Hydronix

Engineering Note: Mounting a Hydro-Probe Orbiter in a Rotating Pan Mixer

Summary: Hints on mounting a Hydro-Probe Orbiter to a Rotating Pan Mixer

Products affected: Hydro-Probe Orbiter – ORB1

Revision Date: May 2007 Author: Keith Legg

Introduction

A Hydro-Probe Orbiter can be mounted in a concrete mixer in a variety of ways. This largely depends on whether the mixer is static pan, for example, a planetary or turbo mixer where the floor is stationary and the mixing blades rotate about the centre of the mixer; or a rotating pan mixer, where the floor rotates.

This engineering note provides information to assist with the mounting of a Hydro-Probe Orbiter inside a **rotating pan mixer**, the best known of which is the **Eirich** mixer. In these mixers it is normal practice to use a **very long sensing arm** so that the sensor electronics are positioned outside of the mixer. This is useful for maintenance and diagnostic purposes.

Full instructions for the installation of the Hydro-Probe Orbiter can be found in the Hydro-Probe Orbiter (Static Mounting) User Guide, HD0215.

Length of the sensing arm

There are 3 standard lengths of sensing arm available from Hydronix, 560mm, 700mm and 1420mm. The length refers to the total length of the sensor (sensing arm connected to electronics), not the arm itself.

The 1420mm arm is used for rotating pan mixers. This is long enough for most mixers given that the bottom of the arm will be mounted the recommended distance from the mixer floor (50mm), and the electronics body is above the mixer lid.

Hydronix would always recommend using the 1420mm arm when mounting in this type of mixer, although the electronics body will sit above the mixer lid.

Mounting Bracket

The sensor is secured to the mixer by clamping the sensing arm to a bracket assembly that is fixed to the mixer lid. Bracket assemblies are not supplied by Hydronix because of the many different types of installation. It is therefore necessary for the customer to fabricate their own fixing. There is no set design for this bracket, and the pictures in this note show examples of existing brackets which may be useful. Please note however that the inner diameter of the bracket should be 33.4mm to fit the Orbiter arm properly.

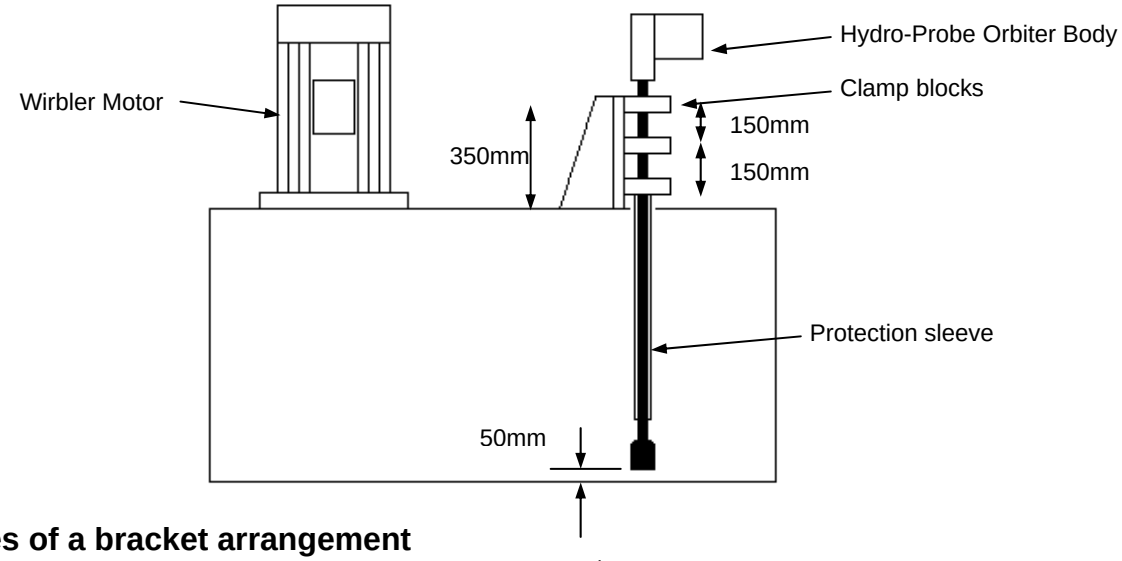
Sensing arm support

It is recommended that some support is provided for the long sensing arm inside the mixer, to prevent the arm bending due to forces exerted by the mix. This may be done in several ways, for example a bracket can be made to secure the arm inside the mixer, or a protection sleeve can be fixed to the bracket arrangement above the mixer, though which the sensing arm is fitted. The photos show examples of both of these.

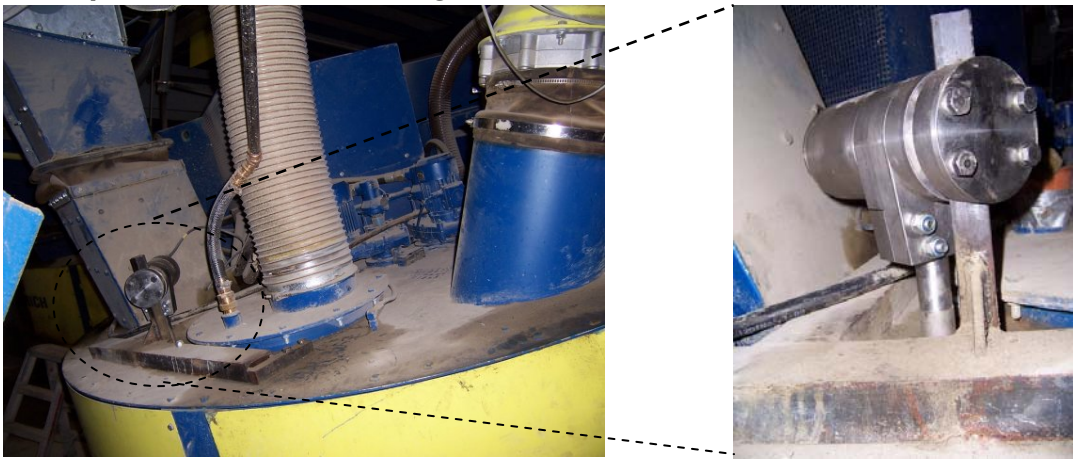
Hydronix Ltd, 7 Riverside Business Centre, Walnut Tree Close, Guildford, Surrey, GU1 4UG, UK
Tel:+44 (0) 1483 468900 Fax:+44 (0) 1483 468919 Email:support@hydronix.com www.hydronix.com

Hydronix

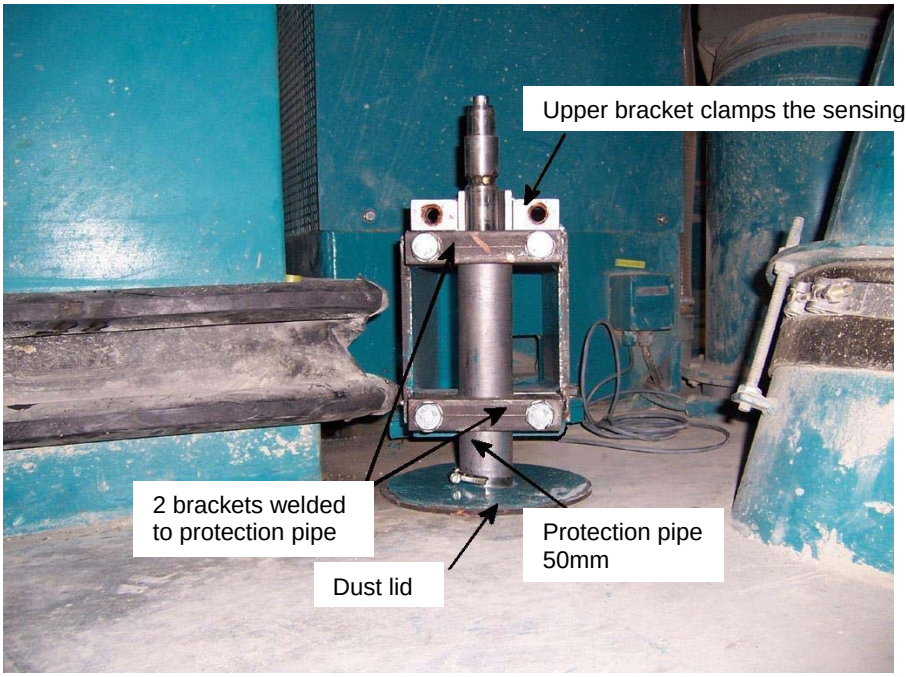
Example mounting system (the same for tilted mixers)



Examples of a bracket arrangement



Hydronix Ltd, 7 Riverside Business Centre, Walnut Tree Close, Guildford, Surrey, GU1 4UG, UK
Tel:+44 (0) 1483 468900 Fax:+44 (0) 1483 468919 Email:support@hydronix.com www.hydronix.com



Examples of sensing arm support

Hydronix Ltd, 7 Riverside Business Centre, Walnut Tree Close, Guildford, Surrey, GU1 4UG, UK
Tel:+44 (0) 1483 468900 Fax:+44 (0) 1483 468919 Email:support@hydronix.com www.hydronix.com