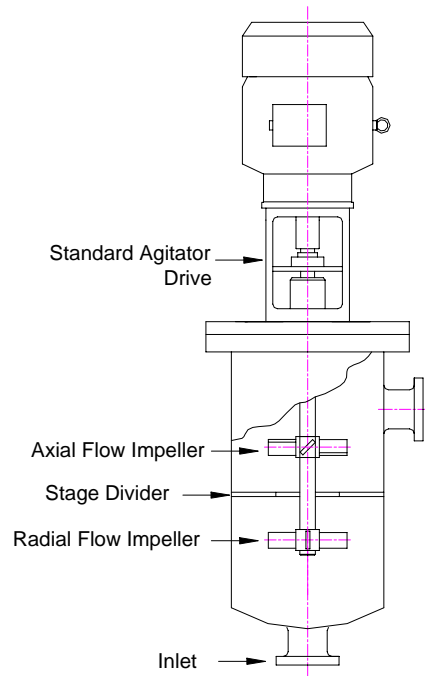


Continuous flow agitators serve a single purpose to provide intense, repeatable mixing in a relatively short retention time.

Dynamic In-line mixers meet the majority of continuous flow requirements, which are typically blending applications. In comparison to a typical mixing system, an in-line agitator is smaller and less expensive than building a tank with all the accessories. An in-line mixer with its large impeller diameter to tank diameter ratio is capable of controlling and mixing the entire flow. In the case of non-Newtonian fluids, the intense shear and pumping can reduce the overall apparent viscosity of the mixture.

The in-line vessels are fitted with chemical injection port(s) that can add chemicals as required to adjust pH, concentrations, and other levels almost instantaneously.

Each dynamic in-line mixer application requires a custom approach to ensure the needs of the application are fulfilled. The analysis of the mixer should include flow rates and fluid property data for the incoming flow and additive chemicals. Viscosity and specific gravity differences are taken into account by adjusting the tank size, impeller size or impeller design. Each of these are adjusted to ensure optimal mixing without affecting the overall capital cost.



Vessel Design:

There are two main styles of orientation.

-The flow through design (below) provides good overall mixing, the vessel is fitted with slow straightening vanes to ensure smooth flow into the mixing zone. It is also equipped with a ring baffle that forces the fluid into the centre of the pipe to prevent short circuiting. Depending on the size of the vessel one or more chemical injection ports can be provided.

-The right angle design utilizes the inlet on the bottom and the outlet on the side. The major difference between this orientation is the stage divider that provides two distinct mixing zones. This orientation provides the best overall mixing.

Line Size	Approx Capacity Range (GPM)	Typical HP
4	25-200	0.5
6	70-340	1
8	170-700	2
10	275-870	3
12	520-1375	3
20	2000-5500	7.5
30	6300-17000	15
36	10000-31000	20

Flow capacities of typical dual impeller units for continuous blending of low viscosity fluids SG=1.0

Hayward Gordon can custom design a dynamic in-line mixer for your application. Various seal arrangements and materials of constructions are available.

