ENCARDIO RITE

UPLIFT PRESSURE METER

Model EPU-20V/EPU-20G

INTRODUCTION

The uplift pressure meter is used for monitoring uplift pressure of water in the foundation of dams and concrete structures and the stability of foundations of embankments in dams, tunnels and other underground works. It provides significant quantitative data on the magnitude and distribution of uplift pressure of water and its variations with time. It also provides the pattern of seepage, zones of potential piping and the effectiveness of seepage control measures undertaken.

DESCRIPTION

The uplift pressure measuring device consists of a perforated/non-perforated pipe of 50 mm ϕ of adequate strength. The pipe is inserted in a drilled hole in the foundation from the instrumentation gallery to the required depth. To the other end of the pipe in the gallery is connected the uplift pressure meter or a Bourdon pressure gage.

The uplift pressure measuring system incorporating Bourdon pressure gage is economical and easy to install. However for taking readings, one has to go into the gallery. Remote measurement of uplift pressure is possible with model EPU-20V vibrating wire uplift pressure meter. The uplift measurement system incorporating model EPU-20V sensor is shown on the next page. The system enables reliable and fast measurement of uplift pressure. It also enables data storing in case the output is connected to the data acquisition system.

MODEL EPU-20V UPLIFT PRESSURE METER

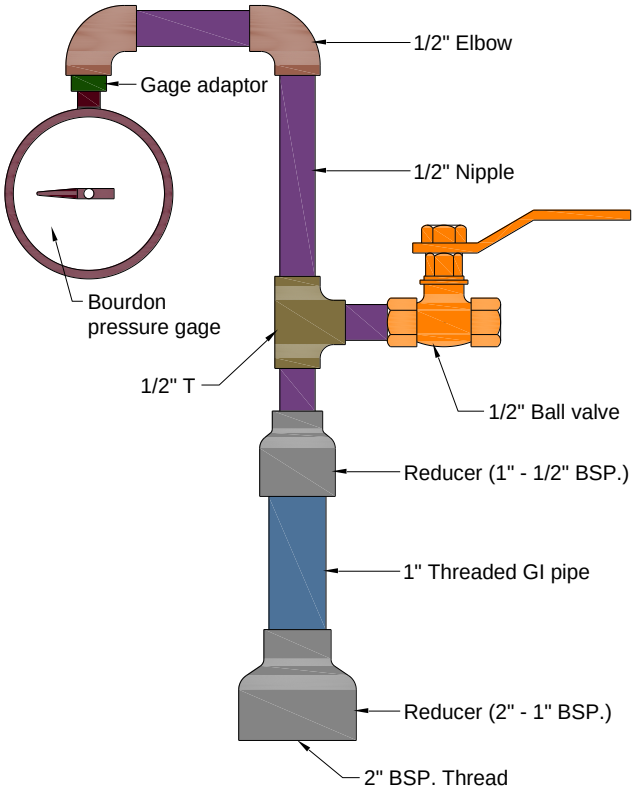
Model EPU-20V sensor incorporates the latest vibrating wire technology to provide remote digital readout of fluid and/or water pressure in standpipes, bore holes and embankments. It is similar to the model EPP-30V piezometer except that instead of the special filter, a 25 mm BSP adaptor is provided for the pipe connection. The water oozing through internal pores or seams in rock formations of dam foundations, mass concrete /foundation soil of structures, reclaimed land soil etc. percolates upward through the pipe to the sensor.

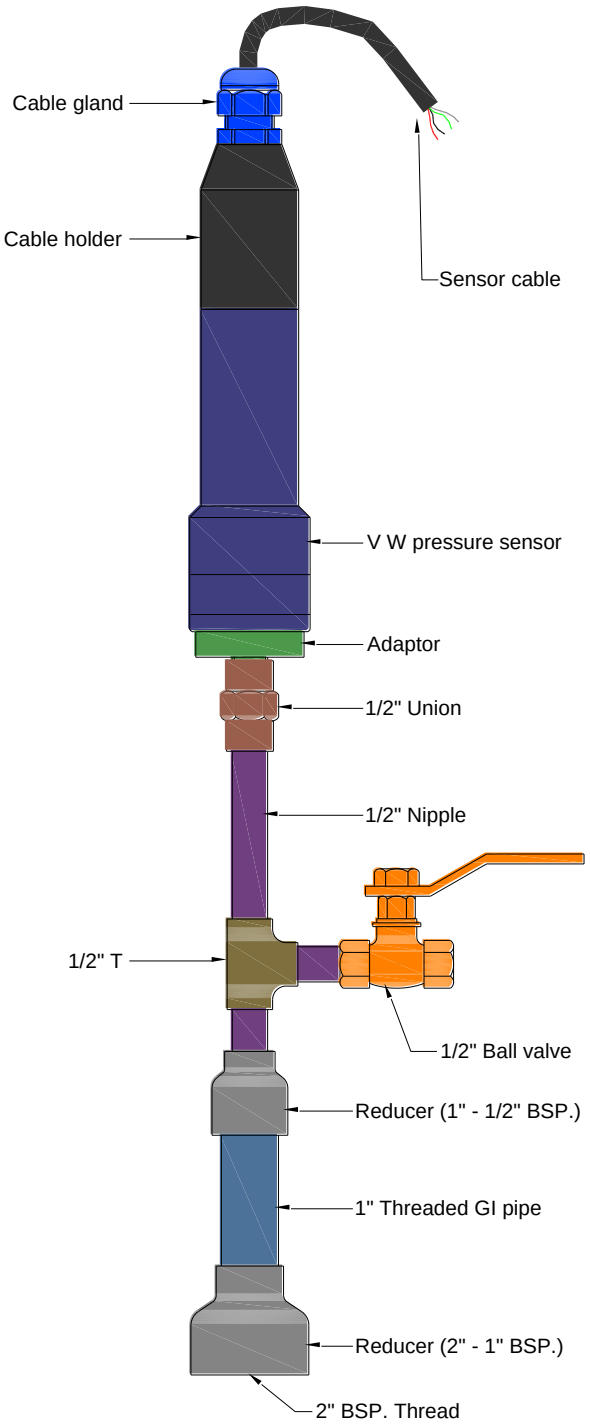
FEATURES

- Reliable, accurate, economical and simple to read.
- Protected against lightning spikes.
- Easy installation in standpipes, pressure vessels. Ideal for underground work.
- Hermetically sealed under a vacuum of 0.001 Torr. Stainless steel construction.
- Thermistor provided for temperature measurement and compensation.
- Not limited to depth of water being within 5 m from the observation station as is in the case of twin tube piezometers.
- Transmission of signal as a frequency over long wire lengths.
- Bourdon gage option available.

APPLICATIONS

- To determine the magnitude of any hydraulic pressure that may be present at the base of a dam due to percolation or seepage of water along underlying foundation seams or joint systems after the reservoir is filled.
- To monitor seepage water from the reservoir area into the dam foundation in respect to the safety of dam structure.
- To monitor effectiveness of the drainage system below the dam.
- To study effectiveness of foundation grouting.





SPECIFICATIONS:

EPU-20V-X (with vibrating wire sensor)

Range (MPa)	**0.2, 0.35, 0.5, 1.0, specify**
Accuracy	± 0.25 % fs normal ± 0.1 % fs optional
Non linearity	± 0.5 % fs
Over range limit	150 % of range
Temperature limit	-20°C to 80°C
Thermistor	YSI 44005 or equivalent
Dimension (dia x L)	42 x 210 mm

Optional: EPU-20G (with Bourdon gage)

Range (MPa)	1.0 standard

** All specifications are subject to change without prior notice.*

ENCARDIO-RITE ELECTRONICS PVT. LTD.
A-7 Industrial Estate, Talkatora Road, Lucknow, UP-226011, India
P +91 522 2661040, F +91 522 2662403; International: P +91 522 2661044
Email: geotech@encardio.com
www.encardio.com
INTERNATIONAL: UAE | QATAR | SAUDI ARABIA | BAHRAIN | GREECE | SINGAPORE | BHUTAN
INDIA: LUCKNOW | DELHI | KOLKATA | MUMBAI | CHENNAI | BANGALORE | HYDERABAD | J&K