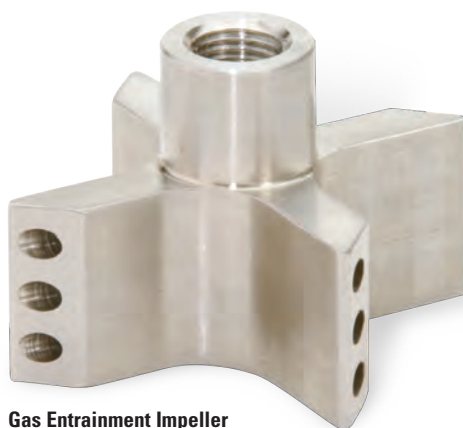


## Gas Entrainment Impellers

Parr offers a series of gas entrainment impellers for users who want to obtain maximum gas dispersion into a liquid system. This is obtained with a unique impeller attached to a hollow stirring shaft through which gases are continuously recirculated from the head space above the liquid through the impeller into the liquid phase. As with all impellers, the speed of the stirrer creates a vacuum at the tip of the impeller. Gas enters openings near the top of the shaft and is pulled through dispersion ports located at the tips of the impellers. In the Parr system with dispersion ports located at the very tips of the impellers, the higher the stirring speed — the higher the vacuum — and the higher the driving force for this very effective gas dispersion system.

When ordered with a new reactor, these impellers are offered as a complete package which includes the impeller, the hollow shaft with coupling, and any required foot bearings and brackets for the intended reaction. The baffles are a separate option which must be ordered individually.

The gas entrainment stirrers may be ordered as an optional stirrer when purchasing a new reactor system or



**Gas Entrainment Impeller**

easily installed in an existing system in the field. With the wide variety of reactor head styles and magnetic stirrers furnished on Parr reactors it is best to contact us with the numbers stamped on the head of your vessel so that we will be able to furnish the correct gas entrainment assembly for a particular reactor system.

Since these gas entrainment impellers operate best in the 1000-1200 rpm range, users will want to ensure that their stirrer drive system is set up to deliver these operating speeds; alternate pulleys and belts are available to convert existing reactor systems.



**Gas Entrainment Impeller with Hollow Shaft**

### Baffles

Because it is the relative speed of the tip of the impeller to the liquid phase that governs the mass transfer, baffles, which impede the rotation of the liquid with the impeller, can greatly enhance the operation of these gas entrainment impellers. While some natural baffling is provided by the internal thermowell, dip tube and cooling coils, the removable baffles are recommended for use with these gas entrainment impellers. These baffles may also be beneficial with the more traditional turbine type impellers for certain applications.



**Removable Baffle**