

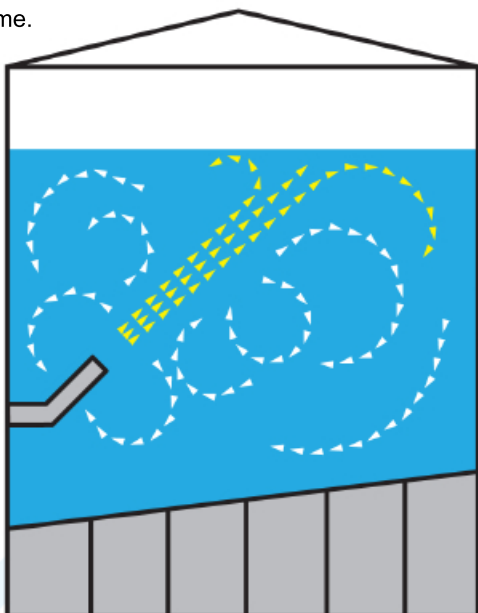
## DATASHEET - MIXING RECIRCULATION

### INTRODUCTION

Mixing in a vessel usually implies a tank with a large agitator motor suspended over the top of the vessel and the mixing propeller extending down into the liquid. Problems associated with this arrangement are well known and are more apparent when the liquid is of a highly corrosive nature. Maintenance normally involves the draining of the vessel so that the shaft and propeller can be accessed. Further problems occur with the mounting of the heavy motor and any associated gearing above the tank, especially if the mixing vessel is made of a thermoplastic material.

### MIXING RECIRCULATION

Mixing recirculation involves the promotion of fluid movement and subsequent mixing of the liquid by drawing off a portion of the liquid through a pump and reintroducing this as a jet through a high velocity nozzle. This action causes the bulk liquid to become entrained in the flow of the jet and so inducing the turbulent mixing action. Further enhancement of this process can be gained by exchanging the nozzle for a venturi eductor. This piece of equipment employs a venturi throat, which entrains approximately four times the quantity of the pumped flow and employs the increased flow rate in the mixing process. This increased applied flow of liquid gives increased mixing and so a shorter mixing time.



Please note: This data is subject to change without prior notice.

### ADVANTAGES OF THIS AGITATION SYSTEM ARE:-

- Increased safety as no moving parts within the vessel.
- Ease of access and maintenance to moving parts without draining the vessel.
- No mounting problems associated with the motor as pump can be sited away from the vessel.
- System negates the need for baffles and so vessels are easier to clean.
- Long service life of eductor as virtually no wearing occurs.
- Virtual elimination of stagnant areas in liquid.
- Solid Suspensions easily maintained.
- Fuming solutions can be totally enclosed in vessel.

### MIXING SYSTEMS

Chem Resist can offer the following range of mixing systems. The equipment comprises of a purpose designed thermoplastic vessel sized to the ideal proportions for this mixing technique. The pump and venturi eductor system which complete with package are sized to give a practical liquid mixing time.

Model Ref	Capacity (Litres)	Diameter (mm)	Height (mm)
MRV 30-8	300	800	100
MRV 45-9	450	900	110
MRV 50-10	500	1000	1200
MRV 100-12	1000	1200	1300
MRV 200-15	2000	1500	1600
MRV 350-18	3500	1800	1800
MRV 800-25	8000	2500	2200
MRV 1500-30	15000	3000	2600
MRV 2500-35	25000	3500	3200
MRV 4000-40	40000	4000	3800

### PROCESS PLANT IN PLASTICS

A full installation and commissioning service is offered with our process plant utilising the expertise of our experienced installation and commissioning engineers. All Chem-Resist process plant is fabricated under our Quality Assurance system assessed to BS 5750 Part 1 (ISO 9001) covering the **"design, fabrication and repair of chemical process plant in plastics, including storage tanks and fume scrubbing equipment"** (Certificate No. FM14249). Chem Resist personnel would be pleased to make their knowledge and wide experience of this technology available to yourselves.

### CHEM RESIST

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