ROTARY SAMPLE DIVIDER





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PRECISE SAMPLE REDUCTION



The Malvern Engineering Works (MEW) Rotary Sample Divider (RSD) has been designed with precise dimensional tolerances to ensure that all subsamples produced in the RSD will be nominally identical. The RSD's have been engineered in line with MEW's stringent demands for long mechanical service. Gearbox and bearing lives have been chosen to provide in excess of 15 years of trouble-free operation.

Rotary sample division is an extremely reliable method for mass reduction of a sample. It is critical in the mass reduction process that each segment of the RSD receives a large number of sample/ splitting increments. The large number of increments ensures that any material segregation (distributional heterogeneity) in the starting sample is radically reduced in each of the subsamples.

The MEW guidelines for RSD operation aim to ensure that each subsample is composed of more than 100 increments. Independent testing of other MEW products † has shown that collection of more than 100 increments into a subsample can effectively eliminate any sampling variance due to segregation.

MEW RSD: ACCURATE SPLITTING, SAFE DESIGN

The Malvern Engineering rotary sample divider is of a heavy-duty construction with a robust drive train that ensures constant speed throughout the splitting process, which minimises sample variance. It also incorporates a state-of-the-art feeder with a wide range of controllable operation, which ensures a constant flow of material to the splitting section. This can be calibrated per application to suit the relevant material being split.

MEW will carry out tests on your materials to ensure that the feeder supplied with the RSD is capable of a flow rate sufficiently low that you can achieve the target number of increments even with the smallest samples specified. For the routine processing of samples in a mineral processing operation, MEW can tailor each machine to your specific needs.



The MEW RSDs feature a safety cover to prevent injury and that seals against the frame to assist in dust control. The motor drive is interlocked with a limit switch on the cover to prevent rotation of the carousel with the cover open. The carousel is set at an ergonomic height and the total height of the machine makes loading the sample into the hopper easy.

MATERIAL TEST: VERIFY FEEDRATE

The client must verify with MEW that the feedrate for his material can be achieved. There is a large variation in the feeding requirements for fine dense particles and coarse light particles. We recommend that feedrate tests be carried out on a sample of material typical of that which will be processed. Where a range of materials are to be processed in the same RSD, the range of materials should be submitted for testing.

SPECIFICATIONS OF STANDARD UNIT [RSD15]:

Sample Capacity [litre]	15	Dimensions [mm]	1350 x 750 x 1453
Division Ratio	1:10	Voltage	200-240 VAC, 50 Hz
Speed of rotation [m/s]	0.3	Power [W]	500

Materials

The feeder and cups are constructed from aluminium; and the hopper is mad from HDPE Environmental: The unit is dust resistant but cannot be hosed down.

Please discuss your requirements with MEW.

Spares

Spare set of cups can be ordered with the unit or at a later date. Spare carousel divider bars can be ordered if they wear due to handing of abrasive materials.



LABORATORY TEST FACILITIES

Malvern Engineering has a well equipped laboratory at their Johannesburg office. This facility allows for the quick and efficient testing of customer samples in a controlled environment.

FIELD TRIALS

Malvern Engineering is able to supply tailor made pilot scale machines for onsite field trials fully supported by trained and experienced technical staff.







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