Common Pressure Conversions

Multiply / From \ To	psi	inH_2O @ 39.2°F or 4°C	inH_2O @ 60°F or 15.6°C	inH_2O @ 68°F or 20°C	ftH_2O @ 39.2°F or 4°C	kPa	atm (std)	atm (metric)	bar	mbar	inHg @ 32°F	inHg @ 60°F	cmHg @ 0°C	Torr or mmHg @ 0°C	kg/cm^2	cmH_2O @ 4°C	oz/in^2
psi	1	27.681	27.707	27.730	2.3067	6.8947	0.0681	0.07031	0.06895	68.947	2.0360	2.0416	5.1715	51.715	0.07031	70.307	16
inH_2O (39.2°F/4°C)	0.0361	1	1.0010	1.0018	0.0833	0.2491	0.00246	0.00254	0.00249	2.4908	0.0736	0.0738	0.1868	1.8683	0.00254	2.540	0.5780
inH_2O (60°F/15.6°C)	0.0361	0.9990	1	1.0008	0.0833	0.2488	0.00246	0.00254	0.00249	2.4884	0.0735	0.0737	0.1866	1.8664	0.00254	2.5375	0.5775
inH_2O (68°F/20°C)	0.0361	0.9982	0.9992	1	0.0832	0.2486	0.00246	0.00254	0.00249	2.4864	0.0734	0.0736	0.1865	1.8650	0.00254	2.5355	0.5770
ftH_2O (68°F/20°C)	0.4327	11.979	11.991	12.000	1	2.9837	0.02950	0.03048	0.02984	29.837	0.8811	0.8836	2.2380	22.380	0.03043	30.426	6.9240
kPa	0.1450	4.0147	4.0186	4.0219	0.3346	1	0.0099	0.01020	0.01	10	0.2953	0.2961	0.7501	7.5006	0.0102	10.197	2.3206
atm (std)	14.696	406.79	407.18	407.51	33.900	101.33	1	1.0332	1.0133	1013.25	29.921	30.003	76	760	1.0332	1033.23	235.14
atm (metric)	14.223	393.71	394.09	394.40	32.810	98.066	0.9678	1	0.9807	980.66	28.959	29.038	73.556	735.56	1	1000	227.57
bar	14.504	401.47	401.86	402.19	33.456	100	0.9869	1.0197	1	1000	29.530	29.611	75.006	750.06	1.0197	1019.72	232.06
mbar	0.0145	0.4015	0.4019	0.4022	0.0335	0.1	0.00099	0.00102	0.001	1	0.0295	0.02961	0.07501	0.7501	0.00102	1.0197	0.2321
inHg (32°F)	0.4912	13.596	13.608	13.619	1.1330	3.386	0.0334	0.03453	0.0339	33.864	1	1.0027	2.54	25.400	0.03453	34.532	7.8585
inHg (60°F)	0.4898	13.559	13.571	13.581	1.1299	3.3769	0.0333	0.03444	0.0338	33.772	0.9973	1	2.5331	25.331	0.03444	34.438	7.8371
cmHg (0°C)	0.1934	5.3525	5.3576	5.3620	0.4461	1.3332	0.0132	0.01360	0.01333	13.332	0.3937	0.3948	1	10	0.0136	13.595	3.0939
torr or mmHg (0°C)	0.01934	0.5353	0.5357	0.5362	0.0446	0.1333	0.0013	0.00136	0.00133	1.3332	0.0394	0.03948	0.1	1	0.00136	1.3595	0.3094
kg/cm^2	14.223	393.71	394.09	394.41	32.809	98.067	0.9678	1	0.9807	980.66	28.959	29.038	73.556	735.56	1	1000	227.57
cmH_2O (4°C)	0.0142	0.3937	0.3941	0.3944	0.0328	0.0981	0.00097	0.001	0.00098	0.9806	0.0290	0.02904	0.07355	0.7355	0.001	1	0.2276
oz/in^2	0.0625	1.7300	1.7316	1.7331	0.1442	0.4309	0.00425	0.00439	0.00431	4.3092	0.1273	0.1276	0.3232	3.2322	0.00439	4.3942	1

Typical Gauge Ranges

PSI	Reference	InHg @ 0°C	InH_2O @ 20°C	Oz/in^2	FtH_2O @ 20°C	kPa & MPa	mmHg torr*	mbar*	bar	g/cm^2	kg/cm^2	atm	cmH_2O @ 20°C	mmH_2O @ 20°C
3	G	6	85	50	7	20	150	200					200	2000
5	G	10	140	80	12	35	250	350					350	
15	G, A, VAC	30	400	240	35	100	760	1000	1	1000	1	1	1000	
30	G or A	60	850		70	200	1500	2000	2	2000	2	2	2000	
60	G	120			140	400			4		4	4		
100	G, A, VAC	200			250	700			7		7	7		
200	G, VAC				500	1500			15		15	20		
300	G					2000			20		20	20		
500	G					3.5 MPa			35		35	35		
1000	G**					7 MPa			70		70	70		
2000	G**					14 MPa			140		140	135		
3000	G**					20 MPa			200		200	200		
5000	G**					35 MPa			350		350	340		

* Absolute reference is generally used for vacuum applications with these units
** 14.7 psia sealed reference transducer

Altitude (feet)	Adjustment (inches Hg) Absolute Gauge to Weather Report	Adjustment (inches Hg) Weather Report to Absolute Gauge
0	0.0	0.0
100	Add 0.11	Subtract 0.11
200	Add 0.22	Subtract 0.22
300	Add 0.32	Subtract 0.32
400	Add 0.43	Subtract 0.43
500	Add 0.54	Subtract 0.54
600	Add 0.65	Subtract 0.65
700	Add 0.75	Subtract 0.75
800	Add 0.82	Subtract 0.82
900	Add 0.96	Subtract 0.96
1000	Add 1.07	Subtract 1.07
2000	Add 2.11	Subtract 2.11
3000	Add 3.11	Subtract 3.11
4000	Add 4.08	Subtract 4.08
5000	Add 5.03	Subtract 5.03
6000	Add 5.95	Subtract 5.95
7000	Add 6.84	Subtract 6.84
8000	Add 7.70	Subtract 7.70
9000	Add 8.54	Subtract 8.54

Approximate Altitude Correction Table for Barometers

At elevations above sea level, a local weather barometer reports higher readings than an absolute reference gauge. Barometer readings used in weather reports are corrected to sea level to eliminate the effects of altitude to allow consistent weather reporting.

Atmospheric pressure is constantly changing. This is not apparent on a mechanical gauge but if quite easy to see on a digital gauge. This occurs normally and does not indicate a problem with the gauge.

Use this table to correct your reading. For example, if you live at 1000 feet elevation and your absolute gauge reads 29.00, the current barometric pressure from the local weather report will be approximately 30.07 inches of mercury.

Note that these correction factors are approximate and assume normal room temperature and pressures near 29.92 inches of mercury. See the National Oceanic and Atmospheric Administration website (www.nws.noaa.gov) for more information.

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GAUGE RANGE SELECTION

Ranges of mechanical gauges are traditionally chosen so the working range is in the middle of the scale. Digital gauges provide the best performance when used in the upper half of their range. For example, if your working pressure is from 400 to 500 psig, select a 500 psig digital gauge.

Cecomp's transducers are specified in psi. When non-standard engineering units are ordered, convert the range from psi to the units desired, and round off the number as shown in the table below. Other engineering units not shown below can generally be accommodated within the limitations of the available transducers and the 31/2 digit or 4 digit displays.

SENSOR CAVITY VOLUME

Sensor cavity volume is approximately 0.01 to 0.02 cubic inches. The volume change over the range of the sensor is negligible.

USING THE ALARM OUTPUTS

Normal vs. Reverse Action - With **Normal** configuration (alarm options 1N, 2N, or 3N), the alarm output relays will be CLOSED (relay energized) for a clear or non-alarm condition and OPEN (relay not energized) for an alarm condition. This is primarily for users who desire an alarm condition should the gauge lose power. In the wiring diagrams, the normally closed and normally open designations refer to standard relay terminology; i.e., the relay contact status with the relay coil not energized.

Therefore, with the **Normal** configuration, in a green or non-alarm condition the relay will be energized so that continuity can be expected between the common and normally open leads. In a red or alarm condition, the relay will be open (not energized), so that continuity can be expected between the common and normally closed leads.

Users who do not want an alarm indication when the gauge power is off should specify **Reverse** action (alarm options 1R, 2R, or 3R). In this case, the relay will be open (not energized) in the non-alarm condition and closed for the alarm condition. In this case, continuity can be expected from common to normally closed in the green (non-alarm) condition and from common to normally open in the red (alarm) condition.

Understanding Deadband - The alarm circuit set points have built-in deadbands, also known as hysteresis, of 1% of span as standard. This means, for example, the deadband is approximately 1 psi in a 0 to 100 psi gauge.

This deadband serves to eliminate output oscillation or "chatter" in the process due to minor fluctuations in pressure. If, for example, the system pressure in a 0-100 psi system is 40.0 psi, and Set point 1 is set to 50.0 psi (HI alarm), the alarm indication will trip if the pressure exceeds 50.0 psi. After the HI alarm has tripped, pressing the SP1 button will show that the alarm indication will "release" at 1 psi lower (approximately 49 psi).

Contact Rating and Protection - The contacts of the alarm relays are rated at 1A/24VDC or 0.5A/115VAC. Using mechanical relay contacts above their rating, or with large inductive loads, will shorten their useful life. In circuits other than low-level switching or pilot duty, the user should consider whether external contact protection such as snubber networks or arc suppression networks are required to protect the contacts.

No internal fusing is included in the alarm contact circuits. The circuit external to the gauge alarm outputs should be fused by the user in applications where good design practice dictates.

GAUGE REFERENCE OPTIONS

Most gauges are **Gauge Reference** and are referenced to ambient pressure. This means that the gauge will read zero with no pressure applied and continue to read zero as atmospheric pressure changes. Gauges 1000 psi and over use sealed reference transducers that are referenced to a fixed value of 14.7 psia (normal atmospheric pressure). At these higher pressures, there is no noticeable difference in operation.

Absolute Reference gauges use high vacuum as a zero reference and thus will read atmospheric pressure with the gauge port open to ambient and zero at high vacuum. The gauge's reading will vary with barometric pressure and altitude. Absolute reference gauges are not available in ranges below 15 psi because the transducer will always be in an over range condition at normal atmospheric pressures. See price list for available absolute ranges.

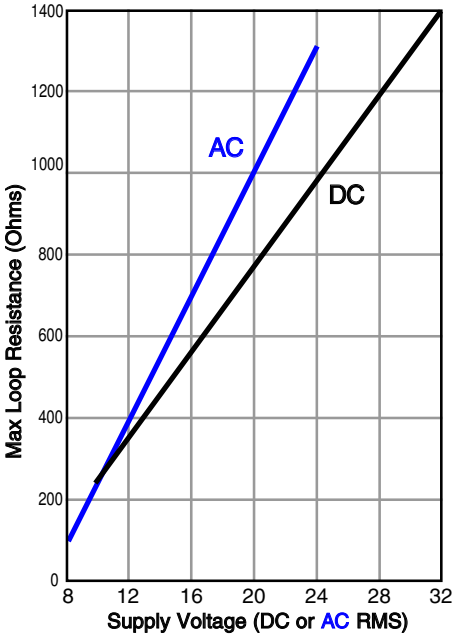
USING THE RETRANSMISSION OUTPUTS

The retransmission outputs are driven by the transducer rather than the display and thus are true analog outputs. Outputs are filtered to improve noise immunity and have a response time of about 50 msec. The outputs are easy to use if a few system considerations are observed.

Voltage Retransmission - When using the 0-2 V retransmission option, do not allow the resistive load on the output to fall below 5K ohms. Also, avoid large capacitive loads (greater that 1000 pF) such as those caused by long runs of shielded cable. For long retransmission runs, use the 4-20 mA option instead.

Current Retransmission - Be sure to observe the output compliance (voltage drive) capabilities of the gauge. The compliance, and therefore the maximum loop resistance the output can drive, is a function of the supply voltage to the gauge. At right is a typical graph for maximum loop resistance vs. supply voltage. Too large a loop resistance will cause the gauge output to "limit" or saturate before reaching its full 20 mA output.

Typical Voltage Compliance for 4-20 mA Current Retransmission Output



System Grounding with Retransmission - For gauges with retransmission, the power supply (–) lead is tied to the retransmission output ground. Therefore, if a DC supply is used, the power supply (–) lead should be considered common with the retransmission output (–) connection.

Typical gauge ranges when non-standard engineering units are ordered

PSI	Reference	InHg @ 0°C	InH_2O @ 20°C	Oz/in²	FtH_2O @ 20°C	kPa & MPa	mmHg torr*	mbar*	bar	g/cm²	kg/cm²	atm	cmH_2O @ 20°C	mmH_2O @ 20°C
3	G	6	85	50	7	20	150	200					200	1999
5	G	10	140	80	12	35	250	350					350	
15	G, A, VAC	30	400	240	35	100	760	1000	1	1000	1	1	1000	
30	G or A	60	850		70	200	1500	1999	2	1999	2	2	1999	
60	G	120			140	400			4		4	4		
100	G, A, VAC	200			250	700			7		7	7		
200	G, VAC				500	1500			15		15	20		
300	G					1999			20		20	20		
500	G					3.5 MPa			35		35	35		
1000	G**					7 MPa			70		70	70		
2000	G**					14 MPa			140		140	135		
3000	G**					20 MPa			200		200	200		
5000	G**					35 MPa			350		350	340		

* Absolute reference is generally used for vacuum applications with these units

** 14.7 psia sealed reference transducer

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How do I select the right pressure range?

It is traditional to choose a mechanical gauge with a pressure range that is twice the working pressure. This give best accuracy since typical mechanical gauges are more accurate near the middle of their range. This also gives some protection against accidental overpressure or pressure spikes.

Digital pressure gauge accuracy is expressed as a percent of full scale, thus accuracy is best near the upper end of the gauge's range. It is best to select a digital gauge range that is just above your working pressure. For example, if you need to read at 180 psi, a 200 psi gauge would be your best choice. Our digital gauges can withstand 2 times their rated pressure without damage. This gives some protection against accidental overpressure or pressure spikes.

What is "gauge reference?"

Most gauges are referenced to ambient pressure which is called Gauge Reference. The readings are not affected by atmospheric pressure changes. This means that the gauge will read zero with no pressure applied and continue to read zero as atmospheric pressure changes.

Gauges 1000 psi and over use sealed reference transducers which are referenced to a fixed value of 14.7 psia (normal atmospheric pressure). At these higher pressures there is no noticeable difference in operation.

What is "absolute reference?"

Absolute Reference gauges use absolute vacuum as a zero reference and thus will read zero at high vacuum and atmospheric pressure with the gauge port open to ambient.

The gauge's reading will vary with barometric pressure and altitude. Since barometric pressure is constantly changing, the gauge's reading will continuously change when the gauge port is open to atmosphere, or if the system to which it is attached changes in volume or pressure with response to atmospheric pressure changes.

As vacuum is applied, the readings will decrease, eventually reaching zero when full vacuum is applied. Absolute reference gauges are not available in ranges below 15 psi because the transducer would always be in an over range condition at normal atmospheric pressures.

What do you mean by 3-1/2 and 4 digit displays?

A gauge's range and resolution is determined by the number of digits that can be shown on the display.

3-1/2 digit display range	up to 1999
3-3/4 digit display range	up to 3999
4 digit display range	up to 9999
4-1/2 digit display range	up to 19999

A gauge's range and resolution is determined by the number of digits that can be shown on the display. LCDs (Liquid Crystal Displays) used for digital readouts are available with various numbers of digits.

A display that reads up to 1999 also has decimal points that can also be used for lower ranges such as 19.99 or 199.9. Since the left most digit can only be a 1 or turned off, it is known as a "half digit". The other three digits can display anything from 0 through 9 and thus are called full or whole digits. Thus a 1999 display is known in the electronics industry as a 3-1/2 digit display. Although the term "half digit" to describe a 1 may not make sense, this description originated in the early days of digital displays and has been around ever since.

Higher ranges such as our 3000 and 5000 psi ranges require the use of a 4 digit display. This type of display has 4 full digits and can read to 9999.

What determines the ranges of the gauges you offer?

Ranges are determined by available transducer ranges, selected engineering units, and display digits. It is advantageous to specify ranges that maximize display counts over a given transducer range. Practical display resolution is limited by noise and thermal drift to avoid undesirable instability in the last digit.

For example, a 3-1/2 digit display can provide a maximum of 1999 divisions or counts. If a vacuum range were specified with this display in inches of Hg, it would give a 300 count range of 0-30.0 inHg vacuum.

If this same gauge were specified in psi, is would give a range of 0-15.00 psig vacuum, thus dividing the range into 1500 counts.

If we instead use a 4-digit display and specify mmHg, we would have a range of 0-760.0 mmHg, dividing the range into 7600 counts.

How is accuracy calculated?

Accuracy calculations are based on the characteristics (linearity, hysteresis, repeatability) of the transducer and supporting electronics, range of the transducer, as well as the display resolution. It is expressed as a percent of full scale of the transducer plus the round-off error of the right most (least significant) digit. This round-off error has to do with the fact that the analog output of the pressure transducer needs to be rounded up or down when it is converted to a digital readout. This produces a 1 digit uncertainty in the right-most digit in the display which can not be ignored. Sometime the "±1 LSD" is left off of competitor's specifications, but it is safe to assume it should be there.

The accuracy statement is typically stated as ±0.25% FS ±1LSD. Another way of stating this would be ±(0.25% FS +1LSD).

For example, lets use a 100 psi gauge.

±0.0025 X 100psi = ±0.25 psi

Since this range has a resolution of 0.1, we round the 0.25 error up to ±0.3. Then we add a last digit uncertainty of ±0.1 to get a calculated accuracy of ±0.4 psi. Our gauges are conservatively rated and generally are well within the stated accuracy limits.

What is the High Accuracy (±0.1%) option?

When a gauge is ordered with the -HA High Accuracy option, it is linearized and tested until it meets the high accuracy specification. See the gauge range table for ranges available with the -HA option.

Some engineering units with certain display resolutions don't give any advantage with the high accuracy option. For example, a 30 psi gauge with 0.1 resolution would have the same calculated accuracy in both ±0.25% FS ±1 LSD and ±0.1% FS ±1 LSD versions due to fact that error is rounded up (we can't ignore possible error). A gauge in this range would require a 4 digit display (0.01 resolution) to take advantage of the high accuracy specification. Such gauges can be ordered, but you should be aware that in some cases the added resolution may increase drift of the last digit.

The High Accuracy option is available for the analog output on any gauge with an analog output. For these gauges the high accuracy linearization specification applies only to the analog output.

What engineering units are available?

See the gauge range table for available ranges and engineering units. We can manufacture gauges with almost any scale, limited by available display digits and transducer ranges. There is an extra charge for units other than psig or inHg. We can even do tons of force if you supply us with the conversion factor.

Psig is by far the most popular general purpose scale in the US. Some industries prefer certain units. Inches H2O is common in HVAC. Torr Absolute is common for vacuum packaging and vacuum pumps. Inches Hg is popular for general purpose vacuum readings. Feet H2O is common for water tank level.

Why does NIST traceability calibration cost more?

A customer's quality standards often require a gauge to be traceable to NIST standards. It costs several thousand dollars per year to maintain NIST traceable instrumentation for each of the ranges we offer. Instrumentation must be sent in annually for recertification. This often requires duplicate equipment for each range so production is not interrupted.

Our calibration prices are comparable to other metrology labs. Our gauges are easy to calibrate and can be returned to us or any metrologist for recertification.

Can I use a Gauge Isolator with my Cecomp gauge?

Yes, you can use a gauge isolator with Cecomp gauges except for the older DPG500 series. Cecomp DPG1000, F4 and F16 series gauges have 316 stainless steel wetted parts, so often an isolator is not needed unless the media is incompatible with stainless steel. Chemical compatibility data is commonly available from online sources or the Compass Corrosion Guide.

Please be aware that a gauge isolator can degrade the accuracy and sensitivity of any gauge it is attached to. Refer to the gauge isolator manufacturer's data for more information. Your local gauge distributor may be able to assist you with gauge isolator selection, installation, and service.

Please remove the isolator from any gauge you send to us for calibration or service. Cecomp is not equipped to install, service, or refill gauge isolators. Your local gauge distributor may also be able to recalibrate your Cecomp gauge.

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Cecomp Digital Pressure Gauge Ranges and Accuracies

Gauge Ranges		3½ Digit Display, DPG1000, ARM, F4 Series			4-Digit Display F16 Digi Max		
Pounds per Square Inch	Equivalent psi	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy
–30INHG/15PSIG	±15.0	0.1	±0.2 psi	n/a	0.01	±0.09 psi	n/a
–30INHG/100PSIG	–15.0/100.0	0.1	±0.4 psi	n/a	0.1	±0.4 psi	n/a
–30INHG/200PSIG	–15.0/199.9	0.1	±0.7 psi	n/a	0.1	±0.7 psi	n/a
3PSIG	3.00	0.01	±0.02	n/a	0.001	±0.009	n/a
5PSIG	5.00	0.01	±0.03	±0.02	0.001	±0.014	±0.006
15PSIA	15.00 abs	0.01	±0.05	n/a	0.01	±0.05	n/a
15PSIGVAC	–15.00	0.01	±0.05	±0.03	0.01	±0.05	±0.03
±15PSIG	±15.0	0.1	±0.2	n/a	0.01	±0.09	n/a
15PSIG	15.00	0.01	±0.05	±0.03	0.01	±0.05	±0.03
30PSIA	30.0 abs	0.1	±0.2	n/a	0.01	±0.09	n/a
30PSIG	30.0	0.1	±0.2	n/a	0.01	±0.09	±0.04
60PSIG	60.0	0.1	±0.3	±0.2	0.01	±0.16	±0.07
100PSIA	100.0 abs	0.1	±0.4	n/a	0.1	±0.4	n/a
100PSIG	100.0	0.1	±0.4	±0.2	0.1	±0.4	±0.2
200PSIG	199.9/200.0	0.1	±0.6	±0.3	0.1	±0.6	±0.3
300PSIG	300	1	±2	n/a	0.1	±0.9	±0.4
500PSIG	500	1	±3	±2	0.1	±1.4	±0.6
1000PSIG	1000	1	±4	±2	1	±4	±2
2000PSIG	1999/2000	1	±6	±3	1	±6	±3
3000PSIG	3000	1	±9	±4	1	±9	±4
5000PSIG	5000	1	±14	±6	1	±14	±6
Inches Hg (Mercury @ 0°C)	Equivalent psi	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy
6INHGG	2.95	0.01	±0.03	n/a	0.001	±0.017	n/a
10INHGG	4.91	0.01	±0.04	±0.03	0.01	±0.04	±0.03
30INHGA	14.73 abs	0.1	±0.2	n/a	0.01	±0.09	n/a
30INHGVAC	–14.73	0.1	±0.2	n/a	0.01	±0.09	±0.04
±30INHGG	±14.73	0.1	±0.3	n/a	0.01	±0.17	n/a
30INHGG	14.73	0.1	±0.2	n/a	0.01	±0.09	±0.05
60INHGA	29.5 abs	0.1	±0.3	n/a	0.01	±0.17	n/a
60INHGG	29.5	0.1	±0.3	±0.2	0.01	±0.17	±0.08
120INHGG	58.9	0.1	±0.5	±0.3	0.1	±0.5	±0.3
200INHGA	98.2 abs	0.1	±0.7	n/a	0.1	±0.7	n/a
200INHGG	98.2	0.1	±0.7	±0.4	0.1	±0.7	±0.4
Inches H_2O (H_2O @ 20°C)	Equivalent psi	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy
85INH2OG	3.07	0.1	±0.4	n/a	0.1	±0.4	n/a
140INH2OG	5.05	0.1	±0.5	±0.3	0.1	±0.5	±0.3
400INH2OA	14.42 abs	1	±3	n/a	0.1	±1.2	n/a
400INH2OVAC	–14.42	1	±3	±2	0.1	±1.2	±0.6
±400INH2OG	±14.42	1	±4	n/a	1	±4	n/a
400INH2OG	14.42	1	±3	±2	0.1	±1.2	±0.6
850INH2OG	30.7	1	±4	±2	1	±4	±2
Feet H_2O (H_2O @ 20°C)	Equivalent psi	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy
7FTH2O	3.03	0.01	±0.03	n/a	0.001	±0.019	n/a
12FTH2O	5.20	0.01	±0.04	±0.03	0.01	±0.04	±0.03
35FTH2O	15.2	0.1	±0.2	n/a	0.01	±0.10	±0.05
70FTH2O	30.3	0.1	±0.3	±0.2	0.01	±0.19	±0.08
140FTH2O	60.7	0.1	±0.5	±0.3	0.1	±0.5	±0.3
230FTH2O	99.7	1	±2	n/a	0.1	±0.7	±0.4
480FTH2O	208	1	±3	±2	0.1	±1.3	±0.6

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Cecomp Electronics

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Gauge Ranges		3½ Digit Display, DPG1000, ARM, F4 Series			4-Digit Display F16 Digi Max		
Ounces per Square Inch	Equivalent psi	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy
50ZING	3.13	0.1	±0.3	n/a	0.01	±0.14	n/a
80ZING	5.00	0.1	±0.3	±0.2	0.1	±0.3	±0.2
240ZING	15.0	1	±2	n/a	0.1	±0.7	±0.4
KiloPascals	Equivalent psi	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy	Display Resolution	0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy
–100V/700KPA	–15/102	1	±3	n/a	±3	±3	n/a
20KPAG	2.90	0.01	±0.07	n/a	0.01	±0.07	n/a
35KPAG	5.08	0.1	±0.2	n/a	0.01	±0.10	±0.05
100KPAA	14.5 abs	0.1	±0.4	n/a	0.1	±0.4	n/a
100KPAVAC	–14.5	0.1	±0.4	±0.3	0.1	±0.4	±0.3
±100KPAG	±14.5	0.1	±0.7	n/a	0.1	±0.7	n/a
100KPAG	14.5	0.1	±0.4	±0.3	0.1	±0.4	±0.3
200KPAA	29.0 abs	0.1	±0.7	n/a	0.1	±0.7	n/a
200KPAG	29.0	0.1	±0.7	±0.4	0.1	±0.7	±0.4
400KPAG	58	1	±3	±2	0.1	±1.2	±0.6
700KPAA	102 abs	1	±3	n/a	0.1	±1.9	n/a
700KPAG	102	1	±3	±2	0.1	±1.9	±0.8
1500KPAG	218	1	±5	±3	1	±5	±3
2000KPAG	290	1	±7	±4	1	±7	±4
3500KPAG	508	1	±10	±5	1	±10	±5
7000KPAG	1015	1	±19	±8	1	±19	±8
MegaPascals	Equivalent psi	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy
3.5MPAG	508	0.01	±0.02	n/a	0.001	±0.01	±0.005
7MPAG	1015	0.01	±0.03	±0.02	0.001	±0.019	±0.008
14MPAG	2031	0.01	±0.05	±0.03	0.01	±0.05	±0.03
20MPAG	2901	0.01	±0.07	±0.04	0.01	±0.07	±0.04
35MPAG	5076	0.1	±0.2	n/a	0.01	±0.10	±0.05
Millibars	Equivalent psi	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy
200MBARG	2.90	0.1	±0.7	n/a	0.1	±0.7	n/a
350MBARG	5.08	1	±2	n/a	0.1	±1.0	±0.5
1000MBARA	14.5 abs	1	±4	n/a	1	±4	n/a
±1000MBARG	±14.5	1	±7	n/a	1	±7	n/a
1000MBARG	14.5	1	±4	±3	1	±4	±3
2000MBARA	29.0 abs	1	±7	n/a	1	±7	n/a
2000MBARG	29.0	1	±7	±4	1	±7	±4
4000MBARG	58.0	1	±12	±6	1	±12	±6
Bar	Equivalent psi	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy
–1V/7BAR	–14.5/101.5	0.01	±0.04	n/a	0.01	±0.04	n/a
1BARA	14.50 abs	0.001	±0.004	n/a	0.001	±0.004	n/a
±1BARG	±14.50	0.001	±0.007	n/a	0.001	±0.004	n/a
1BARVAC	–14.50	0.001	±0.004	±0.003	0.001	±0.004	±0.003
1BARG	14.50	0.001	±0.004	±0.003	0.001	±0.004	±0.003
2BARA	29.0 abs	0.001	±0.007	n/a	0.001	±0.007	n/a
2BARG	29.0	0.001	±0.007	±0.004	0.001	±0.007	±0.004
4BARG	58.0	0.01	±0.03	±0.02	0.001	±0.012	±0.006
7BARA	101.5 abs	0.01	±0.03	n/a	0.001	±0.019	n/a
7BARG	101.5	0.01	±0.03	±0.02	0.001	±0.019	±0.008
14BARG	203	0.01	±0.05	±0.03	0.01	±0.05	±0.03
20BARG	290	0.01	±0.07	±0.04	0.01	±0.07	±0.04
35BARG	508	0.1	±0.2	n/a	0.01	±0.10	±0.05
70BARG	1015	0.1	±0.3	±0.2	0.01	±0.19	±0.08
140BARG	2031	0.1	±0.5	±0.3	0.1	±0.5	±0.3
200BARG	2901	0.1	±0.7	±0.4	0.1	±0.7	±0.4
350BARG	5076	1	±2	n/a	0.1	±1.0	±0.5

Cecomp Digital Pressure Gauge Ranges and Accuracies

Gauge Ranges		3½ Digit Display, DPG1000, ARM, F4 Series			4-Digit Display F16 Digi Max		
Kilograms per cm^2	Equivalent psi	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy
1KGCMA	14.22 abs	0.001	±0.004	n/a	0.001	±0.004	n/a
±1KGCMG	±14.22	0.001	±0.007	n/a	0.001	±0.007	n/a
1KGCMG	14.22	0.001	±0.004	±0.003	0.001	±0.004	±0.003
2KGCMA	28.4 abs	0.001	±0.007	n/a	0.001	±0.007	n/a
2KGCMG	28.4	0.001	±0.007	±0.004	0.001	±0.007	±0.004
4KGCMG	56.9	0.01	±0.03	±0.02	0.001	±0.012	±0.006
7KGCMA	99.6 abs	0.01	±0.03	n/a	0.001	±0.019	n/a
7KGCMG	99.6	0.01	±0.03	±0.02	0.001	±0.019	±0.009
14KGCMG	199.1	0.01	±0.05	±0.03	0.01	±0.05	±0.03
20KGCMG	284	0.01	±0.07	±0.04	0.01	±0.07	±0.04
35KGCMG	498	0.1	±0.2	n/a	0.01	±0.10	±0.05
70KGCMG	996	0.1	±0.3	±0.2	0.01	±0.19	±0.09
140KGCMG	1991	0.1	±0.5	±0.3	0.1	±0.5	±0.3
200KGCMG	2845	0.1	±0.7	±0.4	0.1	±0.7	±0.4
350KGCMG	4978	1	±2	n/a	0.1	±1.0	±0.5
Grams per cm^2	Equivalent psi	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy
1000GCMA	14.22 abs	1	±4	n/a	1	±4	n/a
1000GCMG	14.22	1	±4	±3	1	±4	±3
2100GCMA	29.9 abs	1	±7	n/a	1	±7	n/a
2100GCMG	29.9	1	±7	±4	1	±7	±4
mmHg or Torr (Mercury @ 0°C)	Equivalent psi	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy
150MMHGG	2.90	0.1	±0.5	n/a	0.1	±0.5	n/a
260MMHGG	5.03	1	±2	n/a	0.1	±0.8	±0.4
760TORRA	14.7 abs	1	±3	n/a	0.1	±2.1	n/a
760MMHGA	14.7 abs	1	±3	n/a	0.1	±2.1	n/a
760MMHGVAC	−14.7	1	±3	n/a	0.1	±2.1	n/a
760MMHGG	14.7	1	±3	±2	0.1	±2.1	±0.9
1600MMHGA	30.9 abs	1	±5	n/a	1	±5	n/a
1600MMHGG	30.9	1	±5	±3	1	±5	±3
cm H_2O (H_2O @ 20°C)	Equivalent psi	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy
200CMH2OG	2.84	0.1	±0.7	n/a	0.1	±0.7	n/a
350CMH2OG	4.97	1	±2	n/a	0.1	±1.0	±0.5
1000CMH2OG	14.2	1	±4	±3	1	±4	±3
2100CMH2OG	29.8	1	±7	±4	1	±7	±4
mm H_2O (H_2O @ 20°C)	Equivalent psi	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy
2100MMH2OG	2.98	1	±7	n/a	1	±7	n/a
3500MMH2OG	4.97	n/a	n/a	n/a	1	±10	±5
Atmospheres	Equivalent psi	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy	Display Resolution	±0.25% ±1 LSD Accuracy	±0.1% ±1 LSD Accuracy
1ATMG	14.70	0.001	±0.004	±0.003	0.001	±0.004	±0.003
2ATMG	29.39	0.01	±0.02	±0.02	0.001	±0.007	±0.004
4ATMG	58.8	0.01	±0.03	±0.02	0.001	±0.012	±0.006
7ATMG	102.9	0.01	±0.03	±0.02	0.001	±0.019	±0.008
14ATMG	206	0.01	±0.05	±0.03	0.01	±0.05	±0.03
20ATMG	294	0.01	±0.07	±0.04	0.01	±0.07	±0.04
35ATMG	514	0.1	±0.2	n/a	0.01	±0.10	±0.05
70ATMG	1029	0.1	±0.3	±0.2	0.01	±0.19	±0.08
135ATMG	1984	0.1	±0.5	±0.3	0.1	±0.5	±0.3
200ATMG	2939	0.1	±0.7	±0.4	0.1	±0.7	±0.4
340ATMG	4997	1	±2	n/a	0.1	±1.0	±0.5

Pressure

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