WATER PRESSURE BOOSTER SYSTEMS

OVERVIEW

All Purpose Pumps' **HYDRA™** Industrial Water Pressure Booster Systems are engineered to provide reliable, constant water pressure to mechanical cooling and process equipment for data centres. Optimised for flows from 1 to 150+ L/s, they ensure consistent performance across varying demand conditions. Each system is fully custom-designed to meet project-specific requirements and principal specifications. Advanced configurations, including dual redundancy (N+1), deliver uninterrupted operation and enhanced reliability for mission-critical applications.

HYDRA™ Pressure Booster Systems are engineered to handle a full range of flow conditions unique to data centres; including low-flow applications, through the use of low-flow jacking pumps. This approach maintains optimal hydraulic efficiency across all operating points, reduces mechanical stress on pump components, and extends the operational lifespan of the system while ensuring reliable, high-performance operation.

COMPONENT OVERVIEW

BASE:

- Common galvanised base plate and controller stand, capable of vibration isolation mount installation.
- Baseplate and lifting point designed to meet AS4100:1998 and AS1170.1:2002.

MANIFOLD:

- Stainless steel suction and discharge manifolds.
- Pump isolation and non-return valves.
- 20mm test and drain valve.
- Stainless steel liquid filled pressure gauge.
- Pressure accumulator tank.
- Pressure Sensing Transducer (VSD).

PUMPS:

- Vertical multistage pump with standard IEC motors and M.I.P (Maintenance in Place) capabilities.
- Cartridge mechanical shaft seal.
- Vibration isolation rubber mounts.
- AS4020:2018 potable water compliant.

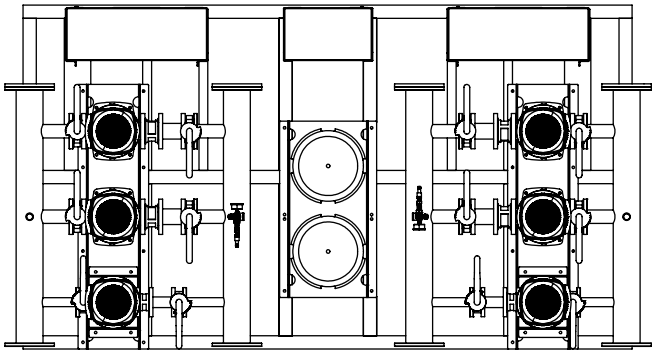
CONTROLLER:

- Incorporating colour touch screen & panel mounted VSD with communication interface.
- Manufactured in accordance with the relevant standards: AS3000:2007, AS1939:1990 and AS3439.1:2002.
- Constant Pressure VSD's (Variable Speed Drives) including capability for Ultra-Low Harmonics.
- High level interface for system monitoring and data logging.
- BACnet control (if required).
- IP 44 control panel enclosure as standard, with opportunity to increase IP rating upon request.
  - AS3000:2018 Electrical Wiring Rules.
  - AS1939:1990 Degrees of protection provided by enclosures.
  - AS3439.1:2002 Low voltage switchgear and control gear assemblies.

FEATURES

- High Flow Vertical Multistage Pumps.
- Low Flow Vertical Multistage Pump.
- Reliable and proven control logic.
- Variable Speed Drive Controller with LED Screen.
- Fully Fabricated Stainless Steel Manifold and Valves.
- Pressure Tanks.
- Common Steel Base for easy transport and installation.

DRAWING



TECHNICAL DATA

APPLIES TO N+1 ARRANGEMENTS

STANDARD RANGE*	
Number of pumps	1-6
Flow range	1L/s - 150+L/s
Maximum head	2000kpa
Liquid temperature	0°C to +50°C
Ambient temperature	0°C to +30°C

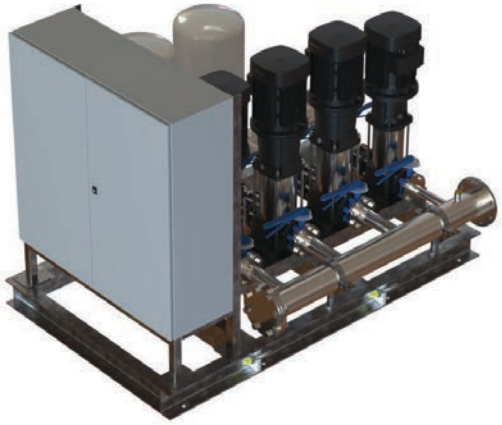
*Note – contact our team for higher capacities

INCLUSIONS

- Delivery to Site - optional crane truck.
- Factory Acceptance Testing (F.A.T) at our state-of-the-art facility.
- Onsite Commissioning.
- 24/7 technical support.

TYPICAL ARRANGEMENTS

N SYSTEM



N+1 SYSTEM

HIGH-FLOW SYSTEMS