

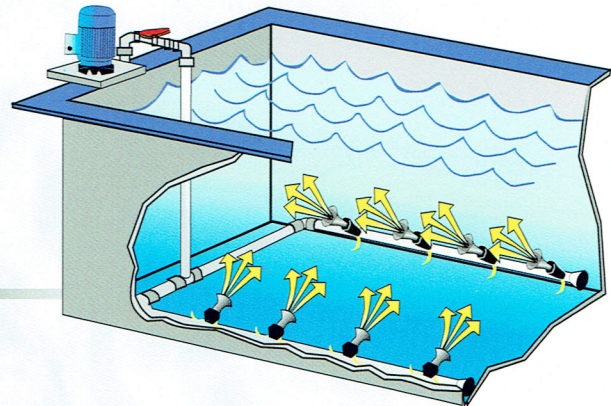
# Agitation System



- Permit to increase current density for faster plating rate
- Reduce metal consumption thanks to a better thickness distribution
- Reduces electrode consumption
- Heating cost of the reduce
- Improve bath of filtration system
- Reduces carbonate and alkaline process
- Reduce airborne fume emission
- Available PP - PVDF



EDUCTOR provide agitation of solution by the use of a centrifugal pump and a series of eductors placed into the tank in a way similar at air agitation system. Each eductor increases 5 times input pump flow rate and therefore it permits to use a relatively small pump to recirculate a large volume of solution in the tank.



**V**igorous agitation improves the ability of filtration systems to remove particulate and other contaminants from solution.

**T**he turnover rate required will vary according to the nature of the solution. For most plating bath and rinse tank applications, 5-15 turnovers per hour will provide adequate circulation. Copper and nickel plating baths may require 30 or more turns per hour. Cleaner tanks should be turned over at least 10 times per hour, and for applications where the dirt load is heavy, 20 turns would be preferable. On critical applications, agitation rates of 20 turnovers are normally suggested. It is advisable selection of a pump that can deliver 7 m THD or more for the most effective agitation. The number of turnovers desired will dictate the size of the pump. To maximize efficiency, Eductor pipe size should be equal to or greater than pump discharge. Tank dimensions and piping configurations will affect the size and number of eductors.

**E**ductors spacing on 300 mm centers along the longest side of the tank generally will produce the desired level of agitation, select a single eductor flow rate from the chart below and divide it into the total input flow required to determine the total number of eductor required at that flow and pressure (TDH). If the resulting number doesn't approximate the ratio of one eductor for each 300 mm of tank length, select another eductor flow rate and/or eductor size that will produce the desired ratio. Consider all variables when making your selection.

## PER SELEZIONARE IL SISTEMA VENTURI PER LA TUA APPLICAZIONE

EDUCTOR type	TDH (m)							
	7	10	14	17	21	24	28	35
	Eductor flow rate (l/m)							
1/4"	11	15	19	21,5	23,5	25	26,5	30
3/8"	28,5	35	40	45	50	53	57	65
3/4"	51	65	72	80	87	95	102	113

## How to select your agitation system:

- Determine agitation flow rate required

$$Q_T = \frac{V_T \times Th}{60}$$

- Determine total eductor flow rate in put

$$Q_p = Q_T / 5$$

- Determine number of eductors required

$$N_V = Q_p / Q_v$$

### LEGEND:

Q<sub>T</sub> = Agitation flow rate required

Th = Turnover hours required

Q<sub>p</sub> = Pump flow rate

N<sub>V</sub> = Number of eductor required

Q<sub>v</sub> = input flow rate of a single eductor at available pressure

Please contact us for additional technical details

**la fonte s.r.l.**

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