

# Trimix Best-Mix (END 80 ft.) Fill Pressures

Best Mix Defined as  $ppO_2 = 1.4$  ATA, END = 80 fsw

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## Desired Ending Cylinder Pressure

			2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700	3800	3900	4000
130ft	Oxygen	28% Psi O <sub>2</sub>	330	344	358	372	385	399	413	427	441	454	468	482	496	510	523	537	551
	Helium	17% Psi He	405	422	439	456	472	489	506	523	540	557	574	591	608	624	641	658	675
140ft	Oxygen	27% Psi O <sub>2</sub>	311	324	337	350	363	376	389	402	415	428	441	454	467	480	493	506	519
	Helium	22% Psi He	520	542	564	585	607	629	650	672	694	715	737	759	780	802	824	846	867
150ft	Oxygen	25% Psi O <sub>2</sub>	294	306	319	331	343	356	368	380	392	405	417	429	442	454	466	478	491
	Helium	26% Psi He	623	649	675	701	727	753	779	805	831	857	883	909	935	960	986	1012	1038
160ft	Oxygen	24% Psi O <sub>2</sub>	279	291	302	314	325	337	349	360	372	384	395	407	419	430	442	454	465
	Helium	30% Psi He	715	745	775	804	834	864	894	924	953	983	1013	1043	1073	1102	1132	1162	1192
170ft	Oxygen	23% Psi O <sub>2</sub>	265	276	287	298	309	321	332	343	354	365	376	387	398	409	420	431	442
	Helium	33% Psi He	798	831	864	898	931	964	997	1031	1064	1097	1131	1164	1197	1230	1264	1297	1330
180ft	Oxygen	22% Psi O <sub>2</sub>	253	263	274	284	295	305	316	327	337	348	358	369	379	390	400	411	421
	Helium	36% Psi He	873	909	946	982	1019	1055	1091	1128	1164	1201	1237	1273	1310	1346	1383	1419	1455
190ft	Oxygen	21% Psi O <sub>2</sub>	241	251	261	272	282	292	302	312	322	332	342	352	362	372	382	392	403
	Helium	39% Psi He	942	981	1020	1059	1099	1138	1177	1216	1256	1295	1334	1373	1413	1452	1491	1530	1570
200ft	Oxygen	20% Psi O <sub>2</sub>	231	241	250	260	270	279	289	298	308	318	327	337	347	356	366	376	385
	Helium	42% Psi He	1004	1046	1088	1130	1172	1213	1255	1297	1339	1381	1423	1465	1506	1548	1590	1632	1674
210ft	Oxygen	19% Psi O <sub>2</sub>	221	231	240	249	258	268	277	286	295	305	314	323	332	342	351	360	369
	Helium	44% Psi He	1062	1106	1150	1194	1239	1283	1327	1371	1416	1460	1504	1548	1593	1637	1681	1725	1770
220ft	Oxygen	18% Psi O <sub>2</sub>	213	222	230	239	248	257	266	275	284	293	301	310	319	328	337	346	355
	Helium	46% Psi He	1114	1161	1207	1254	1300	1347	1393	1440	1486	1533	1579	1625	1672	1718	1765	1811	1858
230ft	Oxygen	18% Psi O <sub>2</sub>	205	213	222	230	239	247	256	264	273	281	290	299	307	316	324	333	341
	Helium	48% Psi He	1163	1212	1260	1309	1357	1406	1454	1503	1551	1600	1648	1697	1745	1794	1842	1891	1939
240ft	Oxygen	17% Psi O <sub>2</sub>	197	205	214	222	230	238	246	255	263	271	279	288	296	304	312	321	329
	Helium	50% Psi He	1209	1259	1309	1360	1410	1460	1511	1561	1612	1662	1712	1763	1813	1863	1914	1964	2015
250ft	Oxygen	16% Psi O <sub>2</sub>	190	198	206	214	222	230	238	246	254	262	269	277	285	293	301	309	317
	Helium	52% Psi He	1251	1303	1355	1407	1459	1511	1563	1616	1668	1720	1772	1824	1876	1928	1980	2033	2085
260ft	Oxygen	16% Psi O <sub>2</sub>	184	191	199	207	214	222	230	237	245	253	260	268	276	283	291	299	306
	Helium	54% Psi He	1290	1344	1397	1451	1505	1559	1612	1666	1720	1774	1827	1881	1935	1989	2043	2096	2150
270ft	Oxygen	15% Psi O <sub>2</sub>	177	185	192	200	207	215	222	229	237	244	252	259	266	274	281	289	296
	Helium	55% Psi He	1326	1382	1437	1492	1548	1603	1658	1714	1769	1824	1879	1935	1990	2045	2101	2156	2211
280ft	Oxygen	15% Psi O <sub>2</sub>	172	179	186	193	201	208	215	222	229	236	244	251	258	265	272	279	287
	Helium	57% Psi He	1361	1417	1474	1531	1588	1644	1701	1758	1815	1871	1928	1985	2041	2098	2155	2212	2268
290ft	Oxygen	14% Psi O <sub>2</sub>	166	173	180	187	194	201	208	215	222	229	236	243	250	257	264	271	278
	Helium	58% Psi He	1393	1451	1509	1567	1625	1683	1741	1799	1857	1915	1974	2032	2090	2148	2206	2264	2322
300ft	Oxygen	14% Psi O <sub>2</sub>	161	168	175	182	188	195	202	209	215	222	229	236	242	249	256	263	269
	Helium	59% Psi He	1423	1482	1542	1601	1660	1720	1779	1838	1898	1957	2016	2076	2135	2194	2254	2313	2372
310ft	Oxygen	13% Psi O <sub>2</sub>	157	163	170	176	183	189	196	203	209	216	222	229	235	242	248	255	262
	Helium	61% Psi He	1452	1512	1573	1633	1694	1754	1815	1875	1936	1996	2057	2117	2178	2238	2299	2359	2420
320ft	Oxygen	13% Psi O <sub>2</sub>	152	159	165	171	178	184	190	197	203	210	216	222	229	235	241	248	254
	Helium	62% Psi He	1478	1540	1602	1663	1725	1787	1848	1910	1971	2033	2095	2156	2218	2280	2341	2403	2464
330ft	Oxygen	13% Psi O <sub>2</sub>	148	154	160	167	173	179	185	191	198	204	210	216	222	229	235	241	247
	Helium	63% Psi He	1504	1567	1629	1692	1755	1817	1880	1943	2005	2068	2131	2193	2256	2319	2381	2444	2507
340ft	Oxygen	12% Psi O <sub>2</sub>	144	150	156	162	168	174	180	186	192	198	204	210	216	222	228	234	240
	Helium	64% Psi He	1528	1592	1655	1719	1783	1846	1910	1974	2037	2101	2165	2228	2292	2356	2419	2483	2547
350ft	Oxygen	12% Psi O <sub>2</sub>	140	146	152	158	164	170	176	181	187	193	199	205	211	217	222	228	234
	Helium	65% Psi He	1551	1615	1680	1744	1809	1874	1938	2003	2068	2132	2197	2262	2326	2391	2455	2520	2585

Cut out, laminate and hang above fill station for a quick reference guide.

DEPTH

The above chart provides the amount of helium and oxygen to add (in psi) to an empty scuba cylinder to create the best-mix for a given depth. The above listed mixtures yield a  $ppO_2$  of 1.4 ATA and an END of 80 fsw.

To use the chart, first, locate on the left, the maximum planned depth. Next, locate the desired ending fill pressure of the cylinder at the top of the chart. The intersecting point between the two will designate the amount of helium and oxygen to use to create the best-mix for the planned depth.

### Partial Pressure Blending Instructions:

1. Empty scuba cylinder of any previous gas.
2. Locate and add the required psi of helium from the bank cylinders into the scuba cylinder.
3. Allow ample time for the scuba cylinder to cool to room temperature. After cooling, adjust helium back to desired psi.
4. Allow cylinder to cool. Add the required psi of oxygen on top of the helium. Cool and adjust oxygen to desired psi.
5. Allow cylinder to cool. Top the scuba cylinder to the ending pressure with filtered air from a scuba compressor.
6. Allow cylinder to cool and adjust ending pressure.

**WARNING: Gas blending should be conducted by a certified blending technician only.**

# Trimix Best-Mix (END 130 ft.) Fill Pressures

Best Mix Defined as  $ppO_2 = 1.4$  ATA, END = 130 fsw

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## Desired Ending Cylinder Pressure

			2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700	3800	3900	4000
150ft	Oxygen	25% Psi O <sub>2</sub>	156	163	170	176	183	189	196	202	209	215	222	228	235	242	248	255	261
	Helium	4% Psi He	105	109	114	118	122	127	131	136	140	144	149	153	157	162	166	171	175
160ft	Oxygen	24% Psi O <sub>2</sub>	148	155	161	167	173	179	186	192	198	204	210	217	223	229	235	241	248
	Helium	9% Psi He	224	233	242	252	261	270	280	289	298	308	317	326	336	345	354	364	373
170ft	Oxygen	22% Psi O <sub>2</sub>	141	147	153	159	165	171	176	182	188	194	200	206	212	218	224	229	235
	Helium	13% Psi He	331	345	359	372	386	400	414	428	441	455	469	483	497	510	524	538	552
180ft	Oxygen	22% Psi O <sub>2</sub>	134	140	146	151	157	162	168	174	179	185	191	196	202	207	213	219	224
	Helium	18% Psi He	428	446	464	482	499	517	535	553	571	589	607	624	642	660	678	696	714
190ft	Oxygen	21% Psi O <sub>2</sub>	128	134	139	144	150	155	161	166	171	177	182	187	193	198	203	209	214
	Helium	22% Psi He	516	538	559	581	603	624	646	667	689	710	732	753	775	796	818	839	861
200ft	Oxygen	20% Psi O <sub>2</sub>	123	128	133	138	143	148	154	159	164	169	174	179	184	190	195	200	205
	Helium	25% Psi He	597	622	647	672	697	722	747	772	796	821	846	871	896	921	946	971	996
210ft	Oxygen	19% Psi O <sub>2</sub>	118	123	128	133	137	142	147	152	157	162	167	172	177	182	187	192	197
	Helium	28% Psi He	671	699	727	755	783	811	839	867	895	923	951	979	1007	1035	1063	1091	1119
220ft	Oxygen	18% Psi O <sub>2</sub>	113	118	123	127	132	137	141	146	151	156	160	165	170	175	179	184	189
	Helium	31% Psi He	740	771	801	832	863	894	925	956	986	1017	1048	1079	1110	1141	1171	1202	1233
230ft	Oxygen	18% Psi O <sub>2</sub>	109	113	118	122	127	131	136	141	145	150	154	159	163	168	172	177	182
	Helium	33% Psi He	803	836	870	903	937	970	1004	1037	1071	1104	1138	1171	1204	1238	1271	1305	1338
240ft	Oxygen	17% Psi O <sub>2</sub>	105	109	114	118	122	127	131	135	140	144	149	153	157	162	166	171	176
	Helium	36% Psi He	861	897	933	969	1005	1041	1077	1113	1149	1184	1220	1256	1292	1328	1364	1400	1436
250ft	Oxygen	16% Psi O <sub>2</sub>	101	105	109	114	118	122	126	131	135	139	143	148	152	156	160	164	169
	Helium	38% Psi He	916	954	992	1030	1068	1107	1145	1183	1221	1259	1297	1336	1374	1412	1450	1488	1526
260ft	Oxygen	16% Psi O <sub>2</sub>	98	102	106	110	114	118	122	126	130	134	138	142	147	151	155	159	163
	Helium	40% Psi He	966	1007	1047	1087	1127	1168	1208	1248	1289	1329	1369	1409	1450	1490	1530	1571	1611
270ft	Oxygen	15% Psi O <sub>2</sub>	94	98	102	106	110	114	118	122	126	130	134	138	142	146	150	154	158
	Helium	42% Psi He	1014	1056	1098	1140	1183	1225	1267	1309	1352	1394	1436	1478	1521	1563	1605	1647	1690
280ft	Oxygen	15% Psi O <sub>2</sub>	91	95	99	103	107	110	114	118	122	126	130	133	137	141	145	149	152
	Helium	44% Psi He	1058	1102	1146	1190	1234	1278	1322	1367	1411	1455	1499	1543	1587	1631	1675	1719	1763
290ft	Oxygen	14% Psi O <sub>2</sub>	88	92	96	100	103	107	111	114	118	122	126	129	133	137	140	144	148
	Helium	46% Psi He	1099	1145	1191	1237	1283	1329	1374	1420	1466	1512	1558	1604	1649	1695	1741	1787	1833
300ft	Oxygen	14% Psi O <sub>2</sub>	86	89	93	97	100	104	107	111	115	118	122	125	129	133	136	140	143
	Helium	47% Psi He	1138	1186	1233	1281	1328	1376	1423	1471	1518	1566	1613	1660	1708	1755	1803	1850	1898
310ft	Oxygen	13% Psi O <sub>2</sub>	83	87	90	94	97	101	104	108	111	115	118	122	125	129	132	136	139
	Helium	49% Psi He	1175	1224	1273	1322	1371	1420	1469	1518	1567	1616	1665	1714	1763	1812	1861	1910	1959
320ft	Oxygen	13% Psi O <sub>2</sub>	81	84	88	91	94	98	101	105	108	111	115	118	122	125	128	132	135
	Helium	50% Psi He	1210	1260	1311	1361	1412	1462	1513	1563	1613	1664	1714	1765	1815	1866	1916	1966	2017
330ft	Oxygen	13% Psi O <sub>2</sub>	79	82	85	89	92	95	98	102	105	108	112	115	118	122	125	128	131
	Helium	52% Psi He	1243	1294	1346	1398	1450	1502	1553	1605	1657	1709	1761	1812	1864	1916	1968	2020	2071
340ft	Oxygen	12% Psi O <sub>2</sub>	77	80	83	86	89	93	96	99	102	105	109	112	115	118	121	125	128
	Helium	53% Psi He	1274	1327	1380	1433	1486	1539	1592	1645	1698	1752	1805	1858	1911	1964	2017	2070	2123
350ft	Oxygen	12% Psi O <sub>2</sub>	75	78	81	84	87	90	93	96	100	103	106	109	112	115	118	121	125
	Helium	54% Psi He	1303	1357	1412	1466	1520	1575	1629	1683	1738	1792	1846	1901	1955	2009	2064	2118	2172
360ft	Oxygen	12% Psi O <sub>2</sub>	73	76	79	82	85	88	91	94	97	100	103	106	109	112	115	118	121
	Helium	55% Psi He	1331	1386	1442	1497	1553	1608	1664	1719	1775	1830	1886	1941	1997	2052	2108	2163	2219
370ft	Oxygen	11% Psi O <sub>2</sub>	71	74	77	80	83	86	89	92	95	98	100	103	106	109	112	115	118
	Helium	57% Psi He	1357	1414	1471	1527	1584	1640	1697	1754	1810	1867	1923	1980	2036	2093	2150	2206	2263
380ft	Oxygen	11% Psi O <sub>2</sub>	69	72	75	78	81	84	86	89	92	95	98	101	104	107	110	113	115
	Helium	58% Psi He	1383	1440	1498	1556	1613	1671	1729	1786	1844	1901	1959	2017	2074	2132	2190	2247	2305
390ft	Oxygen	11% Psi O <sub>2</sub>	67	70	73	76	79	82	84	87	90	93	96	99	101	104	107	110	113
	Helium	59% Psi He	1407	1465	1524	1583	1641	1700	1759	1817	1876	1934	1993	2052	2110	2169	2228	2286	2345
400ft	Oxygen	11% Psi O <sub>2</sub>	66	69	71	74	77	80	82	85	88	91	93	96	99	102	105	107	110
	Helium	60% Psi He	1430	1489	1549	1608	1668	1728	1787	1847	1906	1966	2026	2085	2145	2204	2264	2324	2383
410ft	Oxygen	10% Psi O <sub>2</sub>	64	67	70	72	75	78	81	83	86	89	91	94	97	99	102	105	108
	Helium	61% Psi He	1452	1512	1573	1633	1694	1754	1815	1875	1936	1996	2057	2117	2178	2238	2299	2359	2420
420ft	Oxygen	10% Psi O <sub>2</sub>	63	66	68	71	73	76	79	81	84	87	89	92	95	97	100	103	105
	Helium	61% Psi He	1473	1534	1595	1657	1718	1779	1841	1902	1964	2025	2086	2148	2209	2270	2332	2393	2455
430ft	Oxygen	10% Psi O <sub>2</sub>	62	64	67	69	72	74	77	80	82	85	87	90	93	95	98	100	103
	Helium	62% Psi He	1493	1555	1617	1679	1741	1804	1866	1928	1990	2052	2115	2177	2239	2301	2363	2426	2488
440ft	Oxygen	10% Psi O <sub>2</sub>	60	63	65	68	70	73	75	78	80	83	86	88	91	93	96	98	101
	Helium	63% Psi He	1512	1575	1638	1701	1764	1827	1890	1953	2016	2079	2142	2205	2268	2331	2394	2457	2520
450ft	Oxygen	10% Psi O <sub>2</sub>	59	61	64	66	69	71	74	76	79	81	84	86	89	91	94	96	99
	Helium	64% Psi He	1530	1594	1658	1721	1785	1849	1913	1977	2040	2104	2168	2232	2295	2359	2423	2487	2550

The above chart provides the amount of helium and oxygen to add (in psi) to an empty scuba cylinder to create the best-mix for a given depth. The above listed mixtures yield a  $ppO_2$  of 1.4 ATA and an END of 130 fsw. To use the chart, first, locate on the left, the maximum planned depth. Next, locate the desired ending fill pressure of the cylinder at the top of the chart. The intersecting point between the two will designate the amount of helium and oxygen to use to create the best-mix for the planned depth.