

Pressure is defined as a force per unit area - and the most accurate way to measure low air pressure is to balance a column of liquid known weight against it and measure the height of the liquid column so balanced. The unit of measure commonly used are mm hg / inches hg using mercury as the fluid, and mm wc / inches wc using water or oil as the fluid.

ACRYLIC BODY MANOMETER

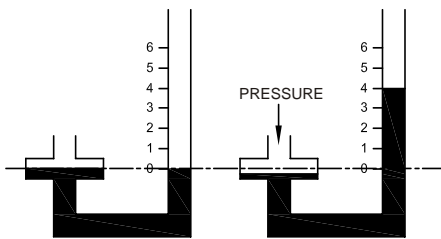


STANDARD RANGES

'U' Tube Manometer		Single Limb Manometer		Inclined Manometer	
RANGES	LEAST COUNT	RANGES	LEAST COUNT	RANGES	LEAST COUNT
(MM w.c./H.G.) (IN MM)		(MM W.C./H.G.) (IN MM)		(MM W.C./H.G.) (IN MM)	
50-0-50	1	0-75	1	0-6	0.05
100-0-100	1	0-100	1	0-10	0.1
150-0-150	1	0-150	1	0-12	0.1
200-0-200	1	0-200	1	0-15	0.1
250-0-250	1	0-250	1	0-25	0.2
300-0-300	1	0-300	1	0-50	0.5
350-0-350	1	0-350	1	0-75	0.5
		0-500	1	0-100	0.5
				0-150	0.5

Note : Special Ranges and Least Count Available On Request.

SINGLE LIMB MANOMETER



SINGLE LIMB MANOMETER

At left, equal pressure is imposed on the fluid in the well and in the indicating tube. Reading is zero. At the right, a positive pressure has been imposed on the liquid in the well causing the level to go down very slightly. Liquid level in indicating tube has risen substantially. Reading is taken directly from scale at liquid level in indicating tube. The scale has been compensated for the drop in level in the well.

'U' - TUBE MANOMETER

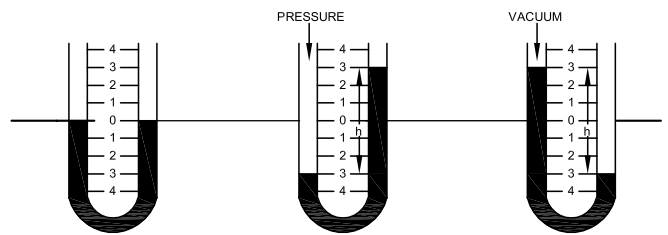
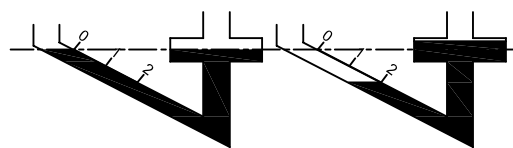


Fig. 1-1 In its simplest form the manometer is a U-tube about half filled with liquid. With both ends of the tube open, the liquid is at the same height in each limb.

Fig. 1-2 When positive pressure is applied to one leg, the liquid is forced down in that limb and up in the other. The difference in height, 'h' which is the sum of the readings above and below zero, indicates the pressure.

Fig. 1-3 When a vacuum is applied to one limb, the liquid rises in that limb and falls in the other. The difference in height, 'h' which is the sum of the readings above and below zero, indicates the amount of vacuum

INCLINED MANOMETER



INCLINED MANOMETER

At left, equal pressure is imposed on the liquid in the well and the indicating tube. Reading is zero. At the right, a positive pressure has been imposed on the liquid in the indicating tube pushing it down to a point on the scale equal to the pressure. Liquid level in the well rises proportionately. Inclining the indicating tube has opened up the scale to permit more precise reading of the pressure.

METALIC BODY MANOMETER

STANDARD RANGES

'U'TUBE MANOMETER		SINGLE LIMB MANOMETER	
RANGES (MM W.C/ H.G.)	LEAST COUNT (IN MM)	RANGES (MM W.C /H.G.)	LEAST COUNT (IN MM)
100- 0 -100	1	0 -200	1
250- 0 -250	1	0 -500	1
300- 0 -300	1	0 -600	1
380- 0 -380	1	0 -760	1
500- 0 -500	1	0 -1000	1
750- 0 -750	1	0 -1500	1
1000- 0 -1000	1	0 -2000	1

Note : Special Ranges And Least Count Available On Request.



MCLEOD GAUGE

The conventional Mcleod Guage has been modified and range 0.001 -10 MM H.G. resulting as an accuracy of ± 5% at scale point.

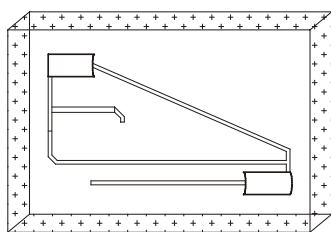
PRINCIPAL OF OPERATION

The Mcleod Guage consists of a bulb and capillary tube where their volume of mercury V1 is at atmospheric pressure P 1. when vacuum is applied both are evacuated and when the guage is rotated, this volume is compressed to a small portion in the capillary having volume V2 at corresponding pressure (i.e. vacuum) P2boyle's Law $P_1v_1 = P_2v_2$

The pressure is read by comparing the compressed level of mercury with the corresponding graduated scale parallel to the capillary tube.

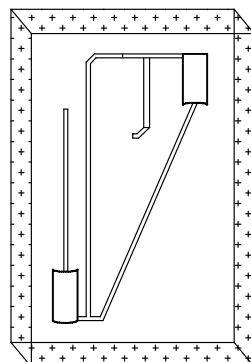


FIG (1)



Horizontal position start vacuum

FIG (2)



Rotate as above for reading

