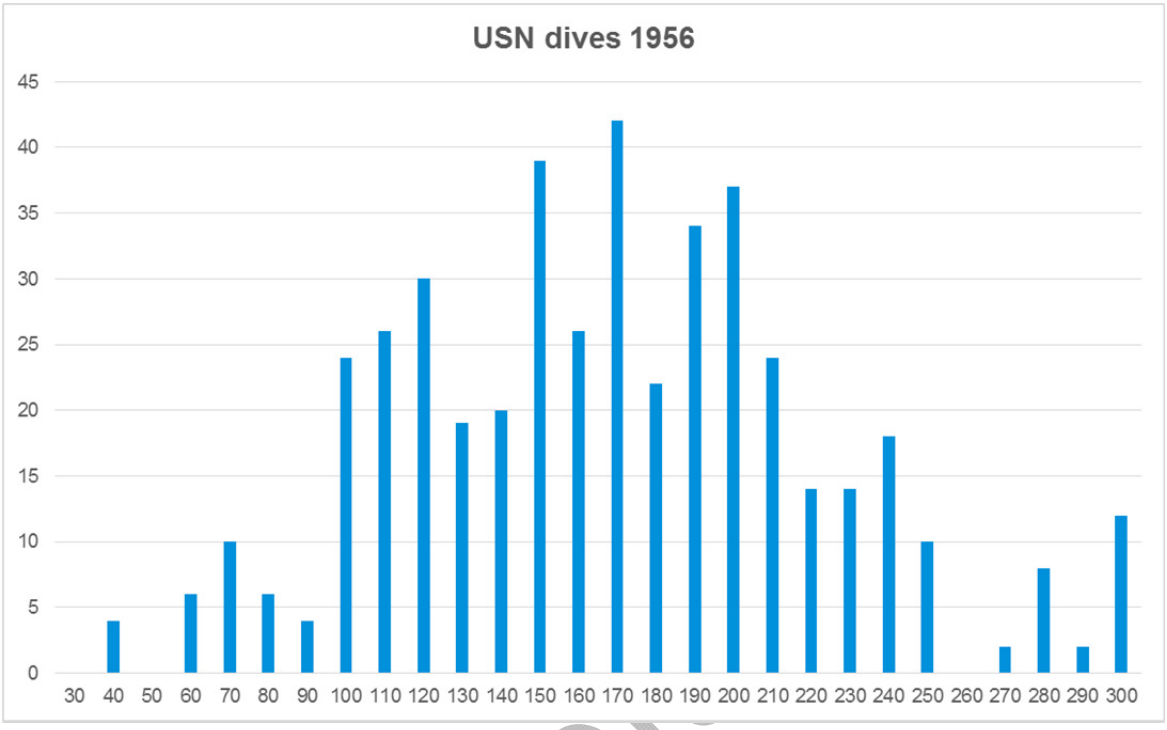

Figure 4: Frequenzanalyse der Testtauchgänge zur USN Table 1957

Source: des Granges (3.12.56) NEDU Research Report 5 - 57, p. 54 - 56

Und auch für die Testtauchgänge des neuen LEM Verfahrens (linear-exponential-multigas) zur Berechnung der aktuellen Tabelle finden wir ein ähnliches Bild:

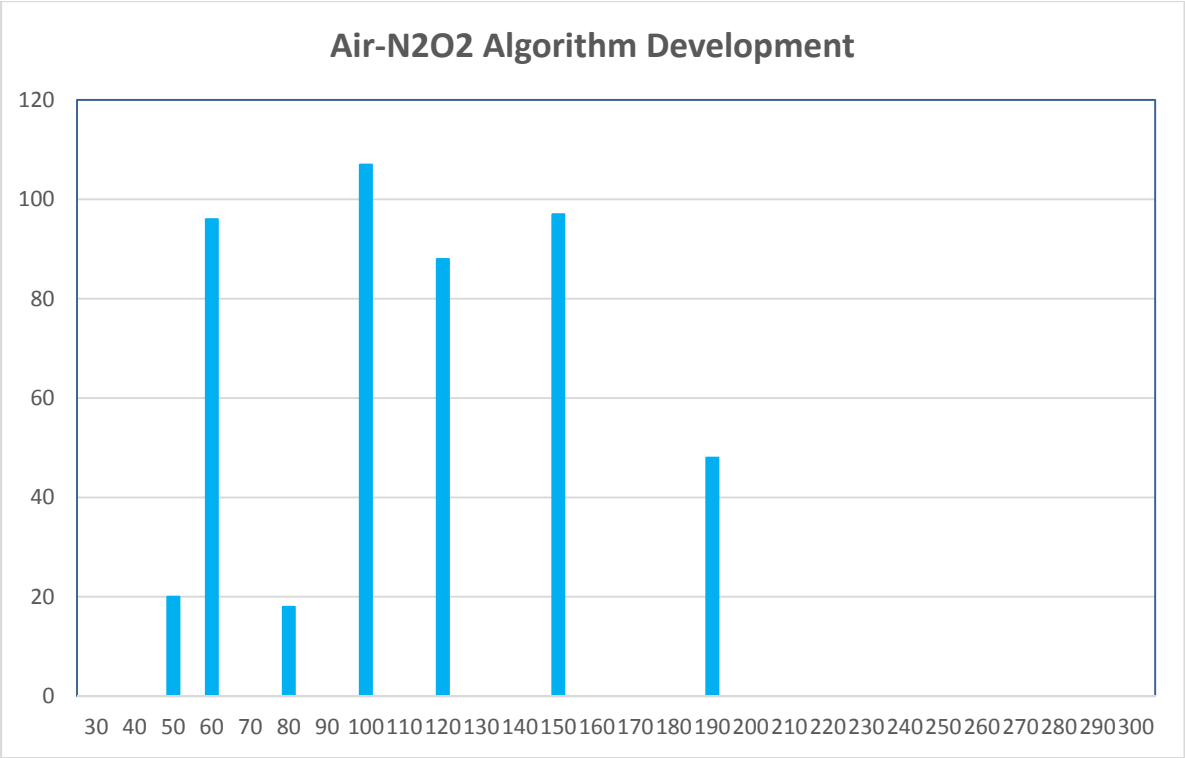

Figure 5: Frequenzanalyse der Testtauchgänge zum USN / LEM Algorithmus

Source: Edward D. Thalmann (August 1986) NEDU Research Report 08 - 85, p. 22

Daß sich diese Zahlen-Verhältnisse dann tatsächlich so in der Praxis einpendeln, läßt sich z.B. auch sehr hübsch on-line an der Datenbasis der USN verfolgen (Quelle;

http://divingresearch.scripts.mit.edu/militarydivingdata/):

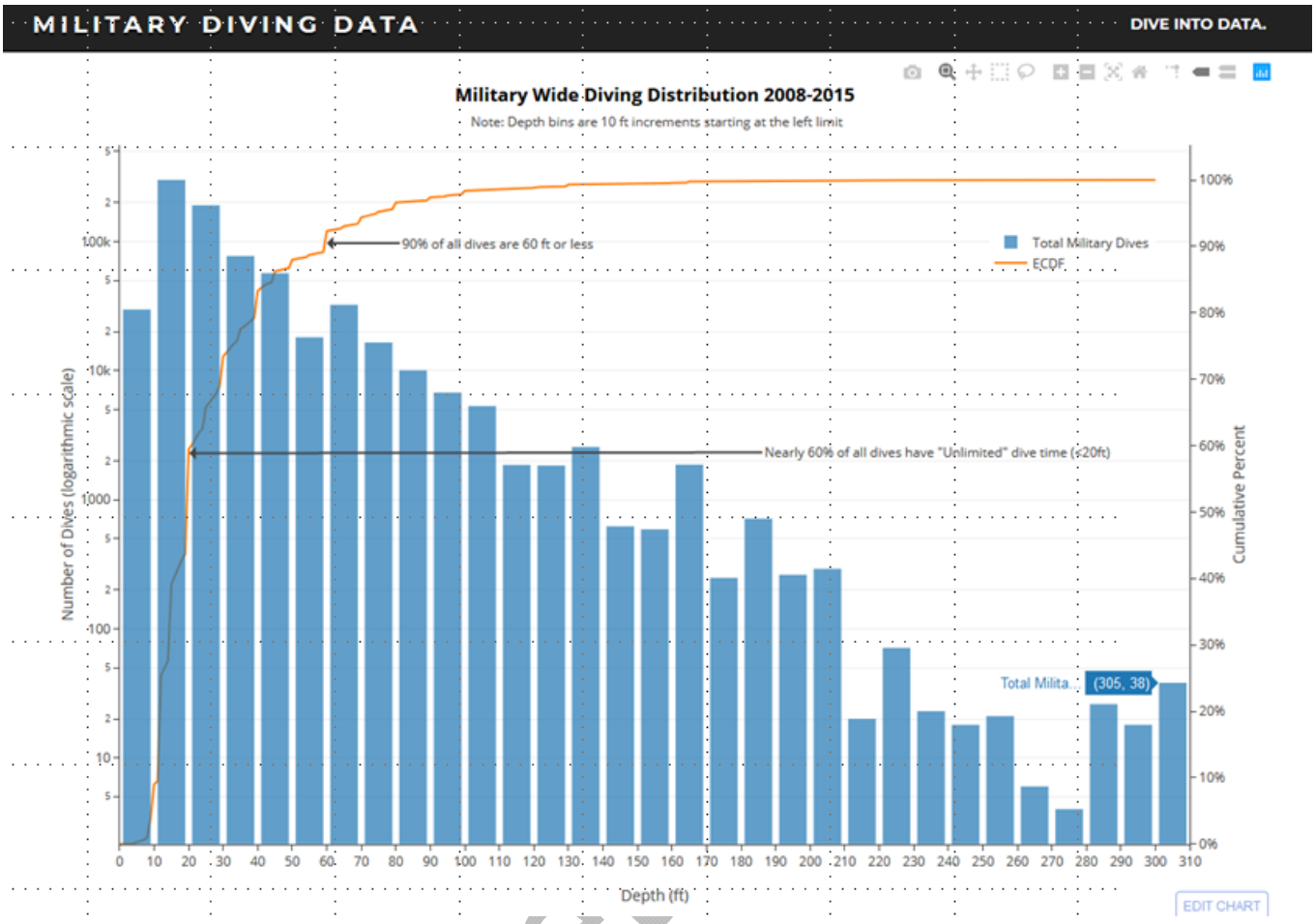

Figure 6: Frequenzanalyse der USN Tauchgänge von 2008 - 2015

Als eindeutiges Beispiel an der Tabellengrenze die 300 feet (92 m) Tauchgänge (Quelle: US Diving Manual Rev 7 Change A 6.6.18, S. 512):

Bottom Time (min)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (FSW) Stop times (min) include travel time, except first air and first O_2 stop 130	120	110	100	90	80	70	60	50	40	30	20	Total Ascent Time (M:S)	Chamber O_2 Periods	Repet Group
300 FSW																	
Exceptional Exposure ----------																	
4	9:00	AIR											3	7	19:40	0.5	G
		AIR/O_2											**2**	**4**	15:40		
5	8:40	AIR										3	3	8	23:20	0.5	I
		AIR/O_2										3	**2**	**4**	18:40		
10	7:20	AIR						2	3	2	3	4	7	35	64:00	1	N
		AIR/O_2						2	3	2	3	4	**4**	**18**	44:20		
15	6:20	AIR			1	2	2	3	3	5	6	7	11	125	172:00	2	Z
		AIR/O_2			1	2	2	3	3	5	6	7	6	39	86:20		
20	6:00	AIR		2	2	2	4	5	5	5	6	16	28	219	300:40	3	
		AIR/O_2		2	2	2	4	5	5	5	6	16	**14**	**59**	137:00		
25	5:40	AIR	1	3	4	4	4	5	5	5	18	26	28	324	433:20	4	
		AIR/O_2	1	3	4	4	4	5	5	5	18	26	**14**	**85**	195:40		

Figure 7: USN Tabelle von 2018, Luft, 300 feet

Niemand bei klarem Verstand wird:

a) diesen Tauchgang mit Luft so durchführen
b) erwarten, daß es dann hierbei keine Probleme gäbe.

Aber dies trifft natürlich auch auf diese abschliessende, kleine historische Kostbarkeit zu: die Züricher SAT Tabelle für Luft von 15 bis 60 m. 80 % der Tabelle sind ungetestet und komplett nutzlos: oder würdest du einen SAT TG mit Luft auf 25 m machen ???

DEEP DIVING RESEARCH LABORATORY
DEPARTMENT OF INTERNAL MEDICINE
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BREATHING MIXTURE
Air

BREATHING MIXTURES FOR DECOMPRESSION
100 % O_2

DECOMPRESSION TABLE FOR SATURATION DIVES

Code No. **15 – 60 SAT. AO. 70. A1**

BREATHING MIXTURE	21 % O_2 / 79 % N_2																			
DIVING DEPTH m	15		20		25		30		35		40		45		50		55		60	
	m	min	m	min	m	min	m	min	m	min	m	min	m	min	m	min	m	min	m	min
to 1. STOP		10		10		10		10		10		10		10		10		10		10
STOP 1	5	110	8	110	11	110	15	110	18	110	22	110	26	110	29	110	33	110	37	110
2	4	120	7	180	10	180	13	120	17	120	20	120	24	120	27	120	31	120	35	120
3	2	120	5	120	9	180	12	180	16	120	18	120	22	120	26	120	29	120	33	120
4	0		4	120	7	180	10	180	14	180	17	120	20	120	24	120	27	120	31	120
5			2	120	5	120	9	180	12	180	16	120	18	120	22	120	26	120	29	120
6			0		4	120	7	180	10	180	14	180	17	120	20	120	24	120	27	120
7					2	120	5	120	9	180	12	180	16	120	18	120	22	120	26	120
8					0		4	120	7	180	10	180	14	180	17	120	20	120	24	120
9							2	120	5	120	9	180	12	180	16	120	18	120	22	120
10							0		4	120	7	180	10	180	14	180	17	120	20	120
11									2	120	5	120	9	180	12	180	16	120	18	120
12									0		4	120	7	180	10	180	14	180	17	120
13											2	120	5	120	9	180	12	180	16	120
14											0		4	120	7	180	10	180	14	180
15													2	120	5	120	9	180	12	180
16													0		4	120	7	180	10	180
17															2	120	5	120	9	180
18															0		4	120	7	180
19																	2	120	5	120
20																	0		4	120
21																			2	120
22																			0	
23																				
24																				
25																				
Total Decompr. Time	6h		11h		17h		22h		27h		31h		35h		39h		43h		47h	

Figure 8: Ausschnitt ZH SAT Tabelle Luft

TABLE 7

Decompression From Air Saturation Dives For 1% Incidence of DCS
Step Decompression, 10 ft stops
UNTESTED

Air

DEPTH (FSW)	TM TO FIRST STOP (M:S)	DECOMPRESSION STOPS (FSW) STOP TIMES (MIN) 90	80	70	60	50	40	30	20	10	TOTAL ASCENT TIME (M:S)
30	0:10								495	1123	1618:30
35	0:05							17	737	1174	1928:35
40	0:10							238	826	1184	2248:40
50	0:10						92	528	888	1185	2693:50
60	0:10					6	354	619	905	1198	3083:00
70	0:20					226	439	651	912	1210	3439:10
80	0:20				141	322	484	661	918	1221	3748:20
90	0:20			80	246	369	500	662	913	1209	3980:30
100	0:20		33	196	288	394	507	663	914	1211	4207:40

Figure 9: Air SAT Tabelle für 1% DCS Ereignisse, Quelle: NEDU / NMRI

Zum Vergleich betrachten wir die obige Table 7 (Quelle: Statistically Based Decompression Table IV: Extension to Air and N_2-O_2 Saturation Diving, NMRI 86-51, August 1986, S. 26):

ZH SAT						**NMRI SAT**			
Tiefe [m]	Tiefe [feet]	TTS [h] 100 % O_2	TTS [min]	1. Stopp [m] / [feet]		Tiefe [feet]	TTS [h]	TTS [min] Air	1. Stopp [m] / [feet]
15	50	6	360	5 / 17		50	44,8	2693	12,2 / 40
20	66	11	660	8 / 26		70	57,3	3439	15,2 / 50
25	82	17	1020	11 / 36		90	66,3	3980	21,3 / 70

Figure 10: Vergleich ZH-SAT / NMRI SAT Air

Historical Dive Tables

An overview of ca. 110 years of history of diving tables, sometimes not so customary or well-known tables, ca. in the order of appearance.

As well as a comparison how these tables changed (or didn't change …) in course of history due to an increased understanding (or lack of) in decompression physiology.

The numbers in the square brackets [xxx] in the sources / references point to:
https://www.divetable.info/books/index_e.htm

Don't use these tables! Topical, proven, tested and reliable tables are referenced to at the end of this document. In order to use them you have to be trained accordingly and perform certain safety-measures.

If you dive the old tables anyway you do experimental decompression research with a sample size = 1, i.e.: with you as the sole guinea pig.

→ Haldane, the premordial version, the mother of all tables! As a result of ca. 1,000 chamber dives with ca. 80 goats (and other critters …) the „2:1" theory was presented. Here as an excerpt from the original publication:

The Prevention of Compressed-Air Illness; Boycott, Damant, Haldane in: J. Hyg. Camb. 1908; 8: 342 – 443 (as well, for e.g. in [78], p. 626)

The mother-version is based on:
- ➔ 5 compartments with exponential half-times of: 5, 10, 20, 40 & 75 min
- ➔ a symmetrical sat-/desaturation
- ➔ an allowed / tolerated super-saturation of ca. „2:1" (*)

(related to the pN_2 this reads: 1.58:1)
(*) ca. means here: really circa! Pls.cf.:
https://www.divetable.info/skripte/TDM/TDM_Issue025.pdf

→ Haldane complete, as a combination of his tables I & II: in [89] on p. 100 – 108,

→ Hawkins, Shilling, Hansen, from: U.S. Nav. Med. Bull. 1935; 33:327 – 338
A suggested change in calculating decompression tables for diving
(and, as well in [78], p. 741): from 2,341 test dives during 3 years. The „2:1" base of Haldane et al. has been modified clearly and the new tables have been calculated only with the 20, 40 & 75 min. compartments and with the following supersaturations:
- ➔ 20 min.: 2.8 : 1
- ➔ 40 & 75 min.: 2.0 : 1

→ USN Air 1937

→ USN Heliox 1939
from: Report on Use of Helium Oxygen Mixtures for Diving, NEDU Report April 1939
(here as well, for e.g. from: [78], p. 1012 - 1029)

→ Danish „Pumps" table (from [70], p. 55)

→ Siebe, Gorman & Co.: Air / Ox until 300 feet (and beyond …) from the famous book:
[89] Robert Henry Davis: Deep Diving and Submarine Operations: A Manual for Deep Sea Divers and compressed Air workers, p. 160 -179

→ USN 1957 in the ubiquitious PADI (plastic-)formfactor (and, yes, as well for many, many other sports-diving organisations). The mother of all recreational diving tables is based on 6 compartments with the half-times of: 5, 10, 20, 40, 80 min (NEDU Research Reports 4 – 56 and 5 – 57) and the surface interval credit for repetitive dives with a 120 min compartment.

→ Cross Corrections: these are basically no tables but instead a procedure, named after Ellis Royal Cross (1913 – 2000). He was among the first to propose ca. 1967 the „fictiticious" diving depth: the planned bottom depth multiplied with a factor, varying with barometric pressure. Thus you could use this depth for a dive at altitude in conjunction with a normal air table for sealevel. All the big manuals (USN, DCIEM, NOAA, …) use this method (CRT) for diving at diminished atmospheric pressure. The swiss altitude tables after ZH-86 (pls. cf. below) use another method, the linear extrapolation (LEM).

Topically we have 4 different methods to calculate the critical supersaturations for altitude from sea level:

➔ Linear Extrapolation (LEM):
method Bühlmann-Hahn, Deco-Brain, Aladin etc.
➔ Constant Ratio Translation (CRT):
method Cross for USN, DCIEM, NOAA, NAUI (Dacor OmniPro, Oceanic DataMax)
➔ Constant Ratio Extrapolation (CRE):
method Boni, Wienke (exponential)
➔ Non-linear hypobaric extrapolation (NLHE):
method Egi & Gürmen

We can not decide which is the safest procedure of these: there are not enough reliable data (i.e.: documented dives under reproducible conditions) at hand.

→ but, finally, to honor this guy: there is a USN table on a metal disc, created by E.R.Cross; source: [206], p. 36

→ Dräger:
[70] Physiologie des Tauchers [german for: The Physiology of the Diver] (excerpt from "Tauchertechnik", german for: diving techniques) from Herrmann Stelzner, the then chief engineer from the famous Draeger company in Luebeck, 3rd. and revised edition of 1962, editor: Drägerwerk Lübeck, Verlag Charles Coleman, Lübeck. With the real nice bid on page 45: *„ … the stop times are calculated in such a manner that serious illnesses are not to be expected. But minor joint-pain has to be taken into account."*

→ DRÄGER 1970, the modified version appeared ca. 1931 in the 1st. edition of [70], but here on the pages 46 – 54, with only minor adaptions/discrepancies that it fits onto the „modulo 5" pattern of the stop times (*). This table is still in use today (2020) in the german navy as a „MDv 450/1" (Marinedienstvorschrift, german for: navy official instruction) on page A 6-7. The safety record is incredibly good! And this means clearly:
→ this table is not used as such, i.e.: it is „padded"
→ and it is not enough dived at the edges, i.e. the very long and / or the very deep dives.

(*) this „modulo 5" pattern does not follow any physiologic rationale (very much like the max. ascent speed of 60 feet / min, which is 1 foot / 1 sec.) but helps in memorizing and using the table.

... if you go to the U.S. Navy Experimental Diving Unit and ask, "Have you ever had any problems with the 150 feet for a 30-minute dive schedule?" they'll look up the 150/30, which we all know bends people like pretzels, and they'll say, "No, we've got no problems with it", and it's because it's never been used as the 150/30 schedule. This is because experienced Navy master divers never use the tables as written. They always pad them. " Dr. Eric P. Kindwall, 38th UHMS workshop, p. 369

→ RNPL Air Diving Table 1972

→ Druckkammerlabor Universität Zürich 0 – 700 müM (german for: Pressure Chamber Laboratory, Zuerich, Switzerland. mÜM is german for: meters above sealevel): ca. 1982, an abbreviated version for recreational divers, printed on an alu-chip to be attached at the BCD.

→ Bühlmann / Hahn: Dekompressionstabelle für Taucher (german for: decompression table for divers), ca. 1983/1984, as a plastic version from Ehm [6]. Based on the ZH-L 12 system.

→ ZH-86 Tables, complete, incl. Altitude Diving, brewed according to the ZH-L 16 recipe, incl. an EAN50 table until 30 m (sic!) and 30 min (sic) and 60 min (sic) as „NDL"…

→ BSAC 1988, British Sub-Aqua Club
(details for eg. in [78], p. 743 - 753)

→ HUGI Table: modified USN, from my friend Karl; personnally i like this little skull in the upper left corner … As well here the standard approach of empirically (i.e.: at whim) shortened NDL of the old USN table. The rationale is a better fit to the non-military clientele.

→ Maxe special: from my private archive. It is from a FAX that Dr. Max Hahn sent to me. It fits approximately to the then available Scubapro dive computers NC 11 or DC 12, ca. 1990-1995. The rationale is to avoid micro bubbles.
Pls. cf. as well in „the little virtual dive computer museum":
https://www.divetable.info/kap4_e.htm

→ PADI Wheel® (1988): the then revolutionary plastic-discs, based on the theoretical grounds of the RDP®, the Recreational Dive Planner ([3] The DSAT Recreational Dive Planner: Development and validation of no-stop decompression procedures for recreational diving, Hamilton, Rogers, Powell, Vann, 28 February 1994): but adapted for multi level dives. You could easily plan with 3 pre-defined depth stages. The RDP® uses 14 compartments with the half times of 5 to 480 min and with the M_0-values which have been reduced in comparison to the USN M_0 values of round-about 10 %.

→ Max Hahn & Jürg Wendling: No-Bubbles – Decompression Table (0,4 Bar Oversaturation), in:
Safety Limits of Dive Computers – Decompression Computers in SCUBA Diving Workshop 18.09.1992 Basel, Switzerland, ISBN 3-908229-06-5

→ F.F.E.S.S.M: Table Marine National 1990 (MN90), Version 03/05/1999, Haldane based with the G.E.R.S 1965 modifications. 12 compartments with the half-times of: 5, 7, 10, 15, 20, 30, 40, 50, 60, 80, 100, 120 min and with the associated allowed super-saturations of: 2,72 → 1,54 and 15 – 17 m/min ascent speed.

→ Dutch Caisson Table (excerpt from 1993); source: 49th. UHMS workshop 2001 (Arthur Bornstein workshop, p.34) and as well an excerpt from a wet bell deco table (p. 31).

„When they got out in that cold, open, salty ocean it was an entirely different ballgame.
A third of the people got bends with the same set ot tables.“
[206]: The History of Oilfield Diving, p. 275, Murray Black, Divcon Management on the chamber tests of the RNPL in 1966

→ British Tunnelling Society: Compressed Air Working Group;
Work in Compressed Air Regulations 1996. The tables for Caisson- & Tunnel works; basis are the so-called „HSE Regulations“ from 1958, which became well-known as the „Blackpool“ tables; from the pages 100 – 104.

→ Max Hahn: DECO 2000 (2000); this table, a little bit more conservative than the zuerich ZH-83 / ZH-86 system is (still) among the most common tables for european sport divers.

→ NAUI: RGBM Air (2001) NAUI prod.# 35511: more shortened „NDL“ and restrictive rules for repetitive dives, based on the proprietary (i.e.: cryptic) reduced gradient bubble model from Bruce Wienke.

→ RGBM Air 180 - 170 feet: from the same author (BRW) is this excerpt from the RGBM Air table for decompression dives. It was then commercially available from rgbmdiving.com, the company/website went off-line quickly thereafter … But the complete table is still available for free there: https://www.divetable.info/skripte/ntable.pdf

→ USN NEDU: Air / P(DCS): 2004
An excerpt from a typical, modern P(DCS) table. Source: Van Liew, H.D.; Flynn, E.T. (2004) A simple probabilistic model for estimating the risk of standard air dives, USN NEDU, TA 01-07, TR 04-41, p. 40 - 43. This method normally runs like that: via a „best fit“ approximation with thousands of so called „calibration dives“ there results a parameter set to calculate the P(DCS), the purely statistical probability (P) of contracting a decompression sickness (DCS). The table shows the regular table entries from the old USN Air table (depth, bottom time) with an adjusted TDT (total decompression time). The TDT is adjusted so that the P(DCS) is < ca. 2 %. As a comparison there is on the right side of the table the VVAL 18 model, used for the new USN air tables. For the P(DCS) more info:
Tech Diving Mag, Issue 14 / 2014:
Yet Another Benchmark, Part III: on the probability of getting decompression sickness (P(DCS))
TDM , Ausgabe 14 / 2014, S. 3 - 11

→ „The SAA Bühlmann Deep-Stop System“ (2008); a SAA / BSAC table concocted according to the zuerich recipe (ZH-L 16 C) with integrated deep stops (from [183] and [187]).

→Tables Ministere du Travail, 13.12.2012, Annexe 3: Heliox with O_2 deco

→ NOAA Nitrox / EAN Tables (2016): EAN Tables based on the USN Air tables

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Topical and reliable tables which have been validated against 100.000's of dives are:

➔ (the then) DCIEM (today: DRDC)
https://www.divetable.info/manuals_4_free/p125936.pdf

all USN (United States Navy) manuals:
https://www.navsea.navy.mil/Home/SUPSALV/00C3-Diving/Diving-Publications/

and especially the new USN Manual:

➔ US Navy Diving Manual Rev. 7 Change A SS521-AG-PRO-010 / 0910-LP-115-1921 04/30/2018
https://www.navsea.navy.mil/Portals/103/Documents/SUPSALV/Diving/US%20DIVING%20MANUAL_REV7_ChangeA-6.6.18.pdf

➔ the Norwegian Diving- and Treatment Tables, 5th. edition, 12.08.2019, available at:
www.dykketabeller.no

During the last 110 years there crystallized the following pattern:

→ (regularly) shortened „NDL" in comparison to the older tables

→ (sometimes) deeper stops

→ (often) higher pO_2

→ (always) longer TTS

(TTS = time-to-surface, i.e.: the sum of all stop times + (bottom depth / ascent rate))

But also for the above mentioned modern topical tables you need additional safety-measures, noteably if you do not belong to the intended user group (young, healthy, fit males) and especially with:

→ high physical workload
→ low ambient temperature
→ high pO_2
→ bad hydration
→ bad fitness
→ high BMI
→ high age.

A creative and competent and nearly complete (we would like to add dehydration) transparent risk assessment scheme is from the NDTT (source: [219] or as well: www.dykketabeller.no) on the p. 65:

8. **Recommended adjustment of decompression for standard air decompression dives.** To simplify the assessment of the individual risk factors, the table below may be used.

Score Risk factor	1	2	3
Work load	Low	Medium	High
Thermal comfort during decompression	Neutral/warm	Cold	
Individual factors Age > 50 BMI > 30 Sedentary	0-1 individual factors	2-3 individual factors	

By adding the scores for the various groups of risk factors you will achieve a total score ranging 3 to 7. The highest score will be achieved with a dive with a high work load, where the diver has been cold during decompression and has 2 or 3 of the individual risk factors. For score 5 we recommend that the decompression is adjusted according to a bottom time one step longer than the required. For scores 6 and 7 we recommend decompression according to a bottom time two steps longer than prescribed.

Figure 11: risk assessment and modification of a dive table, source: [219]

As a matter of principle you have to consider the following: at the edges of a certain table (bottom depth, bottom time) there exists only marginal or none evidence of the safety of this particular dive!

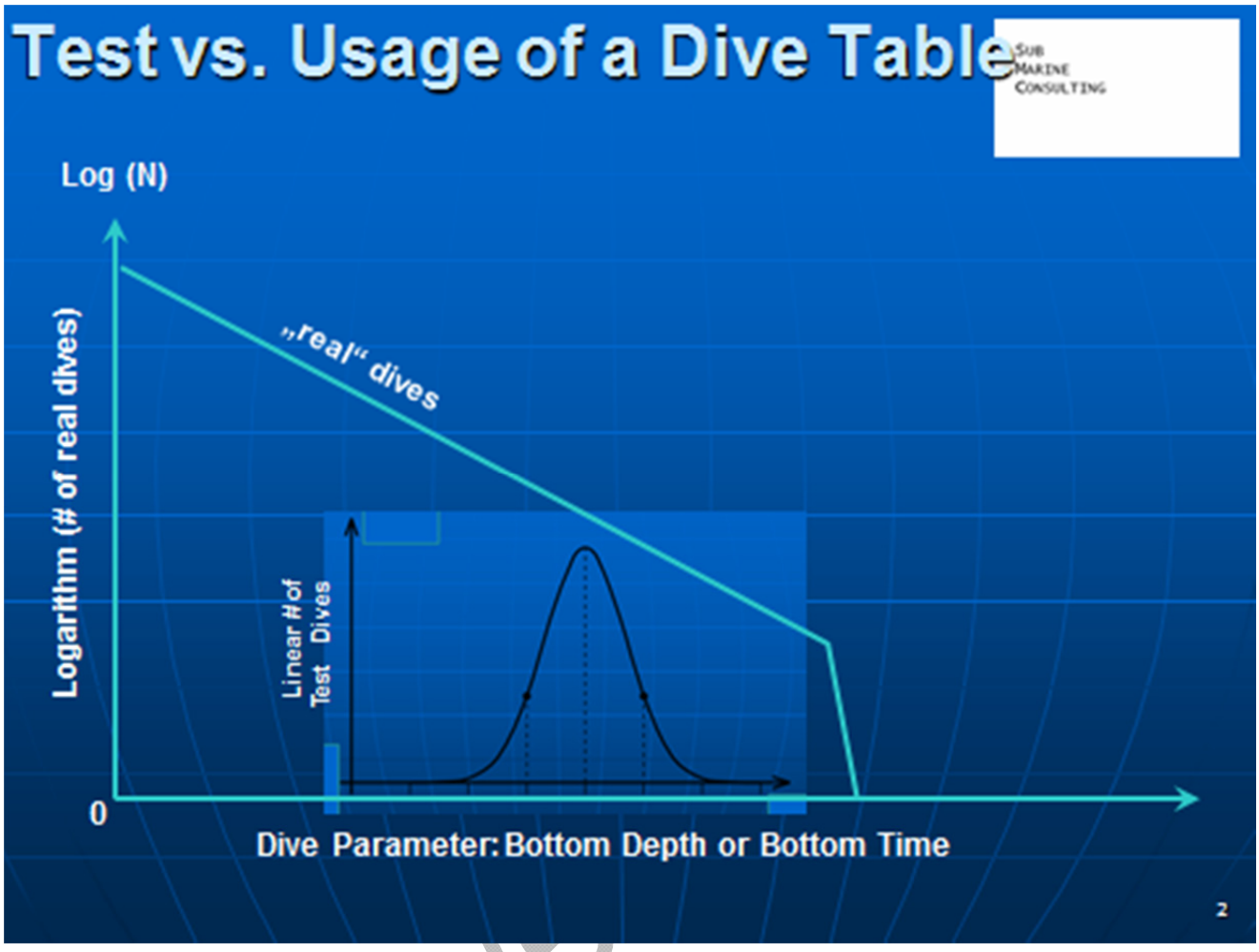

Figure 12: Test vs. real table usage

The test dives for the PADI© DSAT RDP ® follow a quite similar pattern:

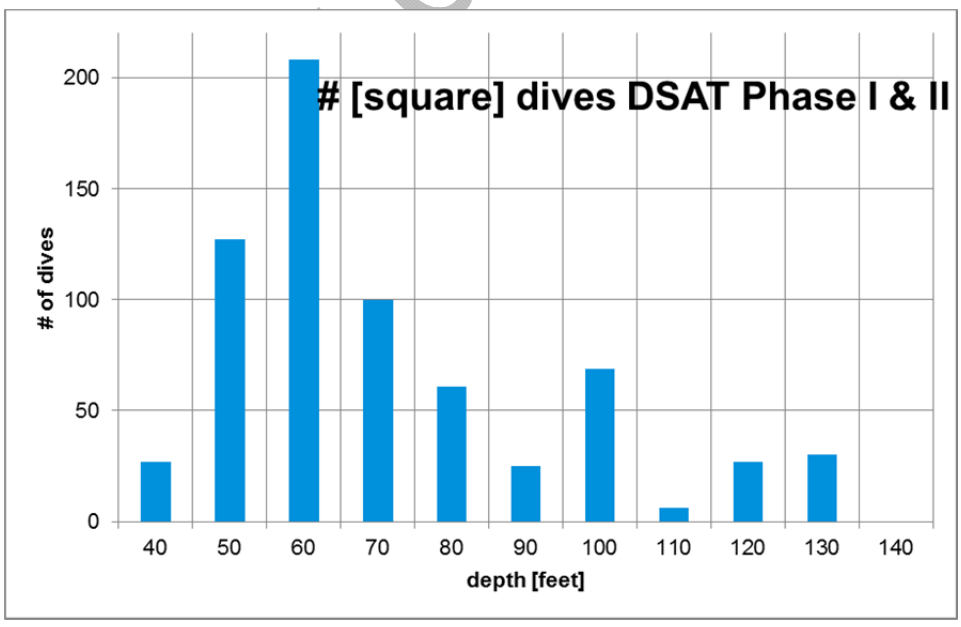

Figure 13: Frequencyanalysis of DSAT Phase I & II

(Source: [3] The DSAT Recreational Dive Planner: Development and validation of no-stop decompression procedures for recreational diving, Hamilton, Rogers, Powell, Vann, 28 Februar 1994).

For the old USN table from 1957 it looks quite comparable:

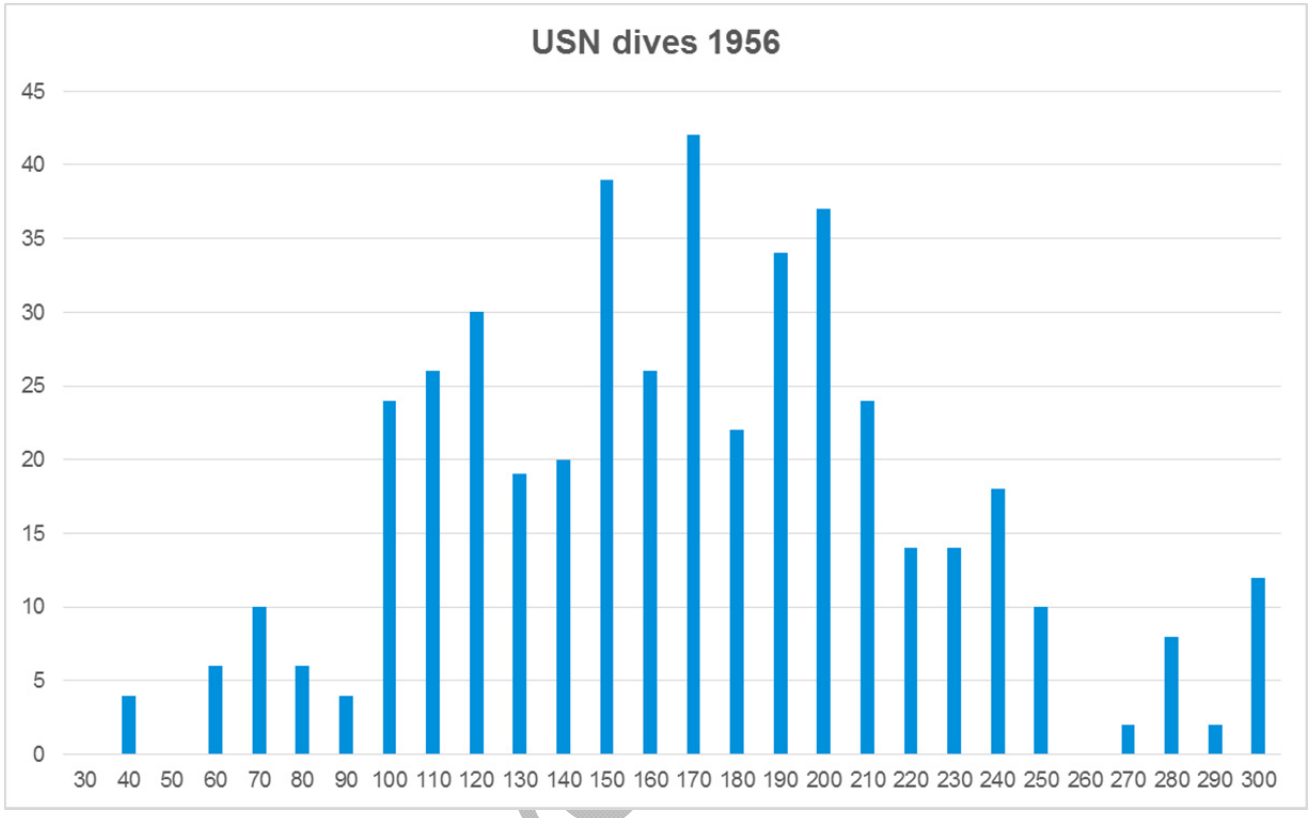

Figure 14: Frequencyanalysis of USN 1957 Air Table

Source: des Granges (3.12.56) NEDU Research Report 5 - 57, p. 54 – 56

And as well for the new tables with the LEM algorithms (linear-exponentail-multigas):

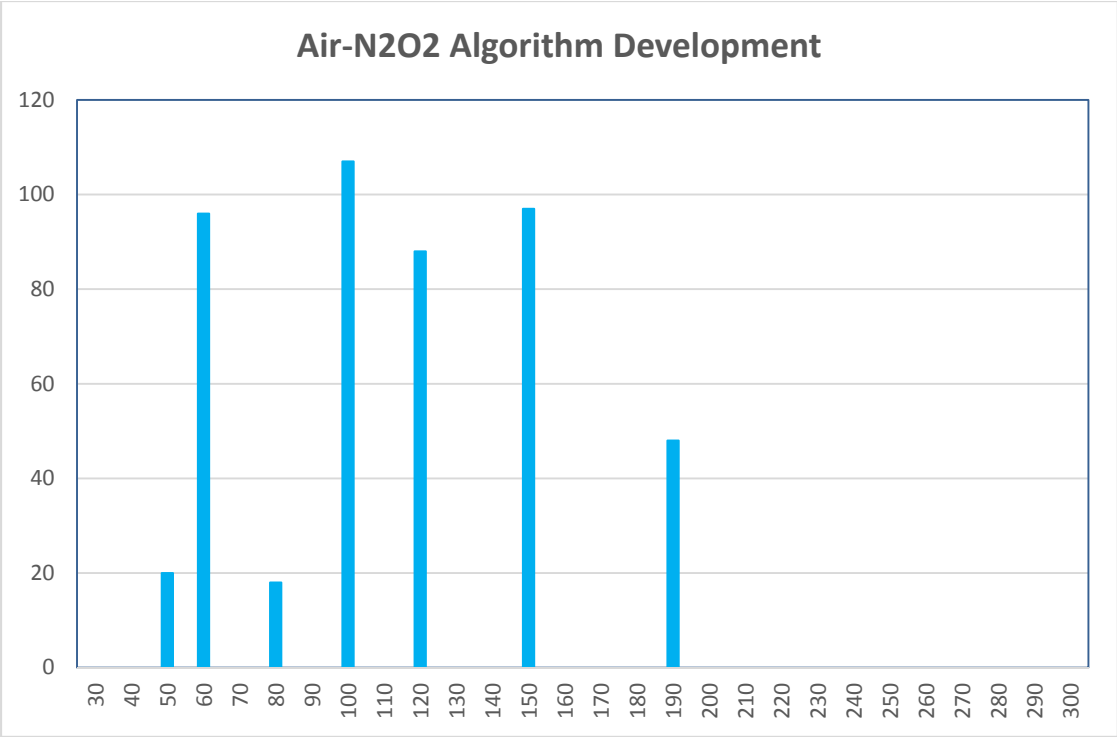

Figure 15: Frequencyanalysis of USN / LEM testdives

Source: Edward D. Thalmann (August 1986) NEDU Research Report 08 - 85, p. 22

That this relationship is really mirrored in daily diving routine you could check on-line as well in the USN data base at: http://divingresearch.scripts.mit.edu/militarydivingdata/:

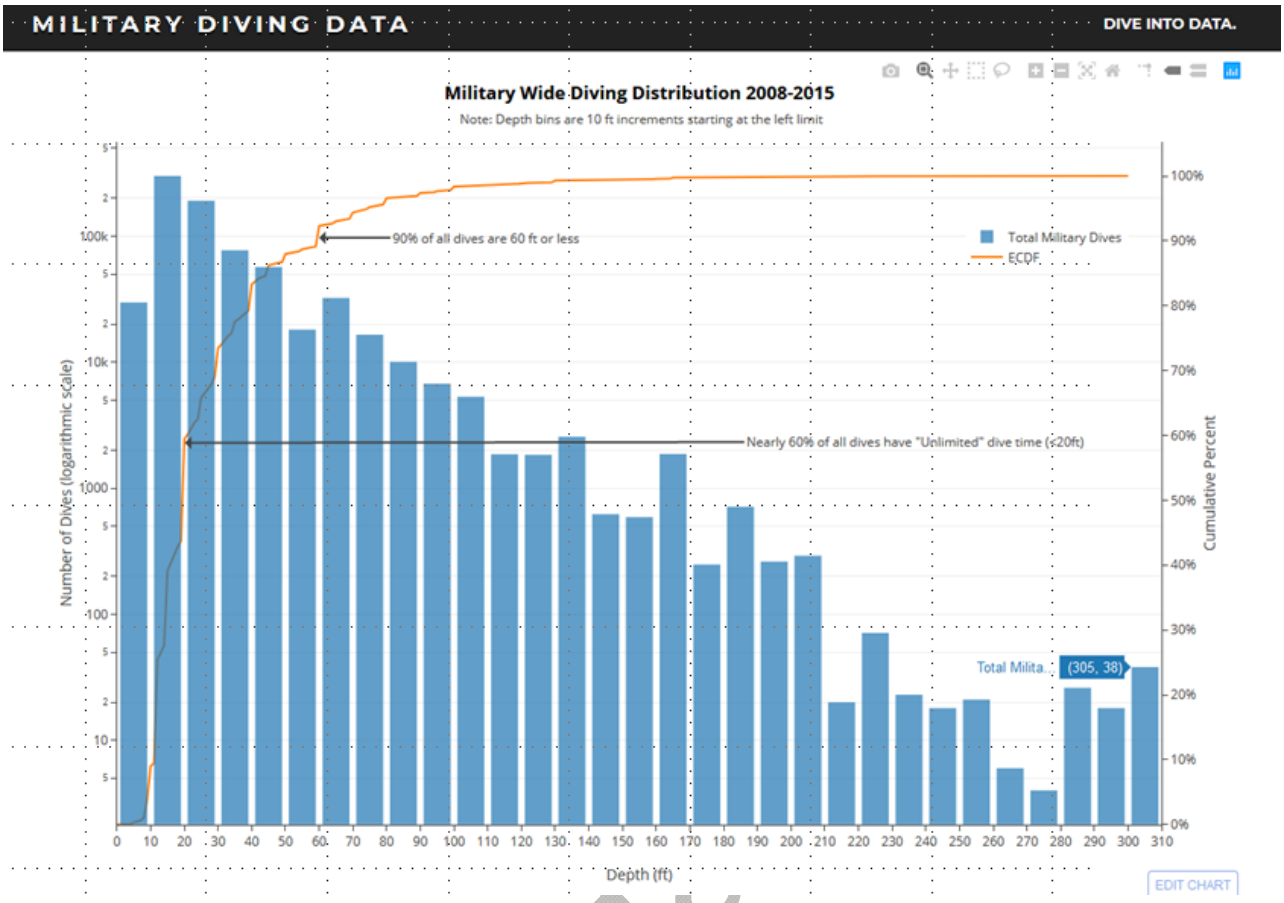

Figure 16: USN dive data from 2008 - 2015

As a clear example from the edge of the table, the 300 feet dives (source: US Diving Manual Rev 7 Change A 6.6.18, p. 512):

Bottom Time (min)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (FSW) Stop times (min) include travel time, except first air and first O_2 stop 130	120	110	100	90	80	70	60	50	40	30	20	Total Ascent Time (M:S)	Chamber O_2 Periods	Repet Group
300 FSW																	
Exceptional Exposure ----------																	
4	9:00	AIR											3	7	19:40	0.5	G
		AIR/O_2											**2**	**4**	15:40		
5	8:40	AIR										3	3	8	23:20	0.5	I
		AIR/O_2										3	**2**	**4**	18:40		
10	7:20	AIR						2	3	2	3	4	7	35	64:00	1	N
		AIR/O_2						2	3	2	3	4	**4**	**18**	44:20		
15	6:20	AIR			1	2	2	3	3	5	6	7	11	125	172:00	2	Z
		AIR/O_2			1	2	2	3	3	5	6	7	**6**	**39**	86:20		
20	6:00	AIR		2	2	2	4	5	5	5	6	16	28	219	300:40	3	
		AIR/O_2		2	2	2	4	5	5	5	6	16	**14**	**59**	137:00		
25	5:40	AIR	1	3	4	4	4	5	5	5	18	26	28	324	433:20	4	
		AIR/O_2	1	3	4	4	4	5	5	5	18	26	**14**	**85**	195:40		

Figure 17: USN 2018 Air Table, 300 feet

Nobody in his/her clear mind will:

a) run the dive like that on air
b) expect, that there will be no problems!

But this yields as well for the following, final historical gem: the SAT table on air for 15 → 60 m from Zuerich. 80 % of this table is untested and completely useless. You wouldn't run a SAT dive on air deeper than 20 m, or would you???

DEEP DIVING RESEARCH LABORATORY
DEPARTMENT OF INTERNAL MEDICINE
UNIVERSITY HOSPITAL ZURICH

BREATHING MIXTURE
Air

BREATHING MIXTURES FOR DECOMPRESSION
100 % O_2

DECOMPRESSION TABLE FOR SATURATION DIVES

Code No. **15 – 60 SAT. AO. 70. A1**

BREATHING MIXTURE	21 % O_2 / 79 % N_2									
DIVING DEPTH m	15	20	25	30	35	40	45	50	55	60
	m min	m min	m min	m min	m min	m min	m min	m min	m min	m min
to 1. STOP	10	10	10	10	10	10	10	10	10	10
STOP 1	5 110	8 110	11 110	15 110	18 110	22 110	26 110	29 110	33 110	37 110
2	4 120	7 180	10 180	13 120	17 120	20 120	24 120	27 120	31 120	35 120
3	2 120	5 120	9 180	12 180	16 120	18 120	22 120	26 120	29 120	33 120
4	0	4 120	7 180	10 180	14 180	17 120	20 120	24 120	27 120	31 120
5		2 120	5 120	9 180	12 180	16 120	18 120	22 120	26 120	29 120
6		0	4 120	7 180	10 180	14 180	17 120	20 120	24 120	27 120
7			2 120	5 120	9 180	12 180	16 120	18 120	22 120	26 120
8			0	4 120	7 180	10 180	14 180	17 120	20 120	24 120
9				2 120	5 120	9 180	12 180	16 120	18 120	22 120
10				0	4 120	7 180	10 180	14 180	17 120	20 120
11					2 120	5 120	9 180	12 180	16 120	18 120
12					0	4 120	7 180	10 180	14 180	17 120
13						2 120	5 120	9 180	12 180	16 120
14						0	4 120	7 180	10 180	14 180
15							2 120	5 120	9 180	12 180
16							0	4 120	7 180	10 180
17								2 120	5 120	9 180
18								0	4 120	7 180
19									2 120	5 120
20									0	4 120
21										2 120
22										0
23										
24										
25										
Total Decompr. Time	6h	11h	17h	22h	27h	31h	35h	39h	43h	47h

Figure 18: Zuerich SAT table, air (excerpt)

TABLE 7

Decompression From Air Saturation Dives For 1% Incidence of DCS
Step Decompression, 10 ft stops
UNTESTED

DEPTH (FSW)	TM TO FIRST STOP (M:S)	Air DECOMPRESSION STOPS (FSW) STOP TIMES (MIN) 90	80	70	60	50	40	30	20	10	TOTAL ASCENT TIME (M:S)
30	0:10								495	1123	1618:30
35	0:05							17	737	1174	1928:35
40	0:10							238	826	1184	2248:40
50	0:10						92	528	888	1185	2693:50
60	0:10					6	354	619	905	1198	3083:00
70	0:20					226	439	651	912	1210	3439:10
80	0:20				141	322	484	661	918	1221	3748:20
90	0:20			80	246	369	500	662	913	1209	3980:30
100	0:20		33	196	288	394	507	663	914	1211	4207:40

Figure 19: Air Saturation Table for 1% DCS Incidence, Source: NEDU

As a pure comparison we look at the above Table 7 (Source: Statistically Based Decompression Table IV: Extension to Air and N_2-O_2 Saturation Diving, NMRI 86-51, August 1986, p. 26):

ZH SAT **NMRI SAT**

Depth [m]	Depth [feet]	TTS [h] 100 % O_2	TTS [min]	1. Stop [m] / [feet]		Depth [feet]	TTS [h]	TTS [min] Air	1. Stop [m] / [feet]
15	50	6	360	5 / 17		50	44.8	2693	12.2 / 40
20	66	11	660	8 / 26		70	57.3	3439	15.2 / 50
25	82	17	1020	11 / 36		90	66.3	3980	21.3 / 70

Figure 20: Comparison ZH-SAT / NMRI SAT Air

Inhalt: die Tabellen / Contents: the tables

→ Haldane: 1908

→ Haldane komplett: 1940

→ Hawkins, Shilling, Hansen: 1935

→ USN Air: 1937

→ USN Heliox: 1939

→ Dänische Pumpen-Tabelle

→ Siebe, Gorman & Co.: Air / Ox: 1940

→ USN: 1957

→ Cross Corrections

→ USN „Wheel“ by E.R.Cross

→ DRÄGER: 1970

→ RNPL Air Diving Table 1972

→ Druckkammerlabor Universität Zürich: 1982

→ Bühlmann / Hahn:. 1983

→ ZH-86, komplett / Bergsee

→ BSAC: 1988

→ HUGI Table

→ Maxe Spezial: 1990

→ PADI Wheel®: 1988

→ Max Hahn & Jürg Wendling: 1992

→ Table Marine National 1990 (MN90)

→ Dutch Caisson Table (excerpt from 1993)

→ Dutch Wet Bell Deco: 30 m / 60 min on air

→ „HSE Regulations“ / „Blackpool“

→ Max Hahn: 2000

→ NAUI Air: 2001

→ RGBM Air 180-170 feet

→ USN NEDU: Air / P(DCS): 2004

→ SAA Bühlmann DeeP-Stop System: 2008

→ Tables Ministere du Travail: 2012

→ NOAA Nitrox / EAN Tables (2016)

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TABLE I

STOPPAGES DURING THE ASCENT OF A DIVER AFTER ORDINARY LIMITS OF TIME FROM SURFACE

Depth		Pressure	Time from surface to beginning of ascent	Approximate time to first stop	Stoppages in minutes at different depths[1]						Total time for ascent in mins.
Feet	Fathoms	Pounds per square inch			60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.	
0–36	0–6	0–16	No limit	1	—	—	—	—	—	—	0–1
36–42	6–7	16–18½	Over 3 hours	1	—	—	—	—	—	5	6
42–48	7–8	18½–21	Up to 1 hour	—	—	—	—	—	—	—	1½
			1–3 hours	1½	—	—	—	—	—	5	6½
			Over 3 hours	1½	—	—	—	—	—	10	11½
48–54	8–9	21–24	Up to ½ hour	—	—	—	—	—	—	—	2
			½–1½ hours	2	—	—	—	—	—	5	7
			1½–3 hours	2	—	—	—	—	—	10	12
			Over 3 hours	2	—	—	—	—	—	20	22
54–60	9–10	24–26½	Up to 20 mins.	—	—	—	—	—	—	—	2
			20–45 mins.	2	—	—	—	—	—	5	7
			¾–1½ hours	2	—	—	—	—	—	10	12
			1½–3 hours	2	—	—	—	—	5	15	22
			Over 3 hours	2	—	—	—	—	10	20	32
60–66	10–11	26½–29½	Up to ¼ hour	2	—	—	—	—	—	—	2
			¼–½ hour	2	—	—	—	—	—	5	7
			½–1 hour	2	—	—	—	—	3	10	15
			1–2 hours	2	—	—	—	—	5	15	22
			2–3 hours	2	—	—	—	—	10	20	32
66–72	11–12	29½–32	Up to ¼ hour	2	—	—	—	—	—	2	4
			¼–½ hour	2	—	—	—	—	3	5	10
			½–1 hour	2	—	—	—	—	5	12	19
			1–2 hours	2	—	—	—	—	10	20	32
72–78	12–13	32–34½	Up to 20 mins.	2	—	—	—	—	—	5	7
			20–45 mins.	2	—	—	—	—	5	10	17
			¾–1½ hours	2	—	—	—	—	10	20	32
78–84	13–14	34½–37	Up to 20 mins.	2	—	—	—	—	—	5	7
			20–45 mins.	2	—	—	—	—	5	15	22
			¾–1¼ hours	2	—	—	—	—	10	20	32
84–90	14–15	37–40	Up to 10 mins.	2	—	—	—	—	—	3	5
			10–20 mins.	2	—	—	—	—	3	5	10
			20–40 mins.	2	—	—	—	—	5	15	22
			40–60 mins.	2	—	—	—	3	10	15	30
90–96	15–16	40–42½	Up to 10 mins.	3	—	—	—	—	—	3	6
			10–20 mins.	2	—	—	—	—	3	5	10
			20–35 mins.	2	—	—	—	—	5	15	22
			35–55 mins.	2	—	—	—	3	10	15	30
96–108	16–18	42½–48	Up to 15 mins.	3	—	—	—	—	3	5	11
			15–30 mins.	3	—	—	—	3	7	10	23
			30–40 mins.	3	—	—	—	5	10	15	33
108–120	18–20	48–53½	Up to 15 mins	3	—	—	—	2	3	7	15
			15–25 mins.	3	—	—	—	5	5	10	23
			25–35 mins.	3	—	—	—	5	10	15	33
120–132	20–22	53½–59	Up to 15 mins.	3	—	—	—	2	5	7	17
			15–30 mins.	3	—	—	—	5	10	15	33
132–144	22–24	59–64½	Up to 12 mins.	3	—	—	—	3	5	5	16
			12–25 mins.	3	—	—	2	5	10	12	32
144–156	24–26	64½–70	Up to 10 mins.	3	—	—	—	3	5	5	16
			10–20 mins.	3	—	—	2	5	10	12	32
156–168	26–28	70–75	Up to 10 mins.	3	—	—	2	3	5	5	18
			10–16 mins.	3	—	2	3	5	7	10	30
168–180	28–30	75–80½	Up to 9 mins.	3	—	—	2	3	5	5	18
			9–14 mins.	3	—	2	3	5	7	10	30
180–192	30–32	80½–86	Up to 13 mins.	3	—	2	3	5	7	10	30
192–204	32–34	86–91½	Up to 12 mins.	3	2	2	3	5	7	10	32

[1] During each stoppage the diver should continue to move his arms and legs.

TABLE II

STOPPAGES DURING THE ASCENT OF A DIVER AFTER DELAY BEYOND THE ORDINARY LIMITS OF TIME FROM SURFACE

Depth		Pressure — Pounds per square inch	Time from surface to beginning of ascent	Approximate time to first stop	Stoppages in minutes at different depths								Total time for ascent in mins.
Feet	Fathoms				80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.	
60–66	10–11	29½–29½	Over 3 hours	2	—	—	—	—	—	—	15	30	42
66–72	11–12	29½–32	2–3 hours	2	—	—	—	—	—	—	10	30	42
			Over 3 hours	2	—	—	—	—	—	—	20	30	52
72–78	12–13	32–34½	1½–2½ hours	2	—	—	—	—	—	—	20	25	47
			Over 2½ hours	2	—	—	—	—	—	—	30	30	62
78–84	13–14	34½–37	1¼–2 hours	2	—	—	—	—	—	—	15	30	47
			2–3 hours	2	—	—	—	—	—	5	30	30	67
			Over 3 hours	2	—	—	—	—	—	10	30	35	77
84–90	14–15	37–40	1–1½ hours	2	—	—	—	—	—	5	15	25	47
			1½–2½ hours	2	—	—	—	—	—	5	30	35	72
			Over 2½ hours	2	—	—	—	—	—	20	35	35	92
90–96	15–16	40–42½	1–1½ hours	2	—	—	—	—	—	5	15	30	52
			1½–2½ hours	2	—	—	—	—	—	10	30	35	77
			Over 2½ hours	2	—	—	—	—	—	30	35	35	102
96–108	16–18	42½–48	40–60 minutes	2	—	—	—	—	—	10	15	20	47
			1–2 hours	2	—	—	—	—	5	15	25	35	82
			Over 2 hours	2	—	—	—	—	15	30	35	40	122
108–120	18–20	48–53½	35–60 minutes	2	—	—	—	—	5	10	15	25	57
			1–2 hours	2	—	—	—	—	10	20	30	35	97
			Over 2 hours	2	—	—	—	—	30	35	35	40	142
120–132	20–22	53½–59	½–¾ hours	3	—	—	—	—	5	10	15	20	53
			¾–1½ hours	3	—	—	—	5	10	20	30	30	98
			Over 1½ hours	3	—	—	—	15	30	35	40	40	163
132–144	22–24	59–64½	25–45 minutes	3	—	—	—	3	5	10	15	25	61
			¾–1½ hours	3	—	—	—	10	10	20	30	35	108
			Over 1½ hours	3	—	—	—	30	30	35	40	40	178
144–156	24–26	64½–70	20–35 minutes	3	—	—	—	3	5	10	15	20	56
			35–60 minutes	3	—	—	—	7	10	15	30	30	95
			Over 1 hour	3	—	—	20	25	30	35	40	40	193
156–168	26–28	70–75	16–30 minutes	3	—	—	—	3	5	10	15	20	56
			½–1 hour	3	—	—	3	10	10	15	30	30	101
			Over 1 hour	3	—	5	25	25	30	35	40	40	203
168–182	28–30	75–80½	14–20 minutes	3	—	—	—	3	3	7	10	15	41
			20–30 minutes	3	—	—	2	2	3	10	15	25	60
			½–1 hour	3	—	3	3	7	10	20	30	35	111
			Over 1 hour	3	—	15	25	30	30	35	40	40	218
182–194	30–32	80½–86	13–20 minutes	3	—	—	—	3	3	7	15	15	46
			20–30 minutes	3	—	—	3	3	5	10	15	25	64
			½–1 hour	3	—	3	5	10	12	20	30	35	118
			Over 1 hour	3	5	20	25	30	30	35	40	40	228
194–206	32–34	86–91½	12–20 minutes	3	—	—	3	3	5	7	10	20	51
			20–30 minutes	3	—	3	3	3	5	10	20	20	67
			½–1 hour	3	3	3	5	10	15	20	30	35	124
			Over 1 hour	3	15	20	25	30	30	35	40	40	238

J. S. HALDANE'S DECOMPRESSION TABLES

TO LIMIT OF 204 FEET (AIR ONLY)

(See explanation on page 94)

Duration of dive: In ordinary circumstances, the diver should not be allowed to remain on the bottom longer than the time shown immediately above the thick black line drawn from the fourth column to the thirteenth column at each depth.

Depth.		Pressure Pounds per Square Inch.	Time under Water, *i.e.*, from Surface to beginning of Ascent.	Stoppages at different Depths in Minutes.								Total Time for Ascent in Minutes.	Number of Cylinders needed.†	Revolutions of Pump per Minute.‡	Number of Men per Shift on Pumps.
Feet.	Fathoms.			80ft.	70ft.	60ft.	50ft.	40ft.	30ft.	20ft.	10ft.				
0–33	0–5½	0–15	No limit	—	—	—	—	—	—	—	—	0–1	1	15–30*	2
33–42	5½–7	15–18½	Up to 3 hrs.	—	—	—	—	—	—	—	—	1–1½	2	15–20	2
			Over 3 hrs.	—	—	—	—	—	—	—	5	6			
42–48	7–8	18½–21	Up to 1 hr.	—	—	—	—	—	—	—	—	1½	2	20	2
			1 to 3 hrs.	—	—	—	—	—	—	—	5	6½			
			Over 3 hrs.	—	—	—	—	—	—	—	10	11½			
48–54	8–9	21–24	Up to ½ hr.	—	—	—	—	—	—	—	—	2	2	20	2
			½ to 1½ hrs.	—	—	—	—	—	—	—	5	7			
			1½ to 3 hrs.	—	—	—	—	—	—	—	10	12			
			Over 3 hrs.	—	—	—	—	—	—	—	20	22			
54–60	9–10	24–26½	Up to 20 mins.	—	—	—	—	—	—	—	—	2	2	25	4
			20 to 45 mins.	—	—	—	—	—	—	—	5	7			
			¾ to 1½ hrs.	—	—	—	—	—	—	—	10	12			
			1½ to 2 hrs.	—	—	—	—	—	—	4	10	16			
			2 to 3 hrs.	—	—	—	—	—	—	5	15	22			
			Over 3 hrs.	—	—	—	—	—	—	10	20	32			
60–66	10–11	26½–29½	Up to 15 mins.	—	—	—	—	—	—	—	—	2	2	25	4
			15 to 30 mins.	—	—	—	—	—	—	—	5	7			
			30 to 48 mins.	—	—	—	—	—	—	2	8	12			
			48 to 60 mins.	—	—	—	—	—	—	3	10	15			
			1 to 1½ hrs.	—	—	—	—	—	—	4	13	19			
			1½ to 2 hrs.	—	—	—	—	—	—	5	15	22			
			2 to 2½ hrs.	—	—	—	—	—	—	5	20	27			
			2½ to 3 hrs.	—	—	—	—	—	—	10	20	32			
			Over 3 hrs.	—	—	—	—	—	—	10	30	42			

* If found difficult to maintain 30 revolutions, another cylinder may be used instead.

† These figures are calculated on the supposition that the pump does not leak more than 20 per cent. at pressures up to 60 lbs. For actual quantities of air required at different depths, see page 38.

‡ *i.e.*, using a Siebe, Gorman two-cylinder double-acting pump.

HALDANE'S DECOMPRESSION TABLES (AIR ONLY)—*continued*

(See explanation on page 94)

Duration of dive: In ordinary circumstances, the diver should not be allowed to remain on the bottom longer than the time shown immediately above the thick black line drawn from the fourth column to the thirteenth column at each depth.

Depth.		Pressure Pounds per Square Inch.	Time under Water, *i.e.*, from Surface to beginning of Ascent.	Stoppages at different Depths in Minutes.								Total Time for Ascent in Minutes.	Number of Cylinders needed.†	Revolutions of Pump per Minute.‡	Number of Men per Shift on Pumps
Feet.	Fathoms.			80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.				
66–72	11–12	29½–32	Up to 15 mins.	—	—	—	—	—	—	—	2	4	2	25	4
			15 to 25 mins.	—	—	—	—	—	—	2	4	8			
			25 to 30 mins.	—	—	—	—	—	—	3	5	10			
			30 to 45 mins.	—	—	—	—	—	—	4	9	15			
			¾ to 1 hr.	—	—	—	—	—	—	5	12	19			
			1 to 1½ hrs.	—	—	—	—	—	—	8	16	26			
			1½ to 2 hrs.	—	—	—	—	—	—	10	20	32			
			2 to 3 hrs.	—	—	—	—	—	—	10	30	42			
			Over 3 hrs.	—	—	—	—	—	—	20	30	52			
72–78	12–13	32–34½	Up to 10 mins.	—	—	—	—	—	—	—	3	5	2	25	4
			10 to 20 mins.	—	—	—	—	—	—	—	5	7			
			20 to 30 mins.	—	—	—	—	—	—	3	8	13			
			30 to 38 mins.	—	—	—	—	—	—	4	12	18			
			38 to 45 mins.	—	—	—	—	—	—	5	15	22			
			¾ to 1 hr.	—	—	—	—	—	—	8	16	26			
			1 to 1¼ hrs.	—	—	—	—	—	—	9	18	29			
			1¼ to 1½ hrs.	—	—	—	—	—	—	10	20	32			
			1½ to 2½ hrs.	—	—	—	—	—	—	20	30	52			
			Over 2½ hrs.	—	—	—	—	—	—	30	30	62			
78–84	13–14	34½–37	Up to 10 mins.	—	—	—	—	—	—	—	3	5	2	30*	6
			10 to 20 mins.	—	—	—	—	—	—	—	5	7			
			20 to 30 mins.	—	—	—	—	—	—	3	8	13			
			30 to 40 mins.	—	—	—	—	—	—	4	13	19			
			40 to 45 mins.	—	—	—	—	—	—	5	15	22			
			45 to 55 mins.	—	—	—	—	—	—	8	16	26			
			55 to 65 mins.	—	—	—	—	—	—	9	18	29			

* If found difficult to maintain 30 revolutions, another cylinder may be used instead.

† These figures are calculated on the supposition that the pump does not leak more than 20 per cent. at pressures up to 60 lbs. For actual quantities of air required at different depths, see page 38.

‡ *i.e.*, using a Siebe, Gorman two-cylinder double-acting pump.

HALDANE'S DECOMPRESSION TABLES (AIR ONLY)—*continued*

(See explanation on page 94)

Duration of dive: In ordinary circumstances, the diver should not be allowed to remain on the bottom longer than the time shown immediately above the thick black line drawn from the fourth column to the thirteenth column at each depth.

Depth.		Pressure Pounds per Square Inch.	Time under Water, *i.e.*, from Surface to beginning of Ascent.	Stoppages at different Depths in Minutes								Total Time for Ascent in Minutes.	Number of Cylinders needed.†	Revolutions of Pump per Minute.‡	Number of Men per Shift on Pumps.
Feet.	Fathoms.			80ft.	70ft.	60ft.	50ft.	40ft.	30ft.	20ft.	10ft.				
78–84 *Contd.*	13–14	34½–37	65 to 75 mins.	—	—	—	—	—	—	10	20	32	2	30*	6
			1¼ to 1½ hrs.	—	—	—	—	—	—	10	25	37			
			1½ to 1¾ hrs.	—	—	—	—	—	—	10	30	42			
			1¾ to 2 hrs.	—	—	—	—	—	—	15	30	47			
			2 to 2¼ hrs.	—	—	—	—	—	—	20	30	52			
			2¼ to 2½ hrs.	—	—	—	—	—	2	23	30	57			
			2½ to 2¾ hrs.	—	—	—	—	—	3	27	30	62			
			2¾ to 3 hrs.	—	—	—	—	—	5	30	30	67			
			Over 3 hrs.	—	—	—	—	—	10	30	35	77			
84–90	14–15	37–40	Up to 10 mins.	—	—	—	—	—	—	1	3	6	2	30*	6
			10 to 20 mins.	—	—	—	—	—	—	3	5	10			
			20 to 30 mins.	—	—	—	—	—	—	4	10	16			
			30 to 40 mins.	—	—	—	—	—	—	5	15	22			
			40 to 50 mins.	—	—	—	—	—	2	7	15	26			
			50 to 60 mins.	—	—	—	—	—	3	10	15	30			
			1 hr. to 1 hr. 12 mins.	—	—	—	—	—	5	10	20	37			
			1 hr. 12 mins. to 1 hr. 20 mins.	—	—	—	—	—	5	15	20	42			
			1 hr. 20 mins. to 1 hr. 30 mins.	—	—	—	—	—	5	15	25	47			
			1 hr. 30 mins. to 1 hr. 44 mins.	—	—	—	—	—	5	20	25	52			
			1 hr. 44 mins. to 2 hrs.	—	—	—	—	—	5	25	25	57			
			2 hrs. to 2 hrs. 14 mins.	—	—	—	—	—	5	25	30	62			
			2 hrs. 14 mins. to 2½ hrs.	—	—	—	—	—	5	30	30	67			
			2½ hrs. to 2 hrs. 44 mins.	—	—	—	—	—	10	30	30	72			
			2 hrs. 44 mins. to 3 hrs. 14 mins.	—	—	—	—	—	20	30	30	82			
			Over 3 hrs. 14 mins.	—	—	—	—	—	20	35	35	92			
90–96	15–16	40–42½	Up to 10 mins.	—	—	—	—	—	—	1	3	7	2	30*	6
			10 to 20 mins.	—	—	—	—	—	—	3	5	11			

* If found difficult to maintain 30 revolutions, another cylinder may be used instead.

† These figures are calculated on the supposition that the pump does not leak more than 20 per cent. at pressures up to 60 lbs. For actual quantities of air required at different depths, see page 38.

‡ *i.e.*, using a Siebe, Gorman two-cylinder double-acting pump.

HALDANE'S DECOMPRESSION TABLES (AIR ONLY)—*continued*

(See explanation on page 94)

Duration of dive: In ordinary circumstances, the diver should not be allowed to remain on the bottom longer than the time shown immediately above the thick black line drawn from the fourth column to the thirteenth column at each depth.

Depth.		Pressure Pounds per Square Inch	Time under Water, *i.e.*, from Surface to beginning of Ascent.	Stoppages at different Depths in Minutes.								Total Time for Ascent in Minutes.	Number of Cylinders needed.†	Revolutions of Pump per Minute.‡	Number of Men per Shift on Pumps.
Feet.	Fathoms.			80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.				
90–96 *Contd.*	15–16	40–42½	20 to 30 mins.	—	—	—	—	—	—	5	11	18	2	30*	6
			30 to 35 mins.	—	—	—	—	—	—	5	15	22			
			35 to 45 mins.	—	—	—	—	—	2	8	15	27			
			45 to 55 mins.	—	—	—	—	—	5	10	15	32			
			55 mins. to 1 hr. 12 mins. ..	—	—	—	—	—	5	10	25	42			
			1 hr. 12 mins. to 1½ hrs.	—	—	—	—	—	5	15	30	52			
			1½ hrs. to 1 hr. 54 mins.	—	—	—	—	—	5	25	30	62			
			1 hr. 54 mins to 2 hrs. 18 mins. ..	—	—	—	—	—	10	30	30	72			
			2 hrs. 18 mins. to 2½ hrs. ..	—	—	—	—	—	10	30	35	77			
			2½ hrs. to 2 hrs. 54 mins. ..	—	—	—	—	—	20	30	35	87			
			Over 2 hrs. 54 mins.	—	—	—	—	—	30	35	35	102			
96–108	16–18	42½–48	Up to 5 mins.	—	—	—	—	—	—	—	3	6	4	20	12
			5 to 10 mins.	—	—	—	—	—	—	—	5	8			
			10 to 15 mins.	—	—	—	—	—	—	3	5	11			
			15 to 20 mins.	—	—	—	—	—	—	4	8	15			
			20 to 25 mins.	—	—	—	—	—	1	5	10	19			
			25 to 30 mins.	—	—	—	—	—	3	7	10	23			
			30 to 35 mins.	—	—	—	—	—	4	8	13	28			
			35 to 40 mins.	—	—	—	—	—	5	10	15	33			
			40 to 50 mins.	—	—	—	—	—	8	10	20	41			
			50 mins. to 1 hr.	—	—	—	—	—	10	15	20	48			
			1 hr. to 1 hr. 18 mins.	—	—	—	—	—	10	20	25	58			
			1 hr. 18 mins. to 1 hr. 44 mins. ..	—	—	—	—	—	15	20	35	73			
			1 hr. 44 mins. to 2 hrs.	—	—	—	—	5	15	25	35	83			
			2 hrs. to 2 hrs. 18 mins.	—	—	—	—	5	20	30	35	92			
			2 hrs. 18 mins. to 2 hrs. 34 mins.	—	—	—	—	10	25	30	35	102			
			2 hrs. 34 mins. to 2 hrs. 50 mins.	—	—	—	—	15	25	30	40	112			
			Over 2 hrs. 50 mins.	—	—	—	—	15	30	35	40	122			

(*see page* 50)

* If found difficult to maintain 30 revolutions, another cylinder may be used instead.

† These figures are calculated on the supposition that the pump does not leak more than 20 per cent. at pressures up to 60 lbs. For actual quantities of air required at different depths, see page 38.

‡ *i.e.*, using a Siebe, Gorman two-cylinder double-acting pump.

HALDANE'S DECOMPRESSION TABLES (AIR ONLY)—*continued*

(See explanation on page 94)

Duration of dive: In ordinary circumstances, the diver should not be allowed to remain on the bottom longer than the time shown immediately above the thick black line drawn from the fourth column to the thirteenth column at each depth.

Depth.		Pressure Pounds per Square Inch.	Time under Water, *i.e.*, from Surface to beginning of Ascent.	Stoppages at different Depths in Minutes.								Total Time for Ascent in Minutes.	Number of Cylinders needed.*	Revolutions of Pump per Minute.†	Number of Men per Shift on Pumps.
Feet.	Fathoms.			80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.				
108-120	18–20	48–53½	Up to 5 mins.	—	—	—	—	—	—	—	4	7	4	20	12
			5 to 10 mins.	—	—	—	—	—	—	2	6	11			
			10 to 15 mins.	—	—	—	—	—	2	3	7	15			
			15 to 20 mins.	—	—	—	—	—	3	5	8	19			
			20 to 25 mins.	—	—	—	—	—	5	5	10	23			
			25 to 30 mins.	—	—	—	—	—	5	8	12	28			
			30 to 35 mins.	—	—	—	—	—	5	10	15	33			
			35 to 50 mins.	—	—	—	—	—	10	15	20	47			
			50 mins. to 1 hr.	—	—	—	—	5	10	15	25	57			
			1 hr. to 1 hr. 22 mins.	—	—	—	—	5	15	25	25	72			
			1 hr. 22 mins. to 1 hr. 44 mins.	—	—	—	—	5	20	30	30	87			
			1 hr. 44 mins. to 2 hrs.	—	—	—	—	10	20	30	35	97			
			2 hrs. to 2 hrs. 22 mins.	—	—	—	—	15	25	35	35	112			
			2 hrs. 22 mins. to 2 hrs. 44 mins.	—	—	—	—	20	30	35	40	127			
			Over 2 hrs. 44 mins.	—	—	—	—	30	35	35	40	142			
120–132	20–22	53½–59	Up to 5 mins.	—	—	—	—	—	—	—	5	8	4	25	12
			5 to 10 mins.	—	—	—	—	—	—	3	7	13			
			10 to 15 mins.	—	—	—	—	—	2	5	7	17			
			15 to 20 mins.	—	—	—	—	—	3	7	10	23			
			20 to 25 mins.	—	—	—	—	—	4	8	13	28			
			25 to 30 mins.	—	—	—	—	—	5	10	15	33			
			30 to 38 mins.	—	—	—	—	—	5	15	20	43			
			38 mins. to ¾ hr.	—	—	—	—	5	10	15	20	53			
			¾ to 1 hr.	—	—	—	—	5	15	20	25	68			
			1 to 1¼ hrs.	—	—	—	—	10	20	25	25	83			
			1¼ to 1½ hrs.	—	—	—	5	10	20	30	30	98			
			1½ to 1¾ hrs.	—	—	—	5	15	20	35	35	113			
			1¾ to 2 hrs.	—	—	—	10	20	25	35	35	128			

* These figures are calculated on the supposition that the pump does not leak more than 20 per cent. at pressures up to 60 lbs. For actual quantities of air required at different depths, see page 38.

† *i.e.*, using a Siebe, Gorman two-cylinder double-acting pump.

HALDANE'S DECOMPRESSION TABLES (AIR ONLY)—*continued*

(See explanation on page 94)

Duration of dive: In ordinary circumstances, the diver should not be allowed to remain on the bottom longer than the time shown immediately above the thick black line drawn from the fourth column to the thirteenth column at each depth.

Depth.		Pressure Pounds per Square Inch.	Time under Water, *i.e.*, from Surface to beginning of Ascent.	Stoppages at different Depths in Minutes.								Total Time for Ascent in Minutes.	Number of Cylinders needed.*	Revolutions of Pump per Minute.†	Number of Men per Shift on Pumps.
Feet.	Fathoms.			80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.				
120–132 *Contd.*	20–22	53½–59	2 to 2¼ hrs...	—	—	—	15	25	30	35	35	143	4	25	12
			Over 2¼ hrs.	—	—	—	15	30	35	40	40	163			
132–144	22–24	59–64½	Up to 6 mins.	—	—	—	—	—	—	2	5	10	4	25	12
			6 to 12 mins.	—	—	—	—	—	3	5	5	16			
			12 to 16 mins.	—	—	—	—	—	4	7	7	21			
			16 to 20 mins.	—	—	—	—	1	4	8	10	26			
			20 to 25 mins.	—	—	—	—	2	5	10	12	32			
			25 to 32 mins.	—	—	—	—	3	7	12	18	43			
			32 to 39 mins.	—	—	—	—	5	9	14	22	53			
			39 mins. to ¾ hr.	—	—	—	3	5	10	15	25	61			
			¾ to 1 hr.	—	—	—	5	5	15	20	30	78			
			1 to 1¼ hrs...	—	—	—	5	10	20	25	30	93			
			1¼ to 1½ hrs.	—	—	—	10	10	20	30	35	108			
			1½ to 1¾ hrs.	—	—	—	15	15	20	35	35	123			
			1¾ to 2 hrs...	—	—	—	20	20	25	35	35	138			
			2 to 2¼ hrs...	—	—	—	20	25	30	35	40	153			
			2¼ to 2½ hrs.	—	—	—	25	25	35	40	40	168			
			Over 2½ hrs.	—	—	—	30	30	35	40	40	178			
144–156	24–26	64½–70	Up to 5 mins.	—	—	—	—	—	—	2	5	10	4	25	12
			5 to 10 mins.	—	—	—	—	—	3	5	5	16			
			10 to 15 mins.	—	—	—	—	1	4	7	8	23			
			15 to 20 mins.	—	—	—	2	3	5	8	10	31			
			20 to 24 mins.	—	—	—	2	4	8	9	12	38			
			24 to 30 mins.	—	—	—	2	4	10	12	17	48			
			30 to 35 mins.	—	—	—	3	5	10	15	20	56			
			35 to 45 mins.	—	—	—	5	6	12	20	25	71			
			45 to 55 mins.	—	—	—	5	8	15	25	30	86			

* These figures are calculated on the supposition that the pump does not leak more than 20 per cent at pressures up to 60 lbs. For actual quantities of air required at different depths, see page 38.

† *i.e.*, using a Siebe, Gorman two-cylinder double-acting pump.

HALDANE'S DECOMPRESSION TABLES (AIR ONLY)—*continued*

(See explanation on page 94)

Duration of dive: In ordinary circumstances, the diver should not be allowed to remain on the bottom longer than the time shown immediately above the thick black line drawn from the fourth column to the thirteenth column at each depth.

Depth.		Pressure Pounds per Square Inch.	Time under Water, *i.e.*, from Surface to beginning of Ascent.	Stoppages at different Depths in Minutes.								Total Time for Ascent in Minutes.	Number of Cylinders needed.†	Revolutions of Pump per Minute.‡	Number of Men per Shift on Pumps.
Feet.	Fathoms.			80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.				
144–156 *Contd.*	24–26	64½–70	55 to 60 mins.	—	—	—	7	10	15	30	30	95	4	25	12
			1 hr. to 1 hr. 9 mins.	—	—	—	10	10	20	30	35	108			
			1 hr. 9 mins. to 1 hr. 18 mins. ..	—	—	—	10	15	25	35	35	123			
			1 hr. 18 mins. to 1 hr. 27 mins. ..	—	—	—	15	15	30	35	40	138			
			1 hr. 27 mins. to 1 hr. 37 mins. ..	—	—	5	15	20	30	40	40	153			
			1 hr. 37 mins. to 1 hr. 47 mins. ..	—	—	10	20	20	35	40	40	168			
			1 hr. 47 mins. to 1 hr. 56 mins. ..	—	—	15	20	30	35	40	40	183			
			Over 1 hr. 56 mins.	—	—	20	25	30	35	40	40	193			
156–168	26–28	70–75	Up to 5 mins.	—	—	—	—	—	—	2	5	10	4	30*	12
			5 to 10 mins.	—	—	—	—	2	3	5	5	18			
			10 to 13 mins.	—	—	—	1	2	4	6	8	24			
			13 to 16 mins.	—	—	—	2	3	5	7	10	30			
			16 to 23 mins.	—	—	—	2	4	8	11	15	43			
			23 to 30 mins.	—	—	—	3	5	10	15	20	56			
			30 to 40 mins.	—	—	—	4	7	12	20	25	71			
			40 to 50 mins.	—	—	—	6	10	12	25	30	86			
			50 to 60 mins.	—	—	3	10	10	15	30	30	101			
			1 hr. to 1¼ hrs.	—	—	5	10	15	20	35	35	123			
			1¼ to 1½ hrs.	—	—	10	15	20	25	35	35	143			
			1½ hrs. to 1 hr. 40 mins.	—	2	13	15	25	30	35	40	163			
			1 hr. 40 mins. to 1 hr. 55 mins. ..	—	3	17	20	25	35	40	40	183			
			Over 1 hr. 55 mins.	—	5	25	25	30	35	40	40	203			
168–180	28–30	75–80½	Up to 5 mins.	—	—	—	—	—	—	3	5	11	4	30*	12
			5 to 9 mins.	—	—	—	—	2	3	5	5	18			
			9 to 12 mins.	—	—	—	—	3	4	6	8	24			
			12 to 14 mins.	—	—	—	2	3	5	7	10	30			

* If found difficult to maintain 30 revolutions, another cylinder may be used instead.

† These figures are calculated on the supposition that the pump does not leak more than 20 per cent. at pressures up to 60 lbs. For actual quantities of air required at different depths, see page 38.

‡ *i.e.*, using a Siebe, Gorman two-cylinder double-acting pump.

HALDANE'S DECOMPRESSION TABLES (AIR ONLY)—*continued*

(See explanation on page 94)

Duration of dive: In ordinary circumstances, the diver should not be allowed to remain on the bottom longer than the time shown immediately above the thick black line drawn from the fourth column to the thirteenth column at each depth.

Depth.		Pressure Pounds per Square Inch.	Time under Water, *i.e.*, from Surface to beginning of Ascent.	Stoppages at different Depths in Minutes.								Total Time for Ascent in Minutes.	Number of Cylinders needed.†	Revolutions of Pump per Minute.‡	Number of Men per Shift on Pumps.
Feet.	Fathoms.			80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.				
168–180 *Contd.*	28–30	75–80½	14 to 20 mins.	—	—	—	3	3	7	10	15	41	4	30*	12
			20 to 30 mins.	—	—	2	2	3	10	15	25	60			
			30 to 40 mins.	—	—	2	2	6	14	20	30	77			
			40 to 50 mins.	—	—	2	6	8	15	25	35	94			
			50 to 60 mins.	—	3	3	7	10	20	30	35	111			
			1 hr. to 1 hr. 11 mins.	—	3	5	10	15	25	35	35	131			
			1 hr. 11 mins. to 1 hr. 23 mins.	—	3	5	15	20	30	35	40	151			
			1 hr. 23 mins. to 1 hr. 34 mins.	—	8	10	20	25	30	35	40	171			
			1 hr. 34 mins. to 1 hr. 46 mins.	—	8	20	25	30	30	35	40	191			
			Over 1 hr. 46 mins.	—	15	25	30	30	35	40	40	218			
180–192	30–32	80½–86	Up to 5 mins.	—	—	—	—	—	1	3	5	12	6	25	18
			5 to 10 mins.	—	—	—	1	2	3	6	8	23			
			10 to 13 mins.	—	—	—	2	3	5	7	10	30			
			13 to 20 mins.	—	—	—	3	3	7	15	15	46			
			20 to 30 mins.	—	—	3	3	5	10	15	25	64			
			30 to 40 mins.	—	—	5	6	8	10	20	30	82			
			40 to 50 mins.	—	—	5	8	9	15	25	35	100			
			50 to 60 mins.	—	3	5	10	12	20	30	35	118			
			1 to 1¼ hrs.	—	5	10	15	15	25	35	35	143			
			1¼ hrs. to 1 hr. 26 mins.	—	10	15	15	20	25	35	40	163			
			1 hr. 26 mins. to 1 hr. 37 mins.	—	15	15	20	25	30	35	40	183			
			1 hr. 37 mins. to 1 hr. 48 mins.	—	20	20	25	25	30	40	40	203			
			Over 1 hr. 48 mins.	5	20	25	30	30	35	40	40	228			
192–204	32–34	86–91½	Up to 7 mins.	—	—	—	2	2	3	5	5	20	6	25	18
			7 to 12 mins.	—	—	2	2	3	5	7	10	32			
			12 to 20 mins.	—	—	3	3	5	7	10	20	51			
			20 to 30 mins.	—	3	3	3	5	10	20	20	67			

* If found difficult to maintain 30 revolutions, another cylinder may be used instead.

† These figures are calculated on the supposition that the pump does not leak more than 20 per cent. at pressures up to 60 lbs. For actual quantities of air required at different depths, see page 38.

‡ *i.e.*, using a Siebe, Gorman two-cylinder double-acting pump.

HALDANE'S DECOMPRESSION TABLES (AIR ONLY)—*continued*

(See explanation on page 94)

Duration of dive: In ordinary circumstances, the diver should not be allowed to remain on the bottom longer than the time shown immediately above the thick black line drawn from the fourth column to the thirteenth column at each depth.

Depth.		Pressure Pounds per Square Inch.	Time under Water, *i,e.* from Surface to beginning of Ascent.	Stoppages at different Depths in Minutes.								Total Time for Ascent in Minutes.	Number of Cylinders needed.*	Revolutions of Pump per Minute.†	Number of Men per Shift on Pumps.
Feet.	Fathoms.			80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.				
192–204 *Contd.*	32–34	86–91½	30 to 40 mins.	—	3	3	4	8	15	25	25	86	6	25	18
			40 to 50 mins.	—	3	4	5	15	20	25	30	105			
			50 to 60 mins.	3	3	5	10	15	20	30	35	124			
			1 hr. to 1 hr. 10 mins.	3	3	7	12	20	25	35	35	143			
			1 hr. 10 mins. to 1 hr. 20 mins. ..	3	4	8	15	25	30	35	40	163			
			1 hr. 20 mins. to 1½ hrs.	3	7	10	20	25	35	40	40	183			
			1½ hrs. to 1 hr. 40 mins.	5	10	15	25	30	35	40	40	203			
			1 hr. 40 mins. to 1 hr. 50 mins. ..	10	15	20	30	30	35	40	40	223			
			Over 1 hr. 50 mins.	15	20	25	30	30	35	40	40	238			

* These figures are calculated on the supposition that the pump does not leak more than 20 per cent. at pressures up to 60 lbs. For actual quantities of air required at different depths, see page 38.

† *i.e.*, using a Siebe, Gorman two-cylinder double-acting pump.

For Siebe, Gorman & Co.'s Decompression Tables to 300 feet (Air: breathing oxygen during later stages of decompression) see Chapter 7

TABLE 4

Depth in feet	Time from surface to start of ascent	Diving-manual tables									Proposed tables				Total time of ascent	
		Time to first stop	Stops in feet								Time to first stop	Stops in feet			Diving-manual table	Proposed table
			90	80	70	60	50	40	30	20	10		30	20	10		
	Minutes	*Min.*										*Min.*				*Min.*	*Min.*
0 to 40	Over 180	1									5	1			5	6	6
41 to 50	0 to 60	2									5	1				7	1
	60 to 120	2									10	1			6	12	7
	120 to 180	2									10	1			10	12	11
51 to 60	0 to 60	2									10	1				12	1
	60 to 90	2									10	1			10	12	11
	90 to 120	2								5	15	1			17	22	18
	120 to 180	2								5	15	1		6	15	22	22
	Over 180	2								10	20	1		10	30	32	41
61 to 70	0 to 30	2								3	5	1				10	1
	30 to 60	2								5	12	1			7	19	8
	60 to 90	2								10	20	1			20	32	21
	90 to 120	2								10	20	1		12	20	32	33
71 to 80	0 to 30	2								5	15	2				22	2
	30 to 60	2								10	20	2			18	32	20
	60 to 90	2								15	30	2		14	19	47	35
	90 to 120	2								15	30	1		24	19	47	44
81 to 90	0 to 30	2								5	15	2				22	2
	30 to 40	2								5	15	2			9	22	11
	40 to 60	2							3	10	15	2			27	30	28
	60 to 90	2							5	15	25	2			27	47	29
91 to 100	0 to 10	3								3	5	2				11	2
	10 to 20	3							3	7	10	2				23	2
	20 to 30	3							3	7	10	2			2	23	4
	30 to 40	3							5	10	15	2			16	33	18
	40 to 50	2							10	15	20	2			18	47	20
	50 to 60	2							10	15	20	2		18	19	47	39
101 to 120	0 to 15	3							2	3	7	3				15	3
	15 to 30	3							5	10	15	2			14	33	16
121 to 140	0 to 15	3						2	5	10	12	3				32	3
	15 to 30	3					3	5	10	15	25	3		8	19	61	30
141 to 160	0 to 15	3					2	3	5	7	10	3			5	30	8
	15 to 30	3					3	5	10	15	20	3		19	19	56	41
161 to 180	0 to 15	3					3	3	7	10	15	4			8	41	12
	15 to 30	3				2	2	3	10	15	25	3	3	27	19	60	59
181 to 200	0 to 15	3				3	3	5	7	10	20	4			15	51	19
	15 to 30	3			3	3	3	5	10	20	20	4	12	27	19	67	62
201 to 225	0 to 15	3		3	5	7	7	10	15	20	20	4		5	20	95	25
226 to 250	0 to 15	4	2	3	5	7	10	10	15	20	30	5		16	19	106	40

The Old Navy Standard Decompression Table (Using Compressed Air)

Ascent Rate
25 ft. Per Minute

Depth of dive (feet)	Time on bottom (minutes)	Stops (feet and minutes)									Sum of times at various stops (minutes)	Approximate total decompression time (minutes)
		Feet 90	Feet 80	Feet 70	Feet 60	Feet 50	Feet 40	Feet 30	Feet 20	Feet 10		
40	120									0	0	2
40	180									2	2	4
40	Opt.* 240									4	4	6
40	300									6	6	8
50	78									0	0	2
50	120									2	2	5
50	150									5	5	8
50	Opt.* 190									9	9	12
50	300									12	12	15
60	55									0	0	3
60	75									2	2	5
60	110									13	13	16
60	Opt.* 150								5	15	20	24
60	180								7	16	23	27
60	210								8	18	26	30
70	43									0	0	3
70	60									4	4	8
70	75									13	13	17
70	90								4	16	20	24
70	Opt.* 120								13	16	29	33
70	150								18	21	39	43
70	180								21	32	53	57
80	35									0	0	3
80	50									6	6	10
80	70								6	16	22	27
80	100								20	16	36	41
80	Opt.* 115								22	26	48	53
80	150								28	29	57	62
90	30									0	0	4
90	45									6	6	10
90	60								9	16	25	30
90	75								18	14	32	37
90	Opt.* 95							2	27	21	50	56
90	130							9	27	29	65	71
100	25									0	0	4
100	40									12	12	17
100	60								18	16	34	39
100	75								27	21	48	53
100	Opt.* 85							6	28	21	55	61
100	90							8	27	24	59	65
100	120							17	28	48	93	99
110	20									0	0	5
110	35									12	12	17
110	55								22	21	43	49
110	Opt.* 75							14	27	37	78	84
110	105						2	22	29	50	103	110
120	18									0	0	5

*These are the optimum exposure times for each depth which represent the best balance between length of work period and amount of useful work for the average diver. Exposure beyond these times is permitted only under special conditions.

The Old Navy Standard Decompression Table Cont. (Using Compressed Air)

Ascent Rate 25 ft. Per Minute

Depth of dive (feet)	Time on bottom (minutes)	Stops (feet and minutes)									Sum of times at various stops (minutes)	Approximate total decompression time (minutes)
		Feet 90	Feet 80	Feet 70	Feet 60	Feet 50	Feet 40	Feet 30	Feet 20	Feet 10		
120	30									11	11	17
120	45								18	21	39	45
120	Opt.* 65							13	28	32	73	80
120	100						5	22	27	69	123	130
130	15									0	0	5
130	35								11	15	26	32
130	52							6	28	28	62	69
130	Opt.* 60							13	28	28	69	76
130	90						9	22	28	69	128	136
140	15									4	4	10
140	30								8	21	29	36
140	45							5	27	27	59	67
140	Opt.* 55							15	28	32	75	82
140	85						14	22	32	69	137	145
150	15									7	7	14
150	30								13	21	34	41
150	38								28	30	58	65
150	Opt.* 50							16	28	32	76	84
150	80						18	23	32	69	141	150
160	15									9	9	16
160	34								27	28	55	63
160	Opt.* 45							17	28	43	88	96
160	75					3	19	23	34	68	147	156
170	15									11	11	18
170	30								24	27	51	59
170	Opt.* 40							19	28	46	93	102
170	75					9	19	23	38	68	157	167
185	15									25	25	33
185	26								24	37	61	70
185	Opt.* 35							19	28	46	93	102
185	65				18	18	23	37	65	51	212	223
200	15									32	32	41
200	23								23	37	60	69
200	Opt.* 35							22	28	46	96	106
200	60			5	18	18	23	37	65	51	217	229
210	15									35	35	44
210	Opt.* 30						5	16	28	40	89	100
210	55			6	18	18	23	37	65	51	218	231
225	15								6	35	41	51
225	Opt.* 27						22	26	35	48	131	143
225	60			13	18	18	23	47	65	83	267	280
250	15								17	37	54	66
250	Opt.* 25					2	23	26	35	51	137	150
250	50		12	14	17	19	29	49	65	83	288	303
300	12								20	37	57	70
300	Opt.* 20					9	23	26	35	51	144	159
300	45	6	14	15	17	18	31	49	65	83	298	315

*These are the optimum exposure times for each depth which represent the best balance between length of work period and amount of useful work for the average diver. Exposure beyond these times is permitted only under special conditions.

HELIUM

(C) DECOMPESSION TABLES UP TO 450 FEET

The following Decompression Tables are computed for all time and oxygen combinations and all depths up to 450 feet gauge.

While it may not be practical to dive for the longer periods, an emergency may arise where it will be necessary to have the tables.

All tables are computed with maxiumu safety factors and it is believed they are safe for all conditions to which a diver may be exposed.

Decompression on oxygen after arrival at 60 feet has been considered as standard.

Decompressions on Helium-Oxygen mixtures after arrival at 60 feet or on air from any depth will be considered emergencies and the tables provided herein are emergency tables, and are therefore for maximum exposures.

It is important to keep CO_2 below 2% effective.

These tables were computed by Lt. Comdr. C. B. Momsen, U. S. Navy, and Lieutenant (jg) K. R. Wheland, U. S. Navy, and it is requested that any apparent errors discovered be referred to either of them.

DECOMPRESSION TABLES

FOR USE WHEN DIVING IN SEA WATER WITH HELIUM-OXYGEN MIXTURES

Table for Depths up to 100 feet when decompression is not necessary for any exposure.

DEPTH IN FEET	OXYGEN PERCENTAGE
30	13 to 100
40	26 to 100
50	34 to 100
60	42 to 90
70	48 to 80
80	52 to 73
90	57 to 67
100	60 to 62
No Decompression Necessary	

HELIUM-OXYGEN

TABLE OF PARTIAL PRESSURES 10 FEET to 600 FEET

ENTER THIS TABLE - - - SELECT PARTIAL PRESSURES

DEPTH	PERCENTAGE OF OXYGEN USED													
	13	15	17	19	21	23	25	30	35	40	45	50	55	
10														*ND to 100%02
20														*ND to 100%02
30														*ND to 100%02
40	65	64	62	61	59	58	56							*ND to 100%02
50	74	72	71	69	68	66	64	60	56					*ND to 100%02
60	83	81	79	78	76	74	72	67	63	58	53			*ND to 90% 02
70	92	90	88	86	84	82	80	75	69	64	59	54		*ND to 80% 02
80	101	99	96	94	92	90	87	82	76	71	65	59	53	*ND to 73% 02
90	110	107	105	103	100	98	95	89	83	77	71	65	58	*ND to 67% 02
100	119	116	113	111	108	105	103	96	90	83	76	70	63	
110	128	124	121	119	116	113	110	103	97	89	82	75	67	
120	136	133	130	127	124	121	118	110	103	95	87	80	72	
130	145	142	139	135	132	129	126	118	109	101	93	85		
140	154	151	147	144	140	137	133	125	116	107	99			
150	165	159	156	152	148	145	141	132	123	114	104			
160	172	168	164	160	157	153	149	139	129	120				
170	181	177	173	169	165	160	156	146	136	126				
180	190	186	181	177	173	169	164	154	143					
190	199	194	190	185	181	176	172	161	150					
200	208	205	198	194	189	184	180	168	156					
210	216	212	207	202	197	192	187	175						
220	225	220	215	210	205	200	195	183						
230	234	229	224	219	213	208	203	190						
240	243	238	232	227	222	216	211	197						
250	252	247	241	235	230	224	218							
260	261	255	249	243	237	231	225							
270	270	264	258	252	246	240	233							
280	280	273	267	260	253	247	241							
290	288	281	275	268	262	255	249							
300	297	290	283	277	270	263	257							

*(ND) - No decompression

TABLE OF PARTIAL PRESSURES - 10 FEET to 600 FEET (Continued)

	PERCENTAGE OF OXYGEN USED					
DEPTH	13	15	17	19	21	23
310	306	299	292	285	278	271
320	314	307	300	293	286	279
330	323	316	309	302	294	287
340	332	325	317	310	303	295
350	341	334	326	318	311	303
360	350	343	335	327	319	
370	359	351	343	335	327	
380	368	359	351	343	334	
390	377	368	360	351		
400	386	377	368	359		
410	395	386	377	368		
420	403	394	385	376		
430	412	403	394	385		
440	421	412	403			
450	430	420	410			
460	439	429	419			
470	448	438	428			
480	457	447	437			
490	466	456	446			
500	475	465				
510	484	473				
520	493	482				
530	502	492				
540	511	500				
550	520	509				
560	529	518				
570	538	527				
580	548					
590	557					
600	566					

INSTRUCTIONS FOR USE OF OXYGEN DECOMPRESSION CURVES

Using depth of water and oxygen per cent to be breathed on the bottom, select parial pressure from "Table of Partial Pressures". Partial Pressure as used in these tables and the curve is obtained by the following formula:

100 - (02% - 2 x (D plus 33) D - is depth. 02% is per cent of oxygen in gas mixture used.

2. Use up to 141 feet partial pressure ONLY.

3. The limits of oxygen to be used are indicated in "Table of Partial Pressures".

4. All stops are at 50 feet gauge.

5. Breathe oxygen at 50 feet and until reaching surface.

Ventilate 25 cu.ft. and circulate remaining period.

6. Rate of ascent:

Up to 100 feet partial pressure	1 minute.
Over 100 feet partial pressure	2 minutes.
From 50 feet to surface	Last 5 mins. of dive.

OXYGEN DECOMPRESSION TABLES FOLLOWING HELIUM-OXYGEN DIVE

1. Using depth of water and oxygen per cent to be breath on the bottom, select partial pressure from "Table of Partial Pressures".

2. Using next higher partial pressure given in these tables and next higher "time of dive" including time of descent, select table of decompression.

3. The time of ascent unless indicated, will be included in the subsequent stop.

4. At 60 feet, ventilate 25 cu.ft. of oxygen and then circulate oxygen for the remaining period at 60 feet, and the entire time at 50 feet. If the first stop is at 50 feet, ventilate 25 cu.ft. of oxygen and then circulate oxygen for the remaining period. If using the submersible decompression chamber, oxygen is breathed through a mask at 60 feet and at 50 feet.

PARTIAL PRESSURE 60

Time of Dive	To 1st Stop	Feet and Minutes 50	Total Time
10	2	0	2
20	2	0	2
30	2	0	2
40	2	0	2
60	1	4	5
80	1	7	8
100	1	10	11
120	1	12	13

PARTIAL PRESSURE 70

Time of Dive	To 1st Stop	Feet and Minutes 50	Total Time
10	2	0	2
20	1	5	6
30	1	8	9
40	1	10	11
60	1	15	16
80	1	21	22
100	1	26	27
120	1	29	30
140	1	31	32
160	1	32	33

PARTIAL PRESSURE 80

Time of Dive	To 1st Stop	Feet and Minutes 50	Total Time
10	1	4	5
20	1	9	10
30	1	14	15
40	1	18	19
60	1	26	27
80	1	34	35
100	1	42	43
120	1	46	47
140	1	48	49
160	1	49	50

PARTIAL PRESSURE 90

Time of Dive	To 1st Stop	Feet and Minutes 50	Total Time
10	2	5	7
20	2	13	15
30	2	19	21
40	2	25	27
60	2	36	38
80	2	46	48
100	2	55	57
120	2	59	61
140	2	61	63
160	2	62	64
180	2	63	65

PARTIAL PRESSURE 100

Time of Dive	To 1st Stop	Feet and Minutes 50	Total Time
10	2	6	8
20	2	17	19
30	2	26	28
40	2	33	35
60	2	46	48
80	2	57	59
100	2	65	67
120	2	70	72
140	2	73	75
160	2	74	76
180	2	75	77
200	2	76	78

PARTIAL PRESSURE 110

Time of Dive	To 1st Stop	Feet and Minutes 50	Total Time
10	2	6	8
20	2	21	23
30	2	32	34
40	2	41	43
60	2	57	59
80	2	69	71
100	2	76	78
120	2	81	83
140	2	84	86
160	2	85	87
180	2	86	88
200	2	87	89

PARTIAL PRESSURE 120

Time of Dive	To 1st Stop	Feet and Minutes 50	Total Time
10	2	8	10
20	2	27	29
30	2	38	40
40	2	48	50
60	2	65	67
80	2	78	80
100	2	86	88
120	2	91	93
140	2	94	96
160	2	95	97
180	2	97	99
200	2	98	100

PARTIAL PRESSURE 130

Time of Dive	To 1st Stop	Feet and Minutes 50	Total Time
10	2	9	11
20	2	31	33
30	2	44	46
40	2	56	58
60	2	75	77
80	2	88	90
100	2	95	97
120	2	100	102
140	2	103	105
160	2	105	107
180	2	106	108
200	2	107	109
220	2	108	110

PARTIAL PRESSURE 140

Time of Dive	To 1st Stop	Feet and Minutes 50	Total Time
10	2	10	12
20	2	34	36
30	2	50	52
40	2	63	65
60	2	83	85
80	2	96	98
100	2	104	108
120	2	109	111
140	2	111	113
160	2	113	115
180	2	115	117
200	2	116	118
220	2	117	119

PARTIAL PRESSURE 150

Time of Dive	To 1st Stop	Feet 60	and Minutes 50	Total Time
10	3	0	10	13
20	3	0	36	39
30	3	0	56	59
40	3	10	61	74
60	3	10	81	94
80	3	10	94	107
100	3	10	101	114
120	3	10	106	119
140	3	10	109	122
160	3	10	111	124
180	3	10	113	126
200	3	10	114	127
220	3	10	114	127
240	3	10	115	128

PARTIAL PRESSURE 160

Time of Dive	To 1st Stop	Feet 60	and Minutes 50	Total Time
10	3	0	21	24
20	3	10	34	42
30	3	10	54	67
40	3	10	69	82
60	3	10	91	104
80	3	10	102	115
100	3	10	108	121
120	3	10	113	126
140	3	10	115	128
160	3	10	116	129
180	3	10	117	130
200	3	12	117	132
220	3	14	117	134
240	3	15	117	135

PARTIAL PRESSURE 170

Time of Dive	To 1st Stop	Feet 70	and 60	Minutes 50	Total Time
10	3	0	10	16	29
20	3	0	10	38	51
30	3	0	10	61	74
40	3	0	10	75	88
60	3	7	10	94	114
80	3	7	10	106	126
100	3	7	10	113	133
120	3	7	10	117	137
140	3	8	13	117	141
160	3	10	14	117	144
180	3	12	15	117	147
200	3	13	15	117	148
220	3	14	15	117	149
240	3	15	15	117	150

PARTIAL PRESSURE 180

Time of Dive	To 1st Stop	Feet 80	and 70	Minutes 60	50	Total Time
10	3	0	7	10	19	39
20	3	0	7	10	43	63
30	3	0	7	10	64	84
40	3	0	7	10	80	100
60	3	0	7	10	101	121
80	3	0	9	10	110	132
100	3	7	5	12	117	144
120	3	7	9	13	117	149
140	3	7	11	14	117	152
160	3	7	14	15	117	156
180	3	7	17	15	117	159
200	3	7	19	15	117	161
220	3	7	21	15	117	163
240	3	7	23	15	117	165

PARTIAL PRESSURE 190

Time of Dive	To 1st Stop	Feet and Minutes 80	70	60	50	Total Time
10	4	0	7	10	21	42
20	4	0	7	10	49	70
30	4	0	7	10	70	91
40	4	7	0	10	87	108
60	4	7	5	10	103	129
80	4	7	9	10	115	145
100	4	7	13	11	117	152
120	4	7	17	13	117	158
140	4	9	19	14	117	163
160	4	11	20	15	117	167
180	4	13	21	15	117	170
200	4	14	22	15	117	172
220	4	15	23	15	117	174
240	4	16	23	15	117	175

PARTIAL PRESSURE 200

Time of Dive	To 1st Stop	Feet and Minutes 90	80	70	60	50	Total Time
10	4	0	0	7	10	24	45
20	4	0	7	0	10	55	76
30	4	0	7	0	10	74	95
40	4	0	7	4	10	91	116
60	4	0	7	9	10	109	139
80	4	7	3	13	12	115	154
100	4	7	6	16	14	117	164
120	4	7	8	20	15	117	171
140	4	7	11	21	15	117	175
160	4	7	15	23	15	117	181
180	4	7	17	23	15	117	183
200	4	7	18	23	15	117	184
220	4	7	20	23	15	117	186
240	4	8	20	23	15	117	187

PARTIAL PRESSURE 210

Time of Dive	To 1st Stop	Feet and Minutes 90	80	70	60	50	Total Time
10	4	0	7	0	10	27	48
20	4	0	7	0	10	57	78
30	4	7	0	3	10	79	103
40	4	7	0	7	10	94	122
60	4	7	4	10	10	110	145
80	4	7	8	14	12	117	162
100	4	7	12	17	14	117	171
120	4	8	15	21	15	117	180
140	4	10	17	21	15	117	184
160	4	12	17	22	15	117	187
180	4	14	18	22	15	117	190
200	4	16	18	23	15	117	192
220	4	17	19	23	15	117	194
240	4	18	20	23	15	117	196

PARTIAL PRESSURE 220

Time of Dive	To 1st Stop	Feet and Minutes 100	90	80	70	60	50	Total Time
10	4	0	0	7	0	10	29	50
20	4	0	7	0	1	10	62	84
30	4	0	7	0	6	10	84	111
40	4	0	7	3	9	10	98	131
60	4	7	0	9	11	11	113	155
80	4	7	3	11	15	13	117	170
100	4	7	6	14	17	15	117	180
120	4	7	8	18	23	15	117	192
140	4	7	11	18	23	15	117	195
160	4	7	14	19	23	15	117	199
180	4	7	15	20	23	15	117	201
200	4	7	16	20	23	15	117	202
220	4	8	17	20	23	15	117	204
240	4	9	19	20	23	15	117	207

PARTIAL PRESSURE 230

Time of Dive	To 1st Stop	Feet and Minutes 110	100	90	80	70	60	50	Total Time
10	4	0	0	0	7	0	10	31	52
20	4	0	0	7	0	3	10	66	90
30	4	0	0	7	2	4	10	87	116
40	4	0	7	0	6	9	10	102	138
60	4	0	7	4	9	12	11	114	161
80	4	0	7	8	12	17	14	117	183
100	4	0	7	12	15	20	15	117	194
120	4	0	8	14	19	23	15	117	204
140	4	0	10	16	20	23	15	117	209
160	4	7	6	18	20	23	15	117	214
180	4	7	7	19	20	23	15	117	216
200	4	7	9	19	20	23	15	117	218
220	4	7	11	19	20	23	15	117	220
240	4	7	13	19	20	23	15	117	222

PARTIAL PRESSURE 240

Time of Dive	To 1st Stop	Feet and Minutes 110	100	90	80	70	60	50	Total Time
10	4	0	0	7	0	0	10	35	56
20	4	0	7	0	1	4	10	71	97
30	4	0	7	0	5	7	10	90	123
40	4	7	0	3	7	9	10	103	143
60	4	7	0	8	10	14	11	115	169
80	4	7	3	10	14	18	14	117	187
100	4	7	6	12	17	23	15	117	201
120	4	7	7	16	19	23	15	117	208
140	4	7	11	16	20	23	15	117	213
160	4	7	13	19	20	23	15	117	218
180	4	8	15	19	20	23	15	117	221
200	4	8	17	19	20	23	15	117	223
220	4	9	17	19	20	23	15	117	224
240	4	11	17	19	20	23	15	117	226

PARTIAL PRESSURE 250

Time of Dive	To 1st Stop	Feet and Minutes								Total Time
		120	110	100	90	80	70	60	50	
10	4	0	0	7	0	0	1	10	38	60
20	4	0	0	7	0	1	6	10	73	101
30	4	0	7	0	4	6	8	10	95	132
40	4	0	7	0	5	8	9	10	106	149
60	4	0	7	4	8	11	14	12	117	177
80	4	0	7	7	11	15	18	15	117	195
100	4	0	7	10	14	19	23	15	117	209
120	4	7	3	12	17	19	23	15	117	217
140	4	7	4	15	18	19	23	15	117	222
160	4	7	7	16	19	19	23	15	117	227
180	4	7	9	17	19	20	23	15	117	231
200	4	7	11	17	19	20	23	15	117	233
220	4	7	12	17	19	20	23	15	117	234
240	4	7	13	17	19	20	23	15	117	235

PARTIAL PRESSURE 260

Time of Dive	To 1st Stop	Feet and Minutes								Total Time
		120	110	100	90	80	70	60	50	
10	4	0	0	7	0	0	2	10	41	64
20	4	0	7	0	0	3	7	10	77	105
30	4	0	7	0	4	6	8	10	97	136
40	4	0	7	2	5	8	9	10	109	155
60	4	7	0	7	9	12	16	13	116	184
80	4	7	3	9	13	15	21	15	117	204
100	4	7	6	11	14	19	23	15	117	216
120	4	7	8	13	19	20	23	15	117	226
140	4	7	11	15	19	20	23	15	117	231
160	4	8	13	17	19	20	23	15	117	236
180	4	9	14	17	19	20	23	15	117	238
200	4	10	16	17	19	20	23	15	117	241
220	4	11	16	17	19	20	23	15	117	242
240	4	13	16	17	19	20	23	15	117	244

PARTIAL PRESSURE 270

Time of Dive	To 1st Stop	Feet and Minutes 130	120	110	100	90	80	70	60	50	Total Time
*10	4	0	0	7	0	0	0	4	10	44	70
20	4	0	0	7	0	2	4	6	10	80	113
30	4	0	7	0	2	5	6	9	10	100	143
40	4	0	7	0	3	8	9	10	10	110	161
60	4	0	7	3	7	10	14	16	13	117	191
80	4	0	7	6	10	13	17	23	15	117	212
100	4	7	2	9	13	16	20	23	15	117	226
120	4	7	4	11	14	19	20	23	15	117	234
140	4	7	5	14	15	19	20	23	15	117	239
160	4	7	7	15	17	19	20	23	15	117	244
180	4	7	9	16	17	19	20	23	15	117	247
200	4	7	11	16	17	19	20	23	15	117	249
220	4	7	13	16	17	19	20	23	15	117	251
240	4	7	15	16	17	19	20	23	15	117	253

*Take 1 extra minute from 1st stop to next stop.

PARTIAL PRESSURE 280

Time of Dive	To 1st Stop	Feet and Minutes 130	120	110	100	90	80	70	60	50	Total Time
*10	4	0	0	7	0	0	1	3	10	47	78
20	4	0	7	0	0	2	6	6	10	84	115
30	4	0	7	0	3	6	6	9	10	104	145
40	4	7	0	2	5	8	8	12	11	113	166
60	4	7	0	6	8	10	14	18	14	116	197
80	4	7	3	8	11	14	17	23	15	117	219
100	4	7	5	11	13	16	20	23	15	117	231
120	4	7	8	12	16	19	20	23	15	117	241
140	4	7	10	16	17	19	20	23	15	117	248
160	4	8	13	16	17	19	20	23	15	117	252
180	4	9	14	16	17	19	20	23	15	117	254
200	4	10	15	16	17	19	20	23	15	117	256
220	4	12	15	16	17	19	20	23	15	117	258
240	4	14	15	16	17	19	20	23	15	117	260

*Take 1 extra minute from 1st stop to next stop.

PARTIAL PRESSURE 290

Time of Dive	To 1st Stop	140	130	120	110	100	90	80	70	60	50	Total Time
					Feet	and	Minutes					
*10	4	0	0	0	7	0	0	2	3	10	49	76
20	4	0	0	7	0	0	4	6	7	10	86	124
30	4	0	7	0	1	5	5	9	9	10	105	155
40	4	0	7	0	4	6	8	9	12	11	114	175
60	4	0	7	4	6	8	12	15	18	14	117	205
80	4	7	0	7	9	11	15	17	23	15	117	225
100	4	7	2	9	11	15	17	20	23	15	117	240
120	4	7	4	11	13	16	19	20	23	15	117	249
140	4	7	5	13	16	17	19	20	23	15	117	256
160	4	7	8	14	16	17	19	20	23	15	117	260
180	4	7	10	15	16	17	19	20	23	15	117	263
200	4	7	12	15	16	17	19	20	23	15	117	265
220	4	7	13	15	16	17	19	20	23	15	117	266
240	4	7	14	15	16	17	19	20	23	15	117	267

*Take 1 extra minute from 1st stop to next stop.

PARTIAL PRESSURE 300

Time of Dive	To 1st Stop	150	140	130	120	110	100	90	80	70	60	50	Total Time
*10	5	0	0	0	7	0	0	0	3	3	10	52	81
*20	5	0	0	7	0	0	1	6	6	6	10	91	133
30	5	0	0	7	0	2	5	5	9	9	10	106	158
40	5	0	0	7	0	5	7	8	11	13	12	111	179
60	5	0	7	0	6	7	9	12	15	20	15	117	213
80	5	0	7	2	8	10	12	16	19	23	15	117	234
100	5	0	7	5	10	12	15	19	20	23	15	117	248
120	5	0	7	8	11	16	17	19	20	23	15	117	258
140	5	0	8	9	14	16	17	19	20	23	15	117	263
160	5	0	8	13	15	16	17	19	20	23	15	117	268
180	5	7	3	13	15	16	17	19	20	23	15	117	270
200	5	7	5	14	15	16	17	19	20	23	15	117	273
220	5	7	6	14	15	16	17	19	20	23	15	117	274
240	5	7	9	14	15	16	17	19	20	23	15	117	277

*Take 1 extra minute from 1st stop to next stop.

PARTIAL PRESURE 310

Time of Dive	To 1st Stop	150	140	130	120	110	100	90	80	70	60	50	Total Time
					Feet and Minutes								
*10)	5	0	0	0	7	0	0	1	3	3	10	54	84
20	5	0	0	7	0	0	3	5	6	6	10	93	135
30	5	0	7	0	0	5	5	7	8	13	10	109	165
40	5	0	7	0	3	5	8	8	11	20	11	115	186
60	5	0	7	3	6	7	10	12	17	23	15	117	219
80	5	7	0	6	9	11	12	16	19	23	15	117	240
100	5	7	1	9	10	14	17	19	20	23	15	117	256
120	5	7	4	11	12	14	17	19	20	23	15	117	263
140	5	7	5	12	15	16	17	19	20	23	15	117	270
160	5	7	8	14	15	16	17	19	20	23	15	117	275
180	5	7	10	14	15	16	17	19	20	23	15	117	277
200	5	7	12	14	15	16	17	19	20	23	15	117	279
220	5	8	13	14	15	16	17	19	20	23	15	117	281
240	5	9	13	14	15	16	17	19	20	23	15	117	282

*Take 1 extra minute from 1st stop to next stop.

PARTIAL PRESSURE 320

Time of Dive	To 1st Stop	160	150	140	130	120	110	100	90	80	70	60	50	Total Time
						Feet and Minutes								
*10	5	0	0	0	7	0	0	0	2	3	3	10	57	88
*20	5	0	0	7	0	0	1	4	5	6	7	10	94	140
30	5	0	0	7	0	2	4	5	7	8	11	10	110	169
40	5	0	7	0	1	4	6	7	8	12	15	12	117	194
60	5	0	7	0	5	6	9	11	13	17	20	15	117	225
80	5	0	7	3	7	9	11	13	17	20	23	15	117	247
100	5	0	7	5	9	11	13	17	19	20	23	15	117	261
120	5	0	7	7	12	13	16	17	19	20	23	15	117	271
140	5	7	2	9	12	15	16	17	19	20	23	15	117	277
160	5	7	3	11	14	15	16	17	19	20	23	15	117	282
180	5	7	5	11	14	15	16	17	19	20	23	15	117	284
200	5	7	6	13	14	15	16	17	19	20	23	15	117	287
220	5	7	7	13	14	15	16	17	19	20	23	15	117	288
240	5	7	9	13	14	15	16	17	19	20	23	15	117	290

*Take 1 extra minute from 1st stop to next stop.

PARTIAL PRESSURE 330

Time of Dive	To 1st Stop	Feet and Minutes 160	150	140	130	120	110	100	90	80	70	60	50	Total Time
*10	5	0	0	0	1	0	0	0	3	3	3	10	60	92
20	5	0	0	1	0	0	2	5	5	6	8	10	96	144
30	5	0	1	0	0	4	4	6	7	9	11	11	112	176
40	5	0	1	0	4	4	6	7	9	12	16	14	114	198
60	5	1	0	2	6	0	9	11	14	17	23	15	117	234
80	5	1	0	6	0	8	13	14	19	20	23	15	117	255
100	5	1	2	1	10	11	16	17	19	20	23	15	117	271
120	5	1	4	0	12	13	16	17	19	20	23	15	117	277
140	5	1	6	11	13	15	16	17	19	20	23	15	117	282
160	5	1	8	13	14	15	16	17	19	20	23	15	117	287
180	5	1	10	13	14	15	16	17	19	20	23	15	117	289
200	5	1	12	13	14	15	16	17	19	20	23	15	117	291
220	5	9	12	13	14	15	16	17	19	20	23	15	117	293
240	5	10	12	13	14	15	16	17	19	20	23	15	117	294

*Take 1 extra minute from 1st stop to next stop.

PARTIAL PRESSURE 340

Time of Dive	To 1st Stop	Feet and Minutes 170	160	150	140	130	120	110	100	90	80	70	60	50	Total Time
*10	5	0	0	0	1	0	0	0	1	3	3	4	10	64	98
*20	5	0	0	1	0	0	1	3	4	6	5	10	10	98	150
30	5	0	0	1	0	1	4	5	6	8	8	13	11	113	181
40	5	0	1	0	1	4	5	7	7	10	12	17	13	117	205
60	5	0	1	0	5	6	8	9	11	15	19	23	15	117	240
80	5	0	1	2	1	8	10	13	15	19	20	23	15	117	261
100	5	0	1	5	9	9	13	16	17	19	20	23	15	117	275
120	5	1	1	1	10	13	15	16	17	19	20	23	15	117	285
140	5	1	2	9	12	14	15	16	17	19	20	23	15	117	291
160	5	1	4	10	13	14	15	16	17	19	20	23	15	117	295
180	5	1	5	12	13	14	15	16	17	19	20	23	15	117	298
200	5	1	6	12	13	14	15	16	17	19	20	23	15	117	299
220	5	1	8	12	13	14	15	16	17	19	20	23	15	117	301
240	5	1	10	12	13	14	15	16	17	19	20	23	15	117	303

*Take 1 extra minute from 1st stop to next stop.

PARTIAL PRESSURE 350

Time of Dive	To 1st Stop	Feet and Minutes 170	160	150	140	130	120	110	100	90	80	70	60	50	Total Time
*10	5	0	0	0	7	0	0	0	2	3	3	4	10	67	102
*20	5	0	0	7	0	0	1	4	5	7	8	9	10	99	156
30	5	0	7	0	0	3	5	5	6	8	9	13	10	115	186
40	5	0	7	0	2	4	6	7	8	10	13	16	14	117	209
60	5	7	0	3	5	6	9	10	13	16	18	19	15	117	243
80	5	7	0	7	7	8	11	13	15	19	20	23	15	117	267
100	5	7	2	8	8	12	13	16	17	19	20	23	15	117	282
120	5	7	4	9	11	13	15	16	17	19	20	23	15	117	291
140	5	7	6	11	13	14	15	16	17	19	20	23	15	117	298
160	5	7	9	11	13	14	15	16	17	19	20	23	15	117	301
180	5	8	9	12	13	14	15	16	17	19	20	23	15	117	303
200	5	8	11	12	13	14	15	16	17	19	20	23	15	117	305
220	5	10	11	12	13	14	15	16	17	19	20	23	15	117	307
240	5	11	11	12	13	14	15	16	17	19	20	23	15	117	308

*Take 1 extra minute from 1st stop to next stop.

PARTIAL PRESSURE 360

Time of Dive	To 1st Stop	Feet and Minutes 180	170	160	150	140	130	120	110	100	90	80	70	60	50	Total Time
*10	5	0	0	0	7	0	0	0	1	2	3	3	5	10	69	106
*20	5	0	0	7	0	0	0	3	4	5	5	7	9	10	102	158
30	5	0	0	7	0	1	4	4	5	7	8	11	13	11	114	190
40	5	0	7	0	1	3	5	6	7	8	11	14	17	15	117	216
60	5	0	7	0	5	5	8	8	11	12	16	19	23	15	117	251
80	5	0	7	2	7	7	10	11	13	17	19	20	23	15	117	273
100	5	7	0	6	8	9	11	15	16	17	19	20	23	15	117	288
120	5	7	1	7	9	12	14	15	16	17	19	20	23	15	117	297
140	5	7	3	9	11	13	14	15	16	17	19	20	23	15	117	304
160	5	7	4	10	12	13	14	15	16	17	19	20	23	15	117	307
180	5	7	5	11	12	13	14	15	16	17	19	20	23	15	117	309
200	5	7	7	11	12	13	14	15	16	17	19	20	23	15	117	311
220	5	7	9	11	12	13	14	15	16	17	19	20	23	15	117	313
240	5	7	10	11	12	13	14	15	16	17	19	20	23	15	117	314

*Take 1 extra minute from 1st stop to next stop.

PARTIAL PRESSURE 370

Time of Dive	To 1st Stop	Feet and Minutes															Total Time
		190	180	170	160	150	140	130	120	110	100	90	80	70	60	50	
*10	5	0	0	0	0	7	0	0	0	1	2	2	3	7	10	69	106
*20	5	0	0	0	7	0	0	1	3	4	5	5	8	10	10	104	162
30	5	0	0	7	0	0	3	3	5	6	7	8	11	12	14	117	198
40	5	0	0	7	0	2	4	5	7	7	9	10	14	19	15	117	221
60	5	0	0	7	2	5	6	7	9	11	14	16	19	23	15	117	256
80	5	0	7	0	6	6	8	11	12	14	16	19	20	23	15	117	279
100	5	0	7	2	7	8	11	13	13	16	17	19	20	23	15	117	293
120	5	0	7	4	8	10	12	14	15	16	17	19	20	23	15	117	302
140	5	7	0	7	9	12	13	14	15	16	17	19	20	23	15	117	309
160	5	7	0	9	10	12	13	14	15	16	17	19	20	23	15	117	312
180	5	7	2	9	11	12	13	14	15	16	17	19	20	23	15	117	315
200	5	7	3	10	11	12	13	14	15	16	17	19	20	23	15	117	317
220	5	7	5	10	11	12	13	14	15	16	17	19	20	23	15	117	319
240	5	7	7	10	11	12	13	14	15	16	17	19	20	23	15	117	321

*Take 1 extra minute from 1st stop to next stop.

PARTIAL PRESSURE 380

Time of Dive	To 1st Stop	Feet and Minutes															Total Time
		190	180	170	160	150	140	130	120	110	100	90	80	70	60	50	
*10	5	0	0	0	7	0	0	0	0	2	3	3	3	7	10	72	113
*20	5	0	0	7	0	0	0	2	4	4	5	5	8	10	10	105	166
*30	5	0	7	0	0	1	3	4	4	7	7	8	11	16	11	117	202
40	5	0	7	0	0	4	4	5	6	8	10	11	14	20	15	117	226
60	5	0	7	0	4	5	7	8	9	11	13	17	20	23	15	117	261
80	5	7	0	3	6	7	9	10	12	15	17	19	20	23	15	117	285
100	5	7	0	6	7	9	10	14	15	16	17	19	20	23	15	117	300
120	5	7	1	7	9	11	13	14	15	16	17	19	20	23	15	117	309
140	5	7	2	9	11	12	13	14	15	16	17	19	20	23	15	117	315
160	5	7	4	10	11	12	13	14	15	16	17	19	20	23	15	117	318
180	5	7	5	10	11	12	13	14	15	16	17	19	20	23	15	117	319
200	5	7	7	10	11	12	13	14	15	16	17	19	20	23	15	117	321
220	5	7	9	10	11	12	13	14	15	16	17	19	20	23	15	117	323
240	5	8	10	10	11	12	13	14	15	16	17	19	20	23	15	117	325

*Take 1 extra minute from 1st stop to next stop.

PARTIAL PRESSURE 390

Time of Dive	To 1st Stop	Feet and Minutes 200	190	180	170	160	150	140	130	120	110	100	90	80	70	60	50	Total Time
*10	5	0	0	0	0	7	0	0	0	0	2	3	3	4	7	10	74	116
*20	5	0	0	0	7	0	0	1	2	4	5	5	5	9	9	10	109	172
30	5	0	0	7	0	0	2	4	5	6	7	8	10	12	12	12	116	206
40	5	0	0	7	0	2	3	5	6	6	8	9	13	14	21	15	117	231
60	5	0	7	0	2	5	5	8	8	9	11	15	17	20	23	15	117	268
80	5	0	7	0	5	7	8	9	11	12	16	17	19	20	23	15	117	292
100	5	0	7	2	7	8	9	11	14	15	16	17	19	20	23	15	117	307
120	5	0	7	5	8	9	11	13	14	15	16	17	19	20	23	15	117	316
140	5	7	0	7	10	10	12	13	14	15	16	17	19	20	23	15	117	322
160	5	7	1	9	10	11	12	13	14	15	16	17	19	20	23	15	117	325
180	5	7	3	9	10	11	12	13	14	15	16	17	19	20	23	15	117	327
200	5	7	5	10	10	11	12	13	14	15	16	17	19	20	23	15	117	329
220	5	7	7	10	10	11	12	13	14	15	16	17	19	20	23	15	117	331
240	5	7	8	10	10	11	12	13	14	15	16	17	19	20	23	15	117	332

*Take 1 extra minute from 1st stop to next stop.

PARTIAL PRESSURE 400

Time of Dive	To 1st Stop	Feet and Minutes 210	200	190	180	170	160	150	140	130	120	110	100	90	80	70	60	50	Total Time
*10	5	0	0	0	0	0	7	0	0	0	1	2	3	3	6	9	10	74	121
*20	5	0	0	0	7	0	0	0	1	4	4	4	5	8	8	10	10	109	176
*30	5	0	0	7	0	0	0	4	4	4	5	7	7	10	11	15	13	117	209
40	5	0	0	7	0	1	4	5	6	6	6	7	10	11	16	18	15	117	234
60	5	0	7	0	0	5	5	6	7	8	11	13	14	17	20	23	15	117	273
80	5	0	7	0	3	6	6	8	10	12	12	15	17	19	20	23	15	117	295
100	5	0	7	0	6	7	8	10	13	14	15	16	17	19	20	23	15	117	312
120	5	0	7	2	6	9	11	12	13	14	15	16	17	19	20	23	15	117	321
140	5	0	7	2	8	10	11	12	13	14	15	16	17	19	20	23	15	117	324
160	5	0	7	3	10	10	11	12	13	14	15	16	17	19	20	23	15	117	327
180	5	0	7	5	10	10	11	12	13	14	15	16	17	19	20	23	15	117	329
200	5	0	7	7	10	10	11	12	13	14	15	16	17	19	20	23	15	117	331
220	5	0	7	9	10	10	11	12	13	14	15	16	17	19	20	23	15	117	333
240	5	7	1	9	10	10	11	12	13	14	15	16	17	19	20	23	15	117	334

*Take 1 extra minute from 1st stop to next stop.

PARTIAL PRESSURE 410

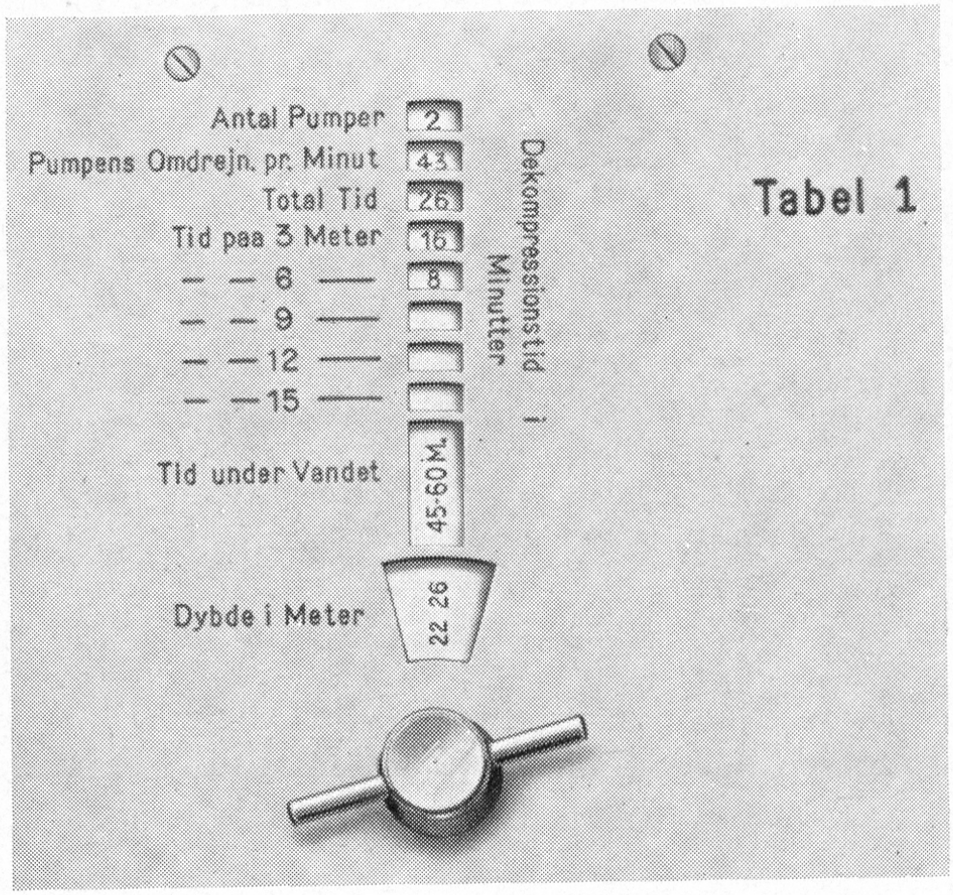
Time of Dive	To 1st Stop	Feet and Minutes																		Total Time
		210	200	190	180	170	160	150	140	130	120	110	100	90	80	70	60	50		
*10	5	0	0	0	0	7	0	0	0	0	2	2	3	3	6	9	10	78		126
*20	5	0	0	0	7	0	0	0	2	4	4	4	5	7	9	11	10	110		179
30	5	0	0	7	0	0	2	3	4	4	5	7	8	12	15	15	12	117		216
40	5	0	0	7	0	2	3	4	6	6	6	9	11	13	16	20	15	117		240
60	5	0	7	0	2	5	5	6	7	10	10	13	15	19	20	23	15	117		279
80	5	0	7	0	5	6	8	8	9	12	15	16	17	19	20	23	15	117		302
100	5	0	7	3	6	7	8	11	13	14	15	16	17	19	20	23	15	117		316
120	5	7	0	5	7	10	10	12	13	14	15	16	17	19	20	23	15	117		325
140	5	7	0	7	9	10	11	12	13	14	15	16	17	19	20	23	15	117		330
160	5	7	2	8	10	10	11	12	13	14	15	16	17	19	20	23	15	117		334
180	5	7	3	9	10	10	11	12	13	14	15	16	17	19	20	23	15	117		336
200	5	7	5	9	10	10	11	12	13	14	15	16	17	19	20	23	15	117		338
220	5	7	7	9	10	10	11	12	13	14	15	16	17	19	20	23	15	117		340
240	5	7	8	9	10	10	11	12	13	14	15	16	17	19	20	23	15	117		341

*Take 1 extra minute from 1st stop to next stop.

In der *dänischen Marine* ist eine *Austauch- und Dekompressionstabelle* in Gebrauch, die nach einmaliger Einstellung keinen Irrtum mehr zuläßt, weil alle nicht interessierenden Zahlen verdeckt sind (Abb. 9).

Auf Tabelle 1 (Austauchtabelle) ist z. B. eingestellt: Tauchtiefe, Aufenthalt unter Wasser, Aufenthalt in 6 und 3 m, Tauchzeit, minutliche Anzahl der Pumpenumdrehungen und Anzahl der gleichzeitig verwendeten Pumpen. In Tabelle 2 ist ähnliches zu ersehen für den Fall, daß die Benutzung einer Druckkammer erforderlich ist.

Gerbis und *König* beziehen sich in ihrem Erfahrungsbericht „Drucklufterkrankungen" auf § 23,2 der Verordnung für Arbeiten in Druckluft.



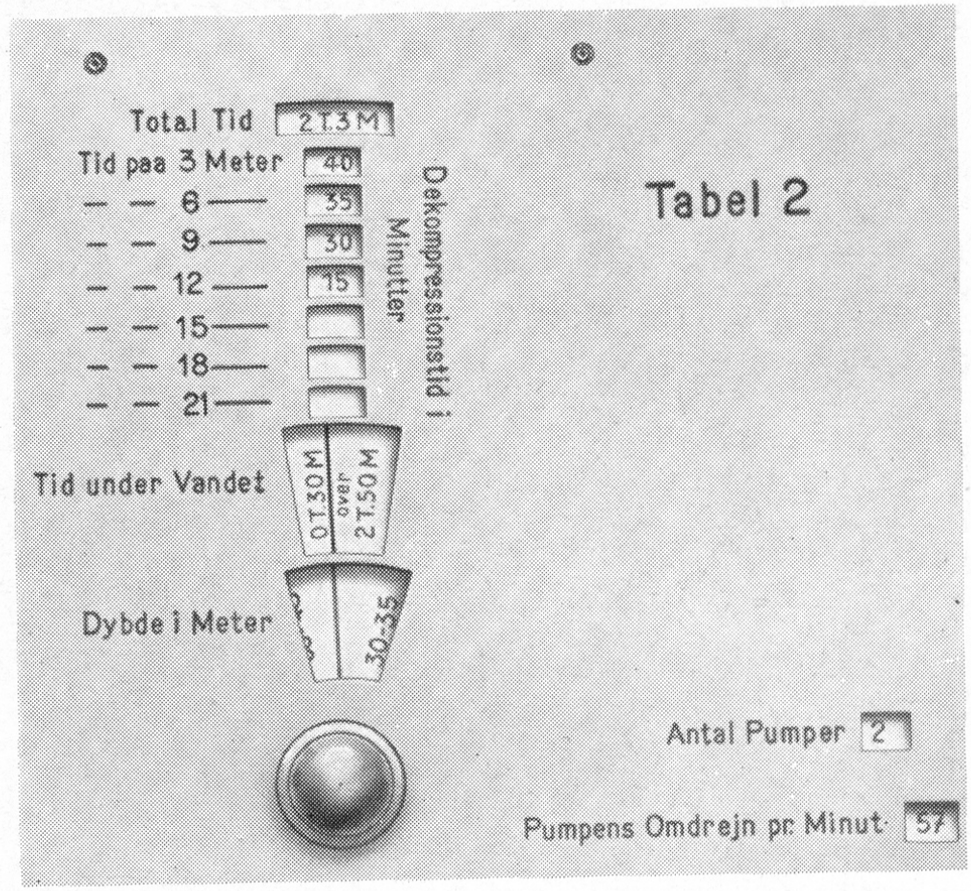


Abb. 9 Verstellbare dänische Dekompressionsskala

SIEBE, GORMAN & CO.'S DECOMPRESSION TABLES TO 300 FEET

(AIR: BREATHING OXYGEN DURING LATER STAGES OF DECOMPRESSION)

120 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths						Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air	Breathing Oxygen							
	Time for Ascent to First Stop	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	2	—	—	2	2	3	2	7	9
16	2	—	—	2	4	4	2	10	12
20	2	—	1	2	4	4	2	11	13
25	2	—	1	3	4	6	2	14	16
30	2	—	1	4	5	6	2	16	18
35	2	—	2	4	6	7	2	19	21
40	2	—	3	5	7	9	2	24	26
45	2	—	4	6	10	11	2	31	33
50	2	—	5	7	10	13	2	35	37
55	2	—	5	7	12	15	2	39	41
60	2	—	5	9	13	16	2	43	45
80	2	—	8	10	17	20	2	55	57
100	2	—	10	13	20	27	2	70	72
2 hrs.	2	—	11	19	23	31	2	84	86
3 hrs.	2	—	19	22	35	35	2	111	113
5 hrs. and over	2	13	27	30	35	35	2	140	142

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

130 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths								Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air		Breathing Oxygen								
	Time for Ascent to First Stop	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	2	—	—	—	—	2	3	3	2	8	10
16	2	—	—	—	1	2	4	4	2	11	13
20	2	—	—	—	2	2	4	5	2	13	15
25	2	—	—	—	2	3	5	6	2	16	18
30	2	—	—	—	3	3	6	7	2	19	21
35	2	—	—	1	3	5	7	9	2	25	27
40	2	—	—	2	4	6	8	11	2	31	33
45	2	—	—	2	5	6	10	13	2	36	38
50	2	—	—	2	6	7	11	14	2	40	42
55	2	—	—	3	6	8	12	15	2	44	46
60	2	—	—	3	7	8	14	16	2	48	50
80	2	—	—	6	8	10	18	23	2	65	67
100	2	—	—	7	10	15	21	28	2	81	83
2 hrs.	2	—	—	9	10	18	27	31	2	95	97
3 hrs.	2	—	—	12	17	25	35	35	2	124	126
5 hrs. and over	2	—	7	19	27	30	35	35	2	153	155

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

140 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths							Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air	Breathing Oxygen								
	Time for Ascent to First Stop	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	2	—	—	1	2	3	3	2	9	11
16	2	—	—	1	3	4	4	2	12	14
20	2	—	1	1	3	4	6	2	15	17
25	2	—	1	2	3	6	6	2	18	20
30	2	—	1	3	3	7	7	2	21	23
35	2	—	1	4	5	8	10	2	28	30
40	2	—	3	5	7	9	12	2	36	38
45	2	—	4	5	8	11	13	2	41	43
50	2	—	5	6	8	11	15	2	45	47
55	2	—	5	7	8	13	16	2	49	51
60	2	—	5	7	9	14	16	2	51	53
80	2	—	8	9	12	20	26	2	75	77
100	2	—	10	11	17	24	31	2	93	95
2 hrs.	2	5	10	11	17	32	31	2	106	108
3 hrs.	2	6	14	16	30	35	35	2	136	138
5 hrs. and over	2	12	25	27	31	35	35	2	165	167

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

150 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths								Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air		Breathing Oxygen								
	Time for Ascent to First Stop	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	2	—	—	—	2	2	3	3	2	10	12
16	2	—	—	1	2	2	4	5	2	14	16
20	2	—	—	1	2	3	4	7	2	17	19
25	2	—	—	2	2	4	6	7	2	21	23
30	2	—	—	2	3	4	7	8	2	24	26
35	2	—	1	3	4	6	8	11	2	33	35
40	2	—	2	4	5	8	9	13	2	41	43
45	2	—	3	4	6	8	11	14	2	46	48
50	2	—	3	5	6	9	12	15	2	50	52
55	2	—	3	5	7	9	14	17	2	55	57
60	2	—	3	5	8	10	15	19	2	60	62
80	2	—	5	8	10	14	20	26	2	83	85
100	2	—	7	9	11	16	27	31	2	101	103
2 hrs.	2	—	7	10	13	20	33	33	2	116	118
3 hrs.	2	—	11	15	19	30	35	35	2	145	147
5 hrs. and over	2	5	17	25	27	32	35	35	7	171	178

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

160 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths								Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air		Breathing Oxygen								
	Time for Ascent to First Stop	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	2	—	—	—	2	2	3	4	2	11	13
16	2	—	—	1	2	2	4	6	2	15	17
20	2	—	—	2	2	3	4	8	2	19	21
25	2	—	—	2	3	4	6	8	2	23	25
30	2	—	1	2	3	4	8	8	2	26	28
35	2	—	2	3	4	7	8	11	2	35	37
40	2	—	4	4	5	9	10	14	2	46	48
45	2	—	4	5	6	9	11	15	2	50	52
50	2	—	4	5	7	9	14	15	2	54	56
55	2	—	4	6	7	10	16	18	2	61	63
60	2	—	5	6	8	11	17	21	2	68	70
80	2	—	6	8	10	16	20	29	2	89	91
100	2	—	9	9	13	17	30	31	2	109	111
2 hrs.	2	—	10	11	14	21	35	35	2	126	128
3 hrs.	2	—	14	16	22	31	35	35	2	153	155
5 hrs. and over	2	9	22	26	28	32	35	35	11	178	189

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

170 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths									Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air			Breathing Oxygen								
	Time for Ascent to First Stop	80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	2	—	—	—	1	2	2	4	4	2	13	15
16	2	—	—	—	2	2	3	5	5	2	17	19
20	2	—	—	1	2	2	3	6	7	2	21	23
25	2	—	—	1	3	3	4	7	8	2	26	28
30	2	—	—	2	4	4	6	8	10	2	34	36
35	2	—	—	3	5	6	7	10	13	2	44	46
40	2	—	1	4	5	6	9	11	14	3	49	52
45	2	—	1	4	6	6	10	13	15	3	54	57
50	2	—	1	4	6	7	10	15	17	3	59	62
55	2	—	1	5	7	7	11	16	20	3	66	69
60	2	—	2	6	7	9	12	18	22	4	74	78
80	2	—	3	7	9	11	17	24	30	5	98	103
100	2	—	3	9	11	14	18	31	33	5	116	121
2 hrs.	2	1	3	10	12	16	23	35	35	6	131	137
3 hrs.	2	2	5	14	18	24	29	35	35	9	155	164
5 hrs. and over	2	6	14	22	26	28	32	35	35	22	178	200

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

180 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths									Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air			Breathing Oxygen								
	Time for Ascent to First Stop	80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	2	—	—	1	1	2	2	4	5	2	15	17
16	2	—	—	1	2	2	3	5	6	2	19	21
20	2	—	—	2	2	2	3	6	7	2	22	24
25	2	—	1	2	2	3	4	7	10	3	28	31
30	2	—	1	3	4	4	6	9	12	3	38	41
35	2	—	1	5	5	6	8	11	13	3	48	51
40	2	—	2	5	5	6	9	12	14	4	51	55
45	2	—	2	5	6	7	10	14	16	4	58	62
50	2	—	2	6	7	7	11	16	17	4	64	68
55	2	1	2	6	8	9	12	17	21	5	73	78
60	2	2	2	7	7	9	14	18	25	6	80	86
80	2	2	4	8	8	12	17	28	33	8	106	114
100	2	2	4	9	12	14	21	34	34	8	124	132
2 hrs.	2	3	5	11	14	17	26	34	34	10	136	146
3 hrs.	2	4	9	14	20	23	32	35	35	15	159	174
5 hrs. and over	2	12	19	22	26	28	32	35	35	33	178	211

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

190 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths									Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air			Breathing Oxygen								
	Time for Ascent to First Stop	80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	3	—	—	1	1	2	2	4	5	3	15	18
16	2	—	1	1	2	2	3	5	6	3	19	22
20	2	—	1	2	2	2	3	7	7	3	23	26
25	2	—	1	2	3	3	4	7	11	3	30	33
30	2	—	2	3	4	4	6	9	15	4	41	45
35	2	—	2	5	5	6	8	12	15	4	51	55
40	2	—	3	5	5	7	9	14	16	5	56	61
45	2	—	3	6	6	7	10	16	18	5	63	68
50	2	—	4	6	8	7	11	18	19	6	69	75
55	2	—	4	6	8	8	14	18	24	6	78	84
60	2	2	3	7	8	9	16	19	29	7	88	95
80	2	2	6	9	9	14	17	33	34	10	116	126
100	2	3	6	10	14	16	22	34	34	11	130	141
2 hrs.	2	5	6	12	15	17	28	35	35	13	142	155
3 hrs.	2	6	13	15	22	27	30	35	35	21	164	185
5 hrs. and over	2	18	24	22	25	28	33	35	35	44	178	222

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

200 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths										Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air				Breathing Oxygen								
	Time for Ascent to First Stop	90 ft.	80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	3	—	—	1	1	1	2	3	4	5	4	16	20
16	3	—	—	1	1	2	3	3	6	6	4	21	25
20	3	—	—	1	2	2	3	3	7	8	4	25	29
25	3	—	—	2	2	3	4	5	8	10	5	32	37
30	2	—	1	2	4	4	6	7	11	12	5	44	49
35	2	—	1	3	5	6	7	8	14	15	6	55	61
40	2	—	2	3	5	6	8	9	15	17	7	60	67
45	2	—	2	3	6	7	9	11	16	20	7	69	76
50	2	—	2	4	7	8	9	13	17	22	8	76	84
55	2	—	2	5	7	8	10	15	20	26	9	86	95
60	2	—	3	5	7	8	11	16	24	29	10	95	105
80	2	—	5	6	9	11	15	18	34	34	13	121	134
100	2	—	6	6	11	14	16	25	34	34	14	134	148
2 hrs.	2	3	5	8	13	15	21	29	35	35	18	148	166
3 hrs.	2	3	9	12	18	24	28	30	35	35	26	170	196

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

210 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths										Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air				Breathing Oxygen								
	Time for Ascent to First Stop	90 ft.	80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	3	—	—	1	1	1	2	3	4	6	4	17	21
16	3	—	—	2	1	2	3	3	6	7	5	22	27
20	3	—	—	2	2	2	3	4	7	9	5	27	32
25	3	—	1	2	2	3	5	5	9	10	6	34	40
30	3	—	2	2	4	4	6	7	11	13	7	45	52
35	3	—	2	3	5	6	8	9	14	16	8	58	66
40	3	—	3	3	6	7	8	9	17	18	9	65	74
45	3	—	3	4	6	8	9	12	17	22	10	74	84
50	3	—	3	4	7	9	9	14	18	27	10	84	94
55	3	—	4	5	7	10	10	16	22	28	12	93	105
60	2	2	3	6	8	10	12	16	26	29	13	101	114
80	2	2	5	6	10	12	16	20	34	34	15	126	141
100	2	3	6	6	11	15	16	24	35	35	17	136	153
2 hrs.	2	5	5	10	14	15	24	30	35	35	22	153	175
3 hrs.	2	5	11	12	20	24	28	32	35	35	30	174	204

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

220 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths											Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air					Breathing Oxygen								
	Time for Ascent to First Stop	100 ft.	90 ft.	80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	3	—	—	—	2	1	1	2	3	4	7	5	18	23
16	3	—	—	1	2	1	2	2	4	6	8	6	23	29
20	3	—	—	1	2	2	2	3	5	7	10	6	29	35
25	3	—	—	2	2	3	3	5	7	10	12	7	40	47
30	3	—	1	2	3	5	5	8	8	14	13	8	53	61
35	3	—	1	2	3	5	6	8	9	16	17	9	61	70
40	3	—	1	3	3	6	8	8	10	18	20	10	70	80
45	3	—	1	3	4	7	8	9	13	18	25	11	80	91
50	3	—	1	3	5	7	8	9	17	18	32	12	91	103
55	3	—	2	3	6	7	8	11	18	24	32	14	100	114
60	3	—	2	3	7	8	9	13	18	29	32	15	109	124
80	3	—	3	5	7	11	12	14	22	35	35	18	129	147
100	3	—	4	6	9	14	15	15	27	35	35	21	141	163

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

230 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths																Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air										Breathing Oxygen								
	Time for Ascent to First Stop	150 ft.	140 ft.	130 ft.	120 ft.	110 ft.	100 ft.	90 ft.	80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	3	—	—	—	—	—	—	—	1	2	2	2	2	3	4	7	6	20	26
16	3	—	—	—	—	—	—	—	2	2	2	3	3	4	5	7	7	24	31
20	3	—	—	—	—	—	—	—	2	2	2	3	3	5	8	8	7	29	36
25	3	—	—	—	—	—	—	1	2	3	3	4	5	7	10	12	9	41	50
30	3	—	—	—	—	—	—	1	3	3	4	6	7	9	13	15	10	54	64
35	3	—	—	—	—	—	—	2	3	3	5	7	8	10	16	19	11	65	76
40	3	—	—	—	—	—	—	2	3	3	7	8	9	12	18	24	11	78	89
45	3	—	—	—	—	—	—	2	3	5	7	8	10	15	20	26	13	86	99
50	3	—	—	—	—	—	1	2	3	6	8	8	10	17	20	32	15	95	110
55	3	—	—	—	—	—	1	2	3	7	8	10	13	17	24	32	16	104	120
60	3	—	—	—	—	—	1	2	4	7	9	10	15	17	29	32	17	112	129
80	3	—	—	—	—	—	2	3	5	8	11	12	14	24	35	35	21	131	152

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

240 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths																Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air										Breathing Oxygen								
	Time for Ascent to First Stop	150 ft.	140 ft.	130 ft.	120 ft.	110 ft.	100 ft.	90 ft.	80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	3	—	—	—	—	—	—	—	1	2	2	2	2	3	6	7	6	22	28
16	3	—	—	—	—	—	—	—	2	2	2	3	3	4	7	7	7	26	33
20	3	—	—	—	—	—	—	1	2	2	2	3	3	5	8	8	8	29	37
25	3	—	—	—	—	—	—	1	3	3	3	5	5	7	9	13	10	42	52
30	3	—	—	—	—	—	—	2	3	3	4	7	7	9	13	15	11	55	66
35	3	—	—	—	—	—	—	3	3	3	6	8	8	10	15	22	12	69	81
40	3	—	—	—	—	—	—	3	3	3	8	8	8	13	19	28	12	84	96
45	3	—	—	—	—	—	1	3	3	5	8	8	10	15	21	29	15	91	106
50	3	—	—	—	—	—	1	3	3	7	8	8	12	17	24	30	17	99	116
55	3	—	—	—	—	2	3	4	5	7	10	11	13	23	28	35	24	120	144
60	2	—	—	—	2	3	4	6	7	7	12	15	16	28	35	35	31	141	172
65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

250 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths																Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air									Breathing Oxygen									
	Time for Ascent to First Stop	150 ft.	140 ft.	130 ft.	120 ft.	110 ft.	100 ft.	90 ft.	80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	3	—	—	—	—	—	—	—	1	2	2	2	2	4	6	7	6	23	29
16	3	—	—	—	—	—	—	1	2	2	2	3	3	4	7	8	8	27	35
20	3	—	—	—	—	—	—	2	2	2	3	4	4	6	9	10	9	36	45
25	3	—	—	—	—	—	—	2	3	3	5	6	7	8	11	13	11	50	61
30	3	—	—	—	—	—	1	2	3	3	5	7	7	10	14	17	12	60	72
35	3	—	—	—	—	—	1	3	3	3	7	8	8	13	16	23	13	75	88
40	3	—	—	—	—	—	2	3	3	3	8	9	9	15	19	29	14	89	103
45	3	—	—	—	—	2	3	5	5	5	9	12	12	19	26	33	23	111	134
50	3	—	—	—	2	3	3	6	7	7	10	14	15	22	35	35	31	132	163
55	3	—	—	—	3	3	4	6	7	8	12	16	18	27	35	35	34	143	177
60	3	—	—	1	3	3	4	6	7	9	15	16	21	30	35	35	36	152	188
65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

260 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths																Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air										Breathing Oxygen								
	Time for Ascent to First Stop	150 ft.	140 ft.	130 ft.	120 ft.	110 ft.	100 ft.	90 ft.	80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	3	—	—	—	—	—	—	1	1	2	2	2	2	4	6	7	7	23	30
16	3	—	—	—	—	—	—	1	2	3	2	2	3	5	7	10	9	29	38
20	3	—	—	—	—	—	1	1	2	3	3	4	4	6	9	13	10	39	49
25	3	—	—	—	—	—	1	2	3	3	5	6	6	9	12	16	12	54	66
30	3	—	—	—	—	—	2	2	3	3	6	7	8	10	15	19	13	65	78
35	3	—	—	—	—	2	3	3	5	5	8	10	11	14	23	26	21	92	113
40	3	—	—	—	3	3	3	3	7	7	9	11	15	17	34	34	29	120	149
45	3	—	—	1	3	3	4	4	7	7	11	13	16	22	35	35	32	132	164
50	3	—	—	2	2	3	4	6	7	7	13	17	18	28	35	35	34	146	180
55	3	—	—	2	2	3	5	6	7	9	15	18	22	30	35	35	37	155	192
60	3	—	—	2	3	4	5	6	7	10	17	18	25	32	35	38	40	165	205
65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

270 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths																Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air										Breathing Oxygen								
	Time for Ascent to First Stop	150 ft.	140 ft.	130 ft.	120 ft.	110 ft.	100 ft.	90 ft.	80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	3	—	—	—	—	—	—	1	1	2	2	2	2	4	6	7	7	23	30
16	3	—	—	—	—	—	1	1	2	2	2	3	3	5	8	10	9	31	40
20	3	—	—	—	—	—	1	2	2	3	3	4	6	6	9	15	11	43	54
25	3	—	—	—	—	1	1	1	3	3	4	6	8	9	12	19	12	58	72
30	3	—	—	—	—	1	2	2	3	3	6	8	8	10	18	21	14	71	83
35	3	—	—	—	2	2	3	3	5	5	8	9	10	13	28	28	23	96	119
40	3	—	—	2	2	3	3	4	7	7	9	12	16	19	34	34	31	124	155
45	3	—	—	2	3	3	4	5	7	7	12	15	18	25	35	38	34	143	177
50	3	—	—	2	3	3	5	6	7	7	15	18	19	29	40	40	36	161	197
55	3	—	—	2	3	4	5	6	7	10	17	18	23	30	40	40	40	168	208
60	3	—	1	2	3	5	5	6	7	12	18	18	28	31	40	40	44	175	219

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

280 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths																Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air									Breathing Oxygen									
	Time for Ascent to First Stop	150 ft.	140 ft.	130 ft.	120 ft.	110 ft.	100 ft.	90 ft.	80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	3	—	—	—	—	—	—	1	1	2	2	3	3	4	7	7	7	26	33
16	3	—	—	—	—	—	1	1	2	3	3	4	5	6	10	11	10	39	49
20	3	—	—	—	—	1	1	2	2	3	5	5	7	9	13	15	12	54	66
25	3	—	—	—	—	1	1	2	3	3	8	8	12	13	18	19	13	78	91
30	3	—	—	2	2	2	3	3	4	7	10	10	17	18	21	21	26	97	123
35	3	—	—	2	2	3	3	4	6	7	10	12	17	19	29	29	30	116	146
40	3	—	1	2	2	3	4	4	7	7	11	13	17	25	34	35	33	135	168
45	3	—	1	2	3	3	5	5	7	8	14	16	19	28	35	38	37	150	187
50	3	—	1	3	3	4	5	6	6	9	16	19	22	31	38	38	40	164	204
55	3	—	1	3	3	5	5	6	8	11	18	20	26	31	38	38	45	171	216
60	3	—	2	2	4	5	5	6	9	13	19	21	29	32	39	39	49	179	228

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

290 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths															Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air									Breathing Oxygen								
	Time for Ascent to First Stop	150 ft.	140 ft.	130 ft.	120 ft.	110 ft.	100 ft.	90 ft.	80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	3	—	—	—	—	—	—	1	2	2	3	3	4	4	7	8	8	29	37
16	3	—	—	—	—	—	1	1	2	3	3	5	6	7	10	12	10	43	53
20	3	—	—	—	1	1	1	1	3	3	6	7	9	10	16	19	13	67	80
25	3	—	—	1	2	2	3	3	3	7	9	10	11	17	24	25	24	96	120
30	3	—	—	2	2	3	3	3	5	7	10	11	17	19	27	27	28	111	139
35	3	—	1	2	2	3	4	4	6	7	11	13	18	22	31	32	32	127	159
40	3	—	2	2	2	3	5	5	6	7	12	16	19	27	35	35	35	144	179
45	3	—	2	2	3	4	5	6	6	9	15	17	20	29	36	38	40	155	195
50	3	—	2	3	3	5	5	6	6	11	16	18	21	31	40	40	44	166	210
55	3	—	2	3	4	5	5	6	8	13	17	21	25	31	40	40	49	174	223
60	3	1	1	3	5	5	5	6	10	14	19	21	29	33	40	40	53	182	235

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

300 FEET

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths																Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air									Breathing Oxygen									
	Time for Ascent to First Stop	150 ft.	140 ft.	130 ft.	120 ft.	110 ft.	100 ft.	90 ft.	80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
12	3	—	—	—	—	—	1	1	2	2	3	4	4	5	8	8	9	32	41
16	3	—	—	—	—	1	1	1	3	3	4	5	6	7	12	13	12	47	59
20	3	—	—	—	1	1	1	1	3	3	7	7	9	12	18	20	13	73	86
25	3	—	1	1	2	2	3	3	4	7	11	11	13	18	28	28	26	109	135
30	3	—	1	2	2	3	3	3	6	7	11	11	18	20	32	32	30	124	154
36	3	—	2	2	2	3	4	5	6	7	13	15	18	23	36	36	34	141	175
42	3	1	2	2	2	3	6	6	6	7	15	18	19	28	38	38	38	156	194
45	3	1	2	2	3	4	6	6	6	10	18	18	20	30	38	38	43	162	205
50	3	1	2	3	3	5	6	6	6	13	18	18	21	32	40	40	48	169	217
55	3	1	2	4	4	5	5	6	9	14	18	20	25	33	40	40	53	176	229
60	3	2	2	4	5	5	5	6	11	14	19	22	30	34	40	40	57	185	242

The above figures represent minutes, except where otherwise stated.

SIEBE, GORMAN & CO.'S DIVERS' DECOMPRESSION TABLES

(AIR AND OXYGEN)

TABLES FOR USE IF DEPTH OF 300 FEET IS ACCIDENTALLY EXCEEDED

Time in minutes from leaving Surface to beginning of Ascent	Stoppages in minutes at different depths													Period of Ascent during which Air is breathed minutes	Period of Ascent during which Oxygen is breathed minutes	Total Time for Ascent in minutes
	Breathing Air							Breathing Oxygen								
	Time for Ascent to First Stop	120 ft.	110 ft.	100 ft.	90 ft.	80 ft.	70 ft.	60 ft.	50 ft.	40 ft.	30 ft.	20 ft.	10 ft.			
									310 *feet*							
12	3	—	—	1	2	2	2	3	4	4	5	8	10	10	34	44
16	3	—	1	2	2	2	3	4	5	6	8	12	14	13	49	62
									320 *feet*							
12	3	—	1	1	2	2	2	3	3	4	6	9	12	11	37	48
16	3	1	1	2	2	2	3	4	5	7	8	12	15	14	51	65

The above figures represent minutes, except where otherwise stated.

START

PADI® TAUCHTABELLEN

TIEFE (meter)

	3	4.5	6	7.5	9	10.5	12	15	18	21	24	27	30	33	36	39	42
	TAUCHZEIT IN MINUTEN																
A	60	35	25	20	15	5	5										
B	120	70	50	35	30	15	15	10	10	5	5	5	5				
C	210	110	75	55	45	25	25	15	15	10	10	10	7	5	5	5	5
D	300	160	100	75	60	40	30	25	20	15	15	12	10	10	10	8	7
E		225	135	100	75	50	40	30	25	20	20	15	15	13	12	10	10
F		350	180	125	95	60	50	40	30	30	25	20	20	15	15	15 1	
G			240	160	120	80	70	50	40	35	30	25	22	20			15 2
H			325	195	145	100	80	60	50	40	35	30	25	25 3	20 2	20 4	
I				245	170	120	100	70	55	45	40		30 3		25 6		20 6
J				315	205	140	110	80	60	50		40 7		30 7	30 14	25 10	
K					250	160	130	90	70 2	60 8	50 10		40 15				
L					310	190	150	100	80 7	70 14	60 17	50 18					
M						220	170	140 10	100 14	80 18	70 23	60 25					
N						270	200	160 21	120 26	90 23							

REPETITIV GRUPPE

NULLZEIT

40

DEKOMPRESSION nötig

25 / 10 TGZ

DEKOSTOP in 3 m

TABELLE I: NULLZEITEN UND REPETITIVGRUPPEN-BESTIMMUNG

TABELLE II: OBERFLÄCHEN-INTERVALL

BEGINN OBERFLÄCHEN-INTERVALL

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
A	0:10 12:00													
B	0:10 2:10	2:11 12:00												
C	0:10 1:39	1:40 2:49	2:50 12:00											
D	0:10 1:09	1:10 2:38	2:39 5:48	5:49 12:00										
E	0:10 0:54	0:55 1:57	1:58 3:22	3:23 6:32	6:33 12:00									
F	0:10 0:45	0:46 1:29	1:30 2:28	2:29 3:57	3:58 7:05	7:06 12:00								
G	0:10 0:40	0:41 1:15	1:16 1:59	2:00 2:58	2:59 4:25	4:26 7:35	7:36 12:00							
H	0:10 0:36	0:37 1:06	1:07 1:41	1:42 2:23	2:24 3:20	3:21 4:49	4:50 7:59	8:00 12:00						
I	0:10 0:33	0:34 0:59	1:00 1:29	1:30 2:02	2:03 2:44	2:45 3:43	3:44 5:12	5:13 8:21	8:22 12:00					
J	0:10 0:31	0:32 0:54	0:55 1:19	1:20 1:47	1:48 2:20	2:21 3:04	3:05 4:02	4:03 5:40	5:41 8:40	8:41 12:00				
K	0:10 0:28	0:29 0:49	0:50 1:11	1:12 1:35	1:36 2:03	2:04 2:38	2:39 3:21	3:22 4:19	4:20 5:48	5:49 8:58	8:59 12:00			
L	0:10 0:26	0:27 0:45	0:46 1:04	1:05 1:25	1:26 1:49	1:50 2:19	2:20 2:53	2:54 3:36	3:37 4:35	4:36 6:02	6:03 9:12	9:13 12:00		
M	0:10 0:25	0:26 0:42	0:43 0:59	1:00 1:18	1:19 1:39	1:40 2:05	2:06 2:34	2:35 3:08	3:09 3:52	3:53 4:49	4:50 6:18	6:19 9:28	9:29 12:00	
N	0:10 0:24	0:25 0:39	0:40 0:54	0:55 1:11	1:12 1:30	1:31 1:53	1:54 2:18	2:19 2:47	2:48 3:22	3:23 4:04	4:05 5:03	5:04 6:32	6:33 9:43	9:44 12:00

N M L K J I H G F E D* C B A

* Fliegen nach dem Tauchen benötigt spezielle Vorsichtsmaßnahmen

FORTSETZUNG AUF RÜCKSEITE

PADI® TAUCHTABELLEN

REPETIVGRUPPE AM ENDE DES OBERFLÄCHEN-INTERVALLS

TIEFE (meter)

Weißes Feld: gibt ZEITZUSCHLAG an (ZZ) in Minuten, zur Grundzeit (GZ) dazuzählen!

25
175

Blaues Feld:
gibt Rest-Nullzeit an.
Die effektive Tauchzeit sollte diese Zeit nicht überschreiten!

A

ZEITZUSCHLAG (ZZ)
+Grundzeit (GZ)
−Totale Grundzeit (TGZ)

ZZ _____
+GZ _____
=TGZ _____ min. / _____ m TIEFE — TAUCHPLAN

DEKOZEIT UND FORTSETZUNG AUF TABELLE I

	N	M	L	K	J	I	H	G	F	E	D	C	B	A
3	300	300	300	300	300	300	300	300	300	300	300	210	120	60
	°						NO LIMIT							
4.5	350	350	350	350	350	350	350	350	350	225	160	110	70	35
							NO LIMIT							
6	325	325	325	325	325	325	325	240	180	135	100	75	50	25
							NO LIMIT							
7.5	315	315	315	315	315	245	195	160	125	100	75	55	35	20
							NO LIMIT							
9	310	310	310	250	205	170	145	120	95	75	60	45	30	15
							NO LIMIT							
10.5	270	220	190	160	140	120	100	80	60	50	40	25	15	5
	40	90	120	150	170	190	210	230	250	260	270	285	295	305
12	213	187	161	138	116	101	87	73	61	49	37	25	17	7
		13	39	62	84	99	113	127	139	151	163	175	183	193
15	142	124	111	99	87	76	66	56	47	38	29	21	13	6
					13	24	34	44	53	62	71	79	87	94
18	107	97	88	79	70	61	52	44	36	30	24	17	11	5
							8	16	24	30	36	43	49	55
21	87	80	72	64	57	50	43	37	31	26	20	15	9	4
							7	13	19	24	30	35	41	46
24	73	68	61	54	48	43	38	32	28	23	18	13	8	4
								8	12	17	22	27	32	36
27	64	58	53	47	43	38	33	29	24	20	16	11	7	3
									6	10	14	19	23	27
30	57	52	48	43	38	34	30	26	22	18	14	10	7	3
										7	11	15	18	22
33	51	47	42	38	34	31	27	24	20	16	13	10	6	3
											7	10	14	17
36	46	43	39	35	32	28	25	21	18	15	12	9	6	3
												6	9	12
39	40	38	35	31	28	25	22	19	16	13	11	8	6	3
														7

3 4.5 6 7.5 9 10.5 12 15 18 21 24 27 30 39

TABELLE II: REPETITIV TAUCHTABELLE

TABLE A

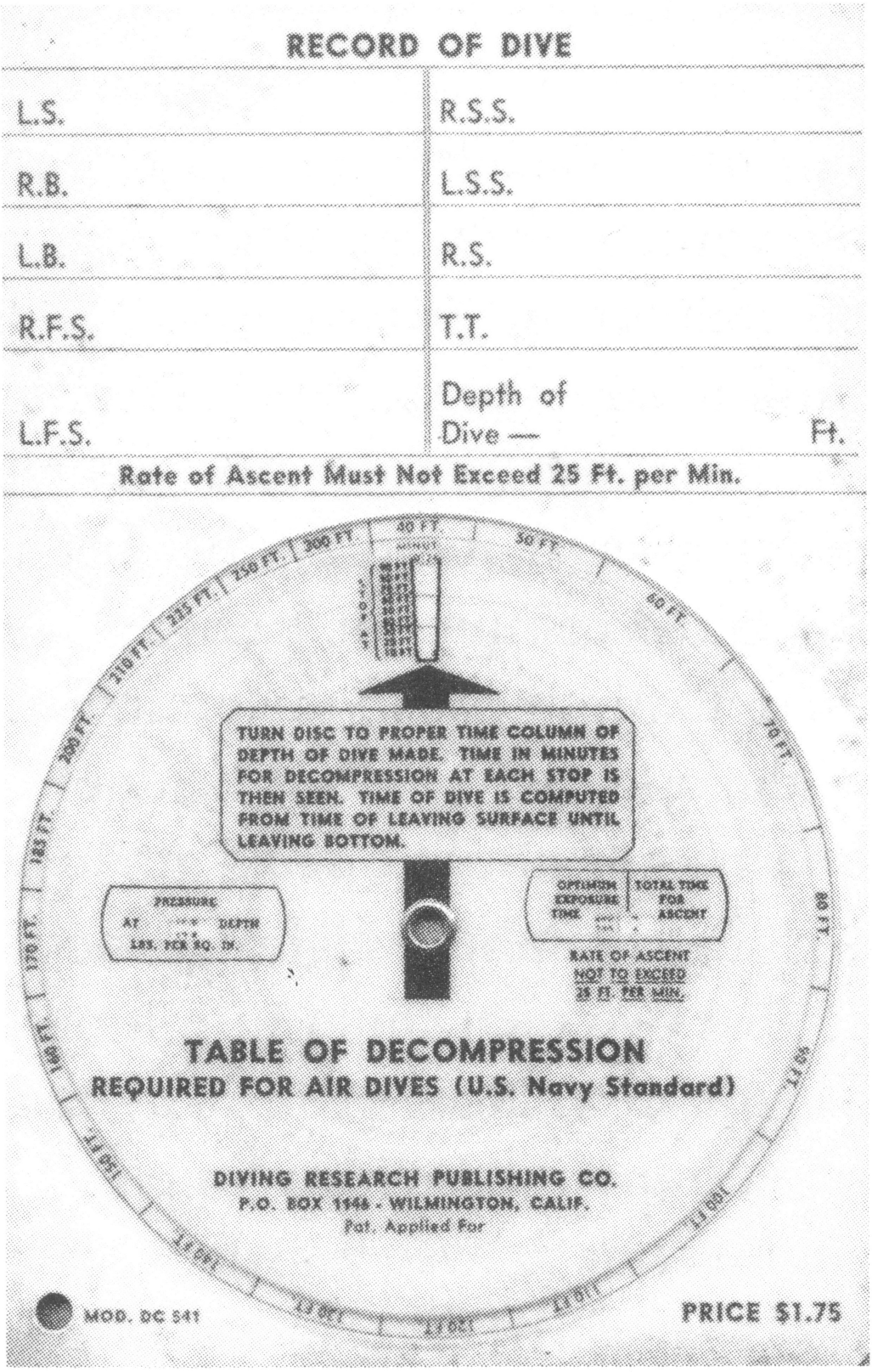
THEORETICAL DEPTH AT ALTITUDE FOR GIVEN ACTUAL DIVING DEPTH IN FRESH WATER

Actual Depth	Theoretical Depth at Various Altitudes (in feet)									
	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000
0	0	0	0	0	0	0	0	0	0	0
10	10	11	11	12	12	12	13	13	14	15
20	21	21	22	23	24	25	26	27	28	29
30	31	32	33	35	36	37	39	40	42	44
40	41	43	45	46	48	50	52	54	56	58
50	52	54	56	58	60	62	65	67	70	73
60	62	64	67	69	72	75	78	81	84	87
70	72	75	78	81	84	87	91	94	98	102
80	83	86	89	92	96	100	103	108	112	116
90	93	97	100	104	108	112	116	121	126	131
100	103	107	111	116	120	124	129	134	140	145
110	114	118	122	127	132	137	142	148	153	160
120	124	129	134	139	144	149	155	161	167	174
130	135	140	145	150	156	162	168	175	181	189
140	145	150	156	162	168	174	181	188	195	203
150	155	161	167	173	180	187	194	202	209	218
160	166	172	178	185	192	199	207	215	223	232
170	176	182	189	196	204	212	220	228	237	247
180	186	193	200	208	216	224	233	242	251	261
190	197	204	212	220	228	237	246	255	265	276
200	207	215	223	231	240	249	259	269	279	290
210	217	225	234	243	252	261	272	282	293	305
220	228	236	245	254	264	274	284	296	307	319
230	238	247	256	266	276	286	297	309	321	334
240	248	258	267	277	288	299	310	323	335	348
250	259	268	278	289	300	311	323	336	349	363

TABLE B

THEORETICAL DEPTH OF DECOMPRESSION STOP AT ALTITUDE

Prescribed Depth	Theoretical Depth of Decompression Stop (in feet)									
	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000
0	0	0	0	0	0	0	0	0	0	0
10	10	9	9	9	8	8	8	7	7	7
20	19	19	18	17	17	16	15	15	14	14
30	29	28	27	26	25	24	23	22	22	21
40	39	37	36	35	33	32	31	30	29	28



Slotted disc decompression calculator produced by E.R. Cross (*Leslie Leaney*)

Dräger

Austauchtabelle

für das Tauchen mit Preßluftgeräten

Erläuterungen zur Benutzung der Tabellen auf den Seiten 3–10

1. Die Austauchtabelle gilt für das Austauchen nach mittelschwerer Arbeit. Hat der Taucher schwere körperliche Arbeit geleistet, ist die erforderliche Austauchzeit bei der nächsthöheren Tauchzeitstufe (Spalte 2) abzulesen.

2. Bei Zwischenwerten für die größte Tauchtiefe (Spalte 1) und für die Tauchzeit (Spalte 2) müssen die Haltezeiten der nächsthöheren Werte eingehalten werden (Beispiel: größte Tauchtiefe 22 m, Tauchzeit 60 min – Ablesung in der Tafel „24 m" der Austauchtabelle bei der Tauchzeit 70 min).

3. Eine Austauchgeschwindigkeit von 18 m/min darf nicht überschritten werden. Dies gilt sowohl beim Austauchen ohne Haltezeiten wie beim Auftauchen zwischen den einzelnen Austauchstufen (Spalte 3).

4. Beim Austauchen nach Tabelle ist zu berücksichtigen, daß die Auftauchzeit bis zur ersten Austauchstufe in der ersten Haltezeit und von Stufe zu Stufe in der Haltezeit der jeweils folgenden Stufen enthalten ist (Spalte 3).

5. Bei einem Tauchgang darf die durch den waagerechten blauen Strich gekennzeichnete Grenzzeit in Spalte 2 nicht überschritten werden.

6. Bei Wiederholungstauchgängen muß die Summe der Tauchzeiten kleiner sein als die blaue Zahl (Spalte 2) in der Tafel für die größte erreichte Tauchtiefe (Spalte 1) der Austauchtabelle.

7. Die blauen Zahlen dürfen beim Tauchen im Normfall nicht erreicht werden. Sie sind nur aufgeführt, weil im Notfall (z. B. Verschüttung des Tauchers, bei Verhaken des Luftversorgungsschlauches oder der Signalleine) übermäßig lange Tauchzeiten auftreten können oder für den Fall, daß ein Taucher die zulässige Tauchtiefe von 50 m (Unfallverhütungsvorschrift „Taucherarbeiten" [VBG 39] § 22 Abs. 1) versehentlich überschritten hat.

8. In Einschränkung der in der Austauchtabelle festgelegten Werte richtet sich die Tauchzeit nach dem Befinden des Tauchers.

9. Hat der Taucher bei Wiederholungstauchgängen eine Gesamtaustauchzeit von 75 min erreicht, so sind innerhalb der folgenden 12 Stunden nur Einsätze bis 10 m Wassertiefe zulässig. In größere Tiefen darf erst nach mindestens 12 Stunden wieder getaucht werden.

10. Der Taucher darf während der Haltezeiten keine gymnastischen Übungen machen. Er soll sich zwanglos ruhig verhalten.

11. Grundsätzlich sollte ein Taucher die maximal zulässige Tauchzeit nicht ausnutzen, wenn ein zweiter Taucher anschließend tauchen muß, damit er eine Tauchzeitreserve für den Fall behält, daß er dem zweiten Taucher zu Hilfe kommen muß.

Beispiel:

Erster Tauchgang:
25 m Wassertiefe,
15 min Tauchzeit
Austauchtabelle
Spalte 1: 27 m
Spalte 2: 25 min
Gesamtzeit für das Austauchen: 2 min

Zweiter Tauchgang:
28 m Wassertiefe,
30 min Tauchzeit
Gesamttauchzeit
30 + 15 = 45 min
Austauchtabelle
Spalte 1: 30 m
Spalte 2: 45 min
Gesamtzeit für das Austauchen: 25 min

Dritter Tauchgang:
30 m Wassertiefe,
17 min Tauchzeit
Gesamttauchzeit
17 + 15 + 30 = 62 min
Austauchtabelle
Spalte 1: 33 m
Spalte 2: 65 min
Gesamtzeit für das Austauchen: 70 min

Das Beispiel zeigt, daß es besser wäre, den dritten Tauchgang von einem Taucher ohne Stickstoffvorbelastung ausführen zu lassen, da dieser mit einer Austauchzeit von 2 Minuten gegenüber den 70 Minuten des Beispiels auskommt.

12. Hat ein Taucher versehentlich Haltezeiten nicht eingehalten, so muß er sofort nach Erreichen der Wasseroberfläche auf die Austauchstufe wieder abtauchen, die er als die erste zu schnell verlassen hat. Die Haltezeiten müssen dann aus der Summe der Tauchzeit und der Zeit, die bis zum Wiedererreichen der vorzeitig verlassenen Tiefe verstrichen ist, neu ermittelt werden.

13. Abweichend von Nr. 12 müssen Taucher mit Krankheitserscheinungen einer Druckkammerbehandlung nach § 32 der Unfallverhütungsvorschrift „Taucherarbeiten" (VBG 39) unterzogen werden.

Dräger

Austauchtabelle für das Tauchen mit Preßluftgeräten

Größte Tauchtiefe (Meter)	Tauchzeit vom Verlassen der Oberfläche bis zum Beginn des Aufstiegs (Minuten)	Haltezeiten in Minuten während des Austauchens in								Gesamtzeit f. d. Aufstieg (Minuten)
							9 m	6 m	3 m	
9	Keine Beschränkung									1
12	135									1
	165								5	5
	195								10	10
	225								15	15
	255								20	20
	330								25	25
	390								30	30
	660								35	35
	über 660								40	40
15	85									1
	105								5	5
	120								10	10
	135								15	15
	145								20	20
	160								25	25
	170							5	25	30
	190							5	30	35
	240							10	40	50
	360							30	40	70
	450							35	40	75
	über 450							35	45	80
18	60									1
	70								5	5
	80							5	5	10
	90							5	10	15
	100							5	15	20
	110							5	20	25
	120							5	25	30
	130							5	30	35
	140							10	30	40
	150							10	40	50
	160							15	40	55
	180							20	40	60
	200						5	30	40	75
	255						10	35	45	90
	325						20	40	45	105
	495						35	40	45	120
	über 495						35	40	50	125

Größte Tauchtiefe (Meter)	Tauchzeit vom Verlassen der Oberfläche bis zum Beginn des Aufstiegs (Minuten)	Haltezeiten in Minuten während des Austauchens in								Gesamtzeit f. d. Aufstieg (Minuten)
						12 m	9 m	6 m	3 m	
21	40									2
	55								5	5
	60							5	5	10
	70							5	10	15
	75							5	15	20
	85							5	20	25
	90							5	25	30
	95						5	5	25	35
	105						5	5	35	45
	120						5	10	40	55
	135						5	20	45	70
	150						5	30	45	80
	165						10	30	50	90
	180						15	35	50	100
	210						25	40	50	115
	240					5	30	40	50	125
24	30									2
	40								5	5
	50							5	5	10
	55							5	10	15
	60							5	15	20
	70							5	20	25
	75							5	25	30
	80						5	5	30	40
	90						5	10	35	50
	105						5	20	40	65
	120					5	5	30	45	85
	140					5	10	35	50	100
	160					10	30	40	50	130

Größte Tauchtiefe (Meter)	Tauchzeit vom Verlassen der Oberfläche bis zum Beginn des Aufstiegs (Minuten)	Haltezeiten in Minuten während des Austauchens in								Gesamtzeit f. d. Aufstieg (Minuten)
					15 m	12 m	9 m	6 m	3 m	
27	25									2
	30								5	5
	40							5	5	10
	45							5	10	15
	50							5	15	20
	55							5	20	25
	60						5	5	20	30
	65						5	5	25	35
	70						5	10	30	45
	75						5	15	30	50
	80						5	20	35	60
	90						5	25	40	70
	100						5	30	45	80
	110					5	15	35	45	95
	120					5	20	35	50	110
	135				5	5	25	40	50	125
	150				5	10	35	40	50	140
30	20									2
	25								5	5
	30							5	5	10
	35							5	10	15
	40							5	15	20
	45							5	20	25
	50						5	5	20	30
	55						5	5	25	35
	60						5	10	30	45
	70						5	20	35	60
	75					5	5	20	40	70
	80					5	5	30	40	80
	90					5	15	30	45	95
	105					5	25	35	50	115
	120				5	10	30	40	50	135

Abbildung 11

Größte Tauchtiefe (Meter)	Tauchzeit vom Verlassen der Oberfläche bis zum Beginn des Aufstiegs (Minuten)	Haltezeiten in Minuten während des Austauchens in								Gesamtzeit f. d. Aufstieg (Minuten)
				18 m	15 m	12 m	9 m	6 m	3 m	
33	17									2
	20								5	5
	25							5	5	10
	30							5	10	15
	35							5	15	20
	40							5	20	25
	45						5	5	20	30
	50						5	10	25	40
	55						5	15	30	50
	60						5	20	35	60
	65					5	5	20	40	70
	70					5	10	20	45	80
	75					5	15	25	45	90
	80					5	20	30	45	100
	90				5	5	20	40	45	115
	100				5	10	25	40	50	130
	110				5	20	30	45	50	150
	120			5	5	25	40	45	50	170
36	14									2
	20								5	5
	25							5	5	10
	30							5	15	20
	35							5	20	25
	40						5	5	25	35
	45						5	10	25	40
	50						5	15	30	50
	55					5	5	20	35	65
	60					5	10	25	40	85
	70					5	20	30	45	100
	75				5	5	20	35	45	110
	80				5	10	25	35	45	120
	90				5	15	30	40	50	140
	100			5	5	20	35	45	50	160
	110			5	15	25	40	45	50	180
	120			5	20	35	40	45	50	195

Größte Tauchtiefe (Meter)	Tauchzeit vom Verlassen der Oberfläche bis zum Beginn des Aufstiegs (Minuten)	Haltezeiten in Minuten während des Austauchens in							Gesamtzeit f. d. Aufstieg (Minuten)
			21 m	18 m	15 m	12 m	9 m	6 m	3 m	
39	11									3
	15								5	5
	20							5	5	10
	25							5	10	15
	30							5	20	25
	35						5	5	20	30
	40						5	10	25	40
	45					5	5	15	30	55
	50					5	5	20	35	65
	55					5	10	25	40	80
	60					5	15	30	45	95
	70				5	10	20	30	50	115
	75				5	15	25	40	50	135
	80				5	20	30	45	50	150
	90			5	5	25	40	45	50	170
	100		5	5	15	30	40	45	50	190
	110		5	10	25	30	45	45	50	210
	120		5	15	30	40	45	45	50	230
42	9									3
	10								5	5
	15							5	5	10
	20							5	10	15
	25							5	15	20
	30						5	5	20	30
	35						5	10	25	40
	40					5	5	15	30	55
	45					5	10	15	35	65
	50					5	15	20	40	80
	55				5	5	15	25	45	95
	60				5	5	20	35	45	110
	65				5	10	25	40	45	125
	70				5	15	30	40	50	140
	75			5	5	20	30	45	50	155
	80			5	10	20	35	45	50	165
	85			5	15	25	40	45	50	180
	95		5	5	20	35	40	45	50	200
	105		5	15	25	35	45	45	50	220
	115		5	20	35	40	45	45	50	240

Größte Tauchtiefe (Meter)	Tauchzeit vom Verlassen der Oberfläche bis zum Beginn des Aufstiegs (Minuten)	Haltezeiten in Minuten während des Austauchens in							Gesamtzeit f. d. Aufstieg (Minuten)
		21 m	18 m	15 m	12 m	9 m	6 m	3 m	
45	8								3
	10							5	5
	15						5	5	10
	20						5	15	20
	25					5	5	20	30
	30					5	10	25	40
	35				5	5	10	30	50
	40				5	10	15	35	65
	45				5	15	20	40	80
	50			5	5	15	25	45	95
	55			5	10	20	30	50	115
	60			5	15	25	35	50	130
	65		5	5	15	30	40	50	145
	70		5	10	20	30	45	50	160
	75		5	15	25	35	45	50	175
	80	5	5	20	30	40	45	50	195
	85	5	10	25	35	40	45	50	210
	90	5	15	30	40	45	45	50	230
48	10						5	5	10
	15						5	10	15
	20					5	5	15	25
	25					5	10	20	35
	30				5	5	10	25	45
	35				5	10	15	30	60
	40				5	10	20	40	75
	45			5	5	15	25	45	95
	50			5	10	20	30	45	110
	55			5	15	25	40	45	130
	60		5	5	20	25	40	50	145
	65		5	10	20	35	45	50	165
	70		5	15	25	40	45	50	180
	75	5	5	20	30	40	45	50	195
	80	5	10	25	35	40	45	50	210
	85	5	15	30	40	45	45	50	230

Größte Tauchtiefe (Meter)	Tauchzeit vom Verlassen der Oberfläche bis zum Beginn des Aufstiegs (Minuten)	Haltezeiten in Minuten während des Austauchens in							Gesamtzeit f. d. Aufstieg (Minuten)
		24 m	21 m	18 m	15 m	12 m	9 m	6 m	3 m	
51	10							5	5	10
	15							5	10	15
	20						5	5	15	25
	25						5	10	25	40
	30					5	5	15	30	55
	35					5	10	20	35	70
	40				5	5	15	25	35	85
	45				5	10	20	30	40	105
	50			5	5	10	25	35	45	125
	55			5	5	15	30	40	50	145
	60			5	10	20	35	45	50	165
	65		5	5	15	25	35	45	50	180
	70		5	10	15	30	40	45	50	195
	75		5	15	20	35	45	45	50	215
	80	5	5	20	25	40	45	45	50	235
54	10							5	5	10
	15						5	5	10	20
	20						5	10	15	30
	25					5	5	10	25	45
	30					5	10	15	35	65
	35				5	5	15	20	40	85
	40				5	10	20	25	45	105
	45			5	5	10	25	35	45	125
	50			5	5	15	30	40	50	145
	55			5	10	20	35	45	50	165
	60		5	5	15	25	40	45	50	185
	65		5	10	20	30	40	45	50	200
	70		5	15	25	35	45	45	50	220
	75	5	5	20	30	40	45	45	50	240

Größte Tauchtiefe (Meter)	Tauchzeit vom Verlassen der Oberfläche bis zum Beginn des Aufstiegs (Minuten)	Haltezeiten in Minuten während des Austauchens in								Gesamtzeit f. d. Aufstieg (Minuten)
		24 m	21 m	18 m	15 m	12 m	9 m	6 m	3 m	
57	10							5	5	10
	15						5	5	15	25
	20						5	10	20	35
	25					5	5	15	25	50
	30				5	5	10	20	35	75
	35				5	5	15	30	45	100
	40			5	5	10	20	35	45	120
	45			5	5	15	25	40	50	140
	50			5	10	20	30	45	50	160
	55		5	5	15	25	35	45	50	180
	60		5	10	20	30	40	45	50	200
	65	5	5	10	25	35	45	45	50	220
	70	5	10	15	30	40	45	45	50	240
60	10							5	10	15
	15						5	5	15	25
	20					5	5	10	20	40
	25					5	10	15	30	60
	30				5	5	15	20	40	85
	35				5	10	20	30	45	110
	40			5	5	15	25	40	45	135
	45			5	10	20	30	45	50	160
	50		5	5	15	25	35	45	50	180
	55		5	10	20	30	40	45	50	200
	60	5	5	10	25	35	45	45	50	220
	65	5	10	15	30	40	45	45	50	240

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Behandlungstabelle für Caissonkrankheit und Luftembolie

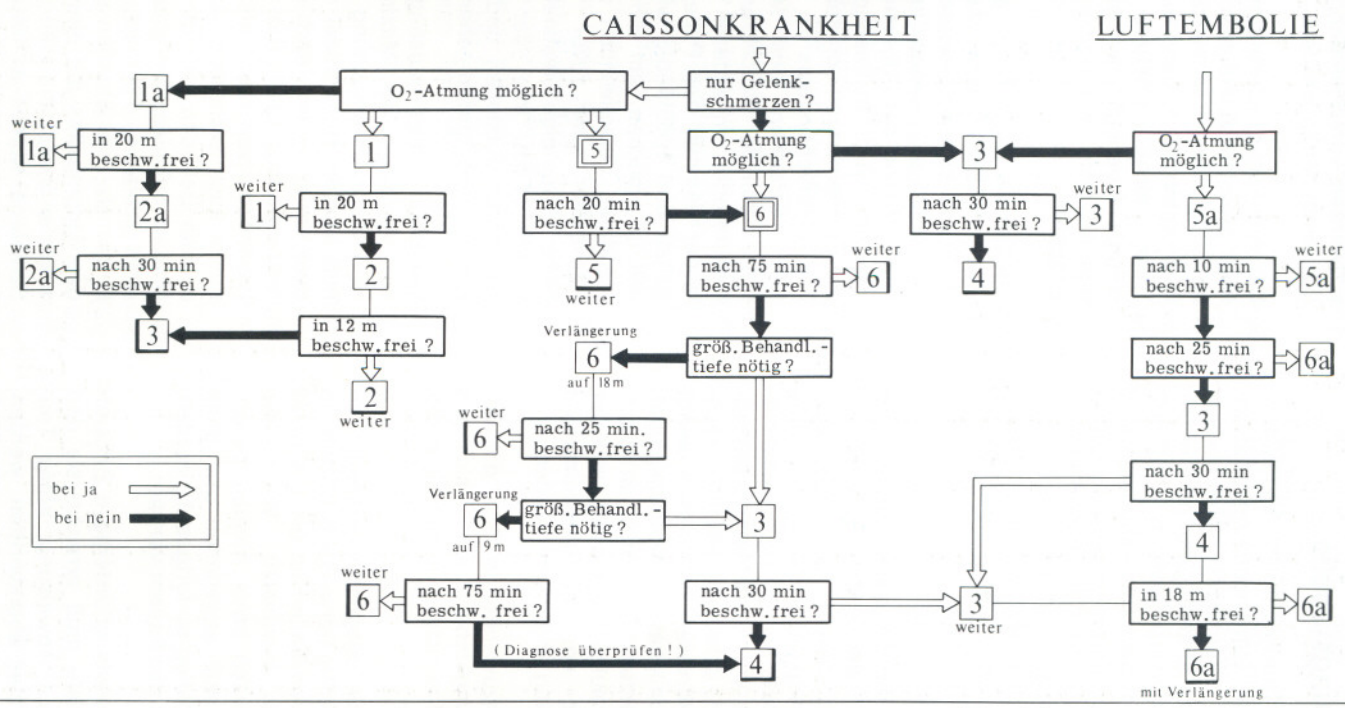
Zusammenstellung:
Flottenarzt Dr. Klaus Seemann,
Schiffahrtmedizinisches Institut der Marine
D-2300 Kronshagen/Kiel

BEHANDLUNGSTABELLE für Caissonkrankheit und Luftembolie

m WS / Zeile	50	42	36	30	24	18	15	12	9	6	3	Gesamt-Zeit*)
1	–	–	–	30	12	30	30	30	< 5 >			2 h 37 min
1a	–	–	–	30	12	30	30	30	60	60	120	6 h 52 min
2	30	12	12	12	12	30	30	30	60	< 5 >		4 h 33 min
2a	30	12	12	12	12	30	30	30	120	120	240	11 h 43 min
3	30	12	12	12	12	30	30	30	720	120	120	19 h 43 min
4	30 bis 120	30	30	30	30	360	360	360	720 oder 660+60	120 oder 60+60	120 oder 60+60	38 h 55 min
5	–	–	–	–	–	20+5+20	< 30 >		5+20+5	< 30 >		2 h 15 min
5a	15	< 4 >				20+5+20	< 30 >		5+20+5	< 30 >		2 h 34 min
6	–	–	–	–	–	20+5+20+5+20+5	< 30 >		15+60+15+60	< 30 >		4 h 45 min
6a	30	< 4 >				20+5+20+5+20+5	< 30 >		15+60+15+60	< 30 >		5 h 19 min

Alle Zeiten in Minuten. Blaue Zahlen: Sauerstoffatmung. *) zuzügl. Abstiegszeit.

ÜBERSICHT: Anwendung der Zeilen



RÜCKFÄLLE

während der Behandlung: Wenn Beschwerden tiefer als 18 m auftreten, 2 bis 4 benutzt wurde oder keine O_2-Atmung möglich: 4, sonst 6

nach der Behandlung: Wenn keine O_2-Atmung möglich: 4 ab Tiefe der Beschwerdenfreiheit (mindestens ab 18 m), sonst 5

Anmerkungen zur Behandlungstabelle

1. Jeder Taucher mit Caissonkrankheit bzw. Luftembolie oder mit unklaren Krankheitserscheinungen, die nicht eindeutig auf andere Ursachen zurückzuführen sind, muß nach dieser Behandlungstabelle behandelt werden. Abweichungen sind nur auf Rat eines Taucherarztes oder in besonderen Notfällen (z. B. Brand) zulässig. Die Rekompression verursacht keine Schäden und kann ernste Folgen verhindern.

2. Wenn ein Taucherarzt anwesend ist und keine Zeichen einer schweren Krankheit vorliegen (Bewußtlosigkeit, Krampfzustände, Schwäche oder Gebrauchsunfähigkeit von Gliedmaßen, Sehstörungen, Schwindelgefühl, Sprach- oder Hörverlust, schwere Atemnot (Kurzatmigkeit), Erstickungsgefühl, Schmerzen, die schon im Überdruck aufgetreten sind), soll der Taucher vor der Rekompression sorgfältig untersucht werden.

3. Die anzuwendende Zeile der Behandlungstabelle ergibt sich aus der Übersicht »Anwendung der Zeilen«.

4. Die Abstiegsgeschwindigkeit beträgt normalerweise 8 m/min, in schweren Fällen ist ein rascherer Abstieg erwünscht. Wenn die Schmerzen beim Abstieg zunehmen, muß angehalten und dann der Abstieg so fortgesetzt werden, wie es der Patient verträgt.

5. Die jeweils erforderliche Behandlungstiefe muß erreicht, sie darf nur auf Anweisung eines Taucherarztes überschritten werden. Wenn möglich sollen die Tiefe und die Zeit, bei der die Beschwerden verschwinden, schriftlich festgehalten werden.

6. Die Aufstiegsgeschwindigkeit beträgt jeweils 5 Minuten von Stufe zu Stufe. Sie ist in den Behandlungszeiten auf den einzelnen Stufen **nicht** enthalten. Abweichende Aufstiegszeiten sind mit den Zeichen »<« und »>« angegeben.

7. Sobald wie möglich soll ein Taucherarzt den Patienten untersuchen und sich vergewissern, daß die richtige Behandlungszeile entsprechend der »Übersicht« angewandt wird. Insbesondere ist auf Erscheinungen von seiten des Zentralnervensystems zu achten Nach Erreichen des Maximaldrucks soll der Taucherarzt, sein Gehilfe oder ein anderer Taucher in der Kammer den Patienten so genau und vollständig wie möglich untersuchen, um ein unvollständiges Verschwinden der Beschwerden oder zuvor übersehene Symptome feststellen zu können. Dazu muß der Patient zumindest aufstehen und in der Kammer auf- und abgehen.

   Vor Beginn des Aufstiegs, d. h. vor Verlassen der Maximaltiefe, muß diese Untersuchung wiederholt werden. Der Patient muß vor dem Verlassen und nach dem Erreichen jeder Stufe (bei Aufenthaltszeiten von mehr als 30 Minuten auch zwischendurch) nach seinem Befinden befragt werden. Er darf bei einer Tiefenänderung nicht schlafen, desgleichen nicht länger als zwei Stunden während des Aufenthaltes auf einer Stufe, weil die Symptome während des Schlafens wieder auftreten können. Vor dem Verlassen der letzten Stufe (3 m) muß der Patient erneut wie oben untersucht werden.

8. Wenn sich der Zustand des Patienten während der Ausschleusung verschlimmert, muß angehalten und wie folgt verfahren werden: Der Druck wird bis zum Verschwinden der Beschwerden gesteigert, jedoch niemals auf eine Tiefe von weniger als 18 m oder mehr als 50 m (außer auf Anweisung eines Taucherarztes). Die weitere Ausschleusung richtet sich nach der in der »Übersicht« für Rückfälle angegebenen Zeile.

   Tritt der Rückfall im Anschluß an die Behandlung auf, so wird ebenfalls bis zum Verschwinden der Beschwerden rekomprimiert. Ist dies in **weniger** als 10 m Tiefe der Fall, so wird bis 18 m abgestiegen und anschließend nach Zeile 3 oder mit Sauerstoff nach Zeile 6 ausgeschleust. Verschwinden die Beschwerden erst in **mehr** als 10 m Tiefe, so bleibt man 30 Minuten in der Tiefe, in der die Beschwerden verschwanden und schleust von da aus nach Zeile 4 aus. Mit Sauerstoff kann nach Erreichen der 18-m-Stufe der erneute Aufstieg nach Zeile 6 a fortgesetzt werden.

9. Auf eine ausreichende Lüftung der Druckkammer durch entsprechende Spülung muß geachtet werden, insbesondere, wenn Sauerstoff geatmet wird.

10. Falls vorhanden, ist Sauerstoff vorzuziehen, wenn die betreffende Zeile es vorsieht und ein Taucherarzt oder Tauchermeister anwesend ist. Dabei sind die Maßnahmen des Feuerschutzes besonders zu beachten. Treten Schwindelgefühl, Übelkeit, Muskelzuckungen oder verschwommenes Sehen während der Sauerstoffatmung auf, so muß die Sauerstoffmaske entfernt und die restliche Behandlung nach der entsprechenden Zeile, die Luftatmung vorsieht, durchgeführt werden.

11. Nach Erreichen der Oberfläche muß der Patient zunächst noch mindestens eine Minute in der Druckkammer verbleiben und sich anschließend noch wenigstens 6 Stunden in der Nähe der Druckkammer aufhalten (bzw. 12 Stunden, wenn kein rascher Rücktransport gewährleistet werden kann).

12. Jeder Taucher, der wegen einer Caissonkrankheit oder Luftembolie behandelt wurde, muß anschließend solange vom Tauchen ausgeschlossen werden, bis er durch einen Taucherarzt untersucht und wieder für tauglich befunden wurde.

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Tabelle **210**
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Dräger

Austauchtabelle

für das Tauchen mit Preßluftgeräten

Behandlungstabelle

für Caissonkrankheit und Luftembolie

Diving at Altitude

Diving at altitude, perhaps in mountain lakes, needs adjustments to be made to compensate for surface pressure being less than one bar.

Altitude	Adjustment to get Dive Depth.
100 to 300 m	Add one quarter of measured depth.
300 to 2000 m	Add one third of measured depth.
2000 to 3000 m	Add one half of measured depth.

Do not allow for the fact that most lakes will be fresh water.

Example 7.
A 30 m dive of 22 minutes Bottom Time is made in a lake 550 m above sea level. Adjustment increment—add $\frac{1}{3}$ of measured depth, i.e. decompress for a 40 m dive of 22 minutes Bottom Time.
Stops required are: 5 minutes at 10 m; 15 minutes at 5 m.

Flying Restrictions

To avoid the risk of decompression sickness being brought on by flying after having dived the following rules apply to flights in normal commercial cabin altitudes of 1500–3000 m.

Type of Dive	Period before Flying
No-Stop	2 hours
Dive needing stops	24 hours

RNPL Air Diving Tables 1972

The same Notes, Repeat Dive procedures, Diving at Altitude and Flying Restrictions given for the abbreviated RNPL/BSAC Table, apply to this full Table.

Normally, the Table recommends the use of Oxygen during decompression for dives requiring more than 30 minutes of stops, i.e. beyond the limiting line. This is obviously impractical for sports divers as well as being contrary to BSAC Rules so air stops only have been given.

Note that depths are in 5 m increments. The layout of the Table is self explanatory. If doubts exist over maximum depth or Bottom Time, use the next greater increment of depth or time.

RNPL Air Diving Table 1972—Air Stops only

Depth not Exceeding (metres)	Bottom Time not exceeding (min)		Stoppages at Different Depths (metres) 25 m	20 m	15 m	10 m	5 m	Total Time for Decompression (min)
9	No limit							—
10		230	—	—	—	—	—	1
		420	—	—	—	—	5	5
		480	—	—	—	—	10	10
15		80	—	—	—	—	—	1
		85	—	—	—	—	5	5
		90	—	—	—	—	10	10
		100	—	—	—	—	15	15
		110	—	—	—	—	25	25
	Limiting	120	—	—	—	—	30	30
	Line	150	—	—	—	—	50	50
		180	—	—	—	—	60	60
		240	—	—	—	—	80	80

Depth not Exceeding (metres)	Bottom Time not exceeding (min)		Stoppages at Different Depths (metres) 25 m	20 m	15 m	10 m	5 m	Total Time for Decompression (min)
20		45	—	—	—	—	—	1½
		50	—	—	—	—	5	5
		55	—	—	—	—	10	10
		60	—	—	—	—	15	15
		65	—	—	—	—	25	25
	Limiting	70	—	—	—	—	30	30
	Line	75	—	—	—	—	40	40
		90	—	—	—	—	60	60
		120	—	—	—	—	90	90
		150	—	—	—	—	110	110
		180	—	—	—	10	110	120
		240	—	—	—	10	120	130
25		25	—	—	—	—	—	2
		30	—	—	—	5	5	10
		35	—	—	—	5	10	15
		40	—	—	—	5	15	20
	Limiting	45	—	—	—	5	20	25
	Line	50	—	—	—	10	30	40
		55	—	—	—	10	40	50
		60	—	—	—	10	60	70
		75	—	—	5	—	80	85
		90	—	—	5	10	100	115
		105	—	—	5	10	120	135
		120	—	—	5	20	120	145
		150	—	—	5	30	120	155
		180	—	5	—	40	125	170
30		20	—	—	—	—	—	2
		25	—	—	—	5	5	10
		30	—	—	—	5	10	15
	Limiting	35	—	—	—	5	20	25
	Line	40	—	—	—	10	40	50
		45	—	—	—	10	50	60
		50	—	—	5	—	70	75
		55	—	—	5	10	80	95
		60	—	—	5	10	90	105
		75	—	—	5	10	110	125
		90	—	—	5	20	120	145
		120	—	—	5	50	125	180
35		15	—	—	—	—	—	2½
		20	—	—	—	5	5	10
		25	—	—	—	5	15	20
	Limiting	30	—	—	—	5	25	30
	Line	35	—	—	—	10	40	50
		40	—	—	5	10	60	75
		45	—	—	5	10	80	95

Depth not Exceeding (metres)	Bottom Time not exceeding (min)		Stoppages at Different Depths (metres) 25 m	20 m	15 m	10 m	5 m	Total Time for Decompression (min)
		50	—	—	5	10	90	105
		55	—	—	5	10	100	115
		60	—	—	5	10	110	125
		75	—	5	—	30	120	155
		11	—	—	—	—	—	3
		15	—	—	—	5	5	10
		20	—	—	—	5	10	15
	Limiting	25	—	—	—	5	25	30
	Line	30	—	—	5	—	50	55
40		35	—	—	5	10	70	85
		40	—	—	5	10	90	105
		45	—	—	5	10	100	115
		50	—	5	—	20	110	135
		55	—	5	—	20	120	145
		60	—	5	—	30	120	155
		9	—	—	—	—	—	3
		15	—	—	—	5	10	15
	Limiting	20	—	—	—	5	20	25
	Line	25	—	—	5	10	40	55
45		30	—	—	5	10	70	85
		35	—	—	5	10	90	105
		40	—	5	—	10	100	115
		45	—	5	—	20	110	135
		50	—	5	5	30	120	160
		55	—	5	5	40	125	175
		7	—	—	—	—	—	3½
		10	—	—	—	5	5	10
	Limiting	15	—	—	—	5	10	15
	Line	20	—	—	5	10	30	45
50		25	—	—	5	10	60	75
		30	—	—	5	10	80	95
		35	—	5	—	10	100	115
		40	—	5	5	20	120	150
		45	—	5	5	30	120	160
		50	5	—	5	40	125	175
		6	—	—	—	—	—	4
		10	—	—	—	5	5	10
	Limiting	15	—	—	5	—	15	20
	Line	20	—	—	5	10	40	55
55		25	—	—	5	10	70	85
		30	—	5	—	10	100	115
		35	—	5	5	20	120	150
		40	—	5	5	30	120	160
		45	5	—	5	45	125	180

Depth not Exceeding (metres)	Bottom Time not exceeding (min)		Stoppages at Different Depths (metres) 25 m	20 m	15 m	10 m	5 m	Total Time for Decompression (min)
		5	—	—	—	—	—	4
		10	—	—	—	5	10	15
	Limiting	15	—	—	5	5	20	30
	Line	20	—	—	5	10	50	65
60		25	—	—	5	10	90	105
		30	—	5	5	20	110	140
		35	5	—	5	30	120	160
		40	5	—	5	45	125	180
		45	5	—	10	60	125	200
65		10	—	—	—	5	10	15
		15	—	—	5	10	30	45
70		10	—	—	5	5	10	20
		15	—	—	5	10	40	55
75		10	—	—	5	5	15	25
		15	—	5	—	10	50	65

Appendix 2—Recompression Treatment

The only effective treatment for suspected air embolism or decompression sickness is prompt recompression under medical supervision. This can only be carried out successfully in a two-compartment recompression chamber under the guidance of a specialist medical adviser.

There are a number of suitable recompression chambers around the British Isles; some operated by commercial diving companies, others by the Royal Navy or by certain hospitals. In the UK, the Royal Navy Diving Establishment at HMS *Vernon*, Portsmouth maintains a record of the state of readiness of RN Recompression chambers and those in hospitals, but not of those operated by commercial diving companies. HMS *Vernon* can also locate specialist medical advisers who can assist and advise local doctors or hospitals in the provision of care and treatment of a casualty requiring recompression.

Recompression chambers operated by other bodies may or may not be able to provide treatment, and this fact should be determined before a patient is conveyed to what may seem to be the nearest chamber. Check in advance of the dive whether the local facility is likely to be available should the need arise. Don't just turn up expecting it all to happen! Unless you know, by checking before the dive, that a chamber is available, contact HMS *Vernon* first from any address in the UK. (Overseas divers should locate their nearest operational chamber before diving.)

Unless alternative arrangements have been confirmed, anyone seeking recompression treatment in the UK should in the first instance seek medical help and then contact HMS *Vernon* by telephoning:

(a) Business Hours—Portsmouth (0705) 22351, Extension 872375, and ask for 'the Superintendent of Diving'.

Tabelle 32. Luftdekompressionstabelle (Zürich 1986) **A. 0–700 m ü. NN**

Tiefe [m]	Grundzeit [min]	Aufstieg zum 1. Halt [min]	Haltezeiten [m] [min]					Gesamtaufstiegszeit [min]	Repetitivgruppe
			15	12	9	6	3		
12	125	1					1	2	G
	150	1					4	5	G
	180	1					10	11	H
	210	1					17	18	H
	240	1					23	24	K
	270	1					31	32	K
	300	1					42	43	L
15	75	1					1	2	G
	90	1					7	8	G
	105	1					10	11	H
	120	1					16	17	H
	150	1					27	28	H
	180	1					39	40	K
	210	1					53	54	L
	240	1				2	69	72	L
18	47	2					1	3	F
	60	2					5	7	F
	70	2					11	13	G
	80	2					18	20	G
	90	2					21	23	H
	105	2					27	29	H
	120	2				2	35	39	K
	150	2				9	45	56	K
	180	2				15	63	80	L
	210	2				21	85	108	L
21	34	2					1	3	E
	40	2					2	4	E
	50	2					8	10	F
	60	2					16	18	G
	70	2					24	26	H
	80	2				2	26	30	H
	90	2				6	30	38	H
	105	2				11	38	51	K
	120	2				17	44	63	K
	150	2				27	62	91	K
	180	1			4	37	88	130	L
24	25	2					1	3	E
	35	2					4	6	F
	40	2					8	10	F
	50	2					17	19	G

Tabelle 32 (Fortsetzung: **A.** 0–700 m ü. NN)

Tiefe [m]	Grundzeit [min]	Aufstieg zum 1. Halt [min]	Haltezeiten [m] [min]					Gesamtaufstiegszeit [min]	Repetitivgruppe
			15	12	9	6	3		
	60	2				4	24	30	G
	75	2				10	29	41	H
	90	2				16	39	57	K
	105	2			3	23	45	73	K
	120	2			6	27	57	92	L
	150	2			14	38	85	139	L
27	20	3					1	4	E
	30	3					5	8	F
	35	3					10	13	F
	40	2				2	13	17	G
	45	2				3	18	23	G
	50	2				6	22	30	G
	60	2				11	26	39	H
	75	2			2	18	36	58	H
	90	2			7	24	45	78	K
	105	2			12	28	59	101	K
	120	2			18	35	75	130	L
	135	2			24	40	92	158	L
30	17	3					1	4	D
	25	3					5	8	E
	30	2				2	7	11	F
	35	2				3	14	19	G
	40	2				5	17	24	G
	45	2				9	23	34	G
	50	2			1	10	28	41	H
	60	2			3	13	35	53	H
	75	2			10	22	43	77	K
	90	2			16	28	56	102	K
	105	2		5	19	39	73	138	L
	120	2		8	24	41	92	167	L
33	14	3					1	4	D
	20	3					4	7	E
	25	3				2	7	12	F
	30	3				4	11	18	G
	35	3				6	17	26	G
	40	2			2	8	23	35	G
	45	2			4	11	28	45	H
	50	2			5	15	31	53	H
	60	2			9	19	37	67	K

Tabelle 32 (Fortsetzung: **A.** 0–700 m ü. NN)

Tiefe [m]	Grundzeit [min]	Aufstieg zum 1. Halt [min]	Haltezeiten [m] [min]					Gesamtaufstiegszeit [min]	Repetitivgruppe
			15	12	9	6	3		
36	12	3					1	4	D
	15	3					3	6	D
	20	3				2	5	10	E
	25	3				4	9	16	F
	30	3			2	5	15	25	G
	35	3			2	8	23	36	G
	40	3			5	10	28	46	G
	45	3			7	15	31	56	H
	50	3			9	17	35	64	H
39	10	3					1	4	D
	15	3					4	7	E
	20	3				3	7	13	F
	25	3			2	4	12	21	G
	30	3			3	7	18	31	G
	35	3			6	10	23	42	G
	40	2		2	7	13	29	53	H
42	9	3					1	4	D
	12	3					4	7	D
	15	3				1	5	9	E
	18	3				4	6	13	F
	21	3			2	4	10	19	F
	24	3			3	6	16	28	G
	27	3			4	7	19	33	G
	30	3		2	4	9	24	42	G
	33	3		2	6	10	26	47	G
	36	3		3	7	13	28	54	H
45	9	4					2	6	E
	12	4					5	9	E
	15	4				3	5	12	E
	18	3			2	4	9	18	F
	21	3			3	5	13	24	G
	24	3			4	6	18	31	G
	27	3		2	4	9	22	40	G
	30	3		3	6	10	27	49	H
48	9	4					3	7	E
	12	4				2	5	11	E
	15	4				4	6	14	F
	18	3			3	4	10	20	F
	21	3		1	4	6	16	30	G

Tabelle 32 (Fortsetzung: **A.** 0–700 m ü. NN)

Tiefe [m]	Grundzeit [min]	Aufstieg zum 1. Halt [min]	Haltezeiten [m] [min]					Gesamtaufstiegszeit [min]	Repetitivgruppe
			15	12	9	6	3		
	24	3		2	4	7	22	38	G
	27	3		4	5	10	26	48	H
	30	3		5	6	13	30	57	H
51	9	4					4	8	D
	12	4				3	6	13	E
	15	4			2	4	8	18	F
	18	4			4	5	13	26	F
	21	3		3	4	7	18	35	G
	24	3		4	5	9	24	45	G
	27	3	2	3	6	13	28	55	H
	30	3	3	4	8	16	32	66	H
54	9	4				1	5	10	D
	12	4			1	4	6	15	E
	15	4			3	4	10	21	F
	18	4		2	4	6	17	33	G
	21	4		4	4	9	21	42	G
	24	4		5	6	12	27	54	H
	27	4		7	8	15	31	65	H
57	9	4				2	5	11	D
	12	4			2	4	8	18	E
	15	4		1	4	5	11	25	F
	18	4		2	5	7	18	36	G
	21	4	2	3	6	10	24	49	H
	24	4	3	4	7	14	30	62	H
60	9	4				4	5	13	E
	12	4			3	5	9	21	F
	15	4		2	4	6	15	31	F
	18	4	1	4	5	9	20	43	G
	21	4	3	4	6	11	28	56	H

Tabelle 32 (Fortsetzung) **B.** 701–2500 m ü. NN. Aufstieg zur Höhe 60 min oder länger

Tiefe [m]	Grundzeit [min]	Aufstieg zum 1. Halt [min]	Haltezeiten [m] [min]					Gesamtaufstiegszeit [min]	Repetitivgruppe
			12	9	6	4	2		
9	238	1					1	2	G
12	99	1					1	2	G
	110	1					4	5	G
	120	1					8	9	G
15	62	2					1	3	F
	70	2					4	6	G
	80	2					10	12	G
	90	2					15	17	G
18	40	2					1	3	F
	50	2					4	6	F
	60	2					11	13	G
	70	2					19	21	G
	80	2				4	23	29	H
	90	2				8	25	35	H
21	29	2					1	3	E
	35	2					2	4	F
	40	2					5	7	F
	45	2					9	11	G
	50	2				1	13	16	G
	55	2				3	17	22	G
	60	2				5	20	27	G
	65	2				8	22	32	G
	70	2				11	23	36	G
24	22	2					1	3	F
	30	2					3	5	F
	35	2					7	9	F
	40	2				2	11	15	G
	45	2				4	16	22	G
	50	2				7	19	28	G
	55	2			1	10	21	34	G
27	18	3					1	4	D
	20	3					2	5	E
	25	3					4	7	F
	30	3				2	7	12	F
	35	3				4	11	18	G
	40	2			1	6	16	25	G
	45	2			2	9	20	33	G

Tabelle 32 (Fortsetzung) **B.** 701–2500 m ü. NN. Aufstieg zur Höhe 60 min oder länger

Tiefe [m]	Grundzeit [min]	Aufstieg zum 1. Halt [min]	Haltezeiten [m] [min]					Gesamtaufstiegszeit [min]	Repetitivgruppe
			12	9	6	4	2		
30	15	3					1	4	D
	20	3					3	6	E
	25	3				2	6	11	F
	30	3			1	4	11	19	G
	35	3			2	7	15	27	G
	40	2		1	5	10	20	38	G
	45	2		2	6	12	23	45	G
33	12	3					1	4	D
	15	3					2	5	E
	20	3				2	4	9	F
	25	3			2	3	9	17	G
	30	2		1	3	6	14	26	G
	35	2		2	4	9	20	37	G
	40	2		3	6	12	23	46	G
36	10	4					1	5	D
	15	4				1	3	8	E
	20	3			1	3	6	13	F
	25	3		1	3	5	12	24	G
	30	3		3	3	8	19	36	G
	35	3		4	6	12	23	48	G
39	9	4					1	5	D
	12	4					3	7	E
	15	4				2	4	10	E
	18	3			2	3	7	15	F
	21	3			3	4	10	20	G
	24	3		2	3	6	15	29	G
	27	3		4	4	8	18	37	G
	30	3	1	4	6	11	21	46	G
42	8	4					1	5	D
	12	4				1	4	9	E
	15	3			1	3	5	12	F
	18	3			3	4	8	18	F
	21	3		3	3	5	13	27	G
	24	3		4	4	7	18	36	G
	27	3	1	5	5	9	21	44	G
	30	3	3	6	6	13	24	55	G

Tabelle 32 (Fortsetzung) **B.** 701–2500 m ü. NN. Aufstieg zur Höhe 60 min oder länger

Tiefe [m]	Grundzeit [min]	Aufstieg zum 1. Halt [min]	Haltezeiten [m] [min]					Gesamtaufstiegszeit [min]	Repetitivgruppe
			12	9	6	4	2		
45	9	5					3	8	D
	12	4				3	3	10	F
	15	4			3	3	6	16	F
	18	3		2	3	4	11	23	F
	21	3		4	4	7	16	34	G
	24	3	2	4	5	10	21	45	G
48	9	5				1	4	10	G
	12	4			1	3	4	12	F
	15	3		2	2	4	9	20	G
	18	3		4	5	5	14	31	G
	21	3	2	4	4	9	19	41	G
51	6	5					2	7	E
	9	4			1	1	3	9	F
	12	4		1	2	3	5	15	F
	15	4		3	3	4	11	25	G
	18	3	2	4	4	7	17	37	G
	21	3	4	4	6	11	21	49	G
54	6	5					2	7	D
	9	4			1	3	3	11	F
	12	4		2	3	3	7	19	F
	15	4	1	4	4	6	13	32	G
	18	4	3	4	5	9	19	44	G

Tabelle 32 (Fortsetzung) **C.** 2501–4500 m ü. NN. Volle Anpassung an die Höhe

Tiefe [m]	Grundzeit [min]	Aufstieg zum 1. Halt [min]	Haltezeiten [m] [min]					Gesamtaufstiegszeit [min]	Repetitivgruppe
			12	9	6	4	2		
9	204	1					1	2	G
12	88	1					1	2	G
	100	1					5	6	G
	110	1					9	10	G
	120	1					13	14	G
15	50	2					1	3	E
	60	2					2	4	F
	70	2					8	10	G
	80	2					14	16	G
	90	2					20	22	G
18	32	2					1	3	D
	40	2					3	5	F
	50	2					7	9	F
	60	2				1	13	16	G
	70	2				3	17	22	G
21	22	2					1	3	D
	30	2					3	5	E
	35	2					6	8	F
	40	2				1	7	10	F
	45	2				3	10	15	F
	50	2				4	13	19	G
	55	2				6	15	23	G
	60	2				8	18	28	G
24	16	2					1	3	D
	25	2					4	6	E
	30	2				1	6	9	F
	35	2				3	8	13	F
	40	2				5	12	19	F
	45	2			1	6	15	24	F
	50	2			3	7	18	30	G
27	14	3					1	4	D
	20	3					4	7	E
	25	3				2	6	11	E
	30	3				5	7	15	F
	35	2			2	5	12	21	F
	40	2			4	6	14	26	G

abelle 32 (Fortsetzung) **C.** 2501–4500 m ü. NN. Volle Anpassung an die Höhe

Tiefe [m]	Grundzeit [min]	Aufstieg zum 1. Halt [min]	Haltezeiten [m] [min]					Gesamtaufstiegszeit [min]	Repetitivgruppe
			12	9	6	4	2		
30	11	4					1	5	D
	15	4					3	7	D
	20	3				2	5	10	E
	25	3			1	4	7	15	F
	30	3			3	5	11	22	F
	35	3		1	4	7	15	30	G
33	9	4					1	5	D
	12	4					2	6	D
	15	3				1	4	8	E
	18	3				3	5	11	F
	21	3			1	4	6	14	F
	24	3			3	5	7	18	F
	27	3		1	3	6	11	24	G
36	8	4					1	5	D
	12	4				1	3	8	D
	15	4				3	4	11	E
	18	3			1	4	6	14	F
	21	3			3	5	7	18	F
	24	3		1	4	6	11	25	F
	27	3		3	4	7	14	31	G
39	7	4					1	5	D
	12	4				2	4	10	E
	15	4			1	4	5	14	E
	18	3		1	2	5	6	17	F
	21	3		2	3	6	10	24	F
	24	3		3	5	6	14	31	G
42	7	4					1	5	D
	9	4				1	3	8	E
	12	4			1	3	4	12	E
	15	3		1	2	4	6	16	F
	18	3		2	3	5	9	22	F
	21	3		4	4	6	13	30	F
	24	3	1	5	5	8	16	38	G
45	6	5					1	6	C
	9	5				2	3	10	E
	12	4			2	3	5	14	F
	15	4		2	3	4	7	20	F
	18	4		3	4	6	11	28	F
	21	3	1	5	5	7	15	36	G

Tabelle 32 (Fortsetzung) **C.** 2501–4500 m ü. NN. Volle Anpassung an die Höhe

Tiefe [m]	Grundzeit [min]	Aufstieg zum 1. Halt [min]	Haltezeiten [m] [min]					Gesamtaufstiegszeit [min]	Repetitivgruppe
			12	9	6	4	2		
48	6	5					1	6	C
	9	5			1	2	4	12	E
	12	4		1	2	4	6	17	F
	15	4		3	3	5	9	24	F
	18	3	1	4	5	6	14	33	G
51	5	5					1	6	C
	9	5			2	2	5	14	E
	12	4		2	3	4	6	19	F
	15	4	1	3	4	6	11	29	F
	18	4	2	5	5	7	16	39	G
54	6	5				1	2	8	E
	9	4		1	2	3	5	15	F
	12	4		3	3	5	7	22	F
	15	4	2	4	5	6	13	34	G

Tabelle 32 (Fortsetzung) **D. Wiederholungstauchgänge 0–4500 m ü. NN**

Wiederholungsgruppe (Repetitivgruppe, *RG*) am Ende des Tauchgangs und am Ende der Oberflächenpause in min, für „0" und Fliegen in h

								„0"	Wartezeit vor dem Fliegen
						A	2	2
					B	20	2	2
				C	10	25	3	3
			D	10	15	30	3	3
		E	10	15	25	45	4	3
	F	20	30	45	75	90	8	4
G	25	45	60	75	100	130	12	5
H	50	65	95	130	180	240	340	24	7
K	180	240	300	360	420	480	560	39	14
L	360	420	510	600	720	840	990	48	24
	G	F	E	D	C	B	A		

Zeitzuschläge in min für Wiederholungstauchgänge

RG	Vorgesehene Tauchtiefe in Meter																
[m]	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57
A	25	19	16	14	12	11	10	9	8	7	7	6	6	6	5	5	5
B	37	25	20	17	15	13	12	11	10	9	8	7	7	6	5	5	5
C	55	37	29	25	22	20	18	16	14	12	11	10	9	8	7	7	6
D	81	57	41	33	28	24	21	19	17	15	14	13	11	10	9	9	8
E	105	82	59	44	37	30	26	23	21	19	17	16	14	13	12	11	10
F	130	111	88	68	53	42	35	30	27	24	21	19	17	16	15	14	13
G	154	137	115	91	72	57	47	40	35	31	27	25	23	21	20	19	18

Beispiel: Wiederholungsgruppe *F* am Ende des Tauchgangs. Nach 45 min an der Oberfläche *RG C*, nach 90 min *RG A*. Nach 8 h kann ohne Zeitzuschlag getaucht werden. 4 h Wartezeit bis zum Fliegen.

RG C zu Beginn des Wiederholungstauchgangs, vorgesehene Tiefe 27 m, 18 min Zeitzuschlag zur Grundzeit des Tauchgangs (Zwischenwerte abrunden).

Tabelle 33. Dekompressionslose Tauchgänge (Nullzeiten) bei Atmung von 50% O_2 und 50% N_2 **„Nitrox" 0–700 m ü. NN**

Tiefe [m]	Grundzeit [min]	Aufstieg bis 3 m [min]	Haltezeit bei 3 m [min]	Gesamtauf-stiegszeit [min]	Repe-titiv-gruppe
15	120	2	1	3	B
	210	2	1	3	B
	300	2	1	3	E
18	120	2	1	3	B
	210	2	1	3	C
	300	2	1	3	F
21	90	2	1	3	E
	120	2	1	3	F
	240	2	1	3	H
24	60	2	1	3	E
	120	2	1	3	G
27	45	3	1	4	E
	90	3	1	4	G
30	30	3	1	4	D
	60	3	1	4	F

Wiederholte Tauchgänge: Tabelle 32 D gilt auch für Nitroxtauchgänge.
Nitroxtauchgänge: Zeitzuschlag entsprechend effektiver Tiefe · 0,5.
Bei Zwischenwerten gilt die geringere Tiefe, z. B. 12 m Lufttauchgang nach einem Nitroxtauchgang auf 27 m.
Lufttauchgang: Zeitzuschlag entsprechend effektiver Tiefe.
Nach Nitroxtauchgängen sollen mit Luftatmung nur Nullzeitentauchgänge durchgeführt werden.

0 - 700 müM

Tiefe m	Zeit	Dekompr. 3m	Dekompr. 6m
9	∞	3	
12	200	3	
15	75	3	
	90	5	
20	30	3	
	50	4	
	60	6	
	75	18	
25	25	3	
	30	5	
	40	8	
	50	12	
	60	20	
30	20	3	
	25	5	
	30	9	
	35	12	
	40	14	5
	50	25	5
35	15	3	
	20	5	
	25	9	
	30	12	
	35	17	5
	40	30	7

0 - 700 müM

Tiefe m	Zeit	Dekompression 3m	6m	9m	12m
40	10	3			
	15	5	2		
	20	10	2		
	25	12	3		
	30	20	5	2	
	35	30	10	2	
45	10	4			
	15	6	2		
	20	11	3		
	25	20	5		
	30	30	10	3	
50	10	5			
	15	8	3		
	20	17	5		
	25	27	10	3	
60	10	5	3	2	
	15	15	5	3	
	20	29	10	6	2
70	5	5	4	2	
	10	6	4	3	2

Max. Aufstiegs-geschwindigkeit } **10 m/min**

3 min auf 3 m bei 0 - Zeittauchgängen

Dekompressionstabelle für Taucher

Tiefe	Zeit	D. St.	W. Gr.		
Nullzeit		3		m³	h
9	20		B	1,1	0
	40		C	2,2	0
653	60		D	3,3	0
	80		D	4,4	1
12	15		B	1,0	0
	30		C	1,9	0
	45		D	2,9	0
192	60		E	3,8	1
	75		F	4,8	3
15	15		C	1,1	0
	30		D	2,2	0
99	45		E	3,3	1
	60		F	4,4	3
18	10		B	0,9	0
	20		C	1,7	0
	30		D	2,5	1
65	40		E	3,3	2
	50		F	4,1	3
	60		F	4,9	4
21	10		B	1,0	0
	20		D	1,9	0
	30		E	2,8	1
40	40		F	3,7	3
	50	2	F	4,6	4
24	10		C	1,1	0
	20		D	2,1	1
	30	1	E	3,1	2
27	40	3	F	4,2	4
	45	6	F	4,8	5

Tiefe	Zeit	D. St.		W. Gr.		
Nullzeit		6	3		m³	h
27	10			C	1,2	0
	15			D	1,8	1
	20			D	2,3	1
	25		1	E	2,9	1
21	30		3	F	3,5	3
	35		5	F	4,1	4
	40		8	F	4,7	5
30	5			B	0,8	0
	10			C	1,4	0
	15			D	1,9	1
	20		1	D	2,5	1
17	25		3	E	3,2	2
	30	1	5	F	3,9	4
	35	2	8	F	4,6	5
33	5			B	0,9	0
	10			C	1,5	1
	15			D	2,1	1
	20		3	E	2,8	2
15	25	1	5	F	3,6	3
	30	3	7	F	4,3	4
36	5			B	1,0	0
	10		1	C	1,6	0
	15		2	D	2,4	1
	20	1	4	E	3,1	2
9	25	3	6	F	3,9	4
	28	4	9	G	4,5	5

Tiefe	Zeit	Deko. Stufe			W. Gr.		
Nullzeit		9	6	3		m³	h
39	5				C	1,1	0
	10			1	D	1,8	0
	15			4	E	2,6	1
	20		3	4	F	3,4	3
7	25	1	4	8	G	4,4	4
42	5				C	1,1	0
	10			1	D	1,9	1
	15		1	4	E	2,8	2
	20	1	3	6	F	3,8	4
6	25	3	4	12	G	4,9	5
45	3				B	0,9	0
	6			1	D	1,4	0
	9			1	E	1,9	1
	12			4	E	2,5	1
	15		3	4	E	3,1	2
5	18	1	4	5	F	3,7	4
	21	3	4	9	G	4,4	5
48	3				C	1,0	0
	6			1	D	1,5	0
	9			2	E	2,1	1
	12		1	4	E	2,7	1
	15		4	5	F	3,3	3
4	18	2	4	7	F	4,0	4
51	3				C	1,1	0
	6			1	D	1,6	0
	9			3	E	2,2	1
	12		3	4	F	2,9	2
4	15	2	4	5	F	3,6	3
	18	4	4	9	F	4,4	5

Wiederholungsgruppe	Oberflächenpause h, min						
G	0,25	0,45	1,00	1,15	1,40	2,10	12,00
F		0,20	0,30	0,45	1,15	1,30	8,00
E			0,10	0,15	0,25	0,45	4,00
D				0,10	0,15	0,30	3,00
C					0,10	0,25	3,00
B						0,20	2,00

Tiefe des Wiederholungstauchgangs (m)	Zeitzuschlag zur Grundzeit (min)					
9	305	211	116	75	56	25
12	111	81	57	33	24	19
15	88	61	42	28	19	16
18	69	44	34	25	17	14
21	54	37	28	23	15	12
24	44	30	24	20	13	11
27	37	26	21	18	12	10
30	31	22	19	16	10	9
33	27	20	17	14	9	8
36	24	18	15	13	8	7
39	21	16	14	11	8	7
42	19	15	12	10	7	6
45	18	14	11	9	6	6
48	16	13	11	8	6	6
51	15	12	10	7	5	5

Aufstieg mit höchstens 10 m/min! Luftbedarf für AMV = 28 l/min ohne Reserve. Nach Wiederholungstauchen erst fliegen, wenn Zeitzuschlag = 0! Für Meereshöhe berechnet von M. Hahn, Kaarst nach Koeffizienten von A. A. Bühlmann, Zürich.

TABLE A

SURFACE INTERVAL TABLE

LAST DIVE CODE	Minutes 15	30	60	90	Hours 2	3	4	6	10	12	14	15	16
A	A												

DEPTH (metres)	ASCENT (mins)	No-Stop Dives					Decompression Stop Dives							
3	(1)	–	166	∞										
6	(1)	–	36	166	593	∞								
9	1	–	17	67	167	203	243	311	328	336	348	356	363	370	376
12	1	–	10	37	87	104	122	156	169	177	183	188	192	197	201
15	1	–	6	24	54	64	74	98	109	116	121	125	129	133	136
18	1		–	17	37	44	51	68	78	84	88	92	95	98	101
DECOMPRESSION STOP (minutes) at **6 metres**								1	3	6	9	12	15	18	21
SURFACING CODE			**B**	**C**	**D**	**E**	**F**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**
21	1		–	13	28	32	37	51	59	65	68	72	75	77	
24	2		–	11	22	26	30	41	49	53	56	59	62	64	
27	2		–	8	18	21	24	34	41	45	47	50	52	55	
30	2		–	7	15	17	20	29	35	39	41	43	45	47	
33	2			–	13	15	17	25	30	34	36	38	40	42	
36	2			–	11	12	14	22	27	30	32	34	36	37	
39	3			–	10	12	13	20	25	29	30	32	33	35	
DECOMPRESSION STOPS (minutes) at **9 metres**										1	1	1	1	2	
at **6 metres**								1	3	6	9	12	15	18	
SURFACING CODE			*B*	**C**	**D**	**E**	**F**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	
42	3			–	9	10	12	21	23	26	28	29	31	32	
45	3			–	8	9	10	19	22	24	26	27	28	30	
48	3				–	8	9	18	21	23	24	25	26	28	
51	3					–	8	17	19	21	22	24	25	26	
DECOMPRESSION STOPS (minutes) at **9 metres**									1	1	1	2	2	3	
at **6 metres**								2	3	6	9	12	15	18	
SURFACING CODE			*B*	*C*	**D**	**E**	**F**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	

ASCENT RATE – 15 metres per minute. Take 1 minute from 6m to surface.

DIVE TIME – time from leaving surface to arriving at 6m on return to surface, or arrival at 9m on 2 Stop dives.

HUGI

University of Michigan Sea Grant Dive Tables

Developed by: Karl E. Huggins

From Publication #: MICHU-SG-81-205

Danger! Read Warnings and Instructions below before using these Tables

- These tables were developed mathematically and have not been subjected to testing to validate them. They are more conservative than the US Navy No-Decompression tables. If these tables are used in the same manner as the USN tables you will have less allowable dive time.
- The maximum recommended ascent rate is 40 fsw/min. between 130 and 20 fsw, and 20 fsw/min. from 20 fsw to the surface. You should make at least a 3-5 minute safety stop at 10-30 fsw at the end of each dive. If you are within the no-decompression time limit when reaching the safety stop, and the 3-5 minutes causes you to exceed the no-decompression limit, your End-of-Dive Letter Group will be "N."
- Wait 24 hours after diving before ascending over 2000 feet in altitude.
- If these or any other dive tables are used incorrectly, it is possible to develop decompression sickness (DCS), which may result in severe injury or death. Although statistically less likely, it is possible to develop DCS even if dive tables are used correctly.
- In the event of a diving accident or illness, contact the Divers Alert Network (DAN) at their 24-hour emergency line (919) 684-8111.

USC Catalina Hyperbaric Chamber, P.O. Box 5069, Two Harbors, CA 90704, (310) 510-4020, http://wrigley.usc.edu/hyperbaric/chamber

Revised October 15, 2001

Table 1 – End-of-Dive Letter Group

Total (or Equivalent) Underwater Time (min.)

Depth in fsw	A	B	C	D	E	F	G	H	I	J	K	L	M	N
20	10	25	40	60	85	110	135	170	215	275	325	569	∞	
30	5	15	25	40	50	65	75	95	110	130	150	175	205	225
35	5	15	20	30	40	50	60	70	85	100	120	135	155	165
40	5	10	20	25	35	40	45	55	60	70	85	100	120	135
50	-	10	15	20	25	30	35	37	40	50	55	60	70	75
60	-	5	10	15	20	23	25	27	30	35	40	45	47	50
70	-	5	10	13	15	17	20	23	25	27	30	33	35	40
80	-	5	7	☞	10	13	15	17	20	☞	25	27	☞	30
90	-	-	5	7	☞	10	☞	13	15	17	☞	20	23	25
100	-	-	-	5	7	☞	☞	10	☞	☞	13	15	17	20
110	-	-	-	-	5	☞	7	☞	☞	10	☞	☞	13	15
120	-	-	-	-	-	5	☞	☞	7	☞	☞	10	☞	☞
130	-	-	-	-	-	5	☞	☞	☞	☞	☞	☞	☞	☞

Maximum Depth of Repetitive Dive (fsw)

20	30	35	40	50	60	70	80	90	100	110	120	130
--	225	165	135	75	53	41	31	26	21	16	13	11
∞	0	0	0	0	0	0	0	0	0	0	0	0
--	207	158	128	71	52	40	30	25	20	15	12	10
∞	18	7	7	4	0	0	0	0	0	0	0	0
569	178	139	109	64	47	37	28	23	18	13	11	9
∞	47	26	26	11	3	3	2	2	2	2	0	0
369	154	122	92	57	43	33	26	21	16	12	10	8
∞	71	43	43	18	7	7	4	4	4	3	0	0
279	132	103	75	51	38	29	23	18	13	11	9	8
∞	93	62	60	24	12	11	7	7	7	4	1	0
219	113	86	65	45	34	26	21	16	12	10	8	7
∞	112	79	70	30	16	14	9	9	8	5	2	0
175	96	73	57	40	30	24	19	14	11	9	8	7
∞	129	92	78	35	20	16	11	11	9	6	2	0
140	80	62	49	36	27	22	17	12	10	8	7	6
∞	145	103	86	39	23	18	13	13	10	7	3	0
111	66	53	43	32	24	19	14	11	9	7	6	6
∞	159	112	92	43	26	21	16	14	11	8	4	0
86	53	44	37	28	22	17	12	9	8	7	6	5
∞	172	121	98	47	28	23	18	16	12	8	4	0
65	41	34	30	23	19	15	10	8	7	6	5	5
∞	184	131	105	52	31	25	20	17	13	9	5	0
45	29	24	21	17	14	12	9	8	6	6	5	5
∞	196	141	114	58	36	28	21	17	14	9	5	0
28	18	16	14	11	9	8	7	6	6	5	5	4
∞	207	149	121	64	41	32	23	19	14	10	5	1
12	8	7	6	5	4	4	3	3	3	3	2	2
∞	217	158	129	70	46	36	27	22	17	12	8	3

Table 3 – Residual Nitrogen Time (min.)

Table 2 – Surface Interval Time (hrs:min)

New Group	A	B	C	D	E	F	G	H	I	J	K	L	M	N
N													☞	0:10 0:17
M	☞	☞		☞		☞		☞		☞		☞	0:10 0:23	0:18 0:32
L											☞	0:10 0:23	0:24 0:39	0:33 0:48
K	☞	☞		☞		☞		☞		☞	0:10 0:25	0:24 0:41	0:40 0:57	0:49 1:06
J									☞	0:10 0:28	0:26 0:44	0:42 1:00	0:58 1:16	1:07 1:25
I	☞	☞		☞		☞		☞	0:10 0:29	0:29 0:50	0:45 1:06	1:01 1:21	1:17 1:38	1:26 1:47
H							☞	0:10 0:33	0:30 0:53	0:51 1:14	1:07 1:30	1:22 1:45	1:39 2:02	1:48 2:11
G	☞	☞		☞		☞	0:10 0:33	0:34 1:01	0:54 1:21	1:15 1:42	1:31 1:58	1:46 2:13	2:03 2:30	2:12 2:39
F					☞	0:10 0:42	0:34 1:06	1:02 1:34	1:22 1:54	1:43 2:15	1:59 2:31	2:14 2:46	2:31 3:03	2:40 3:12
E	☞	☞		☞	0:10 0:49	0:43 1:23	1:07 1:47	1:35 2:15	1:55 2:35	2:16 2:56	2:32 3:12	2:47 3:27	3:04 3:44	3:13 3:53
D			☞	0:10 1:03	0:50 1:43	1:24 2:17	1:48 2:41	2:16 3:09	2:36 3:29	2:57 3:50	3:13 4:06	3:28 4:21	3:45 4:38	3:54 4:47
C	☞	☞	0:10 1:19	1:04 2:20	1:44 3:00	2:18 3:34	2:42 3:58	3:10 4:26	3:30 4:46	3:51 5:07	4:07 5:23	4:22 5:38	4:39 5:55	4:48 6:04
B		0:10 2:30	1:20 3:41	2:21 4:42	3:01 5:22	3:35 5:56	3:59 6:20	4:27 6:48	4:47 7:08	5:08 7:29	5:24 7:45	5:39 8:00	5:56 8:17	6:05 8:26
A	0:10 12:00	2:31 12:00	3:42 12:00	4:43 12:00	5:23 12:00	5:57 12:40	6:21 13:10	6:49 13:30	7:09 14:00	7:30 14:20	7:46 14:40	8:01 14:50	8:18 15:10	8:27 15:30

000 Numbers in White Boxes are Residual Nitrogen Time in minutes. Add to Total Time Underwater on a Repetitive Dive to obtain the Equivalent Underwater Time

000 Numbers in Blue Boxes are Adjusted No-Decompression Limits in minutes. Actual Total Time Underwater on a Repetitive Dive should not exceed this time.

Return to USC Catalina Hyperbaric Chamber Home Page

time [mtr]	time [min]	[mtr] 27	24	21	18	15	12	9	6	3	time [min]	after [hrs]	cons. [m^3]
													Anlage 13
12.0		No-D-Time [min] = 91.11											
	120.0									7	8.20	13.79	5.18
	140.0									18	19.20	15.90	6.27
	160.0									34	35.20	17.70	7.47
15.0		No-D-Time [min] = 55.93											
	60.0									3	4.50	7.76	2.96
	70.0									9	10.50	9.95	3.58
	80.0									13	14.50	11.78	4.15
	90.0									17	18.50	13.37	4.72
18.0		No-D-Time [min] = 35.45											
	30.0										1.80	1.09	1.65
	40.0									1	2.80	4.94	2.21
	50.0									9	10.80	8.15	2.94
	60.0									17	18.80	10.70	3.66
	70.0									22	23.80	12.77	4.31
21.0		No-D-Time [min] = 24.56											
	25.0										2.10	0.98	1.55
	30.0									3	5.10	3.50	1.92
	35.0									4	6.10	5.54	2.24
	40.0									11	13.10	7.51	2.70
	45.0									16	18.10	9.15	3.12
	50.0								1	20	23.10	10.65	3.54
	55.0								1	23	26.10	11.91	3.91
	60.0								3	25	30.10	13.13	4.31
24.0		No-D-Time [min] = 18.80											
	20.0									1	3.40	0.28	1.41
	25.0									4	6.40	3.15	1.81
	30.0									6	8.40	5.56	2.18
	35.0								1	13	16.40	7.84	2.71
	40.0								3	18	23.40	9.78	3.21
	45.0								4	23	29.40	11.40	3.68
45	21.0						1	2	5	8	25	45.50	12.10	3.60
	24.0						1	4	6	14	25	54.50	14.06	4.22
48.0		No-D-Time [min] = 3.14											
	3.0											4.80	0.00	0.57
	6.0										2	6.80	0.18	0.96
	9.0								1	1	5	11.80	2.08	1.44
	12.0							1	1	4	8	18.80	5.67	1.98
	15.0							2	2	6	17	31.80	8.72	2.67
	18.0						1	2	5	6	24	42.80	11.22	3.33
	21.0						2	3	6	12	25	52.80	13.45	3.99
	24.0				1		2	5	5	19	37	73.80	15.49	4.92
51.0		No-D-Time [min] = 2.50												
	3.0											5.10	0.01	0.62
	6.0									1	1	7.10	0.25	1.03
	9.0								1	2	6	14.10	3.19	1.57
	12.0							1	2	5	12	25.10	6.92	2.24
	15.0						1	2	3	6	21	38.10	9.94	2.96
	18.0				1		1	3	5	9	25	49.10	12.50	3.67
	21.0				1		1	5	6	16	29	63.10	14.66	4.45
54.0		No-D-Time [min] = 1.93												
	3.0											5.40	0.03	0.66
	6.0									1	3	9.40	0.28	1.14
	9.0							1	1	2	7	16.40	4.34	1.71
	12.0						1	1	2	6	15	30.40	8.12	2.48
	15.0					1	1	1	6	6	23	43.40	11.11	3.24
	18.0					1	2	4	5	13	25	55.40	13.66	4.01
	21.0				1	1	3	5	5	20	42	82.40	15.98	5.14
27.0		No-D-Time [min] = 14.30												
	15.0											2.70	0.21	1.16
	20.0									4		6.70	2.08	1.62
	25.0									7		9.70	5.00	2.04
	30.0								3	13		18.70	7.73	2.63
	35.0								5	19		26.70	9.91	3.19
	40.0								6	24		32.70	11.68	3.69
	45.0						2	10	25			39.70	13.47	4.27
30.0		No-D-Time [min] = 10.73												
	12.0									1		4.00	0.15	1.06
	15.0									2		5.00	0.29	1.32
	18.0									5		8.00	2.40	1.62
	21.0								1	6		10.00	4.43	1.91
	24.0								3	10		16.00	6.39	2.29
	27.0								5	14		22.00	8.10	2.68
	30.0								6	19		28.00	9.56	3.06
	33.0						2	6	22			33.00	10.95	3.43
	36.0						3	6	25			37.00	12.12	3.77
	39.0						4	10	25			42.00	13.33	4.16
33.0		No-D-Time [min] = 8.50												
	9.0											3.30	0.07	0.88
	12.0									1		4.30	0.24	1.15
	15.0								1	4		8.30	1.71	1.50
	18.0								1	7		11.30	4.01	1.82
	21.0								4	9		16.30	6.20	2.21
	24.0						1	5	15			24.30	8.17	2.67
	27.0						2	6	19			30.30	9.82	3.08
	30.0						3	6	24			36.30	11.24	3.48
	33.0						5	8	25			41.30	12.63	3.88
	36.0						6	12	25			46.30	13.88	4.29
36.0		No-D-Time [min] = 6.91												
	9.0									1		4.60	0.14	0.97
	12.0								1	3		7.60	0.41	1.32
	15.0								2	5		10.60	3.17	1.66
	18.0						1	3	8			15.60	5.66	2.07
	21.0						1	6	14			24.60	7.88	2.57
	24.0						3	6	19			31.60	9.75	3.02
	27.0						5	6	24			38.60	11.38	3.48
	30.0				1		5	10	25			44.60	12.90	3.93
	33.0				2		6	14	27			52.60	14.34	4.45
39.0		No-D-Time [min] = 5.69												
	6.0											3.90	0.03	0.74
	9.0									2		5.90	0.21	1.07
	12.0								1	5		9.90	1.74	1.46
	15.0						1	2	7			13.90	4.61	1.86
	18.0						2	5	12			22.90	7.24	2.39
	21.0				1		2	6	19			31.90	9.38	2.91
	24.0				1		5	6	23			38.90	11.23	3.40
	27.0				2		6	10	25			46.90	12.96	3.92
	30.0				4		5	15	28			55.90	14.49	4.48
42.0		No-D-Time [min] = 4.69												
	6.0											4.20	0.06	0.80
	9.0								1	2		7.20	0.28	1.18
	12.0						1	1	6			12.20	3.09	1.61
	15.0						2	4	9			19.20	6.09	2.11
	18.0				1		2	6	17			30.20	8.65	2.70
	21.0				1		5	6	22			38.20	10.74	3.23
	24.0				3		5	9	25			46.20	12.63	3.78
	27.0			1	4		5	15	28			57.20	14.43	4.42
45.0		No-D-Time [min] = 3.86												
	6.0									1		5.50	0.12	0.88
	9.0								2	3		9.50	0.89	1.31
	12.0						1	3	6			14.50	4.33	1.76
	15.0						1	1	6	13		25.50	7.42	2.38
	18.0						2	3	6	21		36.50	9.94	3.01

THE WHEEL™

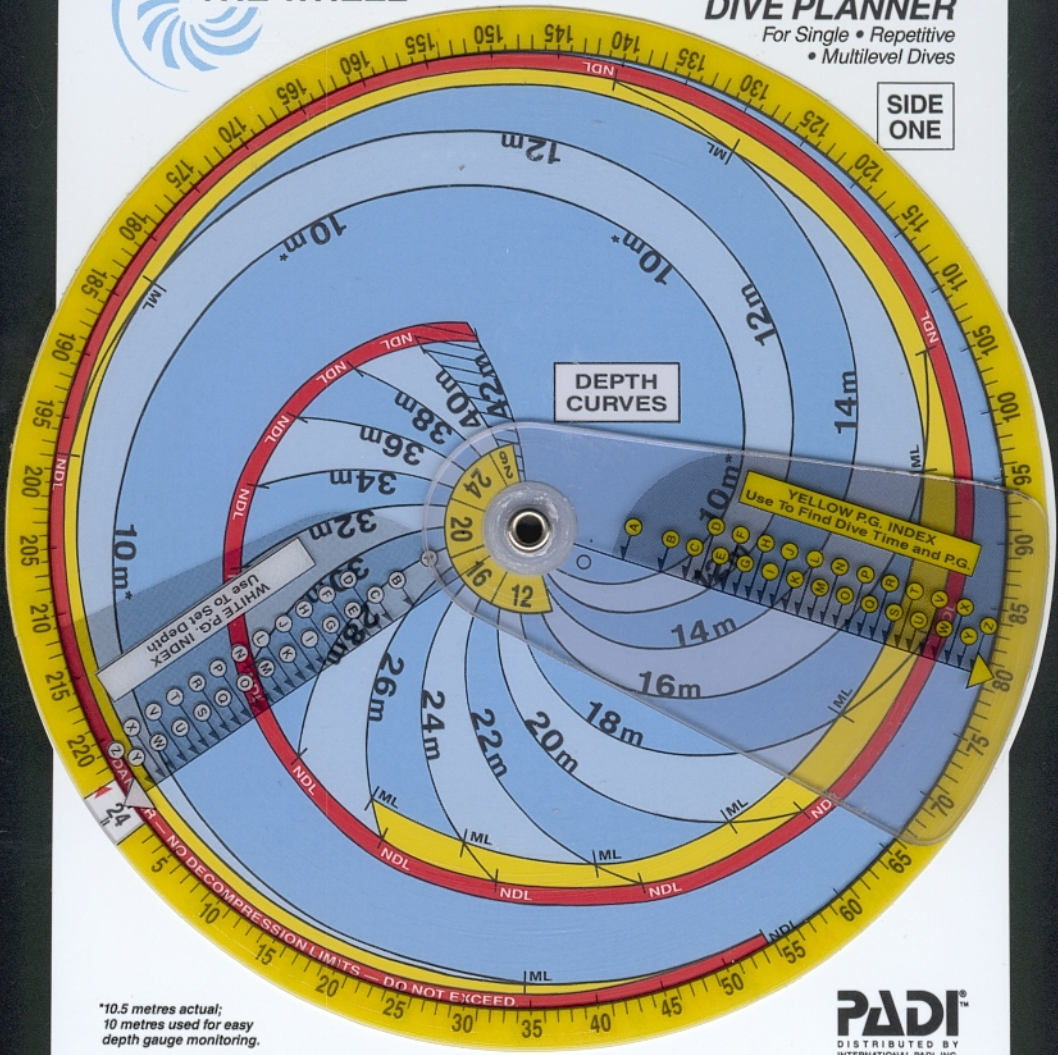
METRIC

PRODUCT NO. 60048

RECREATIONAL DIVE PLANNER

For Single • Repetitive • Multilevel Dives

SIDE ONE



**10.5 metres actual; 10 metres used for easy depth gauge monitoring.*

PADI®
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The Recreational Dive Planner is designed specifically for planning recreational (no-decompression) dives on air only. Do not attempt to use it for planning decompression dives.

Safety Stops — A safety stop for 3 minutes at 5 metres is required any time the diver comes within 3 pressure groups of a no-decompression limit, and for any dive to a depth of 30 metres or greater.

Emergency Decompression — If a no-decompression limit is exceeded by no more than 5 minutes, an 8-minute decompression stop at 5 metres is mandatory. Upon surfacing, the diver must remain out of the water for at least 6 hours prior to making another dive. If a no-decompression limit is exceeded by more than 5 minutes, a 5-metre decompression stop of no less than 15 minutes is urged (air supply permitting). Upon surfacing, the diver must remain out of the water for at least 24 hours prior to making another dive.

Special Rules for Multiple Dives

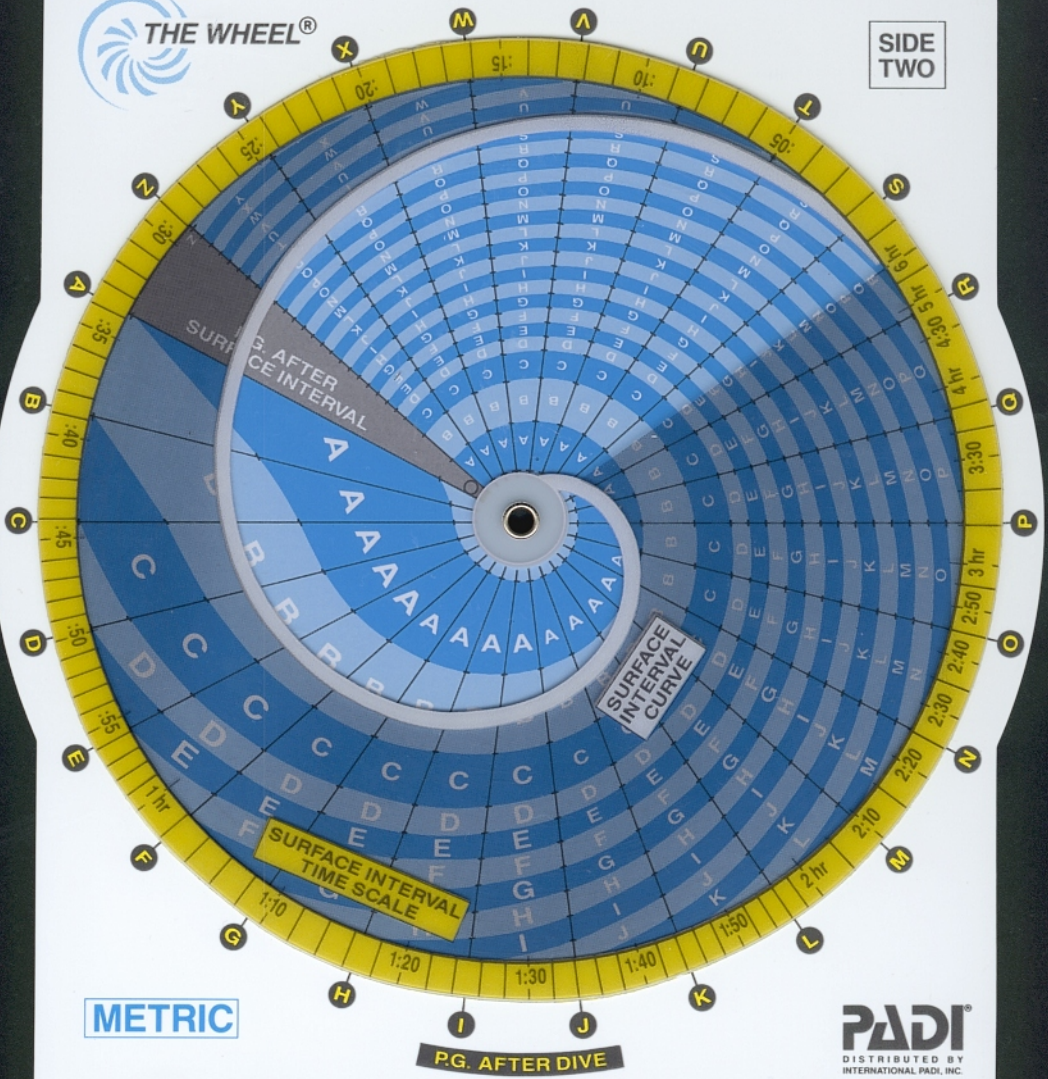
If you are planning 3 or more dives in a day: Beginning with the first dive, if your ending pressure group after any dive is W or X, the minimum surface interval between all subsequent dives is 1 hour. If your ending pressure group after any dive is Y or Z, the minimum surface interval between all subsequent dives is 3 hours.

Note: Since little is presently known about the physiological effects of multiple dives over multiple days, divers are wise to make fewer dives and limit exposure toward the end of a multi-day dive series.

CAUTION: This product for use only by certified divers or individuals under the supervision of a certified scuba instructor. Misuse of this product may result in serious injury or death. Consult the instruction manual prior to use. If you are unsure as to how to properly use this product, consult a certified scuba instructor.

THE WHEEL®

SIDE TWO



METRIC

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Flying After Diving Recommendations — 1) Wait a minimum surface interval of 12 hours prior to ascent to altitude. 2) If you plan to make daily, multiple dives for several days or make dives that require decompression stops, take a special precaution — an extended surface interval beyond 12 hours before flight.

Diving at Altitude — Diving at altitude (300 metres or greater) requires use of special procedures.

General Rules

- Always read the greater of pressure groups whether on or between lines.
- Ascend from all dives at a rate not to exceed 18 m per minute.
- When planning a dive in cold water or under conditions which might be strenuous, plan the dive assuming the depth is 4 m deeper than actual.
- Plan repetitive dives so each successive dive is to a shallower depth. Limit repetitive dives to 30 m or shallower.
- Never exceed the limits of this planner and whenever possible avoid diving to the limits of the planner. 42 m is for emergency purposes only, do not dive to this depth.

010PDK9

Patent Number 4,835,371

Decompression Tables for Tolerable Oversaturatin 0.4 bar

No-Bubbles – Decompression Tables

M. Hahn, J. Wendling

Introduction

The bubbles appear, as we know from doppler monitoring of divers, even after uneventful dives following the usual decompression tables. The number of bubbles is proportional to the decompression stress at the end of the dive. This means that even after no-decompression dives a large number of bubbles may appear while after a longer dive needing a decompression stop bubbles can be almost absent when the ascent was very slow and exceeding decompression stops have been performed. There is a consensus among specialists that the most dangerous symptoms of decompression sickness, namely the cerebral symptoms arise from embolic bubbles. These embolic bubbles may get into arteries through different pathways, one of which is possibly the one through an open foramen ovale.

The way of bubble development, growth and transport has been studied by many research teams. During the UHMS workshop on the physiological basis of decompression (ed R.D. Vann, 1989) there was a quasi-consensus that threshold over-saturation for bubble release to the circulation would be about 1.4 which means 40% over-saturation (thermodynamically speaking). So we wanted to test whether diving tables specially calculated on the basis of a reduced threshold will still be useful for sports diving.

Rationale:

On the basis of three highly debated hypotheses we decided to calculate a set of tables which should on a theoretical basis permit the divers to dive without producing circulating bubbles during and after decompression.

1. The patent foramen ovale is a haemodynamically possible way of bubble shunting from the right to the left side of the heart thus by passing the lung filter. The importance of this frequently found anatomic variation (30%) is not yet clear, however it remains a possible way to explain neurological decompression sickness after correctly performed dives. If we have diving tables which would guarantee that there are no circulating bubbles after decompression or during the decompression phase the presence of a PFO would not be an argument any more to declare a diver unfit to dive.

2. The presence of a gas phase within the circulation in form micro-bubbles does influence the gas washout of the body after a compression phase. This is a main criticism against the value of the perfusion limited decompression model used by Haldane, Workman, Dwyer and Bühlmann for the calculation of diving tables. If we calculate the tables in a way that there are not even silent bubbles in the circulation, the algorithm would be much closer to reality and thus more credible.

3. The fact that the majority of decompression disorders are seen in divers that have performed an uneventful dive following the accepted tables, means that the susceptibility is very difficult to determine from known values (see probabilistic approach). The main factor inducing an unforeseeable variable in the physiology of the diver is probably the presence distribution and migration of micro-bubbles. Avoiding the presence of micro-bubbles in the circulation the remaining susceptibility of diving individuals would be much more homogeneous.

The tables:

The following tables are calculated using a software for implementation of the 16 tissue model of Bühlmann 1986. The parameters are modified corresponding to a tolerable over-saturation of 0.4 bar. The calculations are done on the assumptions of

- altitude 0 m, breathing gas: air, respiratory minute volume 20 l/min, ascent velocity 10 m/min.

Decompression Table for Tolerable Oversaturation 0.4 bar

Depth (m)	Bottom time (min)	Decompression stops (min) (m)									Asc. Time (min)	Air-Cons. (m^3)
		27	24	21	18	15	12	9	6	3		
9.0												
	25.0										0.90	0.98
	50.0									1	1.90	1.96
	75.0									1	1.90	2.92
	100.0									2	2.90	3.90
12.0												
	18.0									3	4.20	0.91
	36.0									5	6.20	1.76
	54.0									8	9.20	2.63
	72.0									11	12.20	3.51
	90.0									14	15.20	4.38
15.0												
	16.0									5	6.50	0.98
	32.0								3	8	12.50	1.96
	48.0								4	12	17.50	2.90
	64.0								6	16	23.50	3.87
	80.0								7	21	29.50	4.84
18.0												
	10.0									4	5.80	0.72
	20.0								4	7	12.80	1.50
	30.0							1	6	10	18.80	2.24
	40.0							2	7	14	24.80	2.98
	50.0							2	9	17	29.80	3.68
	60.0							3	11	20	35.80	4.43
	70.0							4	12	24	41.80	5.17
	80.0							4	14	27	46.80	5.87
21.0												
	6.0									3	5.10	0.52
	12.0								4	5	11.10	1.08
	18.0							2	4	8	16.10	1.61
	24.0							3	6	10	21.10	2.14
	30.0							4	7	13	26.10	2.66
	36.0						1	4	9	15	31.10	3.20
	42.0						1	5	10	18	36.10	3.72
	48.0						1	6	12	20	41.10	4.25
	54.0						1	7	13	23	46.10	4.77
	60.0						1	8	14	25	50.10	5.27
24.0												
	5.0									3	5.40	0.51
	10.0								4	5	11.40	1.03
	15.0							3	5	7	17.40	1.57
	20.0						1	4	6	10	23.40	2.11
	25.0						2	5	7	13	29.40	2.64
	30.0						3	5	9	15	34.40	3.15
	35.0						3	6	11	18	40.40	3.67
	40.0						4	7	12	21	46.40	4.20
	45.0						5	8	13	24	52.40	4.74
	50.0						5	9	15	25	56.40	5.21
	55.0						6	9	17	28	62.40	5.74

Decompression Tables for Tolerable Oversaturatin 0.4 bar

27.0												
	5.0									5	7.70	0.61
	10.0							2	4	6	14.70	1.21
	15.0						2	4	5	9	22.70	1.86
	20.0						3	5	7	12	29.70	2.46
	25.0					1	4	5	9	15	36.70	3.07
	30.0					2	4	7	10	19	44.70	3.70
	35.0					2	5	8	12	22	51.70	4.30
	40.0					3	5	9	14	25	58.70	4.90
	45.0					3	6	10	16	28	65.70	5.50
	50.0					3	7	11	18	31	72.70	6.10
30.0												
	6.0								4	4	11.00	0.84
	10.0						1	3	4	7	18.00	1.40
	14.0						3	4	6	10	26.00	1.99
	18.0					2	3	5	7	13	33.00	2.56
	22.0					3	4	5	10	16	41.00	3.15
	26.0				1	3	4	7	11	19	48.00	3.72
	30.0				1	3	5	8	13	22	55.00	4.27
	33.0				1	4	5	9	14	24	60.00	4.68
	36.0				1	4	6	10	15	26	65.00	5.09
	39.0				1	5	6	10	17	28	70.00	5.50
	42.0				2	4	7	12	17	31	76.00	5.94
33.0												
	6.0							1	4	5	13.30	0.96
	10.0						2	4	5	8	22.30	1.62
	14.0					2	3	4	7	12	31.30	2.28
	18.0				1	3	4	5	9	15	40.30	2.96
	21.0				2	3	4	7	10	18	47.30	3.46
	24.0				2	3	5	8	11	20	52.30	3.89
	27.0				3	3	6	8	13	23	59.30	4.39
	30.0				3	4	6	10	14	25	65.30	4.86
	33.0				3	5	7	10	16	28	72.30	5.36
	36.0			1	3	5	7	12	17	31	79.30	5.87
36.0												
	6.0							3	4	5	15.60	1.10
	10.0					1	3	4	5	10	26.60	1.85
	14.0				1	3	3	5	8	13	36.60	2.59
	18.0				3	3	4	6	11	17	47.60	3.36
	21.0			1	3	3	5	8	12	20	55.60	3.93
	24.0			1	3	4	6	8	14	23	62.60	4.44
	27.0			2	3	4	7	10	15	26	70.60	5.02
	30.0			2	3	5	7	11	17	29	77.60	5.52
	33.0			2	4	5	8	12	18	32	84.60	6.05
39.0												
	6.0						1	3	4	6	17.90	1.23
	10.0					2	4	4	6	11	30.90	2.09
	14.0				2	3	4	6	8	15	41.90	2.89
	18.0			2	2	4	5	7	12	19	54.90	3.78
	21.0			2	3	4	6	8	14	23	63.90	4.38
	24.0		1	2	3	5	7	9	16	26	72.90	5.02
	26.0		1	3	3	5	7	11	17	29	79.90	5.47
	28.0		1	3	4	5	8	12	18	31	85.90	5.89

Decompression Table for Tolerable Oversaturation 0.4 bar

42.0											
	6.0						2	4	4	7	21.20	1.40
	9.0					3	3	4	6	11	31.20	2.08
	12.0				3	3	3	6	8	15	42.20	2.81
	15.0			2	3	3	5	7	10	19	53.20	3.54
	18.0		1	2	3	4	5	9	13	22	63.20	4.22
	20.0		1	3	3	4	7	9	14	25	70.20	4.69
	22.0		2	2	4	5	7	10	16	27	77.20	5.17
	24.0		2	3	4	5	7	12	17	30	84.20	5.63
45.0												
	6.0						3	4	4	8	23.50	1.53
	8.0					3	3	4	6	11	31.50	2.05
	10.0				2	3	4	5	8	14	40.50	2.61
	12.0			2	2	3	4	6	10	16	47.50	3.11
	14.0			3	3	3	5	7	11	20	56.50	3.67
	16.0		1	3	3	4	5	9	13	22	64.50	4.20
	18.0		2	3	3	4	7	9	14	25	71.50	4.69
	20.0	1	2	3	3	5	7	10	17	28	80.50	5.25
	22.0	1	2	3	4	5	8	12	17	31	87.50	5.72
48.0												
	6.0					2	3	3	6	9	27.80	1.75
	8.0				2	3	3	4	7	12	35.80	2.30
	10.0			1	3	3	4	5	9	15	44.80	2.87
	12.0			3	3	3	5	7	10	19	54.80	3.49
	14.0		2	2	3	4	5	8	13	21	62.80	4.03
	16.0	1	2	3	3	4	7	9	14	25	72.80	4.66
	18.0	1	3	2	4	5	7	10	17	27	80.80	5.20
	20.0	2	2	3	4	6	8	11	18	31	89.80	5.77

Figure 1 to 3 give examples of dives, that can be performed realistically using a 15 liters compressed air cylinder (2 + 3) or a double 10 liter tank (fig 1). One should avoid to speak of no-decompression time in these tables, because a staged decompression is the most important element of avoiding the bubbles in the circulation, which should be combined with a very slow ascent rate. The tables printed here are calculations on the basis of theoretical considerations. They have not undergone any validation with test-dives and should not be used by divers as such.

If we try to further reduce the threshold value to 1.0 which means that we allow the tissue N_2 concentration not to be more than 100 % saturation, the calculated diving profile is not realistic any more (fig 4).

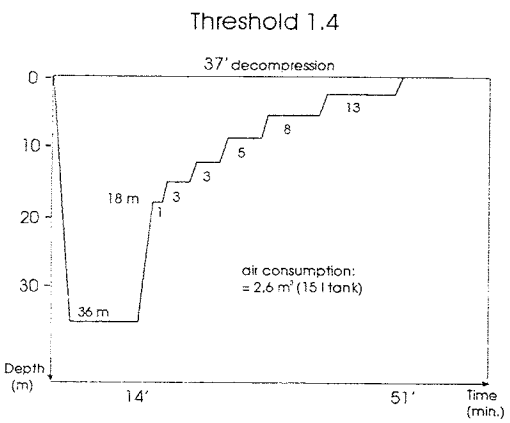

Fig. 1

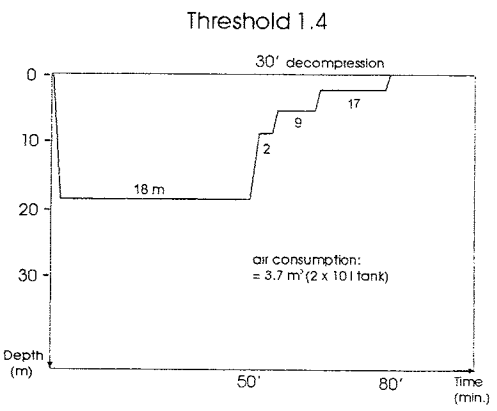

Fig 2

Decompression Tables for Tolerable Oversaturatin 0.4 bar

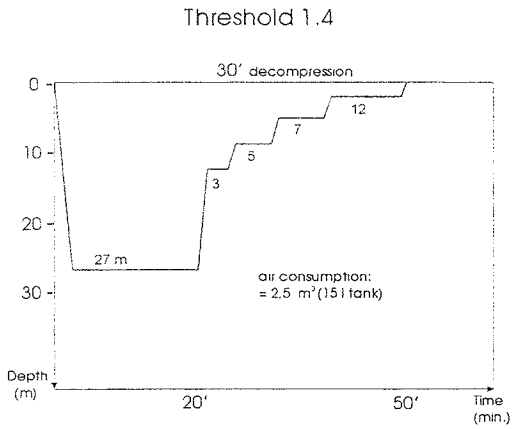

Fig. 3

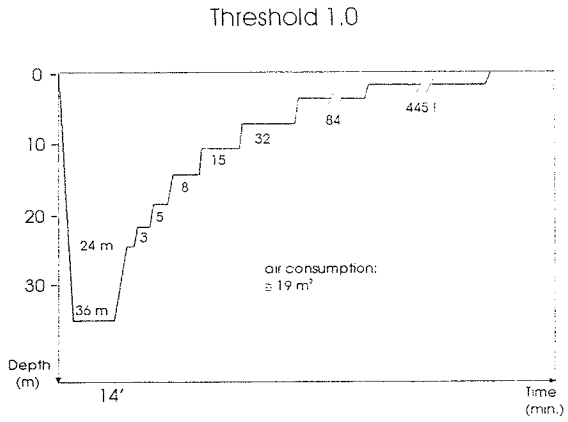

Fig. 4 Theoretical dive profile for threshold 1.0

Discussion

- Tables produced for a threshold of 1.4 clearly show that recreational diving is still possible within the usual depth range and overall diving time.

- The profiles however become a more V-shaped form compared to the classical rectangular dive profile which is normally used.

- The dives become constringently decompression-dives. For many divers this might be a problem because of incompatibility with the dogma that only no-decompression-dives are safe. Of course it is reasonable not to enter into the deco-zone of the tables in sports diving as this avoids problems like getting short in air and being hit by inert gas narcosis doing deep dives. It is however wrong to believe that zero stop dives are particularly safe as to the DCI risk. Sometimes the opposite is true. The deco stress during the ascent and after the dive is reduced by a very slow ascent rate and doing deeper deco stops than normally.

- We propose therefore that research is done to study the bubble development or hopefully absence in dives performed following the 1.4 threshold table. It is possible that the threshold will have to be further reduced to avoid bubble formation, but if validated the modified tables could be a solution for safe diving in divers with individually higher risk for DCI.

References

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2. UHMS Symposium 1989, The Physiological Basis of Decompression. Ed. VANN R.D., Publication Number 75(Phys)6/1/89

Table MN 90

Profondeur	Durée de plongée	Durée paliers 12 m	9 m	6 m	3 m	GPS
6 m	15					A
	30					B
	45					C
	1 h 15					D
	1 h 45					E
	2 h 15					F
	3 h 00					G
	4 h 00					H
	5 h 15					I
	6 h 00					J
8 m	15					B
	30					C
	45					D
	1 h 00					E
	1 h 30					F
	1 h 45					G
	2 h 15					H
	2 h 45					I
	3 h 15					J
	4 h 15					K
	5 h 00					L
	6 h 00					M
10 m	15					B
	30					C
	45					D
	1 h 00					F
	1 h 15					G
	1 h 45					H
	2 h 00					I
	2 h 15					J
	2 h 45					K
	3 h 00					L
	4 h 00					M
	4 h 15					N
	5 h 15					O
	5 h 30					P
	6 h 00				1	P
12 m	5					A
	15					B
	25					C
	35					D
	45					E
	55					F
	1 h 05					G
	1 h 20					H
	1 h 30					I
	1 h 45					J
	2 h 00					K
	2 h 15					L
	2 h 20				2	L
	2 h 30				4	M
	2 h 40				6	M
	2 h 50				7	N
	3 h 00				9	N
	3 h 10				11	N
	3 h 20				13	O
	3 h 30				14	O
	3 h 40				15	O
	3 h 50				16	O
	4 h 00				17	O
	4 h 10				18	P
	4 h 15				19	P
	4 h 30				22	P
	4 h 45				24	P
	5 h 00				26	P
	5 h 15				27	*
	5 h 30				29	*
	5 h 45				31	*
	6 h 00				33	*

Profondeur	Durée de plongée	Durée paliers 12 m	9 m	6 m	3 m	GPS
15 m	5					A
	10					B
	15					C
	20					C
	25					D
	30					E
	35					E
	40					F
	45					G
	50					G
	55					H
	1 h 00					H
	1 h 05					I
	1 h 10					I
	1 h 15					J
	1 h 20				2	J
	1 h 25				4	K
	1 h 30				6	K
	1 h 35				8	L
	1 h 40				11	L
	1 h 45				13	L
	1 h 50				15	M
	1 h 55				17	M
	2 h 00				18	M
	2 h 10				22	*
	2 h 20				25	*
18 m	5					B
	10					B
	15					C
	20					D
	25					E
	30					F
	35					F
	40					G
	45					H
	50					H
	55				1	I
	1 h 00				5	J
	1 h 05				8	J
	1 h 10				11	K
	1 h 15				14	K
	1 h 20				17	L
	1 h 25				21	L
	1 h 30				23	M
	1 h 35				26	M
	1 h 40				28	M
	1 h 45				31	N
	1 h 50				34	N
	1 h 55				36	N
	2 h 00				38	O
	2 h 10				42	*
	2 h 20				46	*
	2 h 30				51	*

*** successive interdite : délai 12 h 00; vitesse de remontée : 15 à 17 m / min; vitesse de changement de palier : 1 m / 10 s**

Profondeur	Durée de plongée	12 m	Durée paliers 9 m	6 m	3 m	GPS
20 m	5					B
	10					B
	15					D
	20					D
	25					E
	30					F
	35					G
	40					H
	45				1	I
	50				4	I
	55				9	J
	1 h 00				13	K
	1 h 05				16	K
	1 h 10				20	L
	1 h 15				24	L
	1 h 20				27	M
	1 h 25				30	M
	1 h 30				34	M
	1 h 35				37	*
	1 h 40				40	*
	1 h 45				43	*
	1 h 50				45	*
	1 h 55				48	*
	2 h 00			1	49	*
22 m	5					B
	10					C
	15					D
	20					E
	25					F
	30					G
	35					H
	40				2	I
	45				7	I
	50				12	J
	55				16	K
	1 h 00				20	K
	1 h 05				25	L
	1 h 10				29	L
	1 h 15				33	M
	1 h 20				37	M
	1 h 25				41	N
	1 h 30				44	N
	1 h 35			2	46	*
	1 h 40			4	47	*
	1 h 45			5	49	*
	1 h 50			7	51	*
	1 h 55			9	53	*
	2 h 00			11	55	*
25 m	5					B
	10					C
	15					D
	20					E
	25				1	F
	30				2	H
	35				5	I
	40				10	J
	45				16	J
	50				21	K
	55				27	L
	1 h 00				32	L
	1 h 05				37	M
	1 h 10			1	41	M
	1 h 15			4	43	N
	1 h 20			7	45	N
	1 h 25			9	48	O
	1 h 30			11	50	O
	1 h 35			14	51	*
	1 h 40			16	54	*
	1 h 45			19	56	*

Profondeur	Durée de plongée	12 m	Durée paliers 9 m	6 m	3 m	GPS
25 m	1 h 50			21	59	*
	1 h 55			23	61	*
	2 h 00			24	63	*
28 m	5					B
	10					D
	15					E
	20				1	F
	25				2	G
	30				6	H
	35				12	I
	40				19	J
	45				25	K
	50				32	L
	55			2	36	M
	1 h 00			4	40	M
	1 h 05			8	43	N
	1 h 10			11	46	N
	1 h 15			14	48	O
	1 h 20			17	50	O
	1 h 25			20	53	O
	1 h 30			23	56	P
	1 h 35			26	58	*
	1 h 40			28	61	*
	1 h 45			30	64	*
	1 h 50		1	32	67	*
	1 h 55		2	34	70	*
	2 h 00		3	36	73	*
30 m	5					B
	10					D
	15				1	E
	20				2	F
	25				4	H
	30				9	I
	35				17	J
	40				24	K
	45			1	31	L
	50			3	36	M
	55			6	39	M
	1 h 00			10	43	N
	1 h 05			14	46	N
	1 h 10			17	48	O
	1 h 15			20	50	*
	1 h 20			24	54	*
	1 h 25			27	57	*
	1 h 30			30	60	*
32 m	5					B
	10					D
	15				1	E
	20				3	G
	25				6	H
	30				14	I
	35				22	K
	40			1	29	K
	45			4	34	L
	50			7	39	M
	55			11	43	N
	1 h 00			15	46	N
	1 h 05			19	48	O
	1 h 10			23	50	O
	1 h 15			27	54	*
	1 h 20		2	29	58	*
	1 h 25		4	30	61	*
	1 h 30		6	32	64	*

*** successive interdite : délai 12 h 00; vitesse de remontée : 15 à 17 m / min; vitesse de changement de palier : 1 m / 10 s**

Profondeur	Durée de plongée	Durée paliers 12 m	Durée paliers 9 m	Durée paliers 6 m	Durée paliers 3 m	GPS
35 m	5					C
	10					D
	15				2	F
	20				5	H
	25				11	I
	30			1	20	J
	35			2	27	K
	40			5	34	L
	45			9	39	M
	50			14	43	N
	55			18	47	N
	1 h 00			22	50	O
	1 h 05		2	26	52	*
	1 h 10		4	28	57	*
	1 h 15		7	30	60	*
	1 h 20		10	31	64	*
	1 h 25		12	33	69	*
	1 h 30		14	36	72	*
38 m	5					C
	10				1	E
	15				4	F
	20				8	H
	25			1	16	J
	30			3	24	K
	35			5	33	L
	40			10	38	M
	45			15	43	N
	50			20	47	N
	55		2	23	50	O
	1 h 00		5	27	53	P
	1 h 05		8	29	58	*
	1 h 10		11	31	62	*
	1 h 15		14	33	66	*
	1 h 20		17	35	71	*
	1 h 25		20	36	76	*
	1 h 30		23	38	81	*
40 m	5					C
	10				2	E
	15				4	G
	20			1	9	H
	25			2	19	J
	30			4	28	K
	35			8	35	L
	40			13	40	M
	45		1	18	45	N
	50		2	23	48	O
	55		5	26	52	O
	1 h 00		8	29	57	P
	1 h 05		12	31	61	*
	1 h 10		15	33	66	*
	1 h 15		18	35	71	*
	1 h 20	1	21	37	75	*
	1 h 25	3	23	38	82	*
	1 h 30	5	24	39	88	*
42 m	5					C
	10				2	E
	15				5	G
	20			1	12	I
	25			3	22	J
	30			6	31	L
	35			11	37	M
	40		1	16	43	N
	45		3	21	47	*
	50		6	24	50	*
	55		8	29	55	*
	1 h 00		13	30	60	*
45 m	5					C
	10				3	F
	15			1	6	H
	20			3	15	I
	25			5	25	K
	30			9	35	L
	35		1	15	40	M
	40		3	20	46	N
	45		6	24	50	*
	50		10	28	54	*
	55		14	30	60	*
	1 h 00	1	18	32	65	*

Profondeur	Durée de plongée	Durée paliers 15 m	Durée paliers 12 m	Durée paliers 9 m	Durée paliers 6 m	Durée paliers 3 m	GPS
48 m	5						D
	10					4	F
	15				2	7	H
	20				4	19	J
	25				7	30	K
	30			1	12	37	M
	35			3	18	44	N
	40			6	23	48	O
	45			10	27	53	*
	50		1	14	30	59	*
	55		2	18	32	64	*
	1 h 00		5	19	36	70	*
50 m	5					1	D
	10					4	F
	15				2	9	H
	20				4	22	J
	25			1	8	32	L
	30			2	14	39	M
	35			5	20	45	N
	40			9	24	50	O
	45		1	12	29	55	*
	50		2	17	30	62	*
	55		5	19	34	67	*
	1 h 00		8	21	37	74	*
52 m	5					1	D
	10				1	4	F
	15				3	10	I
	20			1	5	23	K
	25			2	9	34	L
	30			4	15	41	M
	35			6	22	47	O
	40		1	10	26	52	O
	45		2	15	29	59	*
	50		5	17	32	64	*
	55		8	19	36	71	*
	1 h 00		11	22	38	78	*
55 m	5					1	D
	10				1	5	G
	15				4	13	I
	20			1	6	27	K
	25			3	11	37	M
	30			6	18	44	N
	35		1	9	23	50	O
	40		3	12	29	55	P
	45		5	17	31	62	*
	50		8	19	35	69	*
	55		12	22	37	76	*
	1 h 00	2	14	24	39	86	*
58 m	5					2	D
	10				2	5	G
	15			1	4	16	J
	20			2	7	30	K
	25			4	13	40	M
	30		1	7	21	46	N
	35		2	11	26	52	O
	40		5	15	30	59	P
	45		8	18	33	66	*
	50	1	11	21	37	74	*
	55	3	14	23	39	83	*
	1 h 00	5	16	25	42	92	*
60 m	5					2	D
	10				2	6	G
	15			1	4	19	J
	20			3	8	32	L
	25			5	15	41	M
	30		1	8	22	48	O
	35		4	11	28	54	P
	40		6	17	30	62	P
	45	1	9	19	35	69	*
	50	2	13	22	37	78	*
	55	5	15	24	40	88	*
	1 h 00	7	17	26	44	96	*
62 m	5					2	*
	10				2	7	*
	15			1	5	21	*
65 m	5					3	*
	10				3	8	*
	15			2	5	24	*

*** successive interdite : délai 12 h 00; vitesse de remontée : 15 à 17 m / min; vitesse de changement de palier : 1 m / 10 s**

Tableaux de plongées successives

TABLEAU 1 : Détermination de l'Azote résiduel

	Intervalles																								
GPS	**0.15**	**0.30**	**0.45**	**1.00**	**1.30**	**2.00**	**2.30**	**3.00**	**3.30**	**4.00**	**4.30**	**5.00**	**5.30**	**6.00**	**6.30**	**7.00**	**7.30**	**8.00**	**8.30**	**9.00**	**9.30**	**10.00**	**10.30**	**11.00**	**11.30**	**12.00**
A	0.84	0.83	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81	0.81												
B	0.88	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81								
C	0.92	0.91	0.90	0.89	0.88	0.87	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81						
D	0.97	0.95	0.94	0.93	0.91	0.89	0.88	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81				
E	1.00	0.98	0.97	0.96	0.93	0.91	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81			
F	1.05	1.03	1.01	0.99	0.96	0.94	0.91	0.90	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81	0.81	
G	1.08	1.06	1.04	1.02	0.98	0.96	0.93	0.91	0.89	0.88	0.87	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81	
H	1.13	1.10	1.08	1.05	1.01	0.98	0.95	0.93	0.91	0.89	0.88	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81
I	1.17	1.14	1.11	1.08	1.04	1.00	0.97	0.94	0.92	0.90	0.88	0.87	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81
J	1.20	1.17	1.14	1.11	1.06	1.02	0.98	0.96	0.93	0.91	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81
K	1.25	1.21	1.18	1.15	1.09	1.04	1.01	0.97	0.95	0.92	0.90	0.89	0.87	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81
L	1.29	1.25	1.21	1.17	1.12	1.07	1.02	0.99	0.96	0.93	0.91	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81
M	1.33	1.29	1.25	1.21	1.14	1.09	1.04	1.01	0.97	0.94	0.92	0.90	0.89	0.87	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81
N	1.37	1.32	1.28	1.24	1.17	1.11	1.06	1.02	0.98	0.95	0.93	0.91	0.89	0.88	0.87	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81
O	1.41	1.36	1.32	1.27	1.20	1.13	1.08	1.04	1.00	0.97	0.94	0.92	0.90	0.88	0.87	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.82	0.81	0.81	0.81
P	1.45	1.40	1.35	1.30	1.22	1.15	1.10	1.05	1.01	0.98	0.95	0.93	0.91	0.89	0.87	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81

TABLEAU 2 : Détermination de la majoration

Azote	**Profondeur de la deuxième plongée**																			
résiduel	**12 m**	**15 m**	**18 m**	**20 m**	**22 m**	**25 m**	**28 m**	**30 m**	**32 m**	**35 m**	**38 m**	**40 m**	**42 m**	**45 m**	**48 m**	**50 m**	**52 m**	**55 m**	**58 m**	**60 m**
0,82	4	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
0,84	7	6	5	4	4	3	3	3	3	2	2	2	2	2	2	2	2	2	1	1
0,86	11	9	7	7	6	5	5	4	4	4	3	3	3	3	3	3	3	2	2	2
0,89	17	13	11	10	9	8	7	7	6	6	5	5	5	4	4	4	4	4	3	3
0,92	23	18	15	13	12	11	10	9	8	8	7	7	6	6	5	5	5	5	5	4
0,95	29	23	19	17	15	13	12	11	10	10	9	8	8	7	7	7	6	6	6	5
0,99	38	30	24	22	20	17	15	14	13	12	11	11	10	9	9	8	8	8	7	7
1,03	47	37	30	27	24	21	19	17	16	15	14	13	12	11	11	10	10	9	9	9
1,07	57	44	36	32	29	25	22	21	19	18	16	15	15	13	13	12	12	11	10	10
1,11	68	52	42	37	34	29	26	24	22	20	19	18	17	16	15	14	13	13	12	12
1,16	81	62	50	44	40	34	30	28	26	24	22	21	20	18	17	16	16	15	14	13
1,20	93	70	56	50	45	39	34	32	29	27	24	23	22	20	19	18	18	17	16	15
1,24	106	79	63	56	50	43	38	35	33	30	27	26	24	23	21	20	19	18	17	17
1,29	124	91	72	63	56	49	43	40	37	33	30	29	27	25	24	23	22	20	19	19
1,33	139	101	79	70	62	53	47	43	40	36	33	31	30	28	26	25	24	22	21	20
1,38	160	114	89	78	69	59	52	48	44	40	37	35	33	30	28	27	26	24	23	22
1,42	180	126	97	85	75	64	56	52	48	43	39	37	35	33	30	29	28	26	25	24
1,45	196	135	104	90	80	68	59	55	51	46	42	39	37	34	32	31	29	28	26	25

TABLEAU 3 : Diminution de l'Azote résiduel par inhalation d'oxygène pur en surface

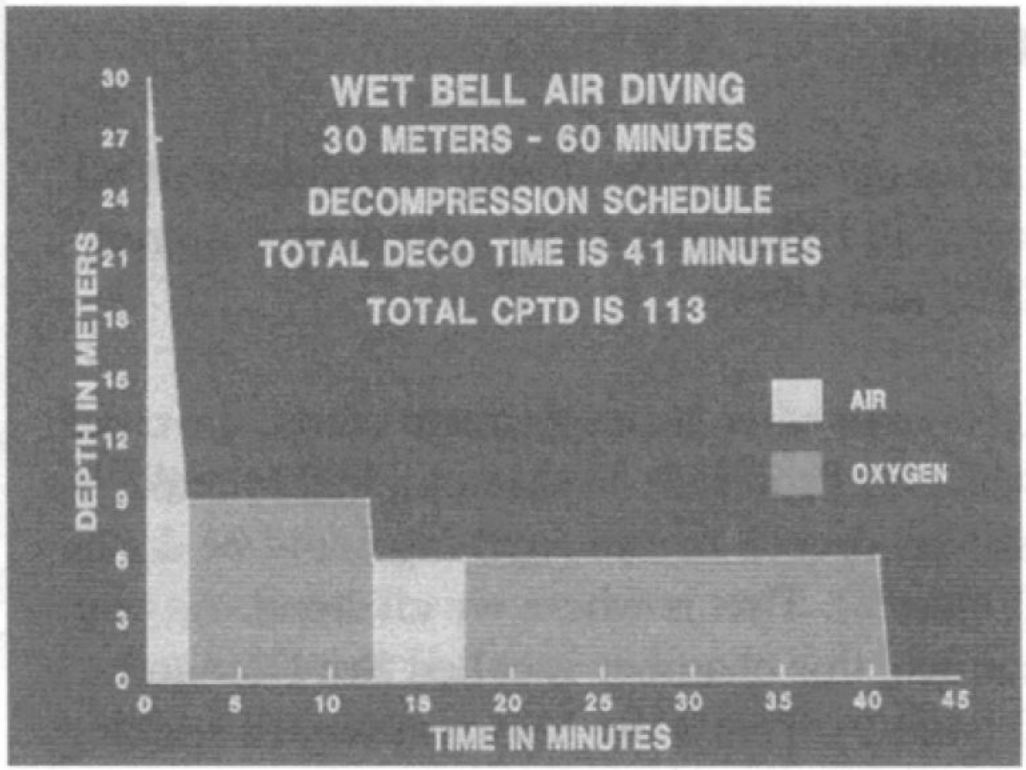
Groupe	**Equivalent**	**Durée de respiration d'oxygène**													
successive	**Azote**	**0.15**	**0.30**	**0.45**	**1.00**	**1.15**	**1.30**	**1.45**	**2.00**	**2.15**	**2.30**	**2.45**	**3.00**	**3.15**	**3.30**
A	**0.84**	0.80													
B	**0.89**	0.85	0.82	0.79											
C	**0.93**	0.89	0.85	0.82	0.79										
D	**0.98**	0.94	0.90	0.86	0.82	0.80									
E	**1.02**	0.98	0.94	0.90	0.86	0.82	0.80								
F	**1.07**	1.02	0.98	0.94	0.90	0.86	0.82	0.80							
G	**1.11**	1.06	1.02	0.97	0.93	0.90	0.86	0.82	0.80						
H	**1.16**	1.11	1.06	1.02	0.97	0.93	0.89	0.86	0.82	0.80					
I	**1.20**	1.15	1.10	1.05	1.01	0.97	0.93	0.89	0.85	0.81	0.80				
J	**1.24**	1.19	1.14	1.09	1.04	1.00	0.96	0.92	0.89	0.86	0.81	0.79			
K	**1.29**	1.24	1.18	1.13	1.08	1.04	0.99	0.95	0.91	0.87	0.84	0.80			
L	**1.33**	1.27	1.22	1.17	1.12	1.07	1.03	0.99	0.94	0.91	0.86	0.83	0.79		
M	**1.38**	1.32	1.27	1.21	1.16	1.11	1.06	1.02	0.98	0.93	0.89	0.86	0.82	0.79	
N	**1.42**	1.36	1.30	1.25	1.19	1.14	1.09	1.05	1.00	0.96	0.92	0.88	0.84	0.81	0.79
O	**1.47**	1.41	1.35	1.29	1.24	1.19	1.13	1.09	1.04	1.00	0.95	0.91	0.88	0.84	0.80
P	**1.51**	1.45	1.38	1.33	1.27	1.22	1.16	1.11	1.07	1.02	0.98	0.94	0.90	0.86	0.82

(Période 240 min : effet vasoconstricteur de l'oxygène)

Decompressie-tabellen voor het werken onder overdruk (caisson tabellen). Drukken zijn weergeven in BAR overdruk, tijden in minuten en tienden van minuten.
MAXIMALE WERKDRUK IS **3.0 BAR.**
Opkomstsnelheid is maximaal 1 bar/minuut.
De stoptijd gaat in na aankomst op de betreffende stop.
HERHALINGS-INTERVAL IS 16 UUR.

Code: cox16

tijd op druk (min.)	tijd tot 1ste stop (min.)	Stops: overdruk in BAR								totale deco tijd (min.)	totaal UPTD
		1.5 lucht	1.2 oxy	0.9 lucht	0.9 oxy	0.6 lucht	0.6 oxy	0.3 lucht	0.3 oxy		
7	3.0	GEEN STOPS								3.0	
30	2.1				5	-	5	-	5	18.0	51
60	1.8		10	-	10	5		-	20	48.0	125
90	1.8		10	-	10	5	20	5	20	73.0	185
120	1.8		20	5	20	5	20	5	25	103.0	266
150	1.5	7	20	5	20	5	20	5	45	130.0	318
180	1.5	11	20	5	20	5	30	5	60	159.0	381
210	1.5	13	20	5	20	5	45	15	60	186.0	432


WET BELL AIR DIVING
30 METERS - 60 MINUTES
DECOMPRESSION SCHEDULE
TOTAL DECO TIME IS 41 MINUTES
TOTAL CPTD IS 113
AIR
OXYGEN
DEPTH IN METERS
30
27
24
21
18
15
12
9
6
3
0
0
5
10
15
20
25
30
35
40
45
TIME IN MINUTES

Work in Compressed Air Regulations 1996

Approved decompression tables - August 2001

Part 1 Decompression from pressures of 0.7 - 0.95 bar.

1 The compressed air contractor may use either the oxygen or air decompression table. Where an 'Exposure Period' appears on two lines, the longer duration of 'Total decompression period (min)' should be used.

Oxygen decompression table

2 Oxygen should be breathed at stage pressures of 0.6 bar and below (columns shaded and with bold type in tables).There should be an air break of five minutes after every 20 minutes of oxygen breathing. The rate of change of pressure should be 0.4 bar/minute.

Table	Maximum working pressure (bar)	Exposure period (h)	Time (minutes) at Stage Pressure of:									Total decompression period (min)	Line No.
			1.8	1.6	1.4	1.2	1.0	0.8	**0.6**	**0.4**	**0.2**		
A	0.7 - 0.8	0-3.0										2	1
		3.0-8.5										2	2
B	0.85 - 0.9	0-3.0										2	1
		3.0-8.5									**15**	17	2
C	0.95	0-3.0										2	1
		3.0-8.5								**10**	**10**	22	2

Air decompression table - Air only decompression: No oxygen breathing

Table	Maximum working pressure (bar)	Exposure period (h)	Time (minutes) at stage pressure of:									Total decompression period (min)	Line No.
			1.8	1.6	1.4	1.2	1.0	0.8	0.6	0.4	0.2		
D	0.7 - 0.8	0-3.0										2	1
		3.0-8.5										2	2
E	0.85 - 0.9	0-3.0										2	1
		3.0-8.5								20	30	52	2
F	0.95	0-3.0										2	1
		3.0-8.5								40	60	102	2

Part 2 Oxygen decompression from pressures of 1.0 bar and over

3 Oxygen should be breathed at stage pressures of 0.6 bar and below (columns shaded and with bold type in tables). There should be an air break of five minutes after every 20 minutes of oxygen breathing. The rate of change of pressure should be 0.4 bar/minute.

Table No.	Maximum working pressure (bar)	Exposure period (h)	Time (minutes) at stage pressure of:									Total decompression period (min)	Line No.
			1.8	1.6	1.4	1.2	1.0	0.8	**0.6**	**0.4**	**0.2**		
1	1.0 - 1.15	0-0.5										3	1
		0.5-1.0										3	2
		1.0-1.5										3	3
		1.5-2.0									**5**	8	4
		2.0-2.5									**5**	8	5
		2.5-3.0									**10**	13	6
		3.0-4.0									**15**	18	7
		4.0-8.5									**20**	23	8
2	1.2-1.35	0-0.5										4	1
		0.5-1.0										4	2
		1.0-1.5									**5**	9	3
		1.5-2.0									**10**	14	4
		2.0-2.5									**20**	24	5
		2.5-3.0								**5**	**20**	29	6
		3.0-4.0								**5**	**30**	39	7
		4.0-8.5								**5**	**35**	44	8
3	1.4-1.55	0-0.5										4	1
		0.5-1.0									**5**	9	2
		1.0-1.5									**10**	14	3
		1.5-2.0								**5**	**20**	29	4
		2.0-2.5								**5**	**30**	39	5
		2.5-3.0								**10**	**35**	49	6
		3.0-4.0								**15**	**40**	59	7
		4.0-8.5							**5**	**20**	**40**	69	8

Table No.	Maximum working pressure (bar)	Exposure period (h)	Time (minutes) at stage pressure of:									Total decompression period (min)	Line No.
			1.8	1.6	1.4	1.2	1.0	0.8	**0.6**	**0.4**	**0.2**		
4	1.6-1.75	0-0.5										5	1
		0.5-1.0									**5**	10	2
		1.0-1.5								**5**	**15**	25	3
		1.5-2.0								**10**	**30**	45	4
		2.0-2.5								**15**	**40**	60	5
		2.5-3.0							**5**	**20**	**40**	70	6
		3.0-4.0							**5**	**25**	**45**	80	7
		4.0-8.5							**10**	**30**	**45**	90	8
5	1.8-1.95	0-0.5										5	1
		0.5-1.0									**10**	15	2
		1.0-1.5								**5**	**30**	40	3
		1.5-2.0							**5**	**15**	**35**	60	4
		2.0-2.5							**5**	**25**	**40**	75	5
		2.5-3.0							**10**	**30**	**40**	85	6
		3.0-4.0						5	**15**	**30**	**45**	100	7
		4.0-8.0						5	**20**	**35**	**45**	110	8
6	2.0-2.15	0-0.5									**5**	11	1
		0.5-1.0								**5**	**15**	26	2
		1.0-1.5							**5**	**10**	**35**	56	3
		1.5-2.0							**5**	**25**	**40**	76	4
		2.0-2.5						5	**10**	**30**	**45**	96	5
		2.5-3.0						5	**15**	**35**	**45**	106	6
		3.0-4.0						10	**20**	**35**	**45**	116	7
		4.0-7.75					5	10	**25**	**40**	**50**	136	8
7	2.2-2.35	0-0.5									**5**	11	1
		0.5-1.0								**5**	**20**	31	2
		1.0-1.5							**5**	**20**	**35**	66	3
		1.5-2.0						5	**10**	**30**	**40**	91	4

Table No.	Maximum working pressure (bar)	Exposure period (h)	Time (minutes) at stage pressure of:									Total decompression period (min)	Line No.
			1.8	1.6	1.4	1.2	1.0	0.8	**0.6**	**0.4**	**0.2**		
		2.0-2.5						5	**20**	**35**	**45**	111	5
		2.5-3.0						10	**25**	**35**	**45**	121	6
		3.0-4.0					5	15	**25**	**40**	**45**	136	7
		4.0-7.25					10	20	**30**	**40**	**55**	161	8
8	2.4-2.55	0-0.5									**5**	12	1
		0.5-1.0								**10**	**25**	42	2
		1.0-1.5							**10**	**25**	**40**	82	3
		1.5-2.0						5	**20**	**35**	**40**	107	4
		2.0-2.5					5	10	**25**	**35**	**45**	127	5
		2.5-3.0					5	15	**30**	**35**	**45**	137	6
		3.0-4.0				5	5	25	**30**	**40**	**45**	157	7
		4.0-6.75				5	15	25	**30**	**45**	**60**	187	8
9	2.6-2.75	0-0.5									**5**	12	1
		0.5-1.0							**5**	**10**	**35**	57	2
		1.0-1.5						5	**10**	**30**	**45**	97	3
		1.5-2.0					5	10	**25**	**35**	**45**	127	4
		2.0-2.5					5	20	**30**	**35**	**45**	142	5
		2.5-3.0				5	10	20	**30**	**35**	**45**	152	6
		3.0-4.0				5	15	25	**30**	**40**	**45**	167	7
		4.0-6.5			5	10	20	25	**30**	**45**	**70**	212	8
10	2.8-2.95	0-0.5								**5**	**5**	18	1
		0.5-1.0							**5**	**15**	**40**	68	2
		1.0-1.5						5	**20**	**35**	**45**	113	3
		1.5-2.0					5	15	**30**	**35**	**45**	138	4
		2.0-2.5				5	10	20	**30**	**35**	**45**	153	5
		2.5-3.0				5	20	25	**30**	**35**	**45**	168	6
		3.0-4.0			5	10	20	25	**30**	**40**	**45**	183	7
		4.0-5.75			10	15	20	30	**40**	**50**	**80**	253	8

Table No.	Maximum working pressure (bar)	Exposure period (h)	Time (minutes) at stage pressure of:									Total decompression period (min)	Line No.
			1.8	1.6	1.4	1.2	1.0	0.8	**0.6**	**0.4**	**0.2**		
11	3.0-3.15	0-0.5								**5**	**5**	18	1
		0.5-1.0						5	**5**	**20**	**40**	78	2
		1.0-1.5					5	10	**20**	**35**	**45**	123	3
		1.5-2.0				5	10	20	**30**	**35**	**45**	153	4
		2.0-2.5			5	5	15	25	**30**	**35**	**45**	168	5
		2.5-3.0			5	10	20	25	**30**	**40**	**45**	183	6
		3.0-4.0		5	5	15	25	25	**30**	**40**	**45**	198	7
		4.0-5.0		5	15	15	25	30	**45**	**55**	**100**	298	8
12	3.2-3.45	0-0.5								**5**	**10**	24	1
		0.5-1.0						5	**10**	**25**	**40**	89	2
		1.0-1.5					5	15	**25**	**35**	**45**	134	3
		1.5-2.0				5	15	25	**30**	**35**	**45**	164	4
		2.0-2.5			5	10	20	25	**30**	**40**	**45**	184	5
		2.5-3.0		5	5	15	25	25	**30**	**40**	**45**	199	6
		3.0-4.0		5	15	20	25	30	**30**	**40**	**45**	219	7
		4.0-4.25	5	10	15	20	25	35	**45**	**60**	**120**	344	8

Austauchtabelle

DECO 2000

Stopp in	6	3	m
12 140'	36		D
	54		E
	72		F
	90		G
	108		G
15 72'	24		D
	36		E
	48		E
	60		F
	72		G
	84	4	G
18 45'	15		C
	25		D
	35		E
	45		F
	55	4	F
	65	8	G
	75	14	G
21 31'	11		C
	16		D
	21		D
	26		E
	31		E
	36	2	F
	41	5	F
	46	7	F
	51	10	G
	56	13	G
	61	17	G
24 23'	7		B
	11		C
	15		D
	19		D
	23		E
	27	2	E
	31	4	F
	35	7	F
	39	9	F
	43	1 12	G
	47	2 14	G
	51	3 17	G
	55	5 19	G

Stopp in	9	6	3	m
27 18'	6			B
	10			C
	14			D
	18			E
	22		2	E
	26		5	F
	30		8	F
	34	2	10	F
	38	3	13	G
	42	5	15	G
	46	7	18	G
	50	9	21	G
30 15'	6			B
	9			C
	12			D
	15			D
	18		2	E
	21		4	E
	24	1	6	F
	27	2	8	F
	30	3	10	F
	33	5	12	G
	36	6	15	G
	39	1 7	17	G
	42	1 9	19	G
33 12'	6			C
	9			D
	12			D
	15		2	E
	18		5	E
	21	1	7	F
	24	3	8	F
	27	5	10	F
	30	1 5	13	G
	33	2 7	15	G
	36	3 8	18	G
36 10'	6			C
	10			D
	14		3	E
	18	2	5	F
	21	3	8	F
	24	1 4	11	F
	27	2 6	13	G
	30	3 7	16	G
	33	4 9	19	G

Stopp in	12	9	6	3	m
39 9'	6				C
	9				D
	12			3	E
	15		1	5	E
	18		3	7	F
	21	1	5	9	F
	24	3	5	13	G
	27	4	7	16	G
42 7'	4				C
	7				D
	10			2	E
	13		1	5	E
	16		4	6	F
	19	2	4	10	F
	22	3	6	13	G
	25	1 4	8	16	G
45 6'	6				D
	8			1	D
	10			3	E
	12		2	4	E
	14	1	3	6	F
	16	2	3	9	F
	18	3	5	10	F
	20	1 3	6	13	G
	22	2 4	7	15	G
48 5'	5				C
	7			1	D
	9		1	3	E
	11		2	5	E
	13	1	3	6	F
	15	2	4	9	F
	17	1 3	5	11	F
	19	2 3	6	14	G
	21	3 4	7	17	G
51 5'	6			1	D
	8		1	3	E
	10		2	5	E
	12	1	3	7	F
	14	3	4	9	F
	16	1 3	6	11	F
	18	2 4	7	14	G

Autor: Dr. Max Hahn

0 – 700m ü. N.N.
Aufstieg mit 10m/min

Stopp in	15	12	9	6	3 m	
54 4'	6				2	D
	8			1	4	E
	10		1	2	6	E
	12		2	4	7	F
	14	1	3	5	10	F
	16	2	4	6	13	G

Stopp in	15	12	9	6	3 m	
60 3'	6			1	3	E
	8		1	2	5	E
	10	1	2	3	7	F
	12	2	3	4	11	F
	13	1 2	3	5	12	F
	14	1 2	4	6	14	G

Stopp in	15	12	9	6	3 m	
57 3'	6				3	D
	8			2	4	E
	10		2	3	6	F
	12	1	2	4	9	F
	14	2	3	6	12	F
	16	1 3	4	7	15	G

Stopp in	15	12	9	6	3 m	
63 2'	6			1	4	E
	8		1	3	6	E
	10	1	2	4	9	F
	11	2	3	4	10	F
	12	1 2	3	6	12	F
	13	1 2	4	6	14	G

Dekotiefe m

Tiefe m

Nullzeit min(')

Grundzeit min

Dekopausen min

Wiederholungsgruppe

Erst planen – dann tauchen !

Oberflächenpause (h:min)

Wiederholungsgruppe											
G	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	12:00	24h
F	0:30	1:00	1:30	2:15	3:00	3:45	4:30	5:30	6:30	10:00	20h
E			0:30	1:00	1:30	2:00	2:30	3:00	3:30	8:00	16h
D					0:30	0:45	1:00	1:30	2:00	6:00	12h
C							0:10	0:20	0:30	4:00	8h
B								0:10	0:20	2:00	4h

Zeitzuschläge (min)

Tiefe des Wiederholungstauchgangs (m)										
12	66	60	54	47	41	35	30	25	20	
15	52	47	42	37	32	27	23	19	16	
18	43	39	34	30	26	22	19	16	13	
21	36	33	29	26	22	19	16	13	11	
24	31	28	25	22	19	16	14	12	10	
27	27	25	22	19	17	14	12	10	8	
30	24	22	20	17	15	13	11	9	8	
33	22	20	18	16	14	12	10	8	7	
36	20	18	16	14	12	11	9	7	6	
39	18	17	15	13	11	10	8	7	6	
42	17	15	14	12	10	9	8	6	5	
45	16	14	13	11	10	8	7	6	5	
48	15	13	12	10	9	8	6	5	4	
51	14	12	11	10	8	7	6	5	4	
54	13	12	10	9	8	7	6	5	4	
57	12	11	10	9	7	6	5	5	4	
60	11	10	9	8	7	6	5	4	4	
63	11	10	9	8	7	6	5	4	3	

Zeitzuschlag zur Grundzeit (min)

VDST e.V.

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DIVE SAFETY THROUGH EDUCATION

Reduced Gradient Bubble Model (RGBM)

Dive Table - Air

Sea Level to 2,000 ft / 610 m

DIVE ONE			DIVE TWO			DIVE THREE		
MAX DEPTHS		MDT	MAX DEPTHS		MDT	MAX DEPTHS		MDT
fsw	msw	minutes	fsw	msw	minutes	fsw	msw	minutes
130	40	10	80	24	30	30	9	150
120	36	13	75	23	30	30	9	150
110	33	16	70	21	40	30	9	150
100	30	20	65	20	40	30	9	150
90	27	25	60	18	55	30	9	150
80	24	30	55	17	55	30	9	150
70	21	40	50	15	80	30	9	150
60	18	55	45	14	80	30	9	150
50	15	80	40	12	110	30	9	150
40	12	110	35	11	110	30	9	150
30	9	150	30	9	150	30	9	150

This table is designed for scuba dives employing air.

Read the instructions on the back and seek proper training before using this table or compressed air. Even strict compliance with this table will not guarantee avoidance of decompression sickness.

#35511

RGBM Air Tables

Sea Level to 2,000 ft / 610 m

Abbreviation Key

fsw = feet seawater
msw = meters seawater
MDT = Maximum Dive Time
SIT = Surface Interval Time
DCS = Decompression Sickness
fpm = feet per minute
mpm = meters per minute

Rules for Table Use

- Depth measuring devices may require correction for use at altitude and in fresh water to determine a diver's actual dive depths and ascent/descent rates.
- Find your first dive's maximum depth in fsw or msw in the left two columns (Dive One). Follow that row to the right to get your MDT for Dive One and continue to the next columns under Dive Two to determine permitted repetitive depth and MDT for your second dive. Continue to the next columns under Dive Three to determine repetitive depth and MDT for your third dive.
- A minimum SIT of 1:00 hour is required between dive one and dive two and dive three.
- If your actual dive depth is not listed, use the MDT for the next greater depth listed.
- Dive Two may be shallower, but cannot exceed depth and MDT to the immediate right and on the same row as Dive One. Dive Three may be shallower than the depth listed but may not exceed the MDT in column three.
- The maximum descent rate on all dives is 75 fpm (23 mpm).
- The maximum ascent rate is 30 fpm (9 mpm).
- All dives require a safety stop at about 15 fsw (5 msw) (+/- 3 feet or 1 meter) for 3 minutes.
- No more than three repetitive dives within a 12 hour period.
- After a single dive in an 18-hour period wait a minimum of 12 hours before flying or ascending to an altitude greater than 8,000 feet/2438 meters. After two dives wait 15 hours and after three dives wait 18 hours.
- Inverted depth profiles (a shallow dive followed by a deeper dive) and mandatory staged decompression dives are not permitted while using this table.
- If you accidentally exceed your MDT cease all diving activities for 24 hours. If exceeded by less than 5 minutes, conduct a decompression stop at about 15 fsw (5 msw) for 6 minutes; if exceeded by 5 to 10 minutes, stop at about 15 fsw (5 msw) for 9 minutes before surfacing.
- If symptoms of DCS manifest breathe oxygen and evacuate to the nearest recompression facility.
- Example 1: Dive 1 to 130 fsw (40 msw) for 10 minutes, followed by a 1:00 SIT: followed by Dive 2 to 80 fsw (24 msw) for 25 minutes; followed by a 1:00 SIT; followed by Dive 3 to 30 fsw (9 msw) for 150 minutes.
- Example 2: Dive 1 to 115 fsw (35 msw) for 10 minutes followed by a 1:30 minute SIT; followed by Dive 2 to 71 fsw (22 msw) for 25 minutes; followed by a 1:45 SIT; followed by Dive 3 to 25 fsw (8 msw) for 120 minutes.

These Tables are to be used only by competent and trained technical divers. Diving, and especially decompression, mixed gas, diving can be hazardous, and the purchaser/user warrants that he/she is a trained and competent diver.

Furthermore, no set of diving Tables is oxtox/bends-proof, nor tested for all possible exposures and profiles, and the purchaser/user accepts these Tables with that understanding. Purchaser/user will hold RGBMdiving.com and related individuals blameless in the event of diver error, diver mishap, diver accident, or diver fatality associated with the use or misuse of these Tables.

Purchaser/user also recognizes and accepts the following Table protocols:

1) -- descent rate is 60 fsw/min, and ascent rate is 30 fsw/min;

2) -- indicated mix switches are followed on ascent;

3) -- only 2 repetitive decompression dives per day are allowed;

4) -- minimum surface interval (SI) between two dives is 3 hours, and second dive must be 30 fsw shallower than first dive;

5) -- time-to-fly is 18 hours after a single decompression dive, and time-to-fly is 24 hours after two decompression dives;

6) -- allowable mix percentage is +/- 0.02 in these Tables;

7) -- decompression sickness and oxtox (full body and CNS) are of equal concern to the diver using these Tables

8) -- ad hoc and user invented add on procedures for these Tables are neither sanctioned nor tested within these Tables;

9) -- users need be aware of both decompression requirements and oxtox limitations on all schedules. By common convention, cumulative CNS clocks stay below 1, full body OTUs clocks stay below 650 on single dives, and 300 on repetitive dives (2 max in these Tables);

10) -- users assume all risk in using these Tables.

The consumption rate assumed is 0.75 ft^3/min at the surface. Depths, times, gas consumption, ppO2s, CNS clocks, and OTUs are as indicated. Additionally, controlling tissues, dissolved gas tensions, and permissible gradients are tabulated at each decompression stop.

RGBM TABLES - Air Version
12/99 for RGBM Iterative
RGBM/Air Parameters

air = 0.00 helium 0.79 nitrogen switches = none

table depth = 180 altitude = 0.00 ft

depth = 180.00 fsw ppO2 = 1.36 atm
bottom time = 20. min OTU = 33. min CNS = 0.17 gas = 122. cft

stop	depth	wait	tissue	tension	grad	ppO2
1	100.00	0.00	1.67	121.72	48.08	0.85
2	90.00	0.00	1.67	119.50	48.08	0.78
3	80.00	0.00	1.67	117.02	48.08	0.72
4	70.00	1.00	1.67	106.33	48.08	0.66
5	60.00	1.00	1.67	96.12	48.08	0.59
6	50.00	1.50	3.33	84.98	46.11	0.53
7	40.00	2.50	3.33	75.09	46.11	0.46
8	30.00	2.50	3.33	65.56	46.11	0.40
9	20.00	3.00	6.67	53.18	43.55	0.34
10	10.00	6.50	6.67	43.14	43.55	0.27

total time = 44. min OTU = 34. min CNS = 0.18 gas = 147. cft

depth = 180.00 fsw ppO2 =   1.36 atm
bottom time =   15. min OTU =   26. min CNS = 0.13 gas =   98. cft

stop	depth	wait	tissue	tension	grad	ppO2
1	90.00	0.00	1.67	112.23	53.02	0.78
2	80.00	0.00	1.67	110.08	53.02	0.72
3	70.00	0.00	1.67	107.67	53.02	0.66
4	60.00	0.50	1.67	100.98	53.02	0.59
5	50.00	1.00	1.67	90.34	53.02	0.53
6	40.00	1.00	1.67	80.16	53.02	0.46
7	30.00	2.00	3.33	67.47	49.04	0.40
8	20.00	2.50	3.33	57.89	49.04	0.34
9	10.00	2.50	3.33	48.60	49.04	0.27

total time =   31. min OTU =   26. min CNS = 0.13 gas = 111. cft

depth = 180.00 fsw ppO2 =   1.36 atm
bottom time =   10. min OTU =   18. min CNS = 0.09 gas =   74. cft

stop	depth	wait	tissue	tension	grad	ppO2
1	70.00	0.00	1.67	94.41	59.98	0.66
2	60.00	0.00	1.67	92.35	59.98	0.59
3	50.00	0.00	1.67	90.03	59.98	0.53
4	40.00	0.00	1.67	87.45	59.98	0.46
5	30.00	0.50	1.67	76.43	59.98	0.40
6	20.00	1.00	1.67	69.70	59.98	0.34
7	10.00	2.00	3.33	51.77	52.60	0.27

total time =   20. min OTU =   18. min CNS = 0.09 gas =   78. cft

depth = 180.00 fsw ppO2 =   1.36 atm
bottom time =   5. min OTU =   10. min CNS = 0.05 gas =   49. cft

stop	depth	wait	tissue	tension	grad	ppO2
1	40.00	0.00	1.67	64.37	67.05	0.46
2	30.00	0.00	1.67	62.60	67.05	0.40
3	20.00	0.00	1.67	60.55	67.05	0.34
4	10.00	0.50	1.67	58.23	67.05	0.27

total time =   11. min OTU =   10. min CNS = 0.05 gas =   49. cft

table depth = 170 altitude =   0.00 ft

depth = 170.00 fsw ppO2 =   1.29 atm
bottom time =   25. min OTU =   38. min CNS = 0.17 gas = 138. cft

stop	depth	wait	tissue	tension	grad	ppO2
1	90.00	0.00	1.67	117.88	46.38	0.78
2	80.00	0.00	1.67	115.48	46.38	0.72
3	70.00	1.00	1.67	105.05	46.38	0.66
4	60.00	1.00	3.33	94.48	44.84	0.59
5	50.00	2.50	3.33	84.30	44.84	0.53
6	40.00	2.50	3.33	74.54	44.84	0.46
7	30.00	3.00	3.33	63.61	44.84	0.40
8	20.00	5.50	6.67	52.10	42.67	0.34
9	10.00	6.50	6.67	42.29	42.67	0.27

total time =   53. min OTU =   39. min CNS = 0.19 gas = 169. cft

depth = 170.00 fsw ppO2 =   1.29 atm
bottom time =   20. min OTU =   31. min CNS = 0.14 gas = 115. cft

stop	depth	wait	tissue	tension	grad	ppO2
1	90.00	0.00	1.67	114.33	49.29	0.78
2	80.00	0.00	1.67	112.08	49.29	0.72
3	70.00	0.50	1.67	105.78	49.29	0.66
4	60.00	1.00	1.67	95.66	49.29	0.59
5	50.00	1.00	3.33	83.92	46.70	0.53
6	40.00	2.00	3.33	75.81	46.70	0.46
7	30.00	2.50	3.33	66.15	46.70	0.40
8	20.00	3.00	3.33	55.32	46.70	0.34
9	10.00	5.50	6.67	43.18	43.61	0.27

total time =   41. min OTU =   32. min CNS = 0.15 gas = 136. cft

depth = 170.00 fsw ppO2 =   1.29 atm

bottom time = 15. min OTU = 24. min CNS = 0.11 gas = 92. cft

stop	depth	wait	tissue	tension	grad	ppO2
1	80.00	0.00	1.67	105.30	54.55	0.72
2	70.00	0.00	1.67	103.11	54.55	0.66
3	60.00	0.00	1.67	100.66	54.55	0.59
4	50.00	0.50	1.67	93.88	54.55	0.53
5	40.00	1.00	1.67	83.10	54.55	0.46
6	30.00	1.00	3.33	69.68	49.70	0.40
7	20.00	2.50	3.33	58.12	49.70	0.34
8	10.00	3.00	3.33	48.80	49.70	0.27

total time = 29. min OTU = 24. min CNS = 0.11 gas = 102. cft

depth = 170.00 fsw ppO2 = 1.29 atm

bottom time = 10. min OTU = 16. min CNS = 0.08 gas = 69. cft

stop	depth	wait	tissue	tension	grad	ppO2
1	50.00	0.00	1.67	86.15	64.20	0.53
2	40.00	0.00	1.67	83.75	64.20	0.46
3	30.00	0.00	1.67	81.10	64.20	0.40
4	20.00	0.50	1.67	73.87	64.20	0.34
5	10.00	1.50	3.33	53.00	54.32	0.27

total time = 18. min OTU = 16. min CNS = 0.08 gas = 71. cft

depth = 170.00 fsw ppO2 = 1.29 atm

bottom time = 5. min OTU = 9. min CNS = 0.04 gas = 46. cft

stop	depth	wait	tissue	tension	grad	ppO2
1	20.00	0.00	1.67	57.65	69.26	0.34
2	10.00	0.50	1.67	55.47	69.26	0.27

total time = 11. min OTU = 9. min CNS = 0.04 gas = 46. cft

Air Decompression Tables 0-700 Metres Above Sea Level

For non-tabulated depths use the next deeper value or Go for Gold

Depth (m)	BT (min)	DeeP and all other Stops (metres/minutes). Rise-times (min).					Exit RG
9	135	-	-	-	-	3/2 3.0	G
12	125	-	-	-	-	6/2 3.0	G
15	77	-	-	-	9/1 2.0	6/1 3.0	G
	85	-	-	-	9/1 2.0	6/5 7.0	G
	90	-	-	-	9/1 2.0	6/8 10.0	G
18	52	-	-	12/1 2.0	9/1 3.0	6/1 4.0	F
	65	-	-	12/1 2.0	9/1 3.0	6/10 13.0	G
	70	-	-	12/1 2.0	9/1 3.0	6/14 17.0	G
21	35	-	-	12/1 2.0	9/1 3.0	6/1 5.0	F
	50	-	-	12/1 2.0	9/1 3.0	6/11 15.0	G
	55	-	-	12/1 2.0	9/1 3.0	6/16 20.0	G
24	27	-	-	12/1 2.0	9/1 4.0	6/1 5.0	E
	35	-	-	12/1 2.0	9/1 4.0	6/6 10.0	F
	40	-	-	12/1 2.0	9/1 4.0	6/10 14.0	F
	45	-	-	12/1 2.0	9/1 4.0	6/17 21.0	G
27	22	-	-	15/1 2.0	9/1 4.0	6/2 6.0	E
	30	-	-	15/1 2.0	9/1 4.0	6/8 12.0	F
	35	-	-	15/1 2.0	9/1 4.0	6/13 17.0	F
	40	-	-	15/1 2.0	9/1 4.0	6/21 25.0	G
30	18	-	-	15/1 3.0	9/1 4.0	6/2 7.0	E
	25	-	-	15/1 3.0	9/1 4.0	6/8 13.0	F
	30	-	-	15/1 3.0	9/1 4.0	6/13 18.0	F
	35	-	-	15/1 3.0	9/1 4.0	6/22 27.0	G

Depth (m)	BT (min)	DeeP and all other Stops (metres/minutes). Rise-times (min).					Exit RG
33	15	-	18/1 3.0	12/1 4.0	9/1 6.0	6/1 7.0	E
	20	-	18/1 3.0	12/1 4.0	9/1 6.0	6/6 12.0	F
	25	-	18/1 3.0	12/1 4.0	9/1 6.0	6/11 17.0	F
	30	-	18/1 3.0	12/1 4.0	9/1 6.0	6/21 27.0	G
36	12	-	18/1 3.0	12/1 5.0	9/1 6.0	6/1 7.0	D
	15	-	18/1 3.0	12/1 5.0	9/1 6.0	6/3 9.0	E
	20	-	18/1 3.0	12/1 5.0	9/1 6.0	6/9 15.0	F
	25	-	18/1 3.0	12/1 5.0	9/1 6.0	6/17 23.0	G
39	11	-	21/1 3.0	12/1 5.0	9/1 6.0	6/1 7.0	D
	15	-	21/1 3.0	12/1 5.0	9/1 6.0	6/6 12.0	E
	20	-	21/1 3.0	12/1 5.0	9/1 6.0	6/13 19.0	F
	25	-	21/1 3.0	15/1 5.0	9/1 6.0	6/25 31.0	G
42	9	-	21/1 3.0	12/1 5.0	9/1 6.0	6/1 8.0	D
	15	-	21/1 3.0	12/1 5.0	9/1 6.0	6/9 16.0	F
	20	-	21/1 3.0	12/1 5.0	9/1 6.0	6/17 24.0	F
45	8	-	24/1 3.0	15/1 5.0	9/1 7.0	6/1 8.0	D
	15	-	24/1 3.0	15/1 5.0	9/1 7.0	6/11 18.0	F
	20	24/1 3.0	15/1 5.0	12/1 6.0	9/1 7.0	6/23 31.0	G
48	7	-	24/1 4.0	15/1 5.0	9/1 7.0	6/1 8.0	D
	10	-	24/1 4.0	15/1 5.0	9/1 7.0	6/5 12.0	E
	15	27/1 3.0	18/1 5.0	12/1 7.0	9/1 8.0	6/14 22.0	F
	20	27/1 3.0	18/1 5.0	12/1 7.0	9/2 9.0	6/28 37.0	G
50	6	-	27/1 3.0	15/1 6.0	9/1 7.0	6/1 9.0	D
	10	-	27/1 3.0	15/1 5.0	9/1 7.0	6/7 15.0	E
	15	27/1 3.0	18/1 5.0	12/1 7.0	9/1 8.0	6/18 27.0	F

Table No. 1

APPENDIX – PROBABILITY ESTIMATES FOR DECOMPRESSION MODELS

TABLE A1. DECOMPRESSION TABLE BASED ON THE STANDAIR MODEL AND COMPARISON WITH THE VVAL-18 ALGORITHM

In column 1, V = VVal-18 Algorithm no-stop; S = StandAir Model no-stop

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
No-Stop	Depth, fswg	Bottom time, min	TDT, StandAir, min for 2% *Pdcs*	Low CI, *Pdcs*	High CI, *Pdcs*	TDT, VVal-18, min	*Pdcs*, VVal-18	TDT ratio, SA / VVal
V	40	163	---	---	---	**0.7**	1.8%	---
S	40	173	**1.3**	1.4%	2.6%	---	---	---
	40	190	**14**	1.4%	2.6%	---	---	---
	40	200	**21**	1.4%	2.6%	**39**	1.7%	0.55
	40	210	**28**	1.3%	2.7%	**48**	1.7%	0.60
	40	230	**42**	1.3%	2.7%	**65**	1.6%	0.66
	40	250	**56**	1.3%	2.7%	**90**	1.5%	0.62
	40	270	**68**	1.3%	2.7%	**113**	1.4%	0.61
	40	300	**87**	1.3%	2.7%	**142**	1.4%	0.61
V	50	92	---	---	---	**0.8**	2.0%	---
S	50	92	**1.7**	1.5%	2.5%	---	---	---
	50	100	**14**	1.4%	2.6%	**10**	2.1%	1.44
	50	110	**29**	1.4%	2.6%	**21**	2.2%	1.41
	50	120	**44**	1.4%	2.6%	**30**	2.3%	1.47
	50	140	**72**	1.4%	2.6%	**71**	2.0%	1.02
	50	160	**99**	1.4%	2.6%	**106**	1.9%	0.94
	50	180	**125**	1.4%	2.6%	**135**	1.9%	0.93
	50	200	**150**	1.3%	2.7%	**171**	1.8%	0.88
	50	220	**174**	1.3%	2.7%	**208**	1.7%	0.84
	50	240	**196**	1.3%	2.7%	**239**	1.6%	0.82
S	60	62	**2.0**	1.5%	2.5%	---	---	---
V	60	63	---	---	---	**1.0**	2.1%	---
	60	70	**21**	1.5%	2.5%	**17**	2.1%	1.25
	60	80	**44**	1.5%	2.5%	**38**	2.1%	1.16
	60	100	**88**	1.4%	2.6%	**70**	2.3%	1.26
	60	120	**130**	1.4%	2.6%	**124**	2.1%	1.05
	60	140	**170**	1.4%	2.6%	**170**	2.0%	1.00
	60	160	**208**	1.3%	2.7%	**208**	2.0%	1.00
	60	180	**244**	1.3%	2.7%	**254**	1.9%	0.96
	60	200	**279**	1.3%	2.7%	**297**	1.8%	0.94
S	70	46	**2.3**	1.5%	2.5%	---	---	---
V	70	49	---	---	---	**1.2**	2.2%	---
	70	50	**14**	1.5%	2.5%	**5**	2.2%	2.71
	70	60	**46**	1.5%	2.5%	**39**	2.1%	1.16
	70	70	**76**	1.5%	2.5%	**68**	2.1%	1.12
	70	80	**106**	1.4%	2.6%	**92**	2.2%	1.15

	70	90	**134**	1.4%	2.6%	**108**	2.4%	1.24
	70	100	**162**	1.4%	2.6%	**141**	2.3%	1.15
	70	110	**190**	1.4%	2.6%	**173**	2.2%	1.10
	70	120	**216**	1.4%	2.6%	**203**	2.2%	1.06
	70	130	**242**	1.3%	2.7%	**230**	2.1%	1.05
	70	140	**267**	1.3%	2.7%	**253**	2.1%	1.06
	70	150	**292**	1.3%	2.7%	**280**	2.1%	1.04
	70	160	**316**	1.3%	2.7%	**310**	2.1%	1.02
70	170	340	**1.3%**	2.7%	338	**2.0%**	1.00	
S	80	37	**2.7**	1.5%	2.5%	**---**	---	---
V	80	40	**6**	1.4%	2.6%	**1.3**	2.4%	4.42
	80	50	**55**	1.5%	2.5%	**47**	2.2%	1.16
	80	60	**94**	1.5%	2.5%	**86**	2.1%	1.09
	80	70	**131**	1.4%	2.6%	**113**	2.3%	1.16
	80	80	**167**	1.4%	2.6%	**133**	2.5%	1.25
	80	90	**202**	1.4%	2.6%	**170**	2.4%	1.19
	80	100	**236**	1.4%	2.6%	**209**	2.3%	1.13
	80	110	**270**	1.3%	2.7%	**244**	2.3%	1.10
	80	120	**302**	1.3%	2.7%	**275**	2.3%	1.10
	80	130	**334**	1.3%	2.7%	**304**	2.3%	1.10
	80	140	**365**	1.3%	2.7%	**336**	2.2%	1.08
	80	150	**395**	1.3%	2.7%	**370**	2.2%	1.07
S	90	31	**3.0**	1.5%	2.5%	**---**	---	---
V	90	34	**---**	---	---	**1.5**	2.5%	---
	90	40	**49**	1.5%	2.5%	**37**	2.3%	1.34
	90	50	**96**	1.5%	2.5%	**89**	2.1%	1.09
	90	60	**142**	1.4%	2.6%	**124**	2.3%	1.15
	90	70	**186**	1.4%	2.6%	**151**	2.5%	1.24
	90	80	**229**	1.4%	2.6%	**186**	2.6%	1.23
	90	90	**270**	1.4%	2.6%	**229**	2.5%	1.18
	90	100	**311**	1.3%	2.7%	**271**	2.4%	1.15
	90	110	**350**	1.3%	2.7%	**308**	2.4%	1.14
	90	120	**388**	1.3%	2.7%	**344**	2.4%	1.13
	90	130	**426**	1.3%	2.7%	**387**	2.3%	1.10
S	100	26	**3.3**	1.5%	2.5%	**---**	---	---
V	100	29	**---**	---	---	**1.7**	2.5%	---
	100	30	**26**	1.5%	2.5%	**4**	2.6%	7.04
	100	40	**83**	1.5%	2.5%	**73**	2.2%	1.14
	100	50	**137**	1.5%	2.5%	**122**	2.2%	1.13
	100	60	**190**	1.4%	2.6%	**159**	2.4%	1.20
	100	70	**241**	1.4%	2.6%	**184**	2.8%	1.31
	100	80	**290**	1.4%	2.6%	**236**	2.6%	1.23
	100	90	**338**	1.3%	2.7%	**285**	2.6%	1.19
	100	100	**385**	1.3%	2.7%	**340**	2.4%	1.13
	100	110	**430**	1.3%	2.7%	**388**	2.3%	1.11
	100	120	**474**	1.3%	2.7%	**434**	2.3%	1.09
S	110	23	**3.7**	1.5%	2.5%	**---**	---	---
	110	25	**19**	1.5%	2.5%	**---**	---	---
V	110	26	**---**	---	---	**1.8**	2.7%	---
	110	30	**52**	1.5%	2.5%	**33**	2.4%	1.58
	110	40	**116**	1.5%	2.5%	**105**	2.2%	1.11

	110	50	**178**	1.4%	2.6%	**153**	2.4%	1.17
	110	60	**238**	1.4%	2.6%	**187**	2.7%	1.27
	110	70	**296**	1.4%	2.6%	**230**	2.8%	1.29
	110	80	**352**	1.3%	2.7%	**295**	2.6%	1.19
	110	90	**406**	1.3%	2.7%	**362**	2.4%	1.12
	110	100	**459**	1.3%	2.7%	**416**	2.3%	1.10
S	120	20	**4.0**	1.5%	2.5%	**---**	---	---
V	120	23	**---**	---	---	**2.0**	2.7%	---
	120	25	**41**	1.5%	2.5%	**15**	2.7%	2.73
	120	30	**78**	1.5%	2.5%	**62**	2.3%	1.26
	120	40	**150**	1.5%	2.5%	**132**	2.3%	1.14
	120	50	**219**	1.4%	2.6%	**180**	2.5%	1.22
	120	60	**286**	1.4%	2.6%	**215**	2.9%	1.33
	120	70	**350**	1.3%	2.7%	**289**	2.6%	1.21
	120	80	**413**	1.3%	2.7%	**365**	2.4%	1.13
	120	90	**474**	1.3%	2.7%	**442**	2.2%	1.07
	120	100	**533**	1.3%	2.7%	**515**	2.1%	1.03
S	130	18	**4.3**	1.5%	2.5%	**---**	---	---
V	130	19	**---**	---	---	**2.2**	2.3%	---
	130	20	**21**	1.5%	2.5%	**3**	2.5%	6.60
	130	25	**63**	1.5%	2.5%	**40**	2.5%	1.58
	130	30	**104**	1.5%	2.5%	**89**	2.3%	1.17
	130	40	**184**	1.4%	2.6%	**157**	2.4%	1.17
	130	50	**260**	1.4%	2.6%	**205**	2.7%	1.27
	130	60	**334**	1.4%	2.6%	**260**	2.9%	1.28
	130	70	**405**	1.3%	2.7%	**355**	2.4%	1.14
	130	80	**475**	1.3%	2.7%	**448**	2.2%	1.06
	130	90	**542**	1.3%	2.7%	**533**	2.1%	1.02
S	140	16	**4.7**	1.5%	2.5%	**---**	---	---
V	140	17	**---**	---	---	**2.3**	2.2%	---
	140	20	**39**	1.5%	2.5%	**16**	2.6%	2.40
	140	25	**86**	1.5%	2.5%	**63**	2.4%	1.35
	140	30	**131**	1.5%	2.5%	**113**	2.3%	1.15
	140	40	**218**	1.4%	2.6%	**180**	2.5%	1.21
	140	50	**301**	1.4%	2.6%	**227**	2.9%	1.33
	140	60	**382**	1.3%	2.7%	**327**	2.5%	1.17
	140	70	**460**	1.3%	2.7%	**428**	2.2%	1.07
	140	80	**536**	1.3%	2.7%	**534**	2.0%	1.00
V	150	14	**---**	---	---	**2.5**	1.8%	---
	150	15	**---**	---	---	**5**	2.0%	---
S	150	15	**5.0**	1.5%	2.5%	**---**	---	---
	150	20	**57**	1.5%	2.5%	**29**	2.7%	2.01
	150	25	**108**	1.5%	2.5%	**85**	2.4%	1.28
	150	30	**157**	1.4%	2.6%	**134**	2.3%	1.17
	150	40	**251**	1.4%	2.6%	**202**	2.6%	1.25
	150	50	**342**	1.4%	2.6%	**270**	2.8%	1.27
	150	60	**430**	1.3%	2.7%	**387**	2.4%	1.11
	150	70	**515**	1.3%	2.7%	**513**	2.0%	1.01
	150	80	**597**	1.3%	2.7%	**613**	1.9%	0.98
V	160	12	**---**	---	---	**2.7**	1.6%	---
S	160	14	**5.3**	1.3%	2.7%	**---**	---	---

	160	15	**20**	1.4%	2.6%	**11**	2.2%	1.83
	160	20	**76**	1.5%	2.5%	**45**	2.7%	1.69
	160	25	**130**	1.5%	2.5%	**105**	2.4%	1.24
	160	30	**183**	1.4%	2.6%	**152**	2.5%	1.21
	160	40	**285**	1.4%	2.6%	**220**	2.8%	1.30
	160	50	**384**	1.3%	2.7%	**331**	2.5%	1.16
	160	60	**478**	1.3%	2.7%	**464**	2.1%	1.03
V	170	11	**---**	---	---	**2.8**	1.6%	---
S	170	13	**5.7**	1.5%	2.5%	**---**	---	---
	170	15	**34**	1.5%	2.5%	**21**	2.3%	1.61
	170	20	**94**	1.5%	2.5%	**61**	2.7%	1.54
	170	25	**152**	1.4%	2.6%	**122**	2.5%	1.25
	170	30	**209**	1.4%	2.6%	**169**	2.6%	1.24
	170	40	**319**	1.4%	2.6%	**240**	3.0%	1.33
	170	50	**425**	1.3%	2.7%	**388**	2.3%	1.09
	170	60	**526**	1.3%	2.7%	**536**	1.9%	0.98
V	180	10	**---**	---	---	**3.0**	1.5%	---
S	180	12	**6.0**	1.5%	2.5%	**---**	---	---
	180	15	**48**	1.5%	2.5%	**30**	2.4%	1.58
	180	20	**112**	1.5%	2.5%	**77**	2.7%	1.46
	180	25	**175**	1.4%	2.6%	**139**	2.5%	1.26
	180	30	**235**	1.4%	2.6%	**185**	2.7%	1.27
	180	40	**353**	1.4%	2.6%	**295**	2.6%	1.20
	180	50	**466**	1.3%	2.7%	**449**	2.1%	1.04
	180	60	**574**	1.3%	2.7%	**598**	1.9%	0.96
V	190	9	**---**	---	---	**3.2**	1.4%	---
	190	10	**---**	---	---	**8**	1.6%	---
S	190	11	**6.3**	1.5%	2.5%	**---**	---	---
	190	15	**62**	1.5%	2.5%	**38**	2.5%	1.62
	190	20	**130**	1.4%	2.6%	**92**	2.7%	1.41
	190	25	**197**	1.4%	2.6%	**156**	2.6%	1.26
	190	30	**262**	1.4%	2.6%	**201**	2.8%	1.30
	190	40	**387**	1.3%	2.7%	**346**	2.4%	1.12

TABLES HÉLIOX/OXY/6 M

Profondeur : 36 mètres — **Héliox 18-20 % oxygène**

Temps au fond		10 min	20 min	30 min	40 min	50 min	60 min	70 min	80 min	90 min
Remontée au palier		3	2	2	2	2	2	2	2	2
Heliox 18-20 %	21 m	-	-	-	-	-	-	-	-	3
	18 m	-	-	-	-	3	3	5	10	10
	15 m	-	-	3	5	5	10	10	10	15
	12 m	-	3	5	10	10	15	15	20	20
	9 m	3	5	10	10	15	20	25	25	30
Oxygène	6 m	5	10	20	25	30	40	45	55	60
Total décomp.		0h 11	0h 20	0h 40	0h 52	1 h 05	1 h 30	1 h 42	2 h 02	2 h 20

Profondeur : 36 mètres — **Héliox 18-20 % oxygène**

Temps au fond		100 min	110 min	120 min	130 min					
Remontée au palier		2	2	2	2					
Heliox 18-20 %	21 m	3	3	5	5					
	18 m	10	10	15	15					
	15 m	15	20	20	20					
	12 m	25	25	30	30					
	9 m	35	40	40	45					
Oxygène	6 m	70	75	85	90					
Total décomp.		2 h 40	2 h 55	3 h 17	3 h 27					

Profondeur : 39 mètres — **Héliox 18-20 % oxygène**

Temps au fond		10 min	20 min	30 min	40 min	50 min	60 min	70 min	80 min	90 min
Remontée au palier		3	2	2	2	2	2	2	2	2
Heliox 18-20 %	21 m	-	-	-	-	-	3	3	5	5
	18 m	-	-	3	3	5	5	10	10	10
	15 m	-	3	5	5	10	10	10	15	15
	12 m	-	3	5	10	10	15	20	20	25
	9 m	3	5	10	15	20	20	25	30	35
Oxygène	6 m	5	15	20	30	35	45	55	60	70
Total décomp.		0h 11	0h 28	0h 45	1 h 05	1 h 22	1 h 40	2 h 05	2 h 22	2 h 42

TABLES HÉLIOX/OXY/6 M

Profondeur : 39 mètres — **Héliox 18-20 % oxygène**

Temps au fond		100 min	110 min	120 min						
Remontée au palier		2	2	2						
Heliox 18-20 %	24 m	-	3	3						
	21 m	10	10	10						
	18 m	15	15	15						
	15 m	20	20	25						
	12 m	25	30	35						
	9 m	40	45	50						
Oxygène	6 m	80	85	95						
Total décomp.		3 h 12	3 h 30	3 h 55						

Profondeur : 42 mètres — **Héliox 18-20 % oxygène**

Temps au fond		10 min	20 min	30 min	40 min	50 min	60 min	70 min	80 min	90 min
Remontée au palier		3	3	2	2	2	2	2	2	2
Heliox 18-20 %	24 m	-	-	-	-	-	-	3	3	5
	21 m	-	-	-	3	3	5	5	10	10
	18 m	-	-	3	5	5	10	10	10	15
	15 m	-	3	5	5	10	10	15	15	20
	12 m	3	5	5	10	15	15	20	25	25
	9 m	3	5	10	15	20	25	30	35	40
Oxygène	6 m	5	15	25	30	40	50	60	70	80
Total décomp.		0h 14	0h 31	0h 50	1 h 10	1 h 35	1 h 57	2 h 25	2 h 50	3 h 17

Profondeur : 42 mètres — **Héliox 18-20 % oxygène**

Temps au fond		100 min	110 min							
Remontée au palier		2	2							
Heliox 18-20 %	24 m	5	5							
	21 m	10	10							
	18 m	15	15							
	15 m	20	25							
	12 m	30	35							
	9 m	45	50							
Oxygène	6 m	90	95							
Total décomp.		3 h 37	3 h 57							

TABLES HÉLIOX/OXY/6 M

Profondeur : 45 mètres — Héliox 18-20 % oxygène

Temps au fond		10 min	20 min	30 min	40 min	50 min	60 min	70 min	80 min	90 min
Remontée au palier		3	3	2	2	2	2	2	2	2
Heliox 18-20 %	27 m	-	-	-	-	-	-	-	3	3
	24 m	-	-	-	-	3	3	5	5	10
	21 m	-	-	3	3	5	5	10	10	10
	18 m	-	3	5	5	10	10	10	15	15
	15 m	-	3	5	10	10	15	15	20	20
	12 m	3	5	10	10	15	20	25	25	30
	9 m	3	10	15	20	25	30	35	40	45
Oxygène	6 m	10	15	25	35	45	55	65	75	85
Total décomp.		0h 19	0 h 39	1 h 05	1 h 25	1 h 55	2 h 20	2 h 47	3 h 15	3 h 40

Profondeur : 45 mètres — Héliox 18-20 % oxygène

Temps au fond		100 min								
Remontée au palier		2								
Heliox 18-20 %	27 m	3								
	24 m	10								
	21 m	15								
	18 m	20								
	15 m	25								
	12 m	35								
	9 m	50								
Oxygène	6 m	100								
Total décomp.		4 h 20								

TABLES HÉLIOX/OXY/6 M

Profondeur : 48 mètres — **Héliox 18-20 % oxygène**

Temps au fond		10 min	20 min	30 min	40 min	50 min	60 min	70 min	80 min	90 min
Remontée au palier		3	3	3	2	2	2	2	2	2
Heliox 18-20 %	27 m	-	-	-	-	-	3	3	5	5
	24 m	-	-	-	3	5	5	5	10	10
	21 m	-	-	3	5	5	10	10	10	15
	18 m	-	3	5	5	10	10	15	15	20
	15 m	-	3	5	10	10	15	20	20	25
	12 m	3	5	10	15	20	20	25	30	35
	9 m	3	10	15	20	25	30	40	45	50
Oxygène	6 m	10	20	30	40	50	65	75	85	95
Total décomp.		0h 19	0h 44	1 h 11	1 h 40	2 h 07	2 h 40	3 h 15	3 h 42	4 h 17

Profondeur : 51 mètres — **Héliox 18-20 % oxygène**

Temps au fond		10 min	20 min	30 min	40 min	50 min	60 min	70 min	80 min	
Remontée au palier		3	3	3	2	2	2	2	2	
Heliox 18-20 %	30 m	-	-	-	-	-	-	3	3	
	27 m	-	-	-	3	3	5	5	5	
	24 m	-	-	3	5	5	5	10	10	
	21 m	-	3	3	5	5	10	10	15	
	18 m	-	3	5	10	10	15	15	20	
	15 m	3	5	5	10	15	15	20	25	
	12 m	3	5	10	15	20	25	30	35	
	9 m	3	10	15	20	30	35	40	50	
Oxygène	6 m	10	20	30	45	55	70	80	95	
Total décomp.		0h 22	0h 49	1 h 14	1 h 55	2 h 25	3 h 02	3 h 35	4 h 20	

TABLES HÉLIOX/OXY/6 M

Profondeur : 54 mètres — **Héliox 18-20 % oxygène**

Temps au fond		10 min	20 min	30 min	40 min	50 min	60 min	70 min		
Remontée au palier		4	3	3	3	2	2	2		
Heliox 18-20 %	30 m	-	-	-	-	3	3	5		
	27 m	-	-	3	3	5	5	5		
	24 m	-	-	3	5	5	10	10		
	21 m	-	3	5	5	10	10	15		
	18 m	-	3	5	10	10	15	15		
	15 m	3	5	10	10	15	20	25		
	12 m	3	5	10	15	20	25	30		
	9 m	5	10	15	25	30	40	45		
Oxygène	6 m	10	20	35	50	60	75	90		
Total décomp.		0h 25	0h 49	1 h 29	2 h 06	2 h 40	3 h 25	4 h 02		

Profondeur : 57 mètres — **Héliox 18-20 % oxygène**

Temps au fond		10 min	20 min	30 min	40 min	50 min	60 min	70 min		
Remontée au palier		4	3	3	3	3	2	2		
Heliox 18-20 %	33 m	-	-	-	-	-	3	3		
	30 m	-	-	-	3	3	5	5		
	27 m	-	-	3	5	5	5	10		
	24 m	-	3	3	5	5	10	10		
	21 m	-	3	5	5	10	10	15		
	18 m	3	3	5	10	10	15	20		
	15 m	3	5	10	15	15	20	25		
	12 m	3	10	15	20	25	30	35		
	9 m	5	10	20	25	35	45	50		
Oxygène	6 m	10	25	40	55	70	85	100		
Total décomp.		0h 28	1 h 02	1 h 44	2 h 26	3 h 01	3 h 50	4 h 35		

TABLES HÉLIOX/OXY/6 M

Profondeur : 60 mètres — **Héliox 18-20 % oxygène**

Temps au fond		10 min	20 min	30 min	40 min	50 min	60 min			
Remontée au palier		4	3	3	3	3	2			
Heliox 18-20 %	36 m	-	-	-	-	-	3			
	33 m	-	-	-	3	3	5			
	30 m	-	-	3	3	5	5			
	27 m	-	-	3	5	5	10			
	24 m	-	3	5	5	10	10			
	21 m	-	3	5	10	10	15			
	18 m	3	5	5	10	15	15			
	15 m	3	5	10	15	20	25			
	12 m	3	10	15	20	25	30			
	9 m	5	15	20	30	40	45			
Oxygène	6 m	10	25	40	60	75	90			
Total décomp.		0h 28	1 h 09	1 h 49	2 h 44	3 h 31	4 h 15			

Profondeur : 63 mètres — **Héliox 18-20 % oxygène**

Temps au fond		10 min	20 min	30 min	40 min	50 min	60 min			
Remontée au palier		4	3	3	3	3	3			
Heliox 18-20 %	36 m	-	-	-	-	3	3			
	33 m	-	-	-	3	5	5			
	30 m	-	-	3	3	5	5			
	27 m	-	3	3	5	5	10			
	24 m	-	3	5	5	10	10			
	21 m	3	3	5	10	10	15			
	18 m	3	5	10	10	15	20			
	15 m	3	5	10	15	20	25			
	12 m	3	10	15	20	30	35			
	9 m	5	15	25	30	40	50			
Oxygène	6 m	15	30	45	65	80	100			
Total décomp.		0h 36	1 h 17	2 h 04	2 h 49	3 h 46	4 h 41			

TABLES HÉLIOX/OXY/6 M

Profondeur : 66 mètres — Héliox 18-20 % oxygène

Temps au fond		10 min	20 min	30 min	40 min	50 min				
Remontée au palier		4	3	3	3	3				
Heliox 18-20 %	36 m	-	-	-	3	3				
	33 m	-	-	3	3	5				
	30 m	-	3	3	5	5				
	27 m	-	3	3	5	5				
	24 m	-	3	5	5	10				
	21 m	3	3	5	10	10				
	18 m	3	5	10	15	15				
	15 m	3	5	10	15	20				
	12 m	5	10	15	25	30				
	9 m	5	15	25	35	45				
Oxygène	6 m	15	30	50	70	90				
Total décomp.		0h 38	1 h 20	2 h 12	3 h 14	4 h 01				

Profondeur : 69 mètres — Héliox 18-20 % oxygène

Temps au fond		10 min	20 min	30 min	40 min	50 min				
Remontée au palier		4	4	3	3	3				
Heliox 18-20 %	39 m	-	-	-	-	3				
	36 m	-	-	3	3	5				
	33 m	-	-	3	3	5				
	30 m	-	3	3	5	5				
	27 m	-	3	5	5	10				
	24 m	-	3	5	10	10				
	21 m	3	5	5	10	15				
	18 m	3	5	10	15	20				
	15 m	3	10	15	20	25				
	12 m	5	10	20	25	35				
	9 m	5	15	25	40	50				
Oxygène	6 m	15	35	55	75	95				
Total décomp.		0h 38	1 h 33	2 h 32	3 h 34	4 h 41				

NDP 07-2015

NO-DECOMPRESSION TABLE

NOAA NITROX 28

ONLY FOR 28% O_2, 72% N_2 MIXTURES

WARNING: EVEN STRICT COMPLIANCE WITH THESE CHARTS WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS, CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME

+ABT ACTUAL BOTTOM TIME

ESDT EQUIVALENT SINGLE DIVE TIME

CHART 1 – DIVE TIMES WITH END-OF-DIVE GROUP LETTER

PO_2	START DEPTH msw	START DEPTH fsw	00	MAXIMUM NO-STOP TIME	DIVE TIME REQUIRING DECOMPRESSION – Top / MINUTES REQUIRED AT 20 fsw STOP (6.1 msw) - Bottom														00 / 00
0.62	12.3	40	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232	
0.66	13.8	45	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	180	14
0.70	15.3	50	11	17	24	31	39	46	55	63	72	82	92	102	114	125	130	150	25
0.75	16.9	55	9	15	21	28	34	41	48	56	63	71	80	89	92	100	110	130	34
0.79	18.4	60	8	14	19	25	31	37	43	50	56	63	71	74	80	90	100		
0.87	21.4	70	6	10	14	19	23	28	32	37	42	47	48	55	60	70			
0.96	24.5	80	6	10	14	19	23	28	32	37	42	47	48	55	60	70			
1.04	27.6	90	5	9	12	16	20	24	28	32	36	39	45		50	60			
1.13	30.6	100	4	7	11	14	17	21	24	28	30	35		40	45				
1.21	33.7	110	4	6	9	12	15	18	21	25		30		35	40				
1.30	36.8	120	3	6	8	11	14	16	19	20	25		30		35				
1.38	39.8	130	3	5	7	10	12	15		20		25		30					

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
	2:20	3:36	4:31	5:23	6:15	7:08	8:00	8:52	9:44	10:36	11:29	12:21	13:13	14:05	14:58	15:50
	0:10	1:17	2:12	3:04	3:56	4:49	5:41	6:33	7:25	8:17	9:10	10:02	10:54	11:46	12:38	13:31
		1:16	2:11	3:03	3:55	4:48	5:40	6:32	7:24	8:16	9:09	10:01	10:53	11:45	12:37	13:30
		0:10	0:56	1:48	2:40	3:32	4:24	5:17	6:09	7:01	7:53	8:45	9:38	10:30	11:22	12:14
			0:55	1:47	2:39	3:31	4:23	5:16	6:08	7:00	7:52	8:44	9:37	10:29	11:21	12:13
			0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35	10:28	11:20
				0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34	10:27	11:19
				0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35	10:28
					0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34	10:27
					0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35
						0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34
						0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43
							0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42
							0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51
								0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50
								0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59
									0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58
									0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07
										0:52	1:44	2:37	3:29	4:21	5:13	6:06
										0:10	0:53	1:45	2:38	3:30	4:22	5:14
											0:52	1:44	2:37	3:29	4:21	5:13
											0:10	0:53	1:45	2:38	3:30	4:22
												0:52	1:44	2:37	3:29	4:21
												0:10	0:53	1:45	2:38	3:30
													0:52	1:44	2:37	3:29
													0:10	0:53	1:45	2:38
														0:52	1:44	2:37
														0:10	0:53	1:45
															0:52	1:44
															0:10	0:53
																0:52
																0:10

CHART 2 – SURFACE INTERVAL TIME

TIME RANGES ARE HOURS:MINUTES
ENTER FROM THE TOP, MOVE TO FIND SURFACE INTERVAL TIME.
MOVE LEFT TO FIND THE NEW REPETITIVE GROUP LETTER

CHART 3 – REPETITIVE DIVE TIME

RED NUMBERS ARE RESIDUAL NITROGEN TIMES (RNT).
BLACK NUMBERS ARE ADJUSTED NO-STOP REPETITIVE DIVE TIMES.
ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER.

00
00

PO_2	0.62	0.66	0.70	0.75	0.79	0.87	0.96	1.04	1.13	1.21	1.30	1.38	GROUP LETTER
msw	12.3	13.8	15.3	16.9	18.4	21.4	24.5	27.6	30.6	33.7	36.8	39.8	
fsw	40	45	50	55	60	70	80	90	100	110	120	130	
REPETITEVE DIVES SHALLOWER THAN 40 fsw (12.3 msw) MUST USE THE 40 fsw (12.3 msw) REPETITIVE SCHEDULE	15 / 217	13 / 150	12 / 113	11 / 81	10 / 64	8 / 40	8 / 40	7 / 32	6 / 24	5 / 20	5 / 15	5 / 10	A
	24 / 208	21 / 142	18 / 107	17 / 75	15 / 59	12 / 36	12 / 36	10 / 29	9 / 21	8 / 17	8 / 12	7 / 8	B
	33 / 199	29 / 134	25 / 100	23 / 69	20 / 54	16 / 32	16 / 32	14 / 25	12 / 18	11 / 14	10 / 10	9 / 6	C
	43 / 189	37 / 126	32 / 93	29 / 63	26 / 48	20 / 28	20 / 28	18 / 21	16 / 14	14 / 11	13 / 7	12 / 3	D
	53 / 179	45 / 118	40 / 85	35 / 57	32 / 42	25 / 23	25 / 23	22 / 17	19 / 11	17 / 8	16 / 4	14 / 1	E
	64 / 168	55 / 108	48 / 77	42 / 50	38 / 36	29 / 19	29 / 19	25 / 14	22 / 8	20 / 5	18 / 2		F
	75 / 157	64 / 99	56 / 69	49 / 43	44 / 30	34 / 14	34 / 14	29 / 10	26 / 4	23 / 2			G
	88 / 144	74 / 89	64 / 61	57 / 35	51 / 23	39 / 9	39 / 9	33 / 6	29 / 1				H
	101 / 131	85 / 78	73 / 52	65 / 27	58 / 16	44 / 4	44 / 4	38 / 1					I
	116 / 116	97 / 66	83 / 42	73 / 19	65 / 9								J
	132 / 100	109 / 54	93 / 32	81 / 11	72 / 2								K
	149 / 83	122 / 41	104 / 21	90 / 2									L
	169 / 63	136 / 27	115 / 10										M
	191 / 41	152 / 11											N
	216 / 16												O
													Z

28

NO-DECOMPRESSION TABLE
NOAA NITROX 29
ONLY FOR 29% O_2, 71% N_2 MIXTURES

NDP 07-2015

WARNING: EVEN STRICT COMPLIANCE WITH THESE CHARTS WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS, CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME
+ABT ACTUAL BOTTOM TIME
ESDT EQUIVALENT SINGLE DIVE TIME

EXCEEDS NOAA 1.40 PO_2 LIMIT

PO_2	START DEPTH msw	START DEPTH fsw	00	MAXIMUM NO-STOP TIME	DIVE TIME REQUIRING DECOMPRESSION – Top: MINUTES REQUIRED AT 20 fsw STOP (6.1 msw) - Bottom														00 / 00
0.64	12.3	40	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232	
0.69	13.8	45	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	180	14
0.73	15.3	50	11	17	24	31	39	46	55	63	72	82	92	102	114	125	130	150	2 25
0.77	16.9	55	9	15	21	28	34	41	48	56	63	71	80	89	92	100	110	130	4 8 34
0.82	18.4	60	8	14	19	25	31	37	43	50	56	63	71	74	80	90	100		4 10 17
0.91	21.4	70	7	12	17	22	28	33	39	45	51	57	60	65		80	90		2 14 23
0.99	24.5	80	6	10	14	19	23	28	32	37	42	47	48	55	60	70			9 14 24
1.08	27.6	90	5	9	12	16	20	24	28	32	36	39	45		50	60			10 17 30
1.17	30.6	100	4	7	11	14	17	21	24	28	30	35		40	45				4 14 23
1.26	33.7	110	4	6	9	12	15	18	21	25		30		35	40				3 15 26
1.34	36.8	120	3	6	8	11	14	16	19	20	25		30		35				3 14 27
1.43	39.8	130	3	5	7	10	12	15		20		25		30					2 8 24
										A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z

CHART 1 – DIVE TIMES WITH END-OF-DIVE GROUP LETTER

PO_2	0.64	0.69	0.73	0.77	0.82	0.91	0.99	1.08	1.17	1.26	1.34	1.43	
msw	12.3	13.8	15.3	16.9	18.4	21.4	24.5	27.6	30.6	33.7	36.8	39.8	GROUP LETTER
fsw	40	45	50	55	60	70	80	90	100	110	120	130	
REPETITEVE DIVES SHALLOWER THAN 40 fsw (12.3 msw) MUST USE THE 40 fsw (12.3 msw) REPETITIVE SCHEDULE	15 217	13 150	12 113	11 81	10 64	9 51	8 40	7 32	6 24	5 20	5 15	5 10	A
	24 208	21 142	18 107	17 75	15 59	14 46	12 36	10 29	9 21	8 17	8 12	7 8	B
	33 199	29 134	25 100	23 69	20 54	19 41	16 32	14 25	12 18	11 14	10 10	9 6	C
	43 189	37 126	32 93	29 63	26 48	24 36	20 28	18 21	16 14	14 11	13 7	12 3	D
	53 179	45 118	40 85	35 57	32 42	29 31	25 23	22 17	19 11	17 8	16 4	14 1	E
	64 168	55 108	48 77	42 50	38 36	35 25	29 19	25 14	22 8	20 5	18 2		F
	75 157	64 99	56 69	49 43	44 30	40 20	34 14	29 10	26 4	23 2			G
	88 144	74 89	64 61	57 35	51 23	46 14	39 9	33 6	29 1				H
	101 131	85 78	73 52	65 27	58 16	52 8	44 4	38 1					I
	116 116	97 66	83 42	73 19	65 9	58 2							J
	132 100	109 54	93 32	81 11	72 2								K
	149 83	122 41	104 21	90 2									L
	169 63	136 27	115 10										M
	191 41	152 11											N
	216 16												O
													Z

CHART 3 – REPETITIVE DIVE TIME
RED NUMBERS ARE RESIDUAL NITROGEN TIMES (RNT).
BLACK NUMBERS ARE ADJUSTED NO-STOP REPETITIVE DIVE TIMES.
ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER.

00 / 00

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
2:20 0:10	3:36 1:17	4:31 2:12	5:23 3:04	6:15 3:56	7:08 4:49	8:00 5:41	8:52 6:33	9:44 7:25	10:36 8:17	11:29 9:10	12:21 10:02	13:13 10:54	14:05 11:46	14:58 12:38	15:50 13:31
	1:16 0:10	2:11 0:56	3:03 1:48	3:55 2:40	4:48 3:32	5:40 4:24	6:32 5:17	7:24 6:09	8:16 7:01	9:09 7:53	10:01 8:45	10:53 9:38	11:45 10:30	12:37 11:22	13:30 12:14
		0:55 0:10	1:47 0:53	2:39 1:45	3:31 2:38	4:23 3:30	5:16 4:22	6:08 5:14	7:00 6:07	7:52 6:59	8:44 7:51	9:37 8:43	10:29 9:35	11:21 10:28	12:13 11:20
			0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51	9:34 8:43	10:27 9:35	11:19 10:28
				0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51	9:34 8:43	10:27 9:35
					0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51	9:34 8:43
						0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51
							0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59
								0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07
									0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14
										0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22
											0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30
												0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38
													0:52 0:10	1:44 0:53	2:37 1:45
														0:52 0:10	1:44 0:53
															0:52 0:10

CHART 2 – SURFACE INTERVAL TIME
TIME RANGES ARE HOURS:MINUTES
ENTER FROM THE TOP, MOVE TO FIND SURFACE INTERVAL TIME.
MOVE LEFT TO FIND THE NEW REPETITIVE GROUP LETTER

29

NO-DECOMPRESSION TABLE
NOAA NITROX 30
ONLY FOR 30% O_2, 70% N_2 MIXTURES

NDP 07-2015

WARNING: EVEN STRICT COMPLIANCE WITH THESE CHARTS WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS, CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME

+ABT ACTUAL BOTTOM TIME

ESDT EQUIVALENT SINGLE DIVE TIME

EXCEEDS NOAA 1.40 PO_2 LIMIT

PO_2	START DEPTH msw	START DEPTH fsw	00	MAXIMUM NO-STOP TIME	DIVE TIME REQUIRING DECOMPRESSION – Top MINUTES REQUIRED AT 20 fsw STOP *(6.1 msw)* - Bottom														00
0.66	12.3	40	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232	00
0.71	13.8	45	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	180	14
0.75	15.3	50	11	17	24	31	39	46	55	63	72	82	92	102	114	125	130	150	25
0.80	16.9	55	11	17	24	31	39	46	55	63	72	82	92	102	114	125	130	150	25
0.85	18.4	60	9	15	21	28	34	41	48	56	63	71	80	89	92	100	110		
0.94	21.4	70	7	12	17	22	28	33	39	45	51	57	60	65		80	90		
1.03	24.5	80	6	10	14	19	23	28	32	37	42	47	48	55	60				
1.12	27.6	90	5	9	12	16	20	24	28	32	36	39	45		50				
1.21	30.6	100	4	7	11	14	17	21	24	28	30	35		40					
1.30	33.7	110	4	6	9	12	15	18	21	25		30		35					
1.39	36.8	120	3	6	8	11	14	16	19	20	25		30						
1.48	39.8	130	3	5	7	10	12	15		20		25							

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
	2									8						

CHART 1 – DIVE TIMES WITH END-OF-DIVE GROUP LETTER

PO_2	0.66	0.71	0.75	0.80	0.85	0.94	1.03	1.12	1.21	1.30	1.39	1.48	
msw	12.3	13.8	15.3	16.9	18.4	21.4	24.5	27.6	30.6	33.7	36.8	39.8	GROUP LETTER
fsw	40	45	50	55	60	70	80	90	100	110	120	130	
REPETITEVE DIVES SHALLOWER THAN 40 fsw *(12.3 msw)* MUST USE THE 40 fsw *(12.3 msw)* REPETITIVE SCHEDULE	15	13	12	12	11	9	8	7	6	5	5	5	A
	217	150	113	113	81	51	40	32	24	20	15	10	
	24	21	18	18	17	14	12	10	9	8	8	7	B
	208	142	107	107	75	46	36	29	21	17	12	8	
	33	29	25	25	23	19	16	14	12	11	10	9	C
	199	134	100	100	69	41	32	25	18	14	10	6	
	43	37	32	32	29	24	20	18	16	14	13	12	D
	189	126	93	93	63	36	28	21	14	11	7	3	
	53	45	40	40	35	29	25	22	19	17	16	14	E
	179	118	85	85	57	31	23	17	11	8	4	1	
	64	55	48	48	42	35	29	25	22	20	18		F
	168	108	77	77	50	25	19	14	8	5	2		
	75	64	56	56	49	40	34	29	26	23			G
	157	99	69	69	43	20	14	10	4	2			
	88	74	64	64	57	46	39	33	29				H
	144	89	61	61	35	14	9	6	1				
	101	85	73	73	65	52	44	38					I
	131	78	52	52	27	8	4	1					
	116	97	83	83	73	58							J
	116	66	42	42	19	2							
	132	109	93	93	81								K
	100	54	32	32	11								
	149	122	104	104	90								L
	83	41	21	21	2								
	169	136	115	115									M
	63	27	10	10									
	191	152											N
	41	11											
	216												O
	16												
													Z

CHART 3 – REPETITIVE DIVE TIME

RED NUMBERS ARE RESIDUAL NITROGEN TIMES (RNT).
BLACK NUMBERS ARE ADJUSTED NO-STOP REPETITIVE DIVE TIMES.
ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER.

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
	2:20	3:36	4:31	5:23	6:15	7:08	8:00	8:52	9:44	10:36	11:29	12:21	13:13	14:05	14:58	15:50
	0:10	1:17	2:12	3:04	3:56	4:49	5:41	6:33	7:25	8:17	9:10	10:02	10:54	11:46	12:38	13:31
		1:16	2:11	3:03	3:55	4:48	5:40	6:32	7:24	8:16	9:09	10:01	10:53	11:45	12:37	13:30
		0:10	0:56	1:48	2:40	3:32	4:24	5:17	6:09	7:01	7:53	8:45	9:38	10:30	11:22	12:14
			0:55	1:47	2:39	3:31	4:23	5:16	6:08	7:00	7:52	8:44	9:37	10:29	11:21	12:13
			0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35	10:28	11:20
				0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34	10:27	11:19
				0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35	10:28
					0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34	10:27
					0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35
						0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34
						0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43
							0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42
							0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51
								0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50
								0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59
									0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58
									0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07
										0:52	1:44	2:37	3:29	4:21	5:13	6:06
										0:10	0:53	1:45	2:38	3:30	4:22	5:14
											0:52	1:44	2:37	3:29	4:21	5:13
											0:10	0:53	1:45	2:38	3:30	4:22
												0:52	1:44	2:37	3:29	4:21
												0:10	0:53	1:45	2:38	3:30
													0:52	1:44	2:37	3:29
													0:10	0:53	1:45	2:38
														0:52	1:44	2:37
														0:10	0:53	1:45
															0:52	1:44
															0:10	0:53
																0:52
																0:10

CHART 2 – SURFACE INTERVAL TIME

TIME RANGES ARE HOURS:MINUTES
ENTER FROM THE TOP, MOVE TO FIND SURFACE INTERVAL TIME.
MOVE LEFT TO FIND THE NEW REPETITIVE GROUP LETTER

30

NO-DECOMPRESSION TABLE

NOAA NITROX 31

ONLY FOR 31% O_2, 69% N_2 MIXTURES

NDP 07-2015

WARNING: EVEN STRICT COMPLIANCE WITH THESE CHARTS WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS, CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME

+ABT ACTUAL BOTTOM TIME

ESDT EQUIVALENT SINGLE DIVE TIME

EXCEEDS NOAA 1.40 PO_2 LIMIT

PO_2	START DEPTH msw	START DEPTH fsw	MAXIMUM NO-STOP TIME 00	DIVE TIME REQUIRING DECOMPRESSION – Top / MINUTES REQUIRED AT 20 fsw STOP *(6.1 msw)* - Bottom															00 / 00
0.69	12.3	40	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232	
0.73	13.8	45	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232	
0.78	15.3	50	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	180	14
0.83	16.9	55	11	17	24	31	39	46	55	63	72	82	92	102	114	125	130 2	150	25
0.87	18.4	60	9	15	21	28	34	41	48	56	63	71	80	89	92	100 4	110 8		
0.97	21.4	70	7	12	17	22	28	33	39	45	51	57	60	65 2		80 14	90 23		
1.06	24.5	80	6	10	14	19	23	28	32	37	42	47	48	55 9	60 14				
1.16	27.6	90	5	9	12	16	20	24	28	32	36	39	45 10		50 17				
1.25	30.6	100	4	7	11	14	17	21	24	28	30	35 4		40 14					
1.34	33.7	110	4	6	9	12	15	18	21	25		30 3		35 15					
1.44	36.8	120	3	6	8	11	14	16	19	20	25 3		30 14						
1.53	39.8	130	3	6	8	11	14	16	19	20	25 3		30 14						

CHART 1 – DIVE TIMES WITH END-OF-DIVE GROUP LETTER

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
0.69	2:20 / 0:10	3:36 / 1:17	4:31 / 2:12	5:23 / 3:04	6:15 / 3:56	7:08 / 4:49	8:00 / 5:41	8:52 / 6:33	9:44 / 7:25	10:36 / 8:17	11:29 / 9:10	12:21 / 10:02	13:13 / 10:54	14:05 / 11:46	14:58 / 12:38	15:50 / 13:31
0.73		1:16 / 0:10	2:11 / 0:56	3:03 / 1:48	3:55 / 2:40	4:48 / 3:32	5:40 / 4:24	6:32 / 5:17	7:24 / 6:09	8:16 / 7:01	9:09 / 7:53	10:01 / 8:45	10:53 / 9:38	11:45 / 10:30	12:37 / 11:22	13:30 / 12:14
0.78			0:55 / 0:10	1:47 / 0:53	2:39 / 1:45	3:31 / 2:38	4:23 / 3:30	5:16 / 4:22	6:08 / 5:14	7:00 / 6:07	7:52 / 6:59	8:44 / 7:51	9:37 / 8:43	10:29 / 9:35	11:21 / 10:28	12:13 / 11:20
0.83				0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51	9:34 / 8:43	10:27 / 9:35	11:19 / 10:28
0.87					0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51	9:34 / 8:43	10:27 / 9:35
0.97						0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51	9:34 / 8:43
1.06							0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51
1.16								0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59
1.25									0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07
1.34										0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14
1.44											0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 5:14	5:13 / 6:07
1.53												0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30

CHART 2 – SURFACE INTERVAL TIME

TIME RANGES ARE HOURS:MINUTES

ENTER FROM THE TOP, MOVE TO FIND SURFACE INTERVAL TIME.

MOVE LEFT TO FIND THE NEW REPETITIVE GROUP LETTER

PO_2	0.69	0.73	0.78	0.83	0.87	0.97	1.06	1.16	1.25	1.34	1.44	1.53	
msw	12.3	13.8	15.3	16.9	18.4	21.4	24.5	27.6	30.6	33.7	36.8	39.8	
fsw	40	45	50	55	60	70	80	90	100	110	120	130	GROUP LETTER
REPETITEVE DIVES SHALLOWER THAN 40 fsw *(12.3 msw)* MUST USE THE 40 fsw *(12.3 msw)* REPETITIVE SCHEDULE	15 / 217	15 / 217	13 / 150	12 / 113	11 / 81	9 / 51	8 / 40	7 / 32	6 / 24	5 / 20	5 / 15	5 / 15	A
	24 / 208	24 / 208	21 / 142	18 / 107	17 / 75	14 / 46	12 / 36	10 / 29	9 / 21	8 / 17	8 / 12	8 / 12	B
	33 / 199	33 / 199	29 / 134	25 / 100	23 / 69	19 / 41	16 / 32	14 / 25	12 / 18	11 / 14	10 / 10	10 / 10	C
	43 / 189	43 / 189	37 / 126	32 / 93	29 / 63	24 / 36	20 / 28	18 / 21	16 / 14	14 / 11	13 / 7	13 / 7	D
	53 / 179	53 / 179	45 / 118	40 / 85	35 / 57	29 / 31	25 / 23	22 / 17	19 / 11	17 / 8	16 / 4	16 / 4	E
	64 / 168	64 / 168	55 / 108	48 / 77	42 / 50	35 / 25	29 / 19	25 / 14	22 / 8	20 / 5	18 / 2	18 / 2	F
	75 / 157	75 / 157	64 / 99	56 / 69	49 / 43	40 / 20	34 / 14	29 / 10	26 / 4	23 / 2			G
	88 / 144	88 / 144	74 / 89	64 / 61	57 / 35	46 / 14	39 / 9	33 / 6	29 / 1				H
	101 / 131	101 / 131	85 / 78	73 / 52	65 / 27	52 / 8	44 / 4	38 / 1					I
	116 / 116	116 / 116	97 / 66	83 / 42	73 / 19	58 / 2							J
	132 / 100	132 / 100	109 / 54	93 / 32	81 / 11								K
	149 / 83	149 / 83	122 / 41	104 / 21	90 / 2								L
	169 / 63	169 / 63	136 / 27	115 / 10									M
	191 / 41	191 / 41	152 / 11										N
	216 / 16	216 / 16											O
													Z

CHART 3 – REPETITIVE DIVE TIME

RED NUMBERS ARE RESIDUAL NITROGEN TIMES (RNT).

BLACK NUMBERS ARE ADJUSTED NO-STOP REPETITIVE DIVE TIMES.

ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER.

00 / 00

31

NO-DECOMPRESSION TABLE
NOAA NITROX 32
ONLY FOR 32% O_2, 68% N_2 MIXTURES

NDP 07-2015

WARNING: EVEN STRICT COMPLIANCE WITH THESE CHARTS WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS, CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME
+ABT ACTUAL BOTTOM TIME
ESDT EQUIVALENT SINGLE DIVE TIME

EXCEEDS NOAA 1.40 PO_2 LIMIT

PO_2	START DEPTH msw	START DEPTH fsw	00	MAXIMUM NO-STOP TIME	DIVE TIME REQUIRING DECOMPRESSION – Top / MINUTES REQUIRED AT 20 fsw STOP *(6.1 msw)* - Bottom														00 / 00
0.71	12.3	40	17	27	38	50	62	76	91	107	125	145	167	193	223	260	307	371
0.76	13.8	45	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232
0.80	15.3	50	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	180 / 14
0.85	16.9	55	11	17	24	31	39	46	55	63	72	82	92	102	114	125	130 / 2	150 / 25
0.90	18.4	60	9	15	21	28	34	41	48	56	63	71	80	89	92	100 / 4	110 / 8	
1.00	21.4	70	7	12	17	22	28	33	39	45	51	57	60	65 / 2		80 / 14	90 / 23	
1.10	24.5	80	6	10	14	19	23	28	32	37	42	47	48	55 / 9	60 / 14			
1.19	27.6	90	5	9	12	16	20	24	28	32	36	39	45 / 10		50 / 17			
1.29	30.6	100	4	7	11	14	17	21	24	28	30	35 / 4		40 / 14				
1.39	33.7	110	4	7	11	14	17	21	24	28	30	35 / 4		40 / 14				
1.48	36.8	120	4	6	9	12	15	18	21	25		30 / 3		35 / 15				
1.58	39.8	130	3	6	8	11	14	16	19	20	25 / 3		30 / 14					
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z

CHART 1 – DIVE TIMES WITH END-OF-DIVE GROUP LETTER

PO_2	0.71	0.76	0.80	0.85	0.90	1.00	1.10	1.19	1.29	1.39	1.48	1.58	
msw	12.3	13.8	15.3	16.9	18.4	21.4	24.5	27.6	30.6	33.7	36.8	39.8	GROUP LETTER
fsw	40	45	50	55	60	70	80	90	100	110	120	130	
REPETITEVE DIVES SHALLOWER THAN 40 fsw *(12.3 msw)* MUST USE THE 40 fsw *(12.3 msw)* REPETITIVE SCHEDULE	18 / 353	15 / 217	13 / 150	12 / 113	11 / 81	9 / 51	8 / 40	7 / 32	6 / 24	6 / 24	5 / 20	5 / 15	A
	28 / 343	24 / 208	21 / 142	18 / 107	17 / 75	14 / 46	12 / 36	10 / 29	9 / 21	9 / 21	8 / 17	8 / 12	B
	39 / 332	33 / 199	29 / 134	25 / 100	23 / 69	19 / 41	16 / 32	14 / 25	12 / 18	12 / 18	11 / 14	10 / 10	C
	51 / 320	43 / 189	37 / 126	32 / 93	29 / 63	24 / 36	20 / 28	18 / 21	16 / 14	16 / 14	14 / 11	13 / 7	D
	63 / 308	53 / 179	45 / 118	40 / 85	35 / 57	29 / 31	25 / 23	22 / 17	19 / 11	19 / 11	17 / 8	16 / 4	E
	77 / 294	64 / 168	55 / 108	48 / 77	42 / 50	35 / 25	29 / 19	25 / 14	22 / 8	22 / 8	20 / 5	18 / 2	F
	92 / 279	75 / 157	64 / 99	56 / 69	49 / 43	40 / 20	34 / 14	29 / 10	26 / 4	26 / 4	23 / 2		G
	108 / 263	88 / 144	74 / 89	64 / 61	57 / 35	46 / 14	39 / 9	33 / 6	29 / 1	29 / 1			H
	126 / 245	101 / 131	85 / 78	73 / 52	65 / 27	52 / 8	44 / 4	38 / 1					I
	146 / 225	116 / 116	97 / 66	83 / 42	73 / 19	58 / 2							J
	168 / 203	132 / 100	109 / 54	93 / 32	81 / 11								K
	194 / 177	149 / 83	122 / 41	104 / 21	90 / 2								L
	224 / 147	169 / 63	136 / 27	115 / 10									M
	261 / 110	191 / 41	152 / 11										N
	308 / 63	216 / 16											O
													Z

CHART 3 – REPETITIVE DIVE TIME
RED NUMBERS ARE RESIDUAL NITROGEN TIMES (RNT).
BLACK NUMBERS ARE ADJUSTED NO-STOP REPETITIVE DIVE TIMES.
ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER.
00 / 00

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
2:20 / 0:10	3:36 / 1:17	4:31 / 2:12	5:23 / 3:04	6:15 / 3:56	7:08 / 4:49	8:00 / 5:41	8:52 / 6:33	9:44 / 7:25	10:36 / 8:17	11:29 / 9:10	12:21 / 10:02	13:13 / 10:54	14:05 / 11:46	14:58 / 12:38	15:50 / 13:31
	1:16 / 0:10	2:11 / 0:56	3:03 / 1:48	3:55 / 2:40	4:48 / 3:32	5:40 / 4:24	6:32 / 5:17	7:24 / 6:09	8:16 / 7:01	9:09 / 7:53	10:01 / 8:45	10:53 / 9:38	11:45 / 10:30	12:37 / 11:22	13:30 / 12:14
		0:55 / 0:10	1:47 / 0:53	2:39 / 1:45	3:31 / 2:38	4:23 / 3:30	5:16 / 4:22	6:08 / 5:14	7:00 / 6:07	7:52 / 6:59	8:44 / 7:51	9:37 / 8:43	10:29 / 9:35	11:21 / 10:28	12:13 / 11:20
			0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51	9:34 / 8:43	10:27 / 9:35	11:19 / 10:28
				0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51	9:34 / 8:43	10:27 / 9:35
					0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51	9:34 / 8:43
						0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51
							0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59
								0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07
									0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14
										0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22
											0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30
												0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38
													0:52 / 0:10	1:44 / 0:53	2:37 / 1:45
														0:52 / 0:10	1:44 / 0:53
															0:52 / 0:10

CHART 2 – SURFACE INTERVAL TIME
TIME RANGES ARE HOURS:MINUTES
ENTER FROM THE TOP, MOVE TO FIND SURFACE INTERVAL TIME.
MOVE LEFT TO FIND THE NEW REPETITIVE GROUP LETTER

32

NO-DECOMPRESSION TABLE

NOAA NITROX 33

ONLY FOR 33% O_2, 67% N_2 MIXTURES

NDP 07-2015

WARNING: EVEN STRICT COMPLIANCE WITH THESE CHARTS WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS, CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME

+ABT ACTUAL BOTTOM TIME

ESDT EQUIVALENT SINGLE DIVE TIME

EXCEEDS NOAA 1.40 PO_2 LIMIT

PO_2	START DEPTH msw	START DEPTH fsw	00	MAXIMUM NO-STOP TIME	DIVE TIME REQUIRING DECOMPRESSION – Top / MINUTES REQUIRED AT 20 fsw STOP *(6.1 msw)* - Bottom														00 / 00
0.73	12.3	40	17	27	38	50	62	76	91	107	125	145	167	193	223	260	307	371
0.78	13.8	45	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232
0.83	15.3	50	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	180 / 14
0.88	16.9	55	11	17	24	31	39	46	55	63	72	82	92	102	114	125	130 / 2	150 / 25
0.93	18.4	60	9	15	21	28	34	41	48	56	63	71	80	89	92	100 / 4	110 / 8	130 / 34
1.03	21.4	70	8	14	19	25	31	37	43	50	56	63	71	74	80 / 4	90 / 10	100 / 17	
1.13	24.5	80	6	10	14	19	23	28	32	37	42	47	48	55 / 9	60 / 14			
1.23	27.6	90	5	9	12	16	20	24	28	32	36	39	45 / 10		50 / 17			
1.33	30.6	100	5	9	12	16	20	24	28	32	36	39	45 / 10		50 / 17			
1.43	33.7	110	4	7	11	14	17	21	24	28	30	35 / 4		40 / 14				
1.53	36.8	120	4	6	9	12	15	18	21	25		30 / 3		35 / 15				

CHART 1 – DIVE TIMES WITH END-OF-DIVE GROUP LETTER

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
0:10	2:20	3:36	4:31	5:23	6:15	7:08	8:00	8:52	9:44	10:36	11:29	12:21	13:13	14:05	14:58	15:50
0:10	1:17	2:12	3:04	3:56	4:49	5:41	6:33	7:25	8:17	9:10	10:02	10:54	11:46	12:38	13:31	
0:10	1:16	2:11	3:03	3:55	4:48	5:40	6:32	7:24	8:16	9:09	10:01	10:53	11:45	12:37	13:30	
0:10	0:56	1:48	2:40	3:32	4:24	5:17	6:09	7:01	7:53	8:45	9:38	10:30	11:22	12:14		
0:10	0:55	1:47	2:39	3:31	4:23	5:16	6:08	7:00	7:52	8:44	9:37	10:29	11:21	12:13		
0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35	10:28	11:20			
0:10	0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34	10:27	11:19			
0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35	10:28				
0:10	0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34	10:27				
0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35					
0:10	0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34					
0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43						
0:10	0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42						
0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51							
0:10	0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50							
0:10	0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58								
0:10	0:52	1:44	2:37	3:29	4:21	5:13	6:06									
0:10	0:52	1:44	2:37	3:29	4:21	5:13										
0:10	0:52	1:44	2:37	3:29	4:21											
0:10	0:52	1:44	2:37	3:29												
0:10	0:52	1:44	2:37													
0:10	0:52	1:44														
0:10	0:52															

CHART 2 – SURFACE INTERVAL TIME

TIME RANGES ARE HOURS:MINUTES

ENTER FROM THE TOP, MOVE TO FIND SURFACE INTERVAL TIME.

MOVE LEFT TO FIND THE NEW REPETITIVE GROUP LETTER

CHART 3 – REPETITIVE DIVE TIME

RED NUMBERS ARE RESIDUAL NITROGEN TIMES (RNT).

BLACK NUMBERS ARE ADJUSTED NO-STOP REPETITIVE DIVE TIMES.

ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER.

00 / 00

PO_2	0.73	0.78	0.83	0.88	0.93	1.03	1.13	1.23	1.33	1.43	1.53	GROUP LETTER
msw	12.3	13.8	15.3	16.9	18.4	21.4	24.5	27.6	30.6	33.7	36.8	
fsw	40	45	50	55	60	70	80	90	100	110	120	
REPETITIVE DIVES SHALLOWER THAN 40 fsw *(12.3 msw)* MUST USE THE 40 fsw *(12.3 msw)* REPETITIVE SCHEDULE	18 / 353	15 / 217	13 / 150	12 / 113	11 / 81	10 / 64	8 / 40	7 / 32	7 / 32	6 / 24	5 / 20	A
	28 / 343	24 / 208	21 / 142	18 / 107	17 / 75	15 / 59	12 / 36	10 / 29	10 / 29	9 / 21	8 / 17	B
	39 / 332	33 / 199	29 / 134	25 / 100	23 / 69	20 / 54	16 / 32	14 / 25	14 / 25	12 / 18	11 / 14	C
	51 / 320	43 / 189	37 / 126	32 / 93	29 / 63	26 / 48	20 / 28	18 / 21	18 / 21	16 / 14	14 / 11	D
	63 / 308	53 / 179	45 / 118	40 / 85	35 / 57	32 / 42	25 / 23	22 / 17	22 / 17	19 / 11	17 / 8	E
	77 / 294	64 / 168	55 / 108	48 / 77	42 / 50	38 / 36	29 / 19	25 / 14	25 / 14	22 / 8	20 / 5	F
	92 / 279	75 / 157	64 / 99	56 / 69	49 / 43	44 / 30	34 / 14	29 / 10	29 / 10	26 / 4	23 / 2	G
	108 / 263	88 / 144	74 / 89	64 / 61	57 / 35	51 / 23	39 / 9	33 / 6	33 / 6	29 / 1		H
	126 / 245	101 / 131	85 / 78	73 / 52	65 / 27	58 / 16	44 / 4	38 / 1	38 / 1			I
	146 / 225	116 / 116	97 / 66	83 / 42	73 / 19	65 / 9						J
	168 / 203	132 / 100	109 / 54	93 / 32	81 / 11	72 / 2						K
	194 / 177	149 / 83	122 / 41	104 / 21	90 / 2							L
	224 / 147	169 / 63	136 / 27	115 / 10								M
	261 / 110	191 / 41	152 / 11									N
	308 / 63	216 / 16										O
												Z

33

NO-DECOMPRESSION TABLE
NOAA NITROX 34
ONLY FOR 34% O_2, 66% N_2 MIXTURES

NDP 07-2015

WARNING: EVEN STRICT COMPLIANCE WITH THESE CHARTS WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS, CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME
+ABT ACTUAL BOTTOM TIME
ESDT EQUIVALENT SINGLE DIVE TIME

EXCEEDS NOAA 1.40 PO_2 LIMIT

PO_2	START DEPTH msw	START DEPTH fsw	00	MAXIMUM NO-STOP TIME	DIVE TIME REQUIRING DECOMPRESSION – Top / MINUTES REQUIRED AT 20 fsw STOP (6.1 msw) - Bottom														00 / 00
0.75	12.3	40	17	27	38	50	62	76	91	107	125	145	167	193	223	260	307	371	
0.80	13.8	45	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232	
0.86	15.3	50	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	180	14
0.91	16.9	55	11	17	24	31	39	46	55	63	72	82	92	102	114	125	130	150	25
0.96	18.4	60	11	17	24	31	39	46	55	63	72	82	92	102	114	125	130	150	25
1.06	21.4	70	8	14	19	25	31	37	43	50	56	63	71	74	80	90	100		
1.16	24.5	80	6	10	14	19	23	28	32	37	42	47	48	55	60				
1.27	27.6	90	6	10	14	19	23	28	32	37	42	47	48	55	60				
1.37	30.6	100	5	9	12	16	20	24	28	32	36	39	45		50				
1.47	33.7	110	4	7	11	14	17	21	24	28	30	35		40					
1.58	36.8	120	4	6	9	12	15	18	21	25		30		35					

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
	2:20	3:36	4:31	5:23	6:15	7:08	8:00	8:52	9:44	10:36	11:29	12:21	13:13	14:05	14:58	15:50
A	0:10	1:17	2:12	3:04	3:56	4:49	5:41	6:33	7:25	8:17	9:10	10:02	10:54	11:46	12:38	13:31
B		1:16	2:11	3:03	3:55	4:48	5:40	6:32	7:24	8:16	9:09	10:01	10:53	11:45	12:37	13:30
		0:10	0:56	1:48	2:40	3:32	4:24	5:17	6:09	7:01	7:53	8:45	9:38	10:30	11:22	12:14
C			0:55	1:47	2:39	3:31	4:23	5:16	6:08	7:00	7:52	8:44	9:37	10:29	11:21	12:13
			0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35	10:28	11:20
D				0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34	10:27	11:19
				0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35	10:28
E					0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34	10:27
					0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35
F						0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34
						0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43
G							0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42
							0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51
H								0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50
								0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59
I									0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58
									0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07
J										0:52	1:44	2:37	3:29	4:21	5:13	6:06
										0:10	0:53	1:45	2:38	3:30	4:22	5:14
K											0:52	1:44	2:37	3:29	4:21	5:13
											0:10	0:53	1:45	2:38	3:30	4:22
L												0:52	1:44	2:37	3:29	4:21
												0:10	0:53	1:45	2:38	3:30
M													0:52	1:44	2:37	3:29
													0:10	0:53	1:45	2:38
N														0:52	1:44	2:37
														0:10	0:53	1:45
O															0:52	1:44
															0:10	0:53
Z																0:52
																0:10

CHART 1 – DIVE TIMES WITH END-OF-DIVE GROUP LETTER

PO_2	0.75	0.80	0.86	0.91	0.96	1.06	1.16	1.27	1.37	1.47	1.58	
msw	12.3	13.8	15.3	16.9	18.4	21.4	24.5	27.6	30.6	33.7	36.8	GROUP LETTER
fsw	40	45	50	55	60	70	80	90	100	110	120	
REPETITEVE DIVES SHALLOWER THAN 40 fsw (12.3 msw) MUST USE THE 40 fsw (12.3 msw) REPETITIVE SCHEDULE	18 / 353	15 / 217	13 / 150	12 / 113	12 / 113	10 / 64	8 / 40	8 / 40	7 / 32	6 / 24	5 / 20	A
	28 / 343	24 / 208	21 / 142	18 / 107	18 / 107	15 / 59	12 / 36	12 / 36	10 / 29	9 / 21	8 / 17	B
	39 / 332	33 / 199	29 / 134	25 / 100	25 / 100	20 / 54	16 / 32	16 / 32	14 / 25	12 / 18	11 / 14	C
	51 / 320	43 / 189	37 / 126	32 / 93	32 / 93	26 / 48	20 / 28	20 / 28	18 / 21	16 / 14	14 / 11	D
	63 / 308	53 / 179	45 / 118	40 / 85	40 / 85	32 / 42	25 / 23	25 / 23	22 / 17	19 / 11	17 / 8	E
	77 / 294	64 / 168	55 / 108	48 / 77	48 / 77	38 / 36	29 / 19	29 / 19	25 / 14	22 / 8	20 / 5	F
	92 / 279	75 / 157	64 / 99	56 / 69	56 / 69	44 / 30	34 / 14	34 / 14	29 / 10	26 / 4	23 / 2	G
	108 / 263	88 / 144	74 / 89	64 / 61	64 / 61	51 / 23	39 / 9	39 / 9	33 / 6	29 / 1		H
	126 / 245	101 / 131	85 / 78	73 / 52	73 / 52	58 / 16	44 / 4	44 / 4	38 / 1			I
	146 / 225	116 / 116	97 / 66	83 / 42	83 / 42	65 / 9						J
	168 / 203	132 / 100	109 / 54	93 / 32	93 / 32	72 / 2						K
	194 / 177	149 / 83	122 / 41	104 / 21	104 / 21							L
	224 / 147	169 / 63	136 / 27	115 / 10	115 / 10							M
	261 / 110	191 / 41	152 / 11									N
	308 / 63	216 / 16										O
												Z

CHART 3 – REPETITIVE DIVE TIME
RED NUMBERS ARE RESIDUAL NITROGEN TIMES (RNT).
BLACK NUMBERS ARE ADJUSTED NO-STOP REPETITIVE DIVE TIMES.
ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER.

00 / 00

CHART 2 – SURFACE INTERVAL TIME
TIME RANGES ARE HOURS:MINUTES
ENTER FROM THE TOP, MOVE TO FIND SURFACE INTERVAL TIME.
MOVE LEFT TO FIND THE NEW REPETITIVE GROUP LETTER

34

NO-DECOMPRESSION TABLE
NOAA NITROX 35
ONLY FOR 35% O_2, 65% N_2 MIXTURES

NDP 07-2015

WARNING: EVEN STRICT COMPLIANCE WITH THESE CHARTS WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS, CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME

+ABT ACTUAL BOTTOM TIME

ESDT EQUIVALENT SINGLE DIVE TIME

EXCEEDS NOAA 1.40 PO_2 LIMIT

PO_2	START DEPTH msw	START DEPTH fsw	00	MAXIMUM NO-STOP TIME	DIVE TIME REQUIRING DECOMPRESSION – Top MINUTES REQUIRED AT 20 fsw STOP *(6.1 msw)* - Bottom														00
0.77	12.3	40	17	27	38	50	62	76	91	107	125	145	167	193	223	260	307	371	
0.83	13.8	45	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232	
0.88	15.3	50	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	180	14
0.93	16.9	55	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	180	14
0.99	18.4	60	11	17	24	31	39	46	55	63	72	82	92	102	114	125	130	150	25
1.09	21.4	70	8	14	19	25	31	37	43	50	56	63	71	74	80	90	100		
1.20	24.5	80	6	10	14	19	23	28	32	37	42	47	48	55	60				
1.30	27.6	90	6	10	14	19	23	28	32	37	42	47	48	55	60				
1.41	30.6	100	5	9	12	16	20	24	28	32	36	39	45		50				
1.52	33.7	110	4	7	11	14	17	21	24	28	30	35		40					

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
A	2:20	3:36	4:31	5:23	6:15	7:08	8:00	8:52	9:44	10:36	11:29	12:21	13:13	14:05	14:58	15:50
	0:10	1:17	2:12	3:04	3:56	4:49	5:41	6:33	7:25	8:17	9:10	10:02	10:54	11:46	12:38	13:31
B		1:16	2:11	3:03	3:55	4:48	5:40	6:32	7:24	8:16	9:09	10:01	10:53	11:45	12:37	13:30
		0:10	0:56	1:48	2:40	3:32	4:24	5:17	6:09	7:01	7:53	8:45	9:38	10:30	11:22	12:14
C			0:55	1:47	2:39	3:31	4:23	5:16	6:08	7:00	7:52	8:44	9:37	10:29	11:21	12:13
			0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35	10:28	11:20
D				0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34	10:27	11:19
				0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35	10:28
E					0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34	10:27
					0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35
F						0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34
						0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43
G							0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42
							0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51
H								0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50
								0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59
I									0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58
									0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07
J										0:52	1:44	2:37	3:29	4:21	5:13	6:06
										0:10	0:53	1:45	2:38	3:30	4:22	5:14
K											0:52	1:44	2:37	3:29	4:21	5:13
											0:10	0:53	1:45	2:38	3:30	4:22
L												0:52	1:44	2:37	3:29	4:21
												0:10	0:53	1:45	2:38	3:30
M													0:52	1:44	2:37	3:29
													0:10	0:53	1:45	2:38
N														0:52	1:44	2:37
														0:10	0:53	1:45
O															0:52	1:44
															0:10	0:53
Z																0:52
																0:10

CHART 1 – DIVE TIMES WITH END-OF-DIVE GROUP LETTER

PO_2	0.77	0.83	0.88	0.93	0.99	1.09	1.20	1.30	1.41	1.52	GROUP LETTER
msw	12.3	13.8	15.3	16.9	18.4	21.4	24.5	27.6	30.6	33.7	
fsw	40	45	50	55	60	70	80	90	100	110	
REPETITEVE DIVES SHALLOWER THAN 40 fsw *(12.3 msw)* MUST USE THE 40 fsw *(12.3 msw)* REPETITIVE SCHEDULE	18	15	13	13	12	10	8	8	7	6	A
	353	217	150	150	113	64	40	40	32	24	
	28	24	21	21	18	15	12	12	10	9	B
	343	208	142	142	107	59	36	36	29	21	
	39	33	29	29	25	20	16	16	14	12	C
	332	199	134	134	100	54	32	32	25	18	
	51	43	37	37	32	26	20	20	18	16	D
	320	189	126	126	93	48	28	28	21	14	
	63	53	45	45	40	32	25	25	22	19	E
	308	179	118	118	85	42	23	23	17	11	
	77	64	55	55	48	38	29	29	25	22	F
	294	168	108	108	77	36	19	19	14	8	
	92	75	64	64	56	44	34	34	29	26	G
	279	157	99	99	69	30	14	14	10	4	
	108	88	74	74	64	51	39	39	33	29	H
	263	144	89	89	61	23	9	9	6	1	
	126	101	85	85	73	58	44	44	38		I
	245	131	78	78	52	16	4	4	1		
	146	116	97	97	83	65					J
	225	116	66	66	42	9					
	168	132	109	109	93	72					K
	203	100	54	54	32	2					
	194	149	122	122	104						L
	177	83	41	41	21						
	224	169	136	136	115						M
	147	63	27	27	10						
	261	191	152	152							N
	110	41	11	11							
	308	216									O
	63	16									
											Z

CHART 3 – REPETITIVE DIVE TIME

RED NUMBERS ARE RESIDUAL NITROGEN TIMES (RNT).
BLACK NUMBERS ARE ADJUSTED NO-STOP REPETITIVE DIVE TIMES.
ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER.

00
00

CHART 2 – SURFACE INTERVAL TIME

TIME RANGES ARE HOURS:MINUTES
ENTER FROM THE TOP, MOVE TO FIND SURFACE INTERVAL TIME.
MOVE LEFT TO FIND THE NEW REPETITIVE GROUP LETTER

35

NO-DECOMPRESSION TABLE

NOAA NITROX 36

ONLY FOR 36% O_2, 64% N_2 MIXTURES

NDP 07-2015

WARNING: EVEN STRICT COMPLIANCE WITH THESE CHARTS WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS, CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME

+ABT ACTUAL BOTTOM TIME

ESDT EQUIVALENT SINGLE DIVE TIME

EXCEEDS NOAA 1.40 PO_2 LIMIT

PO_2	START DEPTH msw	START DEPTH fsw	00	MAXIMUM NO-STOP TIME	DIVE TIME REQUIRING DECOMPRESSION – Top MINUTES REQUIRED AT 20 fsw STOP *(6.1 msw)* - Bottom														00
0.80	12.3	40	17	27	38	50	62	76	91	107	125	145	167	193	223	260	307	371	
0.85	13.8	45	17	27	38	50	62	76	91	107	125	145	167	193	223	260	307	371	
0.91	15.3	50	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232	
0.96	16.9	55	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	180	14
1.01	18.4	60	11	17	24	31	39	46	55	63	72	82	92	102	114	125	130	150	25
1.12	21.4	70	9	15	21	28	34	41	48	56	63	71	80	89	92	100	110		
1.23	24.5	80	7	12	17	22	28	33	39	45	51	57	60	65		80	90		
1.34	27.6	90	6	10	14	19	23	28	32	37	42	47	48	55	60				
1.45	30.6	100	5	9	12	16	20	24	28	32	36	39	45		50				
1.56	33.7	110	4	7	11	14	17	21	24	28	30	35		40					

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
1.56	2:20	3:36	4:31	5:23	6:15	7:08	8:00	8:52	9:44	10:36	11:29	12:21	13:13	14:05	14:58	15:50
	0:10	1:17	2:12	3:04	3:56	4:49	5:41	6:33	7:25	8:17	9:10	10:02	10:54	11:46	12:38	13:31
1.45		1:16	2:11	3:03	3:55	4:48	5:40	6:32	7:24	8:16	9:09	10:01	10:53	11:45	12:37	13:30
		0:10	0:56	1:48	2:40	3:32	4:24	5:17	6:09	7:01	7:53	8:45	9:38	10:30	11:22	12:14
1.34			0:55	1:47	2:39	3:31	4:23	5:16	6:08	7:00	7:52	8:44	9:37	10:29	11:21	12:13
			0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35	10:28	11:20
1.23				0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34	10:27	11:19
				0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35	10:28
1.12					0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34	10:27
					0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43	9:35
1.01						0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42	9:34
						0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51	8:43
0.96							0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50	8:42
							0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59	7:51
0.91								0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58	7:50
								0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07	6:59
0.85									0:52	1:44	2:37	3:29	4:21	5:13	6:06	6:58
									0:10	0:53	1:45	2:38	3:30	4:22	5:14	6:07
0.80										0:52	1:44	2:37	3:29	4:21	5:13	6:06
										0:10	0:53	1:45	2:38	3:30	4:22	5:14
											0:52	1:44	2:37	3:29	4:21	5:13
											0:10	0:53	1:45	2:38	3:30	4:22
												0:52	1:44	2:37	3:29	4:21
												0:10	0:53	1:45	2:38	3:30
													0:52	1:44	2:37	3:29
													0:10	0:53	1:45	2:38
														0:52	1:44	2:37
														0:10	0:53	1:45
															0:52	1:44
															0:10	0:53
																0:52
																0:10

CHART 1 – DIVE TIMES WITH END-OF-DIVE GROUP LETTER

CHART 2 – SURFACE INTERVAL TIME

TIME RANGES ARE HOURS:MINUTES

ENTER FROM THE TOP, MOVE TO FIND SURFACE INTERVAL TIME.

MOVE LEFT TO FIND THE NEW REPETITIVE GROUP LETTER

CHART 3 – REPETITIVE DIVE TIME

RED NUMBERS ARE RESIDUAL NITROGEN TIMES (RNT).

BLACK NUMBERS ARE ADJUSTED NO-STOP REPETITIVE DIVE TIMES.

ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER.

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PO_2	0.80	0.85	0.91	0.96	1.01	1.12	1.23	1.34	1.45	1.56	GROUP LETTER
msw	12.3	13.8	15.3	16.9	18.4	21.4	24.5	27.6	30.6	33.7	
fsw	40	45	50	55	60	70	80	90	100	110	
REPETITEVE DIVES SHALLOWER THAN 40 fsw *(12.3 msw)* MUST USE THE 40 fsw *(12.3 msw)* REPETITIVE SCHEDULE	18	18	15	13	12	11	9	8	7	6	A
	353	353	217	150	113	81	51	40	32	24	
	28	28	24	21	18	17	14	12	10	9	B
	343	343	208	142	107	75	46	36	29	21	
	39	39	33	29	25	23	19	16	14	12	C
	332	332	199	134	100	69	41	32	25	18	
	51	51	43	37	32	29	24	20	18	16	D
	320	320	189	126	93	63	36	28	21	14	
	63	63	53	45	40	35	29	25	22	19	E
	308	308	179	118	85	57	31	23	17	11	
	77	77	64	55	48	42	35	29	25	22	F
	294	294	168	108	77	50	25	19	14	8	
	92	92	75	64	56	49	40	34	29	26	G
	279	279	157	99	69	43	20	14	10	4	
	108	108	88	74	64	57	46	39	33	29	H
	263	263	144	89	61	35	14	9	6	1	
	126	126	101	85	73	65	52	44	38		I
	245	245	131	78	52	27	8	4	1		
	146	146	116	97	83	73	58				J
	225	225	116	66	42	19	2				
	168	168	132	109	93	81					K
	203	203	100	54	32	11					
	194	194	149	122	104	90					L
	177	177	83	41	21	2					
	224	224	169	136	115						M
	147	147	63	27	10						
	261	261	191	152							N
	110	110	41	11							
	308	308	216								O
	63	63	16								
											Z

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NO-DECOMPRESSION TABLE
NOAA NITROX 37
ONLY FOR 37% O_2, 63% N_2 MIXTURES

NDP 07-2015

WARNING: EVEN STRICT COMPLIANCE WITH THESE CHARTS WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS, CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME
+ABT ACTUAL BOTTOM TIME
ESDT EQUIVALENT SINGLE DIVE TIME

EXCEEDS NOAA 1.40 PO_2 LIMIT — EXCEEDS MAX PO_2 SINGLE EXPOSURE LIMIT

PO_2	START DEPTH msw	START DEPTH fsw	00	MAXIMUM NO-STOP TIME	DIVE TIME REQUIRING DECOMPRESSION – Top MINUTES REQUIRED AT 20 fsw STOP *(6.1 msw)* - Bottom														00 00
0.82	12.3	40	20	33	47	62	78	97	117	140	166	198	236	285	354	469	595	
0.87	13.8	45	17	27	38	50	62	76	91	107	125	145	167	193	223	260	307	371
0.93	15.3	50	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232
0.99	16.9	55	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	180 14
1.04	18.4	60	11	17	24	31	39	46	55	63	72	82	92	102	114	125	130 2	150 25
1.15	21.4	70	9	15	21	28	34	41	48	56	63	71	80	89	92	100 4	110 8	
1.27	24.5	80	7	12	17	22	28	33	39	45	51	57	60	65 2		80 14	90 23	
1.38	27.6	90	6	10	14	19	23	28	32	37	42	47	48	55 9	60 14			
1.49	30.6	100	5	9	12	16	20	24	28	32	36	39	45 10		50 17			
1.60	33.7	110	4	7	11	14	17	21	24	28	30	35 4		40 14				

CHART 1 – DIVE TIMES WITH END-OF-DIVE GROUP LETTER

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
A	2:20 0:10	3:36 1:17	4:31 2:12	5:23 3:04	6:15 3:56	7:08 4:49	8:00 5:41	8:52 6:33	9:44 7:25	10:36 8:17	11:29 9:10	12:21 10:02	13:13 10:54	14:05 11:46	14:58 12:38	15:50 13:31
B		1:16 0:10	2:11 0:56	3:03 1:48	3:55 2:40	4:48 3:32	5:40 4:24	6:32 5:17	7:24 6:09	8:16 7:01	9:09 7:53	10:01 8:45	10:53 9:38	11:45 10:30	12:37 11:22	13:30 12:14
C			0:55 0:10	1:47 0:53	2:39 1:45	3:31 2:38	4:23 3:30	5:16 4:22	6:08 5:14	7:00 6:07	7:52 6:59	8:44 7:51	9:37 8:43	10:29 9:35	11:21 10:28	12:13 11:20
D				0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51	9:34 8:43	10:27 9:35	11:19 10:28
E					0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51	9:34 8:43	10:27 9:35
F						0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51	9:34 8:43
G							0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51
H								0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59
I									0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07
J										0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14
K											0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22
L												0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30
M													0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38
N														0:52 0:10	1:44 0:53	2:37 1:45
O															0:52 0:10	1:44 0:53
Z																0:52 0:10

CHART 2 – SURFACE INTERVAL TIME
TIME RANGES ARE HOURS:MINUTES
ENTER FROM THE TOP, MOVE TO FIND SURFACE INTERVAL TIME.
MOVE LEFT TO FIND THE NEW REPETITIVE GROUP LETTER

PO_2	0.82	0.87	0.93	0.99	1.04	1.15	1.27	1.38	1.49	1.60	GROUP LETTER
msw	12.3	13.8	15.3	16.9	18.4	21.4	24.5	27.6	30.6	33.7	
fsw	40	45	50	55	60	70	80	90	100	110	
REPETITEVE DIVES SHALLOWER THAN 40 fsw *(12.3 msw)* MUST USE THE 40 fsw *(12.3 msw)* REPETITIVE SCHEDULE	21 574	18 353	15 217	13 150	12 113	11 81	9 51	8 40	7 32	6 24	A
	34 561	28 343	24 208	21 142	18 107	17 75	14 46	12 36	10 29	9 21	B
	48 547	39 332	33 199	29 134	25 100	23 69	19 41	16 32	14 25	12 18	C
	63 532	51 320	43 189	37 126	32 93	29 63	24 36	20 28	18 21	16 14	D
	79 516	63 308	53 179	45 118	40 85	35 57	29 31	25 23	22 17	19 11	E
	98 497	77 294	64 168	55 108	48 77	42 50	35 25	29 19	25 14	22 8	F
	118 477	92 279	75 157	64 99	56 69	49 43	40 20	34 14	29 10	26 4	G
	141 454	108 263	88 144	74 89	64 61	57 35	46 14	39 9	33 6	29 1	H
	167 428	126 245	101 131	85 78	73 52	65 27	52 8	44 4	38 1		I
	198 397	146 225	116 116	97 66	83 42	73 19	58 2				J
	237 358	168 203	132 100	109 54	93 32	81 11					K
	286 309	194 177	149 83	122 41	104 21	90 2					L
	354 241	224 147	169 63	136 27	115 10						M
	470 125	261 110	191 41	152 11							N
		308 63	216 16								O
											Z

CHART 3 – REPETITIVE DIVE TIME
RED NUMBERS ARE RESIDUAL NITROGEN TIMES (RNT).
BLACK NUMBERS ARE ADJUSTED NO-STOP REPETITIVE DIVE TIMES.
ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER.

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NO-DECOMPRESSION TABLE

NOAA NITROX 38

ONLY FOR 38% O_2, 62% N_2 MIXTURES

WARNING: EVEN STRICT COMPLIANCE WITH THESE CHARTS WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS, CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME

+ABT ACTUAL BOTTOM TIME

ESDT EQUIVALENT SINGLE DIVE TIME

NDP 07-2015

EXCEEDS NOAA 1.40 PO_2 LIMIT — EXCEEDS MAX PO_2 SINGLE EXPOSURE LIMIT

PO_2	START DEPTH msw	START DEPTH fsw	00	MAXIMUM NO-STOP TIME	DIVE TIME REQUIRING DECOMPRESSION – Top / MINUTES REQUIRED AT 20 fsw STOP (6.1 msw) - Bottom														00 / 00
0.84	12.3	40	20	33	47	62	78	97	117	140	166	198	236	285	354	469	595		
0.90	13.8	45	17	27	38	50	62	76	91	107	125	145	167	193	223	260	307	371	
0.96	15.3	50	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232	
1.01	16.9	55	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	180	14
1.07	18.4	60	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	180	14
1.19	21.4	70	9	15	21	28	34	41	48	56	63	71	80	89	92	100	110	4	8
1.30	24.5	80	7	12	17	22	28	33	39	45	51	57	60	65		80	90	14	23
1.42	27.6	90	6	10	14	19	23	28	32	37	42	47	48	55	60			9	14
1.53	30.6	100	5	9	12	16	20	24	28	32	36	39	45		50			10	17

CHART 1 – DIVE TIMES WITH END-OF-DIVE GROUP LETTER

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
	2:20 / 0:10	3:36 / 1:17	4:31 / 2:12	5:23 / 3:04	6:15 / 3:56	7:08 / 4:49	8:00 / 5:41	8:52 / 6:33	9:44 / 7:25	10:36 / 8:17	11:29 / 9:10	12:21 / 10:02	13:13 / 10:54	14:05 / 11:46	14:58 / 12:38	15:50 / 13:31
		1:16 / 0:10	2:11 / 0:56	3:03 / 1:48	3:55 / 2:40	4:48 / 3:32	5:40 / 4:24	6:32 / 5:17	7:24 / 6:09	8:16 / 7:01	9:09 / 7:53	10:01 / 8:45	10:53 / 9:38	11:45 / 10:30	12:37 / 11:22	13:30 / 12:14
			0:55 / 0:10	1:47 / 0:53	2:39 / 1:45	3:31 / 2:38	4:23 / 3:30	5:16 / 4:22	6:08 / 5:14	7:00 / 6:07	7:52 / 6:59	8:44 / 7:51	9:37 / 8:43	10:29 / 9:35	11:21 / 10:28	12:13 / 11:20
				0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51	9:34 / 8:43	10:27 / 9:35	11:19 / 10:28
					0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51	9:34 / 8:43	10:27 / 9:35
						0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51	9:34 / 8:43
							0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51
								0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59
									0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07
										0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14
											0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22
												0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30
													0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38
														0:52 / 0:10	1:44 / 0:53	2:37 / 1:45
															0:52 / 0:10	1:44 / 0:53
																0:52 / 0:10

CHART 2 – SURFACE INTERVAL TIME

TIME RANGES ARE HOURS:MINUTES
ENTER FROM THE TOP, MOVE TO FIND SURFACE INTERVAL TIME.
MOVE LEFT TO FIND THE NEW REPETITIVE GROUP LETTER

CHART 3 – REPETITIVE DIVE TIME

RED NUMBERS ARE RESIDUAL NITROGEN TIMES (RNT).
BLACK NUMBERS ARE ADJUSTED NO-STOP REPETITIVE DIVE TIMES.
ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER.

00 / 00

PO_2	0.84	0.90	0.96	1.01	1.07	1.19	1.30	1.42	1.53	GROUP LETTER
msw	12.3	13.8	15.3	16.9	18.4	21.4	24.5	27.6	30.6	
fsw	40	45	50	55	60	70	80	90	100	
REPETITIVE DIVES SHALLOWER THAN 40 fsw (12.3 msw) MUST USE THE 40 fsw (12.3 msw) REPETITIVE SCHEDULE	21 / 574	18 / 353	15 / 217	13 / 150	13 / 150	11 / 81	9 / 51	8 / 40	7 / 32	A
	34 / 561	28 / 343	24 / 208	21 / 142	21 / 142	17 / 75	14 / 46	12 / 36	10 / 29	B
	48 / 547	39 / 332	33 / 199	29 / 134	29 / 134	23 / 69	19 / 41	16 / 32	14 / 25	C
	63 / 532	51 / 320	43 / 189	37 / 126	37 / 126	29 / 63	24 / 36	20 / 28	18 / 21	D
	79 / 516	63 / 308	53 / 179	45 / 118	45 / 118	35 / 57	29 / 31	25 / 23	22 / 17	E
	98 / 497	77 / 294	64 / 168	55 / 108	55 / 108	42 / 50	35 / 25	29 / 19	25 / 14	F
	118 / 477	92 / 279	75 / 157	64 / 99	64 / 99	49 / 43	40 / 20	34 / 14	29 / 10	G
	141 / 454	108 / 263	88 / 144	74 / 89	74 / 89	57 / 35	46 / 14	39 / 9	33 / 6	H
	167 / 428	126 / 245	101 / 131	85 / 78	85 / 78	65 / 27	52 / 8	44 / 4	38 / 1	I
	198 / 397	146 / 225	116 / 116	97 / 66	97 / 66	73 / 19	58 / 2			J
	237 / 358	168 / 203	132 / 100	109 / 54	109 / 54	81 / 11				K
	286 / 309	194 / 177	149 / 83	122 / 41	122 / 41	90 / 2				L
	354 / 241	224 / 147	169 / 63	136 / 27	136 / 27					M
	470 / 125	261 / 110	191 / 41	152 / 11	152 / 11					N
		308 / 63	216 / 16							O
										Z

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NO-DECOMPRESSION TABLE

NOAA NITROX 39

ONLY FOR 39% O_2, 61% N_2 MIXTURES

NDP 07-2015

WARNING: EVEN STRICT COMPLIANCE WITH THESE CHARTS WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS, CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME

+ABT ACTUAL BOTTOM TIME

ESDT EQUIVALENT SINGLE DIVE TIME

EXCEEDS NOAA 1.40 PO_2 LIMIT

EXCEEDS MAX PO_2 SINGLE EXPOSURE LIMIT

CHART 1 – DIVE TIMES WITH END-OF-DIVE GROUP LETTER

PO_2	START DEPTH msw	START DEPTH fsw	00	MAXIMUM NO-STOP TIME	DIVE TIME REQUIRING DECOMPRESSION – Top / MINUTES REQUIRED AT 20 fsw STOP (6.1 msw) - Bottom														00 / 00
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z	
0.86	12.3	40	20	33	47	62	78	97	117	140	166	198	236	285	354	469	595		
0.92	13.8	45	17	27	38	50	62	76	91	107	125	145	167	193	223	260	307	371	
0.98	15.3	50	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232	
1.04	16.9	55	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232	
1.10	18.4	60	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	180	14
1.22	21.4	70	9	15	21	28	34	41	48	56	63	71	80	89	92	100	110	4	8
1.34	24.5	80	8	14	19	25	31	37	43	50	56	63	71	74	80	90	100	4	10	17
1.45	27.6	90	6	10	14	19	23	28	32	37	42	47	48	55	60	9	14		
1.57	30.6	100	6	10	14	19	23	28	32	37	42	47	48	55	60	9	14		

CHART 3 – REPETITIVE DIVE TIME

RED NUMBERS ARE RESIDUAL NITROGEN TIMES (RNT).
BLACK NUMBERS ARE ADJUSTED NO-STOP REPETITIVE DIVE TIMES.
ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER.

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REPETITEVE DIVES SHALLOWER THAN 40 fsw (12.3 msw)
MUST USE THE 40 fsw (12.3 msw) REPETITIVE SCHEDULE

PO_2	0.86	0.92	0.98	1.04	1.10	1.22	1.34	1.45	1.57	GROUP LETTER
msw	12.3	13.8	15.3	16.9	18.4	21.4	24.5	27.6	30.6	
fsw	40	45	50	55	60	70	80	90	100	
	21 / 574	18 / 353	15 / 217	15 / 217	13 / 150	11 / 81	10 / 64	8 / 40	8 / 40	A
	34 / 561	28 / 343	24 / 208	24 / 208	21 / 142	17 / 75	15 / 59	12 / 36	12 / 36	B
	48 / 547	39 / 332	33 / 199	33 / 199	29 / 134	23 / 69	20 / 54	16 / 32	16 / 32	C
	63 / 532	51 / 320	43 / 189	43 / 189	37 / 126	29 / 63	26 / 48	20 / 28	20 / 28	D
	79 / 516	63 / 308	53 / 179	53 / 179	45 / 118	35 / 57	32 / 42	25 / 23	25 / 23	E
	98 / 497	77 / 294	64 / 168	64 / 168	55 / 108	42 / 50	38 / 36	29 / 19	29 / 19	F
	118 / 477	92 / 279	75 / 157	75 / 157	64 / 99	49 / 43	44 / 30	34 / 14	34 / 14	G
	141 / 454	108 / 263	88 / 144	88 / 144	74 / 89	57 / 35	51 / 23	39 / 9	39 / 9	H
	167 / 428	126 / 245	101 / 131	101 / 131	85 / 78	65 / 27	58 / 16	44 / 4	44 / 4	I
	198 / 397	146 / 225	116 / 116	116 / 116	97 / 66	73 / 19	65 / 9			J
	237 / 358	168 / 203	132 / 100	132 / 100	109 / 54	81 / 11	72 / 2			K
	286 / 309	194 / 177	149 / 83	149 / 83	122 / 41	90 / 2				L
	354 / 241	224 / 147	169 / 63	169 / 63	136 / 27					M
	470 / 125	261 / 110	191 / 41	191 / 41	152 / 11					N
		308 / 63	216 / 16	216 / 16						O
										Z

CHART 2 – SURFACE INTERVAL TIME

TIME RANGES ARE HOURS:MINUTES
ENTER FROM THE TOP, MOVE TO FIND SURFACE INTERVAL TIME.
MOVE LEFT TO FIND THE NEW REPETITIVE GROUP LETTER

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
2:20 / 0:10	3:36 / 1:17	4:31 / 2:12	5:23 / 3:04	6:15 / 3:56	7:08 / 4:49	8:00 / 5:41	8:52 / 6:33	9:44 / 7:25	10:36 / 8:17	11:29 / 9:10	12:21 / 10:02	13:13 / 10:54	14:05 / 11:46	14:58 / 12:38	15:50 / 13:31
	1:16 / 0:10	2:11 / 0:56	3:03 / 1:48	3:55 / 2:40	4:48 / 3:32	5:40 / 4:24	6:32 / 5:17	7:24 / 6:09	8:16 / 7:01	9:09 / 7:53	10:01 / 8:45	10:53 / 9:38	11:45 / 10:30	12:37 / 11:22	13:30 / 12:14
		0:55 / 0:10	1:47 / 0:53	2:39 / 1:45	3:31 / 2:38	4:23 / 3:30	5:16 / 4:22	6:08 / 5:14	7:00 / 6:07	7:52 / 6:59	8:44 / 7:51	9:37 / 8:43	10:29 / 9:35	11:21 / 10:28	12:13 / 11:20
			0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51	9:34 / 8:43	10:27 / 9:35	11:19 / 10:28
				0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51	9:34 / 8:43	10:27 / 9:35
					0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51	9:34 / 8:43
						0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51
							0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59
								0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07
									0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14
										0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22
											0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30
												0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38
													0:52 / 0:10	1:44 / 0:53	2:37 / 1:45
														0:52 / 0:10	1:44 / 0:53
															0:52 / 0:10

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NO-DECOMPRESSION TABLE

NOAA NITROX 40

ONLY FOR 40% O_2, 60% N_2 MIXTURES

NDP 07-2015

WARNING: EVEN STRICT COMPLIANCE WITH THESE CHARTS WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS, CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME

+ABT ACTUAL BOTTOM TIME

ESDT EQUIVALENT SINGLE DIVE TIME

EXCEEDS NOAA 1.40 PO_2 LIMIT

EXCEEDS MAX PO_2 SINGLE EXPOSURE LIMIT

PO_2	START DEPTH msw	START DEPTH fsw	00	MAXIMUM NO-STOP TIME	DIVE TIME REQUIRING DECOMPRESSION – Top / MINUTES REQUIRED AT 20 fsw STOP *(6.1 msw)* - Bottom													00 / 00
0.88	12.3	40	20	33	47	62	78	97	117	140	166	198	236	285	354	469	595	
0.95	13.8	45	17	27	38	50	62	76	91	107	125	145	167	193	223	260	307	371
1.01	15.3	50	17	27	38	50	62	76	91	107	125	145	167	193	223	260	307	371
1.07	16.9	55	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232
1.13	18.4	60	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	180 / 14
1.25	21.4	70	11	17	24	31	39	46	55	63	72	82	92	102	114	125	130 / 12	150 / 25
1.37	24.5	80	8	14	19	25	31	37	43	50	56	63	71	74	80 / 4	90 / 10		
1.49	27.6	90	7	12	17	22	28	33	39	45	51	57	60	65 / 2		80 / 14	90 / 23	
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z

CHART 1 – DIVE TIMES WITH END-OF-DIVE GROUP LETTER

CHART 3 – REPETITIVE DIVE TIME

RED NUMBERS ARE RESIDUAL NITROGEN TIMES (RNT).
BLACK NUMBERS ARE ADJUSTED NO-STOP REPETITIVE DIVE TIMES.
ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER.

00 / 00

REPETITEVE DIVES SHALLOWER THAN 40 fsw *(12.3 msw)* MUST USE THE 40 fsw *(12.3 msw)* REPETITIVE SCHEDULE

PO_2	0.88	0.95	1.01	1.07	1.13	1.25	1.37	1.49	
msw	12.3	13.8	15.3	16.9	18.4	21.4	24.5	27.6	GROUP LETTER
fsw	40	45	50	55	60	70	80	90	
	21 / 574	18 / 353	18 / 353	15 / 217	13 / 150	12 / 113	10 / 64	9 / 51	A
	34 / 561	28 / 343	28 / 343	24 / 208	21 / 142	18 / 107	15 / 59	14 / 46	B
	48 / 547	39 / 332	39 / 332	33 / 199	29 / 134	25 / 100	20 / 54	19 / 41	C
	63 / 532	51 / 320	51 / 320	43 / 189	37 / 126	32 / 93	26 / 48	24 / 36	D
	79 / 516	63 / 308	63 / 308	53 / 179	45 / 118	40 / 85	32 / 42	29 / 31	E
	98 / 497	77 / 294	77 / 294	64 / 168	55 / 108	48 / 77	38 / 36	35 / 25	F
	118 / 477	92 / 279	92 / 279	75 / 157	64 / 99	56 / 69	44 / 30	40 / 20	G
	141 / 454	108 / 263	108 / 263	88 / 144	74 / 89	64 / 61	51 / 23	46 / 14	H
	167 / 428	126 / 245	126 / 245	101 / 131	85 / 78	73 / 52	58 / 16	52 / 8	I
	198 / 397	146 / 225	146 / 225	116 / 116	97 / 66	83 / 42	65 / 9	58 / 2	J
	237 / 358	168 / 203	168 / 203	132 / 100	109 / 54	93 / 32	72 / 2		K
	286 / 309	194 / 177	194 / 177	149 / 83	122 / 41	104 / 21			L
	354 / 241	224 / 147	224 / 147	169 / 63	136 / 27	115 / 10			M
	470 / 125	261 / 110	261 / 110	191 / 41	152 / 11				N
		308 / 63	308 / 63	216 / 16					O
									Z

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
2:20 / 0:10	3:36 / 1:17	4:31 / 2:12	5:23 / 3:04	6:15 / 3:56	7:08 / 4:49	8:00 / 5:41	8:52 / 6:33	9:44 / 7:25	10:36 / 8:17	11:29 / 9:10	12:21 / 10:02	13:13 / 10:54	14:05 / 11:46	14:58 / 12:38	15:50 / 13:31
	1:16 / 0:10	2:11 / 0:56	3:03 / 1:48	3:55 / 2:40	4:48 / 3:32	5:40 / 4:24	6:32 / 5:17	7:24 / 6:09	8:16 / 7:01	9:09 / 7:53	10:01 / 8:45	10:53 / 9:38	11:45 / 10:30	12:37 / 11:22	13:30 / 12:14
		0:55 / 0:10	1:47 / 0:53	2:39 / 1:45	3:31 / 2:38	4:23 / 3:30	5:16 / 4:22	6:08 / 5:14	7:00 / 6:07	7:52 / 6:59	8:44 / 7:51	9:37 / 8:43	10:29 / 9:35	11:21 / 10:28	12:13 / 11:20
			0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51	9:34 / 8:43	10:27 / 9:35	11:19 / 10:28
				0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51	9:34 / 8:43	10:27 / 9:35
					0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51	9:34 / 8:43
						0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59	8:42 / 7:51
							0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07	7:50 / 6:59
								0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14	6:58 / 6:07
									0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22	6:06 / 5:14
										0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30	5:13 / 4:22
											0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38	4:21 / 3:30
												0:52 / 0:10	1:44 / 0:53	2:37 / 1:45	3:29 / 2:38
													0:52 / 0:10	1:44 / 0:53	2:37 / 1:45
														0:52 / 0:10	1:44 / 0:53
															0:52 / 0:10

CHART 2 – SURFACE INTERVAL TIME

TIME RANGES ARE HOURS:MINUTES
ENTER FROM THE TOP, MOVE TO FIND SURFACE INTERVAL TIME.
MOVE LEFT TO FIND THE NEW REPETITIVE GROUP LETTER

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