**BakerBloc Pump Specifications**

**General**

Pumps shall be of the close-coupled, end suction back pullout type equal to ‘BakerBloc’ series as supplied by Masterflow Solutions (phone: 02 9748 2022), and delivered to site as a pre-fabricated pump module complying with the following performance and construction criteria.

**Performance:**

* Refer to the Schedule for the required pump duties.
* Pipework velocities shall be in accordance with AIRAH standards.
* Ensure eccentric reducers are installed on the suction, and concentric reducers on the discharge.

**Casing:**

* Cast Iron construction with drain and pressure gauge tappings.
* Pump casing shall be radially split end suction vertical discharge cast iron designed for an operating pressure of 1600kPa.
* Outlet shall be sized for a maximum velocity of 3m/s.
* Casing shall be provided with drain facilities and pressure gauge tappings.
* Built to pump standards DIN24255/EN733.
* Chilled water pumps shall be fitted with stainless steel drip trays for the collection of condensate. Drip trays shall be drained to waste by installer.

**Impeller:**

* Stainless Steel material and balanced.
* Impeller shall be directly connected to the motor shaft and not exceed 95% of the maximum impeller size that can fit into the pump casing.

 **Shaft:**

* Stub Shaft shall be of stainless steel construction.
* Stub Shaft shall be fitted to the motor shaft via locking screws
* Mechanical Seals shall be provided between the casing and shaft to suit the fluid type, fluid temperature and operating pressures of the pump.
* Mechanical Seal shall be fitted over a stainless steel shaft sleeve and not directly to the shaft.

**Motor:**

* The motor shall be a metric frame, totally enclosed, fan cooled, 415V, 3 phase with minimum IP66 protection and operating at 24 r/s where practical.
* Motor must be MEPS compliant and registered.
* Motors with extended shafts are not acceptable.
* Motor must be metric frame.
* Minimum Class F insulation.
* High-efficiency type and compliant to AS1359.5:2004, Table B3.
* The motor shall be non-overloading at any point of the curve for the next size impeller.
* The pump and motor shall be provided with a rigid base supporting both the pump and motor but not exerting any undue stress on the motor.
* The pump and motor shall be fully assembled on the baseplate and factory-aligned.

**Base:**

* Pump base shall be hot dip galvanised and designed to facilitate easy removal of the motor to access the pump mechanical seal.
* Pumps less than 30kW and located in plantroom other than basement, shall be mounted on concrete inertia bases with a total mass of 1.5 times the mass of the rotating elements.
* All pumps 30kW and larger shall be mounted on concrete inertia bases.
* The whole assembly shall be supported on springs mounts of 25mm static deflection unless detailed otherwise on the pump schedule.

**Skid Assembly:**

* Steel channel members shall be used. Alternative systems will not be accepted.
* Inertia bases shall be pre-filled with concrete.
* Pump springs shall be seismic type.
* Ensure sufficient tapings for binder points, gauges and test points.
* Pipework shall be self-supporting on the skid frame.
* Lifting lugs shall be provided, and lifting certification issued prior to delivery.
* The complete assembly shall be factory tested prior to delivery.