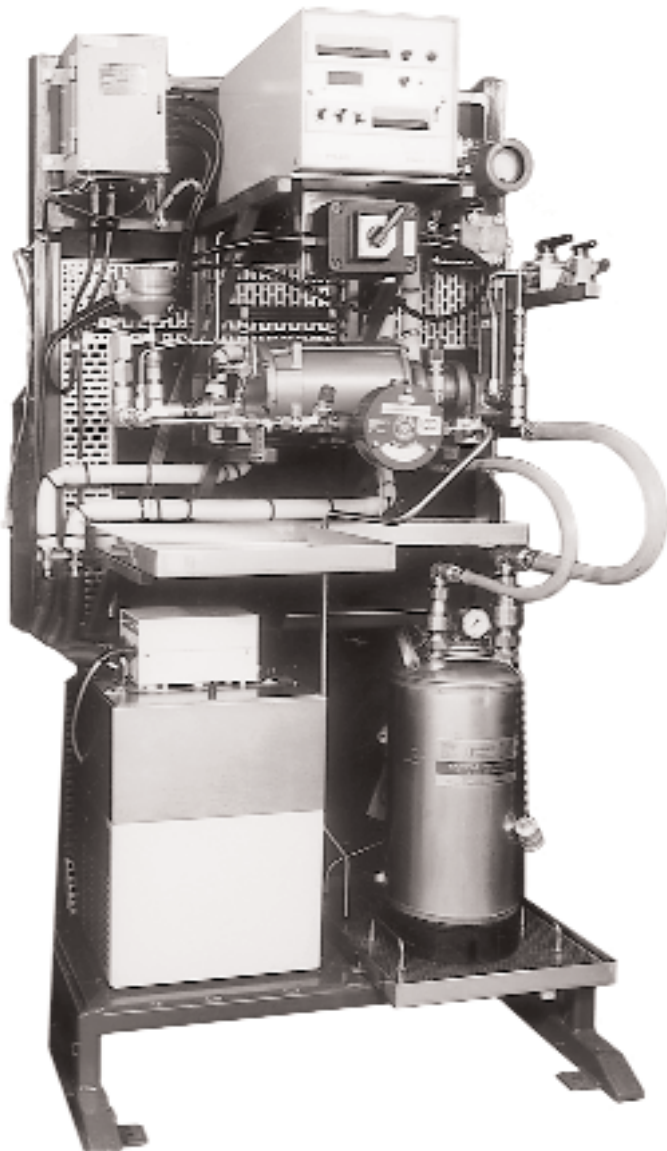




Laboratory Workstation

LabPC & Mixer



MS-53 Laboratory Mixer

The mixer is designed to process Jiskoot model PR23 and PR53 sample receivers but is also compatible with other designs. The role of the mixer is to mix the sample in the receiver prior to laboratory analysis; the period of time between the sample being collected into the receiver and the analysis of that sample can result in the heavier components separating. Therefore to ensure the sample withdrawn from the receiver is representative the contents must be thoroughly mixed. The MS-53 provides an electrically or pneumatically driven pumped loop to perform this vital function.

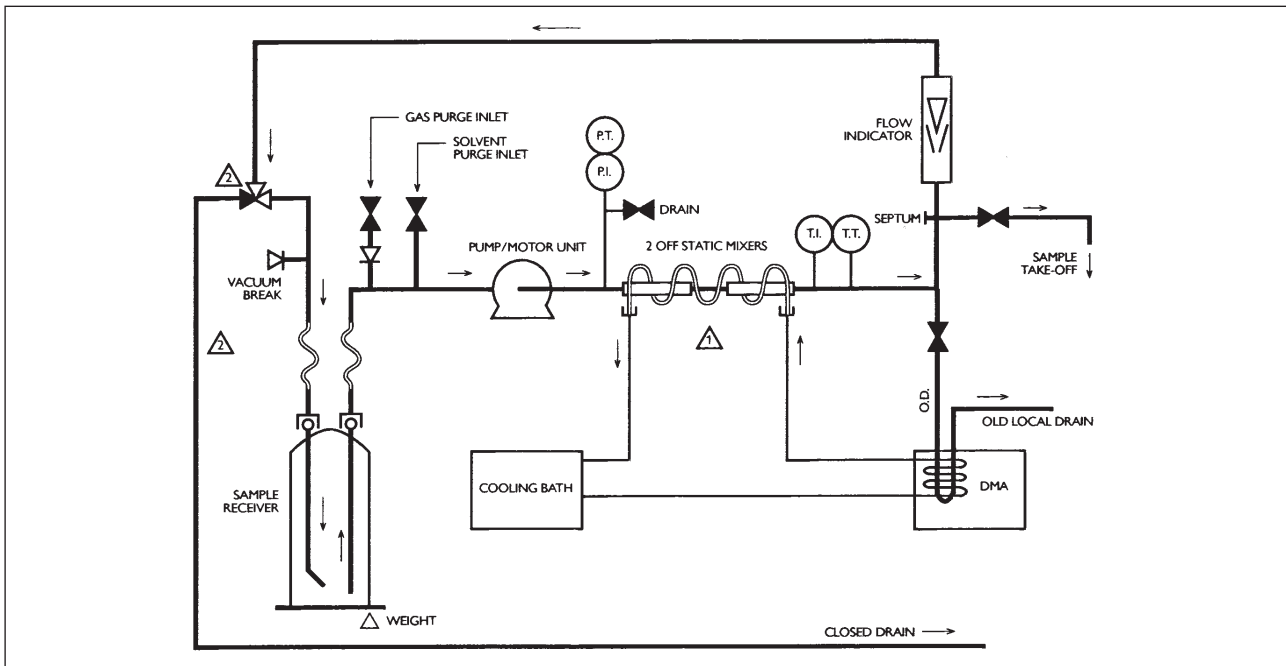
LabPC

The LabPC is a Windows based workstation that provides a database of mixing information and integrates both manual and instrument inputs to permit the generation of mixing cycle reports. These reports are stored locally and can be uploaded through a data link to a plant wide movement system, to allow integration to bills of loading and receipt. Further management information can be derived as the LabPC logs times against the receipt, storage and upload of reports. The LabPC can be enhanced with a barcode printer and reader, so that receiver labels can be issued for duty and on return, can immediately be tied into the operation. This overcomes the requirement for manual logging of samples.

Introduction

International sampling standards ISO 3171, API 8.2 and IP 6.2 define four steps that must be undertaken to assure fiscal quality sampling accuracy. Two of these key steps involve the collected sample in a receiver and are performed in the laboratory: "Sample handling and mixing" and "Laboratory analysis". The Laboratory Workstation comprising the Laboratory Mixer and LabPC, is designed to standardise and record the sample handling and mixing process through the withdrawal of samples from the receivers for analysis. Use of this equipment provides Quality Assured accountability that is beyond dispute.

Data Sheet S059-0504-4 • Laboratory Workstation



Description of Operation

Mixing times for samples are both crude type and sample volume specific, the time to mix 5 litres of a low viscosity crude is substantially different for 15 litres of a high viscosity crude, it is necessary to mix for the minimum time required for homogenisation. Too short and the water content is undermeasured, too long and the temperature will rise and light ends will be lost resulting in higher density readings.

Mixing times are established historically so that they may be interpolated for new samples. Sample mixing proving tests may also be recorded.

The sequence of operation is as follows:

The receiver containing a sample is brought to the laboratory, the crude type and batch or tank identifier is keyed in and the receiver placed on the mixer. The unit weighs the receiver and the sample weight is recorded. The LabPC uses the sample weight and crude type to suggest a suitable mixing time.

The operator starts the motor on the mixer and the cycle commences. The LabPC records the starting time and after a short settling period records the mixer temperature and pressure which are logged through the cycle.

After the suggested mixing time has elapsed the PC will beep continuously and flash a lamp mounted on the skid to indicate that water, density and other required samples should be withdrawn via a septum, or through a valve should larger volumes be required. A density sample is directly piped to a densitometer which is cooled and measured. When all the samples have been withdrawn the operator performs a purging and flushing cycle (using solvent and inert gas), stops the pump and allows the mixer to drain.

The density is read directly by the LabPC and if available the Karl Fisher titration result may also be directly input. Temperature and pressure are directly logged throughout the cycle to verify that the sample was mixed correctly and not overheated.

Sample Receiver Cleaning

After the mixing cycle the cans must be fully cleaned and dried, this can be performed using a solvent or water based cleaning system available from Jiskoot. Any residue is drained from the receiver. It is inverted and coupled to the cleaner which is ducted to ensure that hazardous vapours are not released. The cleaner goes through a three stage cycle - in the first stage a solvent or detergent water mix is recycled, in the second stage the receiver is flushed and finally it is air dried.



UK
Jiskoot Quality Systems

Tel: +44 (0)1892 518000
Fax: +44 (0)1892 518100

Email: ms-jiskootusales@c-a-m.com

USA
Jiskoot Quality Systems

Tel: +1 281 583 0583
Fax: +1 281 583 0587

Email: ms-jiskootusales@c-a-m.com

Cameron
Measurement Systems

Tel: +1 281 582 9500
Fax: +1 281 582 9599

Email: ms-marketing@c-a-m.com

Jiskoot Quality Systems
A Cameron Company
www.jiskoot.com



www.c-a-m.com/flo