# MS-2000™

# IMPORTANT
## SENSOR INSTALLATION AND MOUNTING INSTRUCTIONS

(For all MS-2000 Series Ultrasonic Systems)

*the best available technology...*

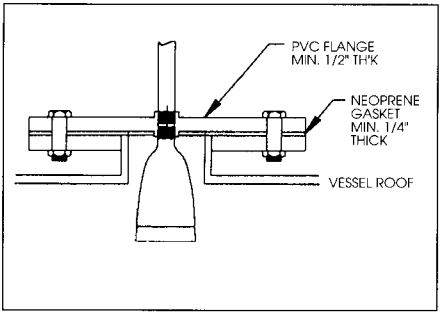
BINDICATOR®

ISO 9001 QUALITY - LEVEL & FLOW

## RECOMMENDED SENSOR MOUNTING

### PVC OR PLASTIC FLANGE

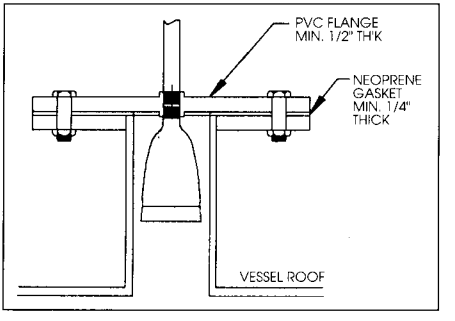
Mount sensor so that it protrudes into the vessel. PVC or other non-metallic flange, with 1/4" thick gasket is preferred.




YES

### STANDPIPES

Avoid using standpipes for mounting sensors. If a standpipe must be used, contact Bindicator Applications for assistance.

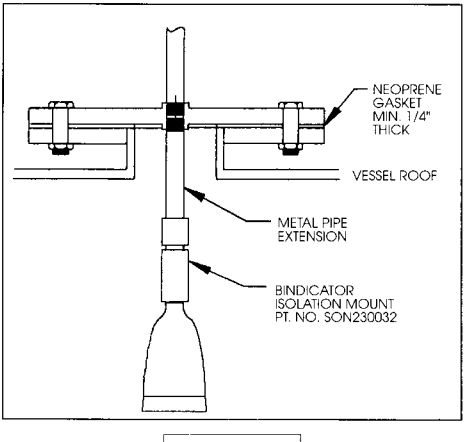



NO

### METAL FLANGES

Use a Bindicator Isolation Mount if mounting sensor on a metal pipe extension or metal flange.

Isolation mount, Part No. SON 230032.



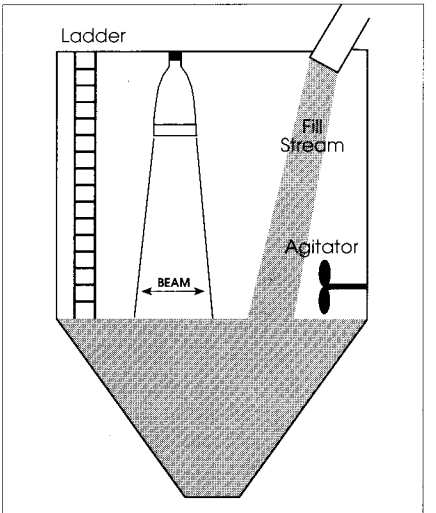

YES

### OTHER CONSIDERATIONS

When mounting the sensor, it is important that it be isolated from the vessel and from sources of excessive vibration and noise. This is to ensure that your Ultrasonic Level Measurement System functions properly, and is not influenced by interference from the above. If you are in doubt, or need assistance in choosing the best type of installation for your application, please contact a Bindicator Applications Engineer at (810) 987-2700.

## SENSOR BEAM ANGLE

The size and shape of the vessel, as well as other physical characteristics, determine the best location for the sensor. The sound beam spreads out at a 10° included angle after it leaves the sensor. It is important to keep this in mind when locating the sensor so that the echoes are not returned from objects other than the surface.



Mount sensor so beam misses obstructions and fill streams.

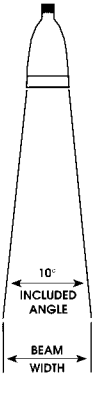
The Sensors are supplied with approximately 7 feet of RG-174 coax and Belden #9154 twisted pair. To connect this pigtail back to the electronics package you will need to splice the cables.

The cables required for this are RG-62 A/U – Belden #9268 (RG-174) is not acceptable for this purpose, only use (RG-62), and Belden #9154 shielded twisted pair, for the Temperature compensation connection.

These splices can be butt splices, solder splices or a terminal strip connections in a junction box. Wire nuts are not acceptable and should not be used.

Note the polarity of both devices, i.e. the coax and the temperature compensation. In connecting the pigtail from the sensor to the coax, connect the red wire to the center conductor of the RG-62 (Belden 9268) and the black wire to the braided shield.

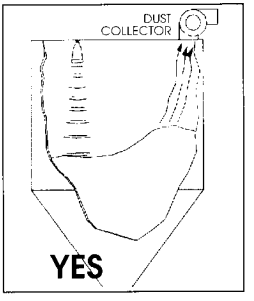
The temperature compensation wires are red, black and clear. The red is to be connected to + (plus) the black to – (negative) and the clear to gnd. (ground).

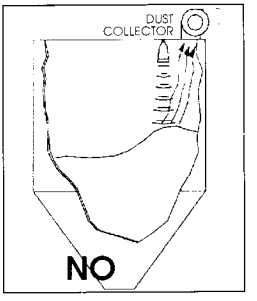



– See next page for recommended locations –

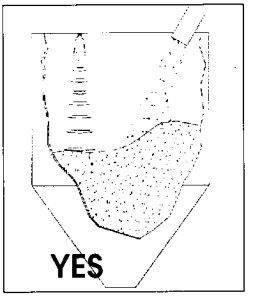
# RECOMMENDED SENSOR LOCATIONS

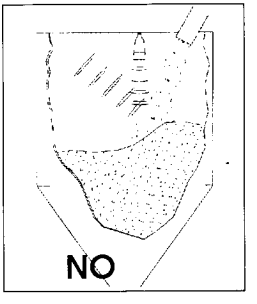
Avoid locating sensor near sources of noise or high velocity air currents.



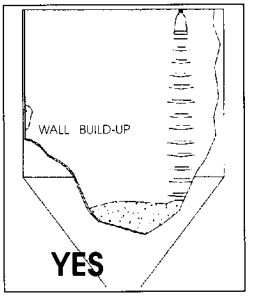



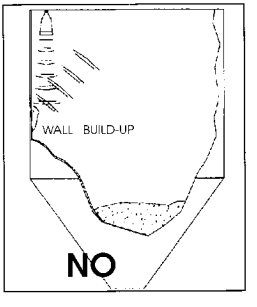

Avoid locating sensor where the fill stream can interfere with the sound beam.



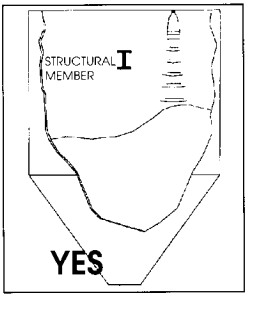



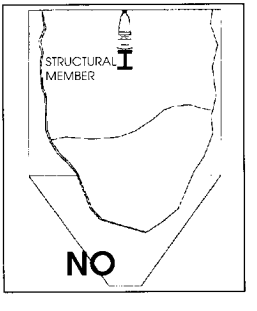

Avoid locating sensor where wall build-up can interfere with the sound beam.




Avoid locating sensor where the bin structure can interfere with the sound beam.

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