Table of Equivalents

To convert units appearing in Column 1 (left column) into equivalent values in Column 2 (center column), multiply by factor in Column 3. Example: To convert 7 gallons into cubic inches, multiply 7 × 231 = 1617. To convert units appearing in Column 2 (center) into equivalent values of units in Column 1 (left), divide by factor in Column 3. Example: To convert 25 horsepower into BTU per minute, divide 25 by 0.02356 = 1061

PSI	*BARS*	*K/Pa*
1	*0.06895*	*6.895*
15	*1.03425*	*103.425*
50	*3.4475*	*344.75*
100	*6.895*	*689.5*
300	*20.685*	*2068.5*
500	*34.475*	*3447.5*
1000	*68.95*	*6895.0*
2000	*137.9*	*1379.0*
3000	*206.85*	*20685.0*
4500	*310.275*	*31027.5*
5000	*344.75*	*34475.0*

To Convert Into	Into To Convert	Multiply By Divide By
Atmospheres	Feet of Water	33.9
Atmospheres	Inches of Mercury (Hg)	29.92
Atmospheres	PSI (LBS per Sq. Inch	14.7
BTU	Foot Pounds	778.3
BTU per hour	Watts	0.2931
BTU per minute	HorsePower	0.02356
Celsius (Centigrade)	Fahrenheit	°C x 1.8 + 32
Centimeters	Inches	0.3937
Cubic Centimeters	Gallons (U.S. Liquid)	0.0002642
Cubic Centimeters	Liters	0.0001
Cubic Feet	Cubic Inches	1728
Cubic Feet	Gallons (U.S. Liquid)	7.48052
Cubic Inches	Cubic Feet	0.0005787
Cubic Inches	Gallons (U.S. Liquid)	0.004329
Days	Seconds	86.400
Degrees (Angle)	Radians	0.01745
Feet	Meters	0.3048
Feet	Miles	0.0001894
Feet of Water	Atmospheres	0.0295
Feet of Water	Inches of Mercury (Hg)	0.8826
Feet of Water	PSI (Lbs per Sq. Inch)	0.4335
Feet per Minute	Miles per Hour	0.01136
Feet per Second	Miles per Hour	0.6818
Foot-Pounds	BTU	0.001286
Foot-Pounds per Minute	Horsepower	0.0000303
Foot-Pounds per Second	Horsepower	0.001818
Gallons (U.S. Liquid)	Cubic Feet	0.1337
Gallons (U.S. Liquid)	Cubic Inches	231
Gallons of Water	Pounds of Water	8.3453
Horsepower	BTU per Minute	42.44
Horsepower	Foot-Pound per Minute	33,000
Horsepower	Foot Pounds per Second	550
Horsepower	Watts	745.7
Hours	Days	0.04167
Hours	Weeks	0.005952
Inches	Centimeters	2.54
Inches of Mercury (Hg)	Atmospheres	0.03342
Inches of Mercury (Hg)	Feet of Water	1.133
Inches of Mercury (Hg)	PSI (Lbs. per Sq. Inch)	0.4912
Inches of Water	PSI (Lbs. per Sq. Inch)	0.03613
Liters	Cubic Centimeters	1000
Liters	Gallons (U.S. Liquid)	0.2642
Micron	Inches	0.00004
Miles (Statute)	Feet	5280
Miles per hour (MPH)	Feet per Minute	88
Miles per hour	Feet per Second	1.467
Ounces (Weight)	Pounds	0.0625
Ounces (Liquid)	Cubic Inches	1.805
Pints (Liquid)	Quarts (Liquid)	0.5
Pounds	Grains	7000
Pounds	Grams	453.59
Pounds	Ounces	16
PSI (Pounds per Sq. Inch)	Atmospheres	0.06804
PSI (Pounds per Sq. Inch)	Feet of Water	2.307
PSI (Pounds per Sq. Inch)	Inches of Mercury (Hg)	2.036
Quarts	Gallons	0.25
Square Feet	Square Inches	144
Temperature (°F - 32)	Temperature (°C)	0.5555
Tons (U.S.)	Pounds	2000
Watts	Horsepower	0.001341

Appendix 1
Umbilical Supply Pressure Requirements & Tables

In order to maximize the performance capabilities of the KMACS-5 and DCS-2 air control consoles, users should use the air supply information listed below. When using LP compressors, the user must know the what the compressor is capable of delivering to the divers at depth.

High Pressure Bank Supply

KMACS-5 Recommended Umbilical Supply Pressure (Surface Gage Reading) When Using The HP Regulator Supply System

Depth		Umbilical Supply Pressure in P.S.I.G.		Umbilical Supply Pressure in BAR	
FSW	MSW	Minimum P.S.I.G.	Maximum P.S.I.G.	Minimum Bar	Maximum Bar
0-60	0-18	120	160	8.3	11
61-100	19-30	160	200	11	13.8
101-132	31-40	200	250	13.8	17.2

The HP supply table reflects the pressures required to supply two divers at depth working at a respiratory work rate of 62.5 liters per minute or less when being supplied by HP banks at a minimum HP pressure of 500 psig

Low Pressure Compressor Supply

Minimum Pressure (Surface Gage Reading) and volume at depth for two divers based on a maximum respiratory work rate of work rate of 50 RMV. Using ⅜" I.D. umbilical up to 300 feet (91meters) in length.

Depth		Minimum Pressure (Surface Gage Reading)		Volume At Depth	
FSW	MSW	Minimum Pressure P.S.I.G.	Minimum Pressure BAR	Minimum CFM At Depth	Minimum LPM at Depth
0-60	0-18	120	160	12	338
61-100	19-30	160	200	17	483
101-132	31-40	200	250	21	600

The Low Pressure supply table reflects the minimum surface supply pressure and volume to enable two divers to work at a maximum respiratory work rate of 50 RMV. Based on a minimum HP supply pressure of 500 PSIG using ⅜" I.D. umbilical up to 300 feet (91meters) in length.