

## INSTALLATION

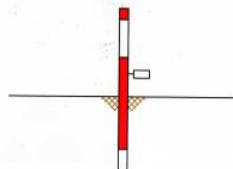
- Remove transit tape from vacuum gauge needle.



- Check water level in sight tube and top up (if required) with cool, clean, boiled water to within 1cm of the top.



- Select suitable location to install, ensuring tensiometer is placed within the active root zone of the crop.
- Use 20mm auger marked to the required depth. In stony soils manual excavation & careful backfilling will be required.
- Insert tensiometer into augered hole by grasping the stem (orange body) with both hands while exerting gentle downward pressure until the tip is located at the required depth.
- Pack around the top of the stem at the soil surface to provide an effective seal.



## OPERATION

- Read vacuum gauge daily (preferably early morning) to establish water use patterns.
- Record readings including rainfall and irrigation amounts.
- Plot data on a graph cb (kPa) vs days to assist with prediction of timing and amount of irrigation required.



- Compare centibar readings with quick reference table below to determine approximate irrigation times.

*DIAL READING	**cb (kPa)	INTERPRETATION
NEARLY SATURATED	0	Near saturated soil often occurs for a day or two following irrigation. Danger of water-logged soils, a high water table, poor soil aeration, or the tensiometer may have broken tension, if readings persist.
	10	
FIELD CAPACITY	11	Field capacity. Irrigations discontinued in this range to prevent waste by deep percolation and leaching of nutrients below the root zone. Sandy soils will be at field capacity in the lower range; clayey soil at field capacity in the upper range.
	20	
	30	
IRRIGATION RANGE	40	Usual range for starting irrigations. Soil aeration is assured in this range. In general, irrigations start at readings of 30-40 in sandy textured soils (loamy sandy & sandy loams). Irrigations usually start from 40-50 on loamy soils, (very fine sandy loams & silt loams). On clay soils (silty clay loamy, silty clays, etc.) irrigations usually start from 50-60. Starting irrigations in this range insures maintaining readily available soil moisture at all times.
	50	
	60	
DRY	70	This is the stress range. However, crop not necessarily damaged or yield reduced. Some soil moisture is readily available to the plant but is getting dangerously low for maximum production.
	80	

\* Indicative of soil conditions where the tensiometer is located. Judgement should be used to correlate these readings to general crop conditions in the field.

\*\* 1 centibar (cb) = 1 kilopascal (kPa)

## MAINTENANCE

- Check water level in sight tube at each reading and top up if required.
- Preseason checks are recommended using the TenTek battery powered vacuum pump to de-air the vacuum gauge, check air tightness of seals & condition of ceramic tip.



- All vacuum gauges are pre-primed with anti-freeze to mitigate any damage during a frost event. In the unlikely event the gauge does suffer damage, it may be replaced or repaired. Refitment will require a new grommet to be installed.