W SERIES

FLOCCULATION TEST UNIT – W1-MkII

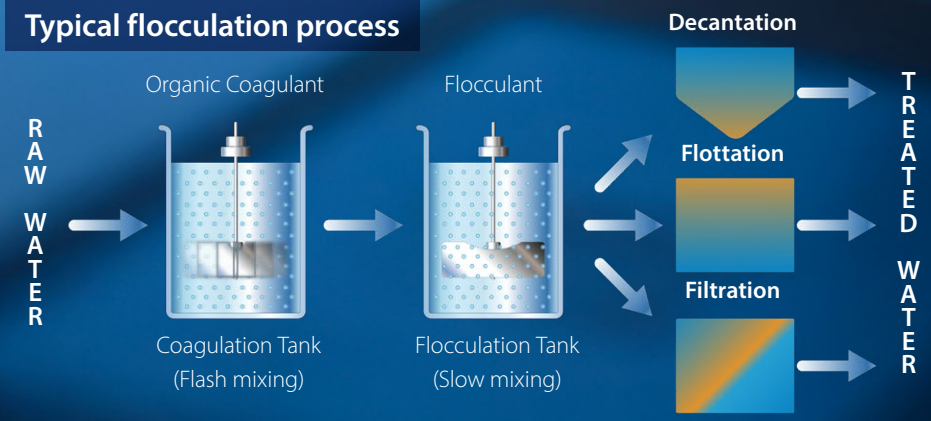
The equipment allows for the well-known 'jar tests' to be conducted on water samples requiring treatment to determine the correct coagulant dosage on a laboratory scale as a prelude to full-scale plant operation.

SIX VARIABLE SPEED STIRRERS
INCLUDES SIX BEAKERS, A TEST TUBE STAND AND SIX TEST TUBES

Learning objectives

- Determination of optimum coagulant dosage
- Determination of optimum pH
- Effect of mixing time and intensity on aggregation
- Coagulation tests in conjunction with activated carbon
- Coagulation tests in conjunction with filterability tests

Typical flocculation process



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Issue: 3
URL: http://www.armfield.co.uk/w1
Applications
ChE CE IP

Description

Flocculation and coagulation are preliminary tests carried out prior to designing a water or waste water treatment plant. Jar tests are routinely used for the control of plant operations and they serve to indicate the optimum chemical dosages for removal of turbidity and colour, necessary pH adjustments and the supplemental use of activated carbon.

Jar tests yield a wealth of evaluation of agglomeration rate as a function of energy input (paddle speed), settleability of the floc formed and the clarity of 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, eg the kinetics of reaction, filterability index and the removal of trace constituents from aqueous solutions.

The Armfield W1MkII incorporates facilities for six tests to be carried out simultaneously.

Each flocculating vessel incorporates a stirrer paddle driven by an independent 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 The paddle assemblies are easily withdrawn for removal and cleaning of the test vessels.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.

Six independent variable speed stirrers

Features / benefits

- Stirrers easily assembled to allow test vessels to be safely removed and cleaned
- Used to determine optimum coagulation dosage
- Can be used to determine the optimum pH
- Preliminary test prior to water / waste water treatment plant design
- Six independent and variable stirrer-speed motors
- Low-voltage operation via universal power supply
- Backboard LED Illumination
- Improved teaching manual detailing a range of experiments
- Includes six beakers, a test tube stand and six test tubes

Overall dimensions

Length	0.94m
Width	0.29m
Height	0.42m
Packed and created shipping specifications	
Volume	0.53m^3
Gross weight	66Kg

Requirements

1Ph

- **Electrical supply:** supplied with a universal mains adaptor suitable for 100-240V / 1ph / 50-60Hz
- Iron salt (not supplied)
- **Aluminium salt** (not supplied)
- **Ferric sulphate** (not supplied)
- **Lime** (not supplied)
- **Bentonite clay/Kaolin/coffee granules** (optional)

Scale

Learning objectives

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- Determination of optimum pH
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Optional accessories

- Handheld turbidity meter (ordering code: INST 060)
- Triple beam balance with 0.1g sensitivity (ordering code: INST 059)

Ordering specification

- Bench top flocculation and coagulation test unit with LED illumination and integral control panel
- Six stirrers with independent variable-speed motors
- Stirrer speed 0-300rpm
- Removable stirrer assembly for easy removal of beakers and to facilitate cleaning
- Six 1L beakers
- Six test tubes
- Test tube stand
- pH paper
- Stop clock
- Low-voltage operation via universal power supply for improved safety
- Operational manual with teaching exercises

Technical details

Dimensions of paddle blade	50mm x 15mm
Stirrer speed range	0-300rpm
Sample volume	1L
Test tube capacity	16mm x 150mm

Ordering codes

- W1MkII
- INSTA059 (optional)
- INSTA060 (optional)

Warranty

Armfield standard warranty applies with this product