

TIPS ON MIXER SELECTION

OBJECTIVES

1) Define your objectives well, stating target times for each batch processing. This will enable a proper evaluation of your tank sizes required and productivity requirements.

VISCOSITY

2) If your process is simple miscible liquids mixing, a preliminary selection can be made.

Viscosity and tank size will largely determine the basic type of mixer.

A. Propeller mixers are the main choice up to 2000 centipoise.

B. Turbine type impeller mixers are the main choice up to 20000 centipoise.

C. Paddle type impeller mixers are the main choice up to 100000 centipoise.

D. Higher viscosities require use of gate, anchor-impellers, ribbon blenders or Z-blades (kneaders).

The limits of each type of mixer may shift with other variables and different selections may result.

DISPERSION PROCESSES

3) The selection of mixers for dispersion processes, such as in paint or printing ink manufacturing, is a different field of mixing altogether and it is advisable to consult specialized mixer suppliers.

FOOD AND ANIMAL FEED PROCESSES

4) The selection and design of entire processes for food and animal feeds is also a different field of mixing altogether and it is also advisable here to consult specialized mixer suppliers.

TANK CONFIGURATION

5) The standard tank provides adequate mixing for most processing requirements in industry, although for mixing liquids with high solids content, a high viscosity or a shear sensitive product, a specialized tank arrangement may be required.

BAFFLES

6) Baffles should be considered for mixers set on center lines of tanks. For viscosities greater than 10000 centipoise baffles are not required.

PROCESS PARAMETERS

7) Provide us with full process stream compositions as stated below to assist in your mixer or system requirements:

a. stream compositions and concentrations; batch sizes to be manufactured

b. specific gravities or densities of each component; pressure conditions, if required

c. temperatures and states (solid, liquid, gas) of each component

d. viscosities of each component

e. solids contents if any

f. likely unusual mixing behaviours or requirements such as heating or cooling jackets

g. end mixed product objectives

We will appreciate you contacting us via our internet site or by telephone.

These guidelines and notes are presented as general guides only; no warranty is implied or provided.