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 **GRISWOLD** PRODUCT LINE

BR

850 SERIES



Where Innovation Flows



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GRISWOLD CENTRIFUGAL PUMPS



Griswold™ is a premier manufacturer of centrifugal pumps and baseplate systems. With engineering expertise, lean manufacturing, testing capabilities, and exceptional customer support, Griswold meets its customers' most demanding application requirements, all the while minimizing project costs.



850 Series Industrial Water Pumps

Backed by 70 years of experience and commitment to manufacturing quality centrifugal pumps, Griswold 850 Series pumps have been specifically designed with versatility in mind. Thanks to their efficient performance, extensive features, long life and easy maintenance, these pumps are ideal for use in a wide variety of water applications. Griswold 850 Series pumps feature capacities up to 3,850 gpm (874 m³/hr), heads to 430 ft (131 m), and a broad range of sizes and configuration options.



COMMERCIAL
SWIMMING POOLS



WATER PARKS



WATER FEATURES



INDUSTRIAL SERVICES



IRRIGATION

"A government big enough to give you everything you want, is strong enough to take everything you have."

—Thomas Jefferson



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ENGINEERED FOR FLEXIBILITY & DURABILITY

DESIGN FEATURES:

- NSF® 50 Certified
- Heavy-duty, robust design
- Flanged connections in accordance with ASME B16.1
- Single-piece enclosed impellers
- Back pull-out design for ease of maintenance
- Component mechanical seals
- Iron liquid path
- Renewable lead-free bronze wearing rings
- Close-coupled or frame-mounted options
- Close-coupled NEMA electric motors available
- Frame-mounted with coupling to: electric motors, engines, steam turbines, or belt-driven options
- Base mounted options
- Epoxy-coated interior (optional feature)

1 Flanged Iron Casing

The 850 Series iron casing is tapped for a drain, vent and pressure gauge. It includes a suction wear ring and can be rotated to various discharge positions. Standard ASME B16.1 flange-type suction and discharge nozzles facilitate installation and maintenance.

2 Renewable Lead-Free Bronze Shaft Sleeve

The renewable lead-free bronze shaft sleeve insulates the shaft from abrasion and contact with pumped liquids.

3 Mechanical Shaft Seals

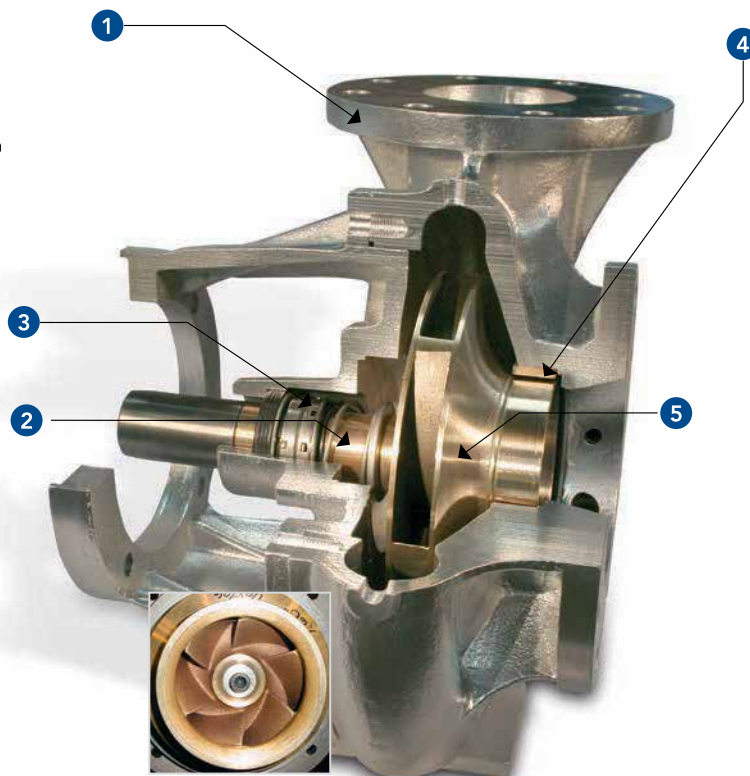
Mechanical shaft seals feature Carbon/Ceramic/Buna-N and Stainless-Steel components, eliminating maintenance and adjustment problems.

4 Renewable Lead-Free Bronze Wearing Rings

Precision-made lead-free bronze wearing rings are pressed into the casing and/or bracket as required and are renewable, as well as easily replaced in the field.

5 Single-Piece Enclosed Impeller

Made of aluminum bronze and keyed to the shaft, the single-piece enclosed impeller is precision balanced with the diameter cut for the specific condition point. On high-head units, the impeller back is drilled for hydraulic balance, limiting thrust load and reducing pressure in the sealing area. Aluminum bronze is a preferred material over stainless steel for its durability and superior corrosive resistance, especially in chlorine applications.



NSF® CERTIFICATION

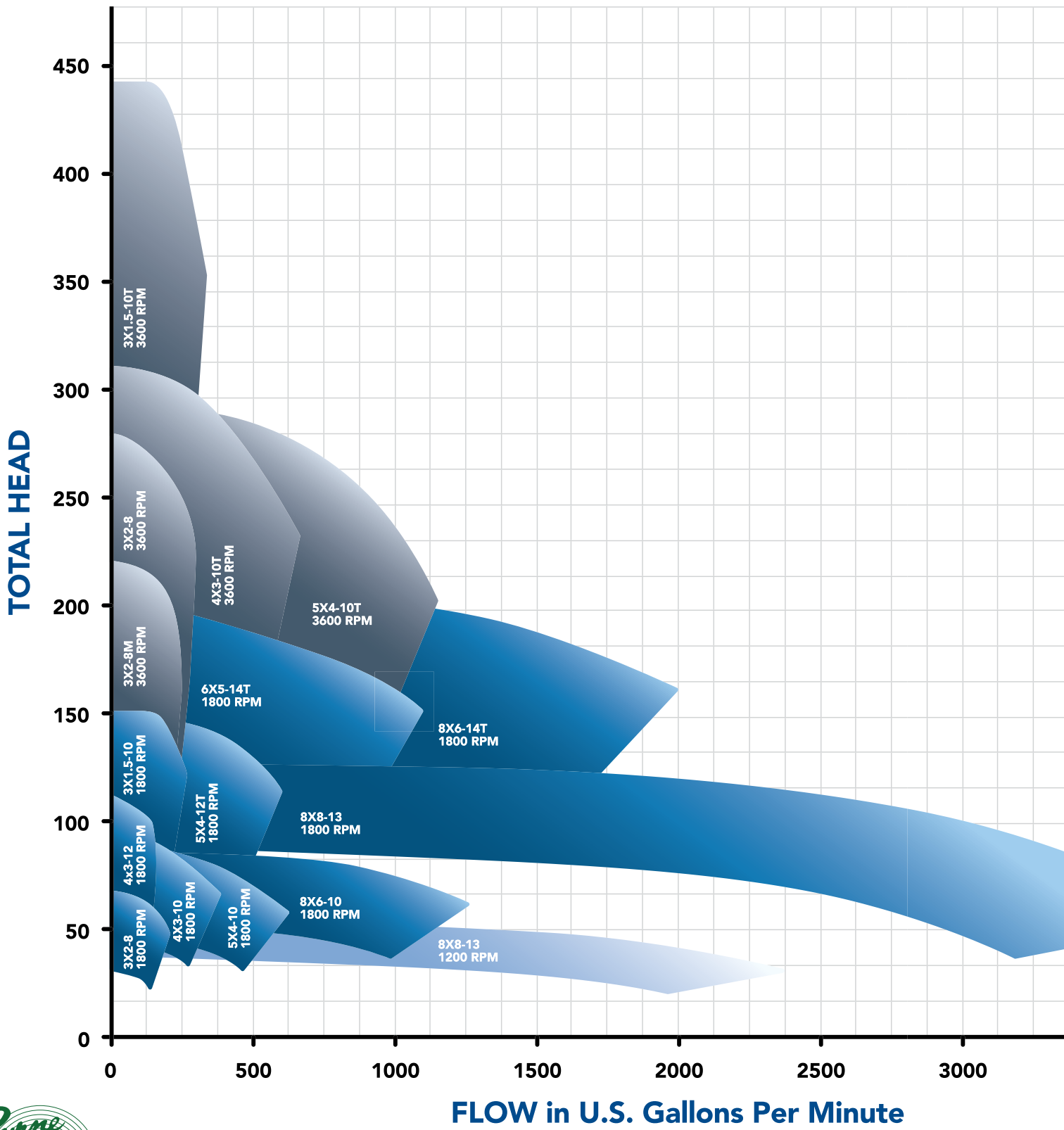
Griswold 850 Series pumps have been specially engineered and precision built to meet NSF/ANSI Standard 50 (NSF 50), which establishes the requirements for the equipment used in the water circulation systems of swimming pools, spas and hot tubs. This means that every aspect of a Griswold 850 Series pump's development – from extensive product testing and material analyses to regular on-site inspections – was thoroughly evaluated before it earned this certification.

EXTENDED EQUIPMENT LIFE

Every piece of Griswold equipment has a proven track record of performance and extended service life. In fact, many Griswold customers find their pumps operating just as efficiently in year 30 as the day the pump went into service. To illustrate just how much we stand behind the performance of our equipment, every Griswold 850 Series pump comes with a two-year limited warranty from date of purchase.

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PERFORMANCE CURVE



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Technical Specifications

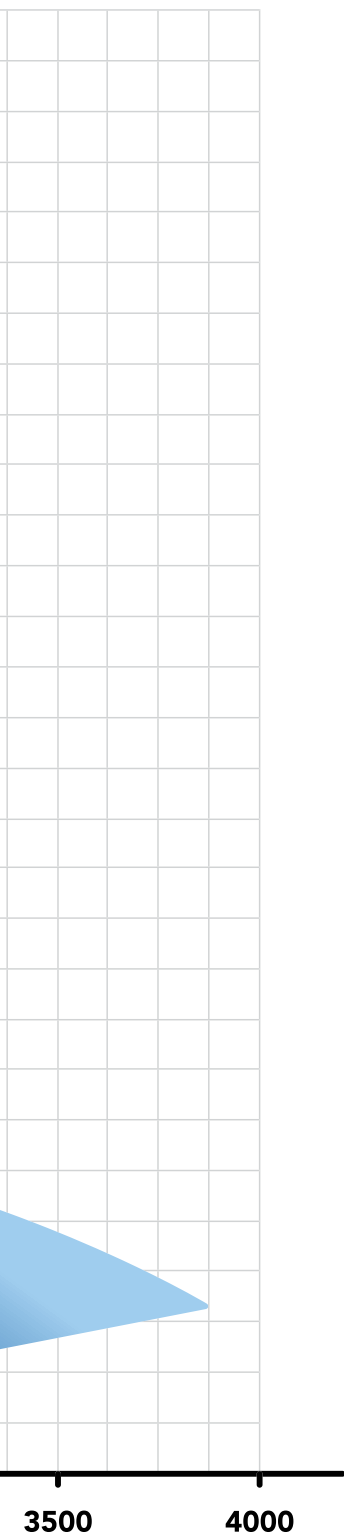
Max. Flow Rate:
3,850 gpm (874 m³/hr)

Max. Head:
430 ft (131 m)

Max. Temperature:
120°F (49°C)

Available Materials:
Iron with Aluminum Bronze

850 Series Model	PEI _{CL}	Full Trim Impeller Diameter (in.)
850CC/3x1.5-10/4P	0.93	9.92
850FM/3x1.5-10/4P	0.92	9.92
850CC/3x1.5-10T/2P	0.93	9.92
850FM/3x1.5-10T/2P	0.92	9.92
850CC/3x2-8/2P	0.92	7.937
850FM/3x2-8/2P	0.91	7.937
850CC/3x2-8/4P	0.90	7.937
850FM/3x2-8/4P	0.90	7.937
850CC/3x2-8M/2P	0.93	7.5
850FM/3x2-8M/2P	0.92	7.5
850CC/4x3-10/4P	0.94	9.25
850FM/4x3-10/4P	0.93	9.25
850CC/4x3-10T/2P	0.97	8.7
850FM/4x3-10T/2P	0.96	8.7
850CC/4x3-12/4P	0.94	11.55
850FM/4x3-12/4P	0.93	11.55
850CC/5x4-10/4P	0.95	9.125
850FM/5x4-10/4P	0.94	9.125
850CC/5x4-10T/2P	0.96	8.625
850FM/5x4-10T/2P	0.95	8.625
850CC/5x4-12T/4P	0.99	11.5
850FM/5x4-12T/4P	0.99	11.5
850CC/6x5-14T/4P	0.96	13.438
850FM/6x5-14T/4P	0.96	13.438
850CC/8x6-10/4P	0.95	9.625
850FM/8x6-10/4P	0.95	9.625
850CC/8x6-14T/4P	0.95	14
850FM/8x6-14T/4P	0.95	14
850CC/8x8-13/4P	0.97	12.875
850FM/8x8-13/4P	0.97	12.875



OPTIONS & UPGRADES

Choose From Two Standard Configurations: Close-Coupled Configuration

850 Series pumps will be provided with NEMA JM or JP close-coupled electric motors. These motors feature a short shaft overhang that reduces the effects of radial stress on motor bearings. In addition to open drip-proof motors, 850 Series pumps can be coupled with totally-enclosed fan-cooled motors.



Frame-Mounted Configuration

Griswold also offers flexible couplings to electric motors, including open drip-proof, totally-enclosed and explosion-proof motors. In addition, we provide engine, steam turbine and belt-driven options. Our extra heavy-duty cast iron frame includes the most advanced features available in oil-lubricated bearing frames for meeting extremely demanding industrial applications. Our standard features include INPRO® labyrinth oil seals, a 1-inch oil sight glass, oversized shaft and bearings, vibration monitoring locations and external cooling capability. Grease lubrication is optional.



Griswold Standard Oil-Lubricated Power Frame

STANDARD POWER FRAME FEATURE COMPARISON:		
	Griswold	Competition
Oil Bath Lubrication	YES	NO
Oversized Shaft & Bearings	YES	NO
Magnetic Drain Plug	YES	NO
INPRO® Lab Seals	YES	NO
Epoxy Coated Interior	YES	NO
Clean Room Assembly	YES	NO

“Live in such a way that you would not be ashamed to sell your parrot to the town gossip.”

—Will Rogers

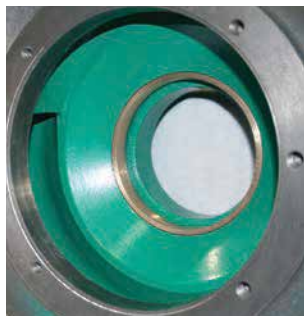


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Versatile Solutions For Liquid Pumping Applications



Coating Options

For corrosion protection, 850 Series pumps can be coated on the interior and/or exterior with 3M™ Scotchkote™ 134 Fusion Bonded Epoxy.



Seal Options

While our standard mechanical seal is comprised of Carbon/Ceramic/Buna-N, we also offer alternatives for more abrasive, corrosive and high-temperature applications:

- Standard: Carbon/Ceramic/Buna-N
- Carbon/Ni-Resist/FKM
- Silicon Carbide/Silicon Carbide/FKM
- Carbon/Silicon Carbide/FKM
- Silicon Carbide/Tungsten/FKM



Baseplate Mounting Systems

Griswold offers a complete range of pre-engineered channelled steel baseplates designed to reduce stress and vibration as well as extend MTBPM (Mean Time Between Preventative Maintenance), thus ensuring long-term durability. Bases include a fully enclosed steel coupling guard as standard, with optional non-sparking coupling guard.

“Never give in, never give in, never, never, never, never—in nothing, great or small, large or petty—never give in except to convictions of honor and good sense.”

—Winston Churchill

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H SERIES



Where Innovation Flows



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GRISWOLD CENTRIFUGAL PUMPS



Griswold™, a product brand of PSG, is a premier manufacturer of centrifugal pumps and baseplate systems. Griswold provides world-class engineering expertise, lean manufacturing, testing capabilities and exceptional customer support to meet customers' most demanding application requirements. Backed by a world-class testing facility and quality procedures, Griswold centrifugal pumps have the ability to withstand the most demanding application requirements while minimizing project costs.



BARGES AND
TANK CARS



GENERAL TRANSFER
APPLICATIONS



IRRIGATION



LIGHT
INDUSTRIAL



MARINE



UNDERGROUND
STORAGE/SUMP



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ENGINEERED FOR FLEXIBILITY & DURABILITY

TECHNOLOGY: SELF-PRIMING CENTRIFUGAL PUMPS

H Series Centrifugal Pumps

The Griswold H Series is a unique line of self-priming centrifugal pumps used for a variety of water applications. The H Series pumps have been designed to lift water up to 25 ft and perform where other self-priming pumps can't.



Applications:

- Draining Barges
- Tank Cars
- Underground Storage Tanks
- Sprinkler Systems
- Swimming Pools
- Marine
- Irrigation
- Water Sumps

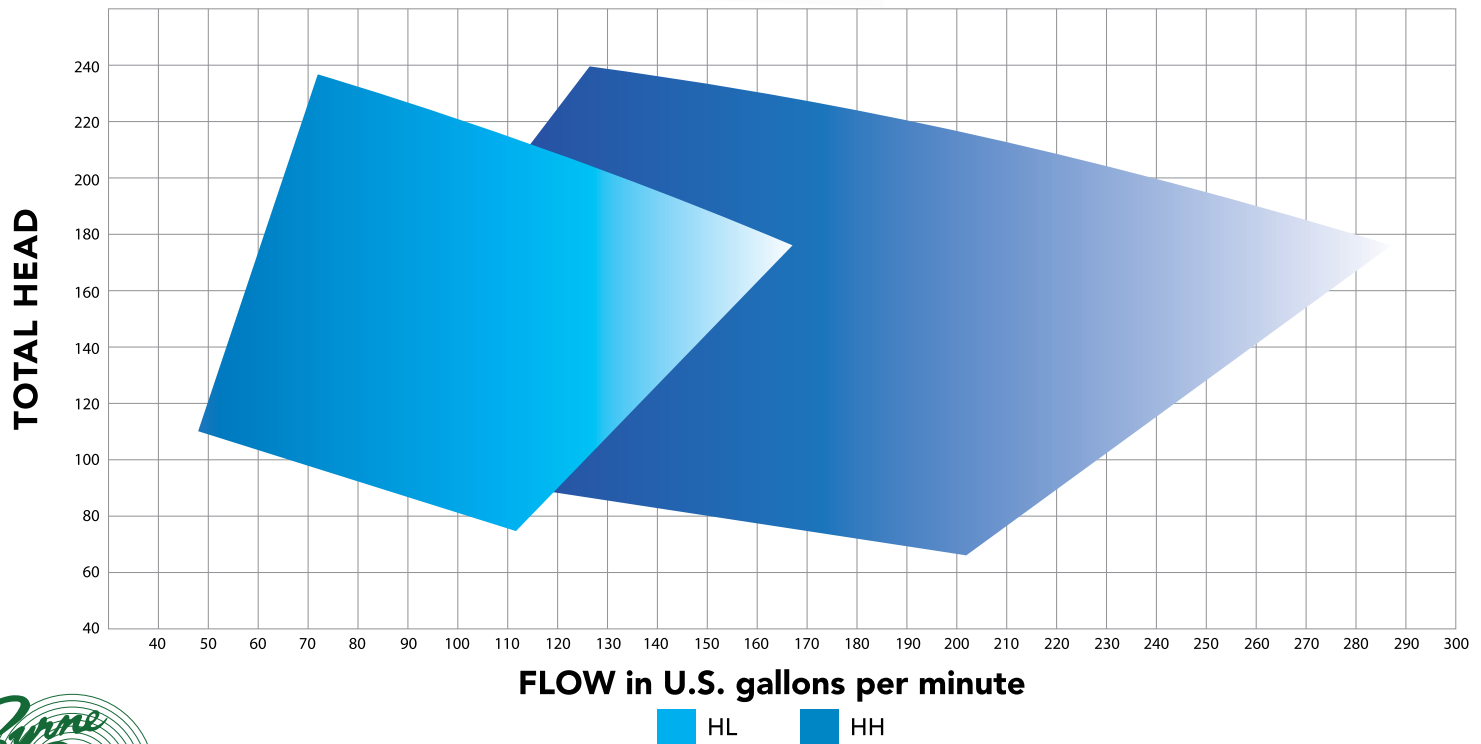
Features and Benefits:

- Maintain prime even when check valves or foot valves have failed
- High suction line keeps the impeller and mechanical seal covered with water eliminating the need to reprime the pump; protects the seal from running dry and costly replacements
- Available with variety of drives

Technical Data:

- Pressures up to 110 psig (260 ft.) and flows to 325 gpm

H Series Performance Coverage



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- 1 **NPT/Flanged Discharge Connection**
Discharge Dual Connections – Both pumps can be connected by either NPT threads or ANSI flanges. (See Discharge Driver Options Size Chart)

- 2 **Close Coupled JM Frame ODP or TEFC Motors**
Frame mount option for base mount applications.

- 3 **Carbon/Ceramic/Buna Mechanical Seal Standard with Bronze Sleeve**
This renewable bronze shaft sleeve insulates the shaft from abrasion and contact with pumped liquids. Carbon and ceramic faces available, plus stainless-steel components eliminate maintenance problems. Other seal options are available including Hard Faced Options.

- 4 **Totally Enclosed, Single-Piece Design, Cast Bronze Impeller**
Impeller is balanced and trimmed for specific operating range.

- 5 **3/4" NPT Accessory Connections**
The HL and HH models have (3) 3/4" NPT plugged connections on the case for accessories to be installed or auxiliary water outlets.

- 6 **Heavy-Duty Cast Iron Casing**
Heavy-duty cast iron ASTM A48 class 30 case with built-in drain and priming plugs and bolt-on suction flange. Extra-large priming chamber for fast, trouble-free priming.

- 7 **Flapper Type Check Valve Built-In Check Valve** – Prevents siphoning and need for repriming. No external check valve is required. Designed for easy replacement.



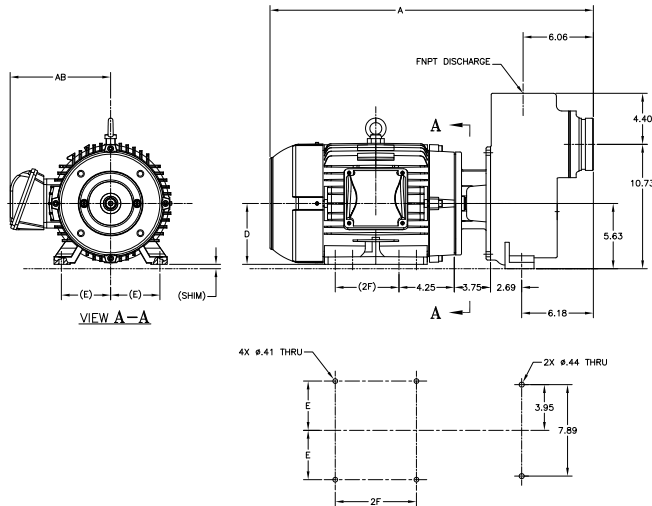
- 8 **Above Centerline Suction Connection**
Thanks to a suction line located higher on the pump housing than conventional centrifugal pumps, the impeller and mechanical seal on the H Series remains covered with water at all times, eliminating the need to reprime the pump while protecting the seal from running dry and costly replacements.

- 9 **NPT/Victaulic Suction Flange**
Bolt-on suction flange available in a variety of sizes to accommodate your specific flow. (See Suction Size Chart)

H SERIES CONFIGURATIONS

Closed Coupled

- ODP-JM Motor Frame
- TEFC-JM Motor Frame



Single Phase Drip Proof (inches)

Motor	Frame	A	AB	B1	BA	2F	D	E
3 HP	182 JM	23.16	6.69	2.875	3.50	4.50	4.50	3.75
5 HP	184 JM	23.16	6.69	2.875	3.50	5.50	4.50	3.75
7.5 HP	213 JM	26.68	7.97	2.875	4.25	5.50	5.25	4.25
10 HP	215 JM	26.68	7.97	2.875	4.25	7.00	5.25	4.25

Three Phase Drip Proof (inches)

3 HP	145 JM	21.66	5.87	2.875	2.75	5.00	3.50	2.75
5 HP	182 JM	23.16	6.69	2.875	3.50	4.50	4.50	3.75
7.5 HP	184 JM	23.16	6.69	2.875	3.50	5.50	4.50	3.75
10 HP	213 JM	26.68	7.97	2.875	4.25	5.50	5.25	4.25
15 HP	215 JM	26.68	7.97	2.875	4.25	7.00	5.25	4.25
20 HP	254 JM	29.51	9.45	3.75	4.25	8.25	6.25	5.00

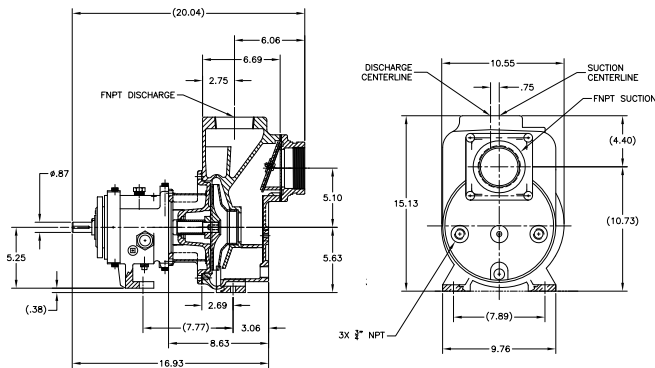
Three Phase TEFC (inches)

5 HP	182 JM	23.16	7.56	2.875	2.75	4.50	4.50	3.75
7.5 HP	184 JM	23.16	7.56	2.875	2.75	5.50	4.50	3.75
10 HP	213 JM	27.87	8.58	2.875	3.50	5.50	5.25	4.25
15 HP	215 JM	27.87	8.58	2.875	3.50	7.00	5.25	4.25
20 HP	256 JM	30.76	10.48	3.75	4.25	10.00	6.25	5.00

NOTE: All dimensions are for reference only

Long Coupled

- Build with ANSI grade power frame



Flange Options

Pump Size	Suction	Discharge
HL	3" NPT/4" Victaulic Groove	2" NPT/2" 125# Flange
HH	4" NPT	3" NPT/3" 125# Flange

NOTE: The discharge port is flanged and threaded

Pressure and Temperature Capability

	Temperatures up to 100°F	Temperatures over to 100°F
Pressure	120 psig	Contact Factory



Seal Options

- Carbon Ni-Resist FKM
- Carbon Silicon Carbide FKM
- Silicon Carbide Silicon Carbide FKM
- Silicon Carbide Tungsten FKM



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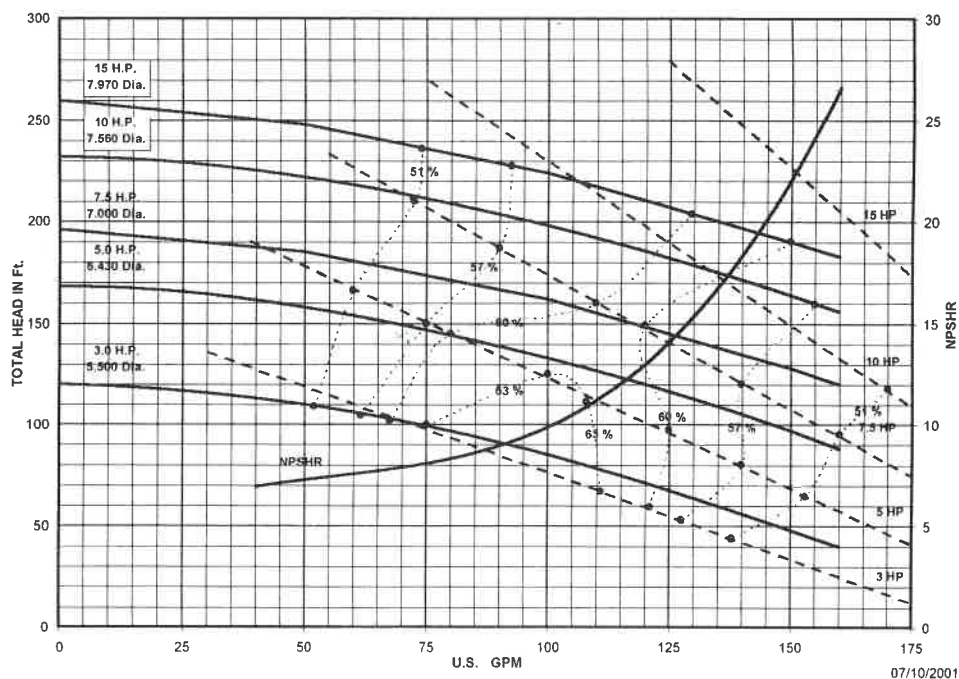
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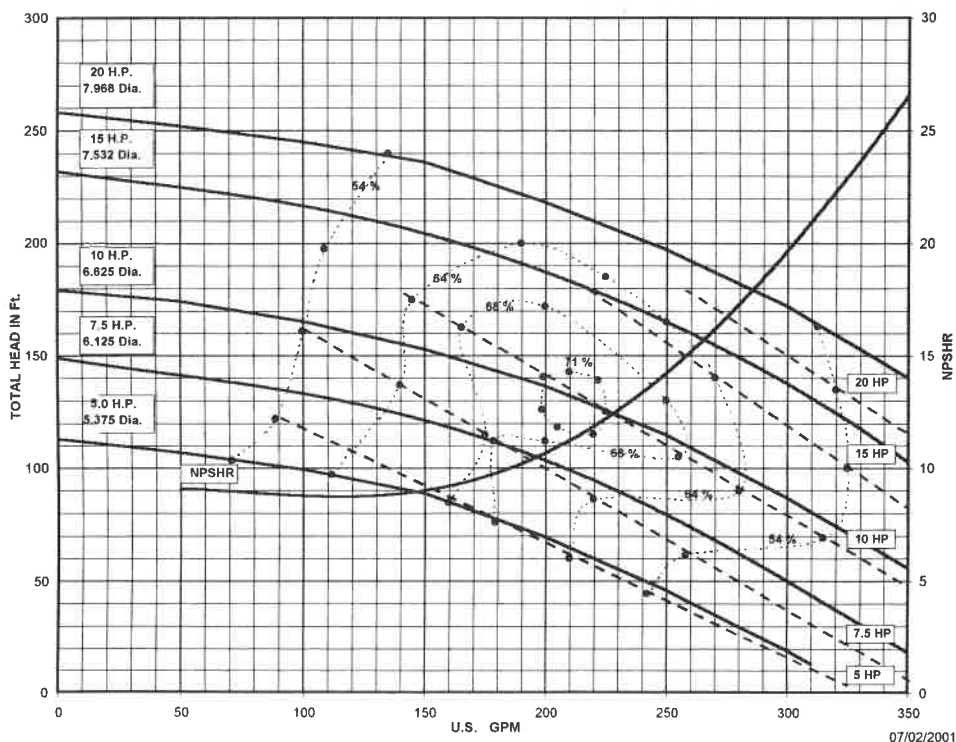
H SERIES, HIGH HEAD & SELF-PRIMING PUMP

Performance

HL SERIES 3470 RPM



HH SERIES 3470 RPM





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