

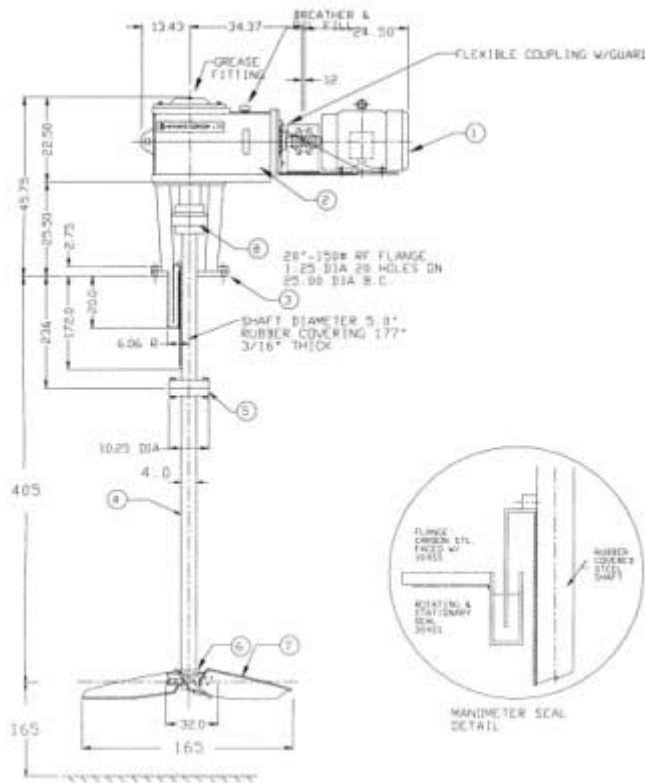
# Anaerobic Digester Mixer for Poultry Treatment

The area surrounding St. Mary's, Ontario is very rich in agricultural and animal products with a number of poultry farms in the area.

We were approached by Geomatrix, a consulting engineer in Waterloo, Ontario to size an anaerobic digester mixer for the poultry industry.

The dimensions of the digester tank were 44 ft diameter with a straight side height of 40 ft, yielding a total volume of over 430,000 US Gallons.

The key points in the design of this mixer were to protect the shaft from the highly humid airspace containing H<sub>2</sub>S Gas (creating sulfuric acid) and to seal the gases (H<sub>2</sub>S and Methane) from the outside environment.



To protect the shaft from the potentially hostile airspace, we coated the steel shaft with soft natural rubber. A manometer liquid seal was used to provide an economical and effective vapour seal.

The mixer also featured a hydrofoil impeller with a diameter in excess of 13 ft and a 34 ft long shaft. Based on our experience with anaerobic digesters, we calculated the optimum mixer sizing to be 50 HP at 17.5 RPM. This would ensure complete mixing, allowing the decomposition of organic and inorganic matter without the presence of oxygen.

We shipped this large MBW-57 mixer in late September 2001.