



## Grundfos CHIE-Plus Single Pump Booster System

**316 Stainless Steel Multi-Stage  
Horizontal Centrifugal Pump  
MLE, Integrated Variable Frequency  
Drive Motor and Pressure Transmitter**

### **Pump End:**

The packaged single pump booster system shall be a standard product of a single pump manufacturer. The manufacturer of the packaged pump system shall also be the manufacturer of the pumps. Non-standard, "one of a kind" packaged pump systems shall not be considered equal. The packaged water booster pump system shall be Grundfos Model # or approved equal.

The packaged pump system shall use advanced variable frequency drive and electronic controller technology to maintain a constant discharge pressure of \_\_\_\_\_ psi to a maximum flow of \_\_\_\_\_ gpm. Minimum supply pressure is \_\_\_\_\_ psi. Pump systems that use pump control valves or pressure reducing valves to maintain a constant water pressure shall not be considered equal. The maximum duty point of the pump shall be \_\_\_\_\_ gpm @ \_\_\_\_\_ feet TDH.

The system shall be capable of operating continuously at temperatures from 5°F to 176°F (-15°C to 80°C) at a maximum working pressure of 145 psi (10 bar).

### **Pump:**

The pump suction/discharge chamber, impellers, pump shaft, diffuser chambers, and impeller seal ring retainers shall be constructed of 316 stainless steel. The pump motor stool shall be constructed of silumin isolated from the pumped fluid by a 316 stainless steel inset. The pump shaft shall be part of the rotor assembly, requiring no coupling or adjustment. All bearings shall be contained in the motor. The pumps shall be equipped with a high temperature mechanical seal assembly with Carbon/Tungsten Carbide rotating/stationary seal faces, with EPDM rubber parts mounted in stainless steel seal components (optional Silicon Carbide/Silicon Carbide seal faces and FKM rubber parts may be specified).

### **Motor:**

The motor shall be of the pulse width modulated, integrated motor/variable frequency drive design, the motor and drive designed and built by a single manufacturer. The variable frequency drive shall include a built in PI controller, dry-contact fault output relay contacts, analog, and digital inputs. The motor shall detect/protect itself against under voltage, over voltage, overload, over temperature, sensor signal fault and set-point signal fault. The motor enclosure shall be rated IP55. The motor windings shall be class F rated. The motor set-point shall be set by a potentiometer mounted on the integrated variable frequency drive controller enclosure or remotely located through a shielded control cable, the connection requiring a maximum of three signal/switch wires, plus a ground. Motor/drive operation settings must be through DIP switches mounted in the integrated variable frequency drive enclosure. The motor/drive shall be job-site programmable through a PC program supplied by the system manufacturer for settings additional to the DIP switch settings.

### **Sensor/No Flow Shut Off:**

A 4-20mA pressure transducer, sized for proper application requirements, shall be installed on the pump and shall be electrically connected to the integrated variable frequency drive enclosure. A small diaphragm tank with a minimum air cushion volume of 10 cubic inches shall be installed on the pump for no flow shut off operation. The sensor and diaphragm tank shall be mounted directly to the pump via a 316 stainless steel cross fitting.

The pump/motor shall be UL listed to U.S. and Canadian safety standards.



*Leaders in Pump Technology*

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