Diachrom
BIOTECHNOLOGY

AIR LIFT
GAS LIFT
REACTORS

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DIACHROM BIOTECHNOLOGY **AIR LIFT / GAS LIFT REACTORS**

Air-lift reactors are widely used in the chemical and biochemical process industries as efficient contactors for mass and heat transfer. Their main advantages are low shear rate, high capacity, good mixing, absence of mechanical agitators and ergonomic.

Diachrom Biotechnology experiences applied to airlift / gaslift reactors geometry improved hydrodynamic variables like gas velocity and physical properties of the fluids. In fact, the geometry of the reactor has a strong influence on the hydrodynamics and this factor is a source of difficulty in comparing different results. Major advantages of the Diachrom Biotechnology solution were founded in gas hold-up, liquid circulating velocity, heat transfer, mass transfer and dispersion coefficients.

Our Air Lift reactors uses sparged air to gently circulate cells and growth media without damaging them. Some cell lines are so fragile in culture that any type of mechanical impeller will shear them.

Air Lift reactors has been designed specifically for culturing mammalian cells as well as bacteriological cells but also Algae and photosynthetic organisms.
Gentle mixing is guaranteed, numerous head plate ports for various fittings and sampling devices, with many other thoughtful design features to give you valuable benefits.

SPECIFICATIONS

- Pre-configured our custom made packages available
- Culture vessel 3L, 5L, 7L, 10L, 15L, 20L, 30L total volume.
- Projects over 30L scale
- Double jacketed or single wall vessels available
- LED light sources with adjustable intensity available
- DIA-BENCH with HMI (human interface touch screen) allow full control of pH, DO, temperature, foam, level, redox, up to 8 autoclavable peristaltic pumps variable or fix speed, gas mixing and gas flow rate with up to 8 MFC's or rotameters.
- LED light sources with adjustable intensity available
- Advanced control functionalities include extra inputs like pressure, balances, online biomass, gas analyzer and others.
- Our parallel bioreactors concept allow up to 12 AirLift/GasLift reactors to be controlled simultaneously
- HMI human interface touch screen, choose between One Touch interface for multiple reactors or an independent HMI interface for each reactor.
- DIA-NET SCADA software is a power full supervisory and data acquisition software engineered by Diachrom Biotechnology to fully manage and control up to 18 reactors online.