

GRISWOLD 811LF



ANSI CENTRIFUGAL
PUMPS FOR
LOW FLOW
APPLICATIONS

P E R F O R M A N C E

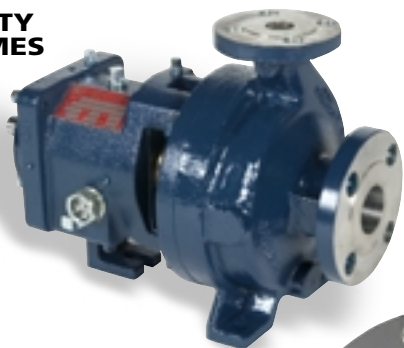
D A R E T O C O M P A R E

GRISWOLD **811LF** FOR LOW FLOWS

ANSI PROCESS PUMPS DESIGNED FOR LOW FLOW SERVICES.

INCREASED CAPABILITY FOR REDUCED VOLUMES

Standard ANSI pumps (with expanding style volute casing) are not designed for low flow, high head applications: the excessive radial loads and shaft vibration experienced can shorten bearing and seal life. Griswold's Model **811LF** series is designed with a circular concentric casing in conjunction with a radial vane impeller to reduce those excessive radial loads and minimize shaft deflection, thus extending MTBPM.



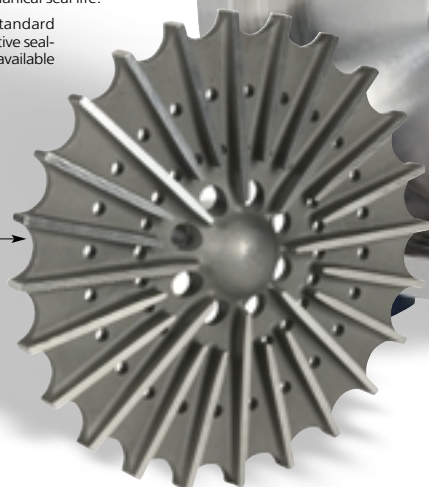
1 CIRCULAR CONCENTRIC VOLUTE CASING:

The fully machined concentric volute reduces excessive radial loads experienced in low flow, high head applications. Shaft vibration and deflection is minimized, extending bearing and mechanical seal life.

Class 150 raised face flanges are standard with the Model **811LF** series for positive sealing. Class 300 raised face flanges are available as an option.

2 LOW FLOW RADIAL VANE IMPELLER:

Griswold's radial vane impellers are specially designed to reduce the thrust load and seal chamber pressure normally associated with low flow applications. When operating in reduced volume conditions, the low flow impeller's vanes provide better hydraulic control than traditional ANSI impellers. Balance holes reduce both axial thrust and seal chamber pressure, extending bearing and seal life.



4 RETROFITTING:

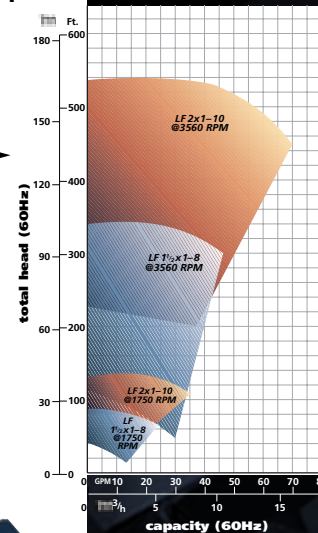
Griswold Model **811LF** pumps are ANSI dimensional, so they can be installed without piping or base changes to existing equipment. In fact, since all other parts and features are identical/interchangeable within the entire 811 ANSI line, the **811LF** case and impeller can be easily retrofitted to an existing Griswold pump as well as 100,000s of other ANSI pumps already in service!



3 811LF PERFORMANCE:

With a traditional ANSI pump, throttling or recirculating flow to attain low flow conditions causes excessive radial load and shaft deflection—all of which can result in premature failure to bearings and mechanical seals.

Griswold **811LF** pumps feature flow capacities as low as 4 GPM, and heads as high as 550'—low flow/high head performance you can count on to further extend your MTBPM.



FOUR 811LF MODELS

- LF 1½ x 1 - 8 @ 1750 RPM
- LF 1½ x 1 - 8 @ 3500 RPM
- LF 2 x 1 - 10 @ 1750 RPM
- LF 2 x 1 - 10 @ 3500 RPM

811LF CAPACITIES

4 GPM to 70 GPM
Heads to 550'

GRISWOLD 811LF



GRISWOLD PUMP COMPANY

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Selection list: ---

Search Criteria:

Flow: --- US gpm

Head: --- ft

Tolerance: --- % of head

Fluid: Water

Temperature: 60 °F

SG: 1

Viscosity: 1.105 cP

Vapor pressure: 0.2563 psi a

Atm pressure: 14.7 psi a

NPSHa: --- ft

Advanced Criteria:

Preferred Operating Area: ---

Secondary Operating Point: ---

Max temperature: --- °F

Max suction pressure: --- psi g

Max sphere size: --- in

Max power: --- bhp

Max suction specific speed: --- (Nss)

Min trim: --- % of max diameter

Min head rise: --- % to shutoff

Curve Corrections: none

Catalog: Griswold Pump Company 60hz 1.3 vers 1.3

Pump: 1.5x1-8 AA

Type: 811-LF

Synch speed: 1800 rpm

Speed: 1750 rpm

Dia: 8 in

Curve no.: GLF-1804

Specific Speeds

Ns: ---

Nss: ---

Dimensions:

Suction: 1.5 in

Discharge: 1 in

Pump Limits:

Temperature: --- °F

Pressure: --- psi g

Sphere size: --- in

Power: --- bhp

Motor: 2 hp

Speed: 1800

Frame: 145T

Standard: NEMA

Enclosure: TEFC

Sizing criteria: Max Power on Design Curve

---- Data Point ----

Flow: 20.8 US gpm

Head: 70 ft

Eff: 23%

Power: 1.59 bhp

NPSHr: 2.94 ft

-- Design Curve --

Shutoff Head: 83 ft

Shutoff dP: 35.9 psi

Min Flow: 1 US gpm

BEP: 23% eff

@ 20.8 US gpm

NOL Pwr: 1.66 bhp

@ 24 US gpm

-- Max Curve --

Max Pwr: 1.66 bhp

@ 24 US gpm

The figure consists of two vertically stacked graphs sharing a common x-axis representing flow in US gpm, ranging from 0 to 24 with major grid lines every 4 units.

The top graph plots head in feet (ft) on the y-axis, ranging from 0 to 100 with major grid lines every 20 units. It shows several performance curves for different diameters, labeled 4.5, 5, 5.5, 6, 6.5, 7, 7.5, and 8 inches. The curves generally show a decrease in head as flow increases. Efficiency points are marked on the curves with numbers: 8, 12, 16, 19, 21, and 23. A specific data point is highlighted at approximately 20.8 US gpm and 70 ft head.

The bottom graph plots Net Positive Suction Head required (NPSHr) in feet (ft) on the y-axis, ranging from 0 to 5 with major grid lines every 2.5 units. It shows multiple curves representing NPSHr requirements for different flow rates, ranging from 1 to 24 US gpm. The NPSHr generally increases with flow rate.

PUMP-FLO vers 7.1a

Selection list: ---

Search Criteria:

Flow: --- US gpm

Head: --- ft

Tolerance: --- % of head

Fluid: Water

Temperature: 60 °F

SG: 1

Viscosity: 1.105 cP

Vapor pressure: 0.2563 psi a

Atm pressure: 14.7 psi a

NPSHa: --- ft

Advanced Criteria:

Preferred Operating Area: ---

Secondary Operating Point: ---

Max temperature: --- °F

Max suction pressure: --- psi g

Max sphere size: --- in

Max power: --- bhp

Max suction specific speed: --- (Nss)

Min trim: --- % of max diameter

Min head rise: --- % to shutoff

Curve Corrections: none

Catalog: Griswold Pump Company 60hz 1.3 vers 1.3

Pump: 1.5x1-8 AA

Type: 811-LF

Synch speed: 3600 rpm

Speed: 3500 rpm

Dia: 8 in

Curve no.: GLF-3604

Specific Speeds

Ns: ---

Nss: ---

Dimensions:

Suction: 1.5 in

Discharge: 1 in

Pump Limits:

Temperature: --- °F

Pressure: --- psi g

Sphere size: --- in

Power: --- bhp

Motor: 15 hp

Speed: 3600

Frame: 254T

Standard: NEMA

Enclosure: TEFC

Sizing criteria: Max Power on Design Curve

---- Data Point ----

Flow: 40.8 US gpm

Head: 285 ft

Eff: 26%

Power: 11.3 bhp

NPSHr: 11.1 ft

-- Design Curve --

Shutoff Head: 335 ft

Shutoff dP: 145 psi

Min Flow: 3 US gpm

BEP: 26% eff

@ 40.8 US gpm

NOL Pwr: 11.9 bhp

@ 46.5 US gpm

-- Max Curve --

Max Pwr: 11.9 bhp

@ 46.5 US gpm

The figure consists of two vertically stacked graphs sharing a common x-axis representing flow in US gpm, ranging from 0 to 45 with major grid lines every 5 units.

The top graph plots head in feet (ft) on the y-axis, ranging from 0 to 400 with major grid lines every 80 units. It shows several performance curves for different diameters: 4.5", 5", 5.5", 6", 6.5", 7", 7.5", and 8". Each curve is labeled with a number (10, 14, 18, 21, 24, 26) indicating a specific flow rate. A data point is marked on the 8" curve at approximately 40.8 US gpm and 285 ft head. The curves generally show a decrease in head as flow increases, with some curves exhibiting a more pronounced drop at higher flow rates.

The bottom graph plots NPSHr (ft) on the y-axis, ranging from 0 to 16 with major grid lines every 8 units. It shows multiple curves representing the required head for different flow rates, ranging from 3 US gpm to 46.5 US gpm. The curves show that NPSHr increases with flow rate, starting near 0 ft at low flows and reaching approximately 11 ft at 46.5 US gpm.

PUMP-FLO vers 7.1a

Selection list: ---

Search Criteria:

Flow: --- US gpm
Head: --- ft
Tolerance: --- % of head

Fluid: Water

Temperature: 60 °F
SG: 1
Viscosity: 1.105 cP
Vapor pressure: 0.2563 psi a
Atm pressure: 14.7 psi a

NPSHa: --- ft

Advanced Criteria:

Preferred Operating Area: ---
Secondary Operating Point: ---
Max temperature: --- °F
Max suction pressure: --- psi g
Max sphere size: --- in
Max power: --- bhp
Max suction specific speed: --- (Nss)
Min trim: --- % of max diameter
Min head rise: --- % to shutoff

Curve Corrections: none

Catalog: Griswold Pump Company 60hz 1.3 vers 1.3

Pump: 2x1-10 A05

Type: 811-LF
Synch speed: 1800 rpm
Speed: 1750 rpm
Dia: 9.75 in
Curve no.: GLF-1810

Specific Speeds

Ns: --- Nss: ---

Dimensions:

Suction: 2 in Discharge: 1 in

Pump Limits:

Temperature: --- °F
Pressure: --- psi g
Sphere size: --- in
Power: --- bhp

Motor: 5 hp

Speed: 1800
Frame: 184T
Standard: NEMA
Enclosure: TEFC
Sizing criteria: Max Power on Design Curve

---- Data Point ----

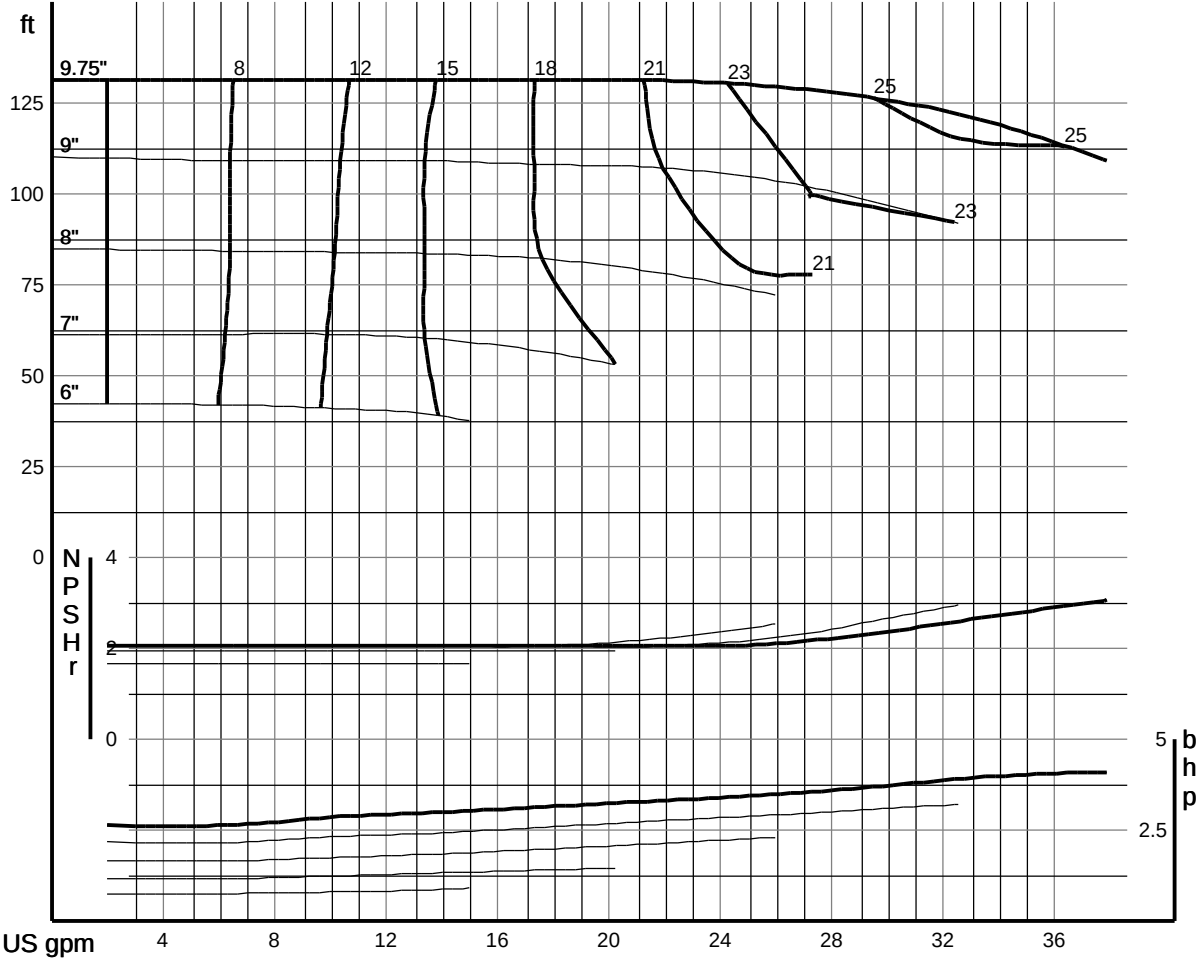
Flow: 32.7 US gpm
Head: 119 ft
Eff: 25%
Power: 3.91 bhp
NPSHr: 2.57 ft

-- Design Curve --

Shutoff Head: 129 ft
Shutoff dP: 55.8 psi
Min Flow: 2 US gpm
BEP: 25% eff
@ 32.7 US gpm
NOL Pwr: 4.07 bhp
@ 37.6 US gpm

-- Max Curve --

Max Pwr: 4.07 bhp
@ 37.6 US gpm



Selection list: ---

Search Criteria:

Flow: --- US gpm
Head: --- ft
Tolerance: --- % of head

Fluid: Water

Temperature: 60 °F
SG: 1
Viscosity: 1.105 cP
Vapor pressure: 0.2563 psi a
Atm pressure: 14.7 psi a

NPSHa: --- ft

Advanced Criteria:

Preferred Operating Area: ---
Secondary Operating Point: ---
Max temperature: --- °F
Max suction pressure: --- psi g
Max sphere size: --- in
Max power: --- bhp
Max suction specific speed: --- (Nss)
Min trim: --- % of max diameter
Min head rise: --- % to shutoff

Curve Corrections: none

Catalog: Griswold Pump Company 60hz 1.3 vers 1.3

Pump: 2x1-10 A05

Type: 811-LF
Synch speed: 3600 rpm
Speed: 3560 rpm
Dia: 9.75 in
Curve no.: GLF-3610

Specific Speeds

Ns: --- Nss: ---

Dimensions:

Suction: 2 in Discharge: 1 in

Pump Limits:

Temperature: --- °F
Pressure: --- psi g
Sphere size: --- in
Power: --- bhp

Motor: 30 hp

Speed: 3600
Frame: 286TS
Standard: NEMA
Enclosure: TEFC
Sizing criteria: Max Power on Design Curve

