



# armfield

## FLOCCULATION TEST UNIT



**W1**  
issue 10

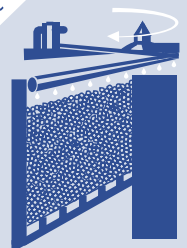
*The equipment is designed to allow the well-known 'jar tests' to be conducted on samples of water requiring treatment. The correct dosage conditions to remove colour and turbidity may be established on a laboratory scale as a prelude to full-scale plant operation.*

### DEMONSTRATION CAPABILITIES

- *determination of optimum coagulant dosage*
- *determination of optimum pH*
- *effect of mixing time and intensity on aggregation*
- *coagulation tests in conjunction with activated carbon*

Water Treatment Processes

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## DESCRIPTION

Analysis of a water or waste preparatory to the design of a treatment sequence often involves coagulation and flocculation tests, 'Jar tests', in the laboratory. Jar tests are routinely used for the control of plant operations and are performed by treatment plant operators. The tests serve to indicate the optimum chemical dosages for removal of turbidity and colour, including such parameters as pH adjustment, and the supplemental use of activated carbon. Jar tests, furthermore, yield a wealth of qualitative information on the rate of agglomeration as a function of energy input (paddle speed), the settleability of the floc formed, the clarity of the supernatant water (which might be related to the subsequent length of filter run). Coagulation and flocculation tests may be used, in conjunction with other tests, to study basic processes including, for example, the kinetics of reaction and the removal of trace constituents from aqueous solution.

A bench-mounted framework incorporates facilities for six tests to be carried out simultaneously. The glass flocculating vessels stand on a translucent base which is illuminated from below. Each flocculating vessel incorporates a stirrer paddle driven by a variable speed drive.

The paddle assemblies are easily withdrawn for removal and cleaning of the test vessels. The paddle shafts are made of stainless steel to resist corrosion. Paddle speed is accurately maintained by electronic feedback control. A digital display clearly indicates the speed which is fully variable. Alternatively, the use of two adjustable presets allows repetition of pre-selected speeds. A digital timer can be set to count down from 1 to 99 minutes. After count down the paddles stop and an alert sounds.

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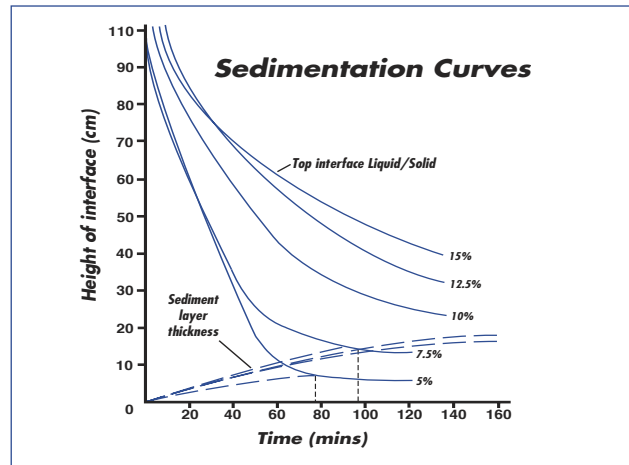
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A control panel incorporates the following features:

- main isolating switch
- fluorescent lamp switch
- digital speed display
- adjustable preset speeds

## TECHNICAL DETAILS

Dimensions of paddle blade: 50mm x 15mm  
Stirrer speed range: 25-240rpm (approx.)  
Sample volume: 1 litre (each vessel)



## ORDERING SPECIFICATION

- A bench top flocculation test unit with an internally illuminated base, a backboard and an integral control panel
- Six stirrers with stainless steel paddles, linked to a variable speed motor with electronic feedback speed control
- Stirrer speed range typically 25 to 240 rpm, with a digital speed display
- Easily demountable stirrer assemblies to allow test vessels to be removed and cleaned
- Digital timer, from 1 to 99 minutes
- Two adjustable preset programs

## SERVICES REQUIRED

Electrical supply

W1-A: 220-240V/1ph/50Hz  
W1-B: 120V/1ph/60Hz

## OVERALL DIMENSIONS

Height: 0.46m  
Length: 0.75m  
Width: 0.21m

## SHIPPING SPECIFICATION

Volume: 0.40m<sup>3</sup>  
Gross weight: 50kg