

ENGINEERED PRODUCTS

CLOSE-COUPLED D-SERIES



ENGINEERING SPECIFICATIONS

1.01 SCOPE: The contractor shall furnish (quantity) model D-Series single-stage centrifugal pumps as manufactured by Franklin Electric. All pump units shall be from one pump manufacturer and provided complete, including electric motor drive.

2.01 OPERATING CONDITIONS:

EQUIPMENT ITEM NUMBER:	SUCTION x DISCHARGE:
PRIMARY SERVICE CONDITION:	GALLONS PER MINUTE (capacity):
TOTAL DYNAMIC HEAD (feet):	EFFICIENCY (%):
MINIMUM SHUT-OFF HEAD:	MINIMUM FLOW ALLOWED:
OPERATING SPEED:	MAXIMUM MOTOR (hp):
PUMP END COMPONENTS:	

3.01 CONSTRUCTION:

VOLUTE: D-Series volute shall be of heavy-duty cast iron ASTM-A48 CL30. NPT threaded pipe connections shall be standard for DA1A, DA1B, DB1, DB1.5, DB2, DC2, and DC4 models. All models shall be capable of withstanding maximum working pressures of 150 psi. Discharge orientation in the upper right quadrant shall be standard, but volute shall be easily rotated in 90 degree increments, if required. 1/4" NPT plugged pipe taps will be available for draining of the volute.

IMPELLER: All impellers shall be of enclosed design and balanced for smooth, vibration-free operation. DA1A and DA1B impellers shall be constructed of cast 304 stainless steel. DB1, DB1.5, DB2, and DC2 impellers shall be of cast silicon brass, ASTM B584. DC4 impellers shall be of cast iron, ASTM-A48 CL30.

MECHANICAL SHAFT SEAL: The Type 21 mechanical shaft seal assembly shall be composed of a carbon rotating face, ceramic stationary, nitrile elastomer, and 300 series stainless steel hardware as standard. Temperature rating shall be 212 °F maximum.

SHAFT SLEEVE: The shaft sleeve (3–50 hp models) shall be a slip-fit, replaceable design constructed of 416 stainless steel with nitrile O-ring.

SHAFT COUPLING: Smaller horsepower D-Series (1/2–2 hp models) shall have the impeller directly threaded to a brass shaft coupling, which shall be affixed to the 56C motor shaft with set screws and facilitate easy replacement of the motor without having to disassemble the pump end.

4.01 ELECTRIC MOTOR: The pump drive motor shall be of a NEMA standard design. 56C jet type motors will be used on smaller horsepower models (1/2–2 hp), while JM frame footed close-coupled motors will be used on 3 hp and larger models. Motors shall be of manufacturers standard catalog design. The motor rating shall be:

HP	RPM	Phase	Hz	Volts	Enclosure (ODP/TEFC) High Efficiency, 1.15 Service Factor
----	-----	-------	----	-------	---

5.01 TESTING SPECIFICATIONS (IF REQUIRED): Each pump shall be hydrostatically tested by the manufacturer in accordance with Hydraulic Institute standards at a minimum of 275 psi. Production performance testing will be conducted by the manufacturer on each pump unit. Head at three operating points (70% of BEP, BEP, and 120% of BEP) will be measured to verify performance.

