

PRODUCT FAMILY

270 VDC Brushless Fuel Pump

Parker Aerospace, FSD-Elyria has a long history of supplying fuel pumps to the civilian and military aviation markets. Many modern military aircraft utilize a 270 VDC system to power the products in the fuel system. The 8C110 pump supplies pressurized fuel from the main tank(s) directly to the engine (boost function) and the 8C109 pump moves fuel from one tank to another tank (transfer function). Both pumps utilize a submerged mounting configuration internal to the fuel tank. Extensive qualification testing has been completed on both products. This past testing, combined with operational field experience means that these pumps can provide a low-risk, cost-effective solution for fuel systems utilizing 270 VDC power.



Model 8C110 family
Submerged mounting

Product Features

The 8C109 and 8C110 provide the capability to meet a wide array of fuel system demands. Some of the key features that provide versatility are as follows:

Mounting configuration

- Model 8C109: single inlet and discharge assembly, mounted vertically in the fuel tank
- Model 8C110: dual inlet (for inverted flight) and dual discharge assembly (one for engine flow and one for FADEC flow), mounted vertically in the fuel tank

Hydraulic elements

- Model 8C109: single centrifugal impeller
- Model 8C110: single centrifugal impeller with two inducer elements; and one radial impeller

Motor drive

- 270 VDC brushless motor drive connected to a high power, digital electronic controller that runs on configuration controlled software

Operational features

- Each pump has the capability to operate on three distinct settings, each calibrated to a set power level. This capability is controlled by an input command to the controller. This feature allows the flow and pressure performance to be altered to meet changing fuel system demand.
- The controller performs health monitoring and provides output signals that indicates: no fault found, minor fault, major fault, or dry run/overheat condition

Applications

Pumps from the 270 VDC product family are used on the following aircraft:

- Lockheed Martin F-35

Specifications

Attributes	Values
Flow range	0 to 50,000 pph
Discharge pressure range	5 to 35 psi
Required input range	200 to 2800 watts
Fluid temperature range	-40°F to +175°F
Ambient temperature range	-40°F to +175°F
Assembly weight	10.9 to 16.3 pounds
Duty cycle	Intermittent to continuous

Contact Information

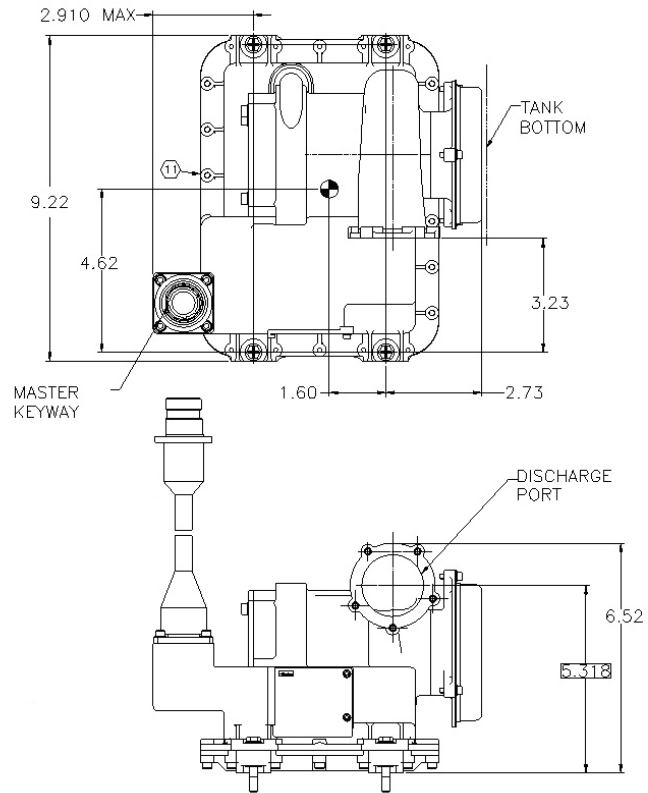
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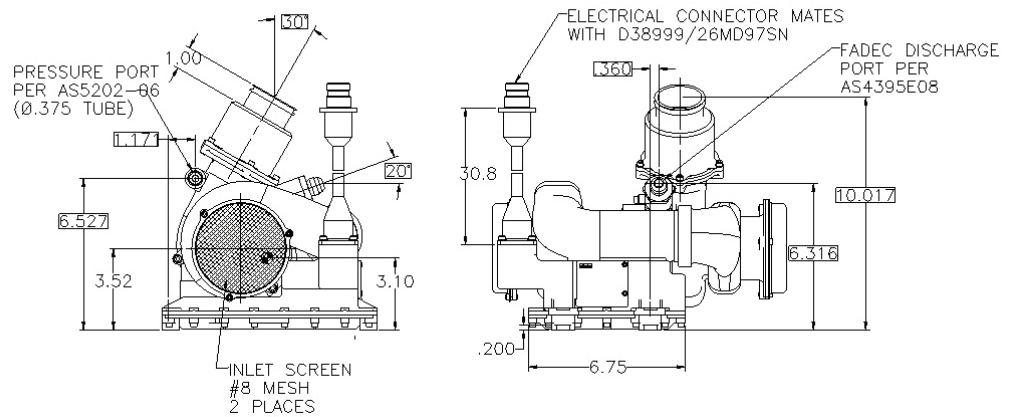
Model 8C109 family

Submerged mounting



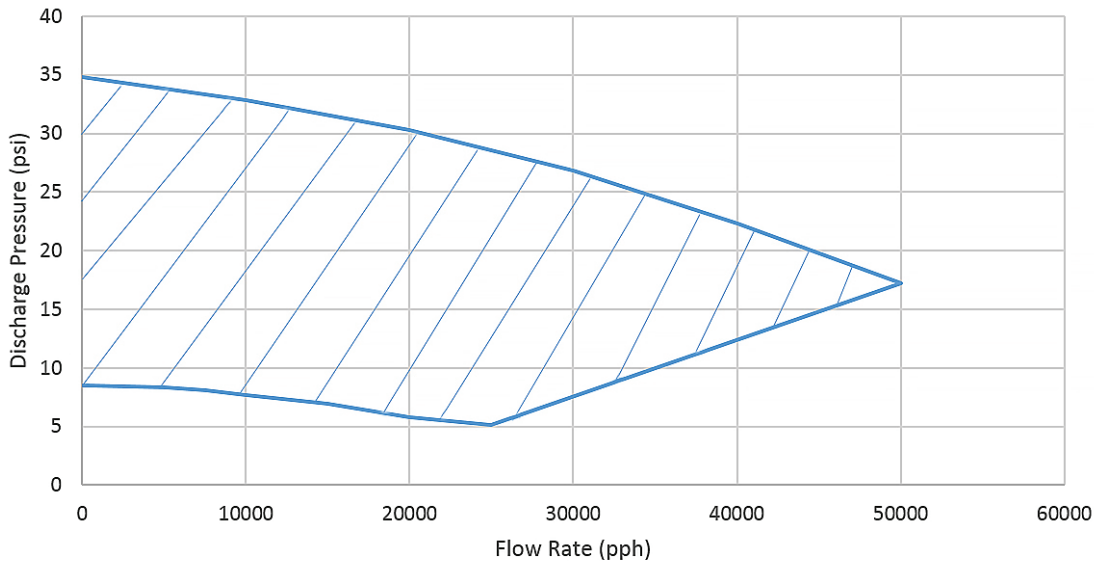
Model 8C110 family

Submerged mounting

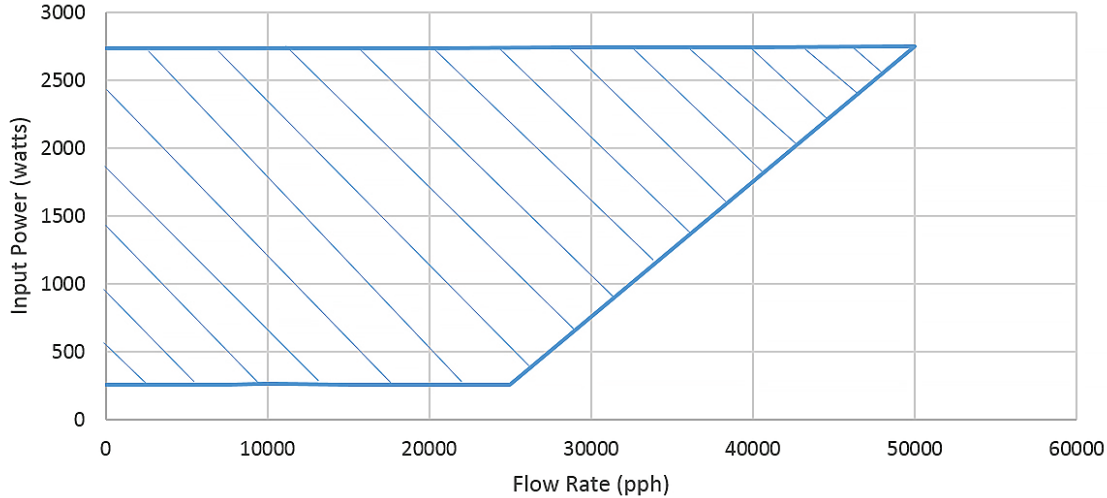


Product range curves for fuel flow versus discharge pressure and fuel flow versus input power

270 VDC Brushed Pump
Flow vs. Discharge Pressure



270 VDC Brushed Pump
Flow vs. Input Power



If the required flow, discharge pressure, and input power fit within the cross-hatched areas, then a product already exists that may fit the new application. Any pressure requirements below the cross-hatched region will also be satisfied.

Contact Information

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