

NOVALYNX CORPORATION

**MODELS 230-733
AND 230-734
ANEROID BAROMETER**

INSTRUCTION MANUAL



Receiving and Unpacking

Carefully unpack all components and compare to packing list. Notify NovaLynx Corporation immediately concerning any discrepancy. Inspect equipment to detect any damage that may have occurred during shipment. In the event of damage, any claim for loss must be filed immediately with the carrier by the consignee. Damages to equipment sent via Parcel Post or UPS require the consignee to contact NovaLynx Corporation for instructions.

Returns

If equipment is to be returned to the factory for any reason, call NovaLynx between 8:00 A.M. and 4:00 P.M. Pacific Time and request a Return Authorization Number (RA#). Include with the returned equipment, a description of the problem and name, address, and daytime phone number of the sender. Carefully pack the equipment to prevent damage or additional damage in the return shipment. Call NovaLynx for packing instructions in the case of delicate or sensitive items. If packing facilities are not available take the equipment to the nearest Parcel Post, UPS, or freight service and obtain assistance with the packaging. Write the RA# on the outside of the box.

Warranty

NovaLynx Corporation warrants that its products are free from defects in material and workmanship under normal use and service for a period of one year from the date of shipment from the factory. NovaLynx Corporation's obligations under this warranty are limited to, at NovaLynx's option: (i) replacing; or (ii) repairing; any product determined to be defective. In no case shall NovaLynx Corporation's liability exceed product's original purchase price. This warranty does not apply to any equipment that has been repaired or altered, except by NovaLynx Corporation, or that has been subjected to misuse, negligence, or accident. It is expressly agreed that this warranty will be in lieu of all warranties of fitness and in lieu of the warranty of merchantability.

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Aneroid Barometer Models 230-733 and 230-734

1.0 GENERAL DESCRIPTION

NovaLynx Corporation provides two versions of the Aneroid Barometer, Models 230-733 and 230-734. Model 230-733 is suitable for use at sea level up to an elevation of 3000 feet. A dual scale plate provides calibrated ranges of 26.6 to 31 in. Hg and 900 to 1050 mb. The Model 230-734 has a wider measuring span that allows it to be used from sea level up to an elevation of 6000 feet. The scales for the expanded range are 23.6 to 31 in. Hg and 800 to 1050 mb.

NovaLynx Aneroid Barometers are economical instruments designed to assist in weather forecasting. Both models are accurate and sensitive instruments. An attractive brass case with a wall mounting flange houses each of the Aneroid Barometer mechanisms. Three screws are required to attach the barometer flange to the wall.

2.0 SPECIFICATIONS

Sensor Type:	Aneroid Bellows Assembly
Indicating Range:	
Model 230-733:	26.6 to 31 in. Hg & 900 to 1050 mb
Model 230-734:	23.6 to 31 in. Hg & 800 to 1050 mb
Resolution:	0.02 in. Hg & 1 mb
Operating Range:	
Model 230-733:	Sea Level to 3000 ft
Model 230-734:	Sea Level to 6000 ft
Size:	6.6" Dia x 2.1" Deep (168 x 53 mm)
Weight / Shipping:	1 lb / 2 lbs (0.5 kg / 0.9 kg)

3.0 THEORY OF OPERATION

A "falling" barometer, by definition, indicates approaching storms or low pressure centers. Similarly, a "rising" barometer indicates impending fair weather or a high pressure center. The rate of the barometer's rising and falling gives an indication of the speed of the changing weather.

NovaLynx Aneroid Barometers provide a moveable pointer or needle that is separate from the barometer mechanism. The pointer is generally Red or some other color to easily distinguish it from the barometer's pointer. The moveable pointer is set at the time a reading is made of the current barometric pressure. A reading made at a later time will show whether the changing pressure is greater than or less than the reading made when the pointer was last set. A record of the time interval will indicate the rate of the change.

A barometer is designed to measure the small, daily changes in atmospheric pressure caused by the "atmospheric tide". The atmospheric tide is a natural occurrence related to the earth's rotation. Parts of the earth's surface that are sunlit will experience a decrease in the pressure due to the expansion of the solar heated air. The heated air also rises as it continues to warm up causing an additional decrease in the ground level pressure. As the sun's intensity decreases with the approach of night the air cools and becomes compressed. As the air continues to cool it will sink toward the ground and will cause an increase in the ground level pressure.

Inter-planetary gravity has an effect on the magnitude of the atmospheric tide. The effect is called the "diurnal pressure change". Diurnal pressure changes are small in comparison to the changes brought about by advancing lows and highs.

The diurnal pressure change normally lags behind the clock by several hours. The lag is caused by the large mass of the atmosphere and the time required for it to react to the change from night to day and vice-versa. Thus, the nighttime rise peaks at about 10 AM LST, and the daytime fall hits bottom around 4 PM LST. A slight secondary rise is noticed, hitting its peak around 10 PM LST. These secondary diurnal changes are the result of atmospheric oscillations as the atmosphere tries to find equilibrium.

Whenever pressure changes due to an advancing high or low pressure center coincide with the diurnal change, the pressure rise or fall will be enhanced. Whenever these pressure changes do not coincide, the resulting change will be diminished in proportion to the relative strength of the approaching pressure center.

To obtain the best results from any barometer, the barometer must be adjusted for the local elevation or altitude in order to give readings in equivalent sea level pressure. Barometer readings from the U.S. National Weather Service and from world wide bureaus are expressed in terms of sea level pressure. Consider that atmospheric pressure decreases with altitude; therefore, the effect of altitude must be eliminated from the barometer reading to obtain air pressure values resulting from changes in the character of the air.

3.1

ANEROID BAROMETERS

The basic Aneroid Barometer is designed around an evacuated chamber that is connected to an arm that amplifies the expansion and compression of the chamber. The chamber expands and compresses in response to the decrease and increase in atmospheric pressure.

The chamber (bellows or cell) is well sealed during construction. The last step before the final seal is put into place is the evacuation of almost all of the air that is inside the chamber (aneroid means absence of air). To prevent total collapse of the chamber, a "C" frame and clamp with a spring supports the chamber and tries to pull the sides of the chamber apart yet keep them in balance. Changes in the outside air pressure disturbs the balance of the chamber causing movement of the chamber that is transmitted to the pointer arm. Pointer movement is calibrated with respect to the dial graduations and in relation to a mercurial barometer or other pressure standard.

4.0

INSTALLATION

The following instructions are for general installation of the NovaLynx barometers. Special installations may require additional information. Contact NovaLynx for assistance.

- 1> Install the barometer indoors. Avoid exposure to direct sunlight or other heat sources. Avoid surfaces that are subject to vibration. Try to mount the barometer as level as possible.
- 2> Adjust the barometer for the local altitude. This information can be obtained from topographical maps or from a local airport or weather station. Use a small, flat-blade screw driver to turn the adjusting screw. The adjusting screw is accessed from the back of the barometer housing. Make only minor turns of 1/4 rotation or less until the pointer is at the correct reading. Lightly tap the barometer face several times to "settle" the pointer taking up any slack in the mechanism. If the pointer moves off the correct reading mark, readjust and retap the barometer. This step may take several tries to reach the correct reading.
- 3> Check the barometer reading after several days and readjust if necessary.
- 4> **NOTE:** Normally barometers are adjusted to relieve tension on the aneroid cell during shipping. Depending upon the local altitude, the barometer may be over or under adjusted for the aneroid tension. To check the barometer, adjust the barometer as described above. Continue the process until unnecessary slack is eliminated. If the barometer pointer appears to be too tight (does not react to pressure changes or reacts slowly) turn the adjustment screw counter-clockwise

one turn and then adjust the pointer as described in step 2. Repeat this process until the pointer appears to be free upon tapping of the barometer face. A "free" pointer will move when the barometer is lightly tapped.

Major increments on the dial representing inches of mercury are 24, 25, 27, 28, 29, and 30. Inches of mercury, in. Hg, is a common unit of measure for expressing atmospheric pressure. International bureaus use hecto-Pascals, hPa, as the standard units of measure. The hPa scale is the same as the millibar scale. For the NovaLynx barometers, the major millibar increments are 800, 850, 900, 950, and 1000 mb.

To use the adjustable pointer, move the pointer until it is directly over the barometer's pointer. The adjustable pointer has a knob that extrudes through the center of the dial glass. Rotate the knob to move the pointer. As atmospheric pressure rises, the barometer pointer will move to the right of the adjustable pointer. Similarly, falling pressure will be indicated by pointer movement to the left of the adjustable pointer.

5.0 MAINTENANCE

Maintenance of the barometer is limited since the mechanism is enclosed and is inaccessible. Keep the barometer clean and dry. The housing is neither dust proof nor water proof. Clean the outside of the housing using only clean water and a soft cloth to remove dust. The brass finish may be cleaned using a commercial grade brass polish. Do not use any abrasive solutions or materials on the barometer.

For best results and continued reliability, check the barometer reading on a regular basis against the local airport or weather service barometer. Adjust the barometer as needed.

TYPICAL ALTITUDES LIST

Akron, OH	950	Fresno, CA	287
Albany, NY	20	Galveston, TX	28
Allentown, PA	320	Grand Rapids, MI	628
Ashland, KY	530	Great Falls, MT	3309
Atlanta, GA	1105	Harrisburg, PA	355
Atlantic City, NJ	10	Hartford, CT	36
Augusta, GA	141	Houston, TX	48
Baltimore, MD	81	Huntington, WV	565
Bangor, ME	21	Indianapolis, IN	7449
Bay City, MI	593	Jackson, MS	286
Binghamton, NY	865	Jacksonville, FL	25
Boise, ID	2717	Jersey City, NJ	44
Boston, MA	45	Kansas City, MO	750
Buffalo, NY	590	Knoxville, TN	895
Burlington, VT	190	Lansing, MI	842
Bridgeport, CT	12	Lexington, KY	966
Cambridge, MA	80	Lincoln, NE	1169
Camden, NJ	30	Little Rock, AR	286
Charleston, SC	13	Los Angeles, CA	292
Charlotte, NC	734	Louisville, KY	454
Chicago, IL	604	Manchester, NH	210
Cleveland, OH	600	Memphis, TN	238
Colorado Springs, CO	6012	Miami, FL	15
Columbus, GA	261	Milwaukee, WI	609
Columbus, OH	759	Minneapolis, MN	826
Council Bluffs, IA	989	Mobile, AL	15
Dallas, TX	437	Montgomery, AL	191
Davenport, IA	571	Nashville, TN	498
Dayton, OH	743	Newark, NJ	43
Denver, CO	5227	New Haven, CT	27
Des Moines, IA	817	New London, CT	27
Detroit, MI	594	New Orleans, LA	5
Dubuque, IA	626	New York, NY	35
Duluth, MN	626	Niagara Falls, NY	578
Elizabeth, NJ	28	Norfolk, VA	38
Erie, PA	709	Oakland, CA	18
Evansville, IN	380	Omaha, NE	1040
Flint, MI	716	Paterson, NJ	117
Fort Smith, AR	445	Peoria, IL	465
Fort Wayne, IN	780	Philadelphia, PA	150
Fort Worth, TX	600	Phoenix, AZ	1085

Pittsburgh, PA	742
Portland, OR	69
Portland, ME	34
Providence, RI	34
Pueblo, CO	4668
Racine, WI	619
Reno, NV	4487
Richmond, VA	84
Rochester, NY	509
Saginaw, MI	591
St. Louis, MO	460
St. Paul, MN	754
St. Petersburg, FL	20
Salt Lake City, UT	4300
Sacramento, CA	30
San Antonio, TX	657
San Francisco, CA	50
Savannah, GA	42
Scranton, PA	757
Seattle, WA	51
Shreveport, LA	217
Sioux City, IA	1104
Sioux Falls, SD	1405
South Bend, IN	718
Spokane, WA	1905
Springfield, MA	101
Syracuse, NY	410
Tacoma, WA	87
Tampa, FL	24
Toledo, OH	594
Topeka, KS	909
Trenton, NJ	42
Tucson, AZ	2382
Tulsa, OK	700
Utica, NY	448
Washington, DC	100
Waterbury, CT	280
Wichita, KS	1285
Wilmington, NC	52
Youngstown, OH	832
Zanesville, OH	694

Official Altitudes of Canadian Cities

Brandon, Man.	1204
Calgary, Alb.	3439
Campbellton, NB	42
Charlottetown, PEI	8
Dartmouth, NS	14
Dauphin, Man.	968
Edmonton, Alb.	2183
Fort Williams, Ont.	617
Fredericton, NB	32
Glance Bay, NS	72
Halifax, NS	59
Hamilton, Ont.	300
Kamloops, BC	1150
Lethbridge, Alb.	2983
London, Ont.	804
Medicine Hat, Alb.	2181
Moncton, NB	50
Montreal, Que.	110
Moose Jaw, Sas.	1778
New Glasgow, NS	32
North Bay, Ont.	662
Ottawa, Ont.	200
Peterboro, Ont.	632
Prince Albert, Sas.	1414
Quebec, PQ	20
Regina, Sas.	1896
St. Catharines, Ont.	350
St. John, NB	21
Saskatoon, Sas.	1596
Shawinigan Falls, Que.	300
Sherbrooke, Que.	592
Sydney, NS	10
Timmins, Ont.	1030
Toronto, Ont.	250
Three Rivers, Que.	51
Truro, NS	59
Vancouver, BC	31
Windsor, Ont.	580
Winnipeg, Man.	727

Note: For locations not listed, contact local airport or city/county engineer for the nearest official elevation.

STANDARD PRESSURE Vs. ELEVATION

Feet and in. Hg

Station Elevation (feet)	Standard Pressure (in Hg)	Deviation from zero (in Hg)	Station Elevation (feet)	Standard Pressure (in Hg)	Deviation from zero (in Hg)
0	29.92	0.00	1950	27.87	2.05
50	29.87	0.05	2000	27.82	2.10
100	29.81	0.11	2050	27.77	2.15
150	29.76	0.16	2100	27.72	2.20
200	29.71	0.22	2150	27.67	2.25
250	29.65	0.27	2200	27.62	2.30
300	29.60	0.32	2250	27.57	2.36
350	29.54	0.38	2300	27.52	2.41
400	29.49	0.43	2350	27.46	2.46
450	29.44	0.48	2400	27.41	2.51
500	29.38	0.54	2450	27.36	2.56
550	29.33	0.59	2500	27.31	2.61
600	29.28	0.64	2550	27.26	2.66
650	29.22	0.70	2600	27.21	2.71
700	29.17	0.75	2650	27.16	2.76
750	29.12	0.80	2700	27.11	2.81
800	29.07	0.86	2750	27.06	2.86
850	29.01	0.91	2800	27.01	2.91
900	28.96	0.96	2850	26.96	2.96
950	28.91	1.01	2900	26.91	3.01
1000	28.86	1.07	2950	26.86	3.06
1050	28.80	1.12	3000	26.82	3.11
1100	28.75	1.17	3050	26.77	3.16
1150	28.70	1.22	3100	26.72	3.20
1200	28.65	1.28	3150	26.67	3.25
1250	28.59	1.33	3200	26.62	3.30
1300	28.54	1.38	3250	26.57	3.35
1350	28.49	1.43	3300	26.52	3.40
1400	28.44	1.48	3350	26.47	3.45
1450	28.39	1.54	3400	26.42	3.50
1500	28.33	1.59	3450	26.37	3.55
1550	28.28	1.64	3500	26.32	3.60
1600	28.23	1.69	3550	26.68	3.65
1650	28.18	1.74	3600	26.23	3.69
1700	28.13	1.79	3650	26.18	3.74
1750	28.08	1.85	3700	26.13	3.79
1800	28.02	1.90	3750	26.08	3.84
1850	27.97	1.95	3800	26.03	3.89
1900	27.92	2.00	3850	25.98	3.94

Station Elevation (feet)	Standard Pressure (in Hg)	Deviation from zero (in Hg)	Station Elevation (feet)	Standard Pressure (in Hg)	Deviation from zero (in Hg)
3900	25.94	3.98	5950	24.02	5.90
3950	25.89	4.03	6000	23.98	5.95
4000	25.84	4.08	6050	23.93	5.99
4050	25.79	4.13	6100	23.89	6.04
4100	25.74	4.18	6150	23.84	6.08
4150	25.70	4.22	6200	23.80	6.13
4200	25.65	4.27	6250	23.75	6.17
4250	25.60	4.32	6300	23.71	6.22
4300	25.55	4.37	6350	23.66	6.26
4350	25.51	4.42	6400	23.62	6.30
4400	25.46	4.46	6450	23.57	6.35
4450	25.41	4.51	6500	23.53	6.39
4500	25.36	4.56	6550	23.48	6.44
4550	25.32	4.60	6600	23.44	6.48
4600	25.27	4.65	6650	23.39	6.53
4650	25.22	4.70	6700	23.35	6.57
4700	25.17	4.75	6750	23.31	6.62
4750	25.13	4.79	6800	23.26	6.66
4800	25.08	4.84	6850	23.22	6.70
4850	25.03	4.89	6900	23.17	6.75
4900	24.99	4.93	6950	23.13	6.79
4950	24.94	4.98	7000	23.09	6.84
5000	24.89	5.03	7050	23.04	6.88
5050	24.85	5.07	7100	23.00	6.92
5100	24.80	5.12	7150	22.95	6.97
5150	24.75	5.17	7200	22.91	7.01
5200	24.71	5.21	7250	22.87	7.05
5250	24.66	5.26			
5300	24.62	5.31			
5350	24.57	5.35			
5400	24.52	5.40			
5450	24.48	5.44			
5500	24.43	5.49			
5550	24.39	5.54			
5600	24.34	5.58			
5650	24.29	5.63			
5700	24.25	5.67			
5750	24.20	5.72			
5800	24.16	5.76			
5850	24.11	5.81			
5900	24.07	5.85			

STANDARD PRESSURE Vs. ELEVATION

Feet and mb

Station Elevation (feet)	Standard Pressure (ab)	Deviation from zero (ab)	Station Elevation (feet)	Standard Pressure (ab)	Deviation from zero (ab)
0	1013.2	0.0	1950	943.8	69.4
50	1011.4	1.8	2000	942.1	71.1
100	1009.6	3.7	2050	940.4	72.9
150	1007.8	5.5	2100	938.6	74.6
200	1005.9	7.3	2150	936.9	76.3
250	1004.1	9.1	2200	935.2	78.0
300	1002.3	10.9	2250	933.5	79.8
350	1000.5	12.8	2300	931.8	81.5
400	998.7	14.6	2350	930.1	83.2
450	996.9	16.4	2400	928.4	84.9
500	995.1	18.2	2450	926.7	86.6
550	993.3	20.0	2500	925.0	88.3
600	991.5	21.8	2550	923.3	90.0
650	989.7	23.6	2600	921.6	91.7
700	987.9	25.4	2650	919.9	93.4
750	986.1	27.2	2700	918.2	95.1
800	984.3	29.0	2750	916.5	96.8
850	982.5	30.8	2800	914.8	98.4
900	980.7	32.5	2850	913.1	100.1
950	978.9	34.3	2900	911.4	101.8
1000	977.1	36.1	2950	909.7	103.5
1050	975.4	37.9	3000	908.1	105.2
1100	973.6	39.7	3050	906.4	106.8
1150	971.8	41.4	3100	904.7	108.5
1200	970.0	43.2	3150	903.1	110.2
1250	968.3	45.0	3200	901.4	111.9
1300	966.5	46.7	3250	899.7	113.5
1350	964.8	48.5	3300	898.1	115.2
1400	963.0	50.2	3350	896.4	116.8
1450	961.2	52.0	3400	894.7	118.5
1500	959.5	53.8	3450	893.1	120.2
1550	957.7	55.5	3500	891.4	121.8
1600	956.0	57.3	3550	889.8	123.5
1650	954.2	59.0	3600	888.1	125.1
1700	952.5	60.7	3650	886.5	126.8
1750	950.8	62.5	3700	884.8	128.4
1800	949.0	64.2	3750	883.2	130.0
1850	947.3	66.0	3800	881.6	131.7
1900	945.6	67.7	3850	879.9	133.3

Station Elevation (feet)	Standard Pressure (ab)	Deviation from zero (ab)	Station Elevation (feet)	Standard Pressure (ab)	Deviation from zero (ab)
3900	878.3	134.9	5950	813.4	199.8
3950	876.7	136.6	6000	811.9	201.3
4000	875.0	138.2	6050	810.4	202.9
4050	873.4	139.8	6100	808.9	204.4
4100	871.8	141.4	6150	807.3	205.9
4150	870.2	143.1	6200	805.8	207.4
4200	868.6	144.7	6250	804.3	209.0
4250	866.9	146.3	6300	802.8	210.5
4300	865.3	147.9	6350	801.3	212.0
4350	863.7	149.5	6400	799.7	213.5
4400	862.1	151.1	6450	798.2	215.0
4450	860.5	152.7	6500	796.7	216.5
4500	858.9	154.3	6550	795.2	218.0
4550	857.3	155.9	6600	793.7	219.5
4600	855.7	157.5	6650	792.2	221.0
4650	854.1	159.1	6700	790.7	222.5
4700	852.5	160.7	6750	789.2	224.0
4750	850.9	162.3	6800	787.7	225.5
4800	849.3	163.9	6850	786.2	227.0
4850	847.7	165.5	6900	784.7	228.5
4900	846.2	167.1	6950	783.2	230.0
4950	844.6	168.7	7000	781.8	231.5
5000	843.0	170.2	7050	780.3	233.0
5050	841.4	171.8	7100	778.8	234.4
5100	839.8	173.4	7150	777.3	235.9
5150	838.3	175.0	7200	775.8	237.4
5200	836.7	176.5	7250	774.4	238.9
5250	835.1	178.1			
5300	833.6	179.7			
5350	832.0	181.2			
5400	830.5	182.8			
5450	828.9	184.3			
5500	827.3	185.9			
5550	825.8	187.5			
5600	824.2	189.0			
5650	822.7	190.6			
5700	821.1	192.1			
5750	819.6	193.6			
5800	818.1	195.2			
5850	816.5	196.7			
5900	815.0	198.3			

CONVERSION FACTORS

atmospheres $\times 29.92$ = inches of mercury at 0°C
 atmospheres $\times 1013.25$ = millibars
 atmospheres $\times 760$ = millimeters of mercury at 0°C
 atmospheres $\times 14.7$ = pounds/square inch

BTU/foot² min. $\times 1.134$ = joules/centimeter² min.
 BTU/foot² min. $\times 0.271$ = langley/min.
 BTU/foot² min. $\times 189$ = watts/meter²

cubic feet/sec. $\times 0.02832$ = cubic meters/sec.
 cubic feet/sec. $\times 0.6463$ = million gallons/day

feet/sec. $\times 1.097$ = kilometers/hour
 feet/sec. $\times 0.592$ = knots
 feet/sec. $\times 0.305$ = meters/sec.
 feet/sec. $\times 0.682$ = miles/hour

footcandles (lumens/square foot) $\times 10.764$ =
 lux (lumens/square meter)

inches of mercury $\times 33.864$ = millibars
 inches of mercury $\times 25.4$ = millimeters of mercury
 inches of mercury $\times 3.3864$ = kilopascals
 inches of mercury $\times 0.4912$ = pounds/square inch
 inches of mercury $\times 0.03342$ = standard atmospheres

joules/centimeter² min. $\times 0.8821$ = BTU/foot² min.
 joules/centimeter² min. $\times 0.2389$ = langley/min.
 joules/centimeter² min. $\times 166.66$ = watts/meter²

kilometers/hour $\times 0.911$ = feet/sec.
 kilometers/hour $\times 0.540$ = knots
 kilometers/hour $\times 0.278$ = meters/sec.
 kilometers/hour $\times 0.621$ = miles/hour

kilopascals $\times 0.2953$ = inches of mercury at 0°C
 kilopascals $\times 10$ = millibars
 kilopascals $\times 7.50075$ = millimeters of mercury at 0°C
 kilopascals $\times 0.1450$ = pounds/square inch

knots $\times 1.689$ = feet/sec.
 knots $\times 1.853$ = kilometers/hour
 knots $\times 0.515$ = meters/sec.
 knots $\times 1.152$ = miles/hour

langley/min. $\times 697.32$ = watts/meter²
 langley/min. $\times 4.1855$ = joules/centimeter² min.
 langley/min. $\times 3.692$ = BTU/foot² min.

lumens/square foot (footcandles) $\times 10.764$ =
 lumens/square meter (lux)
 lumens/square meter (lux) $\times 0.0929$ =
 lumens/square foot (footcandles)

meters/sec. $\times 3.281$ = feet/sec.
 meters/sec. $\times 3.600$ = kilometers/hour
 meters/sec. $\times 1.943$ = knots
 meters/sec. $\times 2.237$ = miles/hour

miles/hour $\times 1.467$ = feet/sec.
 miles/hour $\times 1.609$ = kilometers/hour
 miles/hour $\times 0.868$ = knots
 miles/hour $\times 0.447$ = meters/sec.

millibars $\times 0.02953$ = inches of mercury
 millibars $\times 0.0010197$ = kilograms/centimeter²
 millibars $\times 0.100$ = kilopascals
 millibars $\times 0.7500616$ = millimeters of mercury
 millibars $\times 0.014504$ = pounds/square inch
 millibars $\times 0.0009869$ = standard atmospheres

millimeters of mercury $\times 0.03937$ = inches of mercury
 millimeters of mercury $\times 0.13332$ = kilopascals
 millimeters of mercury $\times 1.33322$ = millibars
 millimeters of mercury $\times 0.01934$ = pounds/square inch
 millimeters of mercury $\times 0.001316$ = standard
 atmospheres

million gallons/day $\times 1.54723$ = cubic feet/second

watts/meter² $\times 0.00529$ = BTU/foot² min.
 watts/meter² $\times 0.006$ = joules/centimeter² min.
 watts/meter² $\times 0.00143$ = langley/min.

PRESSURE CONVERSION TABLE

Millibars	In. Hg	mm Hg
900	26.577	675.06
901	26.607	675.81
902	26.636	676.56
903	26.666	677.31
904	26.695	678.06
905	26.725	678.81
906	26.754	679.56
907	26.784	680.31
908	26.813	681.06
909	26.843	681.81
910	26.872	682.56
911	26.902	683.31
912	26.931	684.06
913	26.961	684.81
914	26.990	685.56
915	27.020	686.31
916	27.049	687.06
917	27.079	687.81
918	27.109	688.56
919	27.138	689.31
920	27.168	690.06
921	27.197	690.81
922	27.227	691.56
923	27.256	692.31
924	27.286	693.06
925	27.315	693.81
926	27.345	694.56
927	27.374	695.31
928	27.404	696.06
929	27.433	696.81
930	27.463	697.56
931	27.492	698.31
932	27.522	699.06
933	27.551	699.81
934	27.581	700.56
935	27.611	701.31
936	27.640	702.06
937	27.670	702.81
938	27.699	703.56
939	27.729	704.31
940	27.758	705.06
941	27.788	705.81
942	27.817	706.56
943	27.847	707.31
944	27.876	708.06
945	27.906	708.81
946	27.935	709.56
947	27.965	710.31
948	27.994	711.06
949	28.024	711.81

Millibars	In. Hg	mm Hg
950	28.053	712.56
951	28.083	713.31
952	28.113	714.06
953	28.142	714.81
954	28.172	715.56
955	28.201	716.31
956	28.231	717.06
957	28.260	717.81
958	28.290	718.56
959	28.319	719.31
960	28.349	720.06
961	28.378	720.81
962	28.408	721.56
963	28.437	722.31
964	28.467	723.06
965	28.496	723.81
966	28.526	724.56
967	28.555	725.31
968	28.585	726.06
969	28.615	726.81
970	28.644	727.56
971	28.674	728.31
972	28.703	729.06
973	28.733	729.81
974	28.762	730.56
975	28.792	731.31
976	28.821	732.06
977	28.851	732.81
978	28.880	733.56
979	28.910	734.31
980	28.939	735.06
981	28.969	735.81
982	28.998	736.56
983	29.028	737.31
984	29.058	738.06
985	29.087	738.81
986	29.117	739.56
987	29.146	740.31
988	29.176	741.06
989	29.205	741.81
990	29.235	742.56
991	29.264	743.31
992	29.294	744.06
993	29.323	744.81
994	29.353	745.56
995	29.382	746.31
996	29.412	747.06
997	29.441	747.81
998	29.471	748.56
999	29.500	749.31

Millibars	In. Hg	mm Hg
1000	29.530	750.06
1001	29.560	750.81
1002	29.589	751.56
1003	29.619	752.31
1004	29.648	753.06
1005	29.678	753.81
1006	29.707	754.56
1007	29.737	755.31
1008	29.766	756.06
1009	29.796	756.81
1010	29.825	757.56
1011	29.855	758.31
1012	29.884	759.06
1013	29.914	759.81
1014	29.943	760.56
1015	29.973	761.31
1016	30.002	762.06
1017	30.032	762.81
1018	30.062	763.56
1019	30.091	764.31
1020	30.121	765.06
1021	30.150	765.81
1022	30.180	766.56
1023	30.209	767.31
1024	30.239	768.06
1025	30.268	768.81
1026	30.298	769.56
1027	30.327	770.31
1028	30.357	771.06
1029	30.386	771.81
1030	30.416	772.56
1031	30.445	773.31
1032	30.475	774.06
1033	30.504	774.81
1034	30.534	775.56
1035	30.564	776.31
1036	30.593	777.06
1037	30.623	777.81
1038	30.652	778.56
1039	30.682	779.31
1040	30.711	780.06
1041	30.741	780.81
1042	30.770	781.56
1043	30.800	782.31
1044	30.829	783.06
1045	30.859	783.81
1046	30.888	784.56
1047	30.918	785.31
1048	30.947	786.06
1049	30.977	786.81
1050	31.006	787.56