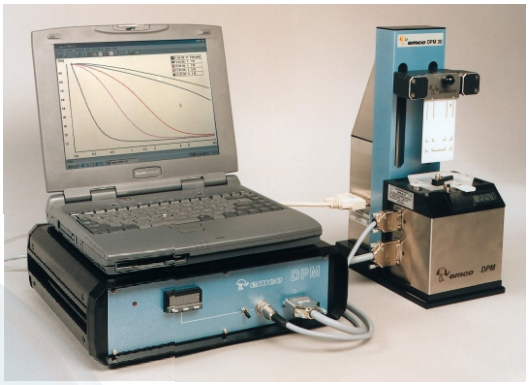
ULTRASSOUND TRANSMISSION MEASUREMENT model DPM

The DPM is a high tech innovative equipment that uses ultrassound to determine the dynamic interaction between solids and liquids.

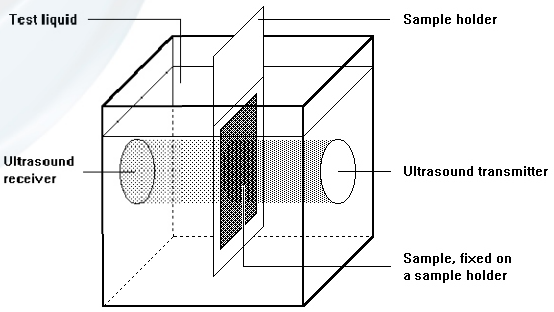
This new and revolutionary technology has been very welcome by manufacturers and users of pulp, paper, board, additives, inks and resins because it provides a continuos dynamic record of the material/liquid interaction with a milisecond resolution, a key information for modern manufacturing and converting process which run at extremely high speeds up to 1200 m/min.

Equipment suitable for both R&D (research & development) and Q.C. (quality control).



DPM with optional DDPM and laptop

Set of standard accessories



Measuring principle of the DPM

MAJOR TECHNICAL CHARACTERISTICS

Measuring area circle	Ø 10, 20 or 35 mm
Measuring area ring	Ø 10-20 or Ø 20-35 mm
Measuring areas	up to 4 simultaneous measuring areas in different arrengements
Testing liquid temperature	+10°C a +50°C adjustable and optionally up to +90°C
Measuring frequencies	2 Mhz and/or 1MHz
Measuring time	0,1s to 15 days adjustable

An ultrassound transmitter and receiver are mounted in two opposing sides of the measuring cell and are perfectly lined up with each other. During measurements the solid sample is place inside the liquid in the measuring cell, between ultrassound transmitter and receiver. DPM generates a perfectly constant ultrassound wave which is attenuated by the solid material. Changes in the solid's micro structure caused by liquid absorption cause the change in the attenuation of the ultrassound wave. This change of the ultrassound wave is precisely detected by the receiver and the DPM generates a curve showing this change in relation to time, with measuring resolution of miliseconds, ensuring dynamic view of the real absorption curve of the liquid by the solid..

These curves can be viewed in any scalling (linear, log, sqr, standardize scales) and magnification as well exported in BMP format for MSPaintBrush or XLS format for MSExcel. Storage as files in directories is also easilly done using *emco* testing and viewing softwares.

Each kind of paper has an unique characteristic curve when measured in distilled water and different curves from samples from same paper reel indicate that the paper has poor uniformity and will cause problems during later converting and printing. Therefore the measurement with distilled water, a standard reference, is a fast, simple and accurate method to determine clearly if there are differences between two samples of papers specified to be the same but which are showing differences of performance when converted or printed.

Supplied with complete computer PC/IBM™ desktop 17" monitor, including MSWindows and *emco* testing softwares for the operation of the DPM and visualization of the measured curves.

A set of complete installation and operation handbooks provide all information user needs to install and operate the DPM.

Measuring cells are supplied with certificate and performance can be easilly checked anytime by customer.

Equipment supplied into two carrying cases for easy transport and use at site, in association with optional laptop computer.

Optional accessories

DDPM - module for the measurement of the dynamic higroexpansability in % and ms.
TECH - transfer of know-how about curve's interpretation and its correlation to problems
ACCE - set of standard accessories
LAP - PC/IBM™ laptop computer

Powe supply	230 VAC ±10%, 50 Hz / 115 VAC ±10%, 60 Hz
Weight	30 kg

Note : Due to constant development our equipment design and specifications are subject to change without notice

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