



Laboratory Mixing

MS53 Laboratory



Data Sheet S027-0801-4 • MS53 Laboratory Mixer

Introduction

Accurate sampling requires that the integrity of the sample be maintained at each step. Receivers should be suitable for the medium sampled and designed for use in conjunction with the mixing system and analysis procedure to be used. Portable receivers provide the most controlled and accurate solution.*

MS53 Laboratory Mixer

When a sample is collected in a portable receiver; it may be many hours before it is analysed. During this time many of the heavier components, such as water will fall out and separate. To ensure that the sample withdrawn for analysis is representative, the contents must be thoroughly mixed. The MS53 provides an electrical or pneumatically driven pumped loop to perform this function. It is designed to be located on a laboratory bench with the receivers

placed on the floor. Samples may be drawn from a takeoff valve or through an optional septum. The mixer can also be mounted in a heated enclosure to mix temperature critical oils.

Method of Operation

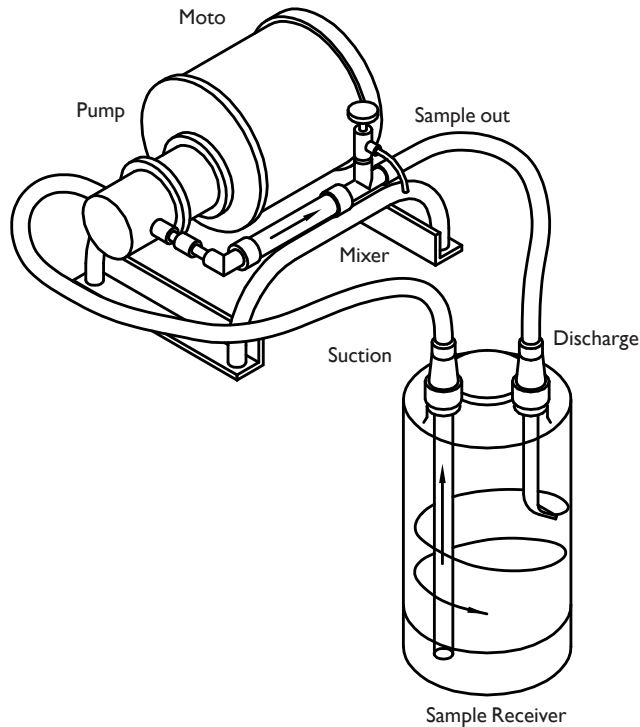
The laboratory mixer consists of a loop drawing fluid from the lowest point of the receiver, pumping it through a static mixer and returning it back to the receiver. The return comprises spray jets that sweep the wall and base to induce swirl. A valve and/or optional septum is provided to draw off the sample directly into laboratory glassware. Typical mixing times range from 5 to 20 minutes, depending on the sample volume and type of oil. The MS53 is fitted with keyed connectors to prevent operator errors; adaptors can be supplied to allow interconnection with a variety of other vendors sample receivers.

*Portable receivers are recommended in the following international standards ISO 3171, API chapter 8.2 and IP part VI section 2.



Specification

Fluids	Crude Oil and refined products.	
Pump	Direct coupled with integral relief 20 litres/min (5 US GPM)	
Driver - Electrical	½HP flameproof/explosionproof supplied complete with switch, single or three phase	
Driver - Pneumatic	Airmotor with regulator and silencer 15 SCFM @ 40 psi, (25 litres min. @ 2.75 bar)	
Mixer	Depends on viscosity range, typically ¾" 6 element	
Viscosity	1-500 cS normal (extended viscosity range available on request)	
Connections	Hoses	Buna lined hydraulic. 1½m (5ft) supplied, may be cut to suit
	Inlet	¾" female Q-R coupling
	Outlet	½" female Q-R coupling
	Drawoff(s)	¼" valve, optional septum
Standard Fittings	Integral relief valve	
Dimensions	570 x 280 x 363 mm (11" x 22½" x 14")	
Weight	37.5kg (83lbs)	
Certification	a) ATEX Eex d IIC T3 b) UL FM Class I Div I Group C&D	



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