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VVAL-79 THALMANN ALGORITHM METRIC AND IMPERIAL AIR DECOMPRESSION TABLES



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14. ABSTRACT VVal-79 Thalmann Algorithm Integrated Air Decompression Tables with dive depths in metric units of meters seawater (msw) and Imperial units of feet seawater (fsw) and with last allowed in-water decompression stops at 3 msw, 6 msw, 10 fsw, and 20 fsw are presented complete with appropriate limit lines in this report. The tables are organized into two sets, one for dive depths in msw and the other dive depths in fsw, with component tables composed and formatted for use and interpretation according to the rules and provisions for their correspondent tables in Chapter 9 of the U.S. Navy Diving Manual, Revision 6. Each decompression table is accompanied by a corresponding table of estimated risks of decompression sickness (DCS) for the tabulated schedules.					
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INTRODUCTION

The Integrated Air Decompression Tables that first appeared in U.S. Navy Diving Manual, Revision 6, and more recently in U.S. Navy Diving Manual, Revision 6, Change A, were issued only with depths in Imperial units of feet seawater (fsw).^{1,2} Revised tables based on the Thalmann Algorithm with VVal-79 that are pending release in U.S. Navy Diving Manual, Revision 7, will also be issued only with depths in Imperial units.^{3,4} The operations of many of the world's diving communities are based on depths in metric units of meters seawater (msw), motivating need for a Navy Experimental Diving Unit (NEDU) approved version of the U.S. Navy Integrated Air Decompression Tables with depths in these units. Integrated Air Decompression Tables forwarded in NEDU reports to date have not included such a version,^{3,5,6} a deficiency that NEDU was recently tasked to rectify.⁷

Versions of the Integrated Air Decompression Tables released or scheduled for release in U.S. Navy Diving Manuals to date include schedules only for last in-water decompression stops at 20 fsw. Based on analyses of VVal-18M Thalmann Algorithm Integrated Air Decompression Tables, non-exceptional exposure air-only decompression schedules with 10 fsw last in-water stops were recommended for use when conditions allow because such schedules are substantially shorter than corresponding schedules with 20 fsw last stops but have practically equal estimated risks of decompression sickness (DCS).⁵ This recommendation is also valid for VVal-79 Thalmann Algorithm air decompressions, but VVal-79 Thalmann Algorithm Integrated Air Decompression Tables with 10 fsw last in-water stops have not been published. The tables in U.S. Navy Diving Manuals also include limit lines indicating when schedules in given decompression modes are no longer recommended or become exceptional exposures and when schedules for air with in-water oxygen decompression or air with surface decompression on oxygen should or must be used. Rules for placement of these limit lines are published in the U.S. Navy Diving Manual,^{1,2,4} but Integrated Air Decompression Tables forwarded in NEDU reports to date have not included such limit lines and some limit lines in the Air Decompression Table of draft Revision 7 are not placed in accord with the published rules.⁴

The purposes of this report are to provide versions of the U.S. Navy Integrated Air Decompression Tables in metric units, including a version with a shallow last in-water decompression stop, and to provide corresponding versions in Imperial units, all with appropriately placed limit lines. VVal-79 Thalmann Algorithm Integrated Air Decompression Tables with depths in metric and Imperial units and with last allowed in-water decompression stops at 3 msw, 6 msw, 10 fsw, and 20 fsw are presented complete with appropriate limit lines in this report. Each decompression table is accompanied by a corresponding table of estimated risks of DCS for the tabulated schedules.

METHODS

DECOMPRESSION TABLE CALCULATION

The decompression tables in this report were computed with the Thalmann Algorithm Exponential-Linear Decompression Model (EL-DCM-I) and its implementation for computing decompression tables as has been thoroughly described elsewhere.^{3,5,6,8}

PRESSURE AND DEPTH CONVERSIONS

By convention in U.S. Navy diving, 33 fsw is defined as a pressure equal to 1 atmosphere. Hydrostatic pressures at depth, gas partial pressures, dissolved gas tensions, and maximum permissible tissue tensions (MPTTs) in U.S. Navy Thalmann Algorithm implementations are expressed in units of fsw that conform to this definition. Pressures in these units correspond to numerically equivalent geometric depths in feet in seawater with density of 1.02723 gm/cm³. This seawater density is assumed to convert both equivalent pressure in msw and depth in meters to equivalent pressure in fsw and depth in feet by the geometric conversion factor of CF = 1 foot/0.3048 meter.^{i,ii} Conversion factors for this “USN-metric geometric” convention are given in Table 1. All decompression tables in this report were computed with these USN-metric geometric factors.

In metric convention, 10 msw is defined as a pressure equal to 1 bar,^{10,11} a definition under which a pressure in msw corresponds to a numerically equivalent geometric depth in meters in seawater with density of 1.01972 gm/cm³. Conversion factors based on this pressure-based definition of msw and the U.S. Navy definition of fsw are given in Table 1 under the heading “USN-metric pressure.” This convention was not used to produce the decompression tables in this report.

Pressures at given geometric depths in seawater of 1.02723 gm/cm³ density are higher than the pressures at the same depths in seawater of lower density. Decompression obligations computed under a convention based on a higher seawater density are consequently conservative for dives conducted with depths in units based on a lower seawater density. Because the seawater density under the metric geometric convention is greater than the density under the metric pressure convention, metric decompression tables in this report are conservative when used in dives conducted with depths in msw as defined in the metric pressure convention.

Conversion factors for standard seawater densities are also shown in Table 1 under the heading “Standard.” Because the seawater density under the U.S. Navy fsw definition is greater than the density under the Standard definition, fsw decompression tables in this

ⁱ Alternatively, if geometric conversion of msw to fsw is assumed, numerical equivalence of msw pressure and meters depth requires a seawater density of 1.02723 gm/cm³.

ⁱⁱ The 0.30480 msw/fsw factor was used to convert between fsw and msw decompression tables in the DCIEM Diving Manual (DCIEM No. 86-R-35).⁹ Weathersby, et al. (NMRI Report 92-85) also used the 0.30480 msw/fsw factor to convert depths in the DCIEM CANDID data to fsw.¹⁰

report are also conservative when used in dives conducted with depths in fsw as defined in the Standard definition.

Table 1. Pressure Conversion Factors^a

Factor	Standard ^b		USN, metric geometric		USN, metric pressure	
	Imperial	Metric	Imperial	Metric	Imperial	Metric
Seawater density (gm/cm ³)	1.02480	1.01972	1.02723	1.02723	1.02723	1.01972
fsw/atm	33.078		33.000 ^c		33.000 ^c	
msw/bar		10.000		9.9268		10.000 ^d
msw/fsw	0.30632		0.3048		0.30704	

^a Assumed values from which the other values follow in each convention are shaded.

^b Undersea and Hyperbaric Medicine. North Palm Beach (FL): Undersea and Hyperbaric Medical Society. Vol. 20, No. 1, Mar 1993-. Pressure Conversion Table; [inside back cover].¹¹

^c U.S. Navy convention (e.g., U.S. Navy Diving Manual).^{1,2,4}

^d BRd 2806(2) U.K. Military Diving Manual. Fleet Publications and Graphics Organisation. April 2014 Edition. Air Diving, Chapter 6, Decompression, para 0603.g.¹²

THALMANN ALGORITHM MAXIMUM PERMISSIBLE TISSUE TENSIONS (MPTTS)

Thalmann Algorithm MPTTs are computed by linearly projecting the surfacing MPTT value for each compartment, i , to the j^{th} decompression stop depth, $D(j)$, according to a convention proposed by Workman:¹³

$$\text{MPTT}(i, j) = \text{MPTT}(i, 0) + a(i)D(j) / \text{CF}; \quad (1)$$

$$D(j) = j * \text{SDI}, \quad (2)$$

where $j = 0$ at surface, $\text{MPTT}(i, 0)$ is the surfacing MPTT for compartment i , the corresponding slope parameter $a(i)$ is 1, and SDI is the stop depth increment. All MPTT values are in the units of pressure in the algorithm and both $D(j)$ and SDI are expressed in the units of dive depth inputs. The conversion factor CF is assigned a value in accord with these two sets of units.ⁱⁱⁱ

Eq. (1) parameters for VVal-79 MPTTs in units of fsw, the units of pressure in NEDU Thalmann Algorithm implementations, are given in Table 2. As described in NEDU TR

ⁱⁱⁱ In the USN-metric geometric convention, MPTTs in units of fsw in the algorithm are obtained with $\text{CF}=1$ for dive depths in fsw and $\text{CF}=1/0.3048=3.2808$ for dive depths in msw.

12-01, the VVal-79 surfacing MPTTs in Table 2 are the maximum compartmental gas tensions allowed to complete instantaneous ascent to surface from a last allowed in-water decompression stop depth of 20 fsw in dives with 75 fsw/min descent rates and 30 fsw/min ascent rates.³ As defining features of the VVal-79 parameters, these surfacing MPTTs are retained unchanged in terms of pressure for applications with different last in-water stop depths and travel rates. Complete tables of MPTTs and other Thalmann Algorithm parameters used to compute the decompression schedules in this report are given in Appendix A.

Table 2. VVal-79 MPTT Parameters

	Compartment, <i>i</i>								
	1	2	3	4	5	6	7	8	9
Half-time (min)	5	10	20	40	80	120	160	200	240
MPTT(<i>i</i> ,0) (fsw)	99.3	87.7	78.0	56.0	48.5	45.5	44.5	44.0	43.5
<i>a</i> (<i>i</i>)	1	1	1	1	1	1	1	1	1

ASSUMED DIVE PROFILE PROPERTIES

Dive profile properties assumed for calculation of schedules in the tables in this report are given in Table 3. The properties for dives with depths in Imperial units are conventions established in the U.S. Navy Diving Manual.^{1,2,4} Properties for dives with depths in msw units were chosen to parallel within integer msw resolution the properties for dives with depths in fsw units. Corresponding dive profile properties assumed in other published decompression tables for dives with depths in msw units are given for comparison.

Table 3. Air Table Dive Profile Properties

Property	TABLE DEPTH UNITS				
	fsw	msw			
	US (VVal-79)	US (VVal-79)	DCIEM ^a	UK ^b	NDTT ^c
descent rate (units/min)	75	23	18	30	15 [‡]
ascent rate (units/min)	30	9	18	15	10
decompression stop depth increment (units)	10	3	3	3	3
In-water O ₂ CEIL (units)	30.0	9.0	9.0	NA	NA
last allowed decompression stop depth (units)	10 & 20	3 & 6	3	3	3
SurDO₂ Parameters					
drop-out depth (units)	40	12	9	bottom depth	12
drop-out ascent rate (units/min)	40	12	18	15	12
chamber descent rate (units/min)	100	33	*	**	30
chamber ascent rate (units/min)	30	9	18***	15	10
first chamber stop depth (units)	50	15	12	var	15
chamber stop depth increment (units)	10	3	NA	3	3

^a *DCIEM Diving Manual: Air Decompression Procedures and Tables*, DCIEM No. 86-R-35, , (Universal Dive Techtronics, Richmond, British Columbia, Canada, March 1992). Tables revised October 1992.⁹

^b Brd 2806(2). *U.K. Military Diving Manual*, (Fleet Publications and Graphics Organisation. April 2014 Edition), Air Diving, Chapter 6, Decompression.¹²

^c *Norwegian Diving and Treatment Tables*, 3rd ed. (Barotech AS, Bjørndalstræ, Norway, Nov 2008), Tables and guidelines for surface orientated diving on air and nitrox. Tables and guidelines for treatment of decompression illness.¹⁴

‡ specified only for “Deep Chamber Dives,” otherwise “at will”

* As required to keep interval between time leave last stop and time reach first chamber stop depth ≤ 7 minutes

** As required to keep interval between time leave bottom or last stop and time reach first chamber stop depth ≤ 5 minutes

*** Not specified; value presumed

TABLE COMPOSITION AND FORMAT

A separate set of tables was generated for dive depths in units of msw and for dive depths in units of fsw. Each table set consists of four component tables:

- No-Decompression Limits and Repetitive Group Designators Table for No-Decompression Air Dives;
- Surface Interval Credit and Residual Nitrogen Time Table for Repetitive Air Dives; and
- Air Decompression Table, 3 msw last in-water stop (or 10 fsw last in-water stop)
- Air Decompression Table, 6 msw last in-water stop (or 20 fsw last in-water stop)

Each Air Decompression Table gives schedules for three modes of decompression in the integrated format that first appeared in Table 9-9 in the U.S. Navy Diving Manual, Revision 6. The three decompression modes for each dive depth/bottom time combination are: (1) in-water decompression on air, (2) in-water decompression on air and oxygen, and (3) surface decompression using oxygen (SurDO₂). The tables in each table set are composed and formatted for interpretation and use according to the same rules and provisions for the corresponding tables in Chapter 9 of the U.S. Navy Diving Manual, Revisions 6 and 7.^{1,2,4}

Limit Line Placement

Limit lines were placed in each Air Decompression table in accord with the decompression mode selection rules schematized in figure 1.

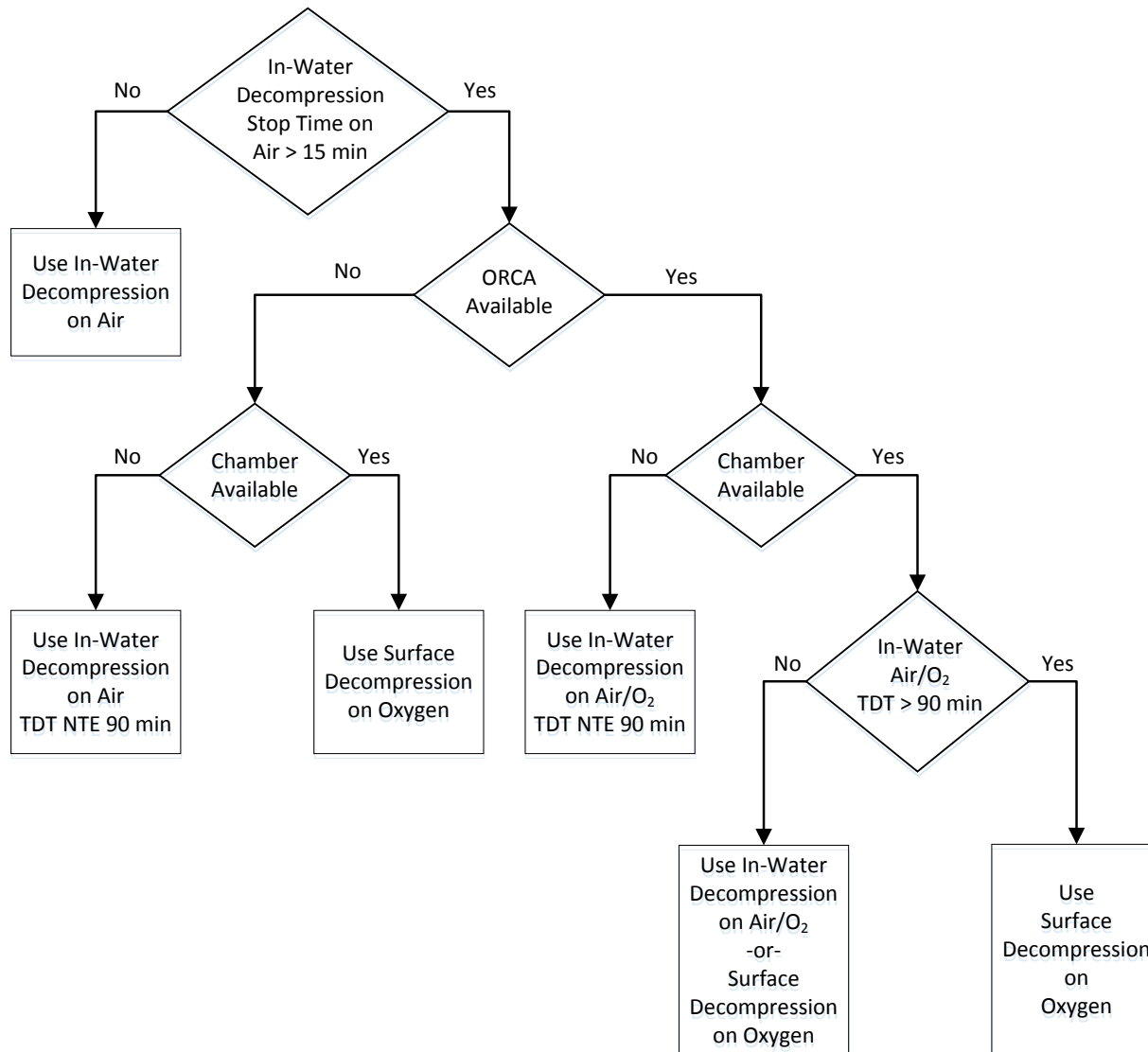


Figure 1. Decompression mode selection flowchart, redrawn from Figure 9-7 of the U.S. Navy Diving Manual, Revision 7.⁴ Total decompression time (TDT) in the figure, defined as the time from leaving bottom to reaching surface, is synonymous with total ascent time (TAT) in the decompression tables. NTE is an initialism for “not to exceed.” Dives with TDT in excess of 90 minutes are exceptional exposure dives for the corresponding decompression mode. Surface decompression on oxygen dives with more than four oxygen periods are also exceptional exposure dives.

DCS RISK ESTIMATION

Estimated risks of DCS (P_{DCS}) for each schedule in the Air Decompression Tables were calculated with the BVM(3) and NMRI98 (Model 2) probabilistic models.¹⁵⁻¹⁷ P_{DCS} was calculated at the limits of tabulated depth and bottom time and, where applicable, with consideration of the influences of recommended air breaks during prescribed oxygen breathing periods. P_{DCS} of Air/O₂ and Air/SurDO₂ schedules were computed assuming inspired O₂ fractions of 95% during in-water O₂ breathing periods and 85% during SurDO₂ O₂ breathing periods, regardless of the value used in the Thalmann Algorithm to compute the schedules. The gas switch time — i.e., the time over which alveolar gas is modeled to change linearly from one composition to another after a breathing gas switch — was assumed to be 0.2 minutes.

Internal pressures are in units of atm in the NEDU BVM(3), NMRI98 (Model 2), and other probabilistic models. Pressures in atm at depths in msw or fsw were obtained with the appropriate Standard convention conversion factor in Table 1, which tended to compensate for the conservatism arising from use of USN-metric geometric factors to compute the schedules.

RESULTS

The table set for dive depths in units of msw is given in Appendices B–E and the table set for dive depths in units of fsw is given in Appendices F–I. Estimated P_{DCS} with 95% confidence limits for each single-dive schedule in the Air Decompression tables in Appendices D, E, H, and I are given in respective Appendices J–M.

The table of No-Decompression Limits and Repetitive Group Designators for No-Decompression Air Dives in the FSW table set (Appendix F) is identical to that given in NEDU TR 12-01.³ The integrated Air Decompression Table for dives with 20 fsw last in-water stops (Appendix I) is identical to the Air Decompression table in NEDU TR 12-01 with the added feature of appropriately placed limit lines.³ The top or surface interval credit table (SICT) portion of the Residual Nitrogen Timetable for Repetitive Air Dives in the FSW table set (Appendix G) is identical to the SICT portion of the corresponding Table 9-8 in the U.S. Navy Diving Manual, Revision 6,^{1,2} as well as to the SICT portion of the corresponding table in the MSW table set (Appendix C). The bottom portion of the Residual Nitrogen Timetable for Repetitive Air Dives in the FSW table set is identical to the bottom portion of Table 9-8 in the U.S. Navy Diving Manual, Revision 6,^{1,2} with the single exception of the 989 minute entry for the O group at 25 fsw.^{iv} This entry replaces a “†” entry in the Revision 6 table as a result of the 1102 minute no-stop limit for 25 fsw dives (Appendix F) that replaces a 595 minute limit for these dives that was arbitrarily inserted in the corresponding Revision 6 table.³ The tables in Appendices F, G, and I of

^{iv} This exception was overlooked in NEDU TR 12-01, where the VVal-79 Thalmann Algorithm Residual Nitrogen Timetable for Repetitive Air Dives table was stated to be the same as the table in the U.S. Navy Diving Manual, Revision 6, and was consequently not given.³

the FSW table set are as scheduled to appear in the U.S. Navy Diving Manual, Revision 7.⁴

DISCUSSION

VVal-79 MPTTs were engineered for the Thalmann Algorithm to yield the well-accepted no-stop limits for air diving in the Des Granges Standard Air Decompression Table that appeared in U.S. Navy Diving Manuals from 1959 to 2008. Because the Thalmann Algorithm accounts for blood-tissue gas exchange during all depth transients except ascent to surface from the last allowed decompression stop depth, when instantaneous ascent is allowed, the MPTTs required to yield the target no-stop limits depend on the descent rate, the last allowed in-water stop depth, and the ascent rate.³ For VVal-79, the targets are obtained with 75 fsw/min descent rates, 20 fsw last allowed in-water decompression stops, and 30 fsw/min ascent rates. Slightly different no-stop limits for some depths can be obtained with the VVal-79 MPTTs and different last allowed in-water stops or travel rates. However, within the ranges of travel rates and last allowed stop depths in the present tables, the differences are negligibly small (Figure 2). Thus, the MSW table set includes only the table of No-Decompression Limits and Repetitive Group Designators for No-Decompression Air Dives computed for dives with 6 msw last in-water stops, 23 msw/min descent rates, and 9 msw/min ascent rates (Appendix B). Similarly, the FSW table set includes only the table of No-Decompression Limits and Repetitive Group Designators for No-Decompression Air Dives computed for dives with 20 fsw last in-water stops, 75 fsw/min descent rates, and 30 fsw/min ascent rates (Appendix F). Where differences occur between these tables and the corresponding tables computed with 3 msw or 10 fsw last stops, the limits are shorter and hence more conservative in the 6 msw and 20 fsw last stop tables. The longer computed no-stop limits do appear in the MSW Air Decompression Table with 3 msw Last Stop (Appendix D) and in the FSW Air Decompression Table with 10 fsw Last Stop (Appendix H). We recommend that users of the MSW Air Decompression Table with 3 msw Last Stop replace the longer no-stop times in that table with the shorter no-stop times computed with 6 msw last stop (Appendix B). Similarly, we recommend that users of the FSW Air Decompression Table with 10 fsw Last Stop replace the longer no-stop times in that table with the shorter no-stop times computed with 20 fsw last stop (Appendix F).

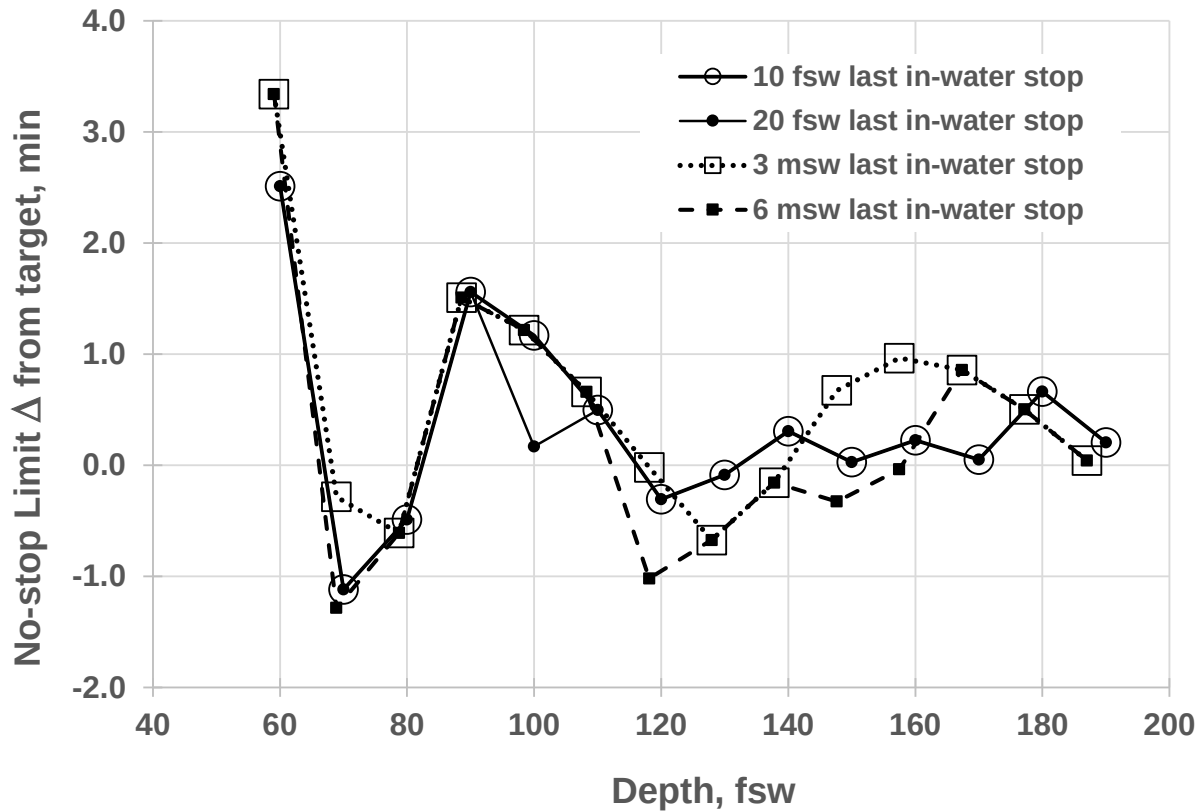


Figure 2. VVal-79 Thalmann Algorithm no-stop limit differences from target values. The targets were unrounded values given by a third-order polynomial fit to USN56 no-stop limits for dives to depths 60-190 fsw.³ A positive value is the amount by which the algorithmically prescribed no-stop limit exceeds the corresponding target value. The four curves overlap to within one minute of each other despite the different last allowed in-water stop depths and travel rates used to compute the no-stop limits.

It was pointed out in NEDU TR 07-09 that VVal-18M Thalmann Algorithm Air-only decompression schedules with a 10 fsw last allowed in-water decompression stop are shorter than corresponding schedules with a 20 fsw last allowed in-water stop, yet have practically the same risks of DCS for schedules with P_{DCS} less than about 9%.⁵ As shown in figures 3, 4 and 5, the same feature holds for the Air-only schedules with P_{DCS} less than about 7% in the present MSW and FSW tables. Because only exceptional exposure dives incur estimated risks greater than 7%, non-exceptional exposure schedules with a 3 msw or 10 fsw last decompression stop can be used with no significant increase in estimated P_{DCS} compared to the longer non-exceptional exposure schedules with a 6 msw or 20 fsw last decompression stop.

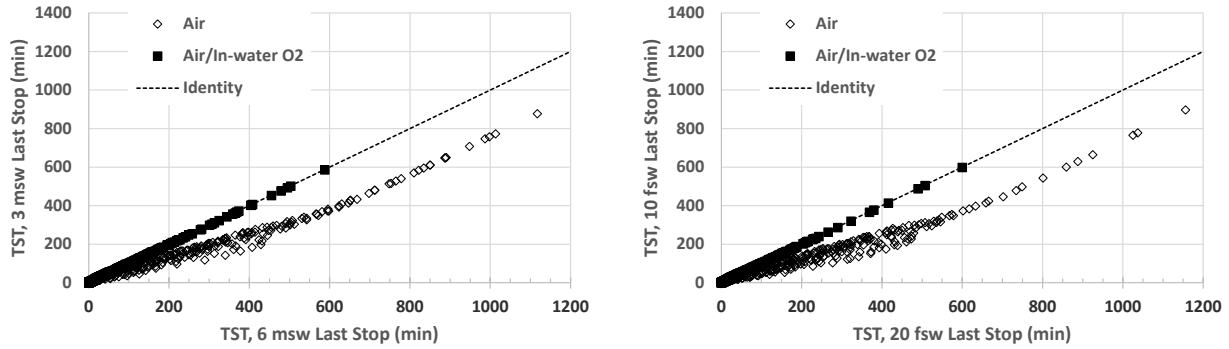


Figure 3. Left panel: Total stop times (TST) in MSW schedules with a 3 msw last in-water stop versus corresponding times in MSW schedules with a 6 msw last in-water stop. Right panel: Total stop times in FSW schedules with a 10 fsw last in-water stop versus corresponding times in FSW schedules with a 20 fsw last in-water stop. Air/In-water O₂ stop times in either panel do not include recommended air break times.

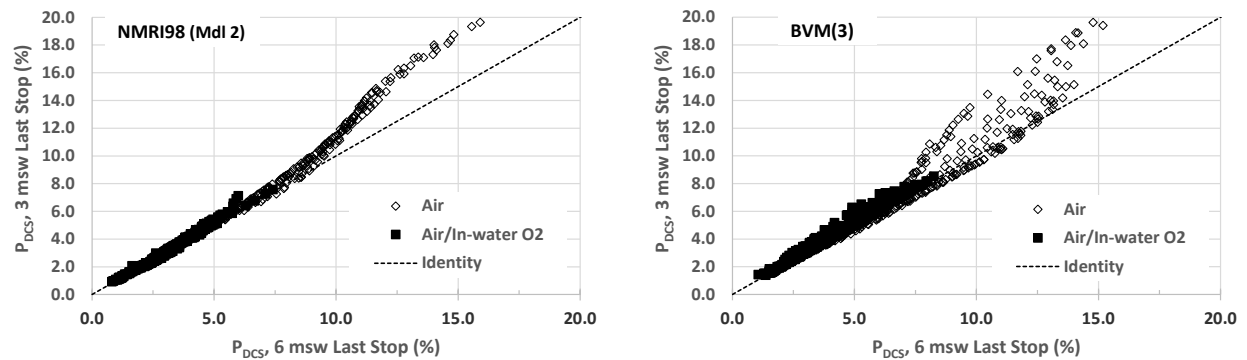


Figure 4. Estimated risks of DCS for MSW schedules with a 3 msw last in-water stop versus estimated risks of DCS for corresponding MSW schedules with a 6 msw last in-water stop. Left panel: Risks as estimated with the NMRI98 model. Right panel: Risks as estimated with the BVM(3) model.

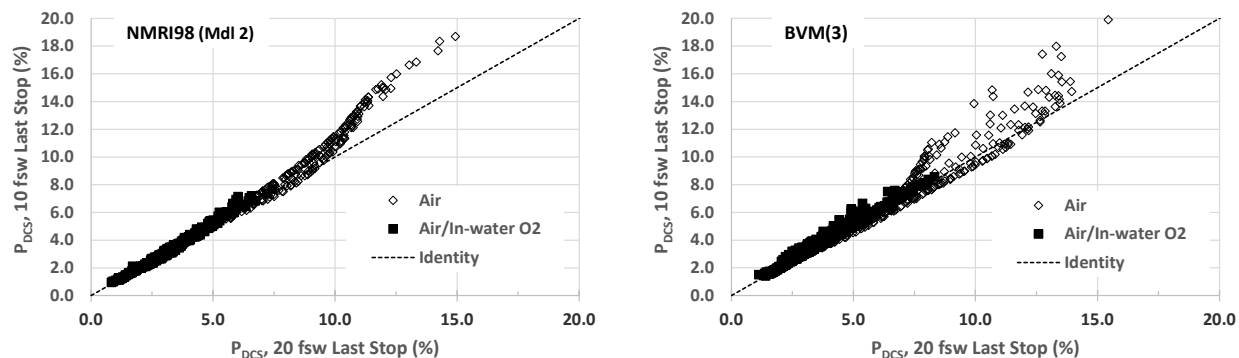


Figure 5. Estimated risks of DCS for FSW schedules with a 10 fsw last in-water stop versus estimated risks of DCS for corresponding FSW schedules with a 20 fsw last in-water stop. Left panel: Risks as estimated with the NMRI98 model. Right panel: Risks as estimated with the BVM(3) model.^v

Dive computers operating the VVal-79 Thalmann Algorithm to compute decompression prescriptions in real time must obtain ambient pressures at depth with the appropriate USN-metric geometric conversion factor in order to compute schedules consistent with those in the tables in this report. For a dive computer operating with a pressure sensor calibrated in units of msw, the appropriate factors for pressures in various units are given in the shaded column of Table 4. For example, a dive computer operating with depths in msw and performing internal computations with pressures in bar should use a depth-pressure conversion factor of 0.10074 bar/msw.

Table 4. Factors for Determining Pressure in Various Units at Depth in MSW

Pressure Units	CF (Units/msw) by Convention		
	Standard	USN-metric geometric	USN-metric pressure
fsw (USN)	3.26456	3.28084	3.25690
atm	0.09869	0.09942	0.09869
bar	0.10000	0.10074	0.10000

^v The point patterns in this panel appear substantially different from those in the VVal-18M Thalmann Algorithm analog of this panel in NEDU TR 07-09 (Figure 20)⁵ because of an error in the NEDU TR 07-09 figure. The points for both Air and Air/In-water O₂ in the NEDU TR 07-09 figure are erroneously based on NMRI98 model estimates for schedules with a 20 fsw last stop, not BVM(3) model estimates. Correction of the error yields point patterns similar to those in the present panel.

Table 4 also includes factors for conversions under the other two depth-pressure conventions in Table 1. Each USN-metric geometric factor slightly exceeds the corresponding factors in the other two conventions. It follows that pressures for given msw depths are fractionally greater under the USN-metric geometric convention than under the other conventions. Schedules for dives conducted with depths in units of msw, where $10 \text{ msw} \equiv 1 \text{ bar}$, will consequently be slightly conservative when taken from the metric tables in this report or computed with the slight pressure overestimations that arise from use of the USN-metric geometric depth-pressure conversion.

CONCLUSIONS AND RECOMMENDATIONS

This report promulgates NEDU-approved versions of the VVal-79 Thalmann Algorithm U.S. Navy Integrated Air Decompression Tables with depths in metric units and Imperial units. Tables with last allowed in-water decompression stops at 3 msw, 6 msw, 10 fsw, and 20 fsw are presented complete with appropriate limit lines.

RECOMMENDATIONS

1. Diving communities conducting air diving operations with depths in msw and with a requirement to use the VVal-79 Thalmann Algorithm Air Decompression Tables should use the enclosed metric tables.
2. Where conditions allow a shallow last in-water decompression stop, shorter non-exceptional exposure schedules in the Air Decompression Tables with a 3 msw or 10 fsw last decompression stop can be used with no significant increase in estimated P_{DCS} compared to the longer non-exceptional exposure schedules in the Air Decompression Tables with a 6 msw or 20 fsw last decompression stop.
3. Users of the MSW Air Decompression Table with 3 msw Last Stop should replace the no-stop times in that table with the shorter no-stop times computed with a 6 msw last stop.
4. Users of the FSW Air Decompression Table with 10 fsw Last Stop should replace the no-stop times in that table with the shorter no-stop times computed with a 20 fsw last stop.
5. Dive computers operating the VVal-79 Thalmann Algorithm to compute decompression prescriptions in real time must obtain ambient pressures at depth with the appropriate USN-metric geometric conversion factor in order to compute schedules consistent with those in the tables in this report.

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APPENDIX A THALMANN ALGORITHM VVAL-79 PARAMETERS

**Table A.1. VVal-79 Maximum Permissible Tissue Tensions (MPTTs).
MPTTs and Stop Depths in FSW^a**

STOP DEPTH	TISSUE HALF-TIMES								
	5 MIN	10 MIN	20 MIN	40 MIN	80 MIN	120 MIN	160 MIN	200 MIN	240 MIN
FSW	0.70 SDR	0.70 SDR	0.70 SDR	0.70 SDR	0.70 SDR	0.70 SDR	0.70 SDR	0.70 SDR	0.70 SDR
10	99.3	87.7	78.0	56.0	48.5	45.5	44.5	44.0	43.5
20	109.3	97.7	88.0	66.0	58.5	55.5	54.5	54.0	53.5
30	119.3	107.7	98.0	76.0	68.5	65.5	64.5	64.0	63.5
40	129.3	117.7	108.0	86.0	78.5	75.5	74.5	74.0	73.5
50	139.3	127.7	118.0	96.0	88.5	85.5	84.5	84.0	83.5
60	149.3	137.7	128.0	106.0	98.5	95.5	94.5	94.0	93.5
70	159.3	147.7	138.0	116.0	108.5	105.5	104.5	104.0	103.5
80	169.3	157.7	148.0	126.0	118.5	115.5	114.5	114.0	113.5
90	179.3	167.7	158.0	136.0	128.5	125.5	124.5	124.0	123.5
100	189.3	177.7	168.0	146.0	138.5	135.5	134.5	134.0	133.5
110	199.3	187.7	178.0	156.0	148.5	145.5	144.5	144.0	143.5
120	209.3	197.7	188.0	166.0	158.5	155.5	154.5	154.0	153.5
130	219.3	207.7	198.0	176.0	168.5	165.5	164.5	164.0	163.5
140	229.3	217.7	208.0	186.0	178.5	175.5	174.5	174.0	173.5
150	239.3	227.7	218.0	196.0	188.5	185.5	184.5	184.0	183.5
160	249.3	237.7	228.0	206.0	198.5	195.5	194.5	194.0	193.5
170	259.3	247.7	238.0	216.0	208.5	205.5	204.5	204.0	203.5
180	269.3	257.7	248.0	226.0	218.5	215.5	214.5	214.0	213.5
190	279.3	267.7	258.0	236.0	228.5	225.5	224.5	224.0	223.5
200	289.3	277.7	268.0	246.0	238.5	235.5	234.5	234.0	233.5
210	299.3	287.7	278.0	256.0	248.5	245.5	244.5	244.0	243.5
220	309.3	297.7	288.0	266.0	258.5	255.5	254.5	254.0	253.5
230	319.3	307.7	298.0	276.0	268.5	265.5	264.5	264.0	263.5
240	329.3	317.7	308.0	286.0	278.5	275.5	274.5	274.0	273.5
250	339.3	327.7	318.0	296.0	288.5	285.5	284.5	284.0	283.5
260	349.3	337.7	328.0	306.0	298.5	295.5	294.5	294.0	293.5
270	359.3	347.7	338.0	316.0	308.5	305.5	304.5	304.0	303.5
280	369.3	357.7	348.0	326.0	318.5	315.5	314.5	314.0	313.5
290	379.3	367.7	358.0	336.0	328.5	325.5	324.5	324.0	323.5
300	389.3	377.7	368.0	346.0	338.5	335.5	334.5	334.0	333.5

^a MPTT values in each row are used in the Thalmann EL-DCM to assess the time at the corresponding stop depth required before ascent to the next shallower stop depth. Thus, tabulated MPTT values for the 10 fsw stop depth are the “surfacing values” that express the MPTTs at surface.

A 20 fsw last allowed decompression stop is implemented by replacing the tabulated MPTT values for the 20 fsw stop depth with those for the 10 fsw stop depth.

**Table A.2. VVal-79 Maximum Permissible Tissue Tensions (MPTTs).
MPTTs in FSW; Stop Depths in MSW^a**

STOP DEPTH	TISSUE HALF-TIMES								
	5 MIN	10 MIN	20 MIN	40 MIN	80 MIN	120 MIN	160 MIN	200 MIN	240 MIN
MSW	0.70 SDR	0.70 SDR	0.70 SDR	0.70 SDR	0.70 SDR	0.70 SDR	0.70 SDR	0.70 SDR	0.70 SDR
3	99.300	87.700	78.000	56.000	48.500	45.500	44.500	44.000	43.500
6	109.143	97.543	87.843	65.843	58.343	55.343	54.343	53.843	53.343
9	118.985	107.385	97.685	75.685	68.185	65.185	64.185	63.685	63.185
12	128.828	117.228	107.528	85.528	78.028	75.028	74.028	73.528	73.028
15	138.670	127.070	117.370	95.370	87.870	84.870	83.870	83.370	82.870
18	148.513	136.913	127.213	105.213	97.713	94.713	93.713	93.213	92.713
21	158.355	146.755	137.055	115.055	107.555	104.555	103.555	103.055	102.555
24	168.198	156.598	146.898	124.898	117.398	114.398	113.398	112.898	112.398
27	178.040	166.440	156.740	134.740	127.240	124.240	123.240	122.740	122.240
30	187.883	176.283	166.583	144.583	137.083	134.083	133.083	132.583	132.083
33	197.725	186.125	176.425	154.425	146.925	143.925	142.925	142.425	141.925
36	207.568	195.968	186.268	164.268	156.768	153.768	152.768	152.268	151.768
39	217.410	205.810	196.110	174.110	166.610	163.610	162.610	162.110	161.610
42	227.253	215.653	205.953	183.953	176.453	173.453	172.453	171.953	171.453
45	237.095	225.495	215.795	193.795	186.295	183.295	182.295	181.795	181.295
48	246.938	235.338	225.638	203.638	196.138	193.138	192.138	191.638	191.138
51	256.780	245.180	235.480	213.480	205.980	202.980	201.980	201.480	200.980
54	266.623	255.023	245.323	223.323	215.823	212.823	211.823	211.323	210.823
57	276.465	264.865	255.165	233.165	225.665	222.665	221.665	221.165	220.665
60	286.308	274.708	265.008	243.008	235.508	232.508	231.508	231.008	230.508
63	296.150	284.550	274.850	252.850	245.350	242.350	241.350	240.850	240.350
66	305.993	294.393	284.693	262.693	255.193	252.193	251.193	250.693	250.193
69	315.835	304.235	294.535	272.535	265.035	262.035	261.035	260.535	260.035
72	325.678	314.078	304.378	282.378	274.878	271.878	270.878	270.378	269.878

^a MPTT values in each row are used in the Thalmann EL-DCM to assess the time at the corresponding stop depth required before ascent to the next shallower stop depth. Thus, tabulated MPTT values for the 3 msw stop depth are the “surfacing values” that express the MPTTs at surface.

A 6 msw last allowed decompression stop is implemented by replacing the tabulated MPTT values for the 6 msw stop depth with those for the 3 msw stop depth.

Table A.3. VVal-79 Thalmann Algorithm Global Parameters

PARAMETER	VALUE	UNITS
PACO2	1.50	FSW
PH2O	0.00	FSW
PVCO2	2.30	FSW
PVO2	2.00	FSW
AMBAO2	0.00	FSW
PBOVP	10.00	FSW
sPBOVP	0.00	FSW
O2TIME	30.0	MIN
AIRTIME	5.0	MIN
CNDSDR_FO2	0.80	*
O2TIME_FO2	0.80	*
	(0.95) [‡]	*
GSWLAT	0.00	MIN
GSW_DEAD	TRUE	N/A
AB_DEAD	TRUE	N/A
OMIT_TRVL	TRUE	N/A
SRF_CNTRLT_MODE	1	N/A
LST_DOMode	1	N/A
RGD_SPRSS	2	N/A
TTIS	TRUE	N/A
STIME	0.2	MIN
RNTMODE	0	N/A
SURDO₂ PARAMETERS		
SurDTimFctr	1.1	*
O2TIME_FO2	0.85 [‡]	*

* dimensionless

[‡] For computation of estimated risks of DCS

APPENDIX B MSW NO-DECOMPRESSION LIMITS AND REPETITIVE GROUP DESIGNATORS FOR NO-DECOMPRESSION AIR DIVES. VVAL-79 THALMANN ALGORITHM

RATES: DESCENT 23 MPM; ASCENT 9 MPM
LAST ALLOWED DECOMPRESSION STOP: 6 MSW

DEPTH (MSW)	NO-STOP LIMIT	REPETITIVE GROUP DESIGNATION															
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
3	Unlimited	59	103	162	254	459	*										
6	Unlimited	27	44	63	84	108	136	169	211	266	347	503	*				
9	394	17	27	39	51	64	78	93	109	128	148	172	199	231	270	321	394
12	169	12	20	28	36	45	54	64	75	86	98	110	124	139	155	169	
15	96	9	15	22	28	35	42	49	57	65	73	82	91	96			
18	65	8	13	18	23	28	34	40	46	52	58	65					
21	49	6	10	15	19	24	28	33	38	43	48	49					
24	40	5	9	13	16	20	24	28	32	37	40						
27	34	4	8	11	14	18	21	25	28	32	34						
30	27	4	7	9	12	16	19	22	25	27							
33	21	3	6	8	11	14	17	19	21								
36	15	3	5	7	10	12	15										
39	12	2	4	7	9	11	12										
42	10	2	4	6	8	10											
45	8		3	5	7	8											
48	7		3	5	7												
51	7			4	6	7											
54	6			4	5	6											
57	5			3	5												

*Highest repetitive group that can be achieved at this depth regardless of bottom time

APPENDIX C MSW RESIDUAL NITROGEN TIMETABLE FOR REPETITIVE AIR DIVES. VVAL-79 THALMANN ALGORITHM

Z Depth (MSW)																	A	:10 2:20													
																	B	:10 1:16	1:17 3:36												
																	C	:10 0:55	0:56 2:11	2:12 4:31											
																	D	:10 0:52	0:53 1:47	1:48 3:03	3:04 5:23										
																	E	:10 0:52	0:53 1:44	1:45 2:39	2:40 3:55	3:56 6:15									
																	F	:10 0:52	0:53 1:44	1:45 2:37	2:38 3:31	3:32 4:48	4:49 7:08								
																	G	:10 0:52	0:53 1:44	1:45 2:37	2:38 3:30	4:24 5:40	5:41 8:00								
																	H	:10 0:52	0:53 1:44	1:45 2:37	2:38 3:29	4:22 5:16	5:17 6:32	6:33 8:52							
																	I	:10 0:52	0:53 1:44	1:45 2:37	2:38 3:30	4:22 5:13	5:14 6:08	6:09 7:24	7:25 9:44						
																	J	:10 0:52	0:53 1:44	1:45 2:37	2:38 3:29	4:22 5:13	6:07 7:00	7:01 8:16	8:17 10:36						
																K	:10 0:52	0:53 1:44	1:45 2:37	2:38 3:29	4:22 5:13	6:07 6:58	7:53 9:09	9:10 11:29							
																L	:10 0:52	0:53 1:44	1:45 2:37	2:38 3:29	4:22 5:13	6:07 6:58	7:51 8:44	8:45 10:01	10:02 12:21						
																M	:10 0:52	0:53 1:44	1:45 2:37	2:38 3:30	4:22 5:13	6:07 6:58	7:51 8:42	9:38 10:53	10:54 13:13						
																N	:10 0:52	0:53 1:44	1:45 2:37	2:38 3:29	4:22 5:13	6:07 6:58	7:51 8:43	9:35 10:30	11:46 14:05						
																O	:10 0:52	0:53 1:44	1:45 2:37	2:38 3:29	4:22 5:13	6:07 6:58	7:51 8:42	9:35 10:27	11:22 12:37	12:38 14:58					
																Z	:10 0:52	0:53 1:44	1:45 2:37	2:38 3:29	4:22 5:13	6:07 6:58	7:51 8:42	9:35 10:27	11:20 12:13	12:14 13:30	13:31 15:50				
																Z	O	N	M	L	K	J	I	H	G	F	E	D	C	B	A
3	**	**	**	**	**	**	**	**	**	**	**	**	460	254	163	104	60														
6	**	**	**	**	**		504	348	267	212	170	137	109	85	63	45	27														
9	394	322	271	232	200	173	149	129	110	94	79	65	52	40	29	18															
12	194	174	156	140	125	111	99	87	76	65	56	46	37	29	21	13															
15	134	123	112	102	92	83	74	66	58	50	43	36	29	23	17	11															
18	104	95	88	80	73	66	59	53	47	41	35	30	24	19	14	9															
21	85	78	72	66	61	55	50	44	39	35	30	25	21	16	12	8															
24	72	66	61	57	52	47	43	38	34	30	26	22	18	14	10	7															
27	62	58	53	49	45	41	37	34	30	26	23	19	16	13	9	6															
30	55	51	47	44	40	37	33	30	27	24	20	17	14	11	8	6															
33	49	46	43	39	36	33	30	27	24	21	19	16	13	10	8	5															
36	44	42	39	36	33	30	27	25	22	20	17	14	12	10	7	5															
39	41	38	35	33	30	28	25	23	20	18	16	13	11	9	7	4															
42	37	35	33	30	28	26	23	21	19	17	15	12	10	8	6	4															
45	35	33	30	28	26	24	22	20	18	16	14	12	10	8	6	4															
48	32	30	28	26	24	22	20	18	16	15	13	11	9	7	5	4															
51	30	28	27	25	23	21	19	17	15	14	12	10	9	7	5	3															
54	29	27	25	23	21	20	18	16	15	13	11	10	8	6	5	3															
57	27	25	24	22	20	19	17	15	14	12	11	9	8	6	5	3															

APPENDIX D MSW AIR DECOMPRESSION TABLE WITH 3 MSW LAST STOP. VVAL-79 THALMANN ALGORITHM

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop											Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3			
9	394	1:00	AIR AIR/O ₂											0 0	1:00 1:00	0	Z
9	420	0:40	AIR AIR/O ₂											5 2	6:00 3:00	0.5	Z
9	480	0:40	AIR AIR/O ₂											12 6	13:00 7:00	0.5	Z
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																	
9	540	0:40	AIR AIR/O ₂											21 10	22:00 11:00	0.5	
9	600	0:40	AIR AIR/O ₂											30 15	31:00 16:00	1	
9	660	0:40	AIR AIR/O ₂											36 18	37:00 19:00	1	
9	720	0:40	AIR AIR/O ₂											45 22	46:00 23:00	1	
12	170	1:20	AIR AIR/O ₂											0 0	1:20 1:20	0	O
12	180	1:00	AIR AIR/O ₂											5 3	6:20 4:20	0.5	Z
12	190	1:00	AIR AIR/O ₂											8 5	9:20 6:20	0.5	Z
12	200	1:00	AIR AIR/O ₂											12 7	13:20 8:20	0.5	Z
12	210	1:00	AIR AIR/O ₂											15 9	16:20 10:20	0.5	Z
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																	
12	220	1:00	AIR AIR/O ₂											18 10	19:20 11:20	0.5	Z
12	230	1:00	AIR AIR/O ₂											24 12	25:20 13:20	0.5	Z
12	240	1:00	AIR AIR/O ₂											29 15	30:20 16:20	1	Z
12	270	1:00	AIR AIR/O ₂											42 23	43:20 24:20	1	Z
12	300	1:00	AIR AIR/O ₂											53 29	54:20 30:20	1.5	Z
12	330	1:00	AIR AIR/O ₂											63 34	64:20 35:20	1.5	Z
12	360	1:00	AIR											75	76:20	1.5	

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3		
			AIR/O ₂											39	45:20	
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																
12	420	1:00	AIR											96	97:20	2
			AIR/O ₂											51	57:20	
12	480	1:00	AIR											117	118:20	2.5
			AIR/O ₂											60	66:20	
12	540	1:00	AIR											142	143:20	3
			AIR/O ₂											71	82:20	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																
12	600	1:00	AIR											164	165:20	3.5
			AIR/O ₂											84	95:20	
12	660	1:00	AIR											183	184:20	3.5
			AIR/O ₂											94	105:20	
12	720	1:00	AIR											198	199:20	4
			AIR/O ₂											103	119:20	
15	97	1:40	AIR											0	1:40	0 M
			AIR/O ₂											0	1:40	
15	100	1:20	AIR											2	3:40	0.5 M
			AIR/O ₂											1	2:40	
15	110	1:20	AIR											6	7:40	0.5 N
			AIR/O ₂											3	4:40	
15	120	1:20	AIR											9	10:40	0.5 O
			AIR/O ₂											5	6:40	
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																
15	130	1:20	AIR											17	18:40	0.5 O
			AIR/O ₂											10	11:40	
15	140	1:20	AIR											24	25:40	1 Z
			AIR/O ₂											14	15:40	
15	150	1:20	AIR											31	32:40	1 Z
			AIR/O ₂											17	18:40	
15	160	1:20	AIR											37	38:40	1 Z
			AIR/O ₂											21	22:40	
15	170	1:20	AIR											43	44:40	1 Z
			AIR/O ₂											24	25:40	
15	180	1:20	AIR											48	49:40	1 Z
			AIR/O ₂											27	28:40	
15	190	1:20	AIR											57	58:40	1.5 Z
			AIR/O ₂											31	32:40	
15	200	1:20	AIR											64	65:40	1.5 Z
			AIR/O ₂											35	36:40	
15	210	1:20	AIR											72	73:40	1.5 Z
			AIR/O ₂											39	45:40	
15	220	1:20	AIR											79	80:40	2 Z
			AIR/O ₂											43	49:40	

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6			
15	230	1:20	AIR AIR/O ₂										85 46	86:40 52:40	2	Z
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																
15	240	1:00	AIR AIR/O ₂										2 90 1 49	93:20 56:20	2	Z
15	270	1:00	AIR AIR/O ₂										9 101 5 54	111:20 65:20	2.5	
15	300	1:00	AIR AIR/O ₂										14 117 8 60	132:20 79:20	2.5	
15	330	1:00	AIR AIR/O ₂										25 126 12 66	152:20 89:20	3	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																
15	360	1:00	AIR AIR/O ₂										34 138 17 69	173:20 97:20	3.5	
15	420	1:00	AIR AIR/O ₂										47 169 24 81	217:20 121:20	4	
18	65	2:00	AIR AIR/O ₂										0 2:00 0 2:00		0	K
	70	1:40	AIR AIR/O ₂										4 6:00 3 5:00		0.5	L
	80	1:40	AIR AIR/O ₂										12 14:00 7 9:00		0.5	M
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																
18	90	1:40	AIR AIR/O ₂										19 21:00 11 13:00		0.5	N
18	100	1:40	AIR AIR/O ₂										24 26:00 14 16:00		1	O
18	110	1:40	AIR AIR/O ₂										34 36:00 19 21:00		1	O
18	120	1:40	AIR AIR/O ₂										44 46:00 25 27:00		1	Z
18	130	1:20	AIR AIR/O ₂										1 53 1 29	55:40 31:40	1.5	Z
18	140	1:20	AIR AIR/O ₂										4 59 2 33	64:40 36:40	1.5	Z
18	150	1:20	AIR AIR/O ₂										6 65 3 36	72:40 45:40	1.5	Z
18	160	1:20	AIR AIR/O ₂										8 75 4 40	84:40 50:40	2	Z
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																
18	170	1:20	AIR AIR/O ₂										14 81 7 43	96:40 56:40	2	Z
18	180	1:20	AIR AIR/O ₂										19 86 10 45	106:40 61:40	2.5	Z

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3		
18	190	1:20	AIR AIR/O ₂										24 91	116:40	2.5	Z
													13 47	66:40		
18	200	1:20	AIR AIR/O ₂										29 94	124:40	2.5	Z
													16 49	71:40		
18	210	1:20	AIR AIR/O ₂										33 99	133:40	3	
													18 51	80:40		
18	220	1:20	AIR AIR/O ₂										37 106	144:40	3	
													20 53	84:40		
18	230	1:20	AIR AIR/O ₂										41 112	154:40	3	
													22 55	88:40		
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																
18	240	1:20	AIR AIR/O ₂										44 119	164:40	3.5	
													24 58	93:40		
18	270	1:20	AIR AIR/O ₂										60 131	192:40	4	
													31 65	112:40		
18	300	1:20	AIR AIR/O ₂										75 147	223:40	4	
													39 69	124:40		
21	50	2:20	AIR AIR/O ₂										0	2:20	0	K
													0	2:20		
21	55	2:00	AIR AIR/O ₂										7	9:20	0.5	K
													4	6:20		
21	60	2:00	AIR AIR/O ₂										13	15:20	0.5	L
													7	9:20		
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																
21	70	2:00	AIR AIR/O ₂										24	26:20	0.5	M
													13	15:20		
21	80	2:00	AIR AIR/O ₂										33	35:20	1	N
													18	20:20		
21	90	1:40	AIR AIR/O ₂										5 36	43:00	1	O
													3 19	24:00		
21	100	1:40	AIR AIR/O ₂										11 44	57:00	1.5	Z
													6 24	32:00		
21	110	1:40	AIR AIR/O ₂										15 52	69:00	1.5	Z
													8 29	44:00		
21	120	1:40	AIR AIR/O ₂										19 59	80:00	2	Z
													11 32	50:00		
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																
21	130	1:40	AIR AIR/O ₂										23 70	95:00	2	Z
													12 37	56:00		
21	140	1:40	AIR AIR/O ₂										28 79	109:00	2.5	Z
													15 40	62:00		
21	150	1:40	AIR AIR/O ₂										37 84	123:00	2.5	Z
													20 43	70:00		
21	160	1:40	AIR										44 89	135:00	3	Z

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3		
			AIR/O ₂										24 45	81:00		
21	170	1:20	AIR										1 51 93	146:40	3	
			AIR/O ₂										1 26 49	87:40		
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																
21	180	1:20	AIR										2 56 102	161:40	3.5	
			AIR/O ₂										1 30 51	92:40		
21	190	1:20	AIR										3 61 110	175:40	3.5	
			AIR/O ₂										2 32 53	98:40		
21	200	1:20	AIR										7 62 118	188:40	3.5	
			AIR/O ₂										4 32 56	103:40		
21	210	1:20	AIR										11 65 125	202:40	4	
			AIR/O ₂										6 33 60	115:40		
Exceptional Exposure SurDO ₂ -----																
21	240	1:20	AIR										23 77 145	246:40	4.5	
			AIR/O ₂										12 38 67	133:40		
24	40	2:40	AIR										0 2:40		0	J
			AIR/O ₂										0 2:40			
24	45	2:20	AIR										8 10:40		0.5	K
			AIR/O ₂										5 7:40			
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																
24	50	2:20	AIR										16 18:40		0.5	L
			AIR/O ₂										9 11:40			
24	55	2:20	AIR										24 26:40		0.5	L
			AIR/O ₂										13 15:40			
24	60	2:20	AIR										31 33:40		1	M
			AIR/O ₂										17 19:40			
24	70	2:00	AIR										7 35 44:20		1	N
			AIR/O ₂										4 20 26:20			
24	80	2:00	AIR										16 37 55:20		1.5	O
			AIR/O ₂										9 19 30:20			
24	90	2:00	AIR										24 46 72:20		1.5	Z
			AIR/O ₂										13 24 44:20			
24	100	2:00	AIR										31 53 86:20		2	Z
			AIR/O ₂										16 30 53:20			
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																
24	110	1:40	AIR										5 31 68 106:00		2	Z
			AIR/O ₂										3 16 34 60:00			
24	120	1:40	AIR										9 33 81 125:00		2.5	Z
			AIR/O ₂										5 16 40 68:00			
24	130	1:40	AIR										12 41 87 142:00		3	Z
			AIR/O ₂										6 21 43 82:00			
24	140	1:40	AIR										15 47 93 157:00		3	Z
			AIR/O ₂										8 24 46 90:00			

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Chamber Ascent Time		O ₂ Periods	Repet Group			
				33	30	27	24	21	18	15	12	9	6	3	(M:S)					
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																				
24	150	1:40	AIR									18	53	102	175:00	3.5				
			AIR/O ₂									9	28	49	98:00					
24	160	1:40	AIR									20	59	112	193:00	3.5				
			AIR/O ₂									10	32	51	105:00					
24	170	1:40	AIR									24	62	121	209:00	4				
			AIR/O ₂									13	32	55	117:00					
24	180	1:40	AIR									31	66	127	226:00	4				
			AIR/O ₂									16	33	58	124:00					
Exceptional Exposure SurDO ₂ -----																				
24	210	1:40	AIR									48	79	156	285:00	5				
			AIR/O ₂									25	38	67	152:00					
27	34	3:00	AIR											0	3:00	0	J			
			AIR/O ₂											0	3:00					
27	35	2:40	AIR											2	5:00	0.5	J			
			AIR/O ₂											1	4:00					
27	40	2:40	AIR											13	16:00	0.5	K			
			AIR/O ₂											7	10:00					
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																				
27	45	2:40	AIR											23	26:00	0.5	L			
			AIR/O ₂											13	16:00					
27	50	2:40	AIR											32	35:00	1	M			
			AIR/O ₂											18	21:00					
27	55	2:20	AIR											5	35	42:40	1	M		
			AIR/O ₂											3	19	24:40				
27	60	2:20	AIR											12	35	49:40	1	N		
			AIR/O ₂											7	19	28:40				
27	70	2:20	AIR											24	35	61:40	1.5	Z		
			AIR/O ₂											13	19	34:40				
27	80	2:00	AIR											3	31	45	81:20	2	Z	
			AIR/O ₂											2	16	24	49:20			
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																				
27	90	2:00	AIR											11	31	59	103:20	2	Z	
			AIR/O ₂											6	16	30	59:20			
27	100	2:00	AIR											18	31	76	127:20	2.5	Z	
			AIR/O ₂											9	17	35	68:20			
27	110	2:00	AIR											23	36	87	148:20	3	Z	
			AIR/O ₂											12	18	40	82:20			
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																				
27	120	2:00	AIR											28	43	94	167:20	3	Z	
			AIR/O ₂											14	23	44	93:20			
27	130	1:40	AIR											4	28	51	105	190:00	3.5	
			AIR/O ₂											4	14	27	49	106:20		

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group	
				33	30	27	24	21	18	15	12	9	6				3
27	140	1:40	AIR AIR/O ₂								7	28	59	116	212:00 122:20	4	
27	150	1:40	AIR AIR/O ₂								9	33	64	125	233:00 132:20	4	
Exceptional Exposure SurDO ₂ -----																	
27	160	1:40	AIR AIR/O ₂								11	39	70	134	256:00 143:20	4.5	
27	170	1:40	AIR AIR/O ₂								13	45	75	145	280:00 154:20	5	
27	180	1:40	AIR AIR/O ₂								15	50	80	158	305:00 169:20	5	
27	190	1:40	AIR AIR/O ₂								16	55	84	171	328:00 178:20	5.5	
27	200	1:40	AIR AIR/O ₂								21	56	89	183	351:00 191:20	5.5	
27	210	1:40	AIR AIR/O ₂								26	56	98	191	373:00 210:20	6	
27	220	1:40	AIR AIR/O ₂								31	58	104	199	394:00 223:20	6.5	
27	230	1:40	AIR AIR/O ₂								36	62	109	206	415:00 237:20	6.5	
27	240	1:40	AIR AIR/O ₂								40	66	112	214	434:00 250:20	7	
30	27	3:20	AIR AIR/O ₂											0	3:20 3:20	0	I
	30	3:00	AIR AIR/O ₂											2	5:20 4:20	0.5	J
	30	35	3:00	AIR AIR/O ₂										14	17:20 11:20	0.5	K
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																	
30	40	3:00	AIR AIR/O ₂											26	29:20 18:20	1	L
30	45	2:40	AIR AIR/O ₂										3	35	41:00 24:00	1	M
30	50	2:40	AIR AIR/O ₂										12	35	50:00 29:00	1	N
30	55	2:40	AIR AIR/O ₂										20	35	58:00 33:00	1.5	N
30	60	2:40	AIR AIR/O ₂										28	35	66:00 37:00	1.5	O
30	70	2:20	AIR AIR/O ₂										9	31	86:40 50:40	2	Z

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Chamber Ascent Time (M:S)		O ₂ Periods	Repet Group				
				33	30	27	24	21	18	15	12	9	6	3							
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																					
30	80	2:20	AIR AIR/O ₂									20 10	31 17	60 28	113:40 62:40	2.5	Z				
30	90	2:00	AIR AIR/O ₂									1 1	27 14	32 16	79 35	141:20 74:00	2.5	Z			
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																					
30	100	2:00	AIR AIR/O ₂									7 7	28 14	38 20	92 42	167:20 95:40	3	Z			
30	110	2:00	AIR AIR/O ₂									13 13	28 14	47 25	102 48	192:20 112:40	3.5				
30	120	2:00	AIR AIR/O ₂									17 17	28 14	57 30	115 52	219:20 130:40	4				
30	130	2:00	AIR AIR/O ₂									21 21	30 16	65 32	125 57	243:20 143:40	4				
Exceptional Exposure SurDO ₂ -----																					
30	140	2:00	AIR AIR/O ₂									25 25	37 19	72 34	136 63	272:20 158:40	4.5				
30	150	1:40	AIR AIR/O ₂									2 2	26 26	44 22	78 38	149 66	301:00 176:20	5			
33	21	3:40	AIR AIR/O ₂												0 0	3:40 3:40	0	H			
33	25	3:20	AIR AIR/O ₂												4 2	7:40 5:40	0.5	I			
33	30	3:20	AIR AIR/O ₂												12 7	15:40 10:40	0.5	K			
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																					
33	35	3:00	AIR AIR/O ₂												1 1	26 14	30:20 18:20	1	L		
33	40	3:00	AIR AIR/O ₂												5 3	35 19	43:20 25:20	1	M		
33	45	3:00	AIR AIR/O ₂												16 9	35 19	54:20 31:20	1.5	N		
33	50	3:00	AIR AIR/O ₂												26 14	35 19	64:20 36:20	1.5	O		
33	55	2:40	AIR AIR/O ₂												4 2	31 17	35 19	73:00 46:00	1.5	O	
33	60	2:40	AIR AIR/O ₂												11 6	31 16	40 20	85:00 50:00	2	Z	
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																					
33	70	2:40	AIR AIR/O ₂												25 13	31 16	57 26	116:00 63:00	2.5	Z	
33	80	2:20	AIR AIR/O ₂												8 8	27 14	31 16	81 35	149:40 81:20	2.5	Z

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group					
				33	30	27	24	21	18	15	12	9	6				3				
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																					
33	90	2:20	AIR AIR/O ₂								16	28	39	94	179:40 107:00	3	Z				
33	100	2:20	AIR AIR/O ₂								23	28	49	107	209:40 126:00	3.5					
33	110	2:00	AIR AIR/O ₂								4	25	28	59	122	240:20 147:40	4				
Exceptional Exposure SurDO ₂ -----																					
33	120	2:00	AIR AIR/O ₂								9	25	34	71	132	273:20 164:40	4.5				
33	150	2:00	AIR AIR/O ₂								19	27	56	89	181	374:20 216:40	5.5				
33	180	1:40	AIR AIR/O ₂					2	23	46	66	113	213	465:00 281:20		7					
36	16	4:00	AIR AIR/O ₂											0	4:00 4:00	0	G				
	36	20	3:40	AIR AIR/O ₂										3	7:00 6:00	0.5	H				
	36	25	3:20	AIR AIR/O ₂										1	8	12:40 8:40	0.5	J			
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																					
36	30	3:20	AIR AIR/O ₂											4	19	26:40 16:40	0.5	K			
36	35	3:20	AIR AIR/O ₂											7	32	42:40 25:40	1	L			
36	40	3:00	AIR AIR/O ₂										1	16	35	55:20 32:20	1.5	M			
36	45	3:00	AIR AIR/O ₂										2	27	35	67:20 38:20	1.5	N			
36	50	3:00	AIR AIR/O ₂										8	31	35	77:20 48:20	1.5	Z			
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																					
36	55	3:00	AIR AIR/O ₂											17	31	41	92:20 53:20	2	Z		
36	60	3:00	AIR AIR/O ₂											25	31	49	108:20 60:20	2	Z		
36	70	2:40	AIR AIR/O ₂											11	28	31	76	149:00 82:20	2.5	Z	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																					
36	80	2:40	AIR AIR/O ₂											22	28	37	94	184:00 112:20	3	Z	
36	90	2:20	AIR AIR/O ₂											6	25	28	49	110	220:40 135:00	3.5	

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group					
				33	30	27	24	21	18	15	12	9	6	3							
36	100	2:20	AIR AIR/O ₂							13	26	27	64	124	256:40 160:00	4					
Exceptional Exposure SurDO ₂ -----																					
36	110	2:20	AIR AIR/O ₂							19	26	36	74	138	295:40 181:00	4.5					
36	120	2:00	AIR AIR/O ₂							2	23	25	45	82	157	336:20 204:40	5				
39	12	4:20	AIR											0	4:20	0	F				
			AIR/O ₂											0	4:20						
39	15	4:00	AIR AIR/O ₂											2 1	6:20 5:20	0.5	G				
39	20	4:00	AIR AIR/O ₂											8 5	12:20 9:20	0.5	I				
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																					
39	25	3:40	AIR AIR/O ₂											5 3	11 6	20:00 13:00	0.5	K			
39	30	3:20	AIR AIR/O ₂											1 1	8 4	26 14	38:40 22:40	1	L		
39	35	3:20	AIR AIR/O ₂											4 2	11 6	35 20	53:40 31:40	1.5	M		
39	40	3:20	AIR AIR/O ₂											6 3	23 12	35 20	67:40 38:40	1.5	N		
39	45	3:20	AIR AIR/O ₂											10 5	31 17	35 19	79:40 49:40	2	O		
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																					
39	50	3:00	AIR AIR/O ₂											1 1	20 10	31 17	40 19	95:20 55:40	2	Z	
39	55	3:00	AIR AIR/O ₂											3 3	27 14	31 16	51 23	115:20 64:00	2	Z	
39	60	3:00	AIR AIR/O ₂											11 11	27 14	32 16	66 29	139:20 79:00	2.5	Z	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																					
39	70	3:00	AIR AIR/O ₂											25 25	28 14	33 17	92 42	181:20 111:40	3	Z	
39	80	2:40	AIR AIR/O ₂											11 11	25 25	28 14	47 25	109 51	223:00 139:20	3.5	
39	90	2:40	AIR AIR/O ₂											20 20	26 26	27 14	64 31	125 58	265:00 167:20	4	
Exceptional Exposure SurDO ₂ -----																					
39	100	2:20	AIR AIR/O ₂											5 5	23 23	25 19	37 37	141 65	310:40 192:00	4.5	
39	110	2:20	AIR AIR/O ₂											11 11	23 23	25 24	48 42	84 70	164 218:00	5	

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group		
				33	30	27	24	21	18	15	12	9	6				3	
39	120	2:20	AIR AIR/O ₂					16	23	27	55	93	184	400:40	6			
								16	23	27	28	47	76	240:00				
39	150	2:00	AIR AIR/O ₂					5	22	23	51	72	120	222	517:20	7.5		
								5	22	23	51	36	58	103	330:40			
39	180	2:00	AIR AIR/O ₂					12	21	43	55	91	156	232	612:20	9		
								12	21	43	55	45	72	118	403:40			
42	10	4:40	AIR AIR/O ₂											0	4:40	0	E	
												0	4:40					
42	15	4:20	AIR AIR/O ₂											4	8:40	0.5	G	
												3	7:40					
42	20	4:00	AIR AIR/O ₂											4	9	17:20	0.5	J
												2	5	11:20				
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																		
42	25	3:40	AIR AIR/O ₂									2	8	16	30:00	1	K	
										1	4	9	18:00					
42	30	3:40	AIR AIR/O ₂									6	7	32	49:00	1	M	
										3	4	18	29:00					
42	35	3:20	AIR AIR/O ₂							2	7	17	35	64:40	1.5	N		
										2	3	10	19	38:00				
42	40	3:20	AIR AIR/O ₂							3	7	31	35	79:40	1.5	O		
										3	4	16	19	51:00				
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																		
42	45	3:20	AIR AIR/O ₂								5	17	31	40	96:40	2	Z	
										5	9	16	19	58:00				
42	50	3:20	AIR AIR/O ₂								6	27	31	50	117:40	2	Z	
										6	14	16	22	67:20				
42	55	3:20	AIR AIR/O ₂								15	28	30	68	144:40	2.5	Z	
										15	14	16	29	83:20				
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																		
42	60	3:00	AIR AIR/O ₂							1	23	27	31	83	168:20	2.5	Z	
										1	23	14	16	36	104:00			
42	70	3:00	AIR AIR/O ₂							13	25	28	43	103	215:20	3.5		
										13	25	14	22	49	136:40			
42	80	2:40	AIR AIR/O ₂							1	24	25	28	60	123	264:00	4	
										1	24	25	14	30	57	169:20		
Exceptional Exposure SurDO ₂ -----																		
42	90	2:40	AIR AIR/O ₂							11	23	25	36	77	141	316:00	4.5	
										11	23	25	18	38	64	197:20		
45	9	5:00	AIR AIR/O ₂											0	5:00	0	E	
												0	5:00					
45	10	4:40	AIR AIR/O ₂											2	7:00	0.5	F	
												1	6:00					

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Chamber Ascent Time		O ₂ Periods	Repet Group						
				33	30	27	24	21	18	15	12	9	6	3	(M:S)								
45	15	4:20	AIR AIR/O ₂										3 2	5 2	12:40 8:40	0.5	H						
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																							
45	20	4:00	AIR AIR/O ₂										1 1	7 4	9 4	21:20 13:20	0.5	J					
45	25	4:00	AIR AIR/O ₂										6 3	8 4	22 12	40:20 23:20	1	L					
45	30	3:40	AIR AIR/O ₂									3 3	7 4	11 5	35 20	60:00 36:20	1.5	N					
45	35	3:40	AIR AIR/O ₂									6 6	7 3	24 13	35 20	76:00 46:20	1.5	O					
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																							
45	40	3:20	AIR AIR/O ₂									1 1	7 7	13 6	31 17	38 19	93:40 59:00	2	Z				
45	45	3:20	AIR AIR/O ₂									3 3	6 6	24 12	31 17	49 22	116:40 69:00	2	Z				
45	50	3:20	AIR AIR/O ₂									3 3	14 14	28 14	30 16	67 29	145:40 85:20	2.5	Z				
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																							
45	55	3:20	AIR AIR/O ₂									5 5	22 22	27 14	32 16	83 36	172:40 107:20	2.5	Z				
45	60	3:20	AIR AIR/O ₂									10 10	25 25	28 14	36 18	95 45	197:40 126:00	3	Z				
45	70	3:00	AIR AIR/O ₂									2 2	23 23	26 26	27 14	52 27	120 55	253:20 165:40	4				
Exceptional Exposure SurDO ₂ -----																							
45	80	3:00	AIR AIR/O ₂									14 14	23 23	25 25	33 17	75 36	136 63	309:20 196:40	4.5				
45	90	2:40	AIR AIR/O ₂									2 2	22 22	23 23	25 23	46 43	86 70	164 231:20	5				
45	100	2:40	AIR AIR/O ₂									10 10	21 21	24 24	27 29	98 48	189 79	428:00 266:20	6				
45	110	2:40	AIR AIR/O ₂									17 17	21 21	23 23	38 33	65 51	109 91	207 303:20	6.5				
45	120	2:20	AIR AIR/O ₂									2 2	20 20	22 22	23 36	48 58	73 101	118 343:00	7.5				
45	130	2:20	AIR AIR/O ₂									7 7	19 19	22 22	30 30	50 41	81 62	133 110	228 374:00	8			
45	140	2:20	AIR AIR/O ₂									10 10	20 20	21 21	38 38	54 43	87 69	148 116	232 409:00	8.5			
45	150	2:20	AIR AIR/O ₂									13 13	20 20	22 22	45 45	60 46	95 74	162 121	232 438:00	9			
45	180	2:00	AIR AIR/O ₂									2 2	18 18	20 20	41 41	46 56	78 94	116 121	193 518:40	232 748:20	748:20 518:40	10	

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group	
				33	30	27	24	21	18	15	12	9	6				3
48	8	5:20	AIR AIR/O ₂											0 0	5:20 5:20	0	E
48	10	5:00	AIR AIR/O ₂											4 2	9:20 7:20	0.5	F
48	15	4:20	AIR AIR/O ₂								1 1	4 2	7 4	16:40 11:40		0.5	I
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																	
48	20	4:20	AIR AIR/O ₂									4 2	8 5	10 4	26:40 15:40	0.5	K
48	25	4:00	AIR AIR/O ₂								3 3	7 4	8 4	28 15	50:20 30:40	1	M
48	30	3:40	AIR AIR/O ₂							1 1	6 6	7 4	17 8	35 20	70:00 43:20	1.5	N
48	35	3:40	AIR AIR/O ₂							4 4	6 6	7 4	31 16	35 19	87:00 58:20	1.5	Z
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																	
48	40	3:40	AIR AIR/O ₂							5 5	7 7	19 10	31 16	46 22	112:00 69:20	2	Z
48	45	3:20	AIR AIR/O ₂						1 1	6 6	10 10	27 14	31 16	64 28	142:40 83:20	2.5	Z
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																	
48	50	3:20	AIR AIR/O ₂						2 2	7 7	19 19	28 14	31 17	82 35	172:40 102:00	2.5	Z
48	55	3:20	AIR AIR/O ₂						2 2	11 11	25 25	28 14	36 18	95 45	200:40 129:00	3	Z
48	60	3:20	AIR AIR/O ₂						5 5	17 17	25 25	28 14	45 24	108 50	231:40 149:00	3.5	
48	70	3:20	AIR AIR/O ₂						14 14	23 23	25 25	28 14	69 34	128 60	290:40 189:00	4	
Exceptional Exposure SurDO ₂ -----																	
48	80	3:00	AIR AIR/O ₂					5 5	21 21	23 23	26 26	42 21	83 42	157 68	360:20 229:40	5	
51	7	5:40	AIR AIR/O ₂											0 0	5:40 5:40	0	E
51	10	5:00	AIR AIR/O ₂										2 1	4 2	11:20 8:20	0.5	G
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																	
51	15	4:40	AIR AIR/O ₂									3 2	4 2	9 4	21:00 13:00	0.5	I
51	20	4:20	AIR AIR/O ₂								2 2	6 3	8 4	16 8	36:40 22:00	1	L
51	25	4:00	AIR AIR/O ₂							1 1	6 6	7 4	8 4	34 18	60:20 37:40	1	M

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group		
				33	30	27	24	21	18	15	12	9	6	3				
51	30	4:00	AIR AIR/O ₂							5 5	6 6	7 3	23 13	35 19	80:20 50:40	1.5	O	
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																		
51	35	3:40	AIR AIR/O ₂							2 2	5 5	7 7	13 16	31 20	104:00 66:20	2	Z	
51	40	3:40	AIR AIR/O ₂							3 3	6 6	9 9	24 12	31 16	58 27	135:00 82:20	2.5	Z
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																		
51	45	3:40	AIR AIR/O ₂							5 5	6 6	16 16	28 14	31 17	79 33	169:00 100:20	2.5	Z
51	50	3:20	AIR AIR/O ₂					1 1	5 5	10 10	23 23	28 14	35 18	94 44	199:40 129:00	3	Z	
51	55	3:20	AIR AIR/O ₂					1 1	8 8	15 15	25 25	28 14	45 23	107 51	232:40 151:00	3.5		
51	60	3:20	AIR AIR/O ₂					1 1	11 11	21 21	25 25	28 14	55 29	121 55	265:40 175:00	4		
Exceptional Exposure SurDO ₂ -----																		
51	70	3:20	AIR AIR/O ₂					6 6	19 19	23 23	26 26	36 18	79 39	144 66	336:40 216:00	5		
51	80	3:20	AIR AIR/O ₂					16 16	22 22	23 23	25 25	52 26	91 46	179 74	411:40 256:00	5.5		
51	90	3:00	AIR AIR/O ₂			7 7	19 19	22 22	23 23	35 35	64 32	107 50	203 89	483:20 305:40	6.5			
51	100	3:00	AIR AIR/O ₂			15 15	19 19	22 22	23 23	47 47	74 37	118 57	222 102	543:20 355:40	7.5			
51	110	2:40	AIR AIR/O ₂		3 3	19 19	19 19	22 22	31 31	50 50	84 42	137 63	229 112	597:00 399:20	8			
51	120	2:40	AIR AIR/O ₂			9 9	18 18	20 20	21 21	42 42	57 57	92 45	156 72	232 118	650:00 440:20	9		
51	150	2:20	AIR AIR/O ₂		3 3	17 17	19 19	20 20	41 41	49 49	78 78	119 58	194 94	232 121	774:40 543:00	10.5		
51	180	2:20	AIR AIR/O ₂		9 9	18 18	18 18	40 40	43 43	68 68	94 94	151 72	203 102	232 121	878:40 633:00	11		
54	6	6:00	AIR AIR/O ₂											0 0	6:00 6:00	0	E	
54	10	5:20	AIR AIR/O ₂										3 2	5 2	13:40 9:40	0.5	G	
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																		
54	15	4:40	AIR AIR/O ₂								2 2	3 2	5 2	9 5	24:00 16:20	0.5	J	
54	20	4:20	AIR AIR/O ₂							1 1	4 4	7 4	7 3	22 12	45:40 29:00	1	L	
54	25	4:20	AIR AIR/O ₂							4 4	7 7	6 3	13 7	35 20	69:40 46:00	1.5	N	

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Chamber Ascent O ₂ Repet Time Periods Group (M:S)						
				33	30	27	24	21	18	15	12	9	6	3						
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																				
54	30	4:00	AIR							2	6	7	6	30	36	91:20	1.5	Z		
			AIR/O ₂							2	6	7	3	16	19	62:40				
54	35	4:00	AIR							5	6	6	20	31	50	122:20	2	Z		
			AIR/O ₂							5	6	6	10	17	23	76:40				
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																				
54	40	3:40	AIR							2	5	6	12	28	30	73	160:00	2.5	Z	
			AIR/O ₂							2	5	6	12	14	16	32	95:40			
54	45	3:40	AIR							3	5	10	19	28	34	91	194:00	3	Z	
			AIR/O ₂							3	5	10	19	14	17	42	124:20			
54	50	3:40	AIR							4	7	13	25	28	43	104	228:00	3.5		
			AIR/O ₂							4	7	13	25	14	23	49	149:20			
54	55	3:40	AIR							4	11	19	25	28	54	120	265:00	4		
			AIR/O ₂							4	11	19	25	14	28	55	175:20			
Exceptional Exposure SurDO ₂ -----																				
54	60	3:40	AIR							8	12	23	26	28	71	129	301:00	4.5		
			AIR/O ₂							8	12	23	26	14	35	61	198:20			
54	70	3:20	AIR			3	12	21	23	26	45	87	165	385:40			5			
			AIR/O ₂			3	12	21	23	26	23	43	70				245:00			
57	5	6:20	AIR												0	6:20	0	D		
			AIR/O ₂												0	6:20				
57	10	5:20	AIR								1	4	5	15:40			0.5	H		
			AIR/O ₂								1	2	2	10:40						
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																				
57	15	5:00	AIR								3	4	7	8	27:20		0.5	K		
			AIR/O ₂								3	2	4	4	18:40					
57	20	4:40	AIR								3	5	7	8	27	55:00	1	M		
			AIR/O ₂								3	5	4	4	14	35:20				
57	25	4:20	AIR								2	6	6	7	19	35	79:40	1.5	O	
			AIR/O ₂								2	6	6	4	10	19	52:00			
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																				
57	30	4:00	AIR							1	5	6	6	12	31	43	108:20	2	Z	
			AIR/O ₂							1	5	6	6	6	17	20	70:40			
57	35	4:00	AIR							3	6	5	8	25	31	63	145:20	2.5	Z	
			AIR/O ₂							3	6	5	8	13	16	28	88:40			
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																				
57	40	4:00	AIR							5	5	8	16	28	31	86	183:20	2.5	Z	
			AIR/O ₂							5	5	8	16	14	17	37	116:40			
57	45	3:40	AIR							2	4	6	12	24	28	41	98	219:00	3.5	
			AIR/O ₂							2	4	6	12	24	14	21	47	144:20		
57	50	3:40	AIR							2	5	10	17	25	28	52	117	260:00	3.5	
			AIR/O ₂							2	5	10	17	25	14	27	54	168:20		
57	55	3:40	AIR							3	8	10	23	26	27	70	127	298:00	4	
			AIR/O ₂							3	8	10	23	26	14	33	61	197:20		

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW)												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				Stop times (min) include travel time, except first air and first O ₂ stop														
				33	30	27	24	21	18	15	12	9	6	3				
Exceptional Exposure SurDO ₂ -----																		
57	60	3:40	AIR					4	10	16	23	26	37	79	144	343:00	5	
			AIR/O ₂					4	10	16	23	26	19	38	66	221:20		
57	70	3:40	AIR					9	16	21	24	25	54	94	185	432:00	6	
			AIR/O ₂					9	16	21	24	25	28	47	77	271:20		
57	80	3:20	AIR			3	15	20	22	23	39	68	112	211	516:40	7		
			AIR/O ₂			3	15	20	22	23	39	34	54	93	332:00			
57	90	3:20	AIR			10	19	19	22	26	51	80	130	226	586:40	8		
			AIR/O ₂			10	19	19	22	26	51	40	61	108	390:00			
57	100	3:00	AIR		2	17	18	20	21	39	56	90	152	232	650:20	9		
			AIR/O ₂		2	17	18	20	21	39	56	44	71	117	443:40			
57	110	3:00	AIR		8	18	18	20	25	47	66	100	173	232	710:20	9.5		
			AIR/O ₂		8	18	18	20	25	47	66	49	80	121	495:40			
57	120	3:00	AIR		14	17	19	20	35	46	76	109	190	231	760:20	10		
			AIR/O ₂		14	17	19	20	35	46	76	54	89	122	535:40			

60

Exceptional Exposure-----																
60	5	6:40	AIR											0	6:40	0
			AIR/O ₂											0	6:40	
60	10	5:40	AIR									3	4	4	17:00	0.5
			AIR/O ₂									2	2	2	12:00	
60	15	5:00	AIR							2	3	4	8	11	33:20	0.5
			AIR/O ₂							2	3	2	4	6	22:40	
60	20	4:40	AIR						2	3	6	7	8	33	64:00	1
			AIR/O ₂						2	3	6	4	4	18	42:20	
60	25	4:40	AIR						5	6	6	7	25	36	90:00	1.5
			AIR/O ₂						5	6	6	4	13	19	58:20	
60	30	4:20	AIR				4	5	6	6	18	32	50	125:40	2	
			AIR/O ₂				4	5	6	6	9	17	24	81:00		
60	35	4:00	AIR			2	5	5	5	13	28	31	76	169:20	2.5	
			AIR/O ₂			2	5	5	5	13	14	16	33	103:00		
60	40	4:00	AIR			3	5	6	10	20	28	37	95	208:20	3	
			AIR/O ₂			3	5	6	10	20	14	19	44	136:40		
60	45	4:00	AIR			5	5	8	14	25	28	49	112	250:20	3.5	
			AIR/O ₂			5	5	8	14	25	14	26	52	163:40		
60	50	3:40	AIR		1	5	7	11	20	25	28	66	125	292:00	4	
			AIR/O ₂		1	5	7	11	20	25	14	32	59	193:20		

63

Exceptional Exposure-----																
63	4	7:00	AIR											0	7:00	0
			AIR/O ₂											0	7:00	

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop											Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3			
63	5	6:40	AIR AIR/O ₂												1 1	8:00 8:00	0.5
63	10	5:40	AIR AIR/O ₂								1 1	4 2	4 2	5 3	20:00 14:20		0.5
63	15	5:00	AIR AIR/O ₂						1 1	3 3	3 3	5 3	8 4	16 8	41:20 27:40		1
63	20	4:40	AIR AIR/O ₂					1 1	2 2	5 5	7 7	6 3	12 6	35 20	73:00 49:20		1.5
63	25	4:40	AIR AIR/O ₂					3 3	5 5	6 6	6 6	8 4	31 16	40 20	104:00 70:20		1.5
63	30	4:20	AIR AIR/O ₂				2 2	5 5	5 5	6 6	6 6	25 13	31 16	62 28	146:40 91:00		2.5
63	35	4:20	AIR AIR/O ₂				5 5	4 4	6 6	6 6	17 17	28 15	32 16	88 39	190:40 123:00		3
63	40	4:00	AIR AIR/O ₂			2 2	5 5	4 4	7 7	11 11	25 25	28 14	44 23	103 49	233:20 154:40		3.5
63	45	4:00	AIR AIR/O ₂			3 3	5 5	5 5	11 11	18 18	25 25	28 14	59 30	122 56	280:20 186:40		4
63	50	4:00	AIR AIR/O ₂			4 4	5 5	9 9	12 12	23 23	25 25	34 17	75 36	136 64	327:20 214:40		4.5

66

Exceptional Exposure-----																	
66	4	7:20	AIR AIR/O ₂												0 0	7:20 7:20	0
66	5	7:00	AIR AIR/O ₂												3 2	10:20 9:20	0.5
66	10	6:00	AIR AIR/O ₂								3 3	3 2	4 2	7 3	23:20 16:40		0.5
66	15	5:20	AIR AIR/O ₂						2 2	3 3	3 3	7 4	8 4	20 11	48:40 33:00		1
66	20	5:00	AIR AIR/O ₂					2 2	3 3	6 6	6 6	7 4	17 9	35 19	81:20 54:40		1.5
66	25	4:40	AIR AIR/O ₂				1 1	5 5	5 5	6 6	6 6	13 7	32 16	46 23	119:00 79:20		2
66	30	4:40	AIR AIR/O ₂				5 5	5 5	5 5	6 6	9 9	28 14	31 17	74 32	168:00 103:20		2.5
66	35	4:20	AIR AIR/O ₂			3 3	5 5	4 4	6 6	9 9	21 21	28 14	38 20	95 45	213:40 142:00		3
66	40	4:00	AIR AIR/O ₂		1 1	4 4	5 5	4 4	9 9	15 15	25 25	28 14	52 27	115 53	262:20 171:40		3.5

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW)											Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3			

69

Exceptional Exposure-----																	
69	5	7:20	AIR												4	11:40	0.5
			AIR/O ₂												3	10:40	
69	10	6:00	AIR							1	3	4	4	8	26:20	0.5	
			AIR/O ₂							1	3	2	2	5	19:40		
69	15	5:20	AIR					1	3	3	4	7	8	26	57:40	1	
			AIR/O ₂					1	3	3	4	4	4	14	39:00		
69	20	5:00	AIR			1	3	4	6	6	7	23	35	90:20	1.5		
			AIR/O ₂			1	3	4	6	6	4	12	19	60:40			
69	25	5:00	AIR			4	4	6	5	7	19	31	54	135:20	2		
			AIR/O ₂			4	4	6	5	7	10	16	26	88:40			
69	30	4:40	AIR		3	5	4	6	6	15	28	31	86	189:00	2.5		
			AIR/O ₂		3	5	4	6	6	15	14	17	37	122:20			
69	35	4:20	AIR	2	4	4	5	6	11	25	28	44	104	237:40	3.5		
			AIR/O ₂	2	4	4	5	6	11	25	14	23	49	158:00			
69	40	4:20	AIR	3	5	4	6	10	19	25	28	62	124	290:40	4		
			AIR/O ₂	3	5	4	6	10	19	25	14	32	57	195:00			

72

Exceptional Exposure-----																	
72	5	7:20	AIR												2	4	13:40
			AIR/O ₂												1	2	10:40
72	10	6:20	AIR							3	3	3	5	8	28:40	0.5	
			AIR/O ₂							3	3	2	2	5	22:00		
72	15	5:40	AIR				2	3	3	6	7	7	31	65:00	1		
			AIR/O ₂				2	3	3	6	3	4	18	45:20			
72	20	5:00	AIR		1	2	3	5	6	6	7	29	39	103:20	1.5		
			AIR/O ₂		1	2	3	5	6	6	3	16	19	71:40			
72	25	5:00	AIR		2	4	5	6	5	7	25	31	65	155:20	2.5		
			AIR/O ₂		2	4	5	6	5	7	13	16	29	97:40			
72	30	4:40	AIR	1	5	4	5	6	6	20	28	36	93	209:00	3		
			AIR/O ₂	1	5	4	5	6	6	20	14	18	44	138:20			
72	35	4:40	AIR	4	4	5	5	7	15	25	28	52	114	264:00	3.5		
			AIR/O ₂	4	4	5	5	7	15	25	14	27	53	174:20			
72	40	4:20	AIR	2	4	4	5	8	11	22	25	32	72	132	321:40	4.5	
			AIR/O ₂	2	4	4	5	8	11	22	25	16	35	62	214:00		

**APPENDIX E MSW AIR DECOMPRESSION TABLE WITH 6 MSW LAST STOP.
VVAL-79 THALMANN ALGORITHM**

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3		
9	394	1:00	AIR AIR/O ₂										0 0	1:00 1:00	0	Z
9	420	0:20	AIR AIR/O ₂										11 3	0 4:00	0.5	Z
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																
9	480	0:20	AIR AIR/O ₂										28 7	0 8:00	0.5	Z
9	540	0:20	AIR AIR/O ₂										54 11	0 12:00	0.5	
9	600	0:20	AIR AIR/O ₂										75 16	0 17:00	1	
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																
9	660	0:20	AIR AIR/O ₂										96 19	0 20:00	1	
9	720	0:20	AIR AIR/O ₂										126 23	0 24:00	1	
12	169	1:20	AIR AIR/O ₂										0 0	1:20 1:20	0	O
12	170	0:40	AIR AIR/O ₂										1 1	0 2:20	0.5	O
12	180	0:40	AIR AIR/O ₂										9 3	0 4:20	0.5	Z
12	190	0:40	AIR AIR/O ₂										15 5	0 6:20	0.5	Z
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																
12	200	0:40	AIR AIR/O ₂										21 7	0 8:20	0.5	Z
12	210	0:40	AIR AIR/O ₂										28 9	0 10:20	0.5	Z
12	220	0:40	AIR AIR/O ₂										41 11	0 12:20	0.5	Z
12	230	0:40	AIR AIR/O ₂										53 13	0 14:20	0.5	Z
12	240	0:40	AIR AIR/O ₂										64 16	0 17:20	1	Z
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																
12	270	0:40	AIR AIR/O ₂										90 24	0 25:20	1	Z
12	300	0:40	AIR										111	0 112:20	1.5	

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop											Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3			
			AIR/O ₂										30	0	31:20		
12	330	0:40	AIR										142	0	143:20	1.5	
			AIR/O ₂										35	0	36:20		
12	360	0:40	AIR										167	0	168:20	2	
			AIR/O ₂										41	0	47:20		
12	420	0:40	AIR										220	0	221:20	2	
			AIR/O ₂										53	0	59:20		
12	480	0:40	AIR										289	0	290:20	2.5	
			AIR/O ₂										63	0	69:20		
12	540	0:40	AIR										340	0	341:20	3	
			AIR/O ₂										75	0	86:20		
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																	
12	600	0:40	AIR										378	0	379:20	3.5	
			AIR/O ₂										88	0	99:20		
12	660	0:40	AIR										407	0	408:20	4	
			AIR/O ₂										98	0	114:20		
12	720	0:40	AIR										429	0	430:20	4	
			AIR/O ₂										107	0	123:20		
15	96	1:40	AIR										0	0	1:40	0	M
			AIR/O ₂										0	0	1:40		
15	100	1:00	AIR										2	0	3:40	0.5	M
			AIR/O ₂										1	0	2:40		
15	110	1:00	AIR										6	0	7:40	0.5	N
			AIR/O ₂										3	0	4:40		
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																	
15	120	1:00	AIR										16	0	17:40	0.5	O
			AIR/O ₂										5	0	6:40		
15	130	1:00	AIR										29	0	30:40	0.5	Z
			AIR/O ₂										10	0	11:40		
15	140	1:00	AIR										39	0	40:40	1	Z
			AIR/O ₂										14	0	15:40		
15	150	1:00	AIR										48	0	49:40	1	Z
			AIR/O ₂										18	0	19:40		
15	160	1:00	AIR										67	0	68:40	1	Z
			AIR/O ₂										21	0	22:40		
15	170	1:00	AIR										85	0	86:40	1	Z
			AIR/O ₂										24	0	25:40		
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																	
15	180	1:00	AIR										100	0	101:40	1	Z
			AIR/O ₂										27	0	28:40		
15	190	1:00	AIR										114	0	115:40	1.5	Z
			AIR/O ₂										32	0	33:40		
15	200	1:00	AIR										125	0	126:40	1.5	Z
			AIR/O ₂										36	0	42:40		

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop											Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3			
15	210	1:00	AIR AIR/O ₂										136 40	0 0	137:40 46:40	1.5	Z
15	220	1:00	AIR AIR/O ₂										149 44	0 0	150:40 50:40	2	
15	230	1:00	AIR AIR/O ₂										166 47	0 0	167:40 53:40	2	
15	240	1:00	AIR AIR/O ₂										181 51	0 0	182:40 57:40	2	
15	270	1:00	AIR AIR/O ₂										218 59	0 0	219:40 65:40	2.5	
15	300	1:00	AIR AIR/O ₂										261 70	0 0	262:40 81:40	3	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																	
15	330	1:00	AIR AIR/O ₂										313 80	0 0	314:40 91:40	3	
15	360	1:00	AIR AIR/O ₂										361 88	0 0	362:40 99:40	3.5	
15	420	1:00	AIR AIR/O ₂										432 108	0 0	433:40 124:40	4	
18	65	2:00	AIR AIR/O ₂										0 0	0 0	2:00 2:00	0	K
18	70	1:20	AIR AIR/O ₂										5 3	0 0	7:00 5:00	0.5	L
18	80	1:20	AIR AIR/O ₂										12 6	0 0	14:00 8:00	0.5	M
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																	
18	90	1:20	AIR AIR/O ₂										18 9	0 0	20:00 11:00	0.5	O
18	100	1:20	AIR AIR/O ₂										37 13	0 0	39:00 15:00	0.5	O
18	110	1:20	AIR AIR/O ₂										52 19	0 0	54:00 21:00	1	Z
18	120	1:20	AIR AIR/O ₂										64 25	0 0	66:00 27:00	1	Z
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																	
18	130	1:20	AIR AIR/O ₂										91 29	0 0	93:00 31:00	1.5	Z
18	140	1:20	AIR AIR/O ₂										113 34	0 0	115:00 36:00	1.5	Z
18	150	1:20	AIR AIR/O ₂										132 39	0 0	134:00 46:00	1.5	Z
18	160	1:20	AIR AIR/O ₂										147 45	0 0	149:00 52:00	2	Z

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop											Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3			
18	170	1:20	AIR AIR/O ₂										161 51	0 0	163:00 58:00	2	Z
18	180	1:20	AIR AIR/O ₂										184 56	0 0	186:00 63:00	2.5	
18	190	1:20	AIR AIR/O ₂										205 61	0 0	207:00 68:00	2.5	
18	200	1:20	AIR AIR/O ₂										223 66	0 0	225:00 78:00	2.5	
18	210	1:20	AIR AIR/O ₂										239 70	0 0	241:00 82:00	3	
18	220	1:20	AIR AIR/O ₂										254 74	0 0	256:00 86:00	3	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																	
18	230	1:20	AIR AIR/O ₂										276 79	0 0	278:00 91:00	3	
18	240	1:20	AIR AIR/O ₂										296 84	0 0	298:00 96:00	3.5	
18	270	1:20	AIR AIR/O ₂										366 98	0 0	368:00 115:00	4	
Exceptional Exposure SurDO ₂ -----																	
18	300	1:20	AIR AIR/O ₂										424 111	0 0	426:00 128:00	4.5	
21	49	2:20	AIR AIR/O ₂										0 0	0 0	2:20 2:20	0	K
21	50	1:40	AIR AIR/O ₂										1 1	0 0	3:20 3:20	0.5	K
21	55	1:40	AIR AIR/O ₂										7 4	0 0	9:20 6:20	0.5	L
21	60	1:40	AIR AIR/O ₂										12 7	0 0	14:20 9:20	0.5	M
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																	
21	70	1:40	AIR AIR/O ₂										22 12	0 0	24:20 14:20	0.5	N
21	80	1:40	AIR AIR/O ₂										39 16	0 0	41:20 18:20	1	O
21	90	1:40	AIR AIR/O ₂										59 22	0 0	61:20 24:20	1	Z
21	100	1:40	AIR AIR/O ₂										77 29	0 0	79:20 31:20	1.5	Z
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																	
21	110	1:40	AIR AIR/O ₂										109 36	0 0	111:20 43:20	1.5	Z
21	120	1:40	AIR AIR/O ₂										135 42	0 0	137:20 49:20	2	Z

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop											Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3			
21	130	1:40	AIR AIR/O ₂										156 48	0 0	158:20 55:20	2	Z
21	140	1:40	AIR AIR/O ₂										174 56	0 0	176:20 63:20	2.5	Z
21	150	1:40	AIR AIR/O ₂										202 64	0 0	204:20 71:20	2.5	
21	160	1:40	AIR AIR/O ₂										227 70	0 0	229:20 82:20	3	
21	170	1:20	AIR AIR/O ₂										1 248 1 75	0 0	251:00 88:00	3	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																	
21	180	1:20	AIR AIR/O ₂										2 267 1 81	0 0	271:00 94:00	3.5	
21	190	1:20	AIR AIR/O ₂										3 293 2 85	0 0	298:00 99:00	3.5	
21	200	1:20	AIR AIR/O ₂										7 316 4 90	0 0	325:00 106:00	3.5	
21	210	1:20	AIR AIR/O ₂										11 346 6 95	0 0	359:00 118:00	4	
Exceptional Exposure SurDO ₂ -----																	
21	240	1:20	AIR AIR/O ₂										23 422 12 107	0 0	447:00 136:00	4.5	
24	40	2:40	AIR AIR/O ₂										0 0	0 0	2:40 2:40	0	J
24	45	2:00	AIR AIR/O ₂										8 4	0 0	10:40 6:40	0.5	K
24	50	2:00	AIR AIR/O ₂										15 8	0 0	17:40 10:40	0.5	L
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																	
24	55	2:00	AIR AIR/O ₂										22 12	0 0	24:40 14:40	0.5	M
24	60	2:00	AIR AIR/O ₂										28 15	0 0	30:40 17:40	1	N
24	70	2:00	AIR AIR/O ₂										49 21	0 0	51:40 23:40	1	O
24	80	2:00	AIR AIR/O ₂										72 28	0 0	74:40 30:40	1.5	Z
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																	
24	90	2:00	AIR AIR/O ₂										103 37	0 0	105:40 44:40	1.5	Z
24	100	2:00	AIR AIR/O ₂										136 45	0 0	138:40 52:40	2	Z
24	110	1:40	AIR AIR/O ₂										5 161 3 49	0 0	168:20 59:20	2	Z

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3		
24	120	1:40	AIR AIR/O ₂									9 183 5 57	0 194:20 0 69:20		2.5	
24	130	1:40	AIR AIR/O ₂									12 215 6 65	0 229:20 0 83:20		3	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																
24	140	1:40	AIR AIR/O ₂									15 242 8 71	0 259:20 0 91:20		3	
24	150	1:40	AIR AIR/O ₂									18 264 9 78	0 284:20 0 99:20		3.5	
24	160	1:40	AIR AIR/O ₂									20 295 10 84	0 317:20 0 106:20		3.5	
24	170	1:40	AIR AIR/O ₂									24 322 13 88	0 348:20 0 118:20		4	
24	180	1:40	AIR AIR/O ₂									31 360 16 93	0 393:20 0 126:20		4	
Exceptional Exposure SurDO ₂ -----																
24	210	1:40	AIR AIR/O ₂									48 443 25 107	0 493:20 0 154:20		5	
27	34	3:00	AIR AIR/O ₂									0 0 0 0	3:00 3:00		0	J
27	35	2:20	AIR AIR/O ₂									2 0 1 0	5:00 4:00		0.5	J
27	40	2:20	AIR AIR/O ₂									12 0 6 0	15:00 9:00		0.5	K
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																
27	45	2:20	AIR AIR/O ₂									21 0 11 0	24:00 14:00		0.5	M
27	50	2:20	AIR AIR/O ₂									29 0 16 0	32:00 19:00		1	N
27	55	2:20	AIR AIR/O ₂									37 0 19 0	40:00 22:00		1	O
27	60	2:20	AIR AIR/O ₂									50 0 23 0	53:00 26:00		1	O
27	70	2:20	AIR AIR/O ₂									77 0 31 0	80:00 34:00		1.5	Z
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																
27	80	2:00	AIR AIR/O ₂									3 115 2 39	0 120:40 0 48:40		2	Z
27	90	2:00	AIR AIR/O ₂									11 148 6 45	0 161:40 0 58:40		2	Z
27	100	2:00	AIR AIR/O ₂									18 172 9 51	0 192:40 0 67:40		2.5	Z
27	110	2:00	AIR AIR/O ₂									23 208 12 59	0 233:40 0 83:40		3	

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop											Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group	
				33	30	27	24	21	18	15	12	9	6	3				
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																		
27	120	2:00	AIR AIR/O ₂									28 14	239 68	0 0	269:40 94:40	3.5		
27	130	1:40	AIR AIR/O ₂									4 4	28 14	267 77	0 0	301:20 107:40	3.5	
27	140	1:40	AIR AIR/O ₂									7 7	28 14	306 84	0 0	343:20 122:40	4	
27	150	1:40	AIR AIR/O ₂									9 9	33 17	345 90	0 0	389:20 133:40	4	
Exceptional Exposure SurDO ₂ -----																		
27	160	1:40	AIR AIR/O ₂									11 11	39 20	385 97	0 0	437:20 145:40	4.5	
27	170	1:40	AIR AIR/O ₂									13 13	45 23	419 103	0 0	479:20 161:40	5	
27	180	1:40	AIR AIR/O ₂									15 15	50 25	447 109	0 0	514:20 171:40	5	
27	190	1:40	AIR AIR/O ₂									16 16	55 28	472 114	0 0	545:20 180:40	5.5	
27	200	1:40	AIR AIR/O ₂									21 21	56 28	495 123	0 0	574:20 194:40	6	
27	210	1:40	AIR AIR/O ₂									26 26	56 29	516 131	0 0	600:20 213:40	6	
27	220	1:40	AIR AIR/O ₂									31 31	58 29	534 140	0 0	625:20 227:40	6.5	
27	230	1:40	AIR AIR/O ₂									36 36	62 31	549 147	0 0	649:20 241:40	7	
27	240	1:40	AIR AIR/O ₂									40 40	66 33	562 154	0 0	670:20 259:40	7	
30	27	3:20	AIR AIR/O ₂											0 0	0 0	3:20 3:20	0	I
	30	30	2:40	AIR AIR/O ₂										2 1	0 0	5:20 4:20	0.5	J
30	35	2:40	AIR AIR/O ₂											14 7	0 0	17:20 10:20	0.5	K
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																		
30	40	2:40	AIR AIR/O ₂											24 13	0 0	27:20 16:20	0.5	M
30	45	2:40	AIR AIR/O ₂											34 18	0 0	37:20 21:20	1	N
30	50	2:40	AIR AIR/O ₂											43 23	0 0	46:20 26:20	1	O
30	55	2:40	AIR AIR/O ₂											60 27	0 0	63:20 30:20	1	O

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Chamber Ascent Time		O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3	(M:S)		
30	60	2:40	AIR AIR/O ₂										76 31	0 0	79:20 34:20	1.5	Z
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																	
30	70	2:20	AIR AIR/O ₂										9 113 5 38	0 0	125:00 51:00	2	Z
30	80	2:20	AIR AIR/O ₂										20 150 10 44	0 0	173:00 62:00	2	Z
30	90	2:00	AIR AIR/O ₂										1 27 179 1 14 51	0 0	209:40 74:00	2.5	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																	
30	100	2:00	AIR AIR/O ₂										7 28 224 7 14 63	0 0	261:40 97:00	3	
30	110	2:00	AIR AIR/O ₂										13 28 258 13 14 74	0 0	301:40 114:00	3.5	
30	120	2:00	AIR AIR/O ₂										17 28 299 17 14 83	0 0	346:40 132:00	4	
30	130	2:00	AIR AIR/O ₂										21 30 345 21 16 91	0 0	398:40 146:00	4	
Exceptional Exposure SurDO ₂ -----																	
30	140	2:00	AIR AIR/O ₂										25 37 391 25 19 99	0 0	455:40 161:00	4.5	
30	150	1:40	AIR AIR/O ₂										2 26 44 429 2 26 22 106	0 0	503:20 178:40	5	
33	21	3:40	AIR AIR/O ₂										0 0	0 0	3:40 3:40	0	H
33	25	3:00	AIR AIR/O ₂										4 2	0 0	7:40 5:40	0.5	I
33	30	3:00	AIR AIR/O ₂										12 6	0 0	15:40 9:40	0.5	K
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																	
33	35	3:00	AIR AIR/O ₂										25 13	0 0	28:40 16:40	0.5	L
33	40	3:00	AIR AIR/O ₂										37 19	0 0	40:40 22:40	1	N
33	45	3:00	AIR AIR/O ₂										47 25	0 0	50:40 28:40	1	O
33	50	3:00	AIR AIR/O ₂										65 30	0 0	68:40 33:40	1.5	Z
33	55	2:40	AIR AIR/O ₂										4 80 2 33	0 0	87:20 38:20	1.5	Z
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																	
33	60	2:40	AIR AIR/O ₂										11 101 6 35	0 0	115:20 49:20	2	Z

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop											Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3			
33	70	2:40	AIR AIR/O ₂									25 144 13 41	0 172:20 0 62:20			2	Z
33	80	2:20	AIR AIR/O ₂									8 27 182 8 14 51	0 220:00 0 81:20			2.5	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																	
33	90	2:20	AIR AIR/O ₂									16 28 231 16 14 65	0 278:00 0 108:20			3	
33	100	2:20	AIR AIR/O ₂									23 28 270 23 14 76	0 324:00 0 126:20			3.5	
33	110	2:00	AIR AIR/O ₂									4 25 28 320 4 25 14 87	0 379:40 0 148:00			4	
Exceptional Exposure SurDO ₂ -----																	
33	120	2:00	AIR AIR/O ₂									9 25 34 380 9 25 17 98	0 450:40 0 167:00			4.5	
33	150	2:00	AIR AIR/O ₂									19 27 56 493 19 27 28 123	0 597:40 0 220:00			6	
33	180	1:40	AIR AIR/O ₂									2 23 46 66 561 2 23 46 33 154	0 700:20 0 290:40			7	
36	15	4:00	AIR AIR/O ₂									0 0 0 0	4:00 4:00			0	F
36	20	3:20	AIR AIR/O ₂									3 0 2 0	7:00 6:00			0.5	H
36	25	3:20	AIR AIR/O ₂									8 0 5 0	12:00 9:00			0.5	J
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																	
36	30	3:20	AIR AIR/O ₂									22 0 12 0	26:00 16:00			0.5	L
36	35	3:20	AIR AIR/O ₂									36 0 19 0	40:00 23:00			1	M
36	40	3:00	AIR AIR/O ₂									1 48 1 25	0 52:40 0 29:40			1	O
36	45	3:00	AIR AIR/O ₂									2 66 1 31	0 71:40 0 35:40			1.5	Z
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																	
36	50	3:00	AIR AIR/O ₂									8 81 4 33	0 92:40 0 45:40			1.5	Z
36	55	3:00	AIR AIR/O ₂									17 106 9 34	0 126:40 0 51:40			2	Z
36	60	3:00	AIR AIR/O ₂									25 131 13 38	0 159:40 0 59:40			2	Z
36	70	2:40	AIR AIR/O ₂									11 28 172 11 14 49	0 214:20 0 82:40			2.5	Z

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Chamber Ascent Time (M:S)		O ₂ Periods	Repet Group			
				33	30	27	24	21	18	15	12	9	6	3						
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																				
36	80	2:40	AIR								22	28	229	0	282:20	3				
			AIR/O ₂									22	14	64	0			113:40		
36	90	2:20	AIR								6	25	28	277	0	339:00	3.5			
			AIR/O ₂									6	25	14	78	0			136:20	
36	100	2:20	AIR								13	26	27	339	0	408:00	4			
			AIR/O ₂									13	26	14	91	0			162:20	
Exceptional Exposure SurDO ₂ -----																				
36	110	2:20	AIR								19	26	36	400	0	484:00	4.5			
			AIR/O ₂									19	26	18	102	0			183:20	
36	120	2:00	AIR						2	23	25	45	448	0	545:40	5				
			AIR/O ₂						2	23	25	23	110	0	206:00					
39	12	4:20	AIR											0	0	4:20	0	F		
			AIR/O ₂												0	0			4:20	
39	15	3:40	AIR											2	0	6:20	0.5	G		
			AIR/O ₂												1	0			5:20	
39	20	3:40	AIR											8	0	12:20	0.5	I		
			AIR/O ₂												4	0			8:20	
39	25	3:40	AIR											15	0	19:20	0.5	K		
			AIR/O ₂												8	0			12:20	
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																				
39	30	3:20	AIR										1	31	0	36:00	1	M		
			AIR/O ₂												1	16			0	21:00
39	35	3:20	AIR										4	43	0	51:00	1	N		
			AIR/O ₂												2	23			0	29:00
39	40	3:20	AIR										6	61	0	71:00	1.5	O		
			AIR/O ₂												3	29			0	36:00
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																				
39	45	3:20	AIR										10	80	0	94:00	1.5	Z		
			AIR/O ₂												5	33			0	47:00
39	50	3:00	AIR										1	20	106	0	130:40	2	Z	
			AIR/O ₂												1	10	34			0
39	55	3:00	AIR										3	27	135	0	168:40	2	Z	
			AIR/O ₂												3	14	38			0
39	60	3:00	AIR										11	27	159	0	200:40	2.5	Z	
			AIR/O ₂												11	14	44			0
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																				
39	70	3:00	AIR										25	28	216	0	272:40	3		
			AIR/O ₂												25	14	60			0
39	80	2:40	AIR										11	25	28	272	0	339:20	3.5	
			AIR/O ₂												11	25	14	76		
39	90	2:40	AIR										20	26	27	341	0	417:20	4	
			AIR/O ₂												20	26	14	91		

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Chamber Ascent Time (M:S)		O ₂ Periods	Repet Group			
				33	30	27	24	21	18	15	12	9	6	3						
Exceptional Exposure SurDO ₂ -----																				
39	100	2:20	AIR					5	23	25	37	411	0	504:00	4.5					
			AIR/O ₂					5	23	25	19 103	0	193:20							
39	110	2:20	AIR					11	23	25	48	461	0	571:00	5.5					
			AIR/O ₂					11	23	25	24 113	0	219:20							
39	120	2:20	AIR					16	23	27	55	502	0	626:00	6					
			AIR/O ₂					16	23	27	28 126	0	243:20							
39	150	2:00	AIR					5	22	23	51	72	580	0	755:40	7.5				
			AIR/O ₂					5	22	23	51	36 164	0	334:00						
39	180	2:00	AIR					12	21	43	55	91	628	0	852:40	9				
			AIR/O ₂					12	21	43	55	45 193	0	407:00						
42	10	4:40	AIR									0	0	4:40	0	E				
			AIR/O ₂									0	0	4:40						
42	15	4:00	AIR									4	0	8:40	0.5	H				
			AIR/O ₂									3	0	7:40						
42	20	4:00	AIR									12	0	16:40	0.5	J				
			AIR/O ₂									6	0	10:40						
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																				
42	25	3:40	AIR									2	23	0	29:20	0.5	L			
			AIR/O ₂									1 12	0	17:20						
42	30	3:40	AIR									6	36	0	46:20	1	N			
			AIR/O ₂									3 19	0	26:20						
42	35	3:20	AIR									2	7	53	0	66:00	1.5	O		
			AIR/O ₂									2	3 26	0	35:20					
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																				
42	40	3:20	AIR									3	7	77	0	91:00	1.5	Z		
			AIR/O ₂									3	4 32	0	48:20					
42	45	3:20	AIR									5	17	104	0	130:00	2	Z		
			AIR/O ₂									5	9 34	0	57:20					
42	50	3:20	AIR									6	27	134	0	171:00	2	Z		
			AIR/O ₂									6	14 38	0	67:20					
42	55	3:20	AIR									15	28	160	0	207:00	2.5	Z		
			AIR/O ₂									15	14 44	0	82:20					
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																				
42	60	3:00	AIR									1	23	27	192	0	246:40	2.5		
			AIR/O ₂									1	23	14 53	0	105:00				
42	70	3:00	AIR									13	25	28	256	0	325:40	3.5		
			AIR/O ₂									13	25	14 72	0	138:00				
42	80	2:40	AIR									1	24	25	28	328	0	409:20	4	
			AIR/O ₂									1	24	25	14 88	0	170:40			
Exceptional Exposure SurDO ₂ -----																				
42	90	2:40	AIR									11	23	25	36	410	0	508:20	4.5	
			AIR/O ₂									11	23	25	18 104	0	199:40			

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Chamber Ascent Time (M:S)		O ₂ Periods	Repet Group					
				33	30	27	24	21	18	15	12	9	6	3								
45	9	5:00	AIR AIR/O ₂											0 0	5:00 5:00	0	E					
45	10	4:20	AIR AIR/O ₂											2 1	7:00 6:00	0.5	F					
45	15	4:20	AIR AIR/O ₂											7 4	12:00 9:00	0.5	H					
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																						
45	20	4:00	AIR AIR/O ₂										1 1	15 8	0 0	20:40 13:40	0.5	K				
45	25	4:00	AIR AIR/O ₂										6 3	28 14	0 0	38:40 21:40	1	M				
45	30	3:40	AIR AIR/O ₂										3 3	7 4	42 22	0 0	56:20 33:40	1	O			
45	35	3:40	AIR AIR/O ₂										6 6	7 3	69 30	0 0	86:20 43:40	1.5	Z			
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																						
45	40	3:20	AIR AIR/O ₂										1 1	7 7	13 6	95 34	0 0	120:00 57:20	1.5	Z		
45	45	3:20	AIR AIR/O ₂										3 3	6 6	24 12	131 39	0 0	168:00 69:20	2	Z		
45	50	3:20	AIR AIR/O ₂										3 3	14 14	28 14	159 44	0 0	208:00 84:20	2.5	Z		
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																						
45	55	3:20	AIR AIR/O ₂										5 5	22 22	27 14	193 54	0 0	251:00 109:20	2.5			
45	60	3:20	AIR AIR/O ₂										10 10	25 25	28 14	230 64	0 0	297:00 127:20	3			
45	70	3:00	AIR AIR/O ₂										2 2	23 23	26 26	27 14	304 82	0 0	385:40 166:00	4		
Exceptional Exposure SurDO ₂ -----																						
45	80	3:00	AIR AIR/O ₂										14 14	23 23	25 25	33 17	396 101	0 0	494:40 199:00	4.5		
45	90	2:40	AIR AIR/O ₂										2 2	22 22	23 23	25 23	46 23	463 114	0 0	584:20 232:40	5.5	
45	100	2:40	AIR AIR/O ₂										10 10	21 21	24 24	27 29	56 130	513 0	654:20 269:40	6		
45	110	2:40	AIR AIR/O ₂										17 17	21 21	23 23	38 33	65 146	549 0	716:20 307:40	7		
45	120	2:20	AIR AIR/O ₂										2 2	20 20	22 22	23 48	73 36	577 162	0 0	768:00 346:20	7.5	
45	130	2:20	AIR AIR/O ₂										7 7	19 19	22 22	30 30	50 41	601 175	0 0	813:00 382:20	8	
45	140	2:20	AIR AIR/O ₂										10 10	20 20	21 21	38 38	54 43	620 188	0 0	853:00 412:20	8.5	

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop											Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group	
				33	30	27	24	21	18	15	12	9	6	3				
45	150	2:20	AIR AIR/O ₂			13	20	22	45	60	95	635	0	893:00	9			
						13	20	22	45	60	46	198	0	442:20				
45	180	2:00	AIR AIR/O ₂			2	18	20	41	46	78	116	666	0	989:40	10.5		
						2	18	20	41	46	78	56	218	0	522:00			
48	7	5:20	AIR AIR/O ₂										0	0	5:20	0	D	
													0	0	5:20			
48	10	4:40	AIR AIR/O ₂										4	0	9:20	0.5	F	
													2	0	7:20			
48	15	4:20	AIR AIR/O ₂									1	10	0	16:00	0.5	I	
												1	5	0	11:00			
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																		
48	20	4:20	AIR AIR/O ₂									4	18	0	27:00	0.5	L	
												2	9	0	16:00			
48	25	4:00	AIR AIR/O ₂								3	7	33	0	47:40	1	N	
											3	4	17	0	29:00			
48	30	3:40	AIR AIR/O ₂							1	6	7	56	0	74:20	1.5	O	
										1	6	4	25	0	40:40			
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																		
48	35	3:40	AIR AIR/O ₂							4	6	7	84	0	105:20	1.5	Z	
										4	6	4	32	0	55:40			
48	40	3:40	AIR AIR/O ₂							5	7	19	123	0	158:20	2	Z	
										5	7	10	37	0	68:40			
48	45	3:20	AIR AIR/O ₂						1	6	10	27	155	0	203:00	2.5	Z	
									1	6	10	14	43	0	83:20			
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																		
48	50	3:20	AIR AIR/O ₂						2	7	19	28	189	0	249:00	2.5		
									2	7	19	14	53	0	109:20			
48	55	3:20	AIR AIR/O ₂						2	11	25	28	230	0	300:00	3		
									2	11	25	14	64	0	130:20			
48	60	3:20	AIR AIR/O ₂						5	17	25	28	266	0	345:00	3.5		
									5	17	25	14	75	0	150:20			
Exceptional Exposure SurDO ₂ -----																		
48	70	3:20	AIR AIR/O ₂						14	23	25	28	365	0	459:00	4.5		
									14	23	25	14	96	0	191:20			
48	80	3:00	AIR AIR/O ₂					5	21	23	26	42	449	0	569:40	5		
								5	21	23	26	21	112	0	232:00			
51	7	5:40	AIR AIR/O ₂											0	0	5:40	0	E
														0	0	5:40		
51	10	5:00	AIR AIR/O ₂											5	0	10:40	0.5	G
														3	0	8:40		
51	15	4:40	AIR AIR/O ₂									3	12	0	20:20	0.5	J	
												2	6	0	13:20			

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop											Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group		
				33	30	27	24	21	18	15	12	9	6	3					
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																			
51	20	4:20	AIR									2	6	22	0	35:00	1	L	
			AIR/O ₂									2	3	11	0	21:20			
51	25	4:00	AIR								1	6	7	39	0	57:40	1	O	
			AIR/O ₂								1	6	4	20	0	36:00			
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																			
51	30	4:00	AIR									5	6	7	71	0	93:40	1.5	Z
			AIR/O ₂									5	6	3	29	0	48:00		
51	35	3:40	AIR						2	5	7	13	109	0	140:20		2	Z	
			AIR/O ₂						2	5	7	7	36	0	66:40				
51	40	3:40	AIR						3	6	9	24	146	0	192:20		2	Z	
			AIR/O ₂						3	6	9	12	42	0	81:40				
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																			
51	45	3:40	AIR						5	6	16	28	179	0	238:20		2.5		
			AIR/O ₂						5	6	16	14	50	0	100:40				
51	50	3:20	AIR					1	5	10	23	28	226	0	297:00		3		
			AIR/O ₂					1	5	10	23	14	63	0	130:20				
51	55	3:20	AIR					1	8	15	25	28	263	0	344:00		3.5		
			AIR/O ₂					1	8	15	25	14	74	0	151:20				
51	60	3:20	AIR					1	11	21	25	28	312	0	402:00		4		
			AIR/O ₂					1	11	21	25	14	84	0	175:20				
Exceptional Exposure SurDO ₂ -----																			
51	70	3:20	AIR					6	19	23	26	36	421	0	535:00		5		
			AIR/O ₂					6	19	23	26	18	106	0	217:20				
51	80	3:20	AIR					16	22	23	25	52	492	0	634:00		5.5		
			AIR/O ₂					16	22	23	25	26	123	0	259:20				
51	90	3:00	AIR				7	19	22	23	35	64	542	0	715:40		6.5		
			AIR/O ₂				7	19	22	23	35	32	143	0	310:00				
51	100	3:00	AIR				15	19	22	23	47	74	578	0	781:40		7.5		
			AIR/O ₂				15	19	22	23	47	37	162	0	359:00				
51	110	2:40	AIR			3	19	19	22	31	50	84	606	0	837:20		8.5		
			AIR/O ₂			3	19	19	22	31	50	42	179	0	403:40				
51	120	2:40	AIR			9	18	20	21	42	57	92	628	0	890:20		9		
			AIR/O ₂			9	18	20	21	42	57	45	193	0	443:40				
51	150	2:20	AIR		3	17	19	20	41	49	78	119	667	0	1016:0		10.5		
			AIR/O ₂		3	17	19	20	41	49	78	58	218	0	551:20				
51	180	2:20	AIR		9	18	18	40	43	68	94	151	676	0	1120:0		11		
			AIR/O ₂		9	18	18	40	43	68	94	72	226	0	636:20				
54	6	6:00	AIR										0	0	6:00	0	E		
			AIR/O ₂										0	0	6:00				
54	10	5:20	AIR										7	0	13:00	0.5	G		
			AIR/O ₂										4	0	10:00				

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop										Total Chamber Ascent Time (M:S)		O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3			
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																	
54	15	4:40	AIR AIR/O ₂								2 2	3 2	13 6	0 0	23:20 15:40	0.5	J
54	20	4:20	AIR AIR/O ₂						1 1	4 4	7 4	7 13	27 13	0 0	44:00 27:20	1	M
54	25	4:20	AIR AIR/O ₂						4 4	7 7	6 3	6 24	52 24	0 0	74:00 43:20	1	O
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																	
54	30	4:00	AIR AIR/O ₂					2 2	6 6	7 7	6 3	85 33	0 0	110:40 61:00	1.5	Z	
54	35	4:00	AIR AIR/O ₂					5 5	6 6	6 6	20 10	132 40	0 0	173:40 77:00	2	Z	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																	
54	40	3:40	AIR AIR/O ₂					2 2	5 5	6 6	12 12	28 14	167 46	0 0	224:20 94:40	2.5	Z
54	45	3:40	AIR AIR/O ₂					3 3	5 5	10 10	19 19	28 14	215 60	0 0	284:20 125:40	3	
54	50	3:40	AIR AIR/O ₂					4 4	7 7	13 13	25 25	28 14	257 72	0 0	338:20 149:40	3.5	
54	55	3:40	AIR AIR/O ₂					4 4	11 11	19 19	25 25	28 14	308 83	0 0	399:20 175:40	4	
Exceptional Exposure SurDO ₂ -----																	
54	60	3:40	AIR AIR/O ₂					8 8	12 12	23 23	26 26	28 14	371 98	0 0	472:20 200:40	4.5	
54	70	3:20	AIR AIR/O ₂				3	12 3	21 12	23 21	26 26	45 23	466 115	0 0	600:00 247:20	5.5	
57	5	6:20	AIR AIR/O ₂										0 0	0 0	6:20 6:20	0	D
57	10	5:20	AIR AIR/O ₂									1 1	8 4	0 0	15:00 11:00	0.5	H
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																	
57	15	5:00	AIR AIR/O ₂								3 3	4 2	14 8	0 0	26:40 19:00	0.5	K
57	20	4:40	AIR AIR/O ₂							3 3	5 5	7 4	32 16	0 0	52:20 33:40	1	N
Exceptional Exposure In-Water Air Decompression - In-Water Air/O ₂ Decompression or SurDO ₂ Required																	
57	25	4:20	AIR AIR/O ₂					2 2	6 6	6 6	7 4	66 26	0 0	92:00 49:20	1.5	Z	
57	30	4:00	AIR AIR/O ₂					1 1	5 5	6 6	6 6	12 6	111 37	0 0	145:40 71:00	2	Z
57	35	4:00	AIR AIR/O ₂					3 3	6 6	5 5	8 8	25 13	153 43	0 0	204:40 88:00	2.5	Z

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop											Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3			
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																	
57	40	4:00	AIR					5	5	8	16	28	197	0	263:40	3	
			AIR/O ₂				5	5	8	16	14	55	0	118:00			
57	45	3:40	AIR			2	4	6	12	24	28	246	0	326:20	3.5		
			AIR/O ₂			2	4	6	12	24	14	69	0	145:40			
57	50	3:40	AIR			2	5	10	17	25	28	297	0	388:20	3.5		
			AIR/O ₂			2	5	10	17	25	14	81	0	168:40			
Exceptional Exposure SurDO ₂ -----																	
57	55	3:40	AIR			3	8	10	23	26	27	362	0	463:20	4.5		
			AIR/O ₂			3	8	10	23	26	14	96	0	199:40			
57	60	3:40	AIR			4	10	16	23	26	37	420	0	540:20	5		
			AIR/O ₂			4	10	16	23	26	19	106	0	223:40			
57	70	3:40	AIR			9	16	21	24	25	54	503	0	656:20	6		
			AIR/O ₂			9	16	21	24	25	28	126	0	273:40			
57	80	3:20	AIR		3	15	20	22	23	39	68	558	0	752:00	7		
			AIR/O ₂		3	15	20	22	23	39	34	151	0	336:20			
57	90	3:20	AIR		10	19	19	22	26	51	80	595	0	826:00	8		
			AIR/O ₂		10	19	19	22	26	51	40	172	0	393:20			
57	100	3:00	AIR	2	17	18	20	21	39	56	90	625	0	891:40	9		
			AIR/O ₂	2	17	18	20	21	39	56	44	191	0	447:00			
57	110	3:00	AIR	8	18	18	20	25	47	66	100	646	0	951:40	9.5		
			AIR/O ₂	8	18	18	20	25	47	66	49	204	0	499:00			
													1001:4				
57	120	3:00	AIR	14	17	19	20	35	46	76	109	662	0	0	10		
			AIR/O ₂	14	17	19	20	35	46	76	54	214	0	539:00			

60

Exceptional Exposure-----																	
60	5	6:40	AIR										0	0	6:40	0	
			AIR/O ₂										0	0	6:40		
60	10	5:40	AIR								3	8	0	17:20	0.5		
			AIR/O ₂								2	4	0	12:20			
60	15	5:00	AIR						2	3	4	18	0	32:40	0.5		
			AIR/O ₂						2	3	2	9	0	22:00			
60	20	4:40	AIR					2	3	6	7	38	0	61:20	1		
			AIR/O ₂					2	3	6	4	19	0	39:40			
60	25	4:40	AIR					5	6	6	7	79	0	108:20	1.5		
			AIR/O ₂					5	6	6	4	29	0	55:40			
60	30	4:20	AIR			4	5	6	6	18	133	0	177:00	2			
			AIR/O ₂			4	5	6	6	9	41	0	81:20				
60	35	4:00	AIR		2	5	5	5	13	28	172	0	234:40	2.5			
			AIR/O ₂		2	5	5	5	13	14	48	0	102:00				
60	40	4:00	AIR		3	5	6	10	20	28	230	0	306:40	3			
			AIR/O ₂		3	5	6	10	20	14	64	0	137:00				

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW) Stop times (min) include travel time, except first air and first O ₂ stop											Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				33	30	27	24	21	18	15	12	9	6	3			
60	45	4:00	AIR				5	5	8	14	25	28	280	0	369:40	3.5	
			AIR/O ₂				5	5	8	14	25	14	78	0	164:00		
60	50	3:40	AIR			1	5	7	11	20	25	28	347	0	448:20	4	
			AIR/O ₂			1	5	7	11	20	25	14	93	0	195:40		

63

Exceptional Exposure-----																	
63	4	7:00	AIR										0	0	7:00	0	
			AIR/O ₂										0	0	7:00		
63	5	6:20	AIR										1	0	8:00	0.5	
			AIR/O ₂										1	0	8:00		
63	10	5:40	AIR								1	4	9	0	20:20	0.5	
			AIR/O ₂								1	2	5	0	14:40		
63	15	5:00	AIR						1	3	3	5	23	0	40:40	1	
			AIR/O ₂						1	3	3	3	11	0	27:00		
63	20	4:40	AIR					1	2	5	7	6	52	0	78:20	1	
			AIR/O ₂					1	2	5	7	3	23	0	46:40		
63	25	4:40	AIR					3	5	6	6	8	98	0	131:20	1.5	
			AIR/O ₂					3	5	6	6	4	36	0	70:40		
63	30	4:20	AIR			2	5	5	6	6	6	25	151	0	205:00	2.5	
			AIR/O ₂			2	5	5	6	6	6	13	43	0	90:20		
63	35	4:20	AIR				5	4	6	6	17	28	203	0	274:00	3	
			AIR/O ₂				5	4	6	6	17	15	56	0	124:20		
63	40	4:00	AIR			2	5	4	7	11	25	28	257	0	343:40	3.5	
			AIR/O ₂			2	5	4	7	11	25	14	73	0	156:00		
63	45	4:00	AIR			3	5	5	11	18	25	28	320	0	419:40	4	
			AIR/O ₂			3	5	5	11	18	25	14	87	0	188:00		
63	50	4:00	AIR			4	5	9	12	23	25	34	395	0	511:40	4.5	
			AIR/O ₂			4	5	9	12	23	25	17	101	0	216:00		

66

Exceptional Exposure-----																		
66	4	7:20	AIR										0	0	7:20	0		
			AIR/O ₂										0	0	7:20			
66	5	6:40	AIR										3	0	10:20	0.5		
			AIR/O ₂										2	0	9:20			
66	10	6:00	AIR						3	3	10	0	22:40	0.5				
			AIR/O ₂						3	2	5	0	17:00					
66	15	5:20	AIR					2	3	3	7	27	0	48:00	1			
			AIR/O ₂					2	3	3	4	13	0	31:20				
66	20	5:00	AIR					2	3	6	6	7	64	0	93:40	1.5		
			AIR/O ₂					2	3	6	6	4	25	0	52:00			
66	25	4:40	AIR					1	5	5	6	6	13	121	0	162:20	2	
			AIR/O ₂					1	5	5	6	6	7	39	0	79:40		

Depth (MSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (MSW)											Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				Stop times (min) include travel time, except first air and first O ₂ stop													
				33	30	27	24	21	18	15	12	9	6	3			
66	30	4:40	AIR					5	5	5	6	9	28	169	0	232:20	2.5
			AIR/O ₂				5	5	5	6	9	14	47	0	101:40		
66	35	4:20	AIR			3	5	4	6	9	21	28	233	0	314:00	3	
			AIR/O ₂			3	5	4	6	9	21	14	65	0	142:20		
66	40	4:00	AIR		1	4	5	4	9	15	25	28	293	0	388:40	3.5	
			AIR/O ₂		1	4	5	4	9	15	25	14	81	0	173:00		

69

Exceptional Exposure-----																	
69	5	7:00	AIR										4	0	11:40		0.5
			AIR/O ₂										2	0	9:40		
69	10	6:00	AIR					1	3	4	11	0	25:40				0.5
			AIR/O ₂					1	3	2	6	0	19:00				
69	15	5:20	AIR			1	3	3	4	7	32	0	56:00				1
			AIR/O ₂			1	3	3	4	4	16	0	37:20				
69	20	5:00	AIR			1	3	4	6	6	7	76	0	108:40			1.5
			AIR/O ₂			1	3	4	6	6	4	28	0	58:00			
69	25	5:00	AIR			4	4	6	5	7	19	140	0	190:40			2
			AIR/O ₂			4	4	6	5	7	10	42	0	89:00			
69	30	4:40	AIR			3	5	4	6	6	15	28	196	0	268:20		3
			AIR/O ₂			3	5	4	6	6	15	14	55	0	123:40		
69	35	4:20	AIR	2	4	4	5	6	11	25	28	258	0	348:00			3.5
			AIR/O ₂	2	4	4	5	6	11	25	14	73	0	159:20			
69	40	4:20	AIR	3	5	4	6	10	19	25	28	333	0	438:00			4
			AIR/O ₂	3	5	4	6	10	19	25	14	90	0	196:20			

72

Exceptional Exposure-----																	
72	5	7:20	AIR											6	0	14:00	0.5
			AIR/O ₂											3	0	11:00	
72	10	6:20	AIR							3	3	3	12	0	28:00	0.5	
			AIR/O ₂							3	3	2	6	0	21:20		
72	15	5:40	AIR					2	3	3	6	7	36	0	63:20	1	
			AIR/O ₂					2	3	3	6	3	19	0	42:40		
72	20	5:00	AIR			1	2	3	5	6	6	7	91	0	126:40	1.5	
			AIR/O ₂			1	2	3	5	6	6	3	35	0	72:00		
72	25	5:00	AIR			2	4	5	6	5	7	25	157	0	216:40	2.5	
			AIR/O ₂			2	4	5	6	5	7	13	44	0	97:00		
72	30	4:40	AIR	1	5	4	5	6	6	20	28	223	0	303:20	3		
			AIR/O ₂	1	5	4	5	6	6	20	14	63	0	139:40			
72	35	4:40	AIR	4	4	5	5	7	15	25	28	291	0	389:20	3.5		
			AIR/O ₂	4	4	5	5	7	15	25	14	81	0	175:40			
72	40	4:20	AIR	2	4	4	5	8	11	22	25	32	381	0	499:00	4.5	
			AIR/O ₂	2	4	4	5	8	11	22	25	16	99	0	216:20		

APPENDIX F FSW NO-DECOMPRESSION LIMITS AND REPETITIVE GROUP DESIGNATORS FOR NO-DECOMPRESSION AIR DIVES. VVAL-79 THALMANN ALGORITHM

RATES: DESCENT 75 FPM; ASCENT 30 FPM
LAST ALLOWED DECOMPRESSION STOP: 20 FSW

DEPTH (FSW)	NO-STOP LIMIT	REPETITIVE GROUP DESIGNATION															
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
10	Unlimited	57	101	158	245	426	*										
15	Unlimited	36	60	88	121	163	217	297	449	*							
20	Unlimited	26	43	61	82	106	133	165	205	256	330	461	*				
25	1102	20	33	47	62	78	97	117	140	166	198	236	285	354	469	992	1102
30	371	17	27	38	50	62	76	91	107	125	145	167	193	223	260	307	371
35	232	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232
40	163	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	
45	125	11	17	24	31	39	46	55	63	72	82	92	102	114	125		
50	92	9	15	21	28	34	41	48	56	63	71	80	89	92			
55	74	8	14	19	25	31	37	43	50	56	63	71	74				
60	63	7	12	17	22	28	33	39	45	51	57	63					
70	48	6	10	14	19	23	28	32	37	42	47	48					
80	39	5	9	12	16	20	24	28	32	36	39						
90	33	4	7	11	14	17	21	24	28	31	33						
100	25	4	6	9	12	15	18	21	25								
110	20	3	6	8	11	14	16	19	20								
120	15	3	5	7	10	12	15										
130	12	2	4	6	9	11	12										
140	10	2	4	6	8	10											
150	8		3	5	7	8											
160	7		3	5	6	7											
170	6			4	6												
180	6			4	5	6											
190	5			3	5												

*Highest repetitive group that can be achieved at this depth regardless of bottom time

APPENDIX G FSW RESIDUAL NITROGEN TIMETABLE FOR REPETITIVE AIR DIVES. VVAL-79 THALMANN ALGORITHM

Z																A	:10 2:20
																B	:10 1:16 3:36
																C	:10 0:55 2:12 4:31
																D	:10 0:52 1:47 3:03 5:23
																E	:10 0:52 1:44 2:39 3:55 6:15
																F	:10 0:52 1:44 2:37 3:31 4:48 7:08
																G	:10 0:52 1:44 2:37 3:30 4:24 5:41 8:00
																H	:10 0:52 1:44 2:37 3:29 4:22 5:17 6:33 8:52
																I	:10 0:52 1:44 2:37 3:29 4:21 5:13 6:08 7:24 9:44
																J	:10 0:52 1:44 2:37 3:29 4:21 5:13 6:06 7:00 8:16 10:36
																K	:10 0:52 1:44 2:37 3:29 4:22 5:14 6:07 6:59 7:53 9:10 11:29
																L	:10 0:52 1:44 2:37 3:29 4:21 5:13 6:06 6:58 7:50 8:44 10:01 12:21
																M	:10 0:52 1:44 2:37 3:29 4:21 5:13 6:06 6:58 7:50 8:42 9:37 10:53 13:13
																N	:10 0:52 1:44 2:37 3:29 4:21 5:13 6:06 6:58 7:50 8:42 9:35 10:29 11:45 14:05
																O	: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 11:21 12:37 14:58
																: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 12:13 13:30 15:50	
Depth (FSW)	Z	O	N	M	L	K	J	I	H	G	F	E	D	C	B	A	
10	**	**	**	**	**	**	**	**	**	**	**	427	246	159	101	58	
15	**	**	**	**	**	**	**	**	450	298	218	164	122	89	61	37	
20	**	**	**	**	**	462	331	257	206	166	134	106	83	62	44	27	
25	†	989	470	354	286	237	198	167	141	118	98	79	63	48	34	21	
30	372	308	261	224	194	168	146	126	108	92	77	63	51	39	28	18	
35	245	216	191	169	149	132	116	101	88	75	64	53	43	33	24	15	
40	188	169	152	136	122	109	97	85	74	64	55	45	37	29	21	13	
45	154	140	127	115	104	93	83	73	64	56	48	40	32	25	18	12	
50	131	120	109	99	90	81	73	65	57	49	42	35	29	23	17	11	
55	114	105	96	88	80	72	65	58	51	44	38	32	26	20	15	10	
60	101	93	86	79	72	65	58	52	46	40	35	29	24	19	14	9	
70	83	77	71	65	59	54	49	44	39	34	29	25	20	16	12	8	
80	70	65	60	55	51	46	42	38	33	29	25	22	18	14	10	7	
90	61	57	52	48	44	41	37	33	29	26	22	19	16	12	9	6	
100	54	50	47	43	40	36	33	30	26	23	20	17	14	11	8	5	
110	48	45	42	39	36	33	30	27	24	21	18	16	13	10	8	5	
120	44	41	38	35	32	30	27	24	22	19	17	14	12	9	7	5	
130	40	37	35	32	30	27	25	22	20	18	15	13	11	9	6	4	
140	37	34	32	30	27	25	23	21	19	16	14	12	10	8	6	4	
150	34	32	30	28	26	23	21	19	17	15	13	11	9	8	6	4	
160	32	30	28	26	24	22	20	18	16	14	13	11	9	7	5	4	
170	30	28	26	24	22	21	19	17	15	14	12	10	8	7	5	3	
180	28	26	25	23	21	19	18	16	14	13	11	10	8	6	5	3	
190	26	25	23	22	20	18	17	15	14	12	11	9	8	6	5	3	

APPENDIX H FSW AIR DECOMPRESSION TABLE WITH 10 FSW LAST STOP. VVAL-79 THALMANN ALGORITHM

Depth (FSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (FSW)											Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				130	120	110	100	90	80	70	60	50	40	30			
30	373	1:00	AIR AIR/O ₂												0 0	1:00 1:00	0 Z
30	380	0:40	AIR AIR/O ₂												2 1	3:00 2:00	0.5 Z
30	420	0:40	AIR AIR/O ₂												9 5	10:00 6:00	0.5 Z
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																	
30	480	0:40	AIR AIR/O ₂												17 8	18:00 9:00	0.5 Z
30	540	0:40	AIR AIR/O ₂												27 13	28:00 14:00	0.5
30	600	0:40	AIR AIR/O ₂												36 18	37:00 19:00	1
30	660	0:40	AIR AIR/O ₂												43 21	44:00 22:00	1
30	720	0:40	AIR AIR/O ₂												53 25	54:00 26:00	1
35	233	1:10	AIR AIR/O ₂												0 0	1:10 1:10	0 Z
35	240	0:50	AIR AIR/O ₂												2 1	3:10 2:10	0.5 Z
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																	
35	270	0:50	AIR AIR/O ₂												12 6	13:10 7:10	0.5 Z
35	300	0:50	AIR AIR/O ₂												23 12	24:10 13:10	0.5 Z
35	330	0:50	AIR AIR/O ₂												32 17	33:10 18:10	1 Z
35	360	0:50	AIR AIR/O ₂												39 20	40:10 21:10	1 Z
35	420	0:50	AIR AIR/O ₂												55 28	56:10 29:10	1.5
35	480	0:50	AIR AIR/O ₂												70 36	71:10 42:10	1.5
35	540	0:50	AIR AIR/O ₂												85 42	86:10 48:10	2
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required---																	
35	600	0:50	AIR AIR/O ₂												103 50	104:10 56:10	2
35	660	0:50	AIR												121	122:10	2.5

Depth (FSW)	Bottom Time (M)	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													Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				130	120	110	100	90	80	70	60	50	40	30	20	10			
			AIR/O ₂														59 65:10		
35	720	0:50	AIR														135 136:10	2.5	
			AIR/O ₂														67 78:10		
40	164	1:20	AIR														0 1:20	0	O
			AIR/O ₂														0 1:20		
40	170	1:00	AIR														3 4:20	0.5	O
			AIR/O ₂														2 3:20		
40	180	1:00	AIR														7 8:20	0.5	Z
			AIR/O ₂														4 5:20		
40	190	1:00	AIR														11 12:20	0.5	Z
			AIR/O ₂														7 8:20		
40	200	1:00	AIR														15 16:20	0.5	Z
			AIR/O ₂														8 9:20		
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																			
40	210	1:00	AIR														18 19:20	0.5	Z
			AIR/O ₂														10 11:20		
40	220	1:00	AIR														23 24:20	0.5	Z
			AIR/O ₂														12 13:20		
40	230	1:00	AIR														28 29:20	1	Z
			AIR/O ₂														15 16:20		
40	240	1:00	AIR														33 34:20	1	Z
			AIR/O ₂														18 19:20		
40	270	1:00	AIR														47 48:20	1	Z
			AIR/O ₂														25 26:20		
40	300	1:00	AIR														58 59:20	1.5	Z
			AIR/O ₂														31 32:20		
40	330	1:00	AIR														68 69:20	1.5	
			AIR/O ₂														36 42:20		
40	360	1:00	AIR														81 82:20	2	
			AIR/O ₂														42 48:20		
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																			
40	420	1:00	AIR														103 104:20	2	
			AIR/O ₂														54 60:20		
40	480	1:00	AIR														125 126:20	2.5	
			AIR/O ₂														64 70:20		
40	540	1:00	AIR														151 152:20	3	
			AIR/O ₂														76 87:20		
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																			
40	600	1:00	AIR														174 175:20	3.5	
			AIR/O ₂														89 100:20		
40	660	1:00	AIR														193 194:20	4	
			AIR/O ₂														99 115:20		
40	720	0:40	AIR														5 206 212:00	4	
			AIR/O ₂														2 106 124:00		

Depth (FSW)	Bottom Time (M)	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													Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				130	120	110	100	90	80	70	60	50	40	30	20	10			
45	127	1:30	AIR AIR/O ₂													0 0	1:30 1:30	0	O
45	130	1:10	AIR AIR/O ₂													1 1	2:30 2:30	0.5	O
45	140	1:10	AIR AIR/O ₂													8 4	9:30 5:30	0.5	O
45	150	1:10	AIR AIR/O ₂													14 8	15:30 9:30	0.5	O
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																			
45	160	1:10	AIR AIR/O ₂													19 11	20:30 12:30	0.5	Z
45	170	1:10	AIR AIR/O ₂													25 14	26:30 15:30	1	Z
45	180	1:10	AIR AIR/O ₂													29 17	30:30 18:30	1	Z
45	190	1:10	AIR AIR/O ₂													34 19	35:30 20:30	1	Z
45	200	1:10	AIR AIR/O ₂													40 21	41:30 22:30	1	Z
45	210	1:10	AIR AIR/O ₂													47 25	48:30 26:30	1	Z
45	220	1:10	AIR AIR/O ₂													53 29	54:30 30:30	1.5	Z
45	230	1:10	AIR AIR/O ₂													59 32	60:30 33:30	1.5	Z
45	240	1:10	AIR AIR/O ₂													65 35	66:30 36:30	1.5	Z
45	270	1:10	AIR AIR/O ₂													80 43	81:30 49:30	2	Z
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																			
45	300	1:10	AIR AIR/O ₂													94 50	95:30 56:30	2	
45	330	1:10	AIR AIR/O ₂													110 58	111:30 64:30	2.5	
45	360	0:50	AIR AIR/O ₂													2 124 1 66	127:10 78:10	2.5	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																			
45	420	0:50	AIR AIR/O ₂													16 144 8 73	161:10 92:10	3	
45	480	0:50	AIR AIR/O ₂													26 171 13 84	198:10 113:10	4	
Exceptional Exposure SurDO ₂ -----																			
45	540	0:50	AIR AIR/O ₂													33 194 16 97	228:10 129:10	4.5	

Depth (FSW)	Bottom Time (M)	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													Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group	
				130	120	110	100	90	80	70	60	50	40	30	20	10				
50	93	1:40	AIR AIR/O ₂													0 0	1:40 1:40	0	M	
50	95	1:20	AIR AIR/O ₂													1 1	2:40 2:40	0.5	M	
50	100	1:20	AIR AIR/O ₂													4 2	5:40 3:40	0.5	M	
50	110	1:20	AIR AIR/O ₂													7 4	8:40 5:40	0.5	N	
50	120	1:20	AIR AIR/O ₂													11 7	12:40 8:40	0.5	O	
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																				
50	130	1:20	AIR AIR/O ₂													20 11	21:40 12:40	0.5	O	
50	140	1:20	AIR AIR/O ₂													27 15	28:40 16:40	1	Z	
50	150	1:20	AIR AIR/O ₂													34 19	35:40 20:40	1	Z	
50	160	1:20	AIR AIR/O ₂													40 23	41:40 24:40	1	Z	
50	170	1:20	AIR AIR/O ₂													46 26	47:40 27:40	1	Z	
50	180	1:20	AIR AIR/O ₂													53 29	54:40 30:40	1.5	Z	
50	190	1:20	AIR AIR/O ₂													61 33	62:40 34:40	1.5	Z	
50	200	1:20	AIR AIR/O ₂													69 37	70:40 43:40	1.5	Z	
50	210	1:20	AIR AIR/O ₂													77 42	78:40 48:40	2	Z	
50	220	1:20	AIR AIR/O ₂													84 45	85:40 51:40	2	Z	
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																				
50	230	1:00	AIR AIR/O ₂													1 1	90 48	92:20 55:20	2	Z
50	240	1:00	AIR AIR/O ₂													4 2	93 51	98:20 59:20	2	Z
50	270	1:00	AIR AIR/O ₂													11 6	106 55	118:20 67:20	2.5	
50	300	1:00	AIR AIR/O ₂													17 9	122 62	140:20 82:20	3	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																				
50	330	1:00	AIR AIR/O ₂													28 14	130 67	159:20 92:20	3	
50	360	1:00	AIR													37	144	182:20	3.5	

Depth (FSW)	Bottom Time (M)	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													Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				130	120	110	100	90	80	70	60	50	40	30	20	10			
			AIR/O ₂														19 71 101:20		
50	420	1:00	AIR														51 177 229:20	4	
			AIR/O ₂														26 83 125:20		
55	75	1:50	AIR														0 1:50	0	L
			AIR/O ₂														0 1:50		
55	80	1:30	AIR														4 5:50	0.5	L
			AIR/O ₂														2 3:50		
55	90	1:30	AIR														10 11:50	0.5	M
			AIR/O ₂														6 7:50		
55	100	1:30	AIR														15 16:50	0.5	N
			AIR/O ₂														9 10:50		
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																			
55	110	1:30	AIR														20 21:50	0.5	O
			AIR/O ₂														11 12:50		
55	120	1:30	AIR														30 31:50	1	O
			AIR/O ₂														17 18:50		
55	130	1:30	AIR														39 40:50	1	Z
			AIR/O ₂														22 23:50		
55	140	1:30	AIR														47 48:50	1	Z
			AIR/O ₂														26 27:50		
55	150	1:30	AIR														54 55:50	1.5	Z
			AIR/O ₂														30 31:50		
55	160	1:30	AIR														61 62:50	1.5	Z
			AIR/O ₂														34 35:50		
55	170	1:30	AIR														71 72:50	1.5	Z
			AIR/O ₂														38 44:50		
55	180	1:10	AIR														2 79 82:30	2	Z
			AIR/O ₂														2 42 50:30		
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																			
55	190	1:10	AIR														7 84 92:30	2	Z
			AIR/O ₂														4 45 55:30		
55	200	1:10	AIR														12 88 101:30	2	Z
			AIR/O ₂														6 47 59:30		
55	210	1:10	AIR														16 93 110:30	2.5	Z
			AIR/O ₂														8 49 63:30		
55	220	1:10	AIR														19 97 117:30	2.5	Z
			AIR/O ₂														10 51 67:30		
55	230	1:10	AIR														23 100 124:30	2.5	
			AIR/O ₂														12 53 71:30		
55	240	1:10	AIR														26 107 134:30	3	
			AIR/O ₂														14 55 80:30		
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																			
55	270	1:10	AIR														35 124 160:30	3	
			AIR/O ₂														18 62 91:30		

Depth (FSW)	Bottom Time (M)	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													Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				130	120	110	100	90	80	70	60	50	40	30	20	10			
55	300	1:10	AIR AIR/O ₂												49 135	185:30	3.5		
															25 67	103:30			
55	330	1:10	AIR AIR/O ₂												60 152	213:30	4		
															31 72	118:30			
Exceptional Exposure SurDO ₂ -----																			
55	360	1:10	AIR AIR/O ₂												70 171	242:30	4.5		
															36 79	131:30			
60	63	2:00	AIR AIR/O ₂												0	2:00	0	K	
													0	2:00					
60	65	1:40	AIR AIR/O ₂												2	4:00	0.5	L	
															1	3:00			
60	70	1:40	AIR AIR/O ₂												6	8:00	0.5	L	
															4	6:00			
60	80	1:40	AIR AIR/O ₂												14	16:00	0.5	M	
															8	10:00			
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																			
60	90	1:40	AIR AIR/O ₂												21	23:00	0.5	N	
															12	14:00			
60	100	1:40	AIR AIR/O ₂												26	28:00	1	O	
															15	17:00			
60	110	1:40	AIR AIR/O ₂												37	39:00	1	O	
															21	23:00			
60	120	1:40	AIR AIR/O ₂												48	50:00	1	Z	
															27	29:00			
60	130	1:20	AIR AIR/O ₂												3	55 59:40	1.5	Z	
															2 30	33:40			
60	140	1:20	AIR AIR/O ₂												5	61 67:40	1.5	Z	
															3 34	43:40			
60	150	1:20	AIR AIR/O ₂												7	69 77:40	2	Z	
															4 37	47:40			
60	160	1:20	AIR AIR/O ₂												10	78 89:40	2	Z	
															6 40	52:40			
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																			
60	170	1:20	AIR AIR/O ₂												16	84 101:40	2	Z	
															9 43	58:40			
60	180	1:20	AIR AIR/O ₂												22	89 112:40	2.5	Z	
															12 46	64:40			
60	190	1:20	AIR AIR/O ₂												27	93 121:40	2.5	Z	
															15 48	69:40			
60	200	1:20	AIR AIR/O ₂												32	97 130:40	2.5	Z	
															17 51	79:40			
60	210	1:20	AIR AIR/O ₂												36	103 140:40	3		
															19 53	83:40			

Depth (FSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (FSW)												Total		Chamber O ₂ Periods	Repet Group	
				Stop times (min) include travel time, except first air and first O ₂ stop												Ascent Time (M:S)				
				130	120	110	100	90	80	70	60	50	40	30	20	10	(M:S)			
60	220	1:20	AIR AIR/O ₂												40	110	151:40	3		
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																				
60	230	1:20	AIR AIR/O ₂												44	117	162:40	3		
															23	57	91:40			
60	240	1:20	AIR AIR/O ₂												47	123	171:40	3.5		
															25	60	96:40			
60	270	1:20	AIR AIR/O ₂												64	136	201:40	4		
															33	67	116:40			
Exceptional Exposure SurDO ₂ -----																				
60	300	1:20	AIR AIR/O ₂												79	155	235:40	4.5		
															41	71	128:40			
70	48	2:20	AIR AIR/O ₂													0	2:20	0	K	
														0	2:20					
70	50	2:00	AIR AIR/O ₂												2	4:20	0.5	K		
															1	3:20				
70	55	2:00	AIR AIR/O ₂												9	11:20	0.5	L		
															5	7:20				
70	60	2:00	AIR AIR/O ₂												15	17:20	0.5	L		
															9	11:20				
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																				
70	70	2:00	AIR AIR/O ₂												26	28:20	1	M		
															15	17:20				
70	80	2:00	AIR AIR/O ₂												35	37:20	1	N		
															20	22:20				
70	90	1:40	AIR AIR/O ₂												7	37	46:00	1	O	
															4	20	26:00			
70	100	1:40	AIR AIR/O ₂												12	47	61:00	1.5	Z	
															7	25	34:00			
70	110	1:40	AIR AIR/O ₂												17	54	73:00	1.5	Z	
															9	30	46:00			
70	120	1:40	AIR AIR/O ₂												21	62	85:00	2	Z	
															11	34	52:00			
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																				
70	130	1:40	AIR AIR/O ₂												25	73	100:00	2	Z	
															13	38	58:00			
70	140	1:40	AIR AIR/O ₂												31	82	115:00	2.5	Z	
															17	41	65:00			
70	150	1:40	AIR AIR/O ₂												39	88	129:00	2.5	Z	
															21	44	72:00			
70	160	1:20	AIR AIR/O ₂												1	47	92	141:40	3	Z
															1	24	47	83:40		
70	170	1:20	AIR AIR/O ₂												2	53	98	154:40	3	
															1	28	49	89:40		

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group			
				130	120	110	100	90	80	70	60	50	40	30	20				10		
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																					
70	180	1:20	AIR AIR/O ₂											4 2	57 30	107 52	169:40 95:40	3.5			
70	190	1:20	AIR AIR/O ₂											5 3	62 32	115 55	183:40 101:40	3.5			
70	200	1:20	AIR AIR/O ₂											9 5	63 33	124 58	197:40 112:40	4			
70	210	1:20	AIR AIR/O ₂											13 7	68 33	128 63	210:40 119:40	4			
Exceptional Exposure SurDO ₂ -----																					
70	240	1:20	AIR AIR/O ₂											25 13	80 39	153 69	259:40 137:40	4.5			
80	39	2:40	AIR AIR/O ₂													0 0	2:40 2:40	0	J		
															1 1	3:40 3:40	0.5	J			
80	40	2:20	AIR AIR/O ₂													10 6	12:40 8:40	0.5	K		
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																					
80	50	2:20	AIR AIR/O ₂													18 10	20:40 12:40	0.5	L		
80	55	2:20	AIR AIR/O ₂													26 15	28:40 17:40	1	M		
80	60	2:20	AIR AIR/O ₂													33 19	35:40 21:40	1	M		
80	70	2:00	AIR AIR/O ₂													9 5	35 20	46:20 27:20	1	O	
80	80	2:00	AIR AIR/O ₂													18 10	39 20	59:20 32:20	1.5	Z	
80	90	2:00	AIR AIR/O ₂													26 14	47 25	75:20 46:20	1.5	Z	
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																					
80	100	1:40	AIR AIR/O ₂													1 1	32 16	56 31	91:00 55:00	2	Z
80	110	1:40	AIR AIR/O ₂													6 3	32 17	72 35	112:00 62:00	2.5	Z
80	120	1:40	AIR AIR/O ₂													10 5	35 18	84 40	131:00 70:00	2.5	Z
80	130	1:40	AIR AIR/O ₂													14 7	42 22	91 43	149:00 84:00	3	Z
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																					
80	140	1:40	AIR AIR/O ₂													17 9	48 25	97 47	164:00 93:00	3	

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group				
				130	120	110	100	90	80	70	60	50	40	30	20	10						
80	150	1:40	AIR AIR/O ₂											19 10	55 29	107 50	183:00 101:00	3.5				
80	160	1:40	AIR AIR/O ₂											21 11	61 32	116 53	200:00 113:00	4				
80	170	1:40	AIR AIR/O ₂											27 14	63 33	126 56	218:00 120:00	4				
Exceptional Exposure SurDO ₂ -----																						
80	180	1:40	AIR AIR/O ₂											33 17	69 33	132 61	236:00 128:00	4.5				
80	210	1:40	AIR AIR/O ₂											51 26	80 39	164 69	297:00 156:00	5				
90	33	3:00	AIR AIR/O ₂													0 0	3:00 3:00	0	J			
	35	2:40	AIR AIR/O ₂													4 2	7:00 5:00	0.5	J			
	40	2:40	AIR AIR/O ₂													15 8	18:00 11:00	0.5	K			
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																						
90	45	2:40	AIR AIR/O ₂													25 14	28:00 17:00	1	L			
90	50	2:40	AIR AIR/O ₂													34 19	37:00 22:00	1	M			
90	55	2:20	AIR AIR/O ₂													7 4	35 19	44:40 25:40	1	N		
90	60	2:20	AIR AIR/O ₂													14 7	35 20	51:40 29:40	1	N		
90	70	2:20	AIR AIR/O ₂													26 14	37 20	65:40 36:40	1.5	Z		
90	80	2:00	AIR AIR/O ₂													5 3	31 16	48 25	86:20 51:20	2	Z	
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																						
90	90	2:00	AIR AIR/O ₂													13 7	31 16	63 31	109:20 61:20	2	Z	
90	100	2:00	AIR AIR/O ₂													19 10	32 17	80 36	133:20 70:20	2.5	Z	
90	110	2:00	AIR AIR/O ₂													25 13	37 18	91 42	155:20 85:20	3	Z	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																						
90	120	1:40	AIR AIR/O ₂													2 2	28 14	45 23	98 46	175:00 97:20	3.5	
90	130	1:40	AIR AIR/O ₂													5 5	28 14	54 29	110 49	199:00 109:20	3.5	
90	140	1:40	AIR AIR/O ₂													8 8	28 14	62 33	120 54	220:00 126:20	4	

Depth (FSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (FSW)												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group	
				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	10			
90	150	1:40	AIR										11	34	67	129	243:00	4	
			AIR/O ₂										11	17	33	59	137:20		
Exceptional Exposure SurDO ₂ -----																			
90	160	1:40	AIR										13	40	73	140	268:00	4.5	
			AIR/O ₂										13	20	35	63	148:20		
90	170	1:40	AIR										15	45	79	152	293:00	5	
			AIR/O ₂										15	23	38	66	164:20		
90	180	1:40	AIR										16	51	83	166	318:00	5	
			AIR/O ₂										16	26	40	70	174:20		
90	240	1:40	AIR										42	68	115	221	448:00	7	
			AIR/O ₂										42	34	55	99	262:20		
100	26	3:20	AIR													0	3:20	I	
			AIR/O ₂													0	3:20		
100	30	3:00	AIR													3	6:20	J	
			AIR/O ₂													2	5:20		
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																			
100	35	3:00	AIR													16	19:20	K	
			AIR/O ₂													9	12:20	0.5	
100	40	3:00	AIR													29	32:20	L	
			AIR/O ₂													16	19:20	1	
100	45	2:40	AIR												4	36	43:00	M	
			AIR/O ₂												2	20	25:00	1	
100	50	2:40	AIR												13	36	52:00	N	
			AIR/O ₂												7	20	30:00	1	
100	55	2:40	AIR												22	35	60:00	O	
			AIR/O ₂												12	19	34:00	1.5	
100	60	2:40	AIR												30	35	68:00	O	
			AIR/O ₂												16	20	44:00	1.5	
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																			
100	70	2:20	AIR											11	31	46	90:40	Z	
			AIR/O ₂											6	16	23	52:40	2	
100	80	2:20	AIR											21	32	64	119:40	Z	
			AIR/O ₂											11	17	29	64:40	2.5	
100	90	2:00	AIR											2	28	31	84	147:20	Z
			AIR/O ₂											2	14	17	36	81:40	2.5
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																			
100	100	2:00	AIR											9	28	40	95	174:20	Z
			AIR/O ₂											9	14	20	45	100:40	3
100	110	2:00	AIR											14	28	50	107	201:20	3.5
			AIR/O ₂											14	14	26	50	116:40	
100	120	2:00	AIR											19	28	58	121	228:20	4
			AIR/O ₂											19	14	31	54	135:40	

Depth (FSW)	Bottom Time (M)	Time to First Stop (M:S)	Gas Mix	DECOMPRESSION STOPS (FSW)												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group					
				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	10							
Exceptional Exposure SurDO ₂ -----																							
100	150	1:40	AIR AIR/O ₂									3 3	26 26	46 23	80 39	157 68	314:00 181:20	5					
110	20	3:40	AIR AIR/O ₂													0 0	3:40 3:40	0 H					
	25	3:20	AIR AIR/O ₂													5 3	8:40 6:40	0.5 I					
	30	3:20	AIR AIR/O ₂													14 8	17:40 11:40	0.5 K					
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																							
110	35	3:00	AIR AIR/O ₂													2 1	27 15	32:20 19:20	1 L				
110	40	3:00	AIR AIR/O ₂													6 4	36 19	45:20 26:20	1 M				
110	45	3:00	AIR AIR/O ₂													17 9	36 20	56:20 32:20	1.5 N				
110	50	3:00	AIR AIR/O ₂													28 15	35 19	66:20 37:20	1.5 O				
110	55	2:40	AIR AIR/O ₂											5 3	32 16	35 20	75:00 47:00	1.5 Z					
110	60	2:40	AIR AIR/O ₂											13 7	31 16	42 20	89:00 51:00	2 Z					
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																							
110	70	2:40	AIR AIR/O ₂													26 14	32 16	61 27	122:00 65:20	2.5 Z			
110	80	2:20	AIR AIR/O ₂													9 9	28 14	31 17	85 36	155:40 89:00	2.5 Z		
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																							
110	90	2:20	AIR AIR/O ₂													18 18	28 14	41 21	97 46	186:40 112:00	3 Z		
110	100	2:20	AIR AIR/O ₂													25 25	28 14	50 27	113 51	218:40 130:00	3.5		
110	110	2:00	AIR AIR/O ₂													5 5	26 26	28 14	63 32	126 57	250:20 151:40	4	
Exceptional Exposure SurDO ₂ -----																							
110	120	2:00	AIR AIR/O ₂													10 10	26 26	35 18	74 35	138 64	285:20 170:40	4.5	
110	180	1:40	AIR AIR/O ₂													3 3	23 23	47 47	68 34	116 56	221 99	480:00 293:20	7
120	15	4:00	AIR AIR/O ₂													0 0	4:00 4:00	0	F				
	20	3:40	AIR AIR/O ₂													4 3	8:00 7:00	0.5	H				

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)		Chamber O ₂ Periods	Repet Group			
				130	120	110	100	90	80	70	60	50	40	30	20	10						
120	25	3:20	AIR AIR/O ₂											1 1	9 5	13:40 9:40	0.5	J				
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																						
120	30	3:20	AIR AIR/O ₂											5 3	20 11	28:40 17:40	1	K				
120	35	3:20	AIR AIR/O ₂											7 4	34 19	44:40 26:40	1	L				
120	40	3:00	AIR AIR/O ₂											2 1	17 9	35 20	57:20 33:20	1.5	N			
120	45	3:00	AIR AIR/O ₂											3 2	28 14	35 20	69:20 39:20	1.5	O			
120	50	3:00	AIR AIR/O ₂											10 5	31 17	35 19	79:20 49:20	2	Z			
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																						
120	55	3:00	AIR AIR/O ₂											19 10	31 16	43 20	96:20 54:20	2	Z			
120	60	3:00	AIR AIR/O ₂											27 14	31 16	53 23	114:20 61:40	2	Z			
120	70	2:40	AIR AIR/O ₂											13 13	28 14	31 17	81 34	156:00 86:20	2.5	Z		
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																						
120	80	2:40	AIR AIR/O ₂											24 24	28 14	39 20	97 46	191:00 117:20	3	Z		
120	90	2:20	AIR AIR/O ₂											7 7	26 26	28 14	51 27	116 53	230:40 140:00	3.5		
120	100	2:20	AIR AIR/O ₂											15 15	25 25	28 14	68 34	128 59	266:40 165:00	4		
Exceptional Exposure SurDO ₂ -----																						
120	110	2:20	AIR AIR/O ₂											21 21	25 25	38 19	77 37	145 66	308:40 186:00	4.5		
120	120	2:00	AIR AIR/O ₂											3 3	23 23	25 25	47 24	85 42	165 70	350:20 209:40	5	
130	12	4:20	AIR AIR/O ₂													0 0	4:20 4:20	0	F			
	130	15	4:00	AIR AIR/O ₂												3 2	7:20 6:20	0.5	G			
	130	20	3:40	AIR AIR/O ₂											1 1	8 4	13:00 9:00	0.5	I			
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																						
130	25	3:40	AIR AIR/O ₂												6 3	12 7	22:00 14:00	0.5	K			
130	30	3:20	AIR AIR/O ₂												2 1	8 4	27 15	40:40 23:40	1	L		

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group						
				130	120	110	100	90	80	70	60	50	40	30	20				10					
130	35	3:20	AIR AIR/O ₂											5 3	12 6	35 20	55:40 32:40	1.5	M					
130	40	3:20	AIR AIR/O ₂											6 3	25 13	35 20	69:40 39:40	1.5	O					
130	45	3:00	AIR AIR/O ₂											1 1	11 6	31 16	36 20	82:20 51:40	2	Z				
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																								
130	50	3:00	AIR AIR/O ₂											2 2	20 10	32 17	43 20	100:20 57:40	2	Z				
130	55	3:00	AIR AIR/O ₂											4 4	28 14	31 17	55 23	121:20 66:40	2	Z				
130	60	3:00	AIR AIR/O ₂											12 12	28 14	32 17	71 30	146:20 81:40	2.5	Z				
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																								
130	70	2:40	AIR AIR/O ₂											1 1	26 26	28 14	35 17	95 45	188:00 116:20	3	Z			
130	80	2:40	AIR AIR/O ₂											12 12	26 26	28 14	49 26	115 52	233:00 143:20	3.5				
130	90	2:40	AIR AIR/O ₂											22 22	25 25	28 14	68 33	128 60	274:00 172:20	4				
Exceptional Exposure SurDO ₂ -----																								
130	100	2:20	AIR AIR/O ₂											6 6	23 23	26 20	38 38	80 66	147 197	322:40 197:00	5			
130	120	2:20	AIR AIR/O ₂											17 17	24 24	27 27	57 29	97 48	192 79	416:40 252:00	6			
130	180	2:00	AIR AIR/O ₂											13 13	21 21	45 45	57 46	94 73	162 121	236 413	630:20 413:40	9		
140	10	4:40	AIR AIR/O ₂															0 0	4:40 4:40	0	E			
	140	15	4:00	AIR AIR/O ₂														1 1	4 2	9:20 7:20	0.5	H		
	140	20	4:00	AIR AIR/O ₂														5 3	9 5	18:20 12:20	0.5	J		
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																								
140	25	3:40	AIR AIR/O ₂															3 2	8 4	17 9	32:00 19:00	1	L	
140	30	3:40	AIR AIR/O ₂															7 4	7 4	33 17	51:00 29:00	1	M	
140	35	3:20	AIR AIR/O ₂															2 2	7 4	19 10	36 19	67:40 39:00	1.5	N
140	40	3:20	AIR AIR/O ₂															4 4	7 4	31 16	36 20	81:40 53:00	1.5	O

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group		
				130	120	110	100	90	80	70	60	50	40	30	20				10	
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																				
140	45	3:20	AIR									5	18	32	42	100:40	2	Z		
			AIR/O ₂									5	9	17	20	60:00				
140	50	3:20	AIR									8	27	31	55	124:40	2	Z		
			AIR/O ₂									8	14	16	24	71:20				
140	55	3:00	AIR									1	15	29	31	72	151:20	2.5	Z	
			AIR/O ₂									1	15	15	16	30	85:40			
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																				
140	60	3:00	AIR									2	23	28	32	87	175:20	3	Z	
			AIR/O ₂									2	23	14	17	38	107:40			
140	70	3:00	AIR									14	25	29	45	109	225:20	3.5		
			AIR/O ₂									14	25	15	23	50	140:40			
140	80	2:40	AIR									2	24	25	29	63	128	274:00	4	
			AIR/O ₂									2	24	25	15	31	58	173:20		
Exceptional Exposure SurDO ₂ -----																				
140	90	2:40	AIR									12	23	26	38	79	148	329:00	5	
			AIR/O ₂									12	23	26	19	39	66	203:20		
150	8	5:00	AIR													0	5:00	0	E	
			AIR/O ₂													0	5:00			
150	10	4:40	AIR													2	7:00	0.5	F	
			AIR/O ₂													1	6:00			
150	15	4:20	AIR												3	6	13:40	0.5	H	
			AIR/O ₂												2	3	9:40			
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																				
150	20	4:00	AIR											2	7	9	22:20	0.5	K	
			AIR/O ₂											1	4	5	14:20			
150	25	4:00	AIR											7	8	23	42:20	1	L	
			AIR/O ₂											4	4	12	24:20			
150	30	3:40	AIR									4	7	11	36	62:00	1.5	N		
			AIR/O ₂									4	4	6	19	37:20				
150	35	3:40	AIR									6	7	26	35	78:00	1.5	O		
			AIR/O ₂									6	4	13	20	52:20				
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																				
150	40	3:20	AIR									2	6	14	32	40	97:40	2	Z	
			AIR/O ₂									2	6	7	17	20	61:00			
150	45	3:20	AIR									3	8	24	31	53	122:40	2	Z	
			AIR/O ₂									3	8	12	17	23	72:00			
150	50	3:20	AIR									4	14	28	32	71	152:40	2.5	Z	
			AIR/O ₂									4	14	14	17	30	88:00			
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																				
150	55	3:20	AIR									7	21	28	32	88	179:40	3	Z	
			AIR/O ₂									7	21	14	17	38	111:00			
150	60	3:20	AIR									11	26	28	38	99	205:40	3	Z	
			AIR/O ₂									11	26	14	19	47	131:00			

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group	
				130	120	110	100	90	80	70	60	50	40	30	20	10			
150	70	3:00	AIR AIR/O ₂							3	24	25	28	56	124	263:20	4		
Exceptional Exposure SurDO ₂ -----																			
150	80	3:00	AIR AIR/O ₂							15	23	26	35	77	143	322:20	4.5		
150	90	2:40	AIR AIR/O ₂						3	22	23	26	47	89	173	386:00	5.5		
150	120	2:20	AIR AIR/O ₂					3	20	22	23	50	75	123	227	545:40	7.5		
150	180	2:00	AIR AIR/O ₂					2	19	20	42	48	79	121	197	237	767:20	10.5	
160																			
160	7	5:20	AIR AIR/O ₂												0	5:20	0	E	
160	10	5:00	AIR AIR/O ₂												4	9:20	0.5	F	
160	15	4:20	AIR AIR/O ₂										2	3	8	17:40	0.5	I	
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																			
160	20	4:00	AIR AIR/O ₂									1	4	8	12	29:20	0.5	K	
160	25	4:00	AIR AIR/O ₂									4	7	8	29	52:20	1	M	
160	30	3:40	AIR AIR/O ₂									2	6	7	18	36	73:00	1.5	O
160	35	3:40	AIR AIR/O ₂									4	6	8	32	36	90:00	2	Z
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																			
160	40	3:40	AIR AIR/O ₂									6	6	21	31	48	116:00	2	Z
160	45	3:20	AIR AIR/O ₂							2	5	11	28	32	68	149:40	2.5	Z	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																			
160	50	3:20	AIR AIR/O ₂							2	8	19	28	32	87	179:40	2.5	Z	
160	55	3:20	AIR AIR/O ₂							3	11	26	28	38	98	207:40	3	Z	
160	60	3:20	AIR AIR/O ₂							6	17	25	29	47	114	241:40	3.5		
Exceptional Exposure SurDO ₂ -----																			
160	70	3:20	AIR AIR/O ₂							15	23	26	29	73	134	303:40	4.5		
160	80	3:00	AIR AIR/O ₂							6	21	24	25	44	87	165	375:20	5	

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group	
				130	120	110	100	90	80	70	60	50	40	30	20				10
170	7	5:40	AIR AIR/O ₂													0 0	5:40 5:40	0	E
170	10	5:00	AIR AIR/O ₂												2 1	4 3	11:20 9:20	0.5	G
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																			
170	15	4:40	AIR AIR/O ₂											3 2	5 2	8 5	21:00 14:00	0.5	J
170	20	4:20	AIR AIR/O ₂										3 3	6 3	8 4	17 9	38:40 24:00	1	L
170	25	4:00	AIR AIR/O ₂								1 1	7 7	7 4	8 4	35 19	62:20 39:40		1	N
170	30	4:00	AIR AIR/O ₂								5 5	7 7	7 3	24 13	35 20	82:20 52:40		1.5	O
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																			
170	35	3:40	AIR AIR/O ₂								2 2	6 6	6 8	15 16	31 21	45 68:20		2	Z
170	40	3:40	AIR AIR/O ₂								4 4	6 6	9 12	25 17	31 28	63 85:20		2.5	Z
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																			
170	45	3:40	AIR AIR/O ₂								5 5	7 7	16 16	28 14	32 17	83 35	175:00 108:20	2.5	Z
170	50	3:20	AIR AIR/O ₂							1 1	5 5	11 11	23 23	28 14	38 19	97 46	206:40 133:00	3	Z
170	55	3:20	AIR AIR/O ₂							2 2	7 7	16 16	26 26	28 14	47 25	113 52	242:40 156:00	3.5	
170	60	3:20	AIR AIR/O ₂							2 2	11 11	21 21	26 26	28 14	59 30	126 57	276:40 180:00	4	
Exceptional Exposure SurDO ₂ -----																			
170	70	3:20	AIR AIR/O ₂							7 7	19 19	24 24	25 25	39 20	81 40	152 67	350:40 226:00	5	
170	80	3:20	AIR AIR/O ₂							17 17	22 22	23 23	26 26	53 27	94 47	188 77	426:40 263:00	6	
170	90	3:00	AIR AIR/O ₂						8 8	19 19	22 22	23 23	37 37	66 33	111 52	211 92	500:20 314:40	6.5	
170	120	2:40	AIR AIR/O ₂					9 9	19 19	20 20	22 22	42 42	60 60	94 46	162 74	236 121	667:00 450:20	9	
170	180	2:20	AIR AIR/O ₂					10 10	18 18	19 19	40 40	43 43	70 70	97 74	156 103	206 123	898:40 645:00	11	
180	6	6:00	AIR AIR/O ₂													0 0	6:00 6:00	0	E
180	10	5:20	AIR AIR/O ₂												4 2	4 3	13:40 10:40	0.5	G

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group			
				130	120	110	100	90	80	70	60	50	40	30	20				10		
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																					
180	15	4:40	AIR AIR/O ₂									2 2	3 2	6 3	9 5	25:00 17:20	0.5	J			
180	20	4:20	AIR AIR/O ₂									1 1	5 5	7 3	7 4	23 13			47:40 31:00	1	M
180	25	4:20	AIR AIR/O ₂									5 5	6 6	7 4	14 7	36 20	72:40 47:00	1.5	N		
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																					
180	30	4:00	AIR AIR/O ₂									3 3	6 6	6 4	7 16	31 20	39 20	96:20 64:40	1.5	Z	
180	35	3:40	AIR AIR/O ₂						1 1	5 5	6 6	6 6	22 11	31 17	55 25	130:00 80:20	2	Z			
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																					
180	40	3:40	AIR AIR/O ₂									2 2	6 6	5 5	13 13	28 14	76 17	166:00 98:20	2.5	Z	
180	45	3:40	AIR AIR/O ₂									4 4	5 5	10 10	20 20	28 14	36 18	95 44			202:00 129:20
180	50	3:40	AIR AIR/O ₂									4 4	8 8	13 13	25 25	29 15	45 23	110 51	238:00 153:20	3.5	
180	55	3:40	AIR AIR/O ₂									5 5	11 11	19 19	26 26	28 14	58 30	124 56	275:00 180:20		
Exceptional Exposure SurDO ₂ -----																					
180	60	3:20	AIR AIR/O ₂						1 1	8 8	13 13	23 23	25 25	31 16	74 35	136 63	314:40 203:00	4.5			
180	70	3:20	AIR AIR/O ₂						4 4	12 12	21 21	24 24	25 25	48 24	89 45	174 72	400:40 251:00			5.5	
190	5	6:20	AIR AIR/O ₂													0 0	6:20 6:20	0	D		
190	10	5:20	AIR AIR/O ₂											2 1	4 2	4 3	15:40 11:40			0.5	H
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																					
190	15	4:40	AIR AIR/O ₂									1 1	3 3	3 2	8 4	8 4	28:00 19:20	0.5	K		
190	20	4:20	AIR AIR/O ₂									1 1	2 2	6 6	7 4	8 4	28 15			56:40 37:00	1
190	25	4:20	AIR AIR/O ₂									2 2	6 6	7 7	7 3	20 11	35 20	81:40 54:00	1.5	O	
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																					
190	30	4:00	AIR AIR/O ₂									1 1	6 6	5 5	7 7	13 16	46 22	113:20 73:40	2	Z	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																					
190	35	4:00	AIR AIR/O ₂									4 4	5 5	6 6	8 13	26 17	32 29	67 29	152:20 91:40	2.5	Z

Depth (FSW)	Bottom Time (M)	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													Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				130	120	110	100	90	80	70	60	50	40	30	20	10			
190	40	3:40	AIR						1	5	5	8	17	28	33	90	191:00	3	Z
			AIR/O ₂						1	5	5	8	17	15	16	40	121:20		
190	45	3:40	AIR						2	5	6	12	24	29	43	104	229:00	3.5	
			AIR/O ₂						2	5	6	12	24	15	22	48	148:20		
190	50	3:40	AIR						3	5	10	17	26	28	55	122	270:00	4	
			AIR/O ₂						3	5	10	17	26	14	29	55	178:20		
Exceptional Exposure SurDO ₂ -----																			
190	55	3:40	AIR						4	8	10	24	25	30	72	134	311:00	4.5	
			AIR/O ₂						4	8	10	24	25	15	35	62	202:20		
190	60	3:40	AIR						5	10	16	24	25	40	81	153	358:00	5	
			AIR/O ₂						5	10	16	24	25	20	40	67	231:20		
190	90	3:20	AIR					11	19	20	21	28	51	83	135	232	603:40	8	
			AIR/O ₂					11	19	20	21	28	51	41	63	111	399:00		
190	120	3:00	AIR				15	17	19	20	37	46	79	113	194	237	780:20	10	
			AIR/O ₂				15	17	19	20	37	46	79	55	92	123	546:40		

200

Exceptional Exposure-----																			
200	5	6:40	AIR													0	6:40	0	
			AIR/O ₂													0	6:40		
200	10	5:40	AIR											3	4	5	18:00	0.5	
			AIR/O ₂											2	2	2	12:00		
200	15	5:00	AIR								2	3	5	8	12	35:20	0.5		
			AIR/O ₂								2	3	3	4	6	23:40			
200	20	4:40	AIR								2	4	6	7	8	35	67:00	1	
			AIR/O ₂								2	4	6	4	4	19	44:20		
200	25	4:20	AIR						1	5	6	6	7	27	38	94:40	1.5		
			AIR/O ₂						1	5	6	6	4	14	19	65:00			
200	30	4:20	AIR						4	6	5	7	19	32	54	131:40	2		
			AIR/O ₂						4	6	5	7	10	16	26	84:00			
200	35	4:00	AIR					2	5	5	6	13	28	32	80	175:20	2.5		
			AIR/O ₂					2	5	5	6	13	14	17	34	105:40			
200	40	4:00	AIR					4	5	5	11	21	28	40	98	216:20	3		
			AIR/O ₂					4	5	5	11	21	14	20	47	141:40			
200	45	3:40	AIR					1	4	5	10	14	25	28	52	117	260:00	3.5	
			AIR/O ₂					1	4	5	10	14	25	14	27	54	168:20		
200	50	3:40	AIR					2	4	8	10	21	26	28	70	129	302:00	4	
			AIR/O ₂					2	4	8	10	21	26	14	34	61	199:20		

210

Exceptional Exposure-----																			
210	4	7:00	AIR													0	7:00	0	
			AIR/O ₂													0	7:00		

Depth (FSW)	Bottom Time (M)	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														Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				130	120	110	100	90	80	70	60	50	40	30	20	10				
210	5	6:40	AIR AIR/O ₂													2 1	9:00 8:00	0.5		
210	10	5:40	AIR AIR/O ₂									2 2	3 2	4 2	6 3	21:00 15:20	0.5			
210	15	5:00	AIR AIR/O ₂							1 1	3 3	3 3	6 3	8 4	17 9	43:20 28:40	1			
210	20	4:40	AIR AIR/O ₂							1 1	3 3	5 5	6 6	7 4	13 6	36 20	76:00 50:20	1.5		
210	25	4:40	AIR AIR/O ₂							3 3	6 6	5 5	7 7	8 4	32 17	42 21	108:00 73:20	2		
210	30	4:20	AIR AIR/O ₂							2 2	5 5	6 6	6 6	26 13	31 17	67 29	153:40 94:00	2.5		
210	35	4:00	AIR AIR/O ₂					1 1	4 4	5 5	6 6	7 7	18 18	28 14	34 17	92 42	199:20 128:40	3		
210	40	4:00	AIR AIR/O ₂					2 2	5 5	5 5	7 7	11 11	26 26	28 14	46 24	109 51	243:20 159:40	3.5		
210	45	4:00	AIR AIR/O ₂					4 4	4 4	6 6	11 11	18 18	26 26	28 14	63 32	126 57	290:20 191:40	4		
210	50	3:40	AIR AIR/O ₂				1 1	4 4	5 5	10 10	12 12	23 23	26 26	36 18	78 38	144 65	343:00 221:20	4.5		

220

Exceptional Exposure-----																											
220	4	7:20	AIR													0	7:20	0									
			AIR/O ₂													0	7:20										
220	5	7:00	AIR													3	10:20	0.5									
			AIR/O ₂													2	9:20										
220	10	6:00	AIR													3	4	3	8	24:20	0.5						
			AIR/O ₂													3	2	2	4	17:40							
220	15	5:20	AIR													3	2	4	7	8	22	51:40	1				
			AIR/O ₂													3	2	4	4	3	13	35:00					
220	20	5:00	AIR													2	4	6	6	7	19	35	84:20	1.5			
			AIR/O ₂													2	4	6	6	4	9	20	56:40				
220	25	4:40	AIR													1	5	6	6	6	14	32	49	124:00	2		
			AIR/O ₂													1	5	6	6	6	7	17	24	82:20			
220	30	4:20	AIR													1	4	5	6	6	10	28	31	79	174:40	2.5	
			AIR/O ₂													1	4	5	6	6	10	14	17	34	107:00		
220	35	4:20	AIR													3	5	5	5	10	22	28	41	98	221:40	3	
			AIR/O ₂													3	5	5	5	10	22	14	21	46	146:00		
220	40	4:00	AIR													1	4	5	5	9	15	26	28	54	121	272:20	4
			AIR/O ₂													1	4	5	5	9	15	26	14	29	54	181:40	

Depth (FSW)	Bottom Time (M)	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													Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				130	120	110	100	90	80	70	60	50	40	30	20	10			

250

Exceptional Exposure-----																			
250	5	7:40	AIR													3	5	16:00	0.5
			AIR/O ₂													2	2	12:00	
250	10	6:20	AIR							2	2	4	3	6	10	33:40		0.5	
			AIR/O ₂							2	2	4	2	3	5	25:00			
250	15	5:40	AIR					2	2	3	4	6	7	11	36	77:00		1.5	
			AIR/O ₂					2	2	3	4	6	4	5	20	52:20			
250	20	5:20	AIR					2	2	4	6	6	6	11	32	46	120:40		2
			AIR/O ₂					2	2	4	6	6	6	6	16	24	83:00		
250	25	5:00	AIR			1	4	4	5	6	6	10	28	32	81	182:20		2.5	
			AIR/O ₂			1	4	4	5	6	6	10	14	17	35	117:40			
250	30	4:40	AIR			1	4	4	4	5	6	9	25	28	45	104	240:00		3.5
			AIR/O ₂			1	4	4	4	5	6	9	25	15	22	49	159:20		
250	35	4:40	AIR			3	4	4	5	5	10	19	26	28	65	128	302:00		4
			AIR/O ₂			3	4	4	5	5	10	19	26	14	32	59	201:20		

300

Exceptional Exposure-----																			
300	5	8:40	AIR										3	3	4	4	23:00		0.5
			AIR/O ₂										3	2	2	2	18:20		
300	10	7:20	AIR					2	3	2	3	4	7	8	30	66:40		1	
			AIR/O ₂					2	3	2	3	4	4	4	16	46:00			
300	15	6:20	AIR			1	2	2	3	3	5	6	7	11	31	47	124:40		2
			AIR/O ₂			1	2	2	3	3	5	6	7	6	16	23	86:00		
300	20	6:00	AIR			2	2	2	4	5	5	5	6	16	28	34	90	205:20	3
			AIR/O ₂			2	2	2	4	5	5	5	6	16	14	17	41	135:40	
300	25	5:40	AIR	1	3	4	4	4	4	5	5	5	18	26	28	55	123	287:00	4
			AIR/O ₂	1	3	4	4	4	4	5	5	5	18	26	14	29	56	195:20	

**APPENDIX I FSW AIR DECOMPRESSION TABLE WITH 20 FSW LAST STOP.
VVAL-79 THALMANN ALGORITHM**

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				130	120	110	100	90	80	70	60	50	40	30	20			
30	371	1:00	AIR AIR/O ₂											0 0	0 0	1:00 1:00	0	Z
30	380	0:20	AIR AIR/O ₂											5 1	0 0	6:00 2:00	0.5	Z
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																		
30	420	0:20	AIR AIR/O ₂											22 5	0 0	23:00 6:00	0.5	Z
30	480	0:20	AIR AIR/O ₂											42 9	0 0	43:00 10:00	0.5	
30	540	0:20	AIR AIR/O ₂											71 14	0 0	72:00 15:00	1	
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																		
30	600	0:20	AIR AIR/O ₂											92 19	0 0	93:00 20:00	1	
30	660	0:20	AIR AIR/O ₂											120 22	0 0	121:00 23:00	1	
30	720	0:20	AIR AIR/O ₂											158 27	0 0	159:00 28:00	1	
35	232	1:10	AIR AIR/O ₂											0 0	0 0	1:10 1:10	0	Z
35	240	0:30	AIR AIR/O ₂											4 2	0 0	5:10 3:10	0.5	Z
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																		
35	270	0:30	AIR AIR/O ₂											28 7	0 0	29:10 8:10	0.5	Z
35	300	0:30	AIR AIR/O ₂											53 13	0 0	54:10 14:10	0.5	Z
35	330	0:30	AIR AIR/O ₂											71 18	0 0	72:10 19:10	1	Z
35	360	0:30	AIR AIR/O ₂											88 22	0 0	89:10 23:10	1	
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																		
35	420	0:30	AIR AIR/O ₂											134 29	0 0	135:10 30:10	1.5	
35	480	0:30	AIR AIR/O ₂											173 38	0 0	174:10 44:10	1.5	
35	540	0:30	AIR AIR/O ₂											228 45	0 0	229:10 51:10	2	
35	600	0:30	AIR AIR/O ₂											277 53	0 0	278:10 59:10	2	

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)		Chamber O ₂ Periods	Repet Group
				130	120	110	100	90	80	70	60	50	40	30	20	10			
35	660	0:30	AIR AIR/O ₂												314 63	0 0	315:10 69:10	2.5	
35	720	0:30	AIR AIR/O ₂												342 71	0 0	343:10 82:10	3	
40	163	1:20	AIR AIR/O ₂												0 0	0 0	1:20 1:20	0	O
	40	170	0:40	AIR AIR/O ₂											6 2	0 0	7:20 3:20	0.5	O
40	180	0:40	AIR AIR/O ₂												14 5	0 0	15:20 6:20	0.5	Z
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																			
40	190	0:40	AIR AIR/O ₂												21 7	0 0	22:20 8:20	0.5	Z
40	200	0:40	AIR AIR/O ₂												27 9	0 0	28:20 10:20	0.5	Z
40	210	0:40	AIR AIR/O ₂												39 11	0 0	40:20 12:20	0.5	Z
40	220	0:40	AIR AIR/O ₂												52 12	0 0	53:20 13:20	0.5	Z
40	230	0:40	AIR AIR/O ₂												64 16	0 0	65:20 17:20	1	Z
40	240	0:40	AIR AIR/O ₂												75 19	0 0	76:20 20:20	1	Z
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																			
40	270	0:40	AIR AIR/O ₂												101 26	0 0	102:20 27:20	1	Z
40	300	0:40	AIR AIR/O ₂												128 33	0 0	129:20 34:20	1.5	
40	330	0:40	AIR AIR/O ₂												160 38	0 0	161:20 44:20	1.5	
40	360	0:40	AIR AIR/O ₂												184 44	0 0	185:20 50:20	2	
40	420	0:40	AIR AIR/O ₂												248 56	0 0	249:20 62:20	2.5	
40	480	0:40	AIR AIR/O ₂												321 68	0 0	322:20 79:20	2.5	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																			
40	540	0:40	AIR AIR/O ₂												372 80	0 0	373:20 91:20	3	
40	600	0:40	AIR AIR/O ₂												410 93	0 0	411:20 104:20	3.5	
40	660	0:40	AIR AIR/O ₂												439 103	0 0	440:20 119:20	4	

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group	
				130	120	110	100	90	80	70	60	50	40	30	20				10
Exceptional Exposure SurDO ₂ -----																			
40	720	0:40	AIR AIR/O ₂												461 112	0 0	462:20 128:20	4.5	
45	125	1:30	AIR AIR/O ₂												0 0	0 0	1:30 1:30	0	N
45	130	0:50	AIR AIR/O ₂												2 1	0 0	3:30 2:30	0.5	O
45	140	0:50	AIR AIR/O ₂												14 5	0 0	15:30 6:30	0.5	O
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																			
45	150	0:50	AIR AIR/O ₂												25 8	0 0	26:30 9:30	0.5	Z
45	160	0:50	AIR AIR/O ₂												34 11	0 0	35:30 12:30	0.5	Z
45	170	0:50	AIR AIR/O ₂												41 14	0 0	42:30 15:30	1	Z
45	180	0:50	AIR AIR/O ₂												59 17	0 0	60:30 18:30	1	Z
45	190	0:50	AIR AIR/O ₂												75 19	0 0	76:30 20:30	1	Z
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																			
45	200	0:50	AIR AIR/O ₂												89 23	0 0	90:30 24:30	1	Z
45	210	0:50	AIR AIR/O ₂												101 27	0 0	102:30 28:30	1	Z
45	220	0:50	AIR AIR/O ₂												112 30	0 0	113:30 31:30	1.5	Z
45	230	0:50	AIR AIR/O ₂												121 33	0 0	122:30 34:30	1.5	Z
45	240	0:50	AIR AIR/O ₂												130 37	0 0	131:30 43:30	1.5	Z
45	270	0:50	AIR AIR/O ₂												173 45	0 0	174:30 51:30	2	
45	300	0:50	AIR AIR/O ₂												206 51	0 0	207:30 57:30	2	
45	330	0:50	AIR AIR/O ₂												243 61	0 0	244:30 67:30	2.5	
45	360	0:50	AIR AIR/O ₂												288 69	0 0	289:30 80:30	3	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																			
45	420	0:50	AIR AIR/O ₂												373 84	0 0	374:30 95:30	3.5	
45	480	0:50	AIR AIR/O ₂												431 101	0 0	432:30 117:30	4	

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group	
				130	120	110	100	90	80	70	60	50	40	30	20				10
Exceptional Exposure SurDO ₂ -----																			
45	540	0:50	AIR AIR/O ₂												473 117	0 0	474:30 133:30	4.5	
50	92	1:40	AIR AIR/O ₂												0 0	0 0	1:40 1:40	0	M
														2 1	0 0	3:40 2:40	0.5	M	
50	95	1:00	AIR AIR/O ₂												4 2	0 0	5:40 3:40	0.5	N
50	100	1:00	AIR AIR/O ₂												8 4	0 0	9:40 5:40	0.5	O
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																			
50	120	1:00	AIR AIR/O ₂												21 7	0 0	22:40 8:40	0.5	O
50	130	1:00	AIR AIR/O ₂												34 12	0 0	35:40 13:40	0.5	Z
50	140	1:00	AIR AIR/O ₂												45 16	0 0	46:40 17:40	1	Z
50	150	1:00	AIR AIR/O ₂												56 19	0 0	57:40 20:40	1	Z
50	160	1:00	AIR AIR/O ₂												78 23	0 0	79:40 24:40	1	Z
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																			
50	170	1:00	AIR AIR/O ₂												96 26	0 0	97:40 27:40	1	Z
50	180	1:00	AIR AIR/O ₂												111 30	0 0	112:40 31:40	1.5	Z
50	190	1:00	AIR AIR/O ₂												125 35	0 0	126:40 36:40	1.5	Z
50	200	1:00	AIR AIR/O ₂												136 39	0 0	137:40 45:40	1.5	Z
50	210	1:00	AIR AIR/O ₂												147 43	0 0	148:40 49:40	2	
50	220	1:00	AIR AIR/O ₂												166 47	0 0	167:40 53:40	2	
50	230	1:00	AIR AIR/O ₂												183 50	0 0	184:40 56:40	2	
50	240	1:00	AIR AIR/O ₂												198 53	0 0	199:40 59:40	2	
50	270	1:00	AIR AIR/O ₂												236 62	0 0	237:40 68:40	2.5	
50	300	1:00	AIR												285	0	286:40	3	

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group		
				130	120	110	100	90	80	70	60	50	40	30	20	10	(M:S)			
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																				
50	330	1:00	AIR													345	0	346:40	3.5	
			AIR/O ₂													83	0	94:40		
50	360	1:00	AIR													393	0	394:40	3.5	
			AIR/O ₂													92	0	103:40		
Exceptional Exposure SurDO ₂ -----																				
50	420	1:00	AIR													464	0	465:40	4.5	
			AIR/O ₂													113	0	129:40		
55	74	1:50	AIR													0	0	1:50	0	L
			AIR/O ₂													0	0	1:50		
55	75	1:10	AIR													1	0	2:50	0.5	L
			AIR/O ₂													1	0	2:50		
55	80	1:10	AIR													4	0	5:50	0.5	M
			AIR/O ₂													2	0	3:50		
55	90	1:10	AIR													10	0	11:50	0.5	N
			AIR/O ₂													5	0	6:50		
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																				
55	100	1:10	AIR													17	0	18:50	0.5	O
			AIR/O ₂													8	0	9:50		
55	110	1:10	AIR													34	0	35:50	0.5	O
			AIR/O ₂													12	0	13:50		
55	120	1:10	AIR													48	0	49:50	1	Z
			AIR/O ₂													17	0	18:50		
55	130	1:10	AIR													59	0	60:50	1	Z
			AIR/O ₂													22	0	23:50		
55	140	1:10	AIR													84	0	85:50	1	Z
			AIR/O ₂													26	0	27:50		
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																				
55	150	1:10	AIR													105	0	106:50	1.5	Z
			AIR/O ₂													30	0	31:50		
55	160	1:10	AIR													123	0	124:50	1.5	Z
			AIR/O ₂													34	0	35:50		
55	170	1:10	AIR													138	0	139:50	1.5	Z
			AIR/O ₂													40	0	46:50		
55	180	1:10	AIR													151	0	152:50	2	Z
			AIR/O ₂													45	0	51:50		
55	190	1:10	AIR													169	0	170:50	2	
			AIR/O ₂													50	0	56:50		
55	200	1:10	AIR													190	0	191:50	2	
			AIR/O ₂													54	0	60:50		
55	210	1:10	AIR													208	0	209:50	2.5	
			AIR/O ₂													58	0	64:50		
55	220	1:10	AIR													224	0	225:50	2.5	
			AIR/O ₂													62	0	68:50		

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				130	120	110	100	90	80	70	60	50	40	30	20			
55	230	1:10	AIR AIR/O ₂											239 66	0 0	240:50 77:50	2.5	
55	240	1:10	AIR AIR/O ₂											254 69	0 0	255:50 80:50	3	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																		
55	270	1:10	AIR AIR/O ₂											313 83	0 0	314:50 94:50	3.5	
55	300	1:10	AIR AIR/O ₂											380 94	0 0	381:50 105:50	3.5	
55	330	1:10	AIR AIR/O ₂											432 106	0 0	433:50 122:50	4	
Exceptional Exposure SurDO ₂ -----																		
55	360	1:10	AIR AIR/O ₂											474 118	0 0	475:50 134:50	4.5	
60	63	2:00	AIR AIR/O ₂											0 0	0 0	2:00 2:00	0	K
	60	65	1:20	AIR AIR/O ₂										2 1	0 0	4:00 3:00	0.5	L
	60	70	1:20	AIR AIR/O ₂										7 4	0 0	9:00 6:00	0.5	L
	60	80	1:20	AIR AIR/O ₂										14 7	0 0	16:00 9:00	0.5	N
	In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																	
60	90	1:20	AIR AIR/O ₂											23 10	0 0	25:00 12:00	0.5	O
60	100	1:20	AIR AIR/O ₂											42 15	0 0	44:00 17:00	1	Z
60	110	1:20	AIR AIR/O ₂											57 21	0 0	59:00 23:00	1	Z
60	120	1:20	AIR AIR/O ₂											75 26	0 0	77:00 28:00	1	Z
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																		
60	130	1:20	AIR AIR/O ₂											102 31	0 0	104:00 33:00	1.5	Z
60	140	1:20	AIR AIR/O ₂											124 35	0 0	126:00 37:00	1.5	Z
60	150	1:20	AIR AIR/O ₂											143 41	0 0	145:00 48:00	2	Z
60	160	1:20	AIR AIR/O ₂											158 48	0 0	160:00 55:00	2	Z
60	170	1:20	AIR AIR/O ₂											178 53	0 0	180:00 60:00	2	
60	180	1:20	AIR AIR/O ₂											201 59	0 0	203:00 66:00	2.5	

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group	
				130	120	110	100	90	80	70	60	50	40	30	20				10
60	190	1:20	AIR AIR/O ₂												222 64	0 0	224:00 71:00	2.5	
60	200	1:20	AIR AIR/O ₂												240 68	0 0	242:00 80:00	2.5	
60	210	1:20	AIR AIR/O ₂												256 73	0 0	258:00 85:00	3	
60	220	1:20	AIR AIR/O ₂												278 77	0 0	280:00 89:00	3	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																			
60	230	1:20	AIR AIR/O ₂												300 82	0 0	302:00 94:00	3.5	
60	240	1:20	AIR AIR/O ₂												321 88	0 0	323:00 100:00	3.5	
60	270	1:20	AIR AIR/O ₂												398 102	0 0	400:00 119:00	4	
Exceptional Exposure SurDO ₂ -----																			
60	300	1:20	AIR AIR/O ₂												456 115	0 0	458:00 132:00	4.5	
70	48	2:20	AIR												0	0	2:20	0	K
			AIR/O ₂												0	0	2:20		
70	50	1:40	AIR AIR/O ₂												2 1	0 0	4:20 3:20	0.5	K
70	55	1:40	AIR AIR/O ₂												9 5	0 0	11:20 7:20	0.5	L
70	60	1:40	AIR AIR/O ₂												14 8	0 0	16:20 10:20	0.5	M
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																			
70	70	1:40	AIR AIR/O ₂												24 13	0 0	26:20 15:20	0.5	N
70	80	1:40	AIR AIR/O ₂												44 17	0 0	46:20 19:20	1	O
70	90	1:40	AIR AIR/O ₂												64 24	0 0	66:20 26:20	1	Z
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																			
70	100	1:40	AIR AIR/O ₂												88 31	0 0	90:20 33:20	1.5	Z
70	110	1:40	AIR AIR/O ₂												120 38	0 0	122:20 45:20	1.5	Z
70	120	1:40	AIR AIR/O ₂												145 44	0 0	147:20 51:20	2	Z
70	130	1:40	AIR AIR/O ₂												167 51	0 0	169:20 58:20	2	Z
70	140	1:40	AIR AIR/O ₂												189 59	0 0	191:20 66:20	2.5	

Depth (FSW)	Bottom Time (M)	Time to First Stop (M:S)	GAS MIX	DECOMPRESSION STOPS (FSW)												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group	
				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	10			
70	150	1:40	AIR AIR/O ₂												219 66	0 0	221:20 78:20	2.5	
70	160	1:20	AIR AIR/O ₂												1 244 1 72	0 0	247:00 85:00	3	
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																			
70	170	1:20	AIR AIR/O ₂												2 265 1 78	0 0	269:00 91:00	3	
70	180	1:20	AIR AIR/O ₂												4 289 2 83	0 0	295:00 97:00	3.5	
70	190	1:20	AIR AIR/O ₂												5 316 3 88	0 0	323:00 103:00	3.5	
70	200	1:20	AIR AIR/O ₂												9 345 5 93	0 0	356:00 115:00	4	
70	210	1:20	AIR AIR/O ₂												13 378 7 98	0 0	393:00 122:00	4	
Exceptional Exposure SurDO ₂ -----																			
70	240	1:20	AIR AIR/O ₂												25 454 13 110	0 0	481:00 140:00	5	
80	39	2:40	AIR AIR/O ₂												0 0	0 0	2:40 2:40	0	J
80	40	2:00	AIR AIR/O ₂												1 1	0 0	3:40 3:40	0.5	J
80	45	2:00	AIR AIR/O ₂												10 5	0 0	12:40 7:40	0.5	K
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																			
80	50	2:00	AIR AIR/O ₂												17 9	0 0	19:40 11:40	0.5	M
80	55	2:00	AIR AIR/O ₂												24 13	0 0	26:40 15:40	0.5	M
80	60	2:00	AIR AIR/O ₂												30 16	0 0	32:40 18:40	1	N
80	70	2:00	AIR AIR/O ₂												54 22	0 0	56:40 24:40	1	O
80	80	2:00	AIR AIR/O ₂												77 30	0 0	79:40 32:40	1.5	Z
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																			
80	90	2:00	AIR AIR/O ₂												114 39	0 0	116:40 46:40	1.5	Z
80	100	1:40	AIR AIR/O ₂												1 147 1 46	0 0	150:20 54:20	2	Z
80	110	1:40	AIR AIR/O ₂												6 171 3 51	0 0	179:20 61:20	2	Z
80	120	1:40	AIR AIR/O ₂												10 200 5 59	0 0	212:20 71:20	2.5	

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				130	120	110	100	90	80	70	60	50	40	30	20			
80	130	1:40	AIR AIR/O ₂											14 232 7 67	0 248:20 0 86:20	3		
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																		
80	140	1:40	AIR AIR/O ₂											17 258 9 73	0 277:20 0 94:20	3.5		
80	150	1:40	AIR AIR/O ₂											19 285 10 80	0 306:20 0 102:20	3.5		
80	160	1:40	AIR AIR/O ₂											21 318 11 86	0 341:20 0 114:20	4		
80	170	1:40	AIR AIR/O ₂											27 354 14 90	0 383:20 0 121:20	4		
Exceptional Exposure SurDO ₂ -----																		
80	180	1:40	AIR AIR/O ₂											33 391 17 96	0 426:20 0 130:20	4.5		
80	210	1:40	AIR AIR/O ₂											51 473 26 110	0 526:20 0 158:20	5		
90	33	3:00	AIR AIR/O ₂											0 0 0 0	3:00 3:00	0	J	
	90	35	2:20	AIR AIR/O ₂										4 0 2 0	7:00 5:00	0.5	J	
	90	40	2:20	AIR AIR/O ₂										14 0 7 0	17:00 10:00	0.5	L	
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																		
90	45	2:20	AIR AIR/O ₂											23 0 12 0	26:00 15:00	0.5	M	
90	50	2:20	AIR AIR/O ₂											31 0 17 0	34:00 20:00	1	N	
90	55	2:20	AIR AIR/O ₂											39 0 21 0	42:00 24:00	1	O	
90	60	2:20	AIR AIR/O ₂											56 0 24 0	59:00 27:00	1	O	
90	70	2:20	AIR AIR/O ₂											83 0 32 0	86:00 35:00	1.5	Z	
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																		
90	80	2:00	AIR AIR/O ₂											5 125 3 40	0 132:40 0 50:40	2	Z	
90	90	2:00	AIR AIR/O ₂											13 158 7 46	0 173:40 0 60:40	2	Z	
90	100	2:00	AIR AIR/O ₂											19 185 10 53	0 206:40 0 70:40	2.5		
90	110	2:00	AIR AIR/O ₂											25 224 13 61	0 251:40 0 86:40	3		

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group				
				130	120	110	100	90	80	70	60	50	40	30	20				10			
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																						
90	120	1:40	AIR AIR/O ₂										2 2	28 14	256 70	0 0	288:20 98:40	3.5				
90	130	1:40	AIR AIR/O ₂										5 5	28 14	291 79	0 0	326:20 110:40	3.5				
90	140	1:40	AIR AIR/O ₂										8 8	28 14	330 87	0 0	368:20 126:40	4				
Exceptional Exposure SurDO ₂ -----																						
90	150	1:40	AIR AIR/O ₂										11 11	34 17	378 94	0 0	425:20 139:40	4.5				
90	160	1:40	AIR AIR/O ₂										13 13	40 20	418 101	0 0	473:20 151:40	4.5				
90	170	1:40	AIR AIR/O ₂										15 15	45 23	451 106	0 0	513:20 166:40	5				
90	180	1:40	AIR AIR/O ₂										16 16	51 26	479 112	0 0	548:20 176:40	5.5				
90	240	1:40	AIR AIR/O ₂										42 42	68 34	592 159	0 0	704:20 267:40	7.5				
100	25	3:20	AIR AIR/O ₂													0 0	3:20 3:20	0	H			
	100	30	2:40	AIR AIR/O ₂												3 2	0 0	6:20 5:20	0.5	J		
100	35	2:40	AIR AIR/O ₂													15 8	0 0	18:20 11:20	0.5	L		
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																						
100	40	2:40	AIR AIR/O ₂													26 14	0 0	29:20 17:20	1	M		
100	45	2:40	AIR AIR/O ₂													36 19	0 0	39:20 22:20	1	N		
100	50	2:40	AIR AIR/O ₂													47 24	0 0	50:20 27:20	1	O		
100	55	2:40	AIR AIR/O ₂													65 28	0 0	68:20 31:20	1.5	Z		
100	60	2:40	AIR AIR/O ₂													81 33	0 0	84:20 36:20	1.5	Z		
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																						
100	70	2:20	AIR AIR/O ₂													11 6	124 39	0 0	138:00 53:00	2	Z	
100	80	2:20	AIR AIR/O ₂													21 11	160 45	0 0	184:00 64:00	2.5	Z	
100	90	2:00	AIR AIR/O ₂													2 2	28 14	196 53	0 0	228:40 82:00	2.5	

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group		
				130	120	110	100	90	80	70	60	50	40	30	20	10	(M:S)			
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																				
100	100	2:00	AIR										9	28	241	0	280:40	3		
			AIR/O ₂										9	14	66	0	102:00			
100	110	2:00	AIR										14	28	278	0	322:40	3.5		
			AIR/O ₂										14	14	76	0	117:00			
100	120	2:00	AIR										19	28	324	0	373:40	4		
			AIR/O ₂										19	14	85	0	136:00			
Exceptional Exposure SurDO ₂ -----																				
100	150	1:40	AIR					3	26	46	461	0	538:20				5			
			AIR/O ₂					3	26	23	109	0	183:40							
110	20	3:40	AIR										0	0	3:40		0		H	
			AIR/O ₂										0	0	3:40					
110	25	3:00	AIR										5	0	8:40		0.5		I	
			AIR/O ₂										3	0	6:40					
110	30	3:00	AIR										14	0	17:40		0.5		K	
			AIR/O ₂										7	0	10:40					
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																				
110	35	3:00	AIR											27	0	30:40		1	M	
			AIR/O ₂											14	0	17:40				
110	40	3:00	AIR											39	0	42:40		1	N	
			AIR/O ₂											20	0	23:40				
110	45	3:00	AIR											50	0	53:40		1	O	
			AIR/O ₂											26	0	29:40				
110	50	3:00	AIR											71	0	74:40		1.5	Z	
			AIR/O ₂											32	0	35:40				
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																				
110	55	2:40	AIR											5	85	0	93:20	1.5	Z	
			AIR/O ₂											3	33	0	44:20			
110	60	2:40	AIR											13	111	0	127:20	2	Z	
			AIR/O ₂											7	36	0	51:20			
110	70	2:40	AIR											26	155	0	184:20	2.5	Z	
			AIR/O ₂											14	42	0	64:20			
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																				
110	80	2:20	AIR											9	28	200	0	240:00	2.5	
			AIR/O ₂											9	14	54	0	90:20		
110	90	2:20	AIR											18	28	249	0	298:00	3.5	
			AIR/O ₂											18	14	68	0	113:20		
110	100	2:20	AIR											25	28	295	0	351:00	3.5	
			AIR/O ₂											25	14	79	0	131:20		
110	110	2:00	AIR											5	26	28	353	0	414:40	4
			AIR/O ₂											5	26	14	91	0	154:00	
Exceptional Exposure SurDO ₂ -----																				
110	120	2:00	AIR											10	26	35	413	0	486:40	4.5
			AIR/O ₂											10	26	18	101	0	173:00	

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group					
				130	120	110	100	90	80	70	60	50	40	30	20	10							
110	180	1:40	AIR AIR/O ₂								3	23	47	68	593	0	736:20	7.5					
											3	23	47	34	159	0	298:40						
120	15	4:00	AIR AIR/O ₂												0	0	4:00	0	F				
														0	0	4:00							
120	20	3:20	AIR AIR/O ₂												4	0	8:00	0.5	H				
															2	0	6:00						
120	25	3:20	AIR AIR/O ₂												9	0	13:00	0.5	J				
															5	0	9:00						
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																							
120	30	3:20	AIR AIR/O ₂												24	0	28:00	0.5	L				
															13	0	17:00						
120	35	3:20	AIR AIR/O ₂												38	0	42:00	1	N				
															20	0	24:00						
120	40	3:00	AIR AIR/O ₂												2	49	0	54:40	1	O			
															1	26	0	30:40					
120	45	3:00	AIR AIR/O ₂												3	71	0	77:40	1.5	Z			
															2	31	0	36:40					
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																							
120	50	3:00	AIR AIR/O ₂												10	85	0	98:40	1.5	Z			
															5	33	0	46:40					
120	55	3:00	AIR AIR/O ₂												19	116	0	138:40	2	Z			
															10	35	0	53:40					
120	60	3:00	AIR AIR/O ₂												27	142	0	172:40	2	Z			
															14	39	0	61:40					
120	70	2:40	AIR AIR/O ₂												13	28	190	0	234:20	2.5			
															13	14	51	0	86:40				
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																							
120	80	2:40	AIR AIR/O ₂												24	28	246	0	301:20	3			
															24	14	67	0	118:40				
120	90	2:20	AIR AIR/O ₂												7	26	28	303	0	367:00	3.5		
															7	26	14	80	0	140:20			
120	100	2:20	AIR AIR/O ₂												15	25	28	372	0	443:00	4		
															15	25	14	95	0	167:20			
Exceptional Exposure SurDO ₂ -----																							
120	110	2:20	AIR AIR/O ₂												21	25	38	433	0	520:00	5		
															21	25	19	105	0	188:20			
120	120	2:00	AIR AIR/O ₂												3	23	25	47	480	0	580:40	5.5	
															3	23	25	24	113	0	211:00		
130	12	4:20	AIR AIR/O ₂												0	0	4:20	0	F				
													0	0	4:20								
130	15	3:40	AIR AIR/O ₂												3	0	7:20	0.5	G				
															2	0	6:20						

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group				
				130	120	110	100	90	80	70	60	50	40	30	20				10			
130	20	3:40	AIR AIR/O ₂											8 5	0 0	12:20 9:20	0.5	I				
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																						
130	25	3:40	AIR AIR/O ₂											17 9	0 0	21:20 13:20	0.5	K				
130	30	3:20	AIR AIR/O ₂											2 1	32 17	0 0	38:00 22:00	1	M			
130	35	3:20	AIR AIR/O ₂											5 3	44 23	0 0	53:00 30:00	1	O			
130	40	3:20	AIR AIR/O ₂											6 3	66 30	0 0	76:00 37:00	1.5	Z			
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																						
130	45	3:00	AIR AIR/O ₂											1 1	11 6	84 33	0 0	99:40 49:00	1.5	Z		
130	50	3:00	AIR AIR/O ₂											2 2	20 10	118 36	0 0	143:40 57:00	2	Z		
130	55	3:00	AIR AIR/O ₂											4 4	28 14	146 40	0 0	181:40 67:00	2	Z		
130	60	3:00	AIR AIR/O ₂											12 12	28 14	170 46	0 0	213:40 81:00	2.5	Z		
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																						
130	70	2:40	AIR AIR/O ₂											1 1	26 26	28 14	235 63	0 0	293:20 117:40	3		
130	80	2:40	AIR AIR/O ₂											12 12	26 26	28 14	297 79	0 0	366:20 144:40	3.5		
130	90	2:40	AIR AIR/O ₂											22 22	25 25	28 14	375 95	0 0	453:20 174:40	4		
Exceptional Exposure SurDO ₂ -----																						
130	100	2:20	AIR AIR/O ₂											6 6	23 23	26 26	38 20	444 106	0 0	540:00 204:20	5	
130	120	2:20	AIR AIR/O ₂											17 17	24 24	27 27	57 29	534 130	0 0	662:00 255:20	6	
130	180	2:00	AIR AIR/O ₂											13 13	21 21	45 45	57 46	658 198	0 0	890:40 418:00	9	
140	10	4:40	AIR AIR/O ₂												0 0	0 0	4:40 4:40	0	E			
	140	15	4:00	AIR AIR/O ₂											5 3	0 0	9:40 7:40	0.5	H			
	140	20	4:00	AIR AIR/O ₂											13 7	0 0	17:40 11:40	0.5	J			
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																						
140	25	3:40	AIR AIR/O ₂												3 2	24 12	0 0	31:20 18:20	1	L		

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group						
				130	120	110	100	90	80	70	60	50	40	30	20				10					
140	30	3:40	AIR AIR/O ₂											7 4	37 19	0 0	48:20 27:20	1	N					
140	35	3:20	AIR AIR/O ₂											2 2	7 4	58 26	0 0	71:00 36:20	1.5	O				
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																								
140	40	3:20	AIR AIR/O ₂											4 4	7 4	82 33	0 0	97:00 50:20	1.5	Z				
140	45	3:20	AIR AIR/O ₂											5 5	18 9	114 36	0 0	141:00 59:20	2	Z				
140	50	3:20	AIR AIR/O ₂											8 8	27 14	145 39	0 0	184:00 70:20	2	Z				
140	55	3:00	AIR AIR/O ₂											1 1	15 15	29 45	171 0	219:40 85:00	2.5	Z				
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																								
140	60	3:00	AIR AIR/O ₂											2 2	23 23	28 14	209 56	0 0	265:40 109:00	3				
140	70	3:00	AIR AIR/O ₂											14 14	25 25	29 15	276 74	0 0	347:40 142:00	3.5				
140	80	2:40	AIR AIR/O ₂											2 2	24 24	25 25	29 15	362 91	0 0	445:20 175:40	4			
Exceptional Exposure SurDO ₂ -----																								
140	90	2:40	AIR AIR/O ₂											12 12	23 23	26 26	38 19	443 107	0 0	545:20 210:40	5			
150	8	5:00	AIR AIR/O ₂														0 0	0 0	5:00 5:00	0	E			
	150	10	4:20	AIR AIR/O ₂													2 1	0 0	7:00 6:00	0.5	F			
	150	15	4:20	AIR AIR/O ₂													8 5	0 0	13:00 10:00	0.5	H			
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																								
150	20	4:00	AIR AIR/O ₂														2 1	15 8	0 0	21:40 13:40	0.5	K		
150	25	4:00	AIR AIR/O ₂														7 4	29 14	0 0	40:40 22:40	1	M		
150	30	3:40	AIR AIR/O ₂														4 4	7 4	45 22	0 0	60:20 34:40	1	O	
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																								
150	35	3:40	AIR AIR/O ₂														6 6	7 4	74 30	0 0	91:20 44:40	1.5	Z	
150	40	3:20	AIR AIR/O ₂														2 2	6 6	14 7	106 35	0 0	132:00 59:20	2	Z
150	45	3:20	AIR AIR/O ₂														3 3	8 8	24 12	142 40	0 0	181:00 72:20	2	Z

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group									
				130	120	110	100	90	80	70	60	50	40	30	20				10								
150	50	3:20	AIR AIR/O ₂									4	14	28	170	0	220:00	2.5	Z								
																4	14	14	46	0	87:20						
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																											
150	55	3:20	AIR AIR/O ₂									7	21	28	212	0	272:00	3									
																7	21	14	57	0	113:20						
150	60	3:20	AIR AIR/O ₂									11	26	28	248	0	317:00	3									
																11	26	14	67	0	132:20						
150	70	3:00	AIR AIR/O ₂									3	24	25	28	330	0	413:40	4								
																3	24	25	14	85	0	170:00					
Exceptional Exposure SurDO ₂ -----																											
150	80	3:00	AIR AIR/O ₂									15	23	26	35	430	0	532:40	4.5								
																15	23	26	18	104	0	205:00					
150	90	2:40	AIR AIR/O ₂							3	22	23	26	47	496	0	620:20	5.5									
																3	22	23	26	24	118	0	239:40				
150	120	2:20	AIR AIR/O ₂						3	20	22	23	50	75	608	0	804:00	8									
																3	20	22	23	50	37	168	0	356:20			
																				1027:4							
150	180	2:00	AIR AIR/O ₂					2	19	20	42	48	79	121	694	0	0	10.5									
																2	19	20	42	48	79	58	222	0	538:00		
160	7	5:20	AIR AIR/O ₂												0	0	5:20	0	E								
																	0	0	5:20								
	160	10	4:40	AIR AIR/O ₂											4	0	9:20	0.5	F								
																	2	0	7:20								
160	15	4:20	AIR AIR/O ₂											2	10	0	17:00	0.5	I								
																1	6	0	12:00								
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																											
160	20	4:00	AIR AIR/O ₂										1	4	19	0	28:40	0.5	L								
																1	2	10	0	18:00							
160	25	4:00	AIR AIR/O ₂										4	7	35	0	50:40	1	N								
																4	4	17	0	30:00							
160	30	3:40	AIR AIR/O ₂									2	6	7	62	0	81:20	1.5	Z								
																2	6	4	26	0	42:40						
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																											
160	35	3:40	AIR AIR/O ₂									4	6	8	89	0	111:20	1.5	Z								
																4	6	4	34	0	57:40						
160	40	3:40	AIR AIR/O ₂									6	6	21	134	0	171:20	2	Z								
																6	6	11	38	0	70:40						
160	45	3:20	AIR AIR/O ₂									2	5	11	28	166	0	216:00	2.5	Z							
																2	5	11	14	45	0	86:20					
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																											
160	50	3:20	AIR AIR/O ₂									2	8	19	28	207	0	268:00	3								
																2	8	19	15	55	0	113:20					
160	55	3:20	AIR AIR/O ₂									3	11	26	28	248	0	320:00	3								
																3	11	26	14	67	0	135:20					

Depth (FSW)	Bottom Time (M)	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												Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group									
				130	120	110	100	90	80	70	60	50	40	30	20				10								
160	60	3:20	AIR AIR/O ₂							6	17	25	29	291	0	372:00	3.5										
																6	17	25	15	77	0	154:20					
Exceptional Exposure SurDO ₂ -----																											
160	70	3:20	AIR AIR/O ₂							15	23	26	29	399	0	496:00	4.5										
																15	23	26	15	99	0	197:20					
160	80	3:00	AIR AIR/O ₂							6	21	24	25	44	482	0	605:40	5.5									
																6	21	24	25	23	114	0	237:00				
170	6	5:40	AIR AIR/O ₂												0	0	5:40	0	D								
																	0	0	5:40								
170	10	5:00	AIR AIR/O ₂												6	0	11:40	0.5	G								
																3	0	8:40									
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																											
170	15	4:40	AIR AIR/O ₂											3	13	0	21:20	0.5	J								
																2	6	0	13:20								
170	20	4:20	AIR AIR/O ₂										3	6	24	0	38:00	1	M								
																3	3	12	0	23:20							
170	25	4:00	AIR AIR/O ₂							1	7	7	41	0	60:40	1	O										
																1	7	4	20	0	37:00						
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																											
170	30	4:00	AIR AIR/O ₂									5	7	7	77	0	100:40	1.5	Z								
																5	7	3	30	0	50:00						
170	35	3:40	AIR AIR/O ₂							2	6	6	15	120	0	153:20	2	Z									
																2	6	6	8	37	0	68:40					
170	40	3:40	AIR AIR/O ₂							4	6	9	25	158	0	206:20	2.5	Z									
																4	6	9	12	44	0	84:40					
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																											
170	45	3:40	AIR AIR/O ₂							5	7	16	28	197	0	257:20	2.5										
																5	7	16	14	53	0	109:40					
170	50	3:20	AIR AIR/O ₂							1	5	11	23	28	244	0	316:00	3									
																1	5	11	23	14	66	0	134:20				
170	55	3:20	AIR AIR/O ₂							2	7	16	26	28	289	0	372:00	3.5									
																2	7	16	26	14	77	0	156:20				
170	60	3:20	AIR AIR/O ₂							2	11	21	26	28	344	0	436:00	4									
																2	11	21	26	14	88	0	181:20				
Exceptional Exposure SurDO ₂ -----																											
170	70	3:20	AIR AIR/O ₂							7	19	24	25	39	454	0	572:00	5									
																7	19	24	25	20	109	0	228:20				
170	80	3:20	AIR AIR/O ₂							17	22	23	26	53	525	0	670:00	6									
																17	22	23	26	27	128	0	267:20				
170	90	3:00	AIR AIR/O ₂							8	19	22	23	37	66	574	0	752:40	7								
																8	19	22	23	37	33	148	0	319:00			
170	120	2:40	AIR AIR/O ₂							9	19	20	22	42	60	94	659	0	928:20	9							
																9	19	20	22	42	60	46	198	0	454:40		
170	180	2:20	AIR							10	18	19	40	43	70	97	156	703	0	1159:0	11.5						

Depth (FSW)	Bottom Time (M)	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													Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				130	120	110	100	90	80	70	60	50	40	30	20	10	(M:S)		
			AIR/O ₂														0		
				10	18	19	40	43	70	97	74	229	0	648:20					
180	6	6:00	AIR														0	0	E
			AIR/O ₂														0	0	
180	10	5:20	AIR														8	0	G
			AIR/O ₂														4	0	
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																			
180	15	4:40	AIR								2	3	14	0	24:20		0.5		K
			AIR/O ₂								2	2	7	0	16:40				
180	20	4:20	AIR							1	5	7	29	0	47:00		1		M
			AIR/O ₂							1	5	3	15	0	29:20				
180	25	4:20	AIR							5	6	7	57	0	80:00		1.5		O
			AIR/O ₂							5	6	4	24	0	44:20				
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																			
180	30	4:00	AIR							3	6	6	7	95	0	121:40		1.5	Z
			AIR/O ₂							3	6	6	4	34	0	63:00			
180	35	3:40	AIR				1	5	6	6	22	144	0	188:20		2			Z
			AIR/O ₂				1	5	6	6	11	41	0	79:40					
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																			
180	40	3:40	AIR				2	6	5	13	28	178	0	236:20		2.5			
			AIR/O ₂				2	6	5	13	14	48	0	97:40					
180	45	3:40	AIR				4	5	10	20	28	235	0	306:20		3			
			AIR/O ₂				4	5	10	20	14	63	0	130:40					
180	50	3:40	AIR				4	8	13	25	29	277	0	360:20		3.5			
			AIR/O ₂				4	8	13	25	15	75	0	154:40					
180	55	3:40	AIR				5	11	19	26	28	336	0	429:20		4			
			AIR/O ₂				5	11	19	26	14	87	0	181:40					
Exceptional Exposure SurDO ₂ -----																			
180	60	3:20	AIR				1	8	13	23	25	31	406	0	511:00		4.5		
			AIR/O ₂				1	8	13	23	25	16	100	0	205:20				
180	70	3:20	AIR				4	12	21	24	25	48	499	0	637:00		5.5		
			AIR/O ₂				4	12	21	24	25	24	119	0	253:20				
190	5	6:20	AIR														0	0	D
			AIR/O ₂														0	0	
190	10	5:20	AIR									2	8	0	16:00		0.5		H
			AIR/O ₂									1	4	0	11:00				
In-Water Air/O ₂ Decompression or SurDO ₂ Recommended-----																			
190	15	4:40	AIR							1	3	3	16	0	28:20		0.5		K
			AIR/O ₂							1	3	2	8	0	19:40				
190	20	4:20	AIR						1	2	6	7	34	0	55:00		1		N
			AIR/O ₂						1	2	6	4	17	0	35:20				
Exceptional Exposure In-Water Air Decompression ---- In-Water Air/O ₂ Decompression or SurDO ₂ Required-----																			
190	25	4:20	AIR						2	6	7	7	72	0	99:00		1.5		Z

Depth (FSW)	Bottom Time (M)	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													Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				130	120	110	100	90	80	70	60	50	40	30	20	10			
			AIR/O ₂							2	6	7	3	28	0	51:20			
190	30	4:00	AIR							1	6	5	7	13	122	0	158:40	2	Z
			AIR/O ₂							1	6	5	7	7	38	0	74:00		
Exceptional Exposure In-Water Air/O ₂ Decompression ---- SurDO ₂ Required-----																			
190	35	4:00	AIR							4	5	6	8	26	165	0	218:40	2.5	Z
			AIR/O ₂							4	5	6	8	13	45	0	91:00		
190	40	3:40	AIR						1	5	5	8	17	28	217	0	285:20	3	
			AIR/O ₂						1	5	5	8	17	15	58	0	123:40		
190	45	3:40	AIR						2	5	6	12	24	29	264	0	346:20	3.5	
			AIR/O ₂						2	5	6	12	24	15	71	0	149:40		
190	50	3:40	AIR						3	5	10	17	26	28	324	0	417:20	4	
			AIR/O ₂						3	5	10	17	26	14	85	0	179:40		
Exceptional Exposure SurDO ₂ -----																			
190	55	3:40	AIR						4	8	10	24	25	30	397	0	502:20	4.5	
			AIR/O ₂						4	8	10	24	25	15	99	0	204:40		
190	60	3:40	AIR						5	10	16	24	25	40	454	0	578:20	5	
			AIR/O ₂						5	10	16	24	25	20	109	0	233:40		
190	90	3:20	AIR					11	19	20	21	28	51	83	626	0	863:00	8.5	
			AIR/O ₂					11	19	20	21	28	51	41	178	0	408:20		
																1040:4			
190	120	3:00	AIR				15	17	19	20	37	46	79	113	691	0	0	10.5	
			AIR/O ₂				15	17	19	20	37	46	79	55	219	0	551:00		

200

Exceptional Exposure-----																		
200	5	6:40	AIR												0	0	6:40	0
			AIR/O ₂												0	0	6:40	
200	10	5:40	AIR												3	8	0	17:20
			AIR/O ₂												2	4	0	12:20
200	15	5:00	AIR						2	3	5	19	0	34:40				0.5
			AIR/O ₂						2	3	3	9	0	23:00				
200	20	4:40	AIR						2	4	6	7	43	0	67:20			1
			AIR/O ₂						2	4	6	4	20	0	41:40			
200	25	4:20	AIR					1	5	6	6	7	85	0	115:00			1.5
			AIR/O ₂					1	5	6	6	4	32	0	64:20			
200	30	4:20	AIR					4	6	5	7	19	145	0	191:00			2
			AIR/O ₂					4	6	5	7	10	42	0	84:20			
200	35	4:00	AIR					2	5	5	6	13	28	188	0	251:40		2.5
			AIR/O ₂					2	5	5	6	13	14	51	0	106:00		
200	40	4:00	AIR					4	5	5	11	21	28	249	0	327:40		3.5
			AIR/O ₂					4	5	5	11	21	14	68	0	143:00		
200	45	3:40	AIR					1	4	5	10	14	25	28	306	0	397:20	3.5
			AIR/O ₂					1	4	5	10	14	25	14	81	0	168:40	
200	50	3:40	AIR					2	4	8	10	21	26	28	382	0	485:20	4.5

Depth (FSW)	Bottom Time (M)	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													Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				130	120	110	100	90	80	70	60	50	40	30	20	10	(M:S)		
			AIR/O ₂					2	4	8	10	21	26	14	97	0	201:40		

210

Exceptional Exposure-----																			
210	4	7:00	AIR													0	0	7:00	0
			AIR/O ₂													0	0	7:00	
210	5	6:20	AIR													2	0	9:00	0.5
			AIR/O ₂													1	0	8:00	
210	10	5:40	AIR										2	3	9	0	20:20	0.5	
			AIR/O ₂										2	2	4	0	14:40		
210	15	5:00	AIR								1	3	3	6	24	0	42:40	1	
			AIR/O ₂								1	3	3	3	12	0	28:00		
210	20	4:40	AIR							1	3	5	6	7	57	0	84:20	1	
			AIR/O ₂							1	3	5	6	4	23	0	47:40		
210	25	4:40	AIR							3	6	5	7	8	110	0	144:20	2	
			AIR/O ₂							3	6	5	7	4	38	0	73:40		
210	30	4:20	AIR						2	5	6	6	6	26	163	0	219:00	2.5	
			AIR/O ₂						2	5	6	6	6	13	45	0	93:20		
210	35	4:00	AIR					1	4	5	6	7	18	28	223	0	296:40	3	
			AIR/O ₂					1	4	5	6	7	18	14	60	0	130:00		
210	40	4:00	AIR					2	5	5	7	11	26	28	278	0	366:40	3.5	
			AIR/O ₂					2	5	5	7	11	26	14	76	0	161:00		
210	45	4:00	AIR					4	4	6	11	18	26	28	355	0	456:40	4	
			AIR/O ₂					4	4	6	11	18	26	14	91	0	194:00		
210	50	3:40	AIR				1	4	5	10	12	23	26	36	432	0	553:20	5	
			AIR/O ₂				1	4	5	10	12	23	26	18	105	0	223:40		

220

Exceptional Exposure-----																			
220	4	7:20	AIR													0	0	7:20	0
			AIR/O ₂													0	0	7:20	
220	5	6:40	AIR													3	0	10:20	0.5
			AIR/O ₂													2	0	9:20	
220	10	6:00	AIR										3	4	10	0	23:40	0.5	
			AIR/O ₂										3	2	5	0	17:00		
220	15	5:20	AIR								3	2	4	7	28	0	50:00	1	
			AIR/O ₂								3	2	4	4	14	0	33:20		
220	20	5:00	AIR							2	4	6	6	7	70	0	100:40	1.5	
			AIR/O ₂							2	4	6	6	4	26	0	54:00		
220	25	4:40	AIR						1	5	6	6	6	14	133	0	176:20	2	
			AIR/O ₂						1	5	6	6	6	7	41	0	82:40		
220	30	4:20	AIR					1	4	5	6	6	10	28	183	0	248:00	2.5	
			AIR/O ₂					1	4	5	6	6	10	14	50	0	106:20		
220	35	4:20	AIR					3	5	5	5	10	22	28	251	0	334:00	3.5	

Depth (FSW)	Bottom Time (M)	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													Total Ascent Time (M:S)	Chamber O ₂ Periods	Repet Group
				130	120	110	100	90	80	70	60	50	40	30	20	10			
			AIR/O ₂					3	5	5	5	10	22	14	68	0	147:20		
220	40	4:00	AIR				1	4	5	5	9	15	26	28	319	0	416:40	4	
			AIR/O ₂				1	4	5	5	9	15	26	14	84	0	183:00		

250

Exceptional Exposure-----																			
250	5	7:40	AIR												7	0	15:20	0.5	
			AIR/O ₂												4	0	12:20		
250	10	6:20	AIR							2	2	4	3	15	0	33:00	0.5		
			AIR/O ₂							2	2	4	2	7	0	24:20			
250	15	5:40	AIR					2	2	3	4	6	7	53	0	83:20	1		
			AIR/O ₂					2	2	3	4	6	4	22	0	49:40			
250	20	5:20	AIR					2	2	4	6	6	6	11	125	0	168:00	2	
			AIR/O ₂					2	2	4	6	6	6	6	39	0	82:20		
250	25	5:00	AIR			1	4	4	5	6	6	10	28	189	0	258:40	2.5		
			AIR/O ₂			1	4	4	5	6	6	10	14	51	0	112:00			
250	30	4:40	AIR		1	4	4	4	5	6	9	25	28	267	0	358:20	3.5		
			AIR/O ₂		1	4	4	4	5	6	9	25	15	72	0	160:40			
250	35	4:40	AIR		3	4	4	5	5	10	19	26	28	363	0	472:20	4		
			AIR/O ₂		3	4	4	5	5	10	19	26	14	93	0	203:40			

300

Exceptional Exposure-----																			
300	5	8:40	AIR										3	3	8	0	23:20	0.5	
			AIR/O ₂										3	2	4	0	18:40		
300	10	7:20	AIR					2	3	2	3	4	7	35	0	64:00	1		
			AIR/O ₂					2	3	2	3	4	4	18	0	44:20			
300	15	6:20	AIR		1	2	2	3	3	5	6	7	11	125	0	172:00	2		
			AIR/O ₂		1	2	2	3	3	5	6	7	6	39	0	86:20			
300	20	6:00	AIR		2	2	2	4	5	5	5	6	16	28	219	0	300:40	3	
			AIR/O ₂		2	2	2	4	5	5	5	6	16	14	59	0	137:00		
300	25	5:40	AIR	1	3	4	4	4	5	5	5	18	26	28	324	0	433:20	4	
			AIR/O ₂	1	3	4	4	4	5	5	5	18	26	14	85	0	195:40		

**APPENDIX J ESTIMATED RISKS OF DCS FOR SCHEDULES IN MSW INTEGRATED AIR DECOMPRESSION
TABLE WITH 3 MSW LAST IN-WATER STOP.
VVAL-79 THALMANN ALGORITHM**

VVal-79 Thalmann Algorithm; 3 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL		P(DCS)		P(DCS)	TOTAL		P(DCS)		P(DCS)	P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		NMRI98	STOP	P(DCS)	P(DCS)		NMRI98	P(DCS)	P(DCS)		NMRI98
	TIME	BVM(3)	NMRI98			TIME	BVM(3)	NMRI98			BVM(3)	NMRI98		
	(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high
9/ 394	0	4.292	2.350 - 7.114	5.124	4.280 - 6.073	0	4.292	2.350 - 7.114	5.124	4.280 - 6.073	4.292	2.350 - 7.114	5.124	4.280 - 6.073
9/ 420	5	4.566	3.868 - 5.345	5.419	4.531 - 6.414	2	4.487	3.805 - 5.249	5.222	4.341 - 6.214	3.865	3.244 - 4.565	5.107	4.283 - 6.030
9/ 480	12	5.260	4.440 - 6.174	6.312	5.313 - 7.424	6	5.018	4.239 - 5.887	5.860	4.879 - 6.960	4.615	3.879 - 5.440	6.076	5.149 - 7.104
9/ 540	21	5.708	4.753 - 6.779	7.060	5.964 - 8.272	10	5.304	4.417 - 6.302	6.401	5.329 - 7.601	5.291	4.440 - 6.242	6.975	5.946 - 8.108
9/ 600	30	6.249	5.186 - 7.442	7.731	6.510 - 9.081	15	5.654	4.702 - 6.723	6.763	5.603 - 8.062	5.204	4.369 - 6.138	6.740	5.679 - 7.918
9/ 660	36	6.768	5.602 - 8.076	8.396	7.085 - 9.842	18	6.045	5.018 - 7.198	7.248	6.003 - 8.642	5.715	4.789 - 6.751	7.451	6.312 - 8.708
9/ 720	45	7.197	5.947 - 8.599	8.921	7.533 - 10.449	22	6.314	5.235 - 7.525	7.568	6.261 - 9.030	6.169	5.158 - 7.300	8.094	6.882 - 9.427
12/ 170	0	2.362	1.974 - 2.803	2.985	2.322 - 3.773	0	2.362	1.974 - 2.803	2.985	2.322 - 3.773	2.362	1.974 - 2.803	2.985	2.322 - 3.773
12/ 180	5	2.514	2.115 - 2.965	3.122	2.441 - 3.927	3	2.370	1.986 - 2.807	2.817	2.168 - 3.596	1.637	1.273 - 2.076	2.943	2.182 - 3.877
12/ 190	8	2.761	2.345 - 3.227	3.394	2.683 - 4.229	5	2.529	2.129 - 2.982	2.955	2.288 - 3.749	1.877	1.489 - 2.336	3.213	2.425 - 4.169
12/ 200	12	2.992	2.553 - 3.482	3.660	2.921 - 4.520	7	2.678	2.267 - 3.141	3.090	2.407 - 3.901	2.120	1.708 - 2.601	3.492	2.677 - 4.467
12/ 210	15	3.226	2.770 - 3.734	3.937	3.171 - 4.823	9	2.824	2.399 - 3.300	3.222	2.523 - 4.050	2.365	1.928 - 2.870	3.778	2.938 - 4.771
12/ 220	18	3.457	2.977 - 3.990	4.212	3.419 - 5.122	10	3.020	2.577 - 3.514	3.437	2.713 - 4.288	2.611	2.149 - 3.142	4.068	3.205 - 5.079
12/ 230	24	3.659	3.153 - 4.218	4.445	3.632 - 5.372	12	3.158	2.700 - 3.668	3.565	2.824 - 4.431	2.858	2.369 - 3.416	4.362	3.477 - 5.390
12/ 240	29	3.861	3.329 - 4.450	4.684	3.851 - 5.630	15	3.236	2.767 - 3.759	3.603	2.854 - 4.481	2.582	2.123 - 3.109	3.676	2.748 - 4.803
12/ 270	42	4.445	3.829 - 5.125	5.389	4.497 - 6.391	23	3.493	2.984 - 4.060	3.785	2.999 - 4.705	3.263	2.726 - 3.872	4.492	3.508 - 5.646
12/ 300	53	4.990	4.281 - 5.773	6.066	5.115 - 7.125	29	3.816	3.243 - 4.457	4.107	3.270 - 5.081	3.484	2.919 - 4.122	4.473	3.426 - 5.718
12/ 330	63	5.592	4.785 - 6.482	6.701	5.692 - 7.817	34	4.176	3.556 - 4.866	4.483	3.589 - 5.516	4.090	3.441 - 4.819	5.233	4.129 - 6.516
12/ 360	75	6.181	5.264 - 7.195	7.250	6.159 - 8.453	39	4.465	3.792 - 5.214	4.756	3.809 - 5.850	4.674	3.928 - 5.511	5.982	4.818 - 7.313
12/ 420	96	7.274	6.138 - 8.532	8.462	7.161 - 9.896	51	4.964	4.201 - 5.815	5.254	4.180 - 6.497	5.093	4.284 - 5.997	6.394	5.180 - 7.776
12/ 480	117	8.227	6.890 - 9.710	9.567	8.112 - 11.160	60	5.537	4.665 - 6.509	5.952	4.738 - 7.351	5.455	4.584 - 6.428	6.814	5.557 - 8.236
12/ 540	142	8.859	7.337 - 10.551	10.445	8.853 - 12.186	71	5.775	4.839 - 6.821	6.348	5.060 - 7.826	5.552	4.663 - 6.544	6.960	5.715 - 8.362
12/ 600	164	9.603	7.923 - 11.472	11.251	9.523 - 13.137	84	5.928	4.964 - 7.006	6.577	5.274 - 8.066	5.641	4.737 - 6.651	7.130	5.883 - 8.529
12/ 660	183	10.265	8.440 - 12.293	12.005	10.148 - 14.029	94	6.148	5.142 - 7.272	6.904	5.588 - 8.399	6.207	5.199 - 7.333	7.946	6.603 - 9.442

VVal-79 Thalmann Algorithm; 3 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL		P(DCS)			TOTAL		P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)			STOP	P(DCS)	P(DCS)			P(DCS)	P(DCS)		
	TIME	BVM(3)	NMRI98			TIME	BVM(3)	NMRI98			BVM(3)	NMRI98		
	(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high
12/ 720	198	10.864	8.906 - 13.038	12.723	10.752 - 14.865	103	6.282	5.252 - 7.434	7.121	5.808 - 8.604	5.993	5.026 - 7.074	7.742	6.457 - 9.172
15/ 97	0	1.759	1.341 - 2.268	2.257	1.720 - 2.909	0	1.759	1.341 - 2.268	2.257	1.720 - 2.909	1.759	1.341 - 2.268	2.257	1.720 - 2.909
15/ 100	2	1.786	1.357 - 2.310	2.263	1.722 - 2.918	1	1.662	1.250 - 2.169	2.042	1.525 - 2.680	0.634	0.394 - 0.978	2.206	1.530 - 3.081
15/ 110	6	2.040	1.606 - 2.555	2.561	1.968 - 3.274	3	1.894	1.472 - 2.399	2.277	1.720 - 2.956	0.888	0.604 - 1.270	2.488	1.756 - 3.420
15/ 120	9	2.363	1.926 - 2.869	2.947	2.291 - 3.729	5	2.130	1.704 - 2.629	2.526	1.923 - 3.255	1.174	0.851 - 1.585	2.817	2.025 - 3.810
15/ 130	17	2.669	2.224 - 3.174	3.305	2.594 - 4.145	10	2.224	1.802 - 2.715	2.553	1.932 - 3.307	1.485	1.128 - 1.921	3.180	2.328 - 4.233
15/ 140	24	2.976	2.520 - 3.488	3.677	2.910 - 4.575	14	2.359	1.933 - 2.850	2.646	1.991 - 3.444	1.377	1.027 - 1.812	2.649	1.692 - 3.946
15/ 150	31	3.280	2.800 - 3.816	4.047	3.226 - 5.000	17	2.540	2.103 - 3.039	2.810	2.114 - 3.658	1.675	1.316 - 2.104	2.983	1.978 - 4.311
15/ 160	37	3.585	3.089 - 4.135	4.422	3.550 - 5.429	21	2.667	2.223 - 3.171	2.890	2.162 - 3.780	1.985	1.574 - 2.470	3.339	2.287 - 4.694
15/ 170	43	3.875	3.362 - 4.439	4.789	3.869 - 5.846	24	2.832	2.372 - 3.352	3.044	2.280 - 3.976	2.301	1.861 - 2.814	3.711	2.617 - 5.089
15/ 180	48	4.165	3.616 - 4.769	5.160	4.194 - 6.264	27	2.992	2.524 - 3.520	3.194	2.397 - 4.162	2.623	2.150 - 3.168	4.095	2.962 - 5.495
15/ 190	57	4.419	3.844 - 5.050	5.463	4.461 - 6.601	31	3.100	2.267 - 4.131	3.256	2.438 - 4.253	2.574	2.107 - 3.113	3.589	2.451 - 5.054
15/ 200	64	4.671	4.050 - 5.353	5.779	4.742 - 6.952	35	3.195	2.595 - 3.888	3.315	2.479 - 4.332	2.877	2.377 - 3.448	3.948	2.780 - 5.419
15/ 210	72	4.900	4.251 - 5.612	6.064	4.998 - 7.267	39	3.246	2.686 - 3.884	3.313	2.476 - 4.333	3.181	2.647 - 3.788	4.314	3.119 - 5.789
15/ 220	79	5.127	4.439 - 5.882	6.351	5.256 - 7.581	43	3.323	2.777 - 3.941	3.363	2.518 - 4.392	2.949	2.442 - 3.528	3.774	2.653 - 5.188
15/ 230	85	5.373	4.648 - 6.168	6.640	5.517 - 7.897	46	3.451	2.904 - 4.067	3.488	2.628 - 4.528	3.233	2.693 - 3.845	4.116	2.969 - 5.535
15/ 240	92	5.622	4.852 - 6.468	6.851	5.709 - 8.127	50	3.507	2.951 - 4.134	3.480	2.621 - 4.521	3.515	2.940 - 4.165	4.462	3.290 - 5.889
15/ 270	110	6.561	5.637 - 7.575	7.644	6.423 - 8.997	59	3.860	3.255 - 4.540	3.825	2.935 - 4.887	3.884	3.260 - 4.585	4.745	3.609 - 6.099
15/ 300	131	7.369	6.281 - 8.566	8.450	7.120 - 9.917	68	4.151	3.498 - 4.883	4.102	3.187 - 5.183	4.648	3.912 - 5.473	5.720	4.500 - 7.138
15/ 330	151	8.112	6.856 - 9.497	9.273	7.862 - 10.820	78	4.373	3.675 - 5.155	4.379	3.418 - 5.510	4.737	3.987 - 5.576	5.767	4.592 - 7.122
15/ 360	172	8.753	7.352 - 10.300	9.977	8.486 - 11.607	86	4.656	3.914 - 5.488	4.769	3.745 - 5.966	4.873	4.101 - 5.737	5.925	4.766 - 7.253
15/ 420	216	9.806	8.146 - 11.644	11.115	9.461 - 12.916	105	4.863	4.107 - 5.706	5.211	4.135 - 6.458	5.369	4.514 - 6.323	6.625	5.423 - 7.983
18/ 65	0	1.682	1.214 - 2.275	2.048	1.538 - 2.674	0	1.682	1.214 - 2.275	2.048	1.538 - 2.674	1.682	1.214 - 2.275	2.048	1.538 - 2.674
18/ 70	4	1.732	1.256 - 2.332	2.065	1.565 - 2.676	3	1.564	1.110 - 2.146	1.803	1.341 - 2.375	0.449	0.236 - 0.797	2.185	1.543 - 3.006
18/ 80	12	2.090	1.607 - 2.674	2.448	1.900 - 3.104	7	1.792	1.324 - 2.376	1.985	1.515 - 2.557	0.711	0.449 - 1.084	2.482	1.776 - 3.372
18/ 90	19	2.497	2.006 - 3.071	2.929	2.309 - 3.660	11	2.025	1.552 - 2.598	2.191	1.684 - 2.804	1.038	0.716 - 1.463	2.884	2.097 - 3.862
18/ 100	24	2.918	2.400 - 3.511	3.469	2.763 - 4.293	14	2.297	1.810 - 2.874	2.476	1.904 - 3.165	0.969	0.646 - 1.407	2.463	1.505 - 3.805
18/ 110	34	3.308	2.796 - 3.882	3.975	3.188 - 4.886	19	2.468	1.989 - 3.027	2.621	1.989 - 3.387	1.314	0.948 - 1.780	2.860	1.824 - 4.264
18/ 120	44	3.695	3.153 - 4.299	4.477	3.607 - 5.479	25	2.590	2.091 - 3.171	2.680	1.988 - 3.530	1.688	1.284 - 2.182	3.308	2.194 - 4.772
18/ 130	54	4.041	3.488 - 4.652	4.935	3.986 - 6.024	30	2.704	2.211 - 3.273	2.738	1.986 - 3.677	1.784	1.371 - 2.284	2.886	1.736 - 4.503
18/ 140	63	4.373	2.080 - 7.973	5.370	4.347 - 6.539	35	2.840	0.902 - 6.761	2.848	2.037 - 3.868	2.159	1.712 - 2.688	3.323	2.144 - 4.900
18/ 150	71	4.737	4.123 - 5.410	5.846	4.747 - 7.098	39	2.996	2.157 - 4.046	2.976	2.119 - 4.055	2.546	1.979 - 3.223	3.786	2.578 - 5.340

VVal-79 Thalmann Algorithm; 3 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL					TOTAL					TOTAL			
	STOP	P(DCS)	P(DCS)			STOP	P(DCS)	P(DCS)			P(DCS)	P(DCS)		
	TIME	BVM(3)	NMRI98			TIME	BVM(3)	NMRI98			BVM(3)	NMRI98		
(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high	
18/ 160	83	5.049	4.405 - 5.754	6.240	5.077 - 7.560	44	3.115	2.418 - 3.946	3.065	2.168 - 4.200	2.449	1.975 - 3.002	3.340	2.203 - 4.837
18/ 170	95	5.368	4.671 - 6.131	6.616	5.403 - 7.989	50	3.165	2.542 - 3.891	3.068	2.148 - 4.239	2.819	2.308 - 3.406	3.780	2.612 - 5.270
18/ 180	105	5.678	4.939 - 6.486	6.996	5.732 - 8.422	55	3.251	2.657 - 3.934	3.141	2.201 - 4.337	2.806	2.297 - 3.392	3.509	2.442 - 4.867
18/ 190	115	6.036	5.235 - 6.912	7.350	6.040 - 8.822	60	3.329	2.734 - 4.010	3.209	2.258 - 4.414	3.156	2.610 - 3.780	3.931	2.830 - 5.298
18/ 200	123	6.447	5.593 - 7.380	7.717	6.364 - 9.233	65	3.399	2.799 - 4.084	3.272	2.319 - 4.472	3.508	2.920 - 4.174	4.362	3.226 - 5.745
18/ 210	132	6.849	5.927 - 7.855	8.051	6.662 - 9.602	69	3.497	2.865 - 4.220	3.351	2.409 - 4.526	3.304	2.741 - 3.945	3.980	2.949 - 5.237
18/ 220	143	7.194	6.207 - 8.273	8.361	6.940 - 9.942	73	3.623	2.996 - 4.336	3.479	2.539 - 4.640	3.633	3.030 - 4.315	4.387	3.320 - 5.666
18/ 230	153	7.535	6.474 - 8.698	8.700	7.245 - 10.316	77	3.747	3.085 - 4.502	3.603	2.668 - 4.746	3.961	3.315 - 4.688	4.798	3.694 - 6.105
18/ 240	163	7.860	6.735 - 9.092	9.040	7.549 - 10.689	82	3.811	3.147 - 4.566	3.656	2.739 - 4.769	3.827	3.199 - 4.535	4.554	3.530 - 5.763
18/ 270	191	8.775	7.447 - 10.234	10.042	8.478 - 11.758	96	3.984	3.268 - 4.802	3.883	3.021 - 4.902	4.124	3.445 - 4.889	4.915	3.903 - 6.089
18/ 300	222	9.520	8.008 - 11.184	10.829	9.203 - 12.601	108	4.208	3.480 - 5.034	4.259	3.352 - 5.320	4.953	4.162 - 5.839	5.999	4.864 - 7.293
21/ 50	0	1.850	1.332 - 2.506	2.065	1.566 - 2.673	0	1.850	1.332 - 2.506	2.065	1.566 - 2.673	1.850	1.332 - 2.506	2.065	1.566 - 2.673
21/ 55	7	1.889	1.372 - 2.538	2.078	1.560 - 2.715	4	1.701	1.195 - 2.354	1.817	1.359 - 2.383	0.466	0.226 - 0.882	2.263	1.664 - 3.007
21/ 60	13	2.123	1.596 - 2.771	2.291	1.757 - 2.934	7	1.832	1.316 - 2.486	1.898	1.436 - 2.462	0.590	0.320 - 1.017	2.438	1.764 - 3.284
21/ 70	24	2.634	2.083 - 3.284	2.848	2.250 - 3.551	13	2.095	1.557 - 2.760	2.079	1.619 - 2.630	0.936	0.604 - 1.397	2.879	2.125 - 3.808
21/ 80	33	3.151	2.576 - 3.813	3.512	2.825 - 4.310	18	2.373	1.829 - 3.027	2.342	1.831 - 2.952	0.866	0.531 - 1.349	2.542	1.576 - 3.882
21/ 90	41	3.615	3.031 - 4.273	4.128	3.349 - 5.024	22	2.640	2.080 - 3.302	2.617	2.019 - 3.335	1.265	0.878 - 1.771	3.035	1.978 - 4.445
21/ 100	55	4.123	3.527 - 4.784	4.784	3.913 - 5.777	30	2.741	2.183 - 3.397	2.667	1.984 - 3.506	1.453	1.046 - 1.970	2.687	1.612 - 4.204
21/ 110	67	4.609	3.992 - 5.288	5.447	4.469 - 6.557	37	2.856	0.986 - 6.474	2.721	1.955 - 3.684	1.891	1.461 - 2.410	3.219	2.108 - 4.693
21/ 120	78	5.076	4.427 - 5.784	6.092	5.002 - 7.325	43	3.018	1.932 - 4.482	2.875	2.016 - 3.969	1.918	1.467 - 2.464	2.887	1.783 - 4.413
21/ 130	93	5.477	4.776 - 6.241	6.637	5.441 - 7.986	49	3.170	2.269 - 4.299	3.012	2.074 - 4.220	2.358	1.868 - 2.935	3.414	2.245 - 4.957
21/ 140	107	5.865	5.119 - 6.678	7.151	5.855 - 8.612	55	3.304	2.508 - 4.263	3.132	2.128 - 4.436	2.459	1.960 - 3.043	3.216	2.136 - 4.636
21/ 150	121	6.254	5.465 - 7.113	7.631	6.249 - 9.185	63	3.307	2.600 - 4.139	3.083	2.046 - 4.449	2.889	2.350 - 3.511	3.735	2.611 - 5.160
21/ 160	133	6.714	5.859 - 7.643	8.097	6.629 - 9.746	69	3.378	2.677 - 4.199	3.125	2.073 - 4.510	2.812	2.280 - 3.427	3.470	2.453 - 4.752
21/ 170	145	7.191	6.263 - 8.200	8.508	6.970 - 10.231	76	3.385	2.698 - 4.187	3.096	2.045 - 4.486	3.223	2.650 - 3.879	3.972	2.919 - 5.261
21/ 180	160	7.601	6.599 - 8.691	8.855	7.270 - 10.627	82	3.526	2.831 - 4.333	3.251	2.190 - 4.634	3.225	2.652 - 3.881	3.857	2.895 - 5.020
21/ 190	174	8.006	6.928 - 9.181	9.250	7.618 - 11.070	87	3.614	2.907 - 4.432	3.340	2.299 - 4.676	3.614	2.802 - 4.577	4.340	3.330 - 5.540
21/ 200	187	8.427	7.263 - 9.696	9.686	8.009 - 11.548	92	3.731	3.006 - 4.570	3.482	2.450 - 4.786	4.004	3.338 - 4.757	4.831	3.777 - 6.067
21/ 210	201	8.820	7.571 - 10.183	10.090	8.379 - 11.982	99	3.691	2.942 - 4.563	3.431	2.472 - 4.625	3.809	3.168 - 4.535	4.541	3.574 - 5.671
21/ 240	245	9.832	8.320 - 11.489	11.095	9.319 - 13.041	117	3.798	3.043 - 4.676	3.665	2.809 - 4.686	4.330	2.982 - 6.043	5.100	4.125 - 6.218
24/ 40	0	1.998	1.445 - 2.696	2.042	1.546 - 2.648	0	1.998	1.445 - 2.696	2.042	1.546 - 2.648	1.998	1.445 - 2.696	2.042	1.546 - 2.648
24/ 45	8	2.056	1.500 - 2.751	2.109	1.579 - 2.761	5	1.828	1.284 - 2.529	1.807	1.362 - 2.352	0.516	0.000 - 19.724	2.311	1.738 - 3.013

VVal-79 Thalmann Algorithm; 3 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL		P(DCS)			TOTAL		P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)	P(DCS)				
	TIME	BVM(3)	NMRI98		TIME	BVM(3)	NMRI98		BVM(3)	NMRI98				
	(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high
24/ 50	16	2.360	1.782 - 3.064	2.355	1.793 - 3.037	9	1.996	1.443 - 2.694	1.909	1.455 - 2.460	0.645	0.000 - 15.109	2.542	1.887 - 3.348
24/ 55	24	2.673	2.077 - 3.384	2.668	2.075 - 3.374	13	2.150	1.582 - 2.858	1.996	1.540 - 2.547	0.830	0.002 - 11.672	2.786	2.073 - 3.660
24/ 60	31	3.004	2.376 - 3.743	3.036	2.402 - 3.782	17	2.305	1.718 - 3.026	2.089	1.635 - 2.629	0.578	0.000 - 17.229	2.334	1.436 - 3.588
24/ 70	42	3.577	2.922 - 4.329	3.768	3.048 - 4.599	24	2.538	1.936 - 3.266	2.267	1.765 - 2.867	0.960	0.007 - 10.349	2.816	1.838 - 4.124
24/ 80	53	4.270	3.602 - 5.020	4.673	3.852 - 5.605	28	2.928	2.300 - 3.672	2.740	2.125 - 3.475	1.214	0.033 - 8.806	2.553	1.545 - 3.971
24/ 90	70	4.899	4.196 - 5.676	5.510	4.581 - 6.555	37	3.068	2.442 - 3.801	2.807	2.086 - 3.691	1.704	0.159 - 7.632	3.178	2.095 - 4.609
24/ 100	84	5.488	4.758 - 6.288	6.347	5.285 - 7.535	46	3.181	1.804 - 5.176	2.885	2.041 - 3.954	1.818	0.202 - 7.513	2.927	1.825 - 4.440
24/ 110	104	5.943	5.173 - 6.783	6.976	5.787 - 8.307	53	3.328	2.176 - 4.855	3.041	2.074 - 4.293	2.336	0.454 - 7.312	3.584	2.430 - 5.075
24/ 120	123	6.414	5.592 - 7.308	7.609	6.287 - 9.087	61	3.444	2.459 - 4.679	3.136	2.069 - 4.546	2.522	0.562 - 7.323	3.434	2.341 - 4.844
24/ 130	140	6.921	6.055 - 7.860	8.214	6.768 - 9.832	70	3.443	2.577 - 4.497	3.076	1.957 - 4.589	2.549	0.579 - 7.328	3.270	2.309 - 4.483
24/ 140	155	7.518	6.590 - 8.523	8.787	7.215 - 10.545	78	3.532	2.731 - 4.484	3.136	1.978 - 4.710	3.038	0.901 - 7.486	3.883	2.880 - 5.107
24/ 150	173	8.057	7.039 - 9.160	9.274	7.616 - 11.123	86	3.567	2.802 - 4.467	3.173	1.993 - 4.781	3.135	0.969 - 7.532	3.849	2.911 - 4.978
24/ 160	191	8.543	7.438 - 9.739	9.767	8.027 - 11.704	93	3.642	2.867 - 4.553	3.272	2.080 - 4.883	3.605	1.319 - 7.801	4.445	3.445 - 5.625
24/ 170	207	9.037	7.838 - 10.336	10.305	8.485 - 12.325	100	3.677	2.902 - 4.585	3.313	2.150 - 4.863	3.519	1.253 - 7.747	4.264	3.335 - 5.356
24/ 180	224	9.512	8.212 - 10.922	10.805	8.926 - 12.883	107	3.726	2.925 - 4.670	3.398	2.261 - 4.887	3.966	1.603 - 8.046	4.834	3.843 - 5.984
24/ 210	283	10.619	9.021 - 12.363	11.850	9.874 - 14.019	130	3.711	2.841 - 4.750	3.509	2.616 - 4.598	4.087	1.700 - 8.133	4.821	3.923 - 5.848
27/ 34	0	2.197	1.609 - 2.930	2.080	1.564 - 2.711	0	2.197	1.609 - 2.930	2.080	1.564 - 2.711	2.197	1.609 - 2.930	2.080	1.564 - 2.711
27/ 35	2	2.190	1.604 - 2.920	2.037	1.523 - 2.671	1	2.013	1.426 - 2.764	1.787	1.315 - 2.377	0.543	0.000 - 18.835	2.178	1.670 - 2.791
27/ 40	13	2.355	0.018 - 19.570	2.242	1.672 - 2.945	7	2.052	0.007 - 20.862	1.883	1.425 - 2.443	0.623	0.000 - 15.964	2.461	1.868 - 3.181
27/ 45	23	2.747	2.111 - 3.511	2.562	1.953 - 3.299	13	2.234	1.621 - 3.004	1.957	1.507 - 2.501	0.800	0.002 - 12.254	2.750	2.063 - 3.590
27/ 50	32	3.146	2.473 - 3.940	2.975	2.320 - 3.753	18	2.418	1.782 - 3.207	2.056	1.593 - 2.613	0.537	0.000 - 19.119	2.368	1.489 - 3.579
27/ 55	40	3.441	2.742 - 4.256	3.329	2.633 - 4.145	22	2.546	1.895 - 3.347	2.122	1.652 - 2.684	0.714	0.000 - 13.816	2.599	1.659 - 3.874
27/ 60	47	3.878	3.151 - 4.715	3.839	3.097 - 4.695	26	2.724	2.051 - 3.545	2.283	1.784 - 2.878	0.936	0.006 - 10.707	2.911	2.030 - 4.038
27/ 70	59	4.736	3.967 - 5.599	4.964	4.115 - 5.923	32	3.139	2.428 - 3.986	2.758	2.147 - 3.485	1.255	0.038 - 8.785	2.727	1.739 - 4.069
27/ 80	79	5.451	4.633 - 6.359	5.936	4.976 - 7.009	42	3.296	1.075 - 7.664	2.853	2.112 - 3.765	2.983	0.688 - 8.393	2.602	1.571 - 4.055
27/ 90	101	6.155	5.299 - 7.096	6.884	5.796 - 8.092	52	3.447	1.889 - 5.743	3.001	2.101 - 4.149	3.640	1.108 - 8.732	3.345	2.263 - 4.749
27/ 100	125	6.745	5.848 - 7.725	7.705	6.467 - 9.078	61	3.606	2.298 - 5.361	3.181	2.128 - 4.559	2.361	0.461 - 7.360	3.302	2.366 - 4.475
27/ 110	146	7.316	6.376 - 8.337	8.472	7.067 - 10.030	70	3.709	2.557 - 5.180	3.267	2.099 - 4.833	2.485	0.533 - 7.365	3.246	2.312 - 4.422
27/ 120	165	8.020	7.020 - 9.101	9.186	7.613 - 10.934	81	3.725	2.740 - 4.934	3.219	1.980 - 4.927	3.055	0.905 - 7.532	3.990	2.947 - 5.262
27/ 130	188	8.642	7.377 - 10.028	9.740	8.050 - 11.615	94	3.816	2.725 - 5.177	3.271	2.003 - 5.023	3.085	2.048 - 4.452	3.859	2.916 - 4.996
27/ 140	210	9.229	7.880 - 10.702	10.361	8.553 - 12.364	105	3.906	2.835 - 5.230	3.350	2.086 - 5.078	3.127	2.244 - 4.233	3.815	2.934 - 4.864
27/ 150	231	9.800	8.353 - 11.381	10.987	9.069 - 13.109	115	3.981	2.913 - 5.294	3.470	2.210 - 5.166	3.673	2.760 - 4.780	4.509	3.554 - 5.624

VVal-79 Thalmann Algorithm; 3 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL					TOTAL					TOTAL			
	STOP	P(DCS)		P(DCS)		STOP	P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	TIME	BVM(3)		NMRI98		TIME	BVM(3)		NMRI98		BVM(3)		NMRI98	
	(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high
27/ 160	254	10.312	8.765 - 12.002	11.505	9.501 - 13.716	126	4.014	2.951 - 5.315	3.514	2.306 - 5.109	3.701	2.789 - 4.802	4.364	3.511 - 5.350
27/ 170	278	10.766	9.130 - 12.552	11.936	9.866 - 14.216	137	4.016	2.936 - 5.342	3.554	2.421 - 5.015	3.607	2.705 - 4.700	4.213	3.412 - 5.134
27/ 180	303	11.159	9.417 - 13.064	12.285	10.168 - 14.613	147	4.037	2.914 - 5.426	3.644	2.657 - 4.862	4.084	3.139 - 5.209	4.829	3.952 - 5.828
27/ 190	326	11.515	9.686 - 13.515	12.625	10.466 - 14.993	156	4.055	2.941 - 5.430	3.759	2.819 - 4.898	3.991	3.055 - 5.108	4.726	3.876 - 5.693
27/ 200	349	11.862	9.933 - 13.973	12.937	10.759 - 15.321	169	4.101	2.983 - 5.478	3.904	3.003 - 4.977	4.451	3.469 - 5.606	5.331	4.406 - 6.374
27/ 210	371	12.218	10.219 - 14.406	13.205	11.021 - 15.589	183	4.037	2.917 - 5.423	3.952	3.083 - 4.978	4.258	3.297 - 5.394	5.129	4.249 - 6.121
27/ 220	392	12.645	10.564 - 14.919	13.470	11.290 - 15.843	196	4.062	2.936 - 5.456	4.063	3.194 - 5.083	4.111	3.166 - 5.234	4.995	4.156 - 5.939
27/ 230	413	13.069	10.882 - 15.460	13.718	11.622 - 15.986	210	4.022	2.916 - 5.387	4.101	3.237 - 5.110	4.489	3.506 - 5.644	5.504	4.604 - 6.513
27/ 240	432	13.484	11.165 - 16.023	14.045	12.003 - 16.244	223	3.935	3.031 - 5.009	4.133	3.282 - 5.125	4.216	3.262 - 5.345	5.217	4.381 - 6.153
30/ 27	0	2.182	1.595 - 2.915	1.897	1.410 - 2.501	0	2.182	1.595 - 2.915	1.897	1.410 - 2.501	2.182	1.595 - 2.915	1.897	1.410 - 2.501
30/ 30	2	2.341	1.722 - 3.109	2.035	1.510 - 2.686	1	2.155	1.532 - 2.948	1.779	1.301 - 2.378	0.603	0.252 - 1.269	2.187	1.688 - 2.787
30/ 35	14	2.551	1.915 - 3.327	2.302	1.707 - 3.036	8	2.203	1.585 - 2.983	1.899	1.433 - 2.470	0.702	0.328 - 1.357	2.525	1.935 - 3.237
30/ 40	26	3.020	2.328 - 3.846	2.680	2.029 - 3.470	15	2.424	1.767 - 3.245	1.996	1.538 - 2.550	0.472	0.156 - 1.183	2.265	1.474 - 3.330
30/ 45	38	3.439	2.696 - 4.315	3.056	2.356 - 3.892	21	2.566	1.876 - 3.423	2.029	1.554 - 2.604	0.600	0.245 - 1.285	2.508	1.611 - 3.725
30/ 50	47	3.892	3.113 - 4.798	3.599	2.848 - 4.477	26	2.781	2.057 - 3.674	2.183	1.690 - 2.776	0.809	0.405 - 1.479	2.807	1.937 - 3.929
30/ 55	55	4.429	3.604 - 5.373	4.230	3.425 - 5.156	30	3.022	2.263 - 3.947	2.408	1.875 - 3.044	2.752	1.797 - 4.029	2.352	1.423 - 3.661
30/ 60	63	4.949	4.081 - 5.931	4.893	4.032 - 5.868	34	3.250	2.455 - 4.213	2.651	2.061 - 3.353	3.155	2.173 - 4.418	2.709	1.753 - 3.994
30/ 70	84	5.852	3.020 - 10.005	6.102	5.136 - 7.178	43	3.556	0.613 - 11.247	2.979	2.243 - 3.873	3.315	1.369 - 6.692	2.686	1.717 - 4.001
30/ 80	111	6.704	5.702 - 7.811	7.238	6.152 - 8.435	55	3.721	1.891 - 6.521	3.142	2.220 - 4.309	3.503	1.820 - 6.058	2.767	1.932 - 3.834
30/ 90	139	7.373	6.323 - 8.525	8.197	6.944 - 9.576	66	3.924	2.371 - 6.069	3.366	2.263 - 4.801	4.211	2.424 - 6.738	3.583	2.652 - 4.721
30/ 100	165	8.104	7.008 - 9.296	9.060	7.626 - 10.640	83	4.121	2.814 - 5.795	3.408	2.220 - 4.986	4.038	2.508 - 6.114	3.520	2.579 - 4.679
30/ 110	190	8.954	7.790 - 10.215	9.858	8.256 - 11.623	100	4.240	3.127 - 5.597	3.467	2.206 - 5.164	3.006	2.537 - 3.534	3.726	2.820 - 4.817
30/ 120	217	9.646	8.402 - 10.989	10.601	8.841 - 12.541	113	4.374	3.342 - 5.603	3.604	2.298 - 5.357	3.164	2.681 - 3.707	3.813	2.949 - 4.838
30/ 130	241	10.316	8.968 - 11.770	11.379	9.453 - 13.498	126	4.495	3.530 - 5.624	3.768	2.437 - 5.535	3.813	3.256 - 4.433	4.638	3.686 - 5.744
30/ 140	270	10.906	9.456 - 12.469	11.968	9.920 - 14.221	141	4.489	3.562 - 5.567	3.768	2.490 - 5.444	3.932	3.362 - 4.566	4.596	3.732 - 5.586
30/ 150	299	11.403	9.832 - 13.099	12.436	10.283 - 14.802	154	4.438	3.499 - 5.534	3.739	2.555 - 5.260	3.894	3.330 - 4.520	4.502	3.684 - 5.435
33/ 21	0	2.057	1.481 - 2.786	1.661	1.214 - 2.222	0	2.057	1.481 - 2.786	1.661	1.214 - 2.222	2.057	1.481 - 2.786	1.661	1.214 - 2.222
33/ 25	4	2.300	1.677 - 3.078	1.846	1.353 - 2.463	2	2.005	1.380 - 2.821	1.617	1.178 - 2.169	0.634	0.253 - 1.380	2.104	1.629 - 2.675
33/ 30	12	2.612	1.954 - 3.419	2.264	1.668 - 3.003	7	2.280	1.646 - 3.078	1.889	1.410 - 2.482	0.744	0.337 - 1.474	2.493	1.926 - 3.173
33/ 35	27	3.136	2.413 - 4.001	2.629	1.958 - 3.454	15	2.496	1.815 - 3.347	1.927	1.456 - 2.503	0.504	0.158 - 1.303	2.291	1.515 - 3.326
33/ 40	40	3.622	2.822 - 4.568	3.096	2.360 - 3.982	22	2.729	1.997 - 3.638	2.071	1.581 - 2.664	0.625	0.242 - 1.389	2.580	1.687 - 3.775
33/ 45	51	4.220	3.362 - 5.217	3.739	2.939 - 4.679	28	2.985	2.194 - 3.963	2.239	1.717 - 2.869	2.646	1.672 - 3.978	2.179	1.235 - 3.572

VVal-79 Thalmann Algorithm; 3 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL		P(DCS)			TOTAL		P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)			STOP	P(DCS)	P(DCS)			P(DCS)	P(DCS)		
	TIME	BVM(3)	NMRI98			TIME	BVM(3)	NMRI98			BVM(3)	NMRI98		
	(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high
33/ 50	61	4.851	3.922 - 5.917	4.472	3.609 - 5.466	33	3.258	2.405 - 4.305	2.475	1.912 - 3.150	3.112	2.095 - 4.440	2.505	1.588 - 3.757
33/ 55	70	5.389	4.390 - 6.527	5.177	4.254 - 6.224	38	3.437	2.538 - 4.538	2.626	2.011 - 3.367	3.600	2.569 - 4.891	2.948	2.048 - 4.100
33/ 60	82	5.979	4.920 - 7.174	5.936	4.963 - 7.024	42	3.707	2.753 - 4.869	2.956	2.255 - 3.800	3.438	1.312 - 7.272	2.575	1.653 - 3.824
33/ 70	113	7.035	5.879 - 8.324	7.305	6.230 - 8.489	55	3.957	1.779 - 7.511	3.234	2.331 - 4.361	3.769	1.829 - 6.815	2.770	1.984 - 3.758
33/ 80	147	7.824	6.605 - 9.171	8.414	7.189 - 9.756	73	4.368	2.500 - 7.013	3.558	2.496 - 4.902	4.441	2.439 - 7.339	3.630	2.764 - 4.670
33/ 90	177	8.763	7.490 - 10.155	9.471	8.056 - 11.020	94	4.598	3.052 - 6.602	3.614	2.442 - 5.133	4.610	2.924 - 6.854	3.830	2.901 - 4.947
33/ 100	207	9.707	8.366 - 11.164	10.408	8.807 - 12.160	113	4.755	3.424 - 6.396	3.739	2.461 - 5.418	4.794	3.056 - 7.095	4.143	3.217 - 5.239
33/ 110	238	10.498	9.076 - 12.037	11.296	9.501 - 13.261	130	4.854	3.675 - 6.263	3.821	2.500 - 5.561	3.635	3.113 - 4.215	4.315	3.415 - 5.365
33/ 120	271	11.249	9.734 - 12.884	12.081	10.113 - 14.235	147	4.921	3.844 - 6.184	3.895	2.575 - 5.622	3.890	3.340 - 4.500	4.428	3.595 - 5.383
33/ 150	372	12.862	11.036 - 14.832	13.640	11.281 - 16.223	194	4.844	3.796 - 6.071	4.107	3.086 - 5.338	4.673	4.024 - 5.389	5.430	4.529 - 6.442
33/ 180	463	14.450	12.259 - 16.816	14.630	12.198 - 17.273	254	4.657	3.619 - 5.878	4.366	3.447 - 5.440	4.490	3.873 - 5.169	5.360	4.545 - 6.265
36/ 16	0	1.853	1.303 - 2.561	1.453	1.037 - 1.985	0	1.853	1.303 - 2.561	1.453	1.037 - 1.985	1.853	1.303 - 2.561	1.453	1.037 - 1.985
36/ 20	3	2.207	1.607 - 2.958	1.696	1.229 - 2.284	2	1.859	1.250 - 2.667	1.439	1.039 - 1.948	0.628	0.000 - 28.801	1.962	1.518 - 2.497
36/ 25	9	2.533	1.865 - 3.361	2.127	1.571 - 2.816	5	2.192	1.569 - 2.981	1.774	1.280 - 2.399	0.753	0.000 - 23.368	2.401	1.880 - 3.020
36/ 30	23	3.045	2.312 - 3.930	2.520	1.875 - 3.313	13	2.504	1.811 - 3.373	1.986	1.447 - 2.663	0.926	0.000 - 18.741	2.867	2.244 - 3.607
36/ 35	39	3.652	2.836 - 4.620	3.100	2.375 - 3.970	22	2.802	2.040 - 3.751	2.126	1.538 - 2.866	2.735	0.351 - 10.112	2.609	1.737 - 3.761
36/ 40	52	4.355	3.439 - 5.425	3.803	3.003 - 4.740	29	3.054	2.095 - 4.292	2.269	1.610 - 3.109	2.811	0.378 - 10.160	2.237	1.324 - 3.546
36/ 45	64	5.080	4.059 - 6.260	4.611	3.750 - 5.595	35	3.369	2.331 - 4.697	2.519	1.785 - 3.451	3.353	0.659 - 10.069	2.611	1.709 - 3.817
36/ 50	74	5.757	4.638 - 7.040	5.501	4.595 - 6.518	40	3.662	2.646 - 4.922	2.807	1.993 - 3.835	3.928	1.016 - 10.198	3.149	2.290 - 4.215
36/ 55	89	6.454	5.250 - 7.821	6.369	5.440 - 7.394	45	3.933	0.751 - 11.761	3.159	2.242 - 4.316	3.836	0.608 - 12.446	2.828	2.017 - 3.850
36/ 60	105	7.095	5.813 - 8.541	7.203	6.253 - 8.239	52	4.120	1.516 - 8.819	3.362	2.331 - 4.679	4.375	0.819 - 13.026	3.514	2.435 - 4.889
36/ 70	146	8.107	5.385 - 11.526	8.538	7.529 - 9.623	74	4.709	1.802 - 9.779	3.799	2.609 - 5.322	4.637	1.731 - 9.777	3.596	2.643 - 4.768
36/ 80	181	9.176	6.406 - 12.540	9.799	8.639 - 11.044	99	5.063	2.293 - 9.466	3.940	2.623 - 5.656	4.977	2.240 - 9.350	3.953	2.933 - 5.195
36/ 90	218	10.255	8.720 - 11.930	10.844	9.485 - 12.303	122	5.195	3.594 - 7.209	3.999	2.569 - 5.900	5.278	3.399 - 7.739	4.377	3.367 - 5.575
36/ 100	254	11.196	9.590 - 12.938	11.918	10.328 - 13.630	142	5.391	3.986 - 7.087	4.181	2.698 - 6.144	5.396	3.557 - 7.772	4.725	3.714 - 5.905
36/ 110	293	12.013	10.326 - 13.835	12.765	10.949 - 14.723	163	5.359	4.125 - 6.815	4.140	2.677 - 6.075	5.479	3.561 - 7.974	4.920	3.980 - 5.999
36/ 120	334	12.665	10.896 - 14.572	13.379	11.358 - 15.567	182	5.292	4.134 - 6.646	4.107	2.755 - 5.857	5.412	3.485 - 7.933	5.058	4.139 - 6.104
39/ 12	0	1.631	1.106 - 2.327	1.262	0.871 - 1.776	0	1.631	1.106 - 2.327	1.262	0.871 - 1.776	1.631	1.106 - 2.327	1.262	0.871 - 1.776
39/ 15	2	1.954	1.385 - 2.682	1.451	1.029 - 1.993	1	1.741	1.191 - 2.465	1.191	0.850 - 1.628	0.597	0.072 - 2.672	1.733	1.315 - 2.243
39/ 20	8	2.401	0.023 - 18.987	1.931	1.416 - 2.575	5	2.024	0.006 - 20.730	1.625	1.179 - 2.190	0.727	0.282 - 1.608	2.204	1.717 - 2.787
39/ 25	16	2.849	2.130 - 3.728	2.386	1.751 - 3.175	9	2.440	1.764 - 3.289	2.000	1.451 - 2.690	0.894	0.408 - 1.751	2.724	2.135 - 3.423
39/ 30	35	3.523	2.711 - 4.491	2.925	2.189 - 3.824	19	2.758	1.993 - 3.714	2.130	1.532 - 2.885	0.600	0.189 - 1.536	2.554	1.703 - 3.677

VVal-79 Thalmann Algorithm; 3 msw Last In-water Stop

Depth (msw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL						TOTAL									
	STOP		P(DCS)		P(DCS)		STOP		P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	TIME	BVM(3)			NMRI98			TIME	BVM(3)			NMRI98			BVM(3)	NMRI98
	(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high
39/ 35	50	4.289	3.337 - 5.410	3.679	2.836 - 4.682	28	3.097	2.225 - 4.189	2.335	1.667 - 3.180	2.839	1.805 - 4.243	2.239	1.330 - 3.539		
39/ 40	64	5.110	4.028 - 6.370	4.609	3.683 - 5.681	35	3.449	2.461 - 4.688	2.611	1.858 - 3.564	3.458	2.367 - 4.861	2.628	1.736 - 3.813		
39/ 45	76	5.956	4.734 - 7.365	5.643	4.651 - 6.763	41	3.794	2.689 - 5.181	2.920	2.083 - 3.974	3.504	1.061 - 8.456	2.399	1.509 - 3.625		
39/ 50	92	6.776	5.427 - 8.318	6.626	5.600 - 7.763	47	4.177	0.870 - 11.936	3.353	2.414 - 4.525	4.097	1.266 - 9.670	2.919	2.049 - 4.028		
39/ 55	112	7.467	6.005 - 9.128	7.523	6.475 - 8.669	56	4.494	1.625 - 9.670	3.666	2.619 - 4.974	4.656	1.536 - 10.513	3.622	2.562 - 4.956		
39/ 60	136	8.099	6.563 - 9.832	8.332	7.273 - 9.479	70	4.816	2.220 - 8.925	3.846	2.724 - 5.253	4.545	2.118 - 8.384	3.276	2.381 - 4.386		
39/ 70	178	9.293	7.640 - 11.136	9.835	8.675 - 11.080	98	5.366	3.074 - 8.570	4.182	2.903 - 5.802	5.093	2.733 - 8.522	3.808	2.808 - 5.030		
39/ 80	220	10.593	8.842 - 12.521	11.085	9.744 - 12.521	126	5.562	3.647 - 8.040	4.202	2.788 - 6.041	5.571	3.545 - 8.235	4.402	3.385 - 5.609		
39/ 90	262	11.701	9.880 - 13.687	12.323	10.742 - 14.019	149	5.861	4.173 - 7.938	4.466	2.962 - 6.419	5.842	3.924 - 8.283	4.901	3.866 - 6.107		
39/ 100	308	12.612	10.733 - 14.647	13.248	11.415 - 15.218	174	5.752	4.296 - 7.495	4.312	2.821 - 6.266	6.029	4.065 - 8.520	5.203	4.225 - 6.320		
39/ 110	355	13.359	11.420 - 15.452	13.961	11.888 - 16.199	195	5.736	4.414 - 7.292	4.364	2.966 - 6.155	6.067	4.103 - 8.551	5.493	4.525 - 6.587		
39/ 120	398	13.997	11.987 - 16.159	14.568	12.272 - 17.054	217	5.682	4.429 - 7.145	4.458	3.217 - 5.988	4.597	3.946 - 5.317	5.042	4.174 - 6.023		
39/ 150	515	16.084	13.716 - 18.622	15.912	13.307 - 18.729	298	5.187	3.997 - 6.591	4.595	3.596 - 5.767	4.876	4.199 - 5.623	5.628	4.800 - 6.543		
39/ 180	610	17.599	14.760 - 20.648	17.313	14.891 - 19.889	366	4.891	4.126 - 5.746	4.646	3.598 - 5.883	4.612	3.958 - 5.334	5.538	4.774 - 6.379		
42/ 10	0	1.587	1.050 - 2.309	1.213	0.821 - 1.737	0	1.587	1.050 - 2.309	1.213	0.821 - 1.737	1.587	1.050 - 2.309	1.213	0.821 - 1.737		
42/ 15	4	2.181	1.564 - 2.963	1.606	1.152 - 2.184	3	1.696	0.998 - 2.709	1.341	0.964 - 1.823	0.670	0.223 - 1.652	1.911	1.464 - 2.453		
42/ 20	13	2.567	1.896 - 3.396	2.084	1.510 - 2.806	7	2.208	1.578 - 3.007	1.769	1.269 - 2.405	0.838	0.347 - 1.764	2.462	1.924 - 3.103		
42/ 25	26	3.224	2.453 - 4.153	2.641	1.927 - 3.529	14	2.669	1.925 - 3.603	2.129	1.531 - 2.885	0.614	0.184 - 1.630	2.409	1.602 - 3.480		
42/ 30	45	4.047	3.121 - 5.145	3.423	2.575 - 4.451	25	3.052	2.190 - 4.134	2.344	1.681 - 3.181	3.179	2.172 - 4.478	2.878	2.117 - 3.817		
42/ 35	61	4.981	3.881 - 6.272	4.376	3.406 - 5.519	34	3.540	2.529 - 4.807	2.654	1.907 - 3.592	3.369	2.317 - 4.719	2.345	1.487 - 3.520		
42/ 40	76	5.935	4.641 - 7.441	5.502	4.441 - 6.717	42	3.979	2.712 - 5.605	2.980	2.158 - 4.006	4.091	2.977 - 5.461	2.947	2.186 - 3.880		
42/ 45	93	6.870	5.401 - 8.566	6.653	5.537 - 7.900	49	4.441	0.592 - 15.097	3.516	2.590 - 4.653	4.053	1.234 - 9.648	2.801	1.961 - 3.873		
42/ 50	114	7.721	6.105 - 9.575	7.731	6.585 - 8.992	58	4.741	1.660 - 10.349	3.835	2.789 - 5.126	4.741	1.494 - 10.955	3.743	2.694 - 5.047		
42/ 55	141	8.473	6.753 - 10.431	8.651	7.494 - 9.908	74	5.175	2.302 - 9.776	4.118	2.994 - 5.503	4.901	2.250 - 9.099	3.487	2.545 - 4.651		
42/ 60	165	9.126	7.309 - 11.183	9.513	8.320 - 10.799	90	5.534	2.797 - 9.613	4.317	3.120 - 5.795	5.666	2.877 - 9.804	4.375	3.238 - 5.756		
42/ 70	212	10.661	8.701 - 12.844	11.043	9.719 - 12.460	123	5.908	3.600 - 9.006	4.428	3.060 - 6.161	5.614	3.436 - 8.539	4.136	3.149 - 5.318		
42/ 80	261	11.967	9.924 - 14.213	12.451	10.905 - 14.105	151	6.199	4.159 - 8.787	4.616	3.124 - 6.526	6.049	4.028 - 8.628	4.791	3.757 - 6.001		
42/ 90	313	13.051	10.951 - 15.338	13.570	11.762 - 15.509	179	6.208	4.460 - 8.342	4.568	3.045 - 6.536	6.411	4.376 - 8.963	5.289	4.296 - 6.424		
45/ 9	0	1.643	1.079 - 2.404	1.236	0.833 - 1.777	0	1.643	1.079 - 2.404	1.236	0.833 - 1.777	1.643	1.079 - 2.404	1.236	0.833 - 1.777		
45/ 10	2	1.738	0.087 - 9.722	1.232	0.836 - 1.759	1	1.513	0.044 - 10.309	0.972	0.681 - 1.353	0.616	0.000 - 28.383	1.552	1.141 - 2.067		
45/ 15	8	2.274	0.029 - 17.201	1.676	1.194 - 2.293	4	1.802	0.310 - 6.131	1.441	1.022 - 1.979	0.751	0.266 - 1.768	2.099	1.619 - 2.677		
45/ 20	17	2.819	2.069 - 3.748	2.336	1.683 - 3.158	9	2.413	1.738 - 3.264	1.959	1.394 - 2.678	0.956	0.419 - 1.926	2.736	2.139 - 3.446		

VVal-79 Thalmann Algorithm; 3 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL					TOTAL					TOTAL			
	STOP	P(DCS)		P(DCS)		STOP	P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	TIME	BVM(3)		NMRI98		TIME	BVM(3)		NMRI98		BVM(3)		NMRI98	
	(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high
45/ 25	36	3.666	2.797 - 4.707	3.011	2.206 - 4.007	19	2.921	2.106 - 3.942	2.329	1.675 - 3.152	2.911	1.919 - 4.227	2.663	1.816 - 3.765
45/ 30	56	4.667	3.595 - 5.935	3.974	3.009 - 5.134	32	3.464	2.473 - 4.704	2.566	1.842 - 3.477	3.150	2.126 - 4.483	2.151	1.299 - 3.358
45/ 35	72	5.744	4.451 - 7.261	5.203	4.107 - 6.478	42	4.019	2.822 - 5.527	2.980	2.170 - 3.986	3.806	2.710 - 5.177	2.698	1.962 - 3.616
45/ 40	90	6.815	5.297 - 8.581	6.472	5.284 - 7.816	50	4.554	3.155 - 6.324	3.489	2.583 - 4.597	3.981	1.193 - 9.570	2.632	1.872 - 3.594
45/ 45	113	7.779	6.046 - 9.785	7.676	6.435 - 9.052	60	4.890	1.569 - 11.165	3.860	2.836 - 5.117	4.780	1.456 - 11.235	3.647	2.612 - 4.939
45/ 50	142	8.648	6.757 - 10.821	8.739	7.480 - 10.114	76	5.333	2.250 - 10.387	4.176	3.059 - 5.545	5.051	2.204 - 9.665	3.503	2.535 - 4.704
45/ 55	169	9.416	7.406 - 11.710	9.737	8.449 - 11.130	93	5.806	2.796 - 10.386	4.508	3.315 - 5.962	5.936	2.898 - 10.514	4.544	3.351 - 5.997
45/ 60	194	10.296	8.175 - 12.694	10.670	9.329 - 12.111	112	6.078	3.310 - 10.015	4.571	3.281 - 6.166	5.991	3.482 - 9.442	4.415	3.303 - 5.757
45/ 70	250	11.919	9.666 - 14.425	12.257	10.747 - 13.872	147	6.442	3.995 - 9.678	4.706	3.264 - 6.524	5.990	3.859 - 8.761	4.402	3.414 - 5.569
45/ 80	306	13.274	10.937 - 15.840	13.693	11.935 - 15.571	178	6.616	4.512 - 9.254	4.782	3.245 - 6.745	6.569	4.438 - 9.254	5.097	4.119 - 6.218
45/ 90	368	14.278	11.916 - 16.847	14.617	12.572 - 16.809	208	6.577	4.740 - 8.810	4.717	3.241 - 6.589	6.866	3.669 - 11.409	5.680	4.681 - 6.810
45/ 100	425	15.136	12.744 - 17.720	15.366	13.032 - 17.880	238	6.435	4.787 - 8.405	4.699	3.435 - 6.242	6.264	3.961 - 9.282	5.495	4.575 - 6.529
45/ 110	480	16.099	13.678 - 18.697	15.889	13.347 - 18.633	274	6.319	4.805 - 8.107	4.841	3.801 - 6.057	5.607	4.856 - 6.430	6.054	5.116 - 7.097
45/ 120	527	16.996	14.462 - 19.707	16.502	13.811 - 19.405	310	6.017	4.588 - 7.705	4.835	3.831 - 6.003	5.243	2.146 - 10.406	5.687	4.860 - 6.602
45/ 130	570	17.734	15.076 - 20.573	17.093	14.298 - 20.102	341	5.825	4.473 - 7.417	4.867	3.828 - 6.080	5.336	4.602 - 6.143	5.911	5.091 - 6.812
45/ 140	610	18.362	15.569 - 21.341	17.623	14.925 - 20.509	371	5.728	4.438 - 7.240	4.927	3.851 - 6.188	5.413	4.673 - 6.227	6.110	5.292 - 7.005
45/ 150	649	18.869	15.938 - 21.995	18.109	15.531 - 20.850	401	5.756	4.530 - 7.180	5.091	3.988 - 6.380	5.355	4.616 - 6.169	6.125	5.313 - 7.014
45/ 180	746	20.643	17.217 - 24.292	19.632	16.955 - 22.457	476	5.867	4.940 - 6.900	5.352	4.264 - 6.609	5.507	4.739 - 6.354	6.543	5.599 - 7.583
48/ 8	0	1.676	1.089 - 2.475	1.240	0.827 - 1.796	0	1.676	1.089 - 2.475	1.240	0.827 - 1.796	1.676	1.089 - 2.475	1.240	0.827 - 1.796
48/ 10	4	1.885	1.287 - 2.670	1.308	0.906 - 1.835	2	1.518	0.930 - 2.353	1.085	0.773 - 1.488	0.660	0.188 - 1.801	1.672	1.243 - 2.205
48/ 15	12	2.381	1.642 - 3.339	1.840	1.320 - 2.501	7	1.926	1.347 - 2.674	1.511	1.075 - 2.071	0.833	0.308 - 1.900	2.298	1.780 - 2.918
48/ 20	22	3.141	2.367 - 4.081	2.570	1.841 - 3.489	11	2.669	1.931 - 3.591	2.228	1.594 - 3.030	1.077	0.497 - 2.086	3.026	2.362 - 3.815
48/ 25	46	4.154	3.182 - 5.312	3.416	2.506 - 4.536	26	3.265	2.355 - 4.400	2.484	1.785 - 3.364	3.253	2.304 - 4.452	2.676	1.984 - 3.527
48/ 30	66	5.323	1.210 - 14.242	4.647	3.590 - 5.898	39	3.874	0.437 - 14.294	2.828	2.067 - 3.773	3.476	0.088 - 20.099	2.373	1.576 - 3.433
48/ 35	83	6.516	0.935 - 20.264	6.062	4.830 - 7.480	49	4.487	0.229 - 20.509	3.334	2.458 - 4.410	4.408	0.219 - 20.378	3.271	2.413 - 4.326
48/ 40	108	7.677	3.786 - 13.362	7.436	6.126 - 8.905	60	4.987	0.857 - 15.125	3.848	2.856 - 5.058	4.708	0.804 - 14.424	3.392	2.412 - 4.624
48/ 45	139	8.673	6.681 - 10.978	8.635	7.286 - 10.120	75	5.448	2.107 - 11.149	4.241	3.137 - 5.586	5.057	2.078 - 10.034	3.372	2.415 - 4.569
48/ 50	169	9.572	7.385 - 12.090	9.757	8.378 - 11.257	94	6.030	2.757 - 11.120	4.682	3.489 - 6.122	6.057	2.802 - 11.086	4.514	3.330 - 5.953
48/ 55	197	10.538	3.857 - 21.111	10.806	9.379 - 12.345	115	6.301	1.128 - 18.196	4.667	3.387 - 6.238	6.215	0.184 - 29.353	4.477	3.337 - 5.855
48/ 60	228	11.545	9.116 - 14.285	11.719	10.233 - 13.314	135	6.566	3.746 - 10.456	4.773	3.398 - 6.479	6.431	3.826 - 9.953	4.583	3.530 - 5.830
48/ 70	287	13.204	10.628 - 16.064	13.546	11.846 - 15.359	170	6.974	4.434 - 10.270	5.012	3.491 - 6.921	7.218	4.834 - 10.220	5.610	4.465 - 6.932
48/ 80	357	14.471	11.859 - 17.334	14.702	12.732 - 16.806	206	7.023	4.799 - 9.799	4.912	3.405 - 6.812	6.964	4.849 - 9.578	5.410	4.435 - 6.516

VVal-79 Thalmann Algorithm; 3 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL		P(DCS)			TOTAL		P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)			STOP	P(DCS)	P(DCS)			P(DCS)	P(DCS)		
	TIME	BVM(3)	NMRI98			TIME	BVM(3)	NMRI98			BVM(3)	NMRI98		
	(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high
51/ 7	0	1.675	1.071 - 2.508	1.224	0.809 - 1.787	0	1.675	1.071 - 2.508	1.224	0.809 - 1.787	1.675	1.071 - 2.508	1.224	0.809 - 1.787
51/ 10	6	1.992	1.353 - 2.832	1.351	0.940 - 1.887	3	1.492	0.059 - 9.289	1.106	0.790 - 1.514	0.712	0.212 - 1.886	1.798	1.349 - 2.351
51/ 15	16	2.557	1.827 - 3.479	2.003	1.454 - 2.693	8	2.142	1.519 - 2.936	1.728	1.249 - 2.334	0.925	0.366 - 2.006	2.507	1.948 - 3.176
51/ 20	32	3.460	0.125 - 18.405	2.790	2.028 - 3.740	17	2.933	0.056 - 18.977	2.357	1.729 - 3.138	2.814	0.054 - 18.375	2.368	1.515 - 3.529
51/ 25	56	4.691	3.582 - 6.010	3.937	2.946 - 5.137	33	3.626	2.593 - 4.916	2.665	1.940 - 3.569	3.514	2.517 - 4.760	2.907	2.234 - 3.714
51/ 30	76	6.040	4.603 - 7.737	5.381	4.169 - 6.804	46	4.313	2.989 - 5.990	3.133	2.288 - 4.178	4.021	2.853 - 5.483	2.761	2.064 - 3.612
51/ 35	100	7.339	5.573 - 9.413	6.905	5.622 - 8.356	57	4.969	0.774 - 15.664	3.744	2.835 - 4.838	4.437	1.293 - 10.733	2.918	2.042 - 4.036
51/ 40	131	8.525	6.470 - 10.924	8.324	6.906 - 9.904	73	5.428	1.939 - 11.613	4.100	3.031 - 5.404	4.903	1.920 - 10.027	3.067	2.206 - 4.145
51/ 45	165	9.559	7.280 - 12.201	9.593	8.135 - 11.190	91	6.046	2.602 - 11.561	4.602	3.426 - 6.023	6.006	2.628 - 11.376	4.316	3.139 - 5.764
51/ 50	196	10.629	8.147 - 13.482	10.760	9.259 - 12.388	115	6.454	3.188 - 11.310	4.677	3.419 - 6.215	6.304	3.423 - 10.395	4.377	3.247 - 5.750
51/ 55	229	11.753	9.123 - 14.741	11.806	10.244 - 13.485	137	6.769	3.694 - 11.097	4.812	3.451 - 6.492	6.623	3.832 - 10.443	4.574	3.522 - 5.819
51/ 60	262	12.727	9.981 - 15.819	12.858	11.206 - 14.626	156	7.076	4.095 - 11.133	5.021	3.574 - 6.814	6.723	4.250 - 9.950	4.724	3.684 - 5.946
51/ 70	333	14.380	11.499 - 17.572	14.532	12.654 - 16.535	197	7.290	4.664 - 10.676	5.022	3.482 - 6.960	6.785	4.595 - 9.536	4.839	3.920 - 5.893
51/ 80	408	15.611	12.705 - 18.791	15.635	13.447 - 17.973	232	7.359	5.021 - 10.273	5.090	3.605 - 6.933	7.407	5.198 - 10.116	5.844	4.844 - 6.969
51/ 90	480	16.795	13.909 - 19.917	16.325	13.842 - 18.990	277	7.193	5.123 - 9.716	5.061	3.941 - 6.374	6.968	4.808 - 9.651	5.944	5.001 - 6.993
51/ 100	540	17.969	15.021 - 21.135	17.116	14.406 - 20.027	322	6.813	4.954 - 9.058	5.053	4.059 - 6.197	5.721	4.943 - 6.575	5.887	5.032 - 6.831
51/ 110	594	18.893	15.885 - 22.107	17.823	14.933 - 20.925	361	6.617	4.918 - 8.647	5.128	4.094 - 6.322	5.994	5.186 - 6.878	6.331	5.469 - 7.275
51/ 120	647	19.628	16.550 - 22.905	18.346	15.518 - 21.366	402	6.519	4.965 - 8.351	5.245	4.169 - 6.490	5.624	4.837 - 6.490	5.965	5.183 - 6.820
51/ 150	772	21.786	18.316 - 25.459	20.122	17.370 - 23.023	500	6.600	5.575 - 7.737	5.705	4.561 - 7.023	5.638	4.816 - 6.546	6.228	5.289 - 7.267
51/ 180	876	23.346	19.309 - 27.614	21.969	18.954 - 25.132	585	7.195	6.066 - 8.446	6.376	4.992 - 7.982	6.129	5.246 - 7.101	7.002	5.753 - 8.407
54/ 6	0	1.637	1.027 - 2.490	1.189	0.774 - 1.758	0	1.637	1.027 - 2.490	1.189	0.774 - 1.758	1.637	1.027 - 2.490	1.189	0.774 - 1.758
54/ 10	8	2.116	1.419 - 3.038	1.462	1.018 - 2.042	4	1.546	1.037 - 2.227	1.234	0.872 - 1.703	0.763	0.237 - 1.962	1.930	1.459 - 2.506
54/ 15	19	2.681	1.944 - 3.602	2.189	1.560 - 2.987	11	2.404	1.730 - 3.252	1.927	1.392 - 2.604	0.946	0.449 - 1.798	2.516	1.945 - 3.200
54/ 20	41	3.867	2.933 - 4.990	3.112	2.299 - 4.110	24	3.186	2.307 - 4.280	2.435	1.806 - 3.210	3.019	2.103 - 4.189	2.465	1.678 - 3.492
54/ 25	65	5.286	4.024 - 6.783	4.513	3.488 - 5.725	41	3.950	2.768 - 5.441	2.798	2.099 - 3.651	3.434	2.361 - 4.811	2.273	1.427 - 3.440
54/ 30	87	6.764	2.486 - 14.034	6.170	4.902 - 7.631	53	4.776	1.148 - 12.609	3.458	2.608 - 4.486	4.650	1.206 - 11.870	3.329	2.513 - 4.316
54/ 35	118	8.165	6.144 - 10.542	7.777	6.319 - 9.424	67	5.346	1.617 - 12.497	3.981	2.949 - 5.239	5.167	1.568 - 12.092	3.686	2.655 - 4.969
54/ 40	156	9.353	7.035 - 12.060	9.180	7.701 - 10.811	87	5.935	2.333 - 11.972	4.420	3.300 - 5.774	5.748	2.340 - 11.387	3.876	2.781 - 5.239
54/ 45	190	10.502	7.906 - 13.514	10.531	8.958 - 12.247	110	6.505	2.755 - 12.505	4.697	3.460 - 6.202	6.194	3.213 - 10.535	4.105	3.009 - 5.448
54/ 50	224	11.779	8.976 - 14.990	11.745	10.112 - 13.509	135	6.907	3.593 - 11.677	4.855	3.517 - 6.497	6.642	3.710 - 10.728	4.413	3.379 - 5.644
54/ 55	261	12.885	9.938 - 16.224	12.893	11.178 - 14.735	156	7.289	4.032 - 11.813	5.100	3.668 - 6.862	6.868	4.231 - 10.352	4.667	3.630 - 5.888
54/ 60	297	13.894	10.824 - 17.343	13.977	12.169 - 15.908	179	7.518	4.439 - 11.647	5.176	3.671 - 7.041	7.091	4.548 - 10.372	4.801	3.823 - 5.933

VVal-79 Thalmann Algorithm; 3 msw Last In-water Stop

Depth (msw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL			P(DCS)			TOTAL			P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)		P(DCS)			STOP	P(DCS)		P(DCS)			P(DCS)		P(DCS)	
	TIME	BVM(3)		NMRI98			TIME	BVM(3)		NMRI98			BVM(3)		NMRI98	
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
54/ 70	382	15.469	12.299 - 18.973	15.372	13.312 - 17.569		221	7.690	4.925 - 11.241	5.171	3.650 - 7.062		7.953	5.547 - 10.902	5.946	4.879 - 7.153
57/ 5	0	1.569	0.962 - 2.431	1.136	0.727 - 1.704		0	1.569	0.962 - 2.431	1.136	0.727 - 1.704		1.569	0.962 - 2.431	1.136	0.727 - 1.704
57/ 10	10	2.209	0.152 - 10.649	1.567	1.104 - 2.165		5	1.628	0.038 - 11.571	1.311	0.928 - 1.805		0.818	0.000 - 60.302	2.069	1.573 - 2.673
57/ 15	22	2.947	2.152 - 3.932	2.411	1.733 - 3.263		13	2.658	1.932 - 3.563	2.141	1.569 - 2.856		1.002	0.527 - 1.762	2.686	2.068 - 3.427
57/ 20	50	4.314	0.504 - 15.448	3.517	2.603 - 4.637		30	3.449	0.200 - 16.139	2.575	1.900 - 3.410		3.191	0.081 - 18.865	2.653	1.972 - 3.490
57/ 25	75	5.929	4.493 - 7.632	5.136	3.948 - 6.540		47	4.321	2.984 - 6.018	3.055	2.261 - 4.029		3.942	2.766 - 5.425	2.584	1.866 - 3.484
57/ 30	104	7.517	5.641 - 9.734	6.918	5.618 - 8.391		61	5.151	0.896 - 15.474	3.742	2.874 - 4.778		4.611	1.379 - 10.972	2.921	2.104 - 3.944
57/ 35	141	8.948	6.677 - 11.617	8.577	7.112 - 10.206		79	5.741	2.033 - 12.293	4.190	3.147 - 5.447		5.315	2.025 - 10.990	3.288	2.386 - 4.407
57/ 40	179	10.198	7.576 - 13.265	10.079	8.452 - 11.871		102	6.484	2.757 - 12.440	4.665	3.462 - 6.122		6.677	2.865 - 12.722	4.818	3.595 - 6.294
57/ 45	215	11.619	8.712 - 14.979	11.450	9.763 - 13.284		130	6.990	3.411 - 12.299	4.844	3.542 - 6.432		6.490	3.476 - 10.789	4.060	3.069 - 5.252
57/ 50	256	12.867	9.762 - 16.412	12.695	10.927 - 14.601		154	7.413	3.925 - 12.357	5.112	3.698 - 6.845		7.685	4.367 - 12.214	5.422	4.252 - 6.785
57/ 55	294	14.011	6.433 - 24.468	13.944	12.087 - 15.930		178	7.744	2.116 - 18.316	5.247	3.759 - 7.080		7.964	2.100 - 19.070	5.712	4.537 - 7.068
57/ 60	339	14.992	11.613 - 18.777	14.858	12.905 - 16.942		202	7.862	4.673 - 12.109	5.231	3.690 - 7.146		7.343	4.871 - 10.470	4.916	3.959 - 6.017
57/ 70	428	16.522	13.047 - 20.359	16.224	13.969 - 18.630		247	7.908	5.033 - 11.606	5.195	3.729 - 6.999		7.441	5.165 - 10.247	5.454	4.492 - 6.542
57/ 80	513	18.086	14.628 - 21.844	17.052	14.507 - 19.776		303	7.784	5.217 - 11.002	5.236	4.166 - 6.472		7.256	5.059 - 9.964	5.857	4.941 - 6.877
57/ 90	583	19.405	15.916 - 23.159	18.001	15.193 - 21.006		356	7.459	5.171 - 10.283	5.292	4.302 - 6.422		6.112	5.257 - 7.050	6.011	5.168 - 6.937
57/ 100	647	20.442	16.936 - 24.186	18.748	15.748 - 21.956		405	7.317	5.258 - 9.811	5.417	4.385 - 6.596		5.989	5.120 - 6.948	5.934	5.156 - 6.784
57/ 110	707	21.301	17.810 - 25.008	19.330	16.512 - 22.319		452	7.254	5.410 - 9.445	5.583	4.494 - 6.831		6.284	5.386 - 7.273	6.386	5.559 - 7.287
57/ 120	757	22.260	18.684 - 26.041	20.027	17.201 - 23.012		492	7.330	5.659 - 9.276	5.790	4.644 - 7.105		6.364	5.453 - 7.368	6.579	5.679 - 7.565
60/ 5	0	1.705	0.356 - 5.280	1.218	0.792 - 1.802		0	1.705	0.356 - 5.280	1.218	0.792 - 1.802		1.705	0.356 - 5.280	1.218	0.792 - 1.802
60/ 10	11	2.291	1.406 - 3.531	1.687	1.208 - 2.298		6	1.772	1.221 - 2.493	1.459	1.049 - 1.982		0.880	0.299 - 2.116	2.215	1.693 - 2.846
60/ 15	28	3.095	2.302 - 4.066	2.616	1.891 - 3.524		17	2.750	1.997 - 3.688	2.277	1.685 - 3.009		0.972	0.541 - 1.637	2.844	2.161 - 3.671
60/ 20	59	4.776	0.542 - 16.980	3.986	3.006 - 5.165		37	3.688	0.179 - 17.871	2.669	1.990 - 3.501		3.538	0.119 - 19.054	2.896	2.192 - 3.748
60/ 25	85	6.588	3.110 - 11.864	5.846	4.633 - 7.249		53	4.733	1.587 - 10.581	3.390	2.603 - 4.331		4.502	1.445 - 10.341	3.058	2.336 - 3.927
60/ 30	121	8.286	6.172 - 10.782	7.725	6.306 - 9.323		71	5.479	1.641 - 12.843	3.918	2.976 - 5.048		5.291	1.595 - 12.399	3.631	2.706 - 4.757
60/ 35	165	9.732	7.198 - 12.711	9.359	7.779 - 11.111		93	6.214	2.424 - 12.552	4.433	3.313 - 5.785		6.131	2.448 - 12.235	4.071	2.970 - 5.425
60/ 40	204	11.180	8.274 - 14.567	10.902	9.226 - 12.731		121	6.901	3.161 - 12.627	4.676	3.449 - 6.166		6.820	3.458 - 11.728	4.507	3.353 - 5.905
60/ 45	246	12.662	9.452 - 16.359	12.303	10.497 - 14.259		149	7.401	3.764 - 12.659	4.961	3.589 - 6.643		7.484	3.769 - 12.875	5.003	3.878 - 6.326
60/ 50	288	13.963	10.518 - 17.888	13.676	11.786 - 15.707		174	7.859	4.229 - 12.935	5.220	3.763 - 7.009		7.899	4.786 - 12.004	5.412	4.262 - 6.749
63/ 4	0	1.574	0.956 - 2.457	1.135	0.724 - 1.709		0	1.574	0.956 - 2.457	1.135	0.724 - 1.709		1.574	0.956 - 2.457	1.135	0.724 - 1.709
63/ 5	1	1.798	0.000 - 49.023	1.235	0.808 - 1.818		1	1.522	0.000 - 53.096	0.922	0.616 - 1.337		0.718	0.194 - 2.020	1.506	1.074 - 2.059
63/ 10	14	2.301	1.539 - 3.310	1.810	1.306 - 2.448		8	1.938	1.349 - 2.702	1.605	1.163 - 2.164		0.921	0.349 - 2.058	2.247	1.720 - 2.884

VVal-79 Thalmann Algorithm; 3 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL		P(DCS)			TOTAL		P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)	P(DCS)	P(DCS)			
	TIME	BVM(3)	NMRI98		TIME	BVM(3)	NMRI98		BVM(3)	NMRI98				
	(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high
63/ 15	36	3.454	2.594 - 4.497	2.859	2.094 - 3.808	22	2.965	2.137 - 4.000	2.384	1.783 - 3.121	2.643	1.743 - 3.842	2.287	1.420 - 3.492
63/ 20	68	5.259	3.994 - 6.765	4.474	3.450 - 5.685	44	3.962	2.774 - 5.462	2.801	2.131 - 3.611	3.406	2.324 - 4.800	2.217	1.334 - 3.472
63/ 25	99	7.249	5.407 - 9.436	6.536	5.268 - 7.982	60	5.107	3.395 - 7.311	3.625	2.822 - 4.576	5.090	3.529 - 7.054	3.669	2.920 - 4.543
63/ 30	142	8.992	6.642 - 11.769	8.454	6.993 - 10.083	81	5.781	1.968 - 12.634	4.082	3.093 - 5.270	5.351	1.964 - 11.288	3.189	2.340 - 4.236
63/ 35	186	10.524	7.702 - 13.842	10.184	8.553 - 11.976	108	6.693	2.787 - 12.972	4.610	3.465 - 5.987	6.213	2.998 - 11.068	3.757	2.759 - 4.980
63/ 40	229	12.227	9.026 - 15.941	11.742	9.951 - 13.693	140	7.334	3.516 - 13.017	4.842	3.547 - 6.422	7.058	3.711 - 11.839	4.382	3.355 - 5.604
63/ 45	276	13.707	10.201 - 17.726	13.214	11.297 - 15.282	167	7.898	4.060 - 13.382	5.165	3.747 - 6.899	7.641	4.497 - 11.859	4.942	3.852 - 6.220
63/ 50	323	14.994	11.241 - 19.255	14.551	12.547 - 16.696	195	8.175	4.471 - 13.296	5.237	3.741 - 7.084	8.145	5.019 - 12.223	5.316	4.232 - 6.568
66/ 4	0	1.687	0.020 - 14.100	1.210	0.785 - 1.796	0	1.687	0.020 - 14.100	1.210	0.785 - 1.796	1.687	0.020 - 14.100	1.210	0.785 - 1.796
66/ 5	3	1.869	1.204 - 2.779	1.236	0.804 - 1.828	2	1.439	0.805 - 2.398	0.984	0.690 - 1.368	0.736	0.199 - 2.068	1.582	1.140 - 2.142
66/ 10	17	2.325	1.489 - 3.462	1.958	1.420 - 2.634	10	2.076	1.463 - 2.861	1.769	1.300 - 2.353	0.919	0.419 - 1.803	2.272	1.746 - 2.905
66/ 15	43	3.762	2.844 - 4.870	3.155	2.297 - 4.220	27	3.079	2.204 - 4.177	2.460	1.819 - 3.253	2.775	1.873 - 3.953	2.453	1.696 - 3.431
66/ 20	76	5.877	4.418 - 7.616	5.047	3.879 - 6.429	49	4.326	2.963 - 6.065	3.038	2.293 - 3.941	3.903	2.722 - 5.399	2.511	1.766 - 3.463
66/ 25	114	7.935	5.888 - 10.363	7.224	5.841 - 8.793	69	5.391	1.369 - 13.702	3.768	2.900 - 4.802	4.990	1.496 - 11.784	3.171	2.344 - 4.187
66/ 30	163	9.737	7.117 - 12.834	9.184	7.638 - 10.897	93	6.233	2.335 - 12.871	4.298	3.247 - 5.561	6.115	2.345 - 12.485	3.903	2.891 - 5.139
66/ 35	209	11.490	8.377 - 15.137	10.959	9.242 - 12.837	127	7.091	3.186 - 13.106	4.616	3.420 - 6.067	7.097	3.524 - 12.346	4.577	3.456 - 5.921
66/ 40	258	13.214	9.702 - 17.275	12.541	10.656 - 14.585	157	7.803	3.832 - 13.606	5.048	3.696 - 6.694	8.007	4.276 - 13.233	5.269	4.124 - 6.605
69/ 5	4	1.975	1.289 - 2.903	1.306	0.875 - 1.885	3	1.389	0.745 - 2.395	1.053	0.740 - 1.460	0.756	0.206 - 2.112	1.661	1.208 - 2.233
69/ 10	20	2.531	1.760 - 3.522	2.105	1.494 - 2.886	13	2.332	1.667 - 3.175	1.854	1.339 - 2.505	0.936	0.462 - 1.727	2.397	1.833 - 3.079
69/ 15	52	4.060	3.096 - 5.211	3.509	2.597 - 4.625	33	3.199	2.293 - 4.334	2.558	1.909 - 3.355	2.921	2.032 - 4.060	2.622	1.917 - 3.498
69/ 20	85	6.409	4.824 - 8.291	5.677	4.458 - 7.094	55	4.617	3.129 - 6.522	3.302	2.546 - 4.205	4.338	3.067 - 5.929	2.900	2.277 - 3.637
69/ 25	130	8.618	6.351 - 11.306	7.956	6.500 - 9.593	78	5.697	1.783 - 13.019	3.958	3.041 - 5.050	5.616	1.718 - 13.001	3.846	2.968 - 4.890
69/ 30	184	10.457	3.531 - 21.767	9.933	8.286 - 11.752	107	6.733	1.349 - 18.437	4.543	3.441 - 5.863	6.921	1.344 - 19.108	4.696	3.620 - 5.970
69/ 35	233	12.435	9.046 - 16.388	11.732	9.892 - 13.739	143	7.538	3.517 - 13.581	4.849	3.584 - 6.384	7.259	3.726 - 12.352	4.389	3.355 - 5.621
69/ 40	286	14.190	10.378 - 18.583	13.401	11.397 - 15.567	175	8.184	4.103 - 14.061	5.112	3.725 - 6.805	8.102	4.656 - 12.757	5.150	4.031 - 6.457
72/ 5	6	2.002	1.303 - 2.950	1.294	0.869 - 1.863	3	1.449	0.741 - 2.585	1.050	0.746 - 1.443	0.778	0.216 - 2.147	1.745	1.279 - 2.329
72/ 10	22	2.581	1.837 - 3.524	2.310	1.661 - 3.127	15	2.416	1.727 - 3.287	2.038	1.502 - 2.703	0.855	0.393 - 1.667	2.526	1.919 - 3.261
72/ 15	59	4.571	3.478 - 5.875	3.907	2.935 - 5.082	39	3.539	2.511 - 4.831	2.644	1.989 - 3.442	3.343	2.363 - 4.579	2.819	2.096 - 3.706
72/ 20	98	6.895	5.190 - 8.913	6.293	5.025 - 7.748	61	4.883	3.295 - 6.914	3.548	2.771 - 4.466	4.767	3.411 - 6.446	3.432	2.739 - 4.241
72/ 25	150	9.274	6.776 - 12.238	8.591	7.081 - 10.277	87	6.010	2.078 - 12.990	4.126	3.144 - 5.299	5.630	2.069 - 11.832	3.319	2.460 - 4.371
72/ 30	204	11.268	8.132 - 14.965	10.647	8.905 - 12.564	123	7.088	3.030 - 13.485	4.572	3.404 - 5.985	6.908	3.313 - 12.294	4.251	3.195 - 5.522
72/ 35	259	13.359	9.688 - 17.626	12.471	10.529 - 14.586	159	7.941	3.791 - 14.074	4.982	3.650 - 6.603	8.141	4.247 - 13.646	5.211	4.078 - 6.535

VVal-79 Thalmann Algorithm; 3 msw Last In-water Stop

Depth (msw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂					
	TOTAL						TOTAL											
	STOP	P(DCS)		P(DCS)			STOP	P(DCS)		P(DCS)			P(DCS)		P(DCS)			
	TIME	BVM(3)		NMRI98			TIME	BVM(3)		NMRI98			BVM(3)		NMRI98			
	(min)	(%)	low - high		(%)	low - high	(min)	(%)	low - high		(%)	low - high	(%)	low - high	(%)	low - high		
72/ 40	317	15.149	11.047	19.855	14.177	12.071 - 16.448	194	8.536	4.359	14.470	5.162	3.735 - 6.911	8.266	4.856	12.815	4.966	3.949 - 6.145	

**APPENDIX K ESTIMATED RISKS OF DCS FOR SCHEDULES IN MSW INTEGRATED AIR DECOMPRESSION
TABLE WITH 6 MSW LAST IN-WATER STOP.
VVAL-79 THALMANN ALGORITHM**

VVal-79 Thalmann Algorithm; 6 msw Last In-water Stop

Depth (msw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL			P(DCS)			TOTAL			P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)		P(DCS)			STOP	P(DCS)		P(DCS)			P(DCS)		P(DCS)	
	TIME	BVM(3)		NMRI98			TIME	BVM(3)		NMRI98			BVM(3)		NMRI98	
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
9/ 394	0	4.292	3.660 - 4.994	5.124	4.279 - 6.073		0	4.292	3.660 - 4.994	5.124	4.279 - 6.073		4.292	3.660 - 4.994	5.124	4.279 - 6.073
9/ 420	11	4.568	3.866 - 5.350	5.464	4.556 - 6.483		3	4.277	3.606 - 5.029	5.086	4.213 - 6.071		3.865	3.244 - 4.565	5.107	4.283 - 6.030
9/ 480	28	5.283	4.435 - 6.231	6.396	5.350 - 7.564		7	4.750	3.972 - 5.625	5.733	4.761 - 6.826		4.615	3.879 - 5.440	6.076	5.149 - 7.104
9/ 540	54	5.890	4.914 - 6.984	7.190	6.015 - 8.498		11	5.212	4.349 - 6.181	6.285	5.223 - 7.475		5.291	4.440 - 6.242	6.975	5.946 - 8.108
9/ 600	75	6.400	5.319 - 7.613	7.886	6.606 - 9.306		16	5.527	4.605 - 6.563	6.652	5.521 - 7.920		5.204	4.369 - 6.138	6.740	5.679 - 7.918
9/ 660	96	6.808	5.640 - 8.116	8.471	7.106 - 9.981		19	5.880	4.890 - 6.993	7.119	5.917 - 8.462		5.715	4.789 - 6.751	7.451	6.312 - 8.708
9/ 720	126	7.097	5.869 - 8.474	8.911	7.483 - 10.488		23	6.104	5.070 - 7.266	7.416	6.163 - 8.814		6.169	5.158 - 7.300	8.094	6.882 - 9.427
12/ 169	0	2.334	1.948 - 2.774	2.954	2.296 - 3.738		0	2.334	1.948 - 2.774	2.954	2.296 - 3.738		2.334	1.948 - 2.774	2.954	2.296 - 3.738
12/ 170	1	2.282	1.895 - 2.723	2.920	2.267 - 3.699		1	2.114	1.742 - 2.542	2.614	1.986 - 3.373		1.403	1.062 - 1.822	2.684	1.952 - 3.596
12/ 180	9	2.388	2.007 - 2.821	3.104	2.439 - 3.888		3	2.122	1.760 - 2.537	2.754	2.109 - 3.529		1.637	1.273 - 2.076	2.943	2.182 - 3.877
12/ 190	15	2.589	2.186 - 3.042	3.375	2.687 - 4.179		5	2.159	1.791 - 2.580	2.892	2.230 - 3.684		1.877	1.489 - 2.336	3.213	2.425 - 4.169
12/ 200	21	2.813	2.381 - 3.298	3.650	2.935 - 4.480		7	2.232	0.022 - 17.964	3.028	2.349 - 3.836		2.120	1.708 - 2.601	3.492	2.677 - 4.467
12/ 210	28	3.045	2.577 - 3.571	3.920	3.180 - 4.770		9	2.326	1.917 - 2.795	3.161	2.464 - 3.987		2.365	1.928 - 2.870	3.778	2.938 - 4.771
12/ 220	41	3.291	2.778 - 3.868	4.150	3.388 - 5.021		11	2.448	2.015 - 2.944	3.291	2.577 - 4.135		2.611	2.149 - 3.142	4.068	3.205 - 5.079
12/ 230	53	3.551	2.992 - 4.178	4.395	3.603 - 5.298		13	2.597	2.145 - 3.115	3.418	2.687 - 4.279		2.858	2.369 - 3.416	4.362	3.477 - 5.390
12/ 240	64	3.808	3.205 - 4.485	4.655	3.829 - 5.593		16	2.705	2.239 - 3.237	3.458	2.716 - 4.331		2.582	2.123 - 3.109	3.676	2.748 - 4.803
12/ 270	90	4.528	3.801 - 5.344	5.457	4.523 - 6.510		24	3.036	2.527 - 3.614	3.640	2.857 - 4.561		3.263	2.726 - 3.872	4.492	3.508 - 5.646
12/ 300	111	5.161	4.318 - 6.106	6.228	5.180 - 7.401		30	3.410	2.849 - 4.045	3.959	3.123 - 4.938		3.484	2.919 - 4.122	4.473	3.426 - 5.718
12/ 330	142	5.710	4.762 - 6.773	6.924	5.765 - 8.218		35	3.788	3.170 - 4.485	4.336	3.454 - 5.359		4.090	3.441 - 4.819	5.233	4.129 - 6.516
12/ 360	167	6.173	5.134 - 7.339	7.552	6.300 - 8.946		41	4.076	3.412 - 4.824	4.591	3.669 - 5.657		4.060	3.416 - 4.783	5.042	3.949 - 6.320
12/ 420	220	6.878	5.695 - 8.205	8.573	7.179 - 10.115		53	4.491	3.758 - 5.316	5.061	4.053 - 6.223		5.093	4.284 - 5.997	6.394	5.180 - 7.776
12/ 480	289	7.275	6.009 - 8.695	9.240	7.772 - 10.858		63	4.859	4.061 - 5.756	5.558	4.470 - 6.806		5.455	4.584 - 6.428	6.814	5.557 - 8.236
12/ 540	340	7.553	6.227 - 9.038	9.735	8.217 - 11.402		75	4.973	4.154 - 5.893	5.775	4.657 - 7.053		5.552	4.663 - 6.544	6.960	5.715 - 8.362
12/ 600	378	7.765	6.394 - 9.301	10.125	8.567 - 11.831		88	4.911	4.104 - 5.819	5.794	4.694 - 7.050		5.641	4.737 - 6.651	7.130	5.883 - 8.529
12/ 660	407	7.936	6.528 - 9.513	10.445	8.852 - 12.186		98	4.922	4.113 - 5.832	5.912	4.818 - 7.155		5.515	4.634 - 6.499	7.040	5.840 - 8.383
12/ 720	429	8.081	6.642 - 9.694	10.719	9.095 - 12.492		107	4.903	4.097 - 5.809	5.990	4.909 - 7.214		5.993	5.026 - 7.074	7.742	6.457 - 9.172
15/ 96	0	1.727	0.973 - 2.853	2.222	1.691 - 2.867		0	1.727	0.973 - 2.853	2.222	1.691 - 2.867		1.727	0.973 - 2.853	2.222	1.691 - 2.867

VVal-79 Thalmann Algorithm; 6 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL		P(DCS)			TOTAL		P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)			STOP	P(DCS)	P(DCS)			P(DCS)	P(DCS)		
	TIME	BVM(3)	NMRI98			TIME	BVM(3)	NMRI98			BVM(3)	NMRI98		
	(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high
15/ 100	2	1.723	1.310 - 2.227	2.232	1.699 - 2.878	1	1.621	1.211 - 2.127	1.969	1.457 - 2.604	0.634	0.394 - 0.978	2.206	1.530 - 3.081
15/ 110	6	2.033	1.606 - 2.539	2.539	1.960 - 3.233	3	1.843	1.424 - 2.349	2.202	1.651 - 2.879	0.888	0.604 - 1.270	2.488	1.756 - 3.420
15/ 120	16	2.395	1.958 - 2.900	2.878	2.264 - 3.604	5	2.071	1.650 - 2.568	2.451	1.853 - 3.179	1.174	0.851 - 1.585	2.817	2.025 - 3.810
15/ 130	29	2.781	2.332 - 3.289	3.227	2.581 - 3.980	10	2.156	1.729 - 2.656	2.479	1.860 - 3.235	1.485	1.128 - 1.921	3.180	2.328 - 4.233
15/ 140	39	3.149	2.669 - 3.688	3.611	2.920 - 4.409	14	2.278	1.836 - 2.793	2.572	1.918 - 3.374	1.377	1.027 - 1.812	2.649	1.692 - 3.946
15/ 150	48	3.512	2.999 - 4.084	4.005	3.266 - 4.851	18	2.397	1.945 - 2.921	2.657	1.967 - 3.508	1.675	1.316 - 2.104	2.983	1.978 - 4.311
15/ 160	67	3.867	3.294 - 4.506	4.324	3.556 - 5.199	21	2.558	2.103 - 3.080	2.815	2.084 - 3.714	1.985	1.574 - 2.470	3.339	2.287 - 4.694
15/ 170	85	4.207	3.569 - 4.918	4.643	3.836 - 5.557	24	2.723	2.248 - 3.266	2.968	2.199 - 3.912	2.301	1.861 - 2.814	3.711	2.617 - 5.089
15/ 180	100	4.515	3.820 - 5.292	4.985	4.138 - 5.940	27	2.876	2.398 - 3.419	3.116	2.313 - 4.099	2.623	2.150 - 3.168	4.095	2.962 - 5.495
15/ 190	114	4.295	3.622 - 5.048	5.335	4.447 - 6.332	32	2.913	2.215 - 3.755	3.095	2.276 - 4.104	2.574	2.107 - 3.113	3.589	2.451 - 5.054
15/ 200	125	4.610	3.884 - 5.423	5.691	4.760 - 6.732	36	3.009	2.381 - 3.747	3.117	2.297 - 4.127	2.877	2.377 - 3.448	3.948	2.780 - 5.419
15/ 210	136	4.908	4.129 - 5.780	6.039	5.065 - 7.125	40	3.085	2.503 - 3.758	3.171	2.338 - 4.195	3.181	2.647 - 3.788	4.314	3.119 - 5.789
15/ 220	149	5.194	4.363 - 6.124	6.373	5.355 - 7.508	44	3.161	2.569 - 3.844	3.221	2.376 - 4.258	2.949	2.442 - 3.528	3.774	2.653 - 5.188
15/ 230	166	5.461	4.581 - 6.447	6.691	5.625 - 7.876	47	2.886	2.406 - 3.431	3.345	2.485 - 4.396	3.233	2.693 - 3.845	4.116	2.969 - 5.535
15/ 240	181	5.705	4.777 - 6.743	7.000	5.889 - 8.233	51	2.984	2.491 - 3.543	3.388	2.538 - 4.422	3.515	2.940 - 4.165	4.462	3.290 - 5.889
15/ 270	218	6.343	5.289 - 7.522	7.857	6.624 - 9.222	59	3.421	2.868 - 4.045	3.818	2.955 - 4.842	3.884	3.260 - 4.585	4.745	3.609 - 6.099
15/ 300	261	6.831	5.678 - 8.122	8.562	7.231 - 10.028	70	3.654	3.067 - 4.317	4.012	3.156 - 5.016	4.040	3.395 - 4.765	4.865	3.778 - 6.143
15/ 330	313	7.164	5.941 - 8.532	9.095	7.701 - 10.627	80	3.850	3.232 - 4.545	4.251	3.363 - 5.287	4.737	3.987 - 5.576	5.767	4.592 - 7.122
15/ 360	361	7.401	6.128 - 8.824	9.508	8.071 - 11.081	88	4.088	3.432 - 4.826	4.578	3.644 - 5.660	4.873	4.101 - 5.737	5.925	4.766 - 7.253
15/ 420	432	7.754	6.406 - 9.261	10.144	8.643 - 11.782	108	4.195	3.522 - 4.952	4.823	3.875 - 5.914	5.369	4.514 - 6.323	6.625	5.423 - 7.983
18/ 65	0	1.683	1.225 - 2.258	2.048	1.538 - 2.674	0	1.683	1.225 - 2.258	2.048	1.538 - 2.674	1.683	1.225 - 2.258	2.048	1.538 - 2.674
18/ 70	5	1.664	1.204 - 2.247	1.996	1.515 - 2.582	3	1.508	1.051 - 2.103	1.724	1.266 - 2.298	0.449	0.236 - 0.797	2.185	1.543 - 3.006
18/ 80	12	2.082	1.603 - 2.659	2.390	1.872 - 3.006	6	1.760	1.289 - 2.349	1.962	1.483 - 2.549	0.711	0.449 - 1.084	2.482	1.776 - 3.372
18/ 90	18	2.539	2.041 - 3.121	2.897	2.314 - 3.578	9	2.024	1.544 - 2.608	2.239	1.712 - 2.876	1.038	0.716 - 1.463	2.884	2.097 - 3.862
18/ 100	37	3.032	1.010 - 6.996	3.347	2.731 - 4.055	13	2.233	0.518 - 6.413	2.463	1.881 - 3.168	1.408	1.044 - 1.863	3.358	2.480 - 4.436
18/ 110	52	3.522	2.982 - 4.127	3.857	3.183 - 4.624	19	2.347	1.854 - 2.930	2.535	1.898 - 3.316	1.314	0.948 - 1.780	2.860	1.824 - 4.264
18/ 120	64	3.983	3.406 - 4.624	4.393	3.650 - 5.234	25	2.441	1.943 - 3.028	2.591	1.891 - 3.464	1.688	1.284 - 2.182	3.308	2.194 - 4.772
18/ 130	91	4.443	3.789 - 5.169	4.799	4.013 - 5.684	29	2.635	2.132 - 3.218	2.787	2.015 - 3.753	1.784	1.371 - 2.284	2.886	1.736 - 4.503
18/ 140	113	4.852	2.492 - 8.375	5.220	4.377 - 6.164	34	2.761	0.787 - 7.000	2.895	2.062 - 3.945	2.159	1.712 - 2.688	3.323	2.144 - 4.900
18/ 150	132	5.227	4.414 - 6.132	5.638	4.741 - 6.640	39	2.899	2.033 - 4.003	2.952	2.089 - 4.044	2.546	1.979 - 3.223	3.786	2.578 - 5.340
18/ 160	147	5.576	4.681 - 6.577	6.073	5.127 - 7.125	45	2.957	2.261 - 3.794	2.961	2.064 - 4.108	2.449	1.975 - 3.002	3.340	2.203 - 4.837
18/ 170	161	5.903	4.937 - 6.982	6.499	5.506 - 7.599	51	3.005	2.346 - 3.786	2.963	2.044 - 4.145	2.819	2.308 - 3.406	3.780	2.612 - 5.270

VVal-79 Thalmann Algorithm; 6 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL					TOTAL					TOTAL			
	STOP	P(DCS)	P(DCS)			STOP	P(DCS)	P(DCS)			P(DCS)	P(DCS)		
	TIME	BVM(3)	NMRI98			TIME	BVM(3)	NMRI98			BVM(3)	NMRI98		
(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high	
18/ 180	184	6.164	5.122 - 7.333	6.875	5.843 - 8.015	56	3.092	2.438 - 3.862	3.035	2.097 - 4.240	2.806	2.297 - 3.392	3.509	2.442 - 4.867
18/ 190	205	5.897	4.984 - 6.913	7.251	6.172 - 8.440	61	3.170	2.500 - 3.959	3.102	2.154 - 4.315	3.156	2.610 - 3.780	3.931	2.830 - 5.298
18/ 200	223	6.183	5.214 - 7.261	7.618	6.491 - 8.857	66	3.251	2.554 - 4.072	3.140	2.241 - 4.271	3.508	2.920 - 4.174	4.362	3.226 - 5.745
18/ 210	239	6.449	5.428 - 7.584	7.969	6.796 - 9.257	70	3.371	2.638 - 4.237	3.279	2.396 - 4.372	3.304	2.741 - 3.945	3.980	2.949 - 5.237
18/ 220	254	6.690	5.620 - 7.881	8.301	7.085 - 9.634	74	3.476	2.750 - 4.327	3.416	2.547 - 4.475	3.633	3.030 - 4.315	4.387	3.320 - 5.666
18/ 230	276	6.893	5.783 - 8.128	8.591	7.336 - 9.965	79	3.170	2.672 - 3.730	3.482	2.643 - 4.493	3.961	3.315 - 4.688	4.798	3.694 - 6.105
18/ 240	296	7.076	5.927 - 8.354	8.862	7.572 - 10.272	84	3.250	2.742 - 3.821	3.550	2.733 - 4.523	3.827	3.199 - 4.535	4.554	3.530 - 5.763
18/ 270	366	7.460	6.232 - 8.828	9.494	8.134 - 10.977	98	3.492	2.950 - 4.101	3.817	3.015 - 4.757	4.124	3.445 - 4.889	4.915	3.903 - 6.089
18/ 300	424	7.731	6.445 - 9.163	9.976	8.568 - 11.506	111	3.672	3.104 - 4.309	4.080	3.255 - 5.038	4.379	3.675 - 5.169	5.168	4.167 - 6.317
21/ 49	0	1.805	1.303 - 2.440	2.019	1.532 - 2.612	0	1.805	1.303 - 2.440	2.019	1.532 - 2.612	1.805	1.303 - 2.440	2.019	1.532 - 2.612
21/ 50	1	1.795	1.282 - 2.447	1.973	1.490 - 2.565	1	1.514	1.022 - 2.167	1.641	1.200 - 2.194	0.392	0.171 - 0.808	2.088	1.555 - 2.746
21/ 55	7	1.809	1.297 - 2.460	1.996	1.503 - 2.602	4	1.623	1.128 - 2.269	1.732	1.278 - 2.298	0.466	0.226 - 0.882	2.263	1.664 - 3.007
21/ 60	12	2.079	1.559 - 2.717	2.207	1.705 - 2.810	7	1.748	1.241 - 2.398	1.811	1.351 - 2.381	0.590	0.320 - 1.017	2.438	1.764 - 3.284
21/ 70	22	2.652	2.101 - 3.299	2.785	2.232 - 3.430	12	2.014	1.494 - 2.658	2.047	1.573 - 2.619	0.936	0.604 - 1.397	2.879	2.125 - 3.808
21/ 80	39	3.278	2.703 - 3.934	3.415	2.812 - 4.104	16	2.330	1.780 - 2.994	2.382	1.847 - 3.022	0.866	0.531 - 1.349	2.542	1.576 - 3.882
21/ 90	59	3.906	3.317 - 4.563	4.072	3.410 - 4.818	22	2.543	1.990 - 3.200	2.593	1.980 - 3.333	1.265	0.878 - 1.771	3.035	1.978 - 4.445
21/ 100	77	4.492	3.862 - 5.189	4.748	4.008 - 5.574	29	2.681	2.121 - 3.340	2.713	2.008 - 3.582	1.453	1.046 - 1.970	2.687	1.612 - 4.204
21/ 110	109	5.055	4.322 - 5.865	5.278	4.480 - 6.166	36	2.824	2.234 - 3.519	2.763	1.986 - 3.739	1.891	1.461 - 2.410	3.219	2.108 - 4.693
21/ 120	135	5.549	4.746 - 6.436	5.813	4.940 - 6.780	42	2.980	1.822 - 4.587	2.919	2.048 - 4.028	1.918	1.467 - 2.464	2.887	1.783 - 4.413
21/ 130	156	5.989	5.086 - 6.989	6.341	5.391 - 7.392	48	3.122	2.197 - 4.295	3.056	2.103 - 4.284	2.358	1.868 - 2.935	3.414	2.245 - 4.957
21/ 140	174	6.394	5.419 - 7.474	6.849	5.829 - 7.973	56	3.145	2.342 - 4.126	3.017	2.013 - 4.336	2.459	1.960 - 3.043	3.216	2.136 - 4.636
21/ 150	202	6.719	5.630 - 7.932	7.261	6.215 - 8.409	64	3.148	2.396 - 4.054	2.966	1.935 - 4.342	2.889	2.350 - 3.511	3.735	2.611 - 5.160
21/ 160	227	7.005	5.820 - 8.329	7.690	6.605 - 8.876	70	3.262	2.468 - 4.222	3.028	1.997 - 4.391	2.812	2.280 - 3.427	3.470	2.453 - 4.752
21/ 170	249	7.239	5.973 - 8.658	8.088	6.958 - 9.321	76	3.318	2.519 - 4.282	3.073	2.034 - 4.443	3.223	2.650 - 3.879	3.972	2.919 - 5.261
21/ 180	269	7.457	6.100 - 8.984	8.472	7.295 - 9.755	82	3.393	2.590 - 4.356	3.153	2.113 - 4.513	3.225	2.652 - 3.881	3.857	2.895 - 5.020
21/ 190	296	7.154	6.047 - 8.378	8.815	7.596 - 10.143	87	3.502	2.695 - 4.465	3.301	2.294 - 4.585	3.614	2.802 - 4.577	4.340	3.330 - 5.540
21/ 200	323	7.382	6.229 - 8.659	9.144	7.880 - 10.518	94	3.484	2.663 - 4.470	3.310	2.393 - 4.451	4.004	3.338 - 4.757	4.831	3.777 - 6.067
21/ 210	357	7.551	6.360 - 8.870	9.413	8.116 - 10.823	101	3.463	2.586 - 4.532	3.335	2.520 - 4.320	3.809	3.168 - 4.535	4.541	3.574 - 5.671
21/ 240	445	7.914	6.644 - 9.322	10.057	8.688 - 11.542	119	3.280	2.782 - 3.838	3.578	2.800 - 4.495	4.330	2.982 - 6.043	5.100	4.125 - 6.218
24/ 40	0	2.003	1.445 - 2.707	2.042	1.545 - 2.648	0	2.003	1.445 - 2.707	2.042	1.545 - 2.648	2.003	1.445 - 2.707	2.042	1.545 - 2.648
24/ 45	8	1.958	1.414 - 2.645	2.010	1.497 - 2.644	4	1.773	1.236 - 2.469	1.759	1.302 - 2.327	0.516	0.000 - 19.724	2.311	1.738 - 3.013
24/ 50	15	2.285	1.717 - 2.980	2.242	1.719 - 2.874	8	1.914	1.368 - 2.607	1.861	1.393 - 2.439	0.645	0.000 - 15.109	2.542	1.887 - 3.348

VVal-79 Thalmann Algorithm; 6 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL		P(DCS)			TOTAL		P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)	P(DCS)				
	TIME	BVM(3)	NMRI98		TIME	BVM(3)	NMRI98		BVM(3)	NMRI98				
	(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high
24/ 55	22	2.655	2.059 - 3.367	2.564	2.018 - 3.211	12	2.060	1.494 - 2.771	1.950	1.479 - 2.524	0.830	0.002 - 11.672	2.786	2.073 - 3.660
24/ 60	28	3.026	2.419 - 3.735	2.958	2.376 - 3.637	15	2.228	1.642 - 2.955	2.099	1.620 - 2.675	0.578	0.000 - 17.229	2.334	1.436 - 3.588
24/ 70	49	3.815	3.173 - 4.542	3.765	3.127 - 4.487	21	2.566	1.961 - 3.298	2.434	1.898 - 3.074	0.960	0.007 - 10.349	2.816	1.838 - 4.124
24/ 80	72	4.581	3.904 - 5.334	4.609	3.905 - 5.393	28	2.832	2.210 - 3.572	2.713	2.078 - 3.477	1.214	0.033 - 8.806	2.553	1.545 - 3.971
24/ 90	103	5.304	4.564 - 6.119	5.363	4.592 - 6.214	37	2.992	2.340 - 3.765	2.768	2.039 - 3.668	1.704	0.159 - 7.632	3.178	2.095 - 4.609
24/ 100	136	5.936	5.098 - 6.857	6.038	5.187 - 6.974	45	3.141	1.706 - 5.279	2.921	2.063 - 4.008	1.818	0.202 - 7.513	2.927	1.825 - 4.440
24/ 110	166	6.451	5.533 - 7.460	6.613	5.675 - 7.644	52	3.284	2.119 - 4.841	3.078	2.096 - 4.350	2.336	0.454 - 7.312	3.584	2.430 - 5.075
24/ 120	192	6.951	5.925 - 8.082	7.212	6.181 - 8.344	62	3.280	2.314 - 4.503	3.010	1.941 - 4.444	2.522	0.562 - 7.323	3.434	2.341 - 4.844
24/ 130	227	7.332	6.189 - 8.597	7.669	6.602 - 8.836	71	3.319	2.400 - 4.461	2.959	1.860 - 4.460	2.549	0.579 - 7.328	3.270	2.309 - 4.483
24/ 140	257	7.661	6.407 - 9.055	8.162	7.052 - 9.371	79	3.371	2.491 - 4.450	3.010	1.867 - 4.584	3.038	0.901 - 7.486	3.883	2.880 - 5.107
24/ 150	282	7.948	6.607 - 9.443	8.652	7.489 - 9.916	87	3.405	2.542 - 4.455	3.047	1.886 - 4.646	3.135	0.969 - 7.532	3.849	2.911 - 4.978
24/ 160	315	8.134	6.692 - 9.749	9.064	7.856 - 10.373	94	3.480	2.617 - 4.525	3.147	1.977 - 4.740	3.605	1.319 - 7.801	4.445	3.445 - 5.625
24/ 170	346	7.759	6.598 - 9.037	9.452	8.198 - 10.809	101	3.547	2.619 - 4.684	3.218	2.153 - 4.611	3.519	1.253 - 7.747	4.264	3.335 - 5.356
24/ 180	391	7.936	6.737 - 9.257	9.746	8.457 - 11.140	109	3.521	2.566 - 4.702	3.250	2.282 - 4.478	3.966	1.603 - 8.046	4.834	3.843 - 5.984
24/ 210	491	8.333	7.038 - 9.761	10.470	9.101 - 11.947	132	3.157	2.685 - 3.686	3.442	2.642 - 4.398	4.087	1.700 - 8.133	4.821	3.923 - 5.848
27/ 34	0	2.198	1.606 - 2.937	2.080	1.564 - 2.711	0	2.198	1.606 - 2.937	2.080	1.564 - 2.711	2.198	1.606 - 2.937	2.080	1.564 - 2.711
27/ 35	2	2.135	1.545 - 2.875	1.980	1.473 - 2.607	1	1.900	1.031 - 3.226	1.692	1.227 - 2.279	0.543	0.000 - 18.835	2.178	1.670 - 2.791
27/ 40	12	2.242	1.658 - 2.964	2.119	1.575 - 2.791	6	1.971	1.397 - 2.705	1.831	1.360 - 2.415	0.623	0.000 - 15.964	2.461	1.868 - 3.181
27/ 45	21	2.683	2.065 - 3.426	2.432	1.869 - 3.109	11	2.159	1.558 - 2.916	1.949	1.467 - 2.540	0.800	0.002 - 12.254	2.750	2.063 - 3.590
27/ 50	29	3.143	2.488 - 3.913	2.866	2.263 - 3.575	16	2.324	1.702 - 3.099	2.049	1.561 - 2.644	0.537	0.000 - 19.119	2.368	1.489 - 3.579
27/ 55	37	3.617	2.934 - 4.403	3.367	2.721 - 4.115	19	2.561	1.907 - 3.363	2.264	1.758 - 2.871	0.714	0.000 - 13.816	2.599	1.659 - 3.874
27/ 60	50	4.104	3.389 - 4.915	3.862	3.186 - 4.632	23	2.751	2.084 - 3.560	2.440	1.906 - 3.077	0.936	0.006 - 10.707	2.911	2.030 - 4.038
27/ 70	77	5.035	4.270 - 5.885	4.892	4.153 - 5.716	31	3.090	2.384 - 3.933	2.800	2.163 - 3.562	1.255	0.038 - 8.785	2.727	1.739 - 4.069
27/ 80	118	5.858	5.026 - 6.775	5.701	4.910 - 6.571	41	3.273	2.542 - 4.140	2.884	2.130 - 3.812	2.983	0.688 - 8.393	2.602	1.571 - 4.055
27/ 90	159	6.632	5.709 - 7.645	6.494	5.620 - 7.449	51	3.406	1.840 - 5.732	3.031	2.114 - 4.201	3.640	1.108 - 8.732	3.345	2.263 - 4.749
27/ 100	190	7.282	6.275 - 8.385	7.278	6.296 - 8.350	60	3.557	2.247 - 5.327	3.209	2.140 - 4.612	2.361	0.461 - 7.360	3.302	2.366 - 4.475
27/ 110	231	7.781	6.654 - 9.017	7.838	6.769 - 9.003	71	3.585	2.440 - 5.061	3.136	1.983 - 4.699	2.485	0.533 - 7.365	3.246	2.312 - 4.422
27/ 120	267	8.192	6.946 - 9.564	8.396	7.285 - 9.602	82	3.564	2.551 - 4.830	3.084	1.858 - 4.802	2.699	0.665 - 7.403	3.322	2.421 - 4.438
27/ 130	299	8.504	6.989 - 10.199	8.911	7.745 - 10.174	95	3.648	2.500 - 5.120	3.135	1.885 - 4.885	3.085	2.048 - 4.452	3.859	2.916 - 4.996
27/ 140	341	8.705	7.070 - 10.544	9.369	8.156 - 10.680	105	3.836	2.662 - 5.328	3.310	2.071 - 5.001	3.127	2.244 - 4.233	3.815	2.934 - 4.864
27/ 150	387	8.804	7.056 - 10.784	9.771	8.510 - 11.132	116	3.843	2.680 - 5.316	3.360	2.158 - 4.971	3.673	2.760 - 4.780	4.509	3.554 - 5.624
27/ 160	435	8.382	6.974 - 9.947	10.103	8.803 - 11.504	128	3.775	2.600 - 5.276	3.349	2.310 - 4.681	3.701	2.789 - 4.802	4.364	3.511 - 5.350

VVal-79 Thalmann Algorithm; 6 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL		P(DCS)			TOTAL		P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)	P(DCS)	P(DCS)			
	TIME	BVM(3)	NMRI98		TIME	BVM(3)	NMRI98		BVM(3)	NMRI98				
	(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high
27/ 170	477	8.539	7.102 - 10.135	10.394	9.061 - 11.829	139	3.759	2.527 - 5.357	3.429	2.544 - 4.510	3.607	2.705 - 4.700	4.213	3.412 - 5.134
27/ 180	512	8.677	7.211 - 10.306	10.655	9.292 - 12.121	149	3.766	2.547 - 5.341	3.560	2.709 - 4.583	4.084	3.139 - 5.209	4.829	3.952 - 5.828
27/ 190	543	8.787	7.299 - 10.439	10.881	9.491 - 12.377	158	3.745	2.515 - 5.341	3.671	2.837 - 4.663	3.991	3.055 - 5.108	4.726	3.876 - 5.693
27/ 200	572	8.885	7.374 - 10.564	11.082	9.663 - 12.608	172	3.407	2.575 - 4.413	3.735	2.933 - 4.680	3.834	2.914 - 4.939	4.568	3.758 - 5.490
27/ 210	598	9.039	7.525 - 10.718	11.260	9.813 - 12.816	186	3.428	2.594 - 4.435	3.801	3.025 - 4.706	4.258	3.297 - 5.394	5.129	4.249 - 6.121
27/ 220	623	9.252	7.723 - 10.943	11.415	9.941 - 12.999	200	3.405	2.572 - 4.411	3.815	3.057 - 4.695	4.111	3.166 - 5.234	4.995	4.156 - 5.939
27/ 230	647	9.484	7.927 - 11.204	11.556	10.057 - 13.169	214	3.359	2.529 - 4.365	3.807	3.069 - 4.661	3.873	2.951 - 4.976	4.752	3.972 - 5.628
27/ 240	668	9.735	8.145 - 11.488	11.730	10.199 - 13.375	227	3.353	2.521 - 4.362	3.830	3.110 - 4.657	4.216	3.262 - 5.345	5.217	4.381 - 6.153
30/ 27	0	2.188	1.599 - 2.922	1.897	1.410 - 2.500	0	2.188	1.599 - 2.922	1.897	1.410 - 2.500	2.188	1.599 - 2.922	1.897	1.410 - 2.500
30/ 30	2	2.287	1.671 - 3.057	1.976	1.458 - 2.620	1	2.039	1.386 - 2.896	1.679	1.209 - 2.277	0.603	0.252 - 1.269	2.187	1.688 - 2.787
30/ 35	14	2.420	1.806 - 3.174	2.151	1.585 - 2.854	7	2.108	1.504 - 2.875	1.843	1.364 - 2.439	0.702	0.328 - 1.357	2.525	1.935 - 3.237
30/ 40	24	2.949	2.277 - 3.752	2.530	1.930 - 3.256	13	2.327	1.688 - 3.129	1.983	1.492 - 2.586	0.902	0.488 - 1.553	2.874	2.179 - 3.716
30/ 45	34	3.511	2.796 - 4.346	3.050	2.396 - 3.821	18	2.564	1.888 - 3.402	2.148	1.632 - 2.777	0.600	0.245 - 1.285	2.508	1.611 - 3.725
30/ 50	43	4.081	3.317 - 4.957	3.663	2.953 - 4.484	23	2.789	2.075 - 3.667	2.320	1.790 - 2.958	0.809	0.405 - 1.479	2.807	1.937 - 3.929
30/ 55	60	4.672	3.867 - 5.584	4.244	3.505 - 5.084	27	3.049	2.293 - 3.967	2.566	1.998 - 3.243	3.283	2.389 - 4.392	3.234	2.445 - 4.188
30/ 60	76	5.235	4.388 - 6.183	4.856	4.084 - 5.720	31	3.289	2.496 - 4.246	2.825	2.203 - 3.564	3.155	2.173 - 4.418	2.709	1.753 - 3.994
30/ 70	122	6.254	3.402 - 10.302	5.857	5.044 - 6.750	43	3.488	1.233 - 7.716	2.930	2.182 - 3.847	3.315	1.369 - 6.692	2.686	1.717 - 4.001
30/ 80	170	7.186	6.194 - 8.272	6.807	5.918 - 7.776	54	3.684	1.851 - 6.512	3.168	2.229 - 4.358	4.099	1.982 - 7.409	3.621	2.730 - 4.697
30/ 90	207	7.914	6.837 - 9.088	7.691	6.691 - 8.777	66	3.838	2.311 - 5.952	3.333	2.215 - 4.801	4.211	2.424 - 6.738	3.583	2.652 - 4.721
30/ 100	259	8.457	7.254 - 9.772	8.265	7.182 - 9.439	84	3.958	2.673 - 5.617	3.271	2.083 - 4.873	4.038	2.508 - 6.114	3.520	2.579 - 4.679
30/ 110	299	8.919	7.580 - 10.388	8.918	7.778 - 10.151	101	4.067	2.937 - 5.467	3.328	2.076 - 5.037	3.006	2.537 - 3.534	3.726	2.820 - 4.817
30/ 120	344	9.211	7.765 - 10.803	9.476	8.280 - 10.765	114	4.240	3.129 - 5.595	3.483	2.211 - 5.197	3.164	2.681 - 3.707	3.813	2.949 - 4.838
30/ 130	396	9.358	7.781 - 11.105	9.945	8.696 - 11.291	128	4.285	3.210 - 5.582	3.575	2.304 - 5.271	3.813	3.256 - 4.433	4.638	3.686 - 5.744
30/ 140	453	9.383	7.642 - 11.332	10.330	9.035 - 11.724	143	4.232	3.172 - 5.511	3.586	2.441 - 5.061	3.932	3.362 - 4.566	4.596	3.732 - 5.586
30/ 150	501	8.951	7.659 - 10.363	10.635	9.300 - 12.069	156	4.202	3.078 - 5.579	3.652	2.699 - 4.817	3.894	3.330 - 4.520	4.502	3.684 - 5.435
33/ 21	0	2.053	1.480 - 2.777	1.660	1.213 - 2.222	0	2.053	1.480 - 2.777	1.660	1.213 - 2.222	2.053	1.480 - 2.777	1.660	1.213 - 2.222
33/ 25	4	2.188	1.548 - 3.005	1.766	1.290 - 2.363	2	1.834	1.278 - 2.555	1.515	1.086 - 2.062	0.634	0.253 - 1.380	2.104	1.629 - 2.675
33/ 30	12	2.451	1.816 - 3.235	2.126	1.556 - 2.837	6	2.176	1.546 - 2.979	1.830	1.339 - 2.445	0.744	0.337 - 1.474	2.493	1.926 - 3.173
33/ 35	25	3.062	2.366 - 3.893	2.506	1.884 - 3.266	13	2.442	1.767 - 3.289	1.999	1.494 - 2.622	0.943	0.494 - 1.663	2.899	2.221 - 3.715
33/ 40	37	3.728	2.957 - 4.630	3.089	2.398 - 3.910	19	2.723	1.996 - 3.625	2.189	1.649 - 2.849	0.625	0.242 - 1.389	2.580	1.687 - 3.775
33/ 45	47	4.411	3.566 - 5.384	3.804	3.041 - 4.691	25	2.996	2.210 - 3.964	2.372	1.814 - 3.046	3.139	2.227 - 4.288	2.937	2.141 - 3.926
33/ 50	65	5.099	4.191 - 6.129	4.499	3.694 - 5.415	30	3.283	2.435 - 4.322	2.628	2.030 - 3.344	3.112	2.095 - 4.440	2.505	1.588 - 3.757

VVal-79 Thalmann Algorithm; 6 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL		P(DCS)			TOTAL		P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)	P(DCS)				
	TIME	BVM(3)	NMRI98		TIME	BVM(3)	NMRI98		BVM(3)	NMRI98				
	(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high
33/ 55	84	5.684	4.721 - 6.767	5.132	4.296 - 6.068	35	3.483	2.586 - 4.578	2.842	2.181 - 3.637	3.600	2.569 - 4.891	2.948	2.048 - 4.100
33/ 60	112	6.348	5.354 - 7.452	5.750	4.902 - 6.686	41	3.683	2.749 - 4.819	2.976	2.262 - 3.839	3.438	1.312 - 7.272	2.575	1.653 - 3.824
33/ 70	169	7.508	6.447 - 8.671	6.877	5.974 - 7.860	54	3.923	1.728 - 7.546	3.256	2.336 - 4.407	4.361	1.800 - 8.693	3.673	2.764 - 4.772
33/ 80	217	8.375	7.222 - 9.631	7.858	6.857 - 8.944	73	4.280	2.462 - 6.852	3.526	2.443 - 4.909	4.441	2.439 - 7.339	3.630	2.764 - 4.670
33/ 90	275	9.046	7.770 - 10.436	8.572	7.478 - 9.756	95	4.427	2.921 - 6.388	3.473	2.293 - 5.025	4.610	2.924 - 6.854	3.830	2.901 - 4.947
33/ 100	321	9.558	8.181 - 11.059	9.299	8.145 - 10.543	113	4.632	3.318 - 6.257	3.675	2.390 - 5.377	4.794	3.056 - 7.095	4.143	3.217 - 5.239
33/ 110	377	9.830	8.309 - 11.497	9.860	8.643 - 11.170	130	4.767	3.533 - 6.262	3.773	2.470 - 5.490	3.635	3.113 - 4.215	4.315	3.415 - 5.365
33/ 120	448	9.898	8.246 - 11.724	10.319	9.043 - 11.689	149	4.667	3.519 - 6.044	3.697	2.437 - 5.352	3.890	3.340 - 4.500	4.428	3.595 - 5.383
33/ 150	595	9.639	8.270 - 11.128	11.382	9.973 - 12.892	197	4.402	3.210 - 5.864	3.918	3.038 - 4.958	4.061	3.494 - 4.689	4.668	3.873 - 5.566
33/ 180	698	10.460	9.010 - 12.030	12.049	10.514 - 13.696	258	3.771	3.227 - 4.376	4.037	3.258 - 4.937	4.490	3.873 - 5.169	5.360	4.545 - 6.265
36/ 15	0	1.733	1.206 - 2.417	1.360	0.961 - 1.876	0	1.733	1.206 - 2.417	1.360	0.961 - 1.876	1.733	1.206 - 2.417	1.360	0.961 - 1.876
36/ 20	3	2.118	1.516 - 2.882	1.620	1.175 - 2.182	2	1.691	1.045 - 2.602	1.335	0.945 - 1.838	0.628	0.000 - 28.801	1.962	1.518 - 2.497
36/ 25	8	2.371	1.734 - 3.164	2.071	1.529 - 2.744	5	2.127	1.516 - 2.904	1.759	1.268 - 2.383	0.753	0.000 - 23.368	2.401	1.880 - 3.020
36/ 30	22	3.007	2.301 - 3.855	2.470	1.854 - 3.222	12	2.457	1.775 - 3.313	2.014	1.464 - 2.706	0.926	0.000 - 18.741	2.867	2.244 - 3.607
36/ 35	36	3.777	2.976 - 4.717	3.085	2.387 - 3.919	19	2.794	2.035 - 3.738	2.245	1.632 - 3.013	2.735	0.351 - 10.112	2.609	1.737 - 3.761
36/ 40	49	4.544	3.642 - 5.585	3.845	3.066 - 4.751	26	3.053	2.100 - 4.281	2.393	1.715 - 3.250	3.301	0.637 - 10.013	3.018	2.282 - 3.910
36/ 45	68	5.328	4.331 - 6.466	4.628	3.799 - 5.571	32	3.385	2.352 - 4.703	2.666	1.915 - 3.610	3.353	0.659 - 10.069	2.611	1.709 - 3.817
36/ 50	89	6.058	4.984 - 7.270	5.433	4.575 - 6.391	37	3.722	2.721 - 4.955	2.950	2.135 - 3.967	3.928	1.016 - 10.198	3.149	2.290 - 4.215
36/ 55	123	6.837	5.725 - 8.076	6.121	5.253 - 7.075	43	3.966	2.899 - 5.277	3.250	2.330 - 4.402	3.836	0.608 - 12.446	2.828	2.017 - 3.850
36/ 60	156	7.532	6.383 - 8.801	6.774	5.889 - 7.740	51	4.090	1.438 - 8.992	3.379	2.343 - 4.702	4.375	0.819 - 13.026	3.514	2.435 - 4.889
36/ 70	211	8.652	5.989 - 11.913	7.981	7.022 - 9.015	74	4.601	1.745 - 9.617	3.741	2.537 - 5.295	4.637	1.731 - 9.777	3.596	2.643 - 4.768
36/ 80	279	9.482	6.773 - 12.729	8.814	7.748 - 9.963	100	4.861	2.160 - 9.214	3.765	2.444 - 5.516	4.977	2.240 - 9.350	3.953	2.933 - 5.195
36/ 90	336	10.051	8.617 - 11.611	9.547	8.393 - 10.788	123	5.010	3.478 - 6.935	3.848	2.427 - 5.764	5.278	3.399 - 7.739	4.377	3.367 - 5.575
36/ 100	405	10.353	8.804 - 12.043	10.168	8.923 - 11.506	144	5.169	3.785 - 6.853	3.969	2.533 - 5.887	5.396	3.557 - 7.772	4.725	3.714 - 5.905
36/ 110	481	10.436	8.740 - 12.300	10.674	9.360 - 12.085	165	5.079	3.825 - 6.579	3.934	2.537 - 5.789	5.479	3.561 - 7.974	4.920	3.980 - 5.999
36/ 120	543	10.458	8.617 - 12.499	11.091	9.729 - 12.550	183	5.041	3.793 - 6.536	4.009	2.859 - 5.442	5.412	3.485 - 7.933	5.058	4.139 - 6.104
39/ 12	0	1.627	1.104 - 2.319	1.261	0.869 - 1.775	0	1.627	1.104 - 2.319	1.261	0.869 - 1.775	1.627	1.104 - 2.319	1.261	0.869 - 1.775
39/ 15	2	1.890	1.330 - 2.610	1.393	0.994 - 1.905	1	1.600	1.016 - 2.408	1.087	0.773 - 1.491	0.597	0.072 - 2.672	1.733	1.315 - 2.243
39/ 20	8	2.156	1.560 - 2.907	1.819	1.326 - 2.437	4	1.914	1.348 - 2.641	1.557	1.110 - 2.129	0.727	0.282 - 1.608	2.204	1.717 - 2.787
39/ 25	15	2.794	2.102 - 3.637	2.382	1.759 - 3.154	8	2.423	1.750 - 3.268	2.029	1.472 - 2.730	0.894	0.408 - 1.751	2.724	2.135 - 3.423
39/ 30	32	3.611	2.810 - 4.560	2.909	2.198 - 3.771	17	2.732	1.972 - 3.683	2.204	1.588 - 2.981	0.600	0.189 - 1.536	2.554	1.703 - 3.677
39/ 35	47	4.464	3.528 - 5.556	3.699	2.883 - 4.663	25	3.087	2.223 - 4.167	2.456	1.765 - 3.327	3.311	2.319 - 4.570	2.996	2.263 - 3.885

VVal-79 Thalmann Algorithm; 6 msw Last In-water Stop

Depth (msw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL		P(DCS)		P(DCS)		TOTAL		P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)	P(DCS)		
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)	NMRI98		
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
39/ 40	67	5.350	4.292 - 6.568	4.623	3.731 - 5.648	32	3.459	2.480 - 4.683	2.751	1.982 - 3.716	3.458	2.367 - 4.861	2.628	1.736 - 3.813		
39/ 45	90	6.254	5.090 - 7.575	5.570	4.634 - 6.621	38	3.849	2.760 - 5.205	3.055	2.219 - 4.096	4.123	2.963 - 5.561	3.245	2.408 - 4.269		
39/ 50	127	7.154	5.923 - 8.533	6.340	5.398 - 7.381	45	4.213	3.016 - 5.699	3.442	2.504 - 4.605	4.097	1.266 - 9.670	2.919	2.049 - 4.028		
39/ 55	165	7.917	6.638 - 9.335	7.040	6.086 - 8.083	55	4.435	1.555 - 9.716	3.631	2.581 - 4.947	4.656	1.536 - 10.513	3.622	2.562 - 4.956		
39/ 60	197	8.613	7.285 - 10.074	7.772	6.792 - 8.834	69	4.793	2.176 - 8.970	3.897	2.768 - 5.309	4.545	2.118 - 8.384	3.276	2.381 - 4.386		
39/ 70	269	9.721	8.312 - 11.258	8.882	7.820 - 10.025	99	5.217	3.019 - 8.276	4.028	2.751 - 5.663	5.093	2.733 - 8.522	3.808	2.808 - 5.030		
39/ 80	336	10.447	8.942 - 12.084	9.706	8.550 - 10.947	126	5.431	3.586 - 7.811	4.131	2.716 - 5.984	5.571	3.545 - 8.235	4.402	3.385 - 5.609		
39/ 90	414	10.852	9.248 - 12.600	10.375	9.127 - 11.713	151	5.628	3.999 - 7.639	4.243	2.783 - 6.158	5.842	3.924 - 8.283	4.901	3.866 - 6.107		
39/ 100	501	10.938	9.222 - 12.815	10.901	9.574 - 12.324	175	5.516	4.100 - 7.220	4.172	2.729 - 6.066	6.029	4.065 - 8.520	5.203	4.225 - 6.320		
39/ 110	568	10.993	9.147 - 13.026	11.399	10.018 - 12.877	196	5.462	4.116 - 7.069	4.246	3.034 - 5.753	5.301	3.309 - 7.955	4.773	3.913 - 5.751		
39/ 120	623	11.026	9.082 - 13.178	11.807	10.374 - 13.338	220	5.210	3.906 - 6.774	4.223	3.199 - 5.451	4.597	3.946 - 5.317	5.042	4.174 - 6.023		
39/ 150	753	11.694	10.174 - 13.327	12.783	11.169 - 14.510	301	4.181	3.566 - 4.864	4.282	3.419 - 5.283	4.876	4.199 - 5.623	5.628	4.800 - 6.543		
39/ 180	850	13.063	11.302 - 14.952	13.973	12.143 - 15.929	369	4.127	3.493 - 4.835	4.251	3.355 - 5.298	4.612	3.958 - 5.334	5.538	4.774 - 6.379		
42/ 10	0	1.584	1.048 - 2.307	1.211	0.819 - 1.735	0	1.584	1.048 - 2.307	1.211	0.819 - 1.735	1.584	1.048 - 2.307	1.211	0.819 - 1.735		
42/ 15	4	2.057	1.435 - 2.860	1.521	1.092 - 2.068	3	1.527	1.037 - 2.176	1.233	0.870 - 1.703	0.670	0.223 - 1.652	1.911	1.464 - 2.453		
42/ 20	12	2.449	1.804 - 3.248	2.093	1.527 - 2.801	6	2.183	1.563 - 2.969	1.797	1.288 - 2.443	0.838	0.347 - 1.764	2.462	1.924 - 3.103		
42/ 25	25	3.265	2.497 - 4.186	2.618	1.929 - 3.470	13	2.637	1.903 - 3.557	2.158	1.551 - 2.926	1.058	0.519 - 1.958	3.070	2.400 - 3.864		
42/ 30	42	4.187	3.275 - 5.260	3.420	2.601 - 4.407	22	3.042	2.187 - 4.113	2.468	1.779 - 3.332	3.179	2.172 - 4.478	2.878	2.117 - 3.817		
42/ 35	62	5.202	4.123 - 6.454	4.391	3.455 - 5.485	31	3.551	2.548 - 4.802	2.793	2.029 - 3.746	3.369	2.317 - 4.719	2.345	1.487 - 3.520		
42/ 40	87	6.221	4.982 - 7.642	5.448	4.444 - 6.591	39	4.032	2.779 - 5.629	3.116	2.291 - 4.132	4.091	2.977 - 5.461	2.947	2.186 - 3.880		
42/ 45	126	7.248	5.913 - 8.755	6.373	5.352 - 7.511	48	4.433	3.134 - 6.057	3.532	2.607 - 4.665	4.053	1.234 - 9.648	2.801	1.961 - 3.873		
42/ 50	167	8.167	6.770 - 9.725	7.218	6.188 - 8.349	58	4.682	1.603 - 10.358	3.798	2.752 - 5.093	4.741	1.494 - 10.955	3.743	2.694 - 5.047		
42/ 55	203	8.999	7.535 - 10.618	8.042	6.992 - 9.183	73	5.153	2.281 - 9.766	4.171	3.044 - 5.555	4.901	2.250 - 9.099	3.487	2.545 - 4.651		
42/ 60	243	9.669	8.158 - 11.328	8.687	7.610 - 9.849	91	5.428	2.749 - 9.424	4.188	2.997 - 5.670	5.666	2.877 - 9.804	4.375	3.238 - 5.756		
42/ 70	322	10.674	9.080 - 12.410	9.713	8.544 - 10.968	124	5.719	3.513 - 8.673	4.270	2.906 - 6.018	5.614	3.436 - 8.539	4.136	3.149 - 5.318		
42/ 80	406	11.252	9.582 - 13.070	10.438	9.197 - 11.768	152	6.031	4.079 - 8.501	4.468	3.005 - 6.352	6.049	4.028 - 8.628	4.791	3.757 - 6.001		
42/ 90	505	11.414	9.660 - 13.327	11.045	9.707 - 12.477	181	5.912	4.278 - 7.905	4.344	2.883 - 6.243	6.411	4.376 - 8.963	5.289	4.296 - 6.424		
45/ 9	0	1.649	1.084 - 2.414	1.234	0.830 - 1.776	0	1.649	1.084 - 2.414	1.234	0.830 - 1.776	1.649	1.084 - 2.414	1.234	0.830 - 1.776		
45/ 10	2	1.677	1.125 - 2.412	1.180	0.803 - 1.680	1	1.368	0.668 - 2.529	0.868	0.618 - 1.192	0.616	0.000 - 28.383	1.552	1.141 - 2.067		
45/ 15	7	2.182	0.024 - 17.277	1.702	1.229 - 2.301	4	1.768	0.401 - 5.233	1.428	1.012 - 1.962	0.751	0.266 - 1.768	2.099	1.619 - 2.677		
45/ 20	16	2.802	2.098 - 3.662	2.350	1.706 - 3.157	9	2.385	1.709 - 3.238	1.942	1.381 - 2.659	0.956	0.419 - 1.926	2.736	2.139 - 3.446		
45/ 25	34	3.745	2.883 - 4.770	2.998	2.217 - 3.958	17	2.904	2.093 - 3.919	2.406	1.733 - 3.253	2.911	1.919 - 4.227	2.663	1.816 - 3.765		

VVal-79 Thalmann Algorithm; 6 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL					TOTAL					TOTAL			
	STOP	P(DCS)	P(DCS)			STOP	P(DCS)	P(DCS)			P(DCS)	P(DCS)		
	TIME	BVM(3)	NMRI98			TIME	BVM(3)	NMRI98			BVM(3)	NMRI98		
(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high	
45/ 30	52	4.851	3.797 - 6.084	4.015	3.075 - 5.135	29	3.458	2.478 - 4.683	2.692	1.946 - 3.627	3.642	2.644 - 4.877	3.003	2.310 - 3.834
45/ 35	82	6.018	4.774 - 7.454	5.146	4.105 - 6.348	39	4.040	2.858 - 5.522	3.142	2.315 - 4.161	3.806	2.710 - 5.177	2.698	1.962 - 3.616
45/ 40	116	7.168	5.762 - 8.769	6.258	5.163 - 7.491	48	4.579	3.215 - 6.288	3.580	2.675 - 4.680	4.657	3.412 - 6.177	3.671	2.758 - 4.777
45/ 45	164	8.225	6.724 - 9.912	7.170	6.061 - 8.396	60	4.815	1.523 - 11.091	3.797	2.775 - 5.055	4.780	1.456 - 11.235	3.647	2.612 - 4.939
45/ 50	204	9.174	7.586 - 10.940	8.101	6.975 - 9.329	75	5.309	2.213 - 10.419	4.227	3.110 - 5.591	5.051	2.204 - 9.665	3.503	2.535 - 4.704
45/ 55	247	9.959	8.308 - 11.782	8.872	7.727 - 10.112	95	5.644	2.766 - 9.996	4.286	3.102 - 5.748	5.936	2.898 - 10.514	4.544	3.351 - 5.997
45/ 60	293	10.605	8.908 - 12.467	9.477	8.301 - 10.744	113	5.893	3.252 - 9.632	4.408	3.120 - 6.016	5.991	3.482 - 9.442	4.415	3.303 - 5.757
45/ 70	382	11.486	9.714 - 13.418	10.374	9.135 - 11.701	147	6.345	3.975 - 9.464	4.640	3.216 - 6.437	5.990	3.859 - 8.761	4.402	3.414 - 5.569
45/ 80	491	11.836	10.009 - 13.827	11.061	9.724 - 12.493	180	6.331	4.374 - 8.771	4.548	3.064 - 6.455	6.569	4.438 - 9.254	5.097	4.119 - 6.218
45/ 90	581	11.973	10.059 - 14.064	11.683	10.275 - 13.188	209	6.294	4.562 - 8.398	4.570	3.182 - 6.317	6.085	3.065 - 10.555	4.941	4.058 - 5.945
45/ 100	651	12.094	10.109 - 14.267	12.212	10.741 - 13.783	241	5.966	4.396 - 7.859	4.477	3.453 - 5.690	6.264	3.961 - 9.282	5.495	4.575 - 6.529
45/ 110	713	12.411	10.345 - 14.673	12.612	11.070 - 14.259	278	5.621	4.142 - 7.408	4.490	3.586 - 5.536	4.998	4.304 - 5.763	5.299	4.467 - 6.227
45/ 120	765	12.463	10.884 - 14.153	13.056	11.434 - 14.789	313	5.313	3.860 - 7.087	4.517	3.642 - 5.526	5.243	2.146 - 10.406	5.687	4.860 - 6.602
45/ 130	810	13.064	11.409 - 14.833	13.580	11.860 - 15.416	344	5.016	3.593 - 6.773	4.499	3.614 - 5.520	5.336	4.602 - 6.143	5.911	5.091 - 6.812
45/ 140	850	13.645	11.903 - 15.506	14.113	12.293 - 16.056	374	4.678	3.955 - 5.485	4.524	3.611 - 5.583	5.413	4.673 - 6.227	6.110	5.292 - 7.005
45/ 150	890	14.157	12.328 - 16.109	14.583	12.671 - 16.624	404	4.726	3.990 - 5.548	4.588	3.637 - 5.694	5.355	4.616 - 6.169	6.125	5.313 - 7.014
45/ 180	987	16.060	13.901 - 18.360	15.903	13.753 - 18.195	479	5.151	4.362 - 6.030	4.911	3.816 - 6.198	4.992	4.262 - 5.800	5.873	4.982 - 6.862
48/ 7	0	1.510	0.950 - 2.293	1.122	0.729 - 1.663	0	1.510	0.950 - 2.293	1.122	0.729 - 1.663	1.510	0.950 - 2.293	1.122	0.729 - 1.663
48/ 10	4	1.763	1.167 - 2.564	1.236	0.883 - 1.688	2	1.319	0.675 - 2.357	0.981	0.706 - 1.333	0.660	0.188 - 1.801	1.672	1.243 - 2.205
48/ 15	11	2.269	1.645 - 3.052	1.866	1.352 - 2.514	6	1.921	1.342 - 2.669	1.537	1.093 - 2.106	0.833	0.308 - 1.900	2.298	1.780 - 2.918
48/ 20	22	3.161	2.387 - 4.098	2.558	1.847 - 3.450	11	2.640	1.908 - 3.557	2.210	1.579 - 3.009	1.077	0.497 - 2.086	3.026	2.362 - 3.815
48/ 25	43	4.277	3.316 - 5.413	3.422	2.538 - 4.504	24	3.241	2.338 - 4.366	2.560	1.842 - 3.463	3.253	2.304 - 4.452	2.676	1.984 - 3.527
48/ 30	70	5.560	1.367 - 14.297	4.632	3.620 - 5.819	36	3.884	0.442 - 14.286	2.978	2.198 - 3.939	3.476	0.088 - 20.099	2.373	1.576 - 3.433
48/ 35	101	6.827	1.085 - 20.334	5.926	4.773 - 7.244	46	4.555	0.245 - 20.442	3.496	2.614 - 4.568	4.408	0.219 - 20.378	3.271	2.413 - 4.326
48/ 40	154	8.108	4.239 - 13.576	6.981	5.805 - 8.295	59	4.958	0.780 - 15.580	3.867	2.878 - 5.070	4.708	0.804 - 14.424	3.392	2.412 - 4.624
48/ 45	199	9.192	7.506 - 11.080	8.005	6.807 - 9.322	74	5.376	2.064 - 11.058	4.205	3.103 - 5.549	5.057	2.078 - 10.034	3.372	2.415 - 4.569
48/ 50	245	10.124	8.351 - 12.092	8.896	7.679 - 10.220	95	5.831	2.683 - 10.727	4.367	3.197 - 5.798	6.057	2.802 - 11.086	4.514	3.330 - 5.953
48/ 55	296	10.858	4.092 - 21.387	9.576	8.337 - 10.914	116	6.122	1.064 - 17.951	4.501	3.228 - 6.077	6.215	0.184 - 29.353	4.477	3.337 - 5.855
48/ 60	341	11.481	9.580 - 13.568	10.200	8.923 - 11.573	136	6.374	3.683 - 10.071	4.608	3.242 - 6.318	6.431	3.826 - 9.953	4.583	3.530 - 5.830
48/ 70	455	12.140	10.203 - 14.254	10.951	9.632 - 12.364	172	6.718	4.354 - 9.761	4.769	3.291 - 6.639	6.450	4.222 - 9.310	4.615	3.685 - 5.692
48/ 80	566	12.375	10.382 - 14.551	11.657	10.243 - 13.170	208	6.655	4.605 - 9.202	4.653	3.223 - 6.460	6.964	4.849 - 9.578	5.410	4.435 - 6.516
51/ 7	0	1.674	0.000 - 37.889	1.221	0.805 - 1.786	0	1.674	0.000 - 37.889	1.221	0.805 - 1.786	1.674	0.000 - 37.889	1.221	0.805 - 1.786

VVal-79 Thalmann Algorithm; 6 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL		P(DCS)			TOTAL		P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)	P(DCS)		P(DCS)		
	TIME	BVM(3)	NMRI98		TIME	BVM(3)	NMRI98		BVM(3)	NMRI98		NMRI98		
	(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high
51/ 10	5	1.926	1.275 - 2.797	1.360	0.993 - 1.824	3	1.337	0.412 - 3.368	1.097	0.800 - 1.473	0.712	0.212 - 1.886	1.798	1.349 - 2.351
51/ 15	15	2.479	1.813 - 3.307	2.018	1.477 - 2.693	8	2.114	1.497 - 2.902	1.712	1.236 - 2.315	0.925	0.366 - 2.006	2.507	1.948 - 3.176
51/ 20	30	3.508	0.135 - 18.305	2.790	2.049 - 3.707	16	2.908	0.053 - 19.022	2.386	1.750 - 3.178	2.814	0.054 - 18.375	2.368	1.515 - 3.529
51/ 25	53	4.867	3.775 - 6.153	3.959	2.998 - 5.113	31	3.595	2.574 - 4.870	2.744	2.004 - 3.662	3.514	2.517 - 4.760	2.907	2.234 - 3.714
51/ 30	89	6.326	4.959 - 7.911	5.290	4.143 - 6.629	43	4.345	3.028 - 6.005	3.308	2.443 - 4.369	4.021	2.853 - 5.483	2.761	2.064 - 3.612
51/ 35	136	7.738	6.151 - 9.551	6.567	5.414 - 7.864	57	4.910	3.343 - 6.905	3.683	2.784 - 4.767	4.437	1.293 - 10.733	2.918	2.042 - 4.036
51/ 40	188	9.020	7.282 - 10.979	7.727	6.464 - 9.130	72	5.388	1.890 - 11.650	4.120	3.055 - 5.416	5.522	1.806 - 12.372	4.246	3.165 - 5.556
51/ 45	234	10.127	8.234 - 12.243	8.820	7.532 - 10.231	91	5.932	2.579 - 11.288	4.536	3.364 - 5.958	6.006	2.628 - 11.376	4.316	3.139 - 5.764
51/ 50	293	10.999	9.030 - 13.183	9.545	8.241 - 10.961	116	6.277	3.144 - 10.915	4.510	3.262 - 6.048	6.304	3.423 - 10.395	4.377	3.247 - 5.750
51/ 55	340	11.726	9.676 - 13.987	10.286	8.952 - 11.725	137	6.630	3.665 - 10.786	4.734	3.382 - 6.410	6.623	3.832 - 10.443	4.574	3.522 - 5.819
51/ 60	398	12.220	10.132 - 14.514	10.728	9.390 - 12.164	156	6.976	4.103 - 10.860	4.951	3.525 - 6.717	6.723	4.250 - 9.950	4.724	3.684 - 5.946
51/ 70	531	12.675	10.561 - 14.988	11.483	10.073 - 12.994	198	7.030	4.600 - 10.135	4.858	3.365 - 6.742	6.785	4.595 - 9.536	4.839	3.920 - 5.893
51/ 80	630	12.930	10.749 - 15.316	12.240	10.755 - 13.826	235	6.891	4.788 - 9.493	4.768	3.445 - 6.395	7.407	5.198 - 10.116	5.844	4.844 - 6.969
51/ 90	712	13.301	11.091 - 15.713	12.783	11.221 - 14.451	281	6.510	4.663 - 8.764	4.700	3.755 - 5.794	6.968	4.808 - 9.651	5.944	5.001 - 6.993
51/ 100	778	13.873	11.589 - 16.360	13.370	11.717 - 15.133	325	6.085	4.379 - 8.168	4.708	3.831 - 5.712	5.721	4.943 - 6.575	5.887	5.032 - 6.831
51/ 110	834	14.072	12.233 - 16.036	14.036	12.262 - 15.927	365	5.734	4.123 - 7.707	4.685	3.802 - 5.697	5.470	4.699 - 6.320	5.676	4.902 - 6.525
51/ 120	887	14.781	12.869 - 16.819	14.677	12.781 - 16.699	405	5.280	4.412 - 6.252	4.795	3.879 - 5.846	5.624	4.837 - 6.490	5.965	5.183 - 6.820
51/ 150	1013	17.065	14.841 - 19.424	16.350	14.129 - 18.715	503	5.824	4.920 - 6.831	5.246	4.099 - 6.588	5.638	4.816 - 6.546	6.228	5.289 - 7.267
51/ 180	1117	18.816	16.178 - 21.612	17.876	15.448 - 20.451	588	6.482	5.517 - 7.548	5.799	4.429 - 7.417	6.129	5.246 - 7.101	7.002	5.753 - 8.407
54/ 6	0	1.637	1.026 - 2.491	1.185	0.772 - 1.752	0	1.637	1.026 - 2.491	1.185	0.772 - 1.752	1.637	1.026 - 2.491	1.185	0.772 - 1.752
54/ 10	7	2.022	1.294 - 3.019	1.488	1.058 - 2.042	4	1.502	1.009 - 2.159	1.222	0.862 - 1.688	0.763	0.237 - 1.962	1.930	1.459 - 2.506
54/ 15	18	2.682	1.954 - 3.588	2.203	1.585 - 2.981	10	2.393	1.722 - 3.238	1.956	1.411 - 2.643	0.946	0.449 - 1.798	2.516	1.945 - 3.200
54/ 20	39	3.953	3.025 - 5.061	3.106	2.322 - 4.063	22	3.174	2.300 - 4.261	2.514	1.866 - 3.311	3.019	2.103 - 4.189	2.465	1.678 - 3.492
54/ 25	69	5.515	4.284 - 6.958	4.487	3.514 - 5.627	38	3.960	2.796 - 5.422	2.950	2.236 - 3.814	3.970	2.865 - 5.338	3.255	2.525 - 4.122
54/ 30	106	7.086	2.793 - 14.110	6.019	4.843 - 7.365	51	4.800	1.186 - 12.503	3.551	2.703 - 4.570	4.650	1.206 - 11.870	3.329	2.513 - 4.316
54/ 35	169	8.623	6.880 - 10.602	7.254	5.947 - 8.725	67	5.266	1.565 - 12.435	3.918	2.893 - 5.169	5.167	1.568 - 12.092	3.686	2.655 - 4.969
54/ 40	220	9.912	7.975 - 12.091	8.480	7.183 - 9.907	85	5.906	2.312 - 11.946	4.472	3.360 - 5.810	5.748	2.340 - 11.387	3.876	2.781 - 5.239
54/ 45	280	10.972	8.899 - 13.284	9.418	8.049 - 10.911	111	6.349	2.978 - 11.499	4.526	3.304 - 6.023	6.194	3.213 - 10.535	4.105	3.009 - 5.448
54/ 50	334	11.823	9.640 - 14.245	10.239	8.846 - 11.747	135	6.773	3.552 - 11.399	4.779	3.451 - 6.412	6.642	3.710 - 10.728	4.413	3.379 - 5.644
54/ 55	395	12.439	10.202 - 14.909	10.778	9.369 - 12.296	156	7.189	4.025 - 11.562	5.027	3.617 - 6.761	6.868	4.231 - 10.352	4.667	3.630 - 5.888
54/ 60	468	12.804	10.534 - 15.301	11.164	9.776 - 12.652	181	7.253	4.380 - 11.072	4.924	3.463 - 6.750	7.091	4.548 - 10.372	4.801	3.823 - 5.933
54/ 70	596	13.205	10.893 - 15.742	12.017	10.531 - 13.606	223	7.334	4.808 - 10.548	4.928	3.483 - 6.726	7.157	4.880 - 9.999	5.175	4.236 - 6.242

VVal-79 Thalmann Algorithm; 6 msw Last In-water Stop

Depth (msw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL		P(DCS)		P(DCS)		TOTAL		P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)	P(DCS)		P(DCS)
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)	NMRI98		NMRI98
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
57/ 5	0	1.567	0.961 - 2.427	1.132	0.725 - 1.697	0	1.567	0.961 - 2.427	1.132	0.725 - 1.697	1.567	0.961 - 2.427	1.132	0.725 - 1.697		
57/ 10	9	2.117	0.124 - 10.845	1.607	1.147 - 2.195	5	1.613	0.037 - 11.586	1.298	0.918 - 1.789	0.818	0.000 - 60.302	2.069	1.573 - 2.673		
57/ 15	21	2.959	2.162 - 3.947	2.431	1.764 - 3.266	13	2.629	1.906 - 3.533	2.124	1.555 - 2.833	1.002	0.527 - 1.762	2.686	2.068 - 3.427		
57/ 20	47	4.439	0.560 - 15.400	3.533	2.646 - 4.611	28	3.435	0.196 - 16.155	2.655	1.962 - 3.510	3.191	0.081 - 18.865	2.653	1.972 - 3.490		
57/ 25	87	6.206	4.827 - 7.815	5.048	3.928 - 6.364	44	4.350	3.027 - 6.021	3.227	2.415 - 4.217	3.942	2.766 - 5.425	2.584	1.866 - 3.484		
57/ 30	141	7.925	6.235 - 9.867	6.571	5.416 - 7.871	61	5.075	0.541 - 18.228	3.683	2.830 - 4.700	4.611	1.379 - 10.972	2.921	2.104 - 3.944		
57/ 35	200	9.471	7.542 - 11.657	7.948	6.672 - 9.362	78	5.699	1.996 - 12.285	4.210	3.179 - 5.448	5.315	2.025 - 10.990	3.288	2.386 - 4.407		
57/ 40	259	10.761	8.639 - 13.143	9.126	7.698 - 10.697	103	6.342	2.728 - 12.100	4.497	3.311 - 5.942	5.897	2.912 - 10.373	3.644	2.641 - 4.888		
57/ 45	322	11.775	9.510 - 14.299	10.014	8.564 - 11.594	131	6.800	3.372 - 11.861	4.677	3.390 - 6.259	6.490	3.476 - 10.789	4.060	3.069 - 5.252		
57/ 50	384	12.545	10.162 - 15.190	10.720	9.250 - 12.311	154	7.269	3.942 - 11.937	5.030	3.631 - 6.749	7.685	4.367 - 12.214	5.422	4.252 - 6.785		
57/ 55	459	13.034	5.389 - 24.136	11.161	9.740 - 12.687	180	7.482	1.916 - 18.275	4.991	3.544 - 6.786	7.193	1.584 - 18.802	4.667	3.700 - 5.791		
57/ 60	536	13.330	10.867 - 16.047	11.633	10.161 - 13.212	204	7.539	4.584 - 11.443	4.975	3.491 - 6.829	7.343	4.871 - 10.470	4.916	3.959 - 6.017		
57/ 70	652	13.738	11.202 - 16.530	12.544	10.989 - 14.205	249	7.473	4.870 - 10.792	4.923	3.589 - 6.553	7.441	5.165 - 10.247	5.454	4.492 - 6.542		
57/ 80	748	14.385	11.821 - 17.193	13.198	11.561 - 14.945	307	7.044	4.814 - 9.826	4.829	3.911 - 5.881	7.256	5.059 - 9.964	5.857	4.941 - 6.877		
57/ 90	822	15.184	12.558 - 18.043	14.009	12.250 - 15.884	359	6.639	4.628 - 9.129	4.875	4.011 - 5.856	6.112	5.257 - 7.050	6.011	5.168 - 6.937		
57/ 100	888	15.477	13.299 - 17.807	14.824	12.922 - 16.850	408	6.407	4.557 - 8.676	4.960	4.078 - 5.962	5.989	5.120 - 6.948	5.934	5.156 - 6.784		
57/ 110	948	16.363	14.157 - 18.712	15.557	13.511 - 17.735	455	6.024	4.957 - 7.228	5.156	4.203 - 6.242	6.284	5.386 - 7.273	6.386	5.559 - 7.287		
57/ 120	998	17.387	15.085 - 19.828	16.247	14.064 - 18.570	495	6.266	5.198 - 7.465	5.340	4.276 - 6.566	6.364	5.453 - 7.368	6.579	5.679 - 7.565		
60/ 5	0	1.702	0.000 - 71.914	1.214	0.788 - 1.798	0	1.702	0.000 - 71.914	1.214	0.788 - 1.798	1.702	0.000 - 71.914	1.214	0.788 - 1.798		
60/ 10	11	2.162	1.520 - 2.984	1.718	1.245 - 2.316	6	1.757	1.207 - 2.477	1.446	1.039 - 1.964	0.880	0.299 - 2.116	2.215	1.693 - 2.846		
60/ 15	27	3.122	2.331 - 4.089	2.618	1.915 - 3.492	16	2.734	1.985 - 3.668	2.307	1.707 - 3.049	0.972	0.541 - 1.637	2.844	2.161 - 3.671		
60/ 20	56	4.951	0.621 - 16.903	4.012	3.068 - 5.139	34	3.699	0.182 - 17.851	2.808	2.112 - 3.657	3.538	0.119 - 19.054	2.896	2.192 - 3.748		
60/ 25	103	6.903	3.419 - 12.042	5.706	4.588 - 6.987	50	4.774	1.622 - 10.588	3.582	2.786 - 4.525	4.502	1.445 - 10.341	3.058	2.336 - 3.927		
60/ 30	172	8.745	6.908 - 10.842	7.205	5.961 - 8.599	71	5.395	1.590 - 12.767	3.855	2.929 - 4.966	5.291	1.595 - 12.399	3.631	2.706 - 4.757		
60/ 35	230	10.302	8.187 - 12.693	8.644	7.257 - 10.178	92	6.180	2.414 - 12.476	4.484	3.377 - 5.815	6.131	2.448 - 12.235	4.071	2.970 - 5.425		
60/ 40	302	11.541	9.236 - 14.124	9.650	8.224 - 11.209	122	6.743	3.140 - 12.231	4.571	3.362 - 6.043	6.820	3.458 - 11.728	4.507	3.353 - 5.905		
60/ 45	365	12.518	10.031 - 15.292	10.558	9.032 - 12.218	149	7.260	3.754 - 12.298	4.880	3.524 - 6.548	7.484	3.769 - 12.875	5.003	3.878 - 6.326		
60/ 50	444	13.151	10.579 - 16.009	11.054	9.589 - 12.635	176	7.612	4.201 - 12.337	4.964	3.545 - 6.719	7.899	4.786 - 12.004	5.412	4.262 - 6.749		
63/ 4	0	1.574	0.956 - 2.457	1.131	0.721 - 1.704	0	1.574	0.956 - 2.457	1.131	0.721 - 1.704	1.574	0.956 - 2.457	1.131	0.721 - 1.704		
63/ 5	1	1.748	1.104 - 2.641	1.200	0.785 - 1.767	1	1.295	0.689 - 2.247	0.813	0.576 - 1.121	0.718	0.194 - 2.020	1.506	1.074 - 2.059		
63/ 10	14	2.248	1.584 - 3.097	1.837	1.340 - 2.461	8	1.917	1.333 - 2.674	1.591	1.152 - 2.146	0.921	0.349 - 2.058	2.247	1.720 - 2.884		
63/ 15	35	3.508	2.653 - 4.539	2.849	2.112 - 3.754	21	2.942	2.121 - 3.970	2.414	1.806 - 3.159	2.643	1.743 - 3.842	2.287	1.420 - 3.492		

VVal-79 Thalmann Algorithm; 6 msw Last In-water Stop

Depth (msw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL					TOTAL								
	STOP	P(DCS)	P(DCS)			STOP	P(DCS)	P(DCS)			P(DCS)	P(DCS)		
	TIME	BVM(3)	NMRI98			TIME	BVM(3)	NMRI98			BVM(3)	NMRI98		
(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high	
63/ 20	73	5.492	4.254 - 6.947	4.436	3.477 - 5.559	41	3.975	2.798 - 5.455	2.958	2.278 - 3.772	3.942	2.835 - 5.316	3.197	2.420 - 4.136
63/ 25	126	7.621	5.926 - 9.583	6.302	5.171 - 7.580	60	5.032	3.374 - 7.157	3.566	2.787 - 4.485	5.090	3.529 - 7.054	3.669	2.920 - 4.543
63/ 30	200	9.513	7.501 - 11.805	7.844	6.600 - 9.220	80	5.738	1.929 - 12.630	4.100	3.132 - 5.257	5.351	1.964 - 11.288	3.189	2.340 - 4.236
63/ 35	269	11.076	8.780 - 13.666	9.186	7.821 - 10.680	109	6.544	2.768 - 12.587	4.440	3.323 - 5.787	6.213	2.998 - 11.068	3.757	2.759 - 4.980
63/ 40	339	12.289	9.767 - 15.117	10.229	8.722 - 11.872	141	7.140	3.494 - 12.530	4.674	3.400 - 6.234	7.058	3.711 - 11.839	4.382	3.355 - 5.604
63/ 45	415	13.163	10.479 - 16.157	10.929	9.375 - 12.614	168	7.731	4.050 - 12.954	4.999	3.610 - 6.705	7.641	4.497 - 11.859	4.942	3.852 - 6.220
63/ 50	507	13.665	10.904 - 16.736	11.449	9.931 - 13.083	196	7.942	4.447 - 12.731	5.066	3.607 - 6.871	8.145	5.019 - 12.223	5.316	4.232 - 6.568
66/ 4	0	1.692	1.046 - 2.604	1.206	0.779 - 1.793	0	1.692	1.046 - 2.604	1.206	0.779 - 1.793	1.692	1.046 - 2.604	1.206	0.779 - 1.793
66/ 5	3	1.703	1.067 - 2.591	1.165	0.780 - 1.685	2	1.062	0.427 - 2.269	0.879	0.630 - 1.200	0.736	0.199 - 2.068	1.582	1.140 - 2.142
66/ 10	16	2.292	1.594 - 3.192	1.986	1.456 - 2.649	10	2.055	1.444 - 2.839	1.753	1.289 - 2.332	0.919	0.419 - 1.803	2.272	1.746 - 2.905
66/ 15	42	3.844	2.933 - 4.936	3.145	2.317 - 4.164	25	3.074	2.203 - 4.166	2.541	1.880 - 3.356	2.775	1.873 - 3.953	2.453	1.696 - 3.431
66/ 20	88	6.151	4.752 - 7.790	4.955	3.863 - 6.235	46	4.355	3.013 - 6.055	3.211	2.451 - 4.125	3.903	2.722 - 5.399	2.511	1.766 - 3.463
66/ 25	157	8.370	6.549 - 10.463	6.808	5.595 - 8.173	69	5.308	1.287 - 13.803	3.706	2.861 - 4.712	4.990	1.496 - 11.784	3.171	2.344 - 4.187
66/ 30	227	10.304	8.118 - 12.787	8.489	7.179 - 9.932	91	6.225	2.311 - 12.922	4.410	3.380 - 5.634	6.115	2.345 - 12.485	3.903	2.891 - 5.139
66/ 35	309	11.815	9.340 - 14.603	9.676	8.267 - 11.214	127	6.962	3.149 - 12.830	4.542	3.373 - 5.959	7.097	3.524 - 12.346	4.577	3.456 - 5.921
66/ 40	384	12.954	10.241 - 15.992	10.630	9.118 - 12.272	158	7.600	3.829 - 13.061	4.875	3.554 - 6.490	8.007	4.276 - 13.233	5.269	4.124 - 6.605
69/ 5	4	1.859	1.186 - 2.785	1.227	0.851 - 1.720	2	1.364	0.656 - 2.548	0.971	0.695 - 1.326	0.756	0.206 - 2.112	1.661	1.208 - 2.233
69/ 10	19	2.528	1.759 - 3.517	2.126	1.524 - 2.887	12	2.321	1.659 - 3.159	1.881	1.358 - 2.542	0.936	0.462 - 1.727	2.397	1.833 - 3.079
69/ 15	50	4.182	3.230 - 5.311	3.513	2.636 - 4.578	31	3.185	2.286 - 4.311	2.638	1.972 - 3.452	2.921	2.032 - 4.060	2.622	1.917 - 3.498
69/ 20	103	6.714	5.204 - 8.474	5.532	4.417 - 6.817	52	4.656	3.194 - 6.514	3.492	2.728 - 4.395	4.338	3.067 - 5.929	2.900	2.277 - 3.637
69/ 25	185	9.100	7.136 - 11.348	7.387	6.143 - 8.775	78	5.606	1.746 - 12.863	3.894	3.003 - 4.953	5.616	1.718 - 13.001	3.846	2.968 - 4.890
69/ 30	263	11.034	3.906 - 22.350	9.011	7.647 - 10.507	108	6.590	1.258 - 18.447	4.375	3.309 - 5.654	6.139	0.984 - 18.547	3.540	2.590 - 4.711
69/ 35	343	12.501	9.818 - 15.522	10.222	8.724 - 11.854	144	7.344	3.481 - 13.123	4.681	3.447 - 6.181	7.259	3.726 - 12.352	4.389	3.355 - 5.621
69/ 40	433	13.533	10.613 - 16.807	10.960	9.421 - 12.628	176	8.011	4.102 - 13.597	4.947	3.597 - 6.598	8.102	4.656 - 12.757	5.150	4.031 - 6.457
72/ 5	6	1.873	1.160 - 2.873	1.289	0.920 - 1.762	3	1.279	0.589 - 2.470	1.041	0.754 - 1.408	0.778	0.216 - 2.147	1.745	1.279 - 2.329
72/ 10	21	2.589	1.844 - 3.531	2.329	1.692 - 3.127	14	2.405	1.720 - 3.271	2.067	1.523 - 2.743	0.855	0.393 - 1.667	2.526	1.919 - 3.261
72/ 15	57	4.734	3.657 - 6.007	3.920	2.989 - 5.034	36	3.549	2.532 - 4.822	2.783	2.113 - 3.593	3.343	2.363 - 4.579	2.819	2.096 - 3.706
72/ 20	121	7.249	5.670 - 9.075	6.104	4.971 - 7.390	61	4.811	3.281 - 6.759	3.489	2.743 - 4.368	4.767	3.411 - 6.446	3.432	2.739 - 4.241
72/ 25	211	9.808	7.686 - 12.229	7.947	6.691 - 9.337	86	5.965	2.040 - 12.977	4.145	3.193 - 5.276	5.630	2.069 - 11.832	3.319	2.460 - 4.371
72/ 30	298	11.700	9.190 - 14.535	9.473	8.075 - 11.002	124	6.900	3.000 - 13.020	4.404	3.275 - 5.771	6.908	3.313 - 12.294	4.251	3.195 - 5.522
72/ 35	384	13.122	10.256 - 16.346	10.594	9.068 - 12.252	160	7.738	3.788 - 13.526	4.809	3.516 - 6.388	8.141	4.247 - 13.646	5.211	4.078 - 6.535
72/ 40	494	13.998	10.924 - 17.446	11.243	9.734 - 12.871	196	8.259	4.322 - 13.810	4.907	3.535 - 6.595	8.266	4.856 - 12.815	4.966	3.949 - 6.145

**APPENDIX L ESTIMATED RISKS OF DCS FOR SCHEDULES IN FSW INTEGRATED AIR DECOMPRESSION
TABLE WITH 10 FSW LAST IN-WATER STOP.
VVAL-79 THALMANN ALGORITHM**

VVal-79 Thalmann Algorithm; 10 fsw Last In-water-Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂				
	TOTAL		P(DCS)		P(DCS)		TOTAL		P(DCS)		P(DCS)		P(DCS)		P(DCS)		
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)		P(DCS)		
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)		NMRI98		
	(min)	(%)	low	high	(%)	low	high	(min)	(%)	low	high	(%)	low	high	(%)	low	high
30/ 373	0	4.184	3.572	4.863	5.004	4.176	5.935	0	4.184	3.572	4.863	5.004	4.176	5.935	4.184	3.572	4.863
30/ 380	2	4.230	3.605	4.926	5.039	4.202	5.979	1	4.177	3.560	4.864	4.857	4.027	5.794	3.509	2.938	4.155
30/ 420	9	4.735	4.024	5.526	5.643	4.731	6.663	5	4.516	3.839	5.271	5.227	4.336	6.233	4.066	3.416	4.797
30/ 480	17	5.435	4.598	6.366	6.541	5.518	7.678	8	5.125	4.337	6.003	5.983	4.981	7.106	4.838	4.065	5.704
30/ 540	27	5.880	4.901	6.976	7.283	6.163	8.521	13	5.371	4.482	6.370	6.448	5.359	7.669	5.533	4.639	6.533
30/ 600	36	6.452	5.360	7.675	7.977	6.723	9.364	18	5.735	4.777	6.810	6.832	5.650	8.158	5.452	4.573	6.435
30/ 660	43	6.979	5.782	8.319	8.642	7.295	10.126	21	6.139	5.103	7.301	7.337	6.066	8.760	5.977	5.002	7.068
30/ 720	53	7.412	6.129	8.849	9.163	7.738	10.731	25	6.418	5.327	7.642	7.676	6.341	9.169	6.444	5.379	7.633
35/ 233	0	2.991	2.558	3.475	3.657	2.947	4.479	0	2.991	2.558	3.475	3.657	2.947	4.479	2.991	2.558	3.475
35/ 240	2	3.071	2.624	3.570	3.742	3.024	4.570	1	3.014	2.574	3.506	3.540	2.836	4.359	2.279	1.850	2.776
35/ 270	12	3.643	3.128	4.215	4.362	3.587	5.243	6	3.386	2.900	3.927	3.877	3.138	4.728	2.892	1.802	4.388
35/ 300	23	4.156	3.565	4.811	4.972	4.141	5.906	12	3.656	3.127	4.243	4.098	3.323	4.989	3.494	2.926	4.136
35/ 330	32	4.640	3.968	5.384	5.567	4.678	6.560	17	3.944	3.368	4.584	4.380	3.556	5.324	3.491	2.923	4.133
35/ 360	39	5.102	4.348	5.937	6.152	5.201	7.207	20	4.314	3.677	5.022	4.809	3.922	5.821	4.021	3.381	4.741
35/ 420	55	6.042	5.121	7.064	7.153	6.086	8.330	28	4.873	4.135	5.695	5.403	4.406	6.538	4.506	3.790	5.308
35/ 480	70	6.898	5.808	8.108	8.124	6.854	9.526	36	5.288	4.466	6.203	5.826	4.712	7.097	5.355	4.497	6.314
35/ 540	85	7.645	6.398	9.030	9.022	7.622	10.561	42	5.692	4.756	6.740	6.435	5.197	7.845	5.428	4.557	6.402
35/ 600	103	8.113	6.715	9.672	9.742	8.228	11.403	50	6.015	5.019	7.131	6.814	5.494	8.317	6.076	5.087	7.180
35/ 660	121	8.676	7.162	10.363	10.355	8.741	12.124	59	6.189	5.160	7.342	7.044	5.680	8.595	6.045	4.265	8.244
35/ 720	135	9.191	7.568	11.000	10.955	9.237	12.834	67	6.291	5.244	7.463	7.198	5.819	8.764	6.533	5.457	7.735
40/ 164	0	2.361	1.974	2.800	2.988	2.323	3.780	0	2.361	1.974	2.800	2.988	2.323	3.780	2.361	1.974	2.800
40/ 170	3	2.421	2.032	2.863	3.043	2.369	3.844	2	2.316	1.927	2.760	2.782	2.134	3.561	1.515	1.163	1.943
40/ 180	7	2.664	2.254	3.125	3.300	2.595	4.131	4	2.477	2.078	2.928	2.930	2.264	3.727	1.759	1.383	2.208
40/ 190	11	2.905	2.477	3.383	3.577	2.842	4.436	7	2.583	2.177	3.041	2.995	2.319	3.801	2.008	1.608	2.479
40/ 200	15	3.150	2.701	3.649	3.854	3.090	4.741	8	2.797	2.376	3.269	3.221	2.517	4.054	2.261	1.835	2.755
40/ 210	18	3.391	2.920	3.912	4.142	3.349	5.054	10	2.948	2.517	3.430	3.362	2.640	4.213	2.515	2.063	3.035

VVal-79 Thalmann Algorithm; 10 fsw Last In-water-Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂					
	TOTAL		P(DCS)		P(DCS)		TOTAL		P(DCS)		P(DCS)		P(DCS)		P(DCS)			
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)	P(DCS)				
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)	NMRI98				
	(min)	(%)	low	high	(%)	low	high	(min)	(%)	low	high	(%)	low	high	(%)	low	high	
40/ 220	23	3.612	3.118	4.157	4.401	3.584	5.334	12	3.095	2.644	3.598	3.500	2.761	4.369	2.770	2.307	3.297	
40/ 230	28	3.826	3.301	4.405	4.653	3.815	5.608	15	3.182	2.720	3.698	3.550	2.800	4.430	2.510	2.059	3.030	
40/ 240	33	4.033	3.480	4.643	4.900	4.041	5.873	18	3.264	2.787	3.796	3.595	2.835	4.488	2.747	2.270	3.292	
40/ 270	47	4.618	3.974	5.329	5.609	4.691	6.638	25	3.589	3.071	4.164	3.882	3.076	4.824	3.452	2.891	4.086	
40/ 300	58	5.172	4.430	5.992	6.301	5.323	7.388	31	3.922	3.339	4.573	4.223	3.366	5.220	3.688	3.095	4.355	
40/ 330	68	5.804	4.963	6.733	6.949	5.911	8.094	36	4.248	3.617	4.950	4.546	3.641	5.593	4.313	3.630	5.079	
40/ 360	81	6.400	5.447	7.452	7.496	6.370	8.737	42	4.541	3.854	5.306	4.826	3.861	5.941	4.290	3.611	5.052	
40/ 420	103	7.514	6.337	8.817	8.731	7.395	10.199	54	5.066	4.283	5.939	5.366	4.272	6.629	5.354	4.500	6.309	
40/ 480	125	8.485	7.097	10.022	9.847	8.356	11.479	64	5.510	4.624	6.502	6.027	4.799	7.441	5.735	4.812	6.764	
40/ 540	151	9.129	7.556	10.879	10.733	9.101	12.515	76	5.804	4.865	6.854	6.383	5.092	7.865	5.842	4.901	6.893	
40/ 600	174	9.886	8.150	11.815	11.548	9.772	13.484	89	5.974	5.003	7.058	6.636	5.333	8.124	5.941	4.982	7.013	
40/ 660	193	10.566	8.680	12.659	12.328	10.422	14.401	99	6.157	5.152	7.279	6.912	5.609	8.391	5.819	4.882	6.864	
40/ 720	211	11.048	9.032	13.287	12.926	10.906	15.122	108	6.266	5.227	7.428	7.135	5.825	8.614	6.311	5.283	7.459	
45/ 127	0	2.138	1.728	2.616	2.741	2.112	3.496	0	2.138	1.728	2.616	2.741	2.112	3.496	2.138	1.728	2.616	
45/ 130	1	2.200	1.783	2.685	2.794	2.156	3.558	1	2.058	1.653	2.532	2.524	1.913	3.267	1.074	0.768	1.469	
45/ 140	8	2.404	1.988	2.879	3.015	2.339	3.819	4	2.217	1.809	2.689	2.657	2.023	3.424	1.345	1.007	1.764	
45/ 150	14	2.677	2.251	3.158	3.336	2.616	4.187	8	2.318	1.909	2.787	2.707	2.058	3.493	1.627	1.259	2.070	
45/ 160	19	2.963	2.521	3.458	3.671	2.907	4.566	11	2.472	2.049	2.955	2.829	2.154	3.646	1.916	1.458	2.473	
45/ 170	25	3.232	2.778	3.736	3.994	3.189	4.928	14	2.615	2.185	3.103	2.948	2.245	3.795	1.762	1.380	2.219	
45/ 180	29	3.517	3.033	4.053	4.335	3.490	5.310	17	2.761	2.328	3.250	3.061	2.334	3.937	2.039	1.629	2.520	
45/ 190	34	3.782	3.278	4.338	4.660	3.779	5.670	19	2.948	2.501	3.450	3.253	2.495	4.160	2.320	1.883	2.826	
45/ 200	40	4.031	3.492	4.625	4.963	4.051	6.003	21	3.132	2.666	3.653	3.442	2.656	4.378	2.604	1.246	4.808	
45/ 210	47	4.263	3.694	4.889	5.242	4.303	6.307	25	3.201	2.727	3.731	3.459	2.661	4.411	2.890	2.393	3.456	
45/ 220	53	4.493	3.890	5.157	5.524	4.559	6.615	29	3.262	2.468	4.223	3.472	2.664	4.439	2.790	2.305	3.344	
45/ 230	59	4.714	4.082	5.409	5.796	4.806	6.909	32	3.374	2.801	4.025	3.565	2.741	4.547	3.056	2.541	3.641	
45/ 240	65	4.924	4.247	5.670	6.056	5.044	7.190	35	3.478	2.933	4.091	3.654	2.816	4.651	3.321	2.774	3.940	
45/ 270	80	5.593	4.816	6.449	6.824	5.748	8.018	43	3.777	3.205	4.417	3.918	3.051	4.941	3.534	2.960	4.181	
45/ 300	94	6.388	5.478	7.388	7.530	6.381	8.796	50	4.166	3.534	4.872	4.290	3.374	5.363	4.255	3.581	5.012	
45/ 330	110	7.112	6.059	8.270	8.236	6.974	9.626	58	4.484	3.803	5.244	4.584	3.609	5.723	4.452	3.747	5.241	
45/ 360	126	7.764	6.570	9.082	8.924	7.562	10.419	67	4.638	3.912	5.450	4.702	3.685	5.891	5.082	4.275	5.984	
45/ 420	160	8.916	7.456	10.531	10.190	8.660	11.861	81	5.044	4.251	5.930	5.373	4.239	6.690	5.566	4.484	6.806	
45/ 480	197	9.652	7.987	11.500	11.164	9.467	13.013	97	5.287	4.450	6.222	5.732	4.560	7.084	5.304	4.460	6.246	

VVal-79 Thalmann Algorithm; 10 fsw Last In-water-Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂					
	TOTAL		P(DCS)		P(DCS)		TOTAL		P(DCS)		P(DCS)		P(DCS)		P(DCS)			
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)	P(DCS)				
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)	NMRI98				
	(min)	(%)	low	high	(%)	low	high	(min)	(%)	low	high	(%)	low	high	(%)	low	high	
45/ 540	227	10.502	8.647	12.559	12.110	10.239	14.147	113	5.455	4.587	6.424	6.000	4.833	7.335	5.456	4.586	6.427	
50/ 93	0	1.754	1.337	2.262	2.241	1.709	2.887	0	1.754	1.337	2.262	2.241	1.709	2.887	1.754	1.337	2.262	
50/ 95	1	1.786	1.355	2.312	2.256	1.721	2.903	1	1.622	1.059	2.388	1.988	1.483	2.611	0.586	0.364	0.905	
50/ 100	4	1.851	1.426	2.365	2.340	1.788	3.007	2	1.742	1.176	2.493	2.107	1.583	2.749	0.709	0.455	1.066	
50/ 110	7	2.177	1.739	2.692	2.712	2.097	3.447	4	1.984	1.410	2.717	2.358	1.790	3.048	0.979	0.710	1.321	
50/ 120	11	2.510	2.067	3.018	3.114	2.434	3.920	7	2.184	1.603	2.907	2.548	1.942	3.282	1.281	0.604	2.433	
50/ 130	20	2.818	2.370	3.324	3.482	2.746	4.346	11	2.329	1.745	3.044	2.661	2.020	3.436	1.604	1.235	2.051	
50/ 140	27	3.135	2.671	3.654	3.871	3.077	4.796	15	2.471	1.872	3.198	2.765	2.088	3.588	1.489	1.125	1.937	
50/ 150	34	3.449	2.967	3.982	4.256	3.407	5.240	19	2.609	2.014	3.323	2.863	2.149	3.733	1.801	1.428	2.243	
50/ 160	40	3.762	3.252	4.325	4.646	3.743	5.685	23	2.742	2.137	3.461	2.953	2.204	3.868	2.123	1.698	2.622	
50/ 170	46	4.060	3.529	4.643	5.026	4.073	6.118	26	2.913	2.299	3.636	3.117	2.330	4.077	2.452	1.995	2.981	
50/ 180	53	4.340	3.771	4.964	5.381	4.383	6.518	29	3.080	2.449	3.819	3.276	2.455	4.274	2.431	1.995	2.932	
50/ 190	61	4.600	3.997	5.261	5.706	4.670	6.882	33	3.186	2.382	4.166	3.348	2.504	4.374	2.742	2.256	3.300	
50/ 200	69	4.855	4.219	5.553	6.016	4.944	7.226	37	3.260	2.539	4.115	3.359	2.509	4.394	3.056	2.535	3.649	
50/ 210	77	5.088	4.412	5.831	6.308	5.206	7.550	42	3.294	2.615	4.089	3.341	2.487	4.384	2.846	2.348	3.415	
50/ 220	84	5.319	4.611	6.096	6.601	5.469	7.872	45	3.430	2.748	4.222	3.478	2.607	4.535	3.139	2.608	3.742	
50/ 230	91	5.544	4.786	6.376	6.855	5.698	8.149	49	3.483	0.272	14.829	3.480	2.607	4.540	3.432	2.866	4.072	
50/ 240	97	5.854	0.992	17.447	7.104	5.925	8.418	53	3.564	0.077	21.212	3.532	2.657	4.591	3.724	3.121	4.404	
50/ 270	117	6.793	5.822	7.860	7.898	6.640	9.290	61	3.989	0.463	14.497	3.973	3.057	5.061	4.112	3.456	4.850	
50/ 300	139	7.611	6.480	8.855	8.714	7.349	10.219	71	4.237	0.574	14.422	4.199	3.271	5.292	4.282	3.600	5.046	
50/ 330	158	8.380	7.077	9.816	9.577	8.128	11.163	81	4.458	0.681	14.387	4.494	3.520	5.636	4.995	3.534	6.810	
50/ 360	181	9.011	7.561	10.612	10.255	8.727	11.922	90	4.697	0.804	14.383	4.835	3.807	6.035	5.145	3.633	7.026	
50/ 420	228	10.046	8.332	11.945	11.360	9.669	13.200	109	4.926	0.932	14.393	5.305	4.225	6.553	5.666	4.758	6.680	
55/ 75	0	1.696	1.242	2.266	2.106	1.596	2.727	0	1.696	1.242	2.266	2.106	1.596	2.727	1.696	1.242	2.266	
55/ 80	4	1.731	1.280	2.291	2.126	1.619	2.743	2	1.612	1.168	2.172	1.905	1.425	2.497	0.509	0.288	0.853	
55/ 85	7	1.894	1.439	2.449	2.300	1.767	2.942	4	1.708	1.253	2.279	1.983	1.498	2.577	0.636	0.387	1.000	
55/ 90	10	2.075	1.612	2.631	2.501	1.938	3.175	6	1.809	1.357	2.366	2.065	1.569	2.669	0.775	0.501	1.155	
55/ 100	15	2.445	1.975	2.991	2.951	2.316	3.702	9	2.044	1.584	2.596	2.300	1.759	2.956	1.092	0.785	1.484	
55/ 110	20	2.824	2.332	3.387	3.434	2.721	4.269	11	2.328	1.860	2.877	2.621	2.012	3.352	1.439	1.079	1.884	
55/ 120	30	3.187	1.135	7.052	3.875	3.093	4.785	17	2.430	0.662	6.368	2.643	1.998	3.429	1.342	0.982	1.795	
55/ 130	39	3.533	3.016	4.108	4.323	3.469	5.309	22	2.556	2.096	3.085	2.729	2.032	3.583	1.688	1.293	2.168	
55/ 140	47	3.877	3.349	4.461	4.771	3.846	5.835	26	2.727	2.252	3.270	2.881	2.129	3.806	2.051	1.622	2.559	

VVal-79 Thalmann Algorithm; 10 fsw Last In-water-Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂					
	TOTAL		P(DCS)		P(DCS)		TOTAL		P(DCS)		P(DCS)		P(DCS)		P(DCS)			
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)	P(DCS)				
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)	NMRI98				
	(min)	(%)	low	high	(%)	low	high	(min)	(%)	low	high	(%)	low	high	(%)	low	high	
55/ 150	54	4.219	3.664	4.830	5.219	4.225	6.357	30	2.893	2.410	3.442	3.025	2.223	4.016	2.100	1.667	2.612	
55/ 160	61	4.551	3.956	5.205	5.652	4.592	6.860	34	3.052	2.105	4.271	3.161	2.315	4.208	2.453	1.986	2.994	
55/ 170	71	4.836	4.213	5.517	6.021	4.906	7.287	38	3.169	2.441	4.039	3.237	2.364	4.317	2.811	2.308	3.388	
55/ 180	81	5.069	4.405	5.795	6.313	5.154	7.625	44	3.168	2.563	3.868	3.140	2.257	4.246	2.665	2.177	3.227	
55/ 190	91	5.351	4.643	6.127	6.627	5.434	7.974	49	3.233	2.655	3.894	3.176	2.279	4.300	3.003	1.763	4.768	
55/ 200	100	5.652	4.891	6.487	6.963	5.735	8.343	53	3.350	2.774	4.006	3.284	2.371	4.422	3.340	2.423	4.479	
55/ 210	109	5.979	5.176	6.857	7.274	6.015	8.685	57	3.454	2.881	4.102	3.387	2.465	4.530	3.268	2.715	3.897	
55/ 220	116	6.345	5.480	7.293	7.600	6.307	9.043	61	3.557	2.965	4.228	3.486	2.559	4.627	3.586	2.994	4.255	
55/ 230	123	6.725	5.798	7.741	7.920	6.597	9.392	65	3.657	3.059	4.333	3.582	2.655	4.714	3.903	3.269	4.616	
55/ 240	133	7.041	6.051	8.126	8.190	6.839	9.689	69	3.714	3.087	4.425	3.616	2.709	4.718	3.641	3.042	4.317	
55/ 270	159	7.961	6.793	9.242	9.122	7.674	10.719	80	4.056	3.381	4.818	3.963	3.049	5.051	4.518	3.796	5.327	
55/ 300	184	8.782	7.414	10.288	10.019	8.497	11.685	92	4.264	3.560	5.057	4.256	3.332	5.342	4.848	4.076	5.713	
55/ 330	212	9.458	7.931	11.143	10.730	9.137	12.464	103	4.503	3.761	5.339	4.622	3.645	5.762	4.963	3.486	6.807	
55/ 360	241	10.030	8.356	11.880	11.322	9.659	13.128	115	4.485	3.801	5.248	4.791	3.806	5.934	5.037	4.234	5.935	
60/ 63	0	1.723	1.250	2.318	2.065	1.550	2.697	0	1.723	1.250	2.318	2.065	1.550	2.697	1.723	1.250	2.318	
60/ 65	2	1.726	1.248	2.330	2.028	1.526	2.644	1	1.584	1.125	2.173	1.805	1.326	2.404	0.397	0.195	0.748	
60/ 70	6	1.822	1.346	2.414	2.143	1.634	2.761	4	1.637	1.171	2.230	1.846	1.383	2.415	0.505	0.274	0.873	
60/ 80	14	2.222	1.719	2.825	2.573	2.009	3.244	8	1.878	1.398	2.472	2.048	1.572	2.625	0.790	0.524	1.154	
60/ 90	21	2.647	2.136	3.240	3.086	2.446	3.838	12	2.123	1.640	2.703	2.274	1.754	2.898	1.138	0.800	1.578	
60/ 100	26	3.084	0.032	22.157	3.657	2.926	4.506	15	2.407	0.006	23.886	2.579	1.989	3.287	1.060	0.721	1.513	
60/ 110	37	3.483	2.956	4.073	4.178	3.365	5.117	21	2.542	2.045	3.122	2.667	2.019	3.454	1.423	1.042	1.904	
60/ 120	48	3.867	3.321	4.473	4.690	3.791	5.722	27	2.663	2.159	3.247	2.738	2.025	3.617	1.815	1.396	2.323	
60/ 130	58	4.198	3.619	4.838	5.122	4.146	6.239	32	2.787	2.274	3.378	2.808	2.030	3.780	1.921	1.492	2.436	
60/ 140	66	4.584	3.984	5.243	5.630	4.570	6.838	37	2.907	1.866	4.311	2.881	2.053	3.925	2.313	1.848	2.858	
60/ 150	76	4.939	4.296	5.644	6.094	4.958	7.385	41	3.093	2.276	4.099	3.070	2.183	4.187	2.244	1.786	2.784	
60/ 160	88	5.265	4.587	6.005	6.502	5.301	7.863	46	3.215	2.511	4.049	3.169	2.240	4.345	2.621	2.127	3.194	
60/ 170	100	5.580	4.856	6.371	6.888	5.634	8.305	52	3.262	2.633	3.991	3.181	2.228	4.393	3.005	2.472	3.616	
60/ 180	111	5.909	5.137	6.753	7.263	5.958	8.731	58	3.308	2.703	4.004	3.187	2.223	4.416	2.999	2.466	3.609	
60/ 190	120	6.295	5.471	7.193	7.643	6.289	9.162	63	3.391	2.773	4.100	3.264	2.290	4.500	3.361	2.788	4.013	
60/ 200	129	6.707	5.817	7.678	7.998	6.600	9.562	68	3.436	2.822	4.138	3.284	2.327	4.491	3.725	1.859	6.612	
60/ 210	139	7.093	6.127	8.149	8.325	6.893	9.921	72	3.566	2.920	4.305	3.426	2.465	4.624	3.521	2.929	4.192	
60/ 220	150	7.446	4.792	10.854	8.648	7.184	10.275	76	3.699	1.920	6.392	3.563	2.604	4.746	3.861	3.227	4.578	

VVal-79 Thalmann Algorithm; 10 fsw Last In-water-Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL			P(DCS)			TOTAL			P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)		P(DCS)			STOP	P(DCS)		P(DCS)			P(DCS)		P(DCS)	
	TIME	BVM(3)		NMRI98			TIME	BVM(3)		NMRI98			BVM(3)		NMRI98	
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
60/ 230	161	7.792	6.688 - 9.000	8.978	7.480 - 10.637		80	3.836	3.168 - 4.597	3.696	2.743 - 4.858		4.201	3.520 - 4.967	5.138	3.977 - 6.505
60/ 240	170	8.135	6.966 - 9.414	9.349	7.815 - 11.044		85	3.905	3.233 - 4.668	3.758	2.820 - 4.894		4.069	3.406 - 4.815	4.889	3.809 - 6.157
60/ 270	200	9.044	7.666 - 10.558	10.330	8.725 - 12.088		100	4.021	3.286 - 4.862	3.950	3.085 - 4.968		4.382	3.676 - 5.176	5.271	4.203 - 6.503
60/ 300	234	9.768	8.211 - 11.480	11.070	9.410 - 12.877		112	4.263	3.521 - 5.105	4.342	3.430 - 5.407		4.638	3.893 - 5.472	5.517	4.466 - 6.717
70/ 48	0	1.864	1.341 - 2.527	2.053	1.558 - 2.656		0	1.864	1.341 - 2.527	2.053	1.558 - 2.656		1.864	1.341 - 2.527	2.053	1.558 - 2.656
70/ 50	2	1.889	1.369 - 2.544	2.036	1.534 - 2.651		1	1.731	1.211 - 2.404	1.802	1.334 - 2.382		0.420	0.186 - 0.852	2.184	1.625 - 2.874
70/ 55	9	1.999	1.468 - 2.660	2.153	1.627 - 2.795		5	1.775	1.255 - 2.442	1.855	1.391 - 2.426		0.516	0.259 - 0.949	2.368	1.739 - 3.149
70/ 60	15	2.249	1.701 - 2.917	2.391	1.845 - 3.047		9	1.882	1.360 - 2.541	1.897	1.444 - 2.448		0.655	0.367 - 1.101	2.554	1.860 - 3.419
70/ 70	26	2.785	2.208 - 3.464	2.993	2.376 - 3.716		15	2.155	1.614 - 2.821	2.093	1.633 - 2.643		0.599	0.312 - 1.067	2.288	1.380 - 3.572
70/ 80	35	3.324	2.732 - 4.000	3.697	2.986 - 4.519		20	2.444	1.883 - 3.119	2.372	1.852 - 2.992		0.948	0.597 - 1.442	2.701	1.694 - 4.084
70/ 90	44	3.801	0.700 - 11.594	4.335	3.533 - 5.253		24	2.705	0.300 - 10.609	2.664	2.049 - 3.403		1.369	0.965 - 1.890	3.235	2.157 - 4.648
70/ 100	59	4.323	2.574 - 6.745	5.011	4.113 - 6.031		32	2.825	1.889 - 4.056	2.730	2.022 - 3.601		1.572	1.149 - 2.105	2.891	1.778 - 4.433
70/ 110	71	4.829	3.045 - 7.207	5.702	4.693 - 6.843		39	2.950	1.362 - 5.561	2.799	2.004 - 3.800		2.032	1.566 - 2.593	3.461	2.307 - 4.972
70/ 120	83	5.299	3.485 - 7.648	6.354	5.228 - 7.623		45	3.124	1.846 - 4.932	2.969	2.078 - 4.105		2.066	1.598 - 2.629	3.124	1.962 - 4.706
70/ 130	98	5.708	3.866 - 8.043	6.914	5.678 - 8.305		51	3.279	2.115 - 4.838	3.120	2.145 - 4.375		2.524	2.016 - 3.121	3.682	2.451 - 5.289
70/ 140	113	6.100	4.230 - 8.431	7.427	6.090 - 8.931		58	3.365	2.274 - 4.781	3.174	2.138 - 4.525		2.636	2.117 - 3.241	3.480	2.347 - 4.952
70/ 150	127	6.497	4.598 - 8.832	7.914	6.485 - 9.520		65	3.430	2.375 - 4.777	3.214	2.136 - 4.630		3.083	2.520 - 3.729	4.027	2.846 - 5.508
70/ 160	140	6.959	6.078 - 7.915	8.356	6.843 - 10.053		72	3.425	2.727 - 4.239	3.149	2.069 - 4.580		3.009	2.455 - 3.649	3.754	2.684 - 5.090
70/ 170	153	7.436	6.470 - 8.487	8.755	7.174 - 10.524		78	3.516	2.820 - 4.324	3.244	2.150 - 4.685		3.436	2.836 - 4.121	4.281	3.167 - 5.636
70/ 180	168	7.873	6.840 - 8.996	9.135	7.506 - 10.954		84	3.628	2.927 - 4.439	3.351	2.266 - 4.759		3.445	2.843 - 4.130	4.163	3.149 - 5.382
70/ 190	182	8.297	7.181 - 9.511	9.553	7.873 - 11.422		90	3.703	2.993 - 4.524	3.437	2.368 - 4.808		3.848	3.198 - 4.583	4.668	3.608 - 5.921
70/ 200	196	8.715	7.500 - 10.040	9.983	8.260 - 11.894		96	3.731	2.986 - 4.596	3.465	2.443 - 4.757		3.678	3.050 - 4.392	4.403	3.429 - 5.550
70/ 210	209	9.128	7.816 - 10.560	10.421	8.663 - 12.363		103	3.738	2.982 - 4.618	3.481	2.521 - 4.672		4.056	3.380 - 4.820	4.883	3.862 - 6.070
70/ 240	258	10.098	8.531 - 11.816	11.337	9.526 - 13.320		121	3.852	3.078 - 4.752	3.744	2.879 - 4.776		4.588	3.839 - 5.431	5.448	4.426 - 6.613
80/ 39	0	2.046	1.489 - 2.744	2.062	1.559 - 2.675		0	2.046	1.489 - 2.744	2.062	1.559 - 2.675		2.046	1.489 - 2.744	2.062	1.559 - 2.675
80/ 40	1	2.068	1.507 - 2.770	2.057	1.552 - 2.675		1	1.864	1.300 - 2.594	1.762	1.302 - 2.334		0.486	0.209 - 1.009	2.176	1.654 - 2.811
80/ 45	10	2.168	1.603 - 2.868	2.179	1.630 - 2.855		6	1.903	1.347 - 2.616	1.845	1.395 - 2.395		0.559	0.265 - 1.074	2.416	1.814 - 3.152
80/ 50	18	2.491	1.903 - 3.203	2.451	1.875 - 3.147		10	2.081	1.513 - 2.794	1.954	1.493 - 2.514		0.709	0.382 - 1.229	2.658	1.971 - 3.503
80/ 55	26	2.822	2.204 - 3.555	2.792	2.181 - 3.517		15	2.213	1.632 - 2.933	2.004	1.551 - 2.549		0.483	0.200 - 1.028	2.272	1.403 - 3.483
80/ 60	33	3.157	0.940 - 7.742	3.187	2.531 - 3.955		19	2.364	0.483 - 7.210	2.105	1.650 - 2.647		0.634	0.313 - 1.179	2.454	1.523 - 3.743
80/ 70	44	3.773	3.106 - 4.533	3.965	3.223 - 4.817		25	2.651	2.024 - 3.409	2.364	1.845 - 2.984		1.044	0.651 - 1.603	2.990	1.999 - 4.290
80/ 80	57	4.481	3.788 - 5.256	4.894	4.051 - 5.847		30	3.015	2.378 - 3.765	2.798	2.162 - 3.559		1.319	0.891 - 1.889	2.741	1.704 - 4.172

VVal-79 Thalmann Algorithm; 10 fsw Last In-water-Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL		P(DCS)		P(DCS)		TOTAL		P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)	P(DCS)		
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)	NMRI98		
	(min)	(%)	low	- high	(%)	low - high	(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
80/ 90	73	5.134	4.412	- 5.931	5.779	4.820 - 6.854	39	3.165	2.512 - 3.932	2.883	2.134 - 3.806	1.833	1.355	- 2.427	3.415	2.286 - 4.887
80/ 100	89	5.713	4.950	- 6.549	6.591	5.498 - 7.813	48	3.259	1.876 - 5.244	2.932	2.055 - 4.051	1.959	1.471	- 2.560	3.165	2.019 - 4.711
70/ 110	110	6.180	5.377	- 7.055	7.243	6.019 - 8.610	55	3.440	2.267 - 4.987	3.148	2.142 - 4.450	2.178	1.671	- 2.790	3.061	1.973 - 4.522
80/ 120	129	6.666	0.915	- 20.960	7.895	6.533 - 9.415	63	3.562	0.089 - 20.522	3.259	2.148 - 4.725	2.696	2.144	- 3.343	3.707	2.562 - 5.168
80/ 130	147	7.194	6.301	- 8.161	8.498	7.009 - 10.160	72	3.563	2.677 - 4.637	3.210	2.044 - 4.784	2.730	2.176	- 3.380	3.542	2.532 - 4.804
80/ 140	162	7.812	6.838	- 8.866	9.082	7.463 - 10.889	81	3.607	2.793 - 4.573	3.206	2.011 - 4.835	3.238	2.636	- 3.933	4.188	3.131 - 5.468
80/ 150	181	8.339	7.280	- 9.485	9.566	7.861 - 11.467	89	3.649	2.855 - 4.585	3.256	2.038 - 4.917	3.345	2.732	- 4.051	4.154	3.163 - 5.339
80/ 160	198	8.846	7.692	- 10.096	10.099	8.305 - 12.094	96	3.705	2.915 - 4.634	3.317	2.108 - 4.949	3.291	2.683	- 3.991	4.010	3.087 - 5.107
80/ 170	216	9.349	2.500	- 21.818	10.620	8.752 - 12.691	103	3.770	0.231 - 17.026	3.419	2.218 - 5.018	3.751	3.092	- 4.501	4.593	3.607 - 5.746
80/ 180	234	9.811	8.452	- 11.287	11.103	9.176 - 13.231	111	3.778	2.953 - 4.751	3.449	2.293 - 4.962	3.688	3.037	- 4.431	4.348	3.469 - 5.369
80/ 210	295	10.925	9.281	- 12.718	12.134	10.113 - 14.348	134	3.770	2.881 - 4.835	3.592	2.679 - 4.703	4.338	3.607	- 5.164	5.159	4.217 - 6.230
90/ 33	0	2.238	1.638	- 2.986	2.085	1.567 - 2.722	0	2.238	1.638 - 2.986	2.085	1.567 - 2.722	2.238	1.638	- 2.986	2.085	1.567 - 2.722
90/ 35	4	2.230	1.619	- 2.996	2.048	1.525 - 2.692	2	1.969	1.363 - 2.756	1.820	1.345 - 2.412	0.575	0.249	- 1.180	2.274	1.743 - 2.916
90/ 40	15	2.477	1.859	- 3.232	2.318	1.727 - 3.045	8	2.133	1.533 - 2.893	1.925	1.460 - 2.491	0.673	0.325	- 1.272	2.571	1.949 - 3.325
90/ 45	25	2.881	0.053	- 18.850	2.670	2.044 - 3.425	14	2.317	0.014 - 20.360	2.008	1.547 - 2.563	0.452	0.157	- 1.096	2.268	1.452 - 3.380
90/ 50	34	3.310	2.619	- 4.121	3.116	2.438 - 3.917	19	2.522	1.874 - 3.319	2.117	1.647 - 2.679	0.584	0.250	- 1.210	2.476	1.562 - 3.731
90/ 55	42	3.623	2.899	- 4.463	3.491	2.775 - 4.329	23	2.652	1.982 - 3.474	2.198	1.716 - 2.774	0.778	0.400	- 1.397	2.738	1.764 - 4.052
90/ 60	49	4.082	1.568	- 8.526	4.037	3.272 - 4.916	27	2.847	0.751 - 7.508	2.377	1.862 - 2.990	1.017	0.598	- 1.637	3.086	2.198 - 4.204
90/ 70	63	4.960	4.159	- 5.858	5.195	4.323 - 6.176	34	3.233	2.504 - 4.102	2.820	2.186 - 3.576	1.360	0.897	- 1.986	2.925	1.903 - 4.291
90/ 80	84	5.696	2.896	- 9.846	6.191	5.207 - 7.287	44	3.398	0.805 - 9.332	2.938	2.164 - 3.893	3.185	1.543	- 5.798	2.813	1.742 - 4.292
90/ 90	107	6.401	5.509	- 7.380	7.160	6.043 - 8.396	54	3.550	1.988 - 5.818	3.108	2.168 - 4.308	3.871	2.067	- 6.551	3.612	2.490 - 5.048
90/ 100	131	7.005	6.070	- 8.026	8.001	6.723 - 9.416	63	3.730	2.388 - 5.523	3.309	2.210 - 4.747	2.532	1.977	- 3.193	3.578	2.604 - 4.782
90/ 110	153	7.605	6.627	- 8.667	8.774	7.326 - 10.378	73	3.811	2.654 - 5.279	3.338	2.132 - 4.959	2.669	2.104	- 3.337	3.527	2.538 - 4.758
90/ 120	173	8.306	7.257	- 9.441	9.449	7.833 - 11.242	85	3.877	2.873 - 5.100	3.358	2.082 - 5.107	2.783	2.307	- 3.326	3.472	2.546 - 4.612
90/ 130	197	8.949	7.820	- 10.167	10.042	8.306 - 11.966	97	3.977	3.061 - 5.067	3.442	2.124 - 5.251	3.313	2.797	- 3.893	4.185	3.186 - 5.379
90/ 140	218	9.556	8.331	- 10.878	10.707	8.845 - 12.767	109	4.023	3.134 - 5.073	3.463	2.163 - 5.232	3.370	2.850	- 3.954	4.148	3.214 - 5.252
90/ 150	241	10.145	8.795	- 11.604	11.318	9.353 - 13.487	120	4.119	3.253 - 5.131	3.598	2.313 - 5.313	3.949	3.356	- 4.612	4.886	3.876 - 6.059
90/ 160	266	10.640	9.184	- 12.215	11.798	9.751 - 14.055	131	4.148	3.275 - 5.168	3.652	2.420 - 5.265	3.965	3.370	- 4.628	4.715	3.813 - 5.751
90/ 170	291	11.077	9.521	- 12.763	12.208	10.095 - 14.533	142	4.133	3.221 - 5.209	3.665	2.560 - 5.066	3.873	3.292	- 4.521	4.558	3.714 - 5.523
90/ 180	316	11.458	9.787	- 13.272	12.561	10.398 - 14.938	152	4.116	3.191 - 5.211	3.745	2.746 - 4.972	4.354	3.705	- 5.077	5.188	4.266 - 6.234
90/ 240	446	13.844	11.540	- 16.354	14.367	12.311 - 16.577	230	3.939	3.324 - 4.628	4.166	3.298 - 5.180	4.512	3.125	- 6.267	5.613	4.726 - 6.603
100/ 26	0	2.202	1.607	- 2.947	1.884	1.397 - 2.487	0	2.202	1.607 - 2.947	1.884	1.397 - 2.487	2.202	1.607	- 2.947	1.884	1.397 - 2.487

VVal-79 Thalmann Algorithm; 10 fsw Last In-water-Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL		P(DCS)		P(DCS)		TOTAL		P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)	P(DCS)		
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)	NMRI98		
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
100/ 30	3	2.413	1.774 - 3.205	2.073	1.531 - 2.744	2	2.099	1.456 - 2.932	1.811	1.329 - 2.414	0.635	0.270 - 1.320	2.282	1.761 - 2.909		
100/ 35	16	2.678	2.028 - 3.466	2.378	1.762 - 3.139	9	2.288	1.658 - 3.077	1.942	1.468 - 2.521	0.751	0.360 - 1.425	2.636	2.018 - 3.382		
100/ 40	29	3.171	2.459 - 4.019	2.783	2.114 - 3.592	16	2.522	1.846 - 3.362	2.049	1.579 - 2.616	0.498	0.168 - 1.229	2.366	1.539 - 3.481		
100/ 45	40	3.592	2.823 - 4.497	3.189	2.468 - 4.049	22	2.673	1.967 - 3.546	2.090	1.601 - 2.683	0.649	0.275 - 1.352	2.623	1.694 - 3.876		
100/ 50	49	4.089	3.280 - 5.025	3.781	3.005 - 4.687	27	2.895	2.149 - 3.811	2.264	1.756 - 2.872	0.877	0.454 - 1.565	2.962	2.096 - 4.057		
100/ 55	57	4.640	3.785 - 5.616	4.447	3.615 - 5.400	31	3.139	2.352 - 4.097	2.511	1.958 - 3.170	2.922	1.928 - 4.238	2.506	1.552 - 3.829		
100/ 60	65	5.189	4.283 - 6.214	5.143	4.254 - 6.147	36	3.340	2.517 - 4.338	2.663	2.065 - 3.377	3.346	2.334 - 4.635	2.900	1.915 - 4.203		
100/ 70	88	6.108	5.124 - 7.205	6.382	5.391 - 7.483	45	3.654	1.206 - 8.386	3.067	2.297 - 4.004	3.524	1.516 - 6.912	2.902	1.900 - 4.236		
100/ 80	117	6.958	5.913 - 8.111	7.522	6.406 - 8.751	57	3.832	1.983 - 6.629	3.256	2.292 - 4.479	3.734	1.943 - 6.441	3.006	2.148 - 4.083		
100/ 90	145	7.635	6.535 - 8.842	8.489	7.197 - 9.910	69	4.081	2.465 - 6.309	3.458	2.334 - 4.916	4.434	2.553 - 7.086	3.821	2.858 - 4.988		
100/ 100	172	8.442	7.297 - 9.687	9.380	7.907 - 11.002	88	4.244	2.920 - 5.929	3.478	2.261 - 5.096	4.332	2.754 - 6.435	3.840	2.854 - 5.041		
100/ 110	199	9.271	8.055 - 10.587	10.162	8.517 - 11.972	104	4.362	3.229 - 5.739	3.565	2.266 - 5.314	3.240	2.748 - 3.792	4.054	3.096 - 5.199		
100/ 120	226	9.991	8.693 - 11.392	10.940	9.129 - 12.931	118	4.509	3.461 - 5.755	3.718	2.382 - 5.504	3.424	2.913 - 3.994	4.159	3.240 - 5.242		
100/ 150	312	11.741	10.114 - 13.497	12.727	10.527 - 15.143	159	4.578	3.606 - 5.712	3.872	2.689 - 5.376	4.164	3.566 - 4.827	4.854	3.991 - 5.834		
110/ 20	0	2.045	1.470 - 2.772	1.634	1.191 - 2.192	0	2.045	1.470 - 2.772	1.634	1.191 - 2.192	2.045	1.470 - 2.772	1.634	1.191 - 2.192		
110/ 25	5	2.372	1.732 - 3.169	1.906	1.410 - 2.523	3	2.002	1.420 - 2.745	1.650	1.202 - 2.214	0.666	0.270 - 1.431	2.198	1.715 - 2.775		
110/ 30	14	2.736	2.063 - 3.555	2.345	1.759 - 3.064	8	2.362	1.712 - 3.177	1.937	1.429 - 2.568	0.785	0.360 - 1.537	2.606	2.040 - 3.278		
110/ 35	29	3.266	2.524 - 4.151	2.703	2.056 - 3.486	16	2.594	1.887 - 3.475	1.985	1.445 - 2.663	0.524	0.166 - 1.344	2.396	1.598 - 3.452		
110/ 40	42	3.775	2.953 - 4.745	3.248	2.537 - 4.090	23	2.833	2.075 - 3.773	2.142	1.547 - 2.892	0.673	0.271 - 1.453	2.699	1.789 - 3.904		
110/ 45	53	4.415	3.524 - 5.447	3.938	3.171 - 4.824	29	3.100	2.278 - 4.114	2.330	1.673 - 3.160	2.800	1.791 - 4.166	2.302	1.353 - 3.668		
110/ 50	63	5.074	4.107 - 6.182	4.711	3.900 - 5.630	34	3.381	2.493 - 4.471	2.591	1.858 - 3.514	3.293	2.257 - 4.627	2.673	1.739 - 3.925		
110/ 55	72	5.629	4.583 - 6.819	5.454	4.604 - 6.400	39	3.581	2.639 - 4.737	2.767	1.961 - 3.788	3.805	2.732 - 5.140	3.161	2.244 - 4.318		
110/ 60	86	6.249	5.143 - 7.497	6.222	5.353 - 7.177	43	3.860	2.862 - 5.078	3.123	2.218 - 4.265	3.636	1.333 - 7.852	2.781	1.800 - 4.100		
110/ 70	119	7.309	6.102 - 8.653	7.607	6.690 - 8.598	57	4.069	1.875 - 7.593	3.336	2.215 - 4.809	3.994	1.926 - 7.238	3.014	2.125 - 4.143		
110/ 80	153	8.122	6.837 - 9.542	8.751	7.720 - 9.859	76	4.542	2.594 - 7.298	3.680	2.426 - 5.329	4.727	2.600 - 7.791	3.950	2.932 - 5.188		
110/ 90	184	9.120	7.787 - 10.578	9.818	8.609 - 11.119	99	4.730	3.162 - 6.752	3.703	2.342 - 5.538	4.925	3.166 - 7.239	4.174	3.117 - 5.454		
110/ 100	216	10.054	8.653 - 11.574	10.749	9.338 - 12.270	117	4.952	3.591 - 6.620	3.932	2.469 - 5.907	5.124	3.305 - 7.507	4.505	3.464 - 5.739		
110/ 110	248	10.857	9.375 - 12.460	11.641	10.017 - 13.396	134	5.067	3.849 - 6.517	4.030	2.539 - 6.037	3.910	3.357 - 4.523	4.688	3.673 - 5.877		
110/ 120	283	11.593	10.020 - 13.289	12.397	10.580 - 14.365	153	5.009	3.918 - 6.287	3.970	2.523 - 5.907	4.158	3.576 - 4.802	4.785	3.849 - 5.862		
110/ 180	478	14.837	12.588 - 17.261	14.937	12.555 - 17.514	262	4.636	3.550 - 5.926	4.392	3.398 - 5.566	4.802	4.141 - 5.531	5.768	4.862 - 6.778		
120/ 15	0	1.819	1.270 - 2.530	1.416	1.004 - 1.946	0	1.819	1.270 - 2.530	1.416	1.004 - 1.946	1.819	1.270 - 2.530	1.416	1.004 - 1.946		
120/ 20	4	2.275	1.659 - 3.044	1.743	1.271 - 2.336	3	1.823	1.279 - 2.526	1.473	1.064 - 1.992	0.658	0.244 - 1.510	2.052	1.591 - 2.607		

VVal-79 Thalmann Algorithm; 10 fsw Last In-water-Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂													
	TOTAL		P(DCS)				TOTAL		P(DCS)				P(DCS)		P(DCS)											
	STOP	P(DCS)	P(DCS)				STOP	P(DCS)	P(DCS)				P(DCS)	P(DCS)												
	TIME	BVM(3)	NMRI98				TIME	BVM(3)	NMRI98				BVM(3)	NMRI98												
(min)	(%)	low	-	high	(%)	low	-	high	(%)	low	-	high	(%)	low	-	high										
120/ 25	10	2.625	1.954	-	3.448	2.220	1.641	-	2.937	6	2.260	1.621	-	3.068	1.825	1.318	-	2.467	0.794	0.345	-	1.616	2.514	1.969	-	3.162
120/ 30	25	3.169	2.416	-	4.076	2.622	1.955	-	3.439	14	2.585	1.873	-	3.477	2.056	1.498	-	2.755	0.554	0.168	-	1.457	2.377	1.587	-	3.421
120/ 35	41	3.830	2.981	-	4.833	3.268	2.510	-	4.174	23	2.911	2.120	-	3.895	2.213	1.603	-	2.978	2.872	1.944	-	4.082	2.733	1.816	-	3.947
120/ 40	54	4.548	3.593	-	5.662	3.984	3.151	-	4.958	30	3.173	2.293	-	4.269	2.373	1.690	-	3.240	2.967	1.931	-	4.350	2.363	1.440	-	3.659
120/ 45	66	5.303	4.228	-	6.544	4.859	3.964	-	5.880	36	3.486	2.512	-	4.699	2.653	1.890	-	3.618	3.539	2.448	-	4.932	2.790	1.877	-	3.987
120/ 50	76	6.019	4.840	-	7.368	5.813	4.871	-	6.865	41	3.796	2.738	-	5.109	2.972	2.126	-	4.036	3.500	1.105	-	8.252	2.509	1.583	-	3.779
120/ 55	93	6.736	5.462	-	8.183	6.693	5.732	-	7.750	46	4.094	0.910	-	11.383	3.357	2.402	-	4.552	4.055	1.279	-	9.472	3.075	2.216	-	4.149
120/ 60	111	7.379	6.022	-	8.909	7.527	6.547	-	8.593	53	4.277	1.618	-	8.990	3.559	2.485	-	4.921	4.607	1.451	-	10.671	3.828	2.705	-	5.238
120/ 70	153	8.410	2.105	-	20.442	8.888	7.843	-	10.010	78	4.890	0.513	-	17.771	3.963	2.737	-	5.525	4.939	0.483	-	18.327	3.931	2.927	-	5.151
120/ 80	188	9.542	8.007	-	11.234	10.182	8.973	-	11.479	104	5.177	3.262	-	7.721	4.024	2.666	-	5.796	5.302	3.351	-	7.883	4.317	3.243	-	5.611
120/ 90	228	10.614	9.003	-	12.374	11.208	9.796	-	12.724	127	5.353	3.738	-	7.371	4.140	2.671	-	6.087	5.626	3.665	-	8.171	4.766	3.695	-	6.028
120/ 100	264	11.572	9.896	-	13.390	12.311	10.657	-	14.091	147	5.498	4.064	-	7.228	4.272	2.753	-	6.284	5.754	3.873	-	8.146	5.126	4.055	-	6.369
120/ 110	306	12.379	10.628	-	14.270	13.112	11.230	-	15.142	168	5.477	4.211	-	6.969	4.256	2.756	-	6.234	5.837	3.874	-	8.352	5.308	4.311	-	6.447
120/ 120	348	13.025	11.192	-	15.000	13.712	11.620	-	15.976	187	5.405	4.212	-	6.800	4.238	2.853	-	6.024	5.775	3.790	-	8.334	5.451	4.482	-	6.548
130/ 12	0	1.704	1.158	-	2.425	1.311	0.909	-	1.838	0	1.704	1.158	-	2.425	1.311	0.909	-	1.838	1.704	1.158	-	2.425	1.311	0.909	-	1.838
130/ 15	3	2.013	1.429	-	2.759	1.470	1.041	-	2.022	2	1.640	1.058	-	2.437	1.213	0.869	-	1.654	0.618	0.196	-	1.579	1.810	1.378	-	2.336
130/ 20	9	2.465	1.763	-	3.353	1.962	1.431	-	2.628	5	2.051	1.459	-	2.807	1.612	1.151	-	2.201	0.762	0.301	-	1.665	2.306	1.798	-	2.912
130/ 25	18	2.960	2.222	-	3.860	2.475	1.816	-	3.293	10	2.526	1.831	-	3.396	2.064	1.499	-	2.774	0.939	0.436	-	1.817	2.853	2.235	-	3.586
130/ 30	37	3.674	2.833	-	4.675	3.036	2.269	-	3.971	20	2.862	2.068	-	3.855	2.213	1.595	-	2.993	0.628	0.202	-	1.587	2.675	1.781	-	3.855
130/ 35	52	4.471	3.482	-	5.635	3.879	3.001	-	4.920	29	3.197	2.292	-	4.330	2.438	1.744	-	3.316	2.988	1.918	-	4.429	2.356	1.427	-	3.668
130/ 40	66	5.350	4.213	-	6.673	4.872	3.906	-	5.986	36	3.585	2.547	-	4.887	2.743	1.961	-	3.728	3.643	2.511	-	5.089	2.804	1.916	-	3.956
130/ 45	79	6.217	4.932	-	7.698	5.920	4.891	-	7.080	43	3.970	2.804	-	5.434	3.069	2.208	-	4.147	3.680	1.070	-	9.039	2.464	1.575	-	3.674
130/ 50	97	7.029	5.615	-	8.646	6.921	5.859	-	8.096	49	4.357	1.084	-	11.421	3.528	2.559	-	4.731	4.287	1.265	-	10.329	3.100	2.156	-	4.306
130/ 55	118	7.743	1.680	-	20.153	7.859	6.777	-	9.040	58	4.663	0.396	-	18.294	3.829	2.750	-	5.172	4.844	0.406	-	18.928	3.925	2.834	-	5.276
130/ 60	143	8.399	6.776	-	10.235	8.678	7.583	-	9.861	73	5.011	2.324	-	9.234	4.038	2.880	-	5.484	4.827	2.256	-	8.868	3.589	2.633	-	4.765
130/ 70	185	9.638	6.515	-	13.480	10.203	8.992	-	11.500	103	5.504	2.321	-	10.704	4.271	2.956	-	5.939	5.397	2.328	-	10.366	4.141	3.092	-	5.410
130/ 80	230	10.962	8.407	-	13.894	11.456	10.061	-	12.949	130	5.785	3.228	-	9.389	4.433	2.971	-	6.320	5.928	3.274	-	9.683	4.796	3.721	-	6.062
130/ 90	271	12.100	4.696	-	23.263	12.753	11.102	-	14.522	154	5.979	0.954	-	18.168	4.565	3.020	-	6.572	6.213	0.935	-	19.159	5.314	4.213	-	6.589
130/ 100	320	13.005	11.053	-	15.120	13.628	11.723	-	15.676	179	5.941	4.437	-	7.740	4.506	2.969	-	6.508	5.570	3.614	-	8.114	4.736	3.851	-	5.749
130/ 120	414	14.377	12.303	-	16.608	14.876	12.510	-	17.436	224	5.745	4.451	-	7.260	4.524	3.335	-	5.971	4.918	4.232	-	5.675	5.451	4.534	-	6.482
130/ 180	628	17.987	15.054	-	21.135	17.658	15.201	-	20.268	376	5.024	4.242	-	5.897	4.800	3.724	-	6.069	4.947	4.258	-	5.707	5.981	5.165	-	6.877
140/ 10	0	1.667	1.107	-	2.419	1.257	0.854	-	1.794	0	1.667	1.107	-	2.419	1.257	0.854	-	1.794	1.667	1.107	-	2.419	1.257	0.854	-	1.794

VVal-79 Thalmann Algorithm; 10 fsw Last In-water-Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL			P(DCS)			TOTAL			P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)		P(DCS)			STOP	P(DCS)		P(DCS)			P(DCS)		P(DCS)	
	TIME	BVM(3)		NMRI98			TIME	BVM(3)		NMRI98			BVM(3)		NMRI98	
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
140/ 15	5	2.226	1.589 - 3.034	1.612	1.151 - 2.200		3	1.706	1.063 - 2.607	1.306	0.924 - 1.800		0.699	0.236 - 1.703	1.995	1.532 - 2.555
140/ 20	14	2.648	1.953 - 3.506	2.162	1.566 - 2.909		8	2.267	1.630 - 3.071	1.819	1.305 - 2.472		0.879	0.369 - 1.829	2.575	2.013 - 3.244
140/ 25	28	3.346	0.019 - 25.915	2.731	1.993 - 3.648		15	2.721	0.451 - 9.029	2.204	1.586 - 2.984		0.629	0.187 - 1.674	2.519	1.675 - 3.639
140/ 30	47	4.240	0.340 - 17.249	3.603	2.719 - 4.671		25	3.183	0.703 - 9.096	2.491	1.795 - 3.365		3.330	2.299 - 4.651	3.023	2.265 - 3.946
140/ 35	64	5.212	4.051 - 6.573	4.610	3.605 - 5.790		35	3.670	2.609 - 5.001	2.779	2.007 - 3.745		3.550	2.474 - 4.918	2.501	1.631 - 3.668
140/ 40	78	6.186	4.821 - 7.777	5.808	4.702 - 7.070		44	4.143	2.911 - 5.693	3.122	2.273 - 4.174		4.269	3.113 - 5.689	3.154	2.369 - 4.109
140/ 45	97	7.144	5.608 - 8.918	6.984	5.827 - 8.275		51	4.569	1.027 - 12.496	3.648	2.686 - 4.829		4.279	1.226 - 10.471	3.065	2.110 - 4.295
140/ 50	121	8.023	6.337 - 9.956	8.057	6.876 - 9.352		62	4.912	1.823 - 10.355	3.962	2.887 - 5.286		4.999	1.587 - 11.459	4.055	2.970 - 5.387
140/ 55	148	8.767	6.963 - 10.820	8.982	7.785 - 10.280		77	5.352	2.390 - 10.068	4.295	3.133 - 5.720		5.169	2.352 - 9.629	3.791	2.776 - 5.040
140/ 60	172	9.436	7.523 - 11.603	9.873	8.634 - 11.207		94	5.679	2.895 - 9.799	4.439	3.202 - 5.965		5.184	2.906 - 8.412	3.646	2.670 - 4.846
140/ 70	222	11.024	8.988 - 13.289	11.404	10.027 - 12.876		127	6.063	3.708 - 9.213	4.577	3.160 - 6.371		5.959	3.666 - 9.017	4.510	3.463 - 5.751
140/ 80	271	12.346	10.215 - 14.687	12.852	11.238 - 14.576		155	6.359	4.257 - 9.025	4.787	3.244 - 6.759		6.406	4.296 - 9.080	5.191	4.091 - 6.471
140/ 90	326	13.453	11.269 - 15.831	13.938	12.059 - 15.951		185	6.348	4.519 - 8.591	4.688	3.133 - 6.692		5.954	3.958 - 8.506	4.814	3.915 - 5.841
150/ 8	0	1.564	1.000 - 2.342	1.168	0.770 - 1.709		0	1.564	1.000 - 2.342	1.168	0.770 - 1.709		1.564	1.000 - 2.342	1.168	0.770 - 1.709
150/ 10	2	1.814	0.000 - 68.855	1.278	0.871 - 1.818		1	1.586	0.000 - 69.348	1.014	0.704 - 1.421		0.634	0.177 - 1.758	1.616	1.194 - 2.142
150/ 15	9	2.339	1.614 - 3.278	1.742	1.242 - 2.380		5	1.860	1.293 - 2.595	1.473	1.045 - 2.023		0.784	0.282 - 1.823	2.192	1.694 - 2.790
150/ 20	18	2.900	2.169 - 3.793	2.392	1.713 - 3.249		10	2.498	1.801 - 3.375	2.018	1.437 - 2.757		1.004	0.448 - 1.992	2.861	2.236 - 3.603
150/ 25	38	3.819	2.928 - 4.883	3.154	2.315 - 4.188		20	3.005	2.163 - 4.058	2.415	1.738 - 3.268		3.037	2.025 - 4.367	2.788	1.943 - 3.871
150/ 30	58	4.862	3.739 - 6.190	4.189	3.183 - 5.394		33	3.613	2.581 - 4.905	2.697	1.948 - 3.635		3.263	2.236 - 4.586	2.246	1.387 - 3.446
150/ 35	74	6.001	4.631 - 7.609	5.492	4.348 - 6.817		43	4.164	2.908 - 5.749	3.085	2.254 - 4.113		4.018	2.874 - 5.443	2.907	2.159 - 3.825
150/ 40	94	7.088	5.477 - 8.965	6.775	5.542 - 8.168		52	4.659	0.670 - 15.280	3.593	2.653 - 4.744		4.194	1.180 - 10.376	2.858	2.009 - 3.938
150/ 45	119	8.091	3.759 - 14.561	8.014	6.735 - 9.431		63	5.110	1.100 - 14.073	4.067	3.014 - 5.349		5.061	0.968 - 14.669	3.954	2.889 - 5.265
150/ 50	149	8.956	6.971 - 11.238	9.093	7.794 - 10.511		79	5.533	2.357 - 10.694	4.377	3.223 - 5.783		5.339	2.310 - 10.241	3.838	2.785 - 5.140
150/ 55	176	9.761	7.648 - 12.173	10.120	8.786 - 11.561		97	5.990	2.918 - 10.620	4.653	3.420 - 6.155		5.487	2.997 - 9.051	3.797	2.795 - 5.025
150/ 60	202	10.685	8.457 - 13.204	11.055	9.664 - 12.549		117	6.247	3.417 - 10.254	4.695	3.365 - 6.340		6.347	3.708 - 9.952	4.818	3.631 - 6.240
150/ 70	260	12.323	9.960 - 14.950	12.666	11.098 - 14.343		151	6.627	4.114 - 9.940	4.885	3.393 - 6.762		6.356	4.034 - 9.390	4.798	3.744 - 6.036
150/ 80	319	13.673	11.249 - 16.333	14.063	12.238 - 16.013		184	6.753	4.591 - 9.464	4.899	3.327 - 6.903		6.948	4.748 - 9.695	5.504	4.462 - 6.694
150/ 90	383	14.674	12.207 - 17.357	14.954	12.833 - 17.228		214	6.738	4.844 - 9.041	4.867	3.362 - 6.766		6.483	4.378 - 9.140	5.342	4.409 - 6.397
150/ 120	543	17.428	14.811 - 20.226	16.842	14.086 - 19.812		319	6.091	4.633 - 7.816	4.933	3.904 - 6.130		5.588	4.833 - 6.416	6.132	5.253 - 7.101
150/ 180	765	21.091	17.578 - 24.828	20.013	17.287 - 22.887		487	5.937	4.990 - 6.992	5.428	4.303 - 6.731		5.341	4.570 - 6.192	6.325	5.377 - 7.373
160/ 7	0	1.582	0.996 - 2.398	1.161	0.757 - 1.716		0	1.582	0.996 - 2.398	1.161	0.757 - 1.716		1.582	0.996 - 2.398	1.161	0.757 - 1.716
160/ 10	4	1.971	0.000 - 34.108	1.360	0.944 - 1.904		3	1.431	0.000 - 26.802	1.101	0.784 - 1.510		0.682	0.000 - 31.524	1.741	1.300 - 2.287

VVal-79 Thalmann Algorithm; 10 fsw Last In-water-Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂					AIR/SurDO ₂					
	TOTAL		P(DCS)		P(DCS)		TOTAL		P(DCS)		P(DCS)		P(DCS)		P(DCS)		
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)	P(DCS)			
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)	NMRI98			
	(min)	(%)	low	high	(%)	low	high	(min)	(%)	low	high	(%)	low	high	(%)	low	high
160/ 15	13	2.458	1.779	3.309	1.887	1.356	2.560	7	2.014	1.419	2.776	1.589	1.131	2.174	0.871	0.331	1.946
160/ 20	25	3.248	2.443	4.224	2.630	1.894	3.553	13	2.772	2.008	3.727	2.284	1.658	3.069	1.096	0.545	2.009
160/ 25	48	4.338	3.318	5.554	3.588	2.641	4.751	28	3.387	2.438	4.571	2.549	1.832	3.452	3.369	2.410	4.569
160/ 30	69	5.561	4.259	7.098	4.874	3.804	6.130	41	4.010	2.812	5.520	2.915	2.154	3.852	3.643	2.542	5.039
160/ 35	86	6.796	5.067	8.855	6.377	5.099	7.843	51	4.619	3.019	6.711	3.447	2.540	4.560	3.972	0.010	32.473
160/ 40	112	7.994	6.057	10.266	7.796	6.439	9.313	62	5.138	1.540	12.104	3.998	2.967	5.252	4.968	1.429	11.985
160/ 45	146	8.985	6.893	11.409	8.974	7.584	10.504	78	5.595	2.211	11.294	4.338	3.199	5.726	5.338	2.163	10.648
160/ 50	176	9.901	7.614	12.534	10.138	8.710	11.689	97	6.168	2.833	11.331	4.735	3.514	6.214	6.392	2.944	11.703
160/ 55	204	10.940	8.505	13.714	11.217	9.739	12.809	120	6.475	3.399	10.909	4.792	3.475	6.408	6.569	3.717	10.522
160/ 60	238	11.922	9.383	14.786	12.102	10.561	13.754	139	6.735	3.833	10.736	4.938	3.513	6.703	6.793	3.632	11.288
160/ 70	300	13.608	10.939	16.569	13.908	12.148	15.786	176	7.124	4.513	10.514	5.120	3.561	7.076	6.833	4.527	9.765
160/ 80	372	14.870	12.149	17.852	15.035	12.994	17.217	211	7.141	4.857	9.997	5.031	3.485	6.976	7.376	5.189	10.056
170/ 7	0	1.750	1.120	2.616	1.265	0.839	1.839	0	1.750	1.120	2.616	1.265	0.839	1.839	1.750	1.120	2.616
170/ 10	6	2.083	1.423	2.947	1.405	0.982	1.954	4	1.463	0.974	2.120	1.123	0.802	1.536	0.735	0.105	2.960
170/ 15	16	2.632	1.875	3.589	2.085	1.515	2.800	9	2.209	1.568	3.024	1.771	1.281	2.392	0.967	0.388	2.075
170/ 20	34	3.609	2.742	4.653	2.900	2.130	3.852	19	3.041	2.210	4.073	2.404	1.782	3.174	2.890	1.965	4.091
170/ 25	58	4.904	0.392	19.385	4.143	3.110	5.391	35	3.757	0.127	19.887	2.743	2.002	3.664	3.668	0.119	19.739
170/ 30	78	6.304	4.803	8.074	5.673	4.412	7.148	48	4.479	3.087	6.244	3.272	2.398	4.351	4.237	1.320	9.935
170/ 35	105	7.641	5.790	9.815	7.222	5.897	8.717	59	5.118	1.110	14.043	3.876	2.933	5.010	4.685	1.344	11.374
170/ 40	138	8.848	6.697	11.359	8.663	7.203	10.285	76	5.613	2.043	11.861	4.255	3.150	5.598	5.196	2.019	10.637
170/ 45	171	9.895	7.493	12.683	9.986	8.477	11.637	94	6.248	2.681	11.950	4.736	3.534	6.186	6.335	2.744	12.038
170/ 50	203	11.003	8.020	14.509	11.166	9.610	12.849	119	6.646	3.067	12.131	4.840	3.540	6.426	6.643	3.327	11.526
170/ 55	239	12.141	9.234	15.470	12.185	10.569	13.921	142	6.947	3.665	11.637	4.959	3.558	6.686	6.994	3.911	11.271
170/ 60	273	13.134	10.128	16.537	13.252	11.543	15.079	161	7.277	4.064	11.720	5.197	3.708	7.036	7.110	4.343	10.772
170/ 70	347	14.805	11.679	18.282	14.894	12.949	16.969	202	7.402	4.558	11.139	5.077	3.517	7.041	7.187	4.716	10.335
170/ 80	423	16.017	8.217	26.123	15.989	13.719	18.415	239	7.473	1.847	18.533	5.188	3.690	7.042	6.971	1.683	17.609
170/ 90	497	17.244	14.254	20.476	16.628	14.078	19.365	286	7.305	5.178	9.901	5.168	4.060	6.460	7.398	5.182	10.121
170/ 120	664	20.088	16.916	23.463	18.685	15.883	21.669	413	6.649	5.058	8.524	5.381	4.277	6.658	5.985	5.167	6.883
170/ 180	896	23.811	19.680	28.172	22.359	19.288	25.578	597	7.361	6.201	8.648	6.516	5.080	8.185	6.507	5.598	7.504
180/ 6	0	1.717	1.080	2.604	1.227	0.802	1.807	0	1.717	1.080	2.604	1.227	0.802	1.807	1.717	1.080	2.604
180/ 10	8	2.190	1.464	3.152	1.506	1.056	2.089	5	1.607	1.082	2.305	1.255	0.886	1.732	0.793	0.249	2.018
180/ 15	20	2.803	2.056	3.728	2.272	1.619	3.102	12	2.483	1.795	3.346	1.978	1.428	2.672	0.995	0.475	1.884

VVal-79 Thalmann Algorithm; 10 fsw Last In-water-Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂				
	TOTAL		P(DCS)				TOTAL		P(DCS)				P(DCS)		P(DCS)		
	STOP	P(DCS)	P(DCS)				STOP	P(DCS)	P(DCS)				P(DCS)	P(DCS)			
	TIME	BVM(3)	NMRI98				TIME	BVM(3)	NMRI98				BVM(3)	NMRI98			
	(min)	(%)	low - high		(%)	low - high		(min)	(%)	low - high		(%)	low - high		(%)	low - high	
180/ 20	43	4.035	0.000 - 100.00		3.256	2.413 - 4.291		26	3.298	0.000 - 100.00		2.490	1.846 - 3.283		3.092	2.147 - 4.302	
180/ 25	68	5.520	4.189 - 7.103		4.746	3.703 - 5.970		42	4.083	2.851 - 5.640		2.924	2.216 - 3.781		3.614	2.500 - 5.034	
180/ 30	92	7.035	1.755 - 17.504		6.468	5.186 - 7.936		55	4.900	0.560 - 17.307		3.575	2.718 - 4.604		4.885	0.558 - 17.263	
180/ 35	126	8.469	6.354 - 10.956		8.078	6.615 - 9.720		71	5.453	1.763 - 12.298		4.027	2.989 - 5.291		5.438	1.594 - 12.894	
180/ 40	162	9.694	2.665 - 22.261		9.559	7.999 - 11.280		89	6.170	0.850 - 19.645		4.627	3.451 - 6.047		6.067	0.729 - 20.280	
180/ 45	198	10.903	8.204 - 14.029		10.911	9.293 - 12.672		115	6.717	3.156 - 12.122		4.811	3.541 - 6.356		6.560	3.402 - 11.137	
180/ 50	234	12.172	9.262 - 15.502		12.120	10.435 - 13.939		139	7.092	3.664 - 12.032		5.015	3.630 - 6.713		7.015	3.878 - 11.389	
180/ 55	271	13.319	10.233 - 16.815		13.317	11.545 - 15.216		161	7.502	4.145 - 12.157		5.278	3.804 - 7.088		7.271	4.492 - 10.922	
180/ 60	311	14.310	1.793 - 39.064		14.308	12.444 - 16.298		184	7.672	0.041 - 42.948		5.279	3.732 - 7.199		7.483	0.034 - 43.125	
180/ 70	397	15.892	12.485 - 19.671		15.727	13.595 - 18.002		227	7.802	4.860 - 11.631		5.257	3.710 - 7.180		7.571	5.028 - 10.780	
190/ 5	0	1.640	1.006 - 2.537		1.170	0.752 - 1.749		0	1.640	1.006 - 2.537		1.170	0.752 - 1.749		1.640	1.006 - 2.537	
190/ 10	10	2.262	0.726 - 5.420		1.600	1.124 - 2.214		6	1.694	1.135 - 2.439		1.334	0.944 - 1.837		0.851	0.280 - 2.098	
190/ 15	23	3.017	2.194 - 4.039		2.501	1.797 - 3.388		14	2.698	1.963 - 3.615		2.221	1.628 - 2.959		0.995	0.549 - 1.685	
190/ 20	52	4.453	3.396 - 5.713		3.687	2.720 - 4.871		32	3.514	2.519 - 4.756		2.632	1.926 - 3.510		3.280	1.690 - 5.717	
190/ 25	77	6.189	4.674 - 7.987		5.410	4.173 - 6.866		49	4.491	3.083 - 6.280		3.182	2.361 - 4.187		4.154	2.935 - 5.682	
190/ 30	109	7.828	5.849 - 10.168		7.236	5.899 - 8.746		64	5.316	1.236 - 14.084		3.856	2.964 - 4.920		4.874	1.438 - 11.628	
190/ 35	148	9.275	6.901 - 12.065		8.926	7.442 - 10.570		82	5.924	2.132 - 12.548		4.354	3.289 - 5.633		5.610	2.121 - 11.608	
190/ 40	187	10.559	7.818 - 13.765		10.441	8.795 - 12.246		107	6.647	2.872 - 12.615		4.759	3.540 - 6.233		6.232	3.085 - 10.922	
190/ 45	225	12.017	7.124 - 18.278		11.810	10.073 - 13.694		134	7.174	2.774 - 14.422		4.995	3.650 - 6.635		6.862	2.501 - 14.282	
190/ 50	266	13.307	10.057 - 17.015		13.113	11.290 - 15.074		159	7.610	4.022 - 12.686		5.220	3.781 - 6.982		7.254	4.338 - 11.150	
190/ 55	307	14.442	11.034 - 18.292		14.320	12.410 - 16.362		183	7.902	4.441 - 12.638		5.369	3.838 - 7.255		7.587	4.700 - 11.364	
190/ 60	354	15.414	11.916 - 19.329		15.203	13.190 - 17.350		207	7.984	4.706 - 12.364		5.289	3.727 - 7.232		7.753	5.166 - 11.005	
190/ 90	600	19.900	16.289 - 23.781		18.340	15.465 - 21.413		365	7.582	5.208 - 10.524		5.410	4.398 - 6.565		6.491	5.598 - 7.470	
190/ 120	777	22.760	19.081 - 26.643		20.384	17.523 - 23.403		503	7.512	5.801 - 9.502		5.957	4.788 - 7.296		6.750	5.806 - 7.785	
200/ 5	0	1.780	1.112 - 2.712		1.255	0.820 - 1.850		0	1.780	1.112 - 2.712		1.255	0.820 - 1.850		1.780	1.112 - 2.712	
200/ 10	12	2.373	1.453 - 3.661		1.746	1.252 - 2.373		6	1.855	1.285 - 2.595		1.526	1.097 - 2.071		0.916	0.317 - 2.178	
200/ 15	30	3.237	2.420 - 4.232		2.706	1.961 - 3.638		18	2.826	2.053 - 3.789		2.342	1.735 - 3.091		1.042	0.594 - 1.718	
200/ 20	62	4.991	1.228 - 12.978		4.187	3.192 - 5.376		39	3.823	0.553 - 12.870		2.747	2.072 - 3.569		3.716	0.492 - 13.000	
200/ 25	90	6.863	5.150 - 8.894		6.123	4.878 - 7.556		55	4.901	3.308 - 6.940		3.492	2.695 - 4.442		4.738	3.372 - 6.434	
200/ 30	127	8.594	6.380 - 11.209		8.048	6.585 - 9.691		74	5.643	1.773 - 12.884		4.047	3.074 - 5.213		5.568	1.658 - 13.075	
200/ 35	171	10.070	7.403 - 13.208		9.736	8.097 - 11.548		96	6.447	2.536 - 12.933		4.642	3.481 - 6.040		6.459	2.560 - 12.901	
200/ 40	212	11.607	8.578 - 15.133		11.286	9.568 - 13.159		127	7.069	3.268 - 12.848		4.769	3.508 - 6.303		7.200	3.630 - 12.396	

VVal-79 Thalmann Algorithm; 10 fsw Last In-water-Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL		P(DCS)		P(DCS)		TOTAL		P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)	P(DCS)		
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)	NMRI98		
	(min)	(%)	low	- high	(%)	low - high	(min)	(%)	low	- high	(%)	low - high	(%)	low	- high	
200/ 45	256	13.078	9.749	- 16.906	12.690	10.844 - 14.687	154	7.603	3.853	- 13.018	5.109	3.707 - 6.824	7.881	3.794	- 13.904	5.425 4.246 - 6.801
200/ 50	298	14.410	6.639	- 25.065	14.109	12.160 - 16.199	180	8.031	2.226	- 18.795	5.322	3.829 - 7.155	8.329	2.274	- 19.542	5.869 4.651 - 7.277
210/ 4	0	1.644	0.999	- 2.562	1.168	0.748 - 1.752	0	1.644	0.999	- 2.562	1.168	0.748 - 1.752	1.644	0.999	- 2.562	1.168 0.748 - 1.752
210/ 5	2	1.844	0.142	- 8.777	1.221	0.797 - 1.802	1	1.598	0.078	- 9.151	0.955	0.642 - 1.376	0.735	0.198	- 2.071	1.561 1.120 - 2.122
210/ 10	15	2.343	0.003	- 25.565	1.863	1.337 - 2.531	9	1.998	0.001	- 27.894	1.663	1.208 - 2.237	0.935	0.385	- 1.971	2.258 1.730 - 2.897
210/ 15	38	3.614	0.110	- 19.821	2.976	2.184 - 3.954	23	3.065	0.054	- 19.907	2.455	1.837 - 3.213	2.766	0.037	- 19.589	2.396 1.518 - 3.599
210/ 20	71	5.481	0.917	- 16.576	4.723	3.673 - 5.959	45	4.082	0.308	- 17.052	2.941	2.254 - 3.766	3.572	0.164	- 17.701	2.383 1.490 - 3.616
210/ 25	103	7.540	4.449	- 11.686	6.848	5.556 - 8.313	63	5.239	0.564	- 18.647	3.723	2.902 - 4.694	4.640	1.024	- 12.776	2.848 2.134 - 3.721
210/ 30	149	9.323	6.400	- 12.900	8.779	7.274 - 10.454	84	5.973	1.933	- 13.367	4.227	3.204 - 5.452	5.656	1.884	- 12.523	3.490 2.584 - 4.598
210/ 35	195	10.912	7.911	- 14.450	10.532	8.852 - 12.374	114	6.882	2.901	- 13.224	4.696	3.518 - 6.115	6.569	3.147	- 11.725	4.112 3.066 - 5.380
210/ 40	239	12.644	9.248	- 16.591	12.109	10.267 - 14.113	145	7.544	3.607	- 13.393	4.984	3.651 - 6.609	7.452	3.853	- 12.610	4.784 3.689 - 6.078
210/ 45	286	14.160	10.447	- 18.423	13.638	11.669 - 15.760	172	8.130	4.154	- 13.809	5.346	3.889 - 7.124	8.067	4.696	- 12.593	5.378 4.219 - 6.730
210/ 50	339	15.451	11.579	- 19.837	14.853	12.799 - 17.053	202	8.371	4.579	- 13.599	5.341	3.823 - 7.211	8.592	5.320	- 12.830	5.761 4.605 - 7.091
220/ 4	0	1.760	0.375	- 5.384	1.246	0.811 - 1.842	0	1.760	0.375	- 5.384	1.246	0.811 - 1.842	1.760	0.375	- 5.384	1.246 0.811 - 1.842
220/ 5	3	1.951	1.259	- 2.895	1.276	0.834 - 1.879	2	1.513	0.859	- 2.490	1.019	0.716 - 1.413	0.753	0.202	- 2.119	1.640 1.187 - 2.213
220/ 10	18	2.398	1.527	- 3.586	2.029	1.481 - 2.713	11	2.142	1.514	- 2.944	1.805	1.331 - 2.397	0.966	0.441	- 1.888	2.372 1.825 - 3.030
220/ 15	46	3.883	2.820	- 5.196	3.307	2.413 - 4.411	29	3.133	2.124	- 4.444	2.526	1.868 - 3.338	2.819	1.485	- 4.855	2.562 1.807 - 3.526
220/ 20	79	6.147	4.617	- 7.969	5.318	4.135 - 6.704	51	4.497	3.070	- 6.317	3.169	2.423 - 4.066	4.120	2.889	- 5.671	2.706 1.925 - 3.695
220/ 25	119	8.261	6.094	- 10.834	7.542	6.129 - 9.139	72	5.567	1.539	- 13.554	3.877	2.989 - 4.933	5.272	1.554	- 12.498	3.447 2.594 - 4.480
220/ 30	170	10.063	6.813	- 14.046	9.528	7.913 - 11.317	97	6.434	2.213	- 13.873	4.447	3.357 - 5.756	6.436	2.220	- 13.858	4.244 3.181 - 5.526
220/ 35	217	11.904	8.586	- 15.801	11.331	9.568 - 13.257	131	7.330	3.248	- 13.635	4.822	3.583 - 6.319	7.470	3.641	- 13.114	4.986 3.783 - 6.420
220/ 40	268	13.636	9.988	- 17.849	12.936	10.995 - 15.038	162	7.990	3.923	- 13.920	5.141	3.764 - 6.815	7.565	4.286	- 12.051	4.691 3.626 - 5.949
250/ 5	8	2.138	1.383	- 3.161	1.396	0.946 - 1.994	4	1.461	0.787	- 2.505	1.168	0.822 - 1.617	0.830	0.238	- 2.238	1.901 1.410 - 2.511
250/ 10	27	2.884	0.242	- 12.396	2.566	1.846 - 3.471	18	2.624	0.161	- 12.731	2.265	1.681 - 2.987	0.769	0.000	- 52.047	2.770 2.071 - 3.625
250/ 15	71	5.171	3.942	- 6.631	4.574	3.509 - 5.839	46	3.850	2.701	- 5.301	2.890	2.212 - 3.706	3.304	2.250	- 4.668	2.292 1.376 - 3.593
250/ 20	115	7.853	5.837	- 10.243	7.213	5.832 - 8.779	72	5.306	1.359	- 13.456	3.728	2.892 - 4.718	4.904	1.472	- 11.590	3.146 2.377 - 4.077
250/ 25	177	10.199	7.411	- 13.495	9.600	7.944 - 11.438	102	6.516	2.472	- 13.325	4.393	3.329 - 5.666	6.586	2.520	- 13.393	4.350 3.317 - 5.583
250/ 30	235	12.530	9.060	- 16.587	11.757	9.873 - 13.817	144	7.611	3.483	- 13.863	4.877	3.593 - 6.436	7.345	3.710	- 12.619	4.434 3.380 - 5.690
250/ 35	297	14.724	10.614	- 19.473	13.675	11.592 - 15.930	181	8.569	4.174	- 14.950	5.260	3.814 - 7.028	8.614	4.829	- 13.757	5.480 4.299 - 6.857
300/ 5	14	2.222	1.343	- 3.466	1.837	1.320 - 2.494	9	1.919	1.321	- 2.699	1.667	1.215 - 2.235	0.953	0.395	- 2.001	2.180 1.660 - 2.811
300/ 10	59	4.275	2.194	- 7.413	3.881	2.881 - 5.100	38	3.285	1.350	- 6.653	2.725	2.048 - 3.552	3.073	1.163	- 6.572	2.855 2.099 - 3.789
300/ 15	118	7.580	5.752	- 9.728	7.226	5.804 - 8.846	74	5.096	1.312	- 12.941	3.815	2.958 - 4.832	4.655	1.474	- 10.744	3.149 2.370 - 4.095

VVal-79 Thalmann Algorithm; 10 fsw Last In-water-Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂					AIR/SurDO ₂				
	TOTAL						TOTAL					TOTAL				
	STOP	P(DCS)		P(DCS)		STOP	P(DCS)		P(DCS)		P(DCS)	P(DCS)				
	TIME	BVM(3)		NMRI98		TIME	BVM(3)		NMRI98		BVM(3)	NMRI98				
	(min)	(%)	low - high		(%)	low - high		(min)	(%)	low - high		(%)	low - high		(%)	low - high
300/ 20	199	10.689	7.837 - 14.037	10.320	8.547 - 12.282	119	6.727	2.846 - 12.914	4.579	3.406 - 5.999	6.350	3.073 - 11.280	3.919	2.885 - 5.185		
300/ 25	281	13.877	10.086 - 18.264	12.930	10.818 - 15.235	174	8.107	3.940 - 14.201	5.006	3.576 - 6.775	7.795	4.379 - 12.478	4.762	3.638 - 6.099		

**APPENDIX M ESTIMATED RISKS OF DCS FOR SCHEDULES IN FSW INTEGRATED AIR DECOMPRESSION
TABLE WITH 20 FSW LAST IN-WATER STOP.
VVAL-79 THALMANN ALGORITHM**

VVal-79 Thalmann Algorithm; 20 fsw Last In-water Stop

Depth (fsw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL		P(DCS)			TOTAL		P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		NMRI98	STOP	P(DCS)	P(DCS)		NMRI98	P(DCS)	P(DCS)		NMRI98
	TIME	BVM(3)	low - high			TIME	BVM(3)	low - high			BVM(3)	low - high		
	(min)	(%)			(%)	(min)	(%)			(%)	(%)			(%)
30/ 371	0	4.153	3.525 - 4.855	4.965	4.141 - 5.891	0	4.153	3.525 - 4.855	4.965	4.141 - 5.891	4.153	3.525 - 4.855	4.965	4.141 - 5.891
30/ 380	5	4.233	3.601 - 4.936	5.041	4.196 - 5.992	1	4.105	3.488 - 4.794	4.808	3.980 - 5.744	3.509	2.938 - 4.155	4.708	3.921 - 5.594
30/ 420	22	4.759	4.015 - 5.590	5.716	4.767 - 6.780	5	4.320	3.346 - 5.471	5.190	4.299 - 6.194	4.066	3.416 - 4.797	5.410	4.555 - 6.364
30/ 480	42	5.498	4.604 - 6.499	6.672	5.579 - 7.890	9	4.856	4.058 - 5.752	5.860	4.867 - 6.976	4.838	4.065 - 5.704	6.412	5.451 - 7.475
30/ 540	71	6.116	5.094 - 7.261	7.485	6.262 - 8.844	14	5.273	4.399 - 6.255	6.340	5.261 - 7.549	4.862	4.085 - 5.732	6.300	5.283 - 7.434
30/ 600	92	6.623	5.496 - 7.886	8.193	6.867 - 9.661	19	5.597	4.662 - 6.648	6.726	5.577 - 8.014	5.452	4.573 - 6.435	7.104	6.002 - 8.324
30/ 660	120	7.010	5.802 - 8.364	8.757	7.350 - 10.312	22	5.958	4.952 - 7.087	7.209	5.987 - 8.574	5.977	5.002 - 7.068	7.836	6.653 - 9.139
30/ 720	158	7.263	6.001 - 8.678	9.168	7.705 - 10.780	27	6.128	5.088 - 7.294	7.430	6.165 - 8.844	6.444	5.379 - 7.633	8.498	7.239 - 9.879
35/ 232	0	2.974	2.543 - 3.455	3.631	2.923 - 4.450	0	2.974	2.543 - 3.455	3.631	2.923 - 4.450	2.974	2.543 - 3.455	3.631	2.923 - 4.450
35/ 240	4	3.042	2.555 - 3.593	3.717	3.004 - 4.540	2	2.806	2.379 - 3.286	3.396	2.705 - 4.202	2.279	1.850 - 2.776	3.484	2.730 - 4.374
35/ 270	28	3.581	0.177 - 17.374	4.358	3.575 - 5.251	7	2.982	2.495 - 3.535	3.734	3.006 - 4.576	2.892	1.802 - 4.388	4.203	3.396 - 5.133
35/ 300	53	4.202	3.540 - 4.945	5.039	4.161 - 6.033	13	3.255	2.717 - 3.866	3.958	3.191 - 4.843	3.494	2.926 - 4.136	4.932	4.072 - 5.907
35/ 330	71	4.778	4.012 - 5.638	5.724	4.746 - 6.823	18	3.586	2.999 - 4.249	4.240	3.423 - 5.181	3.491	2.923 - 4.133	4.651	3.726 - 5.720
35/ 360	88	5.296	4.432 - 6.266	6.370	5.296 - 7.575	22	3.928	3.288 - 4.649	4.584	3.712 - 5.584	4.021	3.381 - 4.741	5.315	4.339 - 6.425
35/ 420	134	6.158	5.124 - 7.317	7.500	6.249 - 8.894	29	4.555	3.811 - 5.392	5.277	4.293 - 6.400	4.506	3.790 - 5.308	5.740	4.639 - 6.999
35/ 480	173	6.798	5.633 - 8.104	8.413	7.033 - 9.943	38	4.938	4.125 - 5.851	5.683	4.610 - 6.907	5.355	4.497 - 6.314	6.868	5.663 - 8.222
35/ 540	228	7.207	5.957 - 8.608	9.064	7.603 - 10.677	45	5.297	4.419 - 6.284	6.158	5.006 - 7.466	5.428	4.557 - 6.402	6.894	5.663 - 8.281
35/ 600	277	7.476	6.169 - 8.941	9.535	8.025 - 11.197	53	5.493	4.577 - 6.521	6.447	5.248 - 7.807	6.076	5.087 - 7.180	7.796	6.471 - 9.274
35/ 660	314	7.680	6.329 - 9.193	9.906	8.358 - 11.605	63	5.477	4.564 - 6.502	6.485	5.281 - 7.849	6.045	4.265 - 8.244	7.751	6.421 - 9.237
35/ 720	342	7.845	6.459 - 9.398	10.211	8.631 - 11.941	71	5.493	4.578 - 6.522	6.582	5.374 - 7.949	5.825	4.883 - 6.878	7.489	6.214 - 8.913
40/ 163	0	2.332	1.944 - 2.775	2.957	2.296 - 3.745	0	2.332	1.944 - 2.775	2.957	2.296 - 3.745	2.332	1.944 - 2.775	2.957	2.296 - 3.745
40/ 170	6	2.319	1.940 - 2.750	3.010	2.349 - 3.793	2	2.127	1.762 - 2.545	2.717	2.073 - 3.493	1.515	1.163 - 1.943	2.875	2.110 - 3.822
40/ 180	14	2.491	2.100 - 2.933	3.275	2.594 - 4.075	5	2.050	1.694 - 2.458	2.786	2.134 - 3.571	1.759	1.383 - 2.208	3.150	2.355 - 4.120
40/ 190	21	2.716	2.297 - 3.187	3.555	2.849 - 4.377	7	2.121	1.748 - 2.549	2.932	2.260 - 3.737	2.008	1.608 - 2.479	3.436	2.611 - 4.428
40/ 200	27	2.957	2.504 - 3.467	3.844	3.111 - 4.688	9	2.221	1.826 - 2.675	3.075	2.384 - 3.900	2.261	1.835 - 2.755	3.729	2.878 - 4.741
40/ 210	39	3.211	2.713 - 3.771	4.095	3.340 - 4.959	11	2.346	1.716 - 3.131	3.216	2.505 - 4.060	2.515	2.063 - 3.035	4.028	3.152 - 5.060

VVal-79 Thalmann Algorithm; 20 fsw Last In-water Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL		P(DCS)		P(DCS)		TOTAL		P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)		NMRI98	
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
40/ 220	52	3.486	2.939 - 4.099	4.348	3.560 - 5.247	12	2.546	2.100 - 3.057	3.439	2.701 - 4.307	2.770	2.307 - 3.297	4.332	3.431 - 5.382		
40/ 230	64	3.762	3.169 - 4.428	4.620	3.799 - 5.552	16	2.618	2.163 - 3.138	3.404	2.661 - 4.280	2.510	2.059 - 3.030	3.652	2.702 - 4.815		
40/ 240	75	4.029	3.390 - 4.746	4.900	4.043 - 5.871	19	2.729	2.260 - 3.264	3.450	2.695 - 4.341	2.747	2.270 - 3.292	3.931	2.960 - 5.101		
40/ 270	101	4.761	3.993 - 5.621	5.742	4.769 - 6.836	26	3.119	2.599 - 3.708	3.735	2.930 - 4.682	3.452	2.891 - 4.086	4.781	3.754 - 5.981		
40/ 300	128	5.400	4.513 - 6.394	6.531	5.439 - 7.754	33	3.455	2.888 - 4.097	3.991	3.147 - 4.979	3.688	3.095 - 4.355	4.774	3.677 - 6.070		
40/ 330	160	5.945	4.952 - 7.057	7.243	6.040 - 8.584	38	3.857	3.228 - 4.566	4.370	3.483 - 5.400	4.313	3.630 - 5.079	5.562	4.409 - 6.898		
40/ 360	184	6.406	5.321 - 7.621	7.878	6.583 - 9.317	44	4.140	3.465 - 4.899	4.664	3.730 - 5.744	4.290	3.611 - 5.052	5.374	4.228 - 6.707		
40/ 420	248	7.069	5.848 - 8.437	8.869	7.442 - 10.444	56	4.570	3.823 - 5.410	5.166	4.143 - 6.344	4.827	4.062 - 5.682	5.984	4.792 - 7.353		
40/ 480	321	7.436	6.137 - 8.891	9.507	8.015 - 11.148	68	4.841	4.046 - 5.735	5.543	4.454 - 6.793	5.735	4.812 - 6.764	7.213	5.897 - 8.697		
40/ 540	372	7.700	6.345 - 9.218	9.985	8.445 - 11.673	80	4.960	4.144 - 5.877	5.779	4.665 - 7.052	5.842	4.901 - 6.893	7.371	6.065 - 8.837		
40/ 600	410	7.902	6.504 - 9.469	10.361	8.781 - 12.087	93	4.906	4.099 - 5.812	5.813	4.717 - 7.062	5.941	4.982 - 7.013	7.553	6.243 - 9.019		
40/ 660	439	8.065	6.632 - 9.671	10.668	9.055 - 12.429	103	4.922	4.113 - 5.832	5.941	4.850 - 7.179	5.819	4.882 - 6.864	7.469	6.205 - 8.879		
40/ 720	461	8.204	6.740 - 9.844	10.931	9.286 - 12.724	112	4.908	4.101 - 5.815	6.027	4.948 - 7.248	5.637	4.734 - 6.646	7.231	6.023 - 8.578		
45/ 125	0	2.079	1.672 - 2.556	2.670	2.053 - 3.412	0	2.079	1.672 - 2.556	2.670	2.053 - 3.412	2.079	1.672 - 2.556	2.670	2.053 - 3.412		
45/ 130	2	2.127	1.720 - 2.602	2.728	2.101 - 3.481	1	2.024	1.618 - 2.501	2.452	1.846 - 3.193	1.074	0.768 - 1.469	2.597	1.844 - 3.551		
45/ 140	14	2.451	2.029 - 2.934	2.973	2.331 - 3.732	5	2.121	1.723 - 2.583	2.510	1.892 - 3.265	1.345	1.007 - 1.764	2.902	2.101 - 3.901		
45/ 150	25	2.793	2.351 - 3.291	3.286	2.617 - 4.068	8	2.267	1.856 - 2.742	2.638	1.992 - 3.423	1.627	1.259 - 2.070	3.229	2.382 - 4.270		
45/ 160	34	3.120	2.650 - 3.646	3.621	2.917 - 4.437	11	2.404	1.992 - 2.875	2.761	2.087 - 3.579	1.916	1.458 - 2.473	3.572	2.681 - 4.652		
45/ 170	41	3.439	2.942 - 3.992	3.972	3.228 - 4.826	14	2.538	2.109 - 3.027	2.879	2.178 - 3.729	1.762	1.380 - 2.219	2.979	2.009 - 4.246		
45/ 180	59	3.247	2.736 - 3.822	4.249	3.480 - 5.128	17	2.676	2.233 - 3.180	2.992	2.265 - 3.873	2.039	1.629 - 2.520	3.293	2.289 - 4.576		
45/ 190	75	3.587	3.021 - 4.223	4.547	3.742 - 5.462	19	2.858	2.392 - 3.388	3.184	2.425 - 4.098	2.320	1.883 - 2.826	3.619	2.583 - 4.916		
45/ 200	89	3.915	3.296 - 4.611	4.868	4.025 - 5.823	23	2.924	2.458 - 3.451	3.205	2.430 - 4.140	2.604	1.246 - 4.808	3.954	2.889 - 5.264		
45/ 210	101	4.225	3.554 - 4.977	5.198	4.315 - 6.194	27	2.486	2.049 - 2.988	3.222	2.433 - 4.177	2.890	2.393 - 3.456	4.295	3.203 - 5.618		
45/ 220	112	4.515	3.794 - 5.324	5.528	4.602 - 6.568	30	2.633	2.178 - 3.154	3.317	2.510 - 4.292	2.790	2.305 - 3.344	3.790	2.679 - 5.187		
45/ 230	121	4.789	4.019 - 5.652	5.853	4.883 - 6.939	33	2.773	2.301 - 3.312	3.408	2.584 - 4.401	3.056	2.541 - 3.641	4.109	2.974 - 5.510		
45/ 240	130	5.052	4.235 - 5.968	6.170	5.157 - 7.302	37	2.884	2.397 - 3.438	3.385	2.568 - 4.370	3.321	2.774 - 3.940	4.430	3.273 - 5.838		
45/ 270	173	5.759	4.807 - 6.826	7.050	5.902 - 8.328	45	3.277	2.738 - 3.889	3.715	2.876 - 4.711	3.534	2.960 - 4.181	4.468	3.324 - 5.853		
45/ 300	206	6.333	5.267 - 7.526	7.828	6.567 - 9.226	51	3.712	3.108 - 4.393	4.176	3.291 - 5.212	4.255	3.581 - 5.012	5.374	4.163 - 6.796		
45/ 330	243	6.789	5.630 - 8.086	8.485	7.133 - 9.978	61	3.885	3.254 - 4.596	4.313	3.414 - 5.361	4.452	3.747 - 5.241	5.484	4.294 - 6.873		
45/ 360	288	7.118	5.891 - 8.493	9.003	7.588 - 10.561	69	4.114	3.446 - 4.866	4.578	3.636 - 5.672	4.451	3.746 - 5.240	5.430	4.291 - 6.751		
45/ 420	373	7.531	6.217 - 9.003	9.727	8.239 - 11.358	84	4.438	3.716 - 5.249	5.044	4.035 - 6.208	5.029	4.038 - 6.170	6.191	5.002 - 7.547		
45/ 480	431	7.819	6.443 - 9.361	10.252	8.711 - 11.936	101	4.481	3.752 - 5.301	5.208	4.196 - 6.371	5.304	4.460 - 6.246	6.613	5.417 - 7.963		

VVal-79 Thalmann Algorithm; 20 fsw Last In-water Stop

Depth (fsw) /BT(min)	AIR					AIR/In-Water O ₂					AIR/SurDO ₂			
	TOTAL		P(DCS)			TOTAL		P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)	P(DCS)		P(DCS)		
	TIME	BVM(3)	NMRI98		TIME	BVM(3)	NMRI98		BVM(3)	NMRI98		NMRI98		
	(min)	(%)	low - high	(%)	low - high	(min)	(%)	low - high	(%)	low - high	(%)	low - high	(%)	low - high
45/ 540	473	8.039	6.615 - 9.633	10.661	9.075 - 12.390	117	4.416	3.698 - 5.224	5.255	4.271 - 6.379	5.456	4.586 - 6.427	6.812	5.624 - 8.146
50/ 92	0	1.722	1.300 - 2.239	2.206	1.679 - 2.845	0	1.722	1.300 - 2.239	2.206	1.679 - 2.845	1.722	1.300 - 2.239	2.206	1.679 - 2.845
50/ 95	2	1.685	1.156 - 2.381	2.177	1.657 - 2.810	1	1.580	0.001 - 22.628	1.914	1.414 - 2.536	0.586	0.364 - 0.905	2.207	1.531 - 3.082
50/ 100	4	1.831	1.405 - 2.346	2.313	1.773 - 2.966	2	1.695	0.002 - 21.389	2.032	1.513 - 2.673	0.709	0.455 - 1.066	2.341	1.637 - 3.244
50/ 110	8	2.178	1.741 - 2.690	2.682	2.087 - 3.392	4	1.928	0.007 - 19.457	2.283	1.720 - 2.971	0.979	0.710 - 1.321	2.650	1.886 - 3.615
50/ 120	21	2.566	2.116 - 3.081	3.027	2.404 - 3.759	7	2.115	0.016 - 18.309	2.473	1.870 - 3.207	1.281	0.604 - 2.433	3.004	2.177 - 4.035
50/ 130	34	2.963	2.491 - 3.497	3.401	2.741 - 4.167	12	2.203	0.021 - 17.861	2.510	1.880 - 3.282	1.604	1.235 - 2.051	3.392	2.501 - 4.485
50/ 140	45	3.346	2.842 - 3.910	3.800	3.093 - 4.611	16	2.332	0.032 - 17.286	2.613	1.943 - 3.437	1.489	1.125 - 1.937	2.841	1.838 - 4.187
50/ 150	56	3.722	3.177 - 4.329	4.198	3.444 - 5.057	19	2.510	0.051 - 16.647	2.787	2.070 - 3.667	1.801	1.428 - 2.243	3.197	2.143 - 4.575
50/ 160	78	4.087	3.474 - 4.771	4.515	3.729 - 5.407	23	2.624	0.067 - 16.303	2.876	2.123 - 3.804	2.123	1.698 - 2.622	3.573	2.472 - 4.979
50/ 170	96	4.431	3.755 - 5.185	4.860	4.030 - 5.796	26	2.795	0.096 - 15.873	3.039	2.246 - 4.013	2.452	1.995 - 2.981	3.964	2.819 - 5.396
50/ 180	111	4.188	3.536 - 4.917	5.229	4.356 - 6.210	30	2.899	0.116 - 15.652	3.114	2.293 - 4.126	2.431	1.995 - 2.932	3.483	2.320 - 5.004
50/ 190	125	4.532	3.822 - 5.325	5.601	4.683 - 6.628	35	2.940	0.124 - 15.597	3.102	2.265 - 4.140	2.742	2.256 - 3.300	3.851	2.655 - 5.377
50/ 200	136	4.849	4.084 - 5.704	5.972	5.009 - 7.047	39	3.042	0.147 - 15.410	3.135	2.297 - 4.171	3.056	2.535 - 3.649	4.227	3.002 - 5.756
50/ 210	147	5.149	4.329 - 6.066	6.333	5.323 - 7.457	43	3.122	0.167 - 15.275	3.197	2.345 - 4.249	2.846	2.348 - 3.415	3.703	2.549 - 5.178
50/ 220	166	5.440	4.374 - 6.664	6.672	5.613 - 7.850	47	2.774	0.093 - 15.878	3.255	2.394 - 4.316	3.139	2.608 - 3.742	4.055	2.875 - 5.532
50/ 230	183	5.703	4.778 - 6.736	7.003	5.894 - 8.232	50	2.931	0.124 - 15.552	3.387	2.511 - 4.459	3.432	2.866 - 4.072	4.412	3.206 - 5.894
50/ 240	198	5.948	3.772 - 8.804	7.319	6.165 - 8.598	53	3.082	0.150 - 15.532	3.516	2.643 - 4.574	3.724	3.121 - 4.404	4.772	3.541 - 6.263
50/ 270	236	6.577	5.480 - 7.804	8.182	6.907 - 9.588	62	3.484	0.274 - 14.806	3.892	3.021 - 4.922	4.112	3.456 - 4.850	5.070	3.876 - 6.486
50/ 300	285	7.042	5.849 - 8.376	8.873	7.507 - 10.375	74	3.678	0.341 - 14.652	4.043	3.185 - 5.047	4.282	3.600 - 5.046	5.201	4.058 - 6.540
50/ 330	345	7.338	6.083 - 8.741	9.373	7.953 - 10.930	83	3.933	0.441 - 14.509	4.366	3.465 - 5.415	4.494	3.180 - 6.133	5.446	4.320 - 6.750
50/ 360	393	7.564	6.261 - 9.021	9.774	8.314 - 11.369	92	4.128	0.525 - 14.438	4.642	3.704 - 5.728	5.145	3.633 - 7.026	6.307	5.088 - 7.697
50/ 420	464	7.901	6.526 - 9.439	10.388	8.866 - 12.046	113	4.195	0.555 - 14.421	4.845	3.903 - 5.929	5.035	4.236 - 5.928	6.133	5.013 - 7.402
55/ 74	0	1.665	0.042 - 11.531	2.071	1.566 - 2.688	0	1.665	0.042 - 11.531	2.071	1.566 - 2.688	1.665	0.042 - 11.531	2.071	1.566 - 2.688
55/ 75	1	1.635	1.185 - 2.205	2.022	1.529 - 2.625	1	1.431	1.002 - 1.986	1.705	1.241 - 2.290	0.404	0.210 - 0.725	2.113	1.474 - 2.936
55/ 80	4	1.687	1.241 - 2.244	2.085	1.591 - 2.685	2	1.560	1.124 - 2.114	1.828	1.352 - 2.419	0.509	0.288 - 0.853	2.225	1.557 - 3.083
55/ 85	7	1.868	1.413 - 2.425	2.257	1.743 - 2.874	4	1.647	1.197 - 2.215	1.906	1.424 - 2.499	0.636	0.387 - 1.000	2.364	1.669 - 3.251
55/ 90	10	2.069	1.605 - 2.625	2.460	1.921 - 3.101	5	1.783	1.325 - 2.351	2.048	1.544 - 2.665	0.775	0.501 - 1.155	2.526	1.798 - 3.447
55/ 100	17	2.492	2.016 - 3.046	2.908	2.312 - 3.606	8	2.016	1.560 - 2.566	2.289	1.739 - 2.958	1.092	0.785 - 1.484	2.904	2.101 - 3.907
55/ 110	34	2.949	2.457 - 3.507	3.319	2.691 - 4.045	12	2.195	1.740 - 2.733	2.467	1.868 - 3.196	1.439	1.079 - 1.884	3.339	2.455 - 4.426
55/ 120	48	3.392	2.872 - 3.975	3.776	3.096 - 4.554	17	2.317	1.849 - 2.866	2.563	1.914 - 3.359	1.342	0.982 - 1.795	2.824	1.795 - 4.224
55/ 130	59	3.823	3.272 - 4.435	4.257	3.515 - 5.100	22	2.436	1.950 - 3.004	2.646	1.944 - 3.517	1.688	1.293 - 2.168	3.228	2.129 - 4.679

VVal-79 Thalmann Algorithm; 20 fsw Last In-water Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL		P(DCS)		P(DCS)		TOTAL		P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)	P(DCS)		P(DCS)
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)	NMRI98		NMRI98
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
55/ 140	84	4.250	3.627 - 4.942	4.628	3.848 - 5.509	26	2.595	2.104 - 3.164	2.796	2.037 - 3.742	2.051	1.622 - 2.559	3.661	2.503 - 5.150		
55/ 150	105	4.639	3.930 - 5.431	5.013	4.182 - 5.947	30	2.751	2.243 - 3.336	2.939	2.126 - 3.952	2.100	1.667 - 2.612	3.211	2.026 - 4.819		
55/ 160	123	4.988	4.206 - 5.862	5.416	4.537 - 6.401	34	2.892	1.972 - 4.086	3.072	2.214 - 4.145	2.453	1.986 - 2.994	3.623	2.393 - 5.239		
55/ 170	138	5.321	4.464 - 6.280	5.831	4.904 - 6.866	40	2.939	2.239 - 3.784	3.001	2.140 - 4.086	2.811	2.308 - 3.388	4.052	2.778 - 5.678		
55/ 180	151	5.624	4.690 - 6.673	6.243	5.267 - 7.327	45	3.009	2.379 - 3.750	3.041	2.157 - 4.158	2.665	2.177 - 3.227	3.566	2.371 - 5.132		
55/ 190	169	5.386	4.545 - 6.323	6.630	5.606 - 7.765	50	3.071	2.437 - 3.814	3.076	2.178 - 4.211	3.003	1.763 - 4.768	3.970	2.751 - 5.520		
55/ 200	190	5.700	4.801 - 6.702	7.001	5.927 - 8.190	54	3.188	2.548 - 3.934	3.184	2.272 - 4.329	3.340	2.423 - 4.479	4.383	3.139 - 5.927		
55/ 210	208	5.982	5.029 - 7.044	7.361	6.236 - 8.603	58	3.290	2.637 - 4.051	3.286	2.364 - 4.438	3.268	2.715 - 3.897	4.059	2.923 - 5.468		
55/ 220	224	6.240	5.236 - 7.360	7.704	6.532 - 8.996	62	3.385	2.725 - 4.150	3.385	2.468 - 4.518	3.586	2.994 - 4.255	4.450	3.285 - 5.868		
55/ 230	239	6.478	5.427 - 7.651	8.029	6.813 - 9.368	66	3.116	2.616 - 3.680	3.472	2.621 - 4.500	3.903	3.269 - 4.616	4.844	3.651 - 6.274		
55/ 240	254	6.696	5.600 - 7.918	8.334	7.077 - 9.716	69	3.280	2.758 - 3.869	3.645	2.792 - 4.666	3.641	3.042 - 4.317	4.403	3.318 - 5.706		
55/ 270	313	7.199	5.999 - 8.538	9.091	7.737 - 10.573	83	3.476	2.926 - 4.094	3.806	2.982 - 4.775	4.048	3.395 - 4.783	4.853	3.783 - 6.110		
55/ 300	380	7.509	6.244 - 8.920	9.625	8.216 - 11.163	94	3.738	3.149 - 4.399	4.133	3.279 - 5.129	4.848	4.076 - 5.713	5.891	4.714 - 7.243		
55/ 330	432	7.744	6.428 - 9.212	10.048	8.598 - 11.627	106	3.886	3.274 - 4.572	4.358	3.482 - 5.372	4.963	3.486 - 6.807	6.048	4.896 - 7.361		
55/ 360	474	7.931	6.576 - 9.444	10.393	8.908 - 12.007	118	3.948	3.327 - 4.645	4.500	3.620 - 5.516	5.037	4.234 - 5.935	6.082	4.961 - 7.354		
60/ 63	0	1.723	1.245 - 2.329	2.065	1.551 - 2.697	0	1.723	1.245 - 2.329	2.065	1.551 - 2.697	1.723	1.245 - 2.329	2.065	1.551 - 2.697		
60/ 65	2	1.669	1.194 - 2.274	1.981	1.489 - 2.586	1	1.498	1.041 - 2.094	1.726	1.251 - 2.325	0.397	0.195 - 0.748	2.159	1.548 - 2.931		
60/ 70	7	1.777	1.296 - 2.380	2.072	1.587 - 2.660	4	1.574	1.113 - 2.168	1.766	1.306 - 2.337	0.505	0.274 - 0.873	2.289	1.621 - 3.140		
60/ 80	14	2.224	1.722 - 2.827	2.515	1.985 - 3.141	7	1.839	1.359 - 2.437	2.025	1.539 - 2.617	0.790	0.524 - 1.154	2.623	1.891 - 3.542		
60/ 90	23	2.712	2.210 - 3.291	3.033	2.444 - 3.716	10	2.117	1.621 - 2.717	2.323	1.784 - 2.973	1.138	0.800 - 1.578	3.061	2.242 - 4.075		
60/ 100	42	3.226	2.701 - 3.821	3.519	2.891 - 4.237	15	2.288	1.787 - 2.884	2.494	1.901 - 3.213	1.060	0.721 - 1.513	2.628	1.626 - 4.018		
60/ 110	57	3.734	3.175 - 4.359	4.060	3.369 - 4.843	21	2.410	1.912 - 2.998	2.580	1.923 - 3.385	1.423	1.042 - 1.904	3.057	1.973 - 4.511		
60/ 120	75	4.218	3.617 - 4.884	4.574	3.821 - 5.421	26	2.563	2.050 - 3.164	2.725	1.996 - 3.630	1.815	1.396 - 2.323	3.534	2.369 - 5.052		
60/ 130	102	4.685	3.978 - 5.472	5.002	4.197 - 5.904	31	2.713	2.187 - 3.326	2.857	2.057 - 3.859	1.921	1.492 - 2.436	3.107	1.904 - 4.774		
60/ 140	124	5.097	4.327 - 5.954	5.439	4.574 - 6.406	35	2.902	1.660 - 4.702	3.058	2.189 - 4.148	2.313	1.848 - 2.858	3.570	2.345 - 5.186		
60/ 150	143	5.475	4.621 - 6.426	5.886	4.968 - 6.907	41	2.993	2.160 - 4.032	3.046	2.151 - 4.178	2.244	1.786 - 2.784	3.156	2.001 - 4.719		
60/ 160	158	5.826	4.894 - 6.867	6.342	5.372 - 7.418	48	3.001	2.297 - 3.846	2.986	2.064 - 4.170	2.621	2.127 - 3.194	3.601	2.411 - 5.151		
60/ 170	178	6.127	5.099 - 7.280	6.766	5.748 - 7.889	53	3.102	2.415 - 3.918	3.075	2.123 - 4.298	3.005	2.472 - 3.616	4.064	2.841 - 5.608		
60/ 180	201	5.841	4.943 - 6.839	7.170	6.104 - 8.345	59	3.146	2.457 - 3.963	3.080	2.118 - 4.318	2.999	2.466 - 3.609	3.787	2.664 - 5.201		
60/ 190	222	6.153	5.196 - 7.216	7.563	6.445 - 8.792	64	3.230	2.540 - 4.043	3.156	2.189 - 4.395	3.361	2.788 - 4.013	4.228	3.070 - 5.655		
60/ 200	240	6.435	5.422 - 7.562	7.938	6.771 - 9.220	68	3.372	2.641 - 4.234	3.279	2.348 - 4.445	3.725	1.859 - 6.612	4.678	3.486 - 6.119		
60/ 210	256	6.694	5.629 - 7.879	8.295	7.081 - 9.624	73	3.433	2.700 - 4.296	3.355	2.459 - 4.460	3.521	2.929 - 4.192	4.286	3.199 - 5.602		

VVal-79 Thalmann Algorithm; 20 fsw Last In-water Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL			P(DCS)			TOTAL			P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)		P(DCS)			STOP	P(DCS)		P(DCS)			P(DCS)		P(DCS)	
	TIME	BVM(3)		NMRI98			TIME	BVM(3)		NMRI98			BVM(3)		NMRI98	
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
60/ 220	278	6.918	5.348 - 8.749	8.613	7.358 - 9.987		77	3.544	1.829 - 6.155	3.501	2.622 - 4.570		3.861	3.227 - 4.578	4.710	3.586 - 6.050
60/ 230	300	7.119	5.968 - 8.400	8.905	7.612 - 10.318		82	3.245	2.739 - 3.814	3.577	2.729 - 4.595		3.753	3.133 - 4.455	4.489	3.448 - 5.726
60/ 240	321	7.294	6.106 - 8.615	9.173	7.848 - 10.619		88	3.281	2.770 - 3.856	3.587	2.772 - 4.557		4.069	3.406 - 4.815	4.889	3.809 - 6.157
60/ 270	398	7.642	6.381 - 9.045	9.774	8.387 - 11.282		102	3.534	2.988 - 4.147	3.880	3.073 - 4.824		4.382	3.676 - 5.176	5.271	4.203 - 6.503
60/ 300	456	7.900	6.584 - 9.363	10.241	8.809 - 11.794		115	3.723	3.149 - 4.367	4.160	3.330 - 5.123		4.638	3.893 - 5.472	5.517	4.466 - 6.717
70/ 48	0	1.869	0.031 - 14.103	2.053	1.558 - 2.656		0	1.869	0.031 - 14.103	2.053	1.558 - 2.656		1.869	0.031 - 14.103	2.053	1.558 - 2.656
70/ 50	2	1.834	0.032 - 13.732	1.983	1.488 - 2.590		1	1.593	0.775 - 2.945	1.715	1.254 - 2.293		0.420	0.186 - 0.852	2.184	1.625 - 2.874
70/ 55	9	1.923	0.542 - 5.018	2.062	1.565 - 2.667		5	1.690	0.853 - 3.035	1.769	1.308 - 2.341		0.516	0.259 - 0.949	2.368	1.739 - 3.149
70/ 60	14	2.213	0.751 - 5.136	2.303	1.793 - 2.913		8	1.823	0.971 - 3.142	1.857	1.393 - 2.426		0.655	0.367 - 1.101	2.554	1.860 - 3.419
70/ 70	24	2.817	1.232 - 5.514	2.933	2.365 - 3.594		13	2.104	1.222 - 3.390	2.117	1.634 - 2.699		1.029	0.679 - 1.506	3.042	2.259 - 4.002
70/ 80	44	3.480	1.803 - 6.031	3.583	2.969 - 4.281		17	2.436	1.523 - 3.696	2.479	1.928 - 3.138		0.948	0.597 - 1.442	2.701	1.694 - 4.084
70/ 90	64	4.121	0.889 - 11.607	4.278	3.599 - 5.039		24	2.603	0.273 - 10.486	2.639	2.007 - 3.405		1.369	0.965 - 1.890	3.235	2.157 - 4.648
70/ 100	88	4.744	2.950 - 7.155	4.934	4.186 - 5.767		31	2.760	1.824 - 4.002	2.776	2.045 - 3.679		1.572	1.149 - 2.105	2.891	1.778 - 4.433
70/ 110	120	5.315	3.465 - 7.722	5.491	4.675 - 6.396		38	2.914	1.951 - 4.176	2.843	2.035 - 3.859		2.032	1.566 - 2.593	3.461	2.307 - 4.972
70/ 120	145	5.814	3.916 - 8.226	6.053	5.155 - 7.045		44	3.078	1.767 - 4.969	3.014	2.108 - 4.168		2.066	1.598 - 2.629	3.124	1.962 - 4.706
70/ 130	167	6.256	4.301 - 8.703	6.586	5.611 - 7.662		51	3.174	2.011 - 4.748	3.085	2.101 - 4.360		2.524	2.016 - 3.121	3.682	2.451 - 5.289
70/ 140	189	6.653	4.653 - 9.124	7.089	6.062 - 8.218		59	3.203	2.109 - 4.650	3.057	2.023 - 4.424		2.636	2.117 - 3.241	3.480	2.347 - 4.952
70/ 150	219	6.967	4.912 - 9.490	7.534	6.470 - 8.699		66	3.285	2.186 - 4.728	3.061	2.018 - 4.440		3.083	2.520 - 3.729	4.027	2.846 - 5.508
70/ 160	245	7.219	5.965 - 8.625	7.961	6.849 - 9.176		73	3.302	2.490 - 4.284	3.050	1.991 - 4.459		3.009	2.455 - 3.649	3.754	2.684 - 5.090
70/ 170	267	7.455	6.126 - 8.947	8.380	7.216 - 9.649		79	3.393	2.590 - 4.357	3.147	2.079 - 4.559		3.436	2.836 - 4.121	4.281	3.167 - 5.636
70/ 180	293	7.146	6.049 - 8.360	8.770	7.556 - 10.093		85	3.461	2.624 - 4.472	3.237	2.175 - 4.623		3.445	2.843 - 4.130	4.163	3.149 - 5.382
70/ 190	321	7.395	6.248 - 8.664	9.126	7.867 - 10.494		91	3.527	2.670 - 4.560	3.325	2.326 - 4.596		3.848	3.198 - 4.583	4.668	3.608 - 5.921
70/ 200	354	7.598	6.409 - 8.914	9.440	8.141 - 10.850		98	3.524	2.650 - 4.583	3.352	2.486 - 4.411		3.678	3.050 - 4.392	4.403	3.429 - 5.550
70/ 210	391	7.749	6.524 - 9.105	9.699	8.370 - 11.140		105	3.127	2.652 - 3.659	3.387	2.569 - 4.375		4.056	3.380 - 4.820	4.883	3.862 - 6.070
70/ 240	479	8.091	6.789 - 9.533	10.325	8.929 - 11.835		123	3.331	2.828 - 3.893	3.654	2.868 - 4.580		3.964	3.300 - 4.715	4.630	3.740 - 5.652
80/ 39	0	2.049	1.492 - 2.748	2.061	1.559 - 2.675		0	2.049	1.492 - 2.748	2.061	1.559 - 2.675		2.049	1.492 - 2.748	2.061	1.559 - 2.675
80/ 40	1	2.043	0.327 - 7.095	2.026	1.525 - 2.638		1	1.758	0.199 - 7.239	1.669	1.216 - 2.239		0.486	0.209 - 1.009	2.176	1.654 - 2.811
80/ 45	10	2.070	1.514 - 2.766	2.065	1.543 - 2.708		5	1.840	1.292 - 2.547	1.796	1.333 - 2.370		0.559	0.265 - 1.074	2.416	1.814 - 3.152
80/ 50	17	2.423	1.842 - 3.128	2.333	1.800 - 2.974		9	1.991	1.427 - 2.705	1.905	1.428 - 2.493		0.709	0.382 - 1.229	2.658	1.971 - 3.503
80/ 55	24	2.814	2.208 - 3.532	2.690	2.128 - 3.352		13	2.146	1.561 - 2.880	2.005	1.529 - 2.584		0.911	0.548 - 1.443	2.926	2.190 - 3.825
80/ 60	30	3.203	2.573 - 3.936	3.114	2.513 - 3.811		16	2.324	1.734 - 3.049	2.170	1.681 - 2.757		0.634	0.313 - 1.179	2.454	1.523 - 3.743
80/ 70	54	4.035	3.372 - 4.783	3.947	3.296 - 4.682		22	2.681	2.059 - 3.429	2.537	1.982 - 3.197		1.044	0.651 - 1.603	2.990	1.999 - 4.290

VVal-79 Thalmann Algorithm; 20 fsw Last In-water Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL		P(DCS)		P(DCS)		TOTAL		P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)		NMRI98	
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
80/ 80	77	4.826	4.124 - 5.604	4.835	4.113 - 5.637	30	2.914	2.280 - 3.665	2.770	2.112 - 3.565	1.319	0.891 - 1.889	2.741	1.704 - 4.172		
80/ 90	114	5.576	4.809 - 6.418	5.569	4.785 - 6.433	39	3.085	2.414 - 3.880	2.844	2.085 - 3.785	1.833	1.355 - 2.427	3.415	2.286 - 4.887		
80/ 100	148	6.202	5.327 - 7.165	6.234	5.365 - 7.187	47	3.216	1.799 - 5.286	2.969	2.076 - 4.108	1.959	1.471 - 2.560	3.165	2.019 - 4.711		
70/ 110	177	6.733	5.768 - 7.793	6.858	5.896 - 7.912	54	3.393	2.217 - 4.950	3.185	2.163 - 4.510	2.496	1.962 - 3.128	3.859	2.646 - 5.413		
80/ 120	210	7.216	1.162 - 21.197	7.408	6.374 - 8.540	64	3.397	0.078 - 20.220	3.131	2.019 - 4.622	2.696	2.144 - 3.343	3.707	2.562 - 5.168		
80/ 130	246	7.590	6.370 - 8.943	7.926	6.848 - 9.102	74	3.384	2.458 - 4.532	3.015	1.880 - 4.572	2.730	2.176 - 3.380	3.542	2.532 - 4.804		
80/ 140	275	7.916	6.588 - 9.395	8.459	7.322 - 9.695	82	3.443	2.546 - 4.542	3.080	1.899 - 4.708	2.865	2.298 - 3.525	3.548	2.621 - 4.685		
80/ 150	304	8.170	6.734 - 9.775	8.947	7.754 - 10.240	90	3.483	2.577 - 4.591	3.129	1.930 - 4.780	3.345	2.732 - 4.051	4.154	3.163 - 5.339		
80/ 160	339	8.334	6.812 - 10.042	9.367	8.125 - 10.712	97	3.581	2.642 - 4.733	3.214	2.051 - 4.781	3.291	2.683 - 3.991	4.010	3.087 - 5.107		
80/ 170	381	7.973	3.234 - 15.505	9.729	8.443 - 11.120	104	3.637	0.223 - 16.558	3.323	2.224 - 4.758	3.751	3.092 - 4.501	4.593	3.607 - 5.746		
80/ 180	424	8.143	6.907 - 9.503	10.030	8.711 - 11.455	113	3.560	2.603 - 4.739	3.301	2.328 - 4.531	3.688	3.037 - 4.431	4.348	3.469 - 5.369		
80/ 210	524	8.520	7.195 - 9.981	10.739	9.341 - 12.244	136	3.211	2.733 - 3.746	3.524	2.709 - 4.497	4.338	3.607 - 5.164	5.159	4.217 - 6.230		
90/ 33	0	2.239	1.642 - 2.981	2.085	1.566 - 2.722	0	2.239	1.642 - 2.981	2.085	1.566 - 2.722	2.239	1.642 - 2.981	2.085	1.566 - 2.722		
90/ 35	4	2.122	1.477 - 2.954	1.971	1.462 - 2.602	2	1.854	1.293 - 2.579	1.723	1.254 - 2.313	0.575	0.249 - 1.180	2.274	1.743 - 2.916		
90/ 40	14	2.367	1.771 - 3.099	2.183	1.633 - 2.860	7	2.044	1.455 - 2.794	1.871	1.392 - 2.463	0.673	0.325 - 1.272	2.571	1.949 - 3.325		
90/ 45	23	2.827	2.189 - 3.589	2.538	1.961 - 3.230	12	2.233	1.615 - 3.010	1.998	1.505 - 2.604	0.874	0.485 - 1.474	2.875	2.159 - 3.746		
90/ 50	31	3.321	2.644 - 4.111	3.010	2.388 - 3.740	17	2.419	1.780 - 3.213	2.112	1.614 - 2.715	0.584	0.250 - 1.210	2.476	1.562 - 3.731		
90/ 55	39	3.815	3.105 - 4.631	3.546	2.877 - 4.316	21	2.627	1.961 - 3.443	2.288	1.773 - 2.904	0.778	0.400 - 1.397	2.738	1.764 - 4.052		
90/ 60	56	4.334	1.780 - 8.668	4.034	3.346 - 4.815	24	2.869	0.771 - 7.486	2.540	1.987 - 3.198	1.017	0.598 - 1.637	3.086	2.198 - 4.204		
90/ 70	83	5.295	4.511 - 6.163	5.118	4.361 - 5.957	32	3.228	2.497 - 4.098	2.936	2.272 - 3.728	1.360	0.897 - 1.986	2.925	1.903 - 4.291		
90/ 80	130	6.151	3.314 - 10.205	5.907	5.102 - 6.791	43	3.365	0.647 - 10.201	2.969	2.181 - 3.943	3.185	1.543 - 5.798	2.813	1.742 - 4.292		
90/ 90	171	6.924	5.976 - 7.961	6.732	5.835 - 7.712	53	3.506	1.937 - 5.802	3.138	2.180 - 4.363	3.871	2.067 - 6.551	3.612	2.490 - 5.048		
90/ 100	204	7.577	6.512 - 8.743	7.511	6.504 - 8.609	63	3.625	2.320 - 5.372	3.256	2.144 - 4.724	2.532	1.977 - 3.193	3.578	2.604 - 4.782		
90/ 110	249	8.065	6.875 - 9.372	8.073	7.006 - 9.232	74	3.662	2.510 - 5.140	3.202	2.006 - 4.833	2.669	2.104 - 3.337	3.527	2.538 - 4.758		
90/ 120	286	8.429	7.092 - 9.907	8.638	7.511 - 9.860	86	3.708	2.675 - 4.991	3.222	1.956 - 4.981	2.783	2.307 - 3.326	3.472	2.546 - 4.612		
90/ 130	324	8.729	7.294 - 10.320	9.190	8.000 - 10.477	98	3.808	2.811 - 5.027	3.306	2.005 - 5.111	3.313	2.797 - 3.893	4.185	3.186 - 5.379		
90/ 140	366	8.916	7.361 - 10.650	9.674	8.426 - 11.021	109	3.948	2.934 - 5.180	3.422	2.147 - 5.154	3.370	2.850 - 3.954	4.148	3.214 - 5.252		
90/ 150	423	8.413	7.193 - 9.748	10.053	8.759 - 11.450	122	3.909	2.898 - 5.141	3.416	2.238 - 4.973	3.437	2.910 - 4.028	4.039	3.213 - 5.000		
90/ 160	471	8.592	7.328 - 9.977	10.384	9.053 - 11.817	134	3.844	2.815 - 5.110	3.425	2.403 - 4.722	3.965	3.370 - 4.628	4.715	3.813 - 5.751		
90/ 170	511	8.743	7.436 - 10.176	10.672	9.310 - 12.138	144	3.887	2.812 - 5.219	3.582	2.681 - 4.678	3.873	3.292 - 4.521	4.558	3.714 - 5.523		
90/ 180	546	8.863	7.528 - 10.329	10.922	9.531 - 12.419	154	3.827	2.745 - 5.174	3.658	2.793 - 4.694	3.816	3.243 - 4.456	4.495	3.676 - 5.430		
90/ 240	702	9.940	8.474 - 11.541	11.966	10.406 - 13.641	235	3.328	2.833 - 3.880	3.831	3.101 - 4.673	3.970	2.744 - 5.530	4.950	4.171 - 5.820		

VVal-79 Thalmann Algorithm; 20 fsw Last In-water Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL		P(DCS)		P(DCS)		TOTAL		P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)		NMRI98	
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
100/ 25	0	2.119	1.539 - 2.847	1.798	1.330 - 2.381	0	2.119	1.539 - 2.847	1.798	1.330 - 2.381	2.119	1.539 - 2.847	1.798	1.330 - 2.381		
100/ 30	3	2.321	1.674 - 3.135	1.999	1.473 - 2.654	2	1.943	1.361 - 2.693	1.710	1.234 - 2.311	0.635	0.270 - 1.320	2.282	1.761 - 2.909		
100/ 35	15	2.540	0.023 - 19.927	2.228	1.650 - 2.944	8	2.174	0.008 - 21.246	1.884	1.396 - 2.489	0.751	0.360 - 1.425	2.636	2.018 - 3.382		
100/ 40	26	3.102	2.416 - 3.916	2.641	2.023 - 3.386	14	2.406	1.746 - 3.233	2.035	1.531 - 2.654	0.498	0.168 - 1.229	2.366	1.539 - 3.481		
100/ 45	36	3.702	2.961 - 4.563	3.203	2.528 - 3.999	19	2.667	1.969 - 3.529	2.214	1.687 - 2.855	0.649	0.275 - 1.352	2.623	1.694 - 3.876		
100/ 50	47	4.301	3.506 - 5.210	3.836	3.107 - 4.676	24	2.905	2.165 - 3.812	2.407	1.860 - 3.063	0.877	0.454 - 1.565	2.962	2.096 - 4.057		
100/ 55	65	4.907	4.075 - 5.846	4.443	3.685 - 5.301	28	3.168	2.383 - 4.121	2.675	2.085 - 3.376	2.922	1.928 - 4.238	2.506	1.552 - 3.829		
100/ 60	81	5.499	4.619 - 6.481	5.086	4.294 - 5.969	33	3.384	2.561 - 4.377	2.885	2.239 - 3.654	3.346	2.334 - 4.635	2.900	1.915 - 4.203		
100/ 70	135	6.552	5.616 - 7.583	6.061	5.233 - 6.968	45	3.576	1.056 - 8.731	3.017	2.233 - 3.981	3.524	1.516 - 6.912	2.902	1.900 - 4.236		
100/ 80	181	7.486	6.466 - 8.600	7.059	6.144 - 8.055	56	3.792	1.948 - 6.597	3.282	2.299 - 4.530	3.734	1.943 - 6.441	3.006	2.148 - 4.083		
100/ 90	226	8.202	7.056 - 9.453	7.860	6.837 - 8.969	69	4.003	2.384 - 6.255	3.398	2.273 - 4.867	4.434	2.553 - 7.086	3.821	2.858 - 4.988		
100/ 100	278	8.753	7.472 - 10.155	8.508	7.421 - 9.684	89	4.071	2.781 - 5.722	3.338	2.119 - 4.983	4.332	2.754 - 6.435	3.840	2.854 - 5.041		
100/ 110	320	9.186	7.777 - 10.734	9.196	8.034 - 10.450	104	4.238	3.075 - 5.672	3.501	2.199 - 5.268	3.240	2.748 - 3.792	4.054	3.096 - 5.199		
100/ 120	371	9.437	7.890 - 11.145	9.767	8.538 - 11.092	118	4.428	3.292 - 5.806	3.672	2.357 - 5.430	3.424	2.913 - 3.994	4.159	3.240 - 5.242		
100/ 150	536	9.162	7.835 - 10.610	10.909	9.544 - 12.376	161	4.283	3.139 - 5.682	3.750	2.788 - 4.921	4.164	3.566 - 4.827	4.854	3.991 - 5.834		
110/ 20	0	2.050	1.471 - 2.783	1.633	1.190 - 2.191	0	2.050	1.471 - 2.783	1.633	1.190 - 2.191	2.050	1.471 - 2.783	1.633	1.190 - 2.191		
110/ 25	5	2.219	1.541 - 3.096	1.818	1.339 - 2.416	3	1.885	1.323 - 2.610	1.546	1.106 - 2.107	0.666	0.270 - 1.431	2.198	1.715 - 2.775		
110/ 30	14	2.575	1.922 - 3.376	2.189	1.631 - 2.877	7	2.250	1.606 - 3.066	1.876	1.362 - 2.523	0.785	0.360 - 1.537	2.606	2.040 - 3.278		
110/ 35	27	3.227	2.503 - 4.087	2.619	2.004 - 3.359	14	2.532	1.838 - 3.400	2.059	1.497 - 2.763	0.524	0.166 - 1.344	2.396	1.598 - 3.452		
110/ 40	39	3.925	3.128 - 4.852	3.252	2.565 - 4.061	20	2.829	2.075 - 3.763	2.263	1.642 - 3.041	0.673	0.271 - 1.453	2.699	1.789 - 3.904		
110/ 45	50	4.627	3.751 - 5.630	4.003	3.252 - 4.866	26	3.107	2.292 - 4.108	2.469	1.791 - 3.318	3.308	2.363 - 4.493	3.104	2.335 - 4.039		
110/ 50	71	5.348	4.408 - 6.412	4.708	3.925 - 5.590	32	3.365	2.488 - 4.440	2.687	1.936 - 3.629	3.293	2.257 - 4.627	2.673	1.739 - 3.925		
110/ 55	90	5.949	4.952 - 7.068	5.375	4.568 - 6.271	36	3.644	2.711 - 4.780	2.921	2.109 - 3.935	3.805	2.732 - 5.140	3.161	2.244 - 4.318		
110/ 60	124	6.663	5.636 - 7.800	5.966	5.140 - 6.872	43	3.789	2.816 - 4.975	3.071	2.158 - 4.231	3.636	1.333 - 7.852	2.781	1.800 - 4.100		
110/ 70	181	7.829	6.727 - 9.035	7.130	6.234 - 8.101	56	4.047	1.838 - 7.625	3.383	2.251 - 4.868	3.994	1.926 - 7.238	3.014	2.125 - 4.143		
110/ 80	237	8.688	7.478 - 10.006	8.049	7.046 - 9.134	77	4.409	2.525 - 7.075	3.537	2.284 - 5.206	4.727	2.600 - 7.791	3.950	2.932 - 5.188		
110/ 90	295	9.348	8.029 - 10.785	8.814	7.715 - 10.001	100	4.552	3.046 - 6.496	3.559	2.199 - 5.422	4.266	2.509 - 6.720	3.441	2.525 - 4.570		
110/ 100	348	9.809	8.365 - 11.385	9.554	8.360 - 10.840	118	4.767	3.428 - 6.420	3.786	2.331 - 5.774	5.124	3.305 - 7.507	4.505	3.464 - 5.739		
110/ 110	412	10.008	8.423 - 11.748	10.121	8.845 - 11.496	136	4.852	3.605 - 6.359	3.825	2.383 - 5.782	3.910	3.357 - 4.523	4.688	3.673 - 5.877		
110/ 120	484	10.038	8.275 - 11.995	10.600	9.265 - 12.034	155	4.744	3.576 - 6.144	3.771	2.402 - 5.605	4.158	3.576 - 4.802	4.785	3.849 - 5.862		
110/ 180	734	10.680	9.206 - 12.276	12.284	10.714 - 13.966	266	3.763	3.217 - 4.371	4.054	3.213 - 5.036	4.262	3.675 - 4.910	5.106	4.303 - 6.003		
120/ 15	0	1.818	1.271 - 2.525	1.415	1.003 - 1.945	0	1.818	1.271 - 2.525	1.415	1.003 - 1.945	1.818	1.271 - 2.525	1.415	1.003 - 1.945		

VVal-79 Thalmann Algorithm; 20 fsw Last In-water Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL		P(DCS)		P(DCS)		TOTAL		P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)		P(DCS)	
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)		NMRI98	
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
120/ 20	4	2.155	1.517 - 2.973	1.660	1.209 - 2.228	2	1.778	1.102 - 2.727	1.404	0.996 - 1.929	0.658	0.244 - 1.510	2.052	1.591 - 2.607		
120/ 25	9	2.461	1.812 - 3.267	2.155	1.592 - 2.854	5	2.210	1.581 - 3.006	1.854	1.339 - 2.506	0.794	0.345 - 1.616	2.514	1.969 - 3.162		
120/ 30	24	3.163	2.434 - 4.035	2.579	1.941 - 3.357	13	2.543	1.839 - 3.426	2.084	1.515 - 2.798	0.992	0.501 - 1.799	3.006	2.354 - 3.777		
120/ 35	38	3.972	3.137 - 4.948	3.256	2.527 - 4.123	20	2.899	2.114 - 3.872	2.333	1.698 - 3.128	2.872	1.944 - 4.082	2.733	1.816 - 3.947		
120/ 40	51	4.751	3.809 - 5.838	4.038	3.227 - 4.980	27	3.173	2.301 - 4.258	2.504	1.802 - 3.387	3.472	2.471 - 4.727	3.197	2.460 - 4.078		
120/ 45	74	5.578	4.538 - 6.762	4.844	3.989 - 5.813	33	3.504	2.537 - 4.704	2.807	2.027 - 3.784	3.539	2.448 - 4.932	2.790	1.877 - 3.987		
120/ 50	95	6.344	5.230 - 7.599	5.708	4.822 - 6.692	38	3.860	2.817 - 5.145	3.124	2.276 - 4.175	4.142	3.001 - 5.549	3.389	2.519 - 4.453		
120/ 55	135	7.163	6.015 - 8.437	6.365	5.472 - 7.346	45	4.079	2.968 - 5.448	3.375	2.417 - 4.573	4.055	1.279 - 9.472	3.075	2.216 - 4.149		
120/ 60	169	7.866	6.678 - 9.174	7.032	6.116 - 8.029	53	4.214	1.559 - 8.981	3.524	2.445 - 4.899	4.607	1.451 - 10.671	3.828	2.705 - 5.238		
120/ 70	231	8.984	2.371 - 21.185	8.190	7.188 - 9.271	78	4.776	0.463 - 17.886	3.903	2.662 - 5.496	4.939	0.483 - 18.327	3.931	2.927 - 5.151		
120/ 80	298	9.802	8.424 - 11.300	9.057	7.954 - 10.244	105	4.996	3.183 - 7.392	3.875	2.515 - 5.674	5.302	3.351 - 7.883	4.317	3.243 - 5.611		
120/ 90	364	10.309	8.804 - 11.947	9.798	8.598 - 11.088	127	5.218	3.637 - 7.198	4.070	2.599 - 6.032	5.626	3.665 - 8.171	4.766	3.695 - 6.028		
120/ 100	440	10.540	8.917 - 12.316	10.446	9.154 - 11.833	149	5.268	3.867 - 6.968	4.057	2.588 - 6.018	5.754	3.873 - 8.146	5.126	4.055 - 6.369		
120/ 110	517	10.598	8.808 - 12.572	10.969	9.618 - 12.418	170	5.183	3.901 - 6.717	4.046	2.616 - 5.938	5.019	3.085 - 7.629	4.462	3.608 - 5.444		
120/ 120	578	10.607	8.686 - 12.742	11.382	9.987 - 12.875	188	5.149	3.878 - 6.670	4.139	2.967 - 5.595	4.283	3.665 - 4.970	4.736	3.875 - 5.716		
130/ 12	0	1.709	1.162 - 2.431	1.309	0.907 - 1.837	0	1.709	1.162 - 2.431	1.309	0.907 - 1.837	1.709	1.162 - 2.431	1.309	0.907 - 1.837		
130/ 15	3	1.919	1.342 - 2.665	1.397	1.015 - 1.882	2	1.454	0.825 - 2.396	1.109	0.799 - 1.505	0.618	0.196 - 1.579	1.810	1.378 - 2.336		
130/ 20	8	2.260	1.641 - 3.035	1.906	1.391 - 2.551	5	1.978	1.393 - 2.730	1.599	1.140 - 2.185	0.762	0.301 - 1.665	2.306	1.798 - 2.912		
130/ 25	17	2.932	2.222 - 3.792	2.466	1.820 - 3.264	9	2.502	1.808 - 3.372	2.094	1.520 - 2.815	0.939	0.436 - 1.817	2.853	2.235 - 3.586		
130/ 30	34	3.777	2.946 - 4.759	3.026	2.286 - 3.923	18	2.832	2.048 - 3.810	2.289	1.650 - 3.092	0.628	0.202 - 1.587	2.675	1.781 - 3.855		
130/ 35	49	4.660	3.685 - 5.796	3.911	3.060 - 4.914	26	3.189	2.293 - 4.309	2.562	1.844 - 3.465	3.476	2.451 - 4.770	3.164	2.430 - 4.043		
130/ 40	72	5.614	4.511 - 6.879	4.862	3.939 - 5.920	33	3.596	2.570 - 4.881	2.891	2.092 - 3.887	3.643	2.511 - 5.089	2.804	1.916 - 3.956		
130/ 45	96	6.545	5.323 - 7.931	5.822	4.858 - 6.903	40	4.024	2.878 - 5.452	3.213	2.351 - 4.278	4.321	3.155 - 5.752	3.372	2.528 - 4.396		
130/ 50	140	7.459	6.191 - 8.874	6.554	5.586 - 7.622	48	4.331	0.638 - 14.232	3.545	2.575 - 4.746	4.287	1.265 - 10.329	3.100	2.156 - 4.306		
130/ 55	178	8.243	1.912 - 20.716	7.305	6.318 - 8.382	58	4.575	0.364 - 18.366	3.770	2.685 - 5.128	4.844	0.406 - 18.928	3.925	2.834 - 5.276		
130/ 60	210	8.963	7.588 - 10.474	8.057	7.040 - 9.157	72	4.958	2.294 - 9.154	4.065	2.897 - 5.522	4.827	2.256 - 8.868	3.589	2.633 - 4.765		
130/ 70	290	10.026	7.034 - 13.630	9.073	7.964 - 10.266	104	5.336	2.233 - 10.444	4.114	2.799 - 5.800	5.397	2.328 - 10.366	4.141	3.092 - 5.410		
130/ 80	363	10.725	8.358 - 13.422	9.929	8.734 - 11.212	131	5.591	3.108 - 9.108	4.275	2.819 - 6.174	5.928	3.274 - 9.683	4.796	3.721 - 6.062		
130/ 90	450	11.047	3.532 - 23.421	10.638	9.341 - 12.030	156	5.738	0.803 - 18.396	4.339	2.841 - 6.301	6.213	0.935 - 19.159	5.314	4.213 - 6.589		
130/ 100	537	11.110	9.307 - 13.089	11.194	9.826 - 12.658	181	5.652	4.168 - 7.445	4.258	2.839 - 6.098	5.570	3.614 - 8.114	4.736	3.851 - 5.749		
130/ 120	659	10.722	9.295 - 12.262	12.080	10.612 - 13.649	227	5.296	3.931 - 6.941	4.342	3.344 - 5.527	4.918	4.232 - 5.675	5.451	4.534 - 6.482		
130/ 180	888	13.306	11.511 - 15.232	14.215	12.348 - 16.209	380	4.184	3.540 - 4.905	4.325	3.406 - 5.402	4.947	4.258 - 5.707	5.981	5.165 - 6.877		

VVal-79 Thalmann Algorithm; 20 fsw Last In-water Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL						TOTAL						P(DCS)			
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)	P(DCS)		
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)	NMRI98		
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
140/ 10	0	1.662	1.103 - 2.413	1.255	0.853 - 1.791	0	1.662	1.103 - 2.413	1.255	0.853 - 1.791	1.662	1.103 - 2.413	1.255	0.853 - 1.791		
140/ 15	5	2.095	1.435 - 2.958	1.564	1.126 - 2.120	3	1.600	1.100 - 2.257	1.294	0.914 - 1.785	0.699	0.236 - 1.703	1.995	1.532 - 2.555		
140/ 20	13	2.558	1.890 - 3.382	2.175	1.587 - 2.911	7	2.255	1.617 - 3.063	1.847	1.324 - 2.510	0.879	0.369 - 1.829	2.575	2.013 - 3.244		
140/ 25	27	3.398	0.022 - 25.704	2.710	1.997 - 3.591	14	2.689	0.435 - 9.032	2.233	1.605 - 3.026	0.629	0.187 - 1.674	2.519	1.675 - 3.639		
140/ 30	44	4.398	0.396 - 17.130	3.608	2.753 - 4.634	23	3.148	0.682 - 9.087	2.567	1.852 - 3.464	3.330	2.299 - 4.651	3.023	2.265 - 3.946		
140/ 35	67	5.460	4.329 - 6.768	4.613	3.648 - 5.736	32	3.683	2.631 - 4.996	2.925	2.135 - 3.906	3.550	2.474 - 4.918	2.501	1.631 - 3.668		
140/ 40	93	6.506	5.209 - 7.990	5.715	4.679 - 6.891	41	4.196	2.979 - 5.717	3.266	2.415 - 4.309	4.269	3.113 - 5.689	3.154	2.369 - 4.109		
140/ 45	137	7.566	6.196 - 9.108	6.629	5.580 - 7.794	50	4.554	3.198 - 6.253	3.664	2.703 - 4.841	4.279	1.226 - 10.471	3.065	2.110 - 4.295		
140/ 50	180	8.526	7.084 - 10.129	7.486	6.423 - 8.651	61	4.897	1.755 - 10.531	4.009	2.934 - 5.329	4.999	1.587 - 11.459	4.055	2.970 - 5.387		
140/ 55	216	9.335	7.826 - 10.999	8.306	7.219 - 9.485	76	5.299	2.377 - 9.948	4.322	3.155 - 5.753	5.169	2.352 - 9.629	3.791	2.776 - 5.040		
140/ 60	262	9.988	8.442 - 11.682	8.896	7.777 - 10.105	95	5.537	2.859 - 9.483	4.279	3.046 - 5.814	5.184	2.906 - 8.412	3.646	2.670 - 4.846		
140/ 70	344	10.989	9.345 - 12.780	9.925	8.725 - 11.214	128	5.871	3.617 - 8.878	4.416	3.003 - 6.223	5.959	3.666 - 9.017	4.510	3.463 - 5.751		
140/ 80	442	11.447	9.726 - 13.321	10.663	9.366 - 12.053	157	6.125	4.141 - 8.635	4.551	3.049 - 6.488	6.406	4.296 - 9.080	5.191	4.091 - 6.471		
140/ 90	542	11.596	9.768 - 13.593	11.330	9.950 - 12.808	187	6.058	4.351 - 8.144	4.428	2.983 - 6.288	5.954	3.958 - 8.506	4.814	3.915 - 5.841		
150/ 8	0	1.564	1.000 - 2.343	1.166	0.768 - 1.708	0	1.564	1.000 - 2.343	1.166	0.768 - 1.708	1.564	1.000 - 2.343	1.166	0.768 - 1.708		
150/ 10	2	1.754	1.180 - 2.517	1.225	0.839 - 1.736	1	1.439	0.858 - 2.281	0.906	0.646 - 1.243	0.634	0.177 - 1.758	1.616	1.194 - 2.142		
150/ 15	8	2.202	1.492 - 3.134	1.762	1.272 - 2.381	5	1.818	1.270 - 2.525	1.460	1.035 - 2.007	0.784	0.282 - 1.823	2.192	1.694 - 2.790		
150/ 20	17	2.911	2.188 - 3.791	2.407	1.738 - 3.246	9	2.487	1.792 - 3.361	2.047	1.458 - 2.798	1.004	0.448 - 1.992	2.861	2.236 - 3.603		
150/ 25	36	3.911	3.030 - 4.956	3.145	2.331 - 4.143	18	2.989	2.154 - 4.033	2.494	1.797 - 3.370	3.037	2.025 - 4.367	2.788	1.943 - 3.871		
150/ 30	56	5.071	3.968 - 6.361	4.217	3.243 - 5.375	30	3.618	2.596 - 4.894	2.834	2.064 - 3.793	3.772	2.760 - 5.018	3.149	2.453 - 3.974		
150/ 35	87	6.299	4.989 - 7.811	5.407	4.329 - 6.648	40	4.192	2.954 - 5.746	3.305	2.444 - 4.360	4.018	2.874 - 5.443	2.907	2.159 - 3.825		
150/ 40	128	7.488	6.030 - 9.146	6.475	5.351 - 7.737	50	4.693	3.260 - 6.499	3.686	2.747 - 4.829	4.194	1.180 - 10.376	2.858	2.009 - 3.938		
150/ 45	177	8.588	4.145 - 15.060	7.433	6.293 - 8.691	63	5.032	1.055 - 14.037	4.004	2.953 - 5.288	5.061	0.968 - 14.669	3.954	2.889 - 5.265		
150/ 50	216	9.525	7.886 - 11.345	8.399	7.237 - 9.665	78	5.479	2.323 - 10.626	4.403	3.248 - 5.809	5.339	2.310 - 10.241	3.838	2.785 - 5.140		
150/ 55	268	10.311	8.626 - 12.166	9.074	7.888 - 10.359	99	5.791	2.876 - 10.157	4.399	3.172 - 5.913	5.487	2.997 - 9.051	3.797	2.795 - 5.025		
150/ 60	313	10.951	9.206 - 12.863	9.702	8.480 - 11.019	118	6.057	3.377 - 9.821	4.533	3.206 - 6.190	6.347	3.708 - 9.952	4.818	3.631 - 6.240		
150/ 70	410	11.765	9.941 - 13.752	10.602	9.322 - 11.974	151	6.526	4.094 - 9.717	4.817	3.345 - 6.672	6.356	4.034 - 9.390	4.798	3.744 - 6.036		
150/ 80	529	12.017	10.140 - 14.064	11.334	9.949 - 12.818	186	6.453	4.476 - 8.911	4.661	3.146 - 6.604	6.948	4.748 - 9.695	5.504	4.462 - 6.694		
150/ 90	617	12.152	10.173 - 14.316	11.967	10.520 - 13.513	216	6.376	4.601 - 8.536	4.641	3.271 - 6.354	6.483	4.378 - 9.140	5.342	4.409 - 6.397		
150/ 120	801	12.736	11.122 - 14.463	13.327	11.664 - 15.101	323	5.291	3.821 - 7.093	4.541	3.651 - 5.567	4.990	4.287 - 5.766	5.392	4.615 - 6.251		
150/ 180	1025	16.356	14.162 - 18.690	16.133	13.946 - 18.463	490	5.270	4.468 - 6.162	5.022	3.890 - 6.354	5.341	4.570 - 6.192	6.325	5.377 - 7.373		
160/ 7	0	1.579	0.994 - 2.394	1.159	0.756 - 1.711	0	1.579	0.994 - 2.394	1.159	0.756 - 1.711	1.579	0.994 - 2.394	1.159	0.756 - 1.711		

VVal-79 Thalmann Algorithm; 20 fsw Last In-water Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL			P(DCS)			TOTAL			P(DCS)			P(DCS)		P(DCS)	
	STOP	P(DCS)		P(DCS)			STOP	P(DCS)		P(DCS)			P(DCS)		P(DCS)	
	TIME	BVM(3)		NMRI98			TIME	BVM(3)		NMRI98			BVM(3)		NMRI98	
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
160/ 10	4	1.854	1.236 - 2.679	1.284	0.921 - 1.749		2	1.397	0.731 - 2.453	1.024	0.738 - 1.391		0.682	0.000 - 31.524	1.741	1.300 - 2.287
160/ 15	12	2.334	1.694 - 3.135	1.904	1.384 - 2.558		7	1.986	1.393 - 2.749	1.574	1.119 - 2.157		0.871	0.331 - 1.946	2.399	1.862 - 3.042
160/ 20	24	3.278	2.474 - 4.250	2.626	1.910 - 3.517		13	2.731	1.974 - 3.679	2.265	1.642 - 3.048		1.096	0.545 - 2.009	3.034	2.356 - 3.840
160/ 25	46	4.481	3.475 - 5.667	3.591	2.671 - 4.713		25	3.395	2.451 - 4.570	2.680	1.934 - 3.614		3.369	2.410 - 4.569	2.778	2.094 - 3.610
160/ 30	77	5.833	4.576 - 7.294	4.827	3.815 - 6.004		38	4.024	2.840 - 5.512	3.074	2.296 - 4.024		3.643	2.542 - 5.039	2.515	1.697 - 3.588
160/ 35	107	7.138	5.495 - 9.056	6.211	5.022 - 7.565		48	4.683	3.114 - 6.714	3.611	2.700 - 4.719		4.642	0.052 - 28.717	3.546	2.656 - 4.626
160/ 40	167	8.466	6.764 - 10.400	7.234	6.028 - 8.579		61	5.106	1.426 - 12.467	4.017	2.989 - 5.264		4.968	1.429 - 11.985	3.703	2.672 - 4.984
160/ 45	212	9.549	7.802 - 11.502	8.276	7.043 - 9.630		77	5.541	2.168 - 11.255	4.362	3.225 - 5.746		5.338	2.163 - 10.648	3.686	2.641 - 4.990
160/ 50	264	10.478	8.650 - 12.504	9.118	7.863 - 10.481		99	5.971	2.798 - 10.851	4.477	3.266 - 5.962		5.608	2.941 - 9.501	3.746	2.737 - 4.989
160/ 55	316	11.202	9.320 - 13.274	9.800	8.516 - 11.189		121	6.283	3.358 - 10.472	4.628	3.316 - 6.250		6.569	3.717 - 10.522	4.889	3.674 - 6.346
160/ 60	368	11.776	9.844 - 13.893	10.340	9.034 - 11.746		140	6.535	3.796 - 10.280	4.768	3.354 - 6.537		6.793	3.632 - 11.288	4.990	3.879 - 6.295
160/ 70	492	12.359	10.378 - 14.521	11.198	9.821 - 12.674		178	6.854	4.451 - 9.941	4.873	3.360 - 6.786		6.833	4.527 - 9.765	5.001	4.008 - 6.146
160/ 80	602	12.571	10.519 - 14.813	11.943	10.485 - 13.501		213	6.802	4.709 - 9.398	4.799	3.331 - 6.647		6.589	4.445 - 9.292	5.077	4.164 - 6.113
170/ 6	0	1.560	0.963 - 2.404	1.132	0.727 - 1.694		0	1.560	0.963 - 2.404	1.132	0.727 - 1.694		1.560	0.963 - 2.404	1.132	0.727 - 1.694
170/ 10	6	1.952	1.265 - 2.886	1.396	1.030 - 1.856		3	1.394	0.928 - 2.022	1.145	0.836 - 1.535		0.735	0.105 - 2.960	1.872	1.409 - 2.441
170/ 15	16	2.572	1.884 - 3.427	2.092	1.532 - 2.791		8	2.197	1.563 - 3.004	1.799	1.300 - 2.429		0.967	0.388 - 2.075	2.617	2.034 - 3.313
170/ 20	33	3.670	2.808 - 4.702	2.888	2.144 - 3.802		18	3.011	2.187 - 4.035	2.434	1.803 - 3.214		2.890	1.965 - 4.091	2.426	1.542 - 3.634
170/ 25	56	5.101	0.459 - 19.302	4.164	3.164 - 5.361		32	3.762	0.128 - 19.866	2.885	2.121 - 3.828		3.668	0.119 - 19.739	3.062	2.380 - 3.872
170/ 30	96	6.620	5.194 - 8.272	5.534	4.350 - 6.910		45	4.508	3.129 - 6.248	3.455	2.560 - 4.549		4.237	1.320 - 9.935	2.971	2.280 - 3.800
170/ 35	149	8.093	6.457 - 9.956	6.799	5.621 - 8.121		59	5.040	0.951 - 14.695	3.814	2.882 - 4.937		4.685	1.344 - 11.374	3.192	2.270 - 4.353
170/ 40	202	9.396	7.595 - 11.422	7.989	6.692 - 9.428		75	5.571	2.017 - 11.811	4.276	3.176 - 5.611		5.196	2.019 - 10.637	3.366	2.440 - 4.516
170/ 45	253	10.486	8.557 - 12.637	9.036	7.713 - 10.483		95	6.105	2.624 - 11.677	4.570	3.381 - 6.015		6.335	2.744 - 12.038	4.708	3.500 - 6.167
170/ 50	312	11.340	8.821 - 14.205	9.776	8.431 - 11.236		120	6.427	2.987 - 11.698	4.643	3.351 - 6.235		6.643	3.327 - 11.526	4.784	3.556 - 6.267
170/ 55	368	12.026	9.719 - 14.593	10.402	9.023 - 11.891		142	6.806	3.643 - 11.300	4.881	3.489 - 6.601		6.994	3.911 - 11.271	4.981	3.864 - 6.294
170/ 60	432	12.471	10.133 - 15.061	10.877	9.520 - 12.333		162	7.107	4.036 - 11.327	5.034	3.574 - 6.845		7.110	4.343 - 10.772	5.140	4.033 - 6.433
170/ 70	568	12.887	10.513 - 15.509	11.760	10.300 - 13.324		204	7.139	4.462 - 10.639	4.873	3.388 - 6.741		7.187	4.716 - 10.335	5.236	4.256 - 6.354
170/ 80	666	13.110	5.500 - 24.090	12.518	10.993 - 14.145		243	6.921	1.556 - 18.029	4.789	3.511 - 6.346		6.971	1.683 - 17.609	5.469	4.525 - 6.532
170/ 90	749	13.512	11.233 - 16.001	13.038	11.438 - 14.745		290	6.592	4.694 - 8.915	4.794	3.851 - 5.881		6.569	4.396 - 9.321	5.625	4.737 - 6.615
170/ 120	925	15.078	13.120 - 17.164	14.927	12.989 - 16.994		416	5.372	4.482 - 6.372	4.881	3.939 - 5.962		5.985	5.167 - 6.883	6.416	5.579 - 7.328
170/ 180	1156	19.122	16.456 - 21.944	18.088	15.638 - 20.685		600	6.636	5.644 - 7.731	5.922	4.503 - 7.602		5.981	5.103 - 6.951	6.755	5.479 - 8.203
180/ 6	0	1.717	1.079 - 2.605	1.223	0.801 - 1.801		0	1.717	1.079 - 2.605	1.223	0.801 - 1.801		1.717	1.079 - 2.605	1.223	0.801 - 1.801
180/ 10	8	2.062	1.291 - 3.131	1.534	1.090 - 2.102		4	1.573	1.061 - 2.254	1.277	0.901 - 1.763		0.793	0.249 - 2.018	2.010	1.525 - 2.602

VVal-79 Thalmann Algorithm; 20 fsw Last In-water Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL						TOTAL						P(DCS)			
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)	P(DCS)		
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)	NMRI98		
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
180/ 15	19	2.810	2.060 - 3.741	2.287	1.645 - 3.096	11	2.471	1.780 - 3.341	2.007	1.449 - 2.712	0.995	0.475 - 1.884	2.631	2.034 - 3.347		
180/ 20	42	4.137	0.000 - 100.00	3.244	2.431 - 4.232	24	3.283	0.000 - 100.00	2.569	1.907 - 3.384	3.092	2.147 - 4.302	2.565	1.776 - 3.583		
180/ 25	75	5.782	4.495 - 7.287	4.698	3.720 - 5.835	39	4.096	2.877 - 5.630	3.083	2.361 - 3.949	3.614	2.500 - 5.034	2.431	1.567 - 3.600		
180/ 30	117	7.410	2.030 - 17.591	6.258	5.089 - 7.585	53	4.920	0.571 - 17.277	3.670	2.819 - 4.687	4.885	0.558 - 17.263	3.613	2.782 - 4.604		
180/ 35	184	8.985	7.189 - 11.019	7.485	6.187 - 8.938	70	5.417	1.689 - 12.453	4.047	3.015 - 5.299	5.438	1.594 - 12.894	3.996	2.961 - 5.257		
180/ 40	232	10.287	2.984 - 22.927	8.779	7.404 - 10.295	88	6.103	0.810 - 19.714	4.656	3.485 - 6.067	6.067	0.729 - 20.280	4.239	3.069 - 5.683		
180/ 45	302	11.339	9.223 - 13.693	9.609	8.199 - 11.148	116	6.529	3.110 - 11.698	4.642	3.383 - 6.183	6.560	3.402 - 11.137	4.497	3.322 - 5.926		
180/ 50	356	12.169	9.927 - 14.651	10.437	9.001 - 11.993	140	6.892	3.648 - 11.521	4.843	3.472 - 6.536	7.015	3.878 - 11.389	4.812	3.711 - 6.113		
180/ 55	425	12.735	10.445 - 15.260	10.938	9.539 - 12.443	162	7.337	4.142 - 11.727	5.113	3.667 - 6.894	7.271	4.492 - 10.922	5.086	3.980 - 6.381		
180/ 60	507	13.021	1.234 - 38.847	11.369	9.925 - 12.919	186	7.392	0.030 - 43.370	5.022	3.521 - 6.899	7.483	0.034 - 43.125	5.181	4.132 - 6.393		
180/ 70	633	13.399	10.856 - 16.212	12.294	10.765 - 13.929	229	7.433	4.705 - 10.967	5.009	3.544 - 6.831	7.571	5.028 - 10.780	5.590	4.594 - 6.718		
190/ 5	0	1.637	0.994 - 2.555	1.167	0.751 - 1.742	0	1.637	0.994 - 2.555	1.167	0.751 - 1.742	1.637	0.994 - 2.555	1.167	0.751 - 1.742		
190/ 10	10	2.110	0.058 - 13.539	1.632	1.163 - 2.230	5	1.690	1.151 - 2.400	1.358	0.961 - 1.870	0.851	0.280 - 2.098	2.155	1.643 - 2.775		
190/ 15	23	3.032	2.206 - 4.059	2.504	1.815 - 3.366	14	2.669	1.938 - 3.581	2.203	1.614 - 2.936	0.995	0.549 - 1.685	2.775	2.126 - 3.555		
190/ 20	50	4.596	3.552 - 5.830	3.697	2.761 - 4.835	30	3.496	2.508 - 4.730	2.712	1.988 - 3.611	3.280	1.690 - 5.717	2.762	2.091 - 3.576		
190/ 25	94	6.497	5.062 - 8.166	5.276	4.120 - 6.627	46	4.517	3.120 - 6.287	3.362	2.522 - 4.381	4.154	2.935 - 5.682	2.776	2.073 - 3.636		
190/ 30	154	8.289	6.547 - 10.282	6.805	5.630 - 8.122	64	5.235	1.104 - 14.500	3.795	2.919 - 4.840	4.874	1.438 - 11.628	3.184	2.324 - 4.248		
190/ 35	214	9.842	7.852 - 12.092	8.217	6.942 - 9.624	81	5.880	2.114 - 12.467	4.376	3.325 - 5.631	5.610	2.121 - 11.608	3.609	2.645 - 4.795		
190/ 40	281	11.118	8.959 - 13.533	9.300	7.877 - 10.862	109	6.437	2.826 - 12.127	4.496	3.297 - 5.961	6.232	3.085 - 10.922	3.987	2.926 - 5.288		
190/ 45	342	12.140	7.265 - 18.345	10.237	8.744 - 11.863	135	6.981	2.655 - 14.187	4.825	3.495 - 6.459	6.862	2.501 - 14.282	4.443	3.394 - 5.692		
190/ 50	413	12.859	10.428 - 15.551	10.855	9.400 - 12.426	160	7.449	3.998 - 12.305	5.053	3.642 - 6.788	7.254	4.338 - 11.150	4.846	3.763 - 6.121		
190/ 55	498	13.260	10.798 - 15.979	11.363	9.893 - 12.943	185	7.631	4.407 - 11.999	5.109	3.622 - 6.955	7.587	4.700 - 11.364	5.067	4.024 - 6.277		
190/ 60	574	13.541	11.041 - 16.296	11.898	10.374 - 13.532	209	7.719	4.650 - 11.785	5.074	3.582 - 6.930	7.753	5.166 - 11.005	5.326	4.303 - 6.496		
190/ 90	859	15.440	12.729 - 18.393	14.281	12.480 - 16.200	369	6.691	4.627 - 9.255	4.949	4.074 - 5.941	5.975	5.110 - 6.929	5.831	5.022 - 6.719		
190/ 120	1037	17.730	15.371 - 20.229	16.485	14.260 - 18.853	507	6.407	5.316 - 7.631	5.449	4.347 - 6.719	6.242	5.322 - 7.258	6.390	5.479 - 7.392		
200/ 5	0	1.776	0.000 - 41.845	1.250	0.815 - 1.846	0	1.776	0.000 - 41.845	1.250	0.815 - 1.846	1.776	0.000 - 41.845	1.250	0.815 - 1.846		
200/ 10	11	2.266	1.598 - 3.121	1.789	1.298 - 2.407	6	1.839	1.270 - 2.579	1.512	1.087 - 2.053	0.916	0.317 - 2.178	2.306	1.765 - 2.959		
200/ 15	29	3.272	2.457 - 4.261	2.708	1.985 - 3.604	17	2.811	2.043 - 3.769	2.373	1.758 - 3.132	1.042	0.594 - 1.718	2.976	2.257 - 3.846		
200/ 20	62	5.200	1.370 - 13.034	4.188	3.241 - 5.308	36	3.831	0.558 - 12.865	2.894	2.204 - 3.728	3.716	0.492 - 13.000	3.056	2.328 - 3.934		
200/ 25	110	7.215	5.600 - 9.090	5.971	4.832 - 7.269	54	4.876	3.322 - 6.852	3.509	2.727 - 4.438	4.738	3.372 - 6.434	3.298	2.545 - 4.197		
200/ 30	186	9.105	7.210 - 11.264	7.441	6.168 - 8.865	74	5.551	1.723 - 12.768	3.982	3.026 - 5.128	5.568	1.658 - 13.075	3.939	2.979 - 5.094		
200/ 35	247	10.673	8.490 - 13.134	8.874	7.447 - 10.450	96	6.326	2.514 - 12.630	4.574	3.426 - 5.956	6.459	2.560 - 12.901	4.441	3.296 - 5.830		

VVal-79 Thalmann Algorithm; 20 fsw Last In-water Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂			
	TOTAL						TOTAL						P(DCS)			
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)	P(DCS)		
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)	NMRI98		
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high
200/ 40	323	11.914	9.549 - 14.558	9.855	8.395 - 11.449	128	6.875	3.240 - 12.368	4.601	3.360 - 6.119	6.511	3.332 - 11.151	3.923	2.947 - 5.103		
200/ 45	393	12.830	10.307 - 15.637	10.666	9.146 - 12.316	154	7.455	3.849 - 12.625	5.026	3.642 - 6.721	7.881	3.794 - 13.904	5.425	4.246 - 6.801		
200/ 50	481	13.403	5.578 - 24.677	11.236	9.742 - 12.846	182	7.773	2.034 - 18.725	5.062	3.610 - 6.859	7.539	1.728 - 19.271	4.779	3.766 - 5.960		
210/ 4	0	1.643	0.999 - 2.563	1.164	0.744 - 1.747	0	1.643	0.999 - 2.563	1.164	0.744 - 1.747	1.643	0.999 - 2.563	1.164	0.744 - 1.747		
210/ 5	2	1.740	1.093 - 2.640	1.165	0.759 - 1.722	1	1.363	0.739 - 2.328	0.842	0.597 - 1.159	0.735	0.198 - 2.071	1.561	1.120 - 2.122		
210/ 10	14	2.288	0.003 - 25.955	1.900	1.380 - 2.554	8	1.998	0.001 - 27.784	1.690	1.227 - 2.274	0.935	0.385 - 1.971	2.258	1.730 - 2.897		
210/ 15	37	3.678	0.121 - 19.700	2.967	2.206 - 3.901	22	3.037	0.051 - 19.951	2.485	1.861 - 3.251	2.766	0.037 - 19.589	2.396	1.518 - 3.599		
210/ 20	79	5.746	1.069 - 16.562	4.664	3.692 - 5.795	42	4.096	0.313 - 17.036	3.105	2.410 - 3.932	4.124	0.318 - 17.065	3.420	2.614 - 4.387		
210/ 25	139	7.962	4.944 - 11.889	6.517	5.395 - 7.776	63	5.176	2.356 - 9.637	3.664	2.869 - 4.601	4.640	1.024 - 12.776	2.848	2.134 - 3.721		
210/ 30	214	9.897	7.285 - 12.972	8.094	6.818 - 9.505	83	5.928	1.892 - 13.367	4.246	3.245 - 5.440	5.656	1.884 - 12.523	3.490	2.584 - 4.598		
210/ 35	292	11.445	9.035 - 14.164	9.354	7.945 - 10.899	115	6.723	2.870 - 12.841	4.524	3.376 - 5.912	6.569	3.147 - 11.725	4.112	3.066 - 5.380		
210/ 40	362	12.649	10.003 - 15.616	10.406	8.857 - 12.096	146	7.342	3.570 - 12.920	4.813	3.502 - 6.417	7.452	3.853 - 12.610	4.784	3.689 - 6.078		
210/ 45	452	13.430	10.655 - 16.528	11.041	9.522 - 12.684	174	7.896	4.133 - 13.225	5.088	3.667 - 6.835	8.067	4.696 - 12.593	5.378	4.219 - 6.730		
210/ 50	549	13.887	11.101 - 16.981	11.663	10.105 - 13.340	204	8.066	4.516 - 12.922	5.082	3.615 - 6.899	7.737	4.921 - 11.366	4.826	3.848 - 5.957		
220/ 4	0	1.764	1.091 - 2.712	1.241	0.805 - 1.839	0	1.764	1.091 - 2.712	1.241	0.805 - 1.839	1.764	1.091 - 2.712	1.241	0.805 - 1.839		
220/ 5	3	1.782	1.121 - 2.700	1.203	0.809 - 1.733	2	1.124	0.466 - 2.346	0.911	0.654 - 1.241	0.753	0.202 - 2.119	1.640	1.187 - 2.213		
220/ 10	17	2.357	0.847 - 5.266	2.048	1.510 - 2.716	10	2.136	1.509 - 2.939	1.833	1.350 - 2.434	0.966	0.441 - 1.888	2.372	1.825 - 3.030		
220/ 15	44	3.981	2.936 - 5.259	3.312	2.447 - 4.373	27	3.119	2.115 - 4.423	2.606	1.929 - 3.441	2.819	1.485 - 4.855	2.562	1.807 - 3.526		
220/ 20	95	6.451	4.995 - 8.153	5.194	4.103 - 6.461	48	4.523	3.117 - 6.306	3.350	2.593 - 4.252	4.120	2.889 - 5.671	2.706	1.925 - 3.695		
220/ 25	171	8.745	6.865 - 10.900	7.029	5.808 - 8.399	72	5.480	1.479 - 13.515	3.815	2.951 - 4.841	5.272	1.554 - 12.498	3.447	2.594 - 4.480		
220/ 30	243	10.674	7.770 - 14.097	8.722	7.348 - 10.236	96	6.365	2.196 - 13.716	4.469	3.401 - 5.744	6.436	2.220 - 13.858	4.244	3.181 - 5.526		
220/ 35	329	12.179	9.527 - 15.174	9.884	8.425 - 11.477	132	7.140	3.213 - 13.181	4.655	3.445 - 6.125	6.776	3.335 - 11.874	3.980	3.002 - 5.157		
220/ 40	412	13.269	10.500 - 16.366	10.761	9.257 - 12.390	163	7.831	3.899 - 13.538	4.974	3.636 - 6.607	7.565	4.286 - 12.051	4.691	3.626 - 5.949		
250/ 5	7	2.041	1.266 - 3.123	1.424	1.014 - 1.949	4	1.377	0.889 - 2.048	1.156	0.813 - 1.603	0.830	0.238 - 2.238	1.901	1.410 - 2.511		
250/ 10	26	2.906	0.250 - 12.375	2.569	1.869 - 3.443	17	2.614	0.159 - 12.745	2.297	1.703 - 3.029	0.769	0.000 - 52.047	2.770	2.071 - 3.625		
250/ 15	77	5.423	4.229 - 6.821	4.526	3.539 - 5.684	43	3.862	2.724 - 5.294	3.050	2.365 - 3.867	3.843	2.765 - 5.181	3.298	2.487 - 4.281		
250/ 20	162	8.316	6.555 - 10.333	6.761	5.591 - 8.074	71	5.268	1.175 - 14.231	3.748	2.942 - 4.696	4.904	1.472 - 11.590	3.146	2.377 - 4.077		
250/ 25	253	10.811	8.524 - 13.402	8.761	7.385 - 10.277	101	6.456	2.480 - 13.120	4.475	3.432 - 5.713	6.586	2.520 - 13.393	4.350	3.317 - 5.583		
250/ 30	353	12.647	9.938 - 15.695	10.182	8.664 - 11.839	145	7.413	3.490 - 13.297	4.707	3.460 - 6.224	7.345	3.710 - 12.619	4.434	3.380 - 5.690		
250/ 35	467	13.945	10.855 - 17.416	11.050	9.526 - 12.699	183	8.323	4.148 - 14.341	5.002	3.610 - 6.712	8.614	4.829 - 13.757	5.480	4.299 - 6.857		
300/ 5	14	2.173	1.468 - 3.102	1.868	1.358 - 2.509	9	1.903	1.307 - 2.682	1.652	1.205 - 2.214	0.953	0.395 - 2.001	2.180	1.660 - 2.811		
300/ 10	56	4.431	2.337 - 7.533	3.902	2.943 - 5.058	36	3.264	1.334 - 6.635	2.807	2.123 - 3.638	3.073	1.163 - 6.572	2.855	2.099 - 3.789		

VVal-79 Thalmann Algorithm; 20 fsw Last In-water Stop

Depth (fsw) /BT(min)	AIR						AIR/In-Water O ₂						AIR/SurDO ₂				
	TOTAL						TOTAL										
	STOP	P(DCS)	P(DCS)		P(DCS)		STOP	P(DCS)	P(DCS)		P(DCS)		P(DCS)	P(DCS)			
	TIME	BVM(3)	NMRI98		NMRI98		TIME	BVM(3)	NMRI98		NMRI98		BVM(3)	NMRI98			
	(min)	(%)	low - high	(%)	low - high		(min)	(%)	low - high	(%)	low - high		(%)	low - high	(%)	low - high	
300/ 15	165	8.049	6.445 - 9.873	6.771	5.562 - 8.133	74	5.013	1.202 - 13.181	3.755	2.933 - 4.723	4.655	1.474 - 10.744	3.149	2.370 - 4.095			
300/ 20	294	11.242	8.984 - 13.778	9.189	7.775 - 10.742	120	6.563	2.827 - 12.486	4.410	3.288 - 5.768	6.350	3.073 - 11.280	3.919	2.885 - 5.185			
300/ 25	427	13.463	10.590 - 16.681	10.744	9.237 - 12.378	174	8.002	3.942 - 13.909	4.931	3.553 - 6.627	7.795	4.379 - 12.478	4.762	3.638 - 6.099			