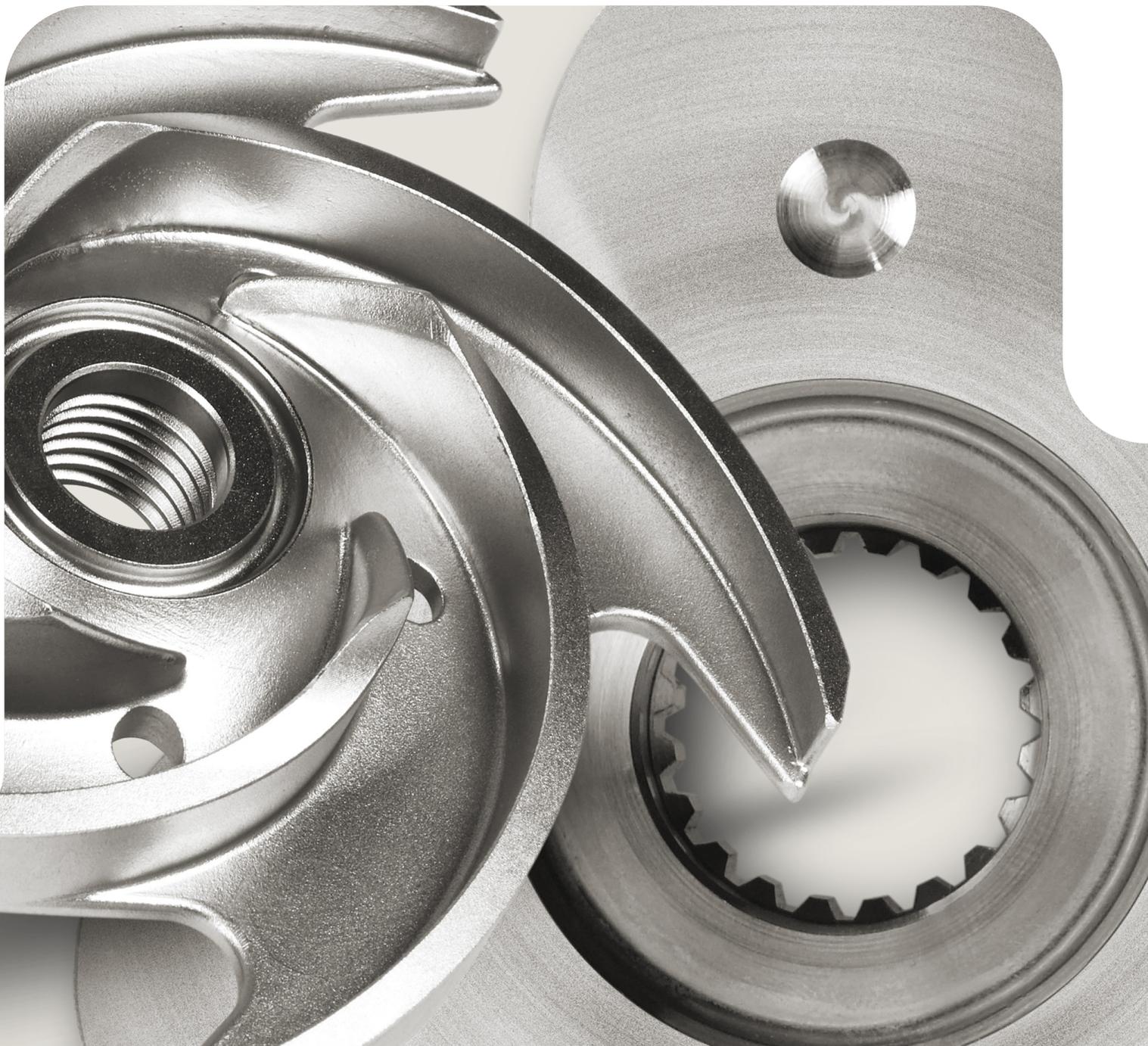




# Close at hand

Pumps for Hygienic Fluid Handling Equipment,  
January 2025



# Everything at your fingertips

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Tackle the challenges you face with innovative Alfa Laval solutions for hygienic applications. Regularly updated, this convenient online catalogue gives you fast access to our comprehensive product range.

Sustainability is at the core of Alfa Laval technologies. These hygienic components and equipment can help you reduce emissions, contamination risks, energy and water use, and total cost of ownership. They also increase uptime, safety and product integrity.

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## Pumps

### Centrifugal pumps



LKH



LKH UltraPure



LKH Evap



LKH PF



LKH Multistage

## Valves

### Double seat valves



Aseptic Mixproof



Unique Mixproof



Unique Mixproof 3-body



Unique Mixproof CP-3



Unique Mixproof UltraPure



Unique Mixproof Large Particle



Unique Mixproof PMO Curd

### Diaphragm valves



Unique DV-ST UltraPure



DV-ST Multiport

### Ball valves



SBV Sanitary

### Shutter valves



Kollek Valves

### Regulating valves



Unique RV-ST



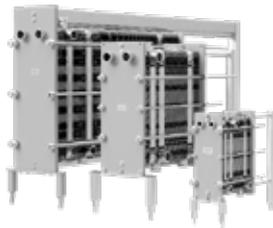
Unique RV-P



CPM-2

## Heat transfer

### Gasketed plate heat exchangers



Hygienic line



FrontLine



BaseLine



Industrial line

## Tank equipment

### Tank cleaning machines



SaniJet 25 UltraPure



SaniJet 20 UltraPure



TJ 40G



TJ 20G



TZ 74



TZ 89



GJ PF FT



GJ A6



GJ A2



GJ 9



Multijet 25

### Agitators



ALS and ALS-SD



ALB



ALT



ALTB

### Mixers



Hybrid Powder Mixer



Rotary Jet Mixer

## Tubes and fittings

### Hygienic tubes and fittings



Flanges, clamps and unions



Bends, tees and reducers



Tubes and tube support

### UltraPure tubes and fittings



UltraPure tubes and fittings

### Filters and strainers



Strainers

Rotary lobe pumps



LKH Prime

LKH Prime UltraPure

SolidC

OptiLobe

SRU

Double seal valves

Single seat valves



Mixproof Tank Outlet

Unique Mixproof Horizontal Tank

Unique Mixproof CIP

Unique Mixproof Process

SMP-BC

SMP-BC 22

Unique SSV

Unique SSV Change-over

Unique SSV FDV

Control/Check valves

Safety valves



LKC-2 Non-Return

LKC UltraPure

Unique Vacuum Breaker

LKUV-2 Air-Relief

Safety Valve

SB Anti Vacuum House

Fusion-bonded plate heat exchangers

Brazed plate heat exchangers



TS-series

AlfaCond

AlfaVap

AltaNova

Brazed PHE



Static spray balls

GJ 8

GJ BB

MultiJet 45

GJ 4

SaniMicro

SaniMidget

SaniMagnum

SaniMidget SB

SaniMagnum SB

SaniMega SB

LKRK Static Spray Ball

Tank covers



LeviMag

LeviMag UltraPure

LKDC-LP

Type R

LKD

Type CG

Type C

Membranes and filters

Auxiliary membrane equipment



Spiral membranes

Flat sheet membranes

Plate and frame module

LabStak™ modules

Pilot plants

Membrane filtration systems

Housing

Circumferential piston pumps



SX



SX UltraPure



DuraCirc



DuraCirc Aseptic

Twin screw pumps



Twin Screw

Gear pumps



M Gear

Butterfly valves



Unique SSV Aseptic



SSV Tangential



Unique SSV Tank Outlet



Unique SSV Manual



Unique SSSV Small Single Seat



LKB



LKB-F



LKB UltraPure

Sampling valves



SB Anti Vacuum Valve



SB Pressure Relief Valve



Unique Sampling Valve



SB Membrane Sample Valve



SB Micro Sample Port



SB Micro Sample Port Type M

Welded spiral heat exchangers



Spiral Heat Exchangers

Welded plate and block heat exchangers



Combabloc Free Flow

Scraped surface heat exchangers



Contherm

Tubular heat exchangers



Pharma-line S and P



Pharma-line Point of Use

Wall mounted cleaning nozzles



PlusClean/PlusClean UltraPure

Automation Sensing and control



ThinkTop V70



ThinkTop V50



ThinkTop V20



ThinkTop Basic Intrinsically Safe



IndiTop



Unique Control LKB

Tank accessories



Sight glasses



Tank feet

Condition monitoring



CM Connect



CM

Cleaning validation



Rotacheck

Service and spare parts



Service kits

Service tools



Service tools valves



Service tools mixing and blending



Service tools tank cleaning



Service tools pumps

# Alfa Laval Stainless Steel and Rubber Materials

## Technical Information

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### Stainless Steel

Our stainless steel material have the following demands to the contents of the most essential alloys:

Descriptions	Standard	Chrome Cr%	Nickel Ni%	Molybdenum Mo%	Carbon C%
AISI 304	ASTM A270	18.0-20.0	8.0-10.5	0.0	≤ 0.08
AISI 304L	ASTM A270	18.0-20.0	8.0-12.0	0.0	≤ 0.03
AISI 316L	ASTM A270	16.0-18.0	10.0-14.0	2.0-3.0	≤ 0.03
1.4301 (304)	EN 10088-1 (X 5CrNi18-10)	17.0-19.5	8.0-10.5	0.0	≤ 0.07
1.4307 (304L)	EN 10088-1 (X 2CrNi18-9)	17.5-19.5	8.0-10.0	0.0	≤ 0.03
1.4401 (316)	EN 10088-1 (X 5CrNiMo17-12-2)	16.5-18.5	10.0-13.0	2.0-2.5	≤ 0.07
1.4404 (316L)	EN 10088-1 (X 2CrNiMo17-12-2)	16.5-18.5	10.0-13.0	2.0-2.5	≤ 0.03
1.4435 (316L)	EN 10088-1 (X 2CrNiMo18-14-3)	17.0-19.0	12.5-15.0	2.5-3.0	≤ 0.03
1.4571 (316TI)	EN 10088-1 (X6CrNiMoTi17-12-2)	16.5-18.5	10.5-13.5	2.0-2.5	≤ 0.08

### Rubber Materials

In order to obtain the longest possible lifetime for rubber seals it is essential to choose the right quality for the actual duty. Consequently when choosing rubber quality, the characteristics of the different rubber types should be considered. All product wetted rubber material are in conformity of FDA.

#### EPDM Rubber (Ethylene Propylene)

EPDM rubber is widely used within the food industry as it is resistant to most products used in this sector. Another advantage is that it may be used to a recommend max. temperatures of 140°C (244°F). However, there is one essential limitation, EPDM is not resistant to organic and non-organic oils and fats.

#### Acrylonitrile Butadiene Rubber, NBR

NBR is the rubber type most frequently used for technical purposes. It is quite resistant to most hydrocarbons, e.g oil, grease and fat. It is sufficiently resistant to diluted lye and nitric acid and may be used to a recommended max. 95°C (203°F). As NBR is attacked by ozone it may not be exposed to ultraviolet rays and should thus consequently be stored so that this is avoided.

#### Silicone rubber, Q

The most significant quality of silicone rubber is that it can be applied from temperatures below -50°C (-58°F) to approx. + 180°C (356°F) and still keep its elasticity. The chemical resistance is satisfactory to most products. However, undiluted lye and acids as well as hot water and steam may destroy silicone rubber. The resistance to ozone is good.

#### Fluorine rubber, FPM

FPM is often used when other rubber types are unsuited, especially at high temperatures up to approx. 180°C (356°F). The chemical resistance is good to most products, however hot water, steam, lye, acid and alcohol should be avoided. The resistance to ozone is good.

#### Hydrogenated acrylonitrileButadiene Rubber, HNBR

Mechanically strong and normally resistant to ozone and strong oxidizers, animal and vegetable fats, nonpolar solvents, oils and lubricants, water and aqueous solutions. The recommend max. temperature is 130°C (266°F).

## Perfluoroalkoxy polymer, PFA

PFA is very similar to PTFE, but opposite to those PFA is thermo plastic and has minimal porosity. PFA has a very high mechanical strength which makes it a perfect choice when dealing with abrasive products. The PFA seal offers longer service intervals. The recommended max. temperature for the PFA seal is 90°C (194°F).

## Product and chemical resistance of flexible rubber materials

The information below is intended as an aid in selecting the best rubber quality for an actual application. It is not possible to state any general lifetime of rubber seals as many factors influence it: chemical attack, temperature, mechanical wear etc. Extreme temperatures, even within the generally accepted limits, may worsen other kinds of attack and thus reduce the lifetime.

### Ratings

1 = Unsuitable.

2 = Limited suitability.

3 = Normal suitability.

4 = High suitability.

- = Not recommended for other reasons.

The table contains data which have been compiled from the results of our own tests and the recommendations of our raw material suppliers. The data should be considered as recommendations only and will be brought up-to-date from time to time. They are based on constant contact with the specified product.

In case of doubt or lack of information it would be advisable to consult us directly, which will enable us to investigate specific applications.

Product or process	NBR <sup>1)</sup>	HNBR <sup>2)</sup>	EPDM <sup>3)</sup>	Q <sup>4)</sup>	FPM <sup>5)</sup>	PTFE <sup>6)</sup>
Dairy products (milk, cream)	3	3-4	3-4	3-4	-	3-4
Dairy products (sour milk products)	3	3-4	3-4	3-4	-	3-4
Brewery products (beer, hops etc.)	3	3-4	3-4	1-2	2-3	3-4
Wine and yeast	3	3-4	4	4	2-3	3-4
Animal and vegetable fats: 100°C	3	4	1-2	3	4	3-4
Water and water solutions < 70°C	3	4	4	3	2-4	3-4
Hot water and steam < 130°C	1	4	4	2	-	3-4
Concentrated fruit juices and etheral oils < 100°C	1	-	1	1	3	3-4
Non-oxydising acids < 80°C	1-2	2	3	1-2	2	3-4
Oxydising acids < 80°C	-	2	3	1	2	3-4
Weak concentrate of lye < 100°C	2	3-4	4	2	2	3-4
Strong concentrate of lye < 100°C	1	2-3	3	1	1	3-4
Mineral oils < 110°C	3	4	-	-	4	3-4
Aliphatic carburetted hydrogen (hexane)	3	3	1	1	4	3-4
Aromatic carburetted hydrogen (benzole)	1	2	1	1	3	3-4
Alcohols	1-3	2-3	2-3	3-4	3-4	3-4
Ester and ketones	1-2	1-2	1-2	1-2	3-4	3-4
Ether	1	2	1	1-3	3-4	3-4
Methylene chloride	1	2	1	2-3	3-4	3-4
Ozone and atmospheric conditions	1-2	3	4	4	3-4	3-4

International designation of flexible rubber materials according to ISO R 1629.

ISO = International standard.

### Notes

	Designation of flexible rubber materials	Abbreviation symbol
1)	Nitrile rubber	N
2)	Hydrogenated acrylonitrile rubber	H
3)	Ethylene propylene rubber	E
4)	Silicone rubber	Q
5)	Fluorinated rubber	F
6)	Polytetraflour ethylene	

# Compliance and certification

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We can provide documented and certified compliance with a broad spectrum of relevant international and local hygiene standards, worldwide. This helps you significantly reduce the engineering costs of setting up and operating standard-compliant processing plants around the world.

Please find below some examples of regulations, standards, and guidelines applicable to our products used in hygienic applications.

More information can be found in Instruction Manuals on [alfalaval.com](http://alfalaval.com) page.

For special requests please contact your local Alfa Laval organization.



Authorized to carry the 3A symbol

The mission of 3-A SSI is to enhance product safety for consumers of food, beverages, and pharmaceutical products through the development and use of 3-A Sanitary Standards and 3-A Accepted Practices. The 3-A symbol is a registered mark used to identify equipment that meets 3-A Sanitary Standards for design and fabrication.



ATEX-directive is the popular name for the European Directive 2014/34/EU setting the rules for equipment and protective systems intended for use in potentially explosive atmospheres.

Compliance to the Regulation (EC) No. 1935/2004.



The framework regulation (EC) No. 1935/2004 regulates food contact materials and articles within EU. It includes several requirements for materials and articles intended to come into contact with food to ensure material safety. The glass and fork symbol may be used to indicate that the relevant requirements stated in (EC) No. 1935/2004 are met.



CE marking is a mandatory conformity mark for products placed on the market in the European Economic Area (EEA). With the CE marking on a product the manufacturer ensures that the product conforms with the essential requirements of the applicable EC directives. The letters "CE" stand for "Conformité Européenne" ("European Conformity").



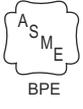
UKCA marking is a mandatory conformity mark for products placed on the market in Great Britain (England, Scotland, and Wales). With the UKCA marking the manufacturer ensures that the product conforms with the relevant requirements of the applicable legislations.



Within United States, requirements for food contact materials and articles are specified by the Food and Drug Administration (FDA) and are regulated under the Code of Federal Regulations, Title 21 "Food and drugs", Parts 170-199 "Food for human consumption".

**USP Class VI /  
ISO 10993**

The United States Pharmacopeia (USP) standards, chapter 87 and 88, and International Organization for Standardization (ISO) standard 10993, sections 5, 6, 10 and 11, specifies requirements to ensure biocompatibility of product contact parts intended to be used in pharma applications.



The American Society of Mechanical Engineers Bioprocessing Equipment (ASME BPE) is the Bioprocess Equipment group of the ASME that provides engineers and quality control professionals a measurable way to specify and purchase equipment for the Biotechnology, Pharmaceutical and Personal Care Products industries.

# Alfa Laval hygienic product animations

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## **Pump animations**

Get a look inside our products and see how they work. Mouse over the image and click to see animations. See more at: [Alfa Laval - hygienic product animations](#)

## **Alfa Laval LKH Centrifugal pumps**

## **Alfa Laval LKH Prime Centrifugal pumps**

Alfa Laval SolidC Centrifugal pumps

Alfa Laval SRU Rotary lobe pump

Alfa Laval SX Rotary lobe pump

Alfa Laval OptiLobe Rotary lobe pump

Alfa Laval DuraCirc® Circumferential piston pump

Alfa Laval twin screw pumps

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# Gear pumps

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# Alfa Laval M Gear

## Gear Pumps

### Introduction

The Alfa Laval M Gear is an external gear pump that efficiently transfers low-volume fluids for filling applications. Precision alignment, easy cleaning and simple maintenance make the stainless-steel M Gear pump a solid choice for dosing, sampling and filling machines. This proven rotary positive displacement pump easily adapts to OEM filling machines.

### Application

The Alfa Laval M Gear is designed for uninterrupted production in a broad range of hygienic and industrial applications across the food, chemical, personal care, and many other industries.

### Benefits

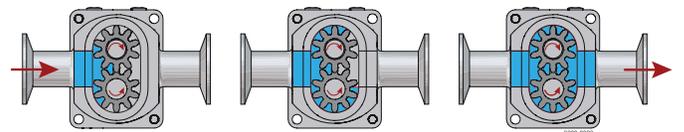
- Wide performance envelope and increased pressure capabilities cover a broad range of process requirements
- Proven performance and predictable, consistent output due to FDA-approved contacting gears
- Increased production with reduced carbon footprint due to high efficiency and low energy consumption
- More uptime and quick, cost-effective maintenance due to fast dismantling for routine service or parts replacement
- Flexible, compact design for easy installation in tight spaces and integration with OEM filling machines

### Working principle

The positive displacement of the pump is created by contacting, contra-rotating multi-lobe gears, where one gear drive drives the secondary within a fully swept pump chamber. The pump is capable of bi-rotational flow without requiring modification.

Fluid is carried through the pump in the cavities formed between the contacting gear and the interior of the case. As the blades disengage, a cavity forms, filling with fluid. As the blades engage, the cavity diminishes, displacing fluid into the outlet port.

The gears are mounted between specially developed PTFE bush bearings, all fitted within the main pump body to ensure precision alignment and high-performance efficiency.



### Certificates

(EC) No. 1935/2004



FDA



## TECHNICAL DATA

Standard Specification

Pump gears:	PTFE Impregnated 316L or Plain 316L
Other product wetted steel parts:	316L / 1.4404
Bush Bearings:	FDA approved premium grade PTFE resin
Inside surface finish:	Mech Ra ≤ 0.8 μm / Mech Ra ≤ 32 μin
Bracket - Flange Frame Adaptor	Aluminum
Coupling guard:	304 (1.2 mm thick)
Max process temperature:	60°C / 140°F
Connections:	½" Females Connections: BSP Thread, Bore Hole (No thread) 1" Male Connections: Tri-Clamp, SMS, DIN11851

## Motor

	Model		
	200	210	220
Power (kW)	0.25	0.37	0.55
Poles	6 or 8	6	6
Speed (rpm)	960 or 720	960	960
Coupling	D71 or D80	D80	D80
Drive Specification:	IEC Induction Motor, C-Face / Foot mounted, TEFC, IP55		
Voltages:	400v/3ph/50Hz or 460v/3ph/60Hz.		

## Warranty

Standard 1-year warranty on M Gear pumps. The warranty covers all non-wear parts on the condition that genuine Alfa Laval Spare Parts are used.

## Shaft seals

Only one single mechanical seal required for the drive shaft for maximum leakage control.

Rotary seal face:	Carbon or Silicon Carbide
Stationary seal face:	Stainless Steel or Silicon Carbide
Elastomers:	EPDM or FPM (FDA conforming)

Note: Only possible combinations are Stainless Steel / Carbon or Silicon Carbide / Silicon Carbide

## Process data

M Gear Model	Connection inch	Displacement US gal/100 rev	Differential pressure psi	Max. speed rev/min	Bare-shaft weight lbs
<b>M210</b>	1/2" or 1"	0.264	100	1360	4.8
<b>M220</b>	1/2" or 1"	0.476	60	1360	6.4

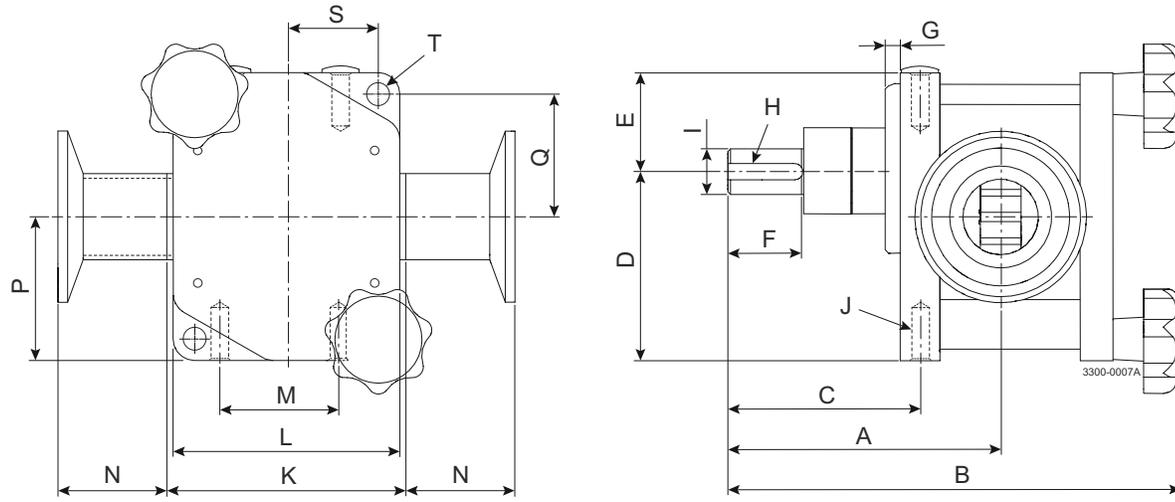


½" connections only possible with Female Thread connections.

## Pump Performance (at viscosity 65 cP)

Pump Model + Speed	Pressure															
	0 PSI			29 PSI			58 PSI			87 PSI			101 PSI			
	Flow	Power	Motor	Flow	Power	Motor	Flow	Power	Motor	Flow	Power	Motor	Flow	Power	Motor	
rev/min	GMP	HP	Frame	GMP	HP	Frame	GMP	HP	Frame	GMP	HP	Frame	GMP	HP	Frame	
<b>M200</b>	690	1.1	0.16	80	0.99	0.16	80	0.86	0.16	80	0.7	0.16	80	0.63	0.16	80
	900	1.43	0.24	80	1.3	0.24	80	1.12	0.24	80	0.92	0.24	80	0.84	0.34	80
	1360	2.13	0.34	80	1.94	0.34	80	1.67	0.34	80	-	-	-	-	-	-
<b>M210</b>	690	1.76	0.16	80	1.72	0.16	80	1.63	0.16	80	1.58	0.24	80	1.52	0.24	80
	900	2.31	0.24	80	2.27	0.24	80	2.16	0.24	80	2.07	0.34	80	2	0.34	80
	1360	3.43	0.34	80	3.39	0.34	80	3.24	0.16	80	-	-	-	-	-	-
<b>M220</b>	690	3.4	0.16	80	3.24	0.16	80	3.04	0.24	80	-	-	-	-	-	-
	900	4.4	0.24	80	4.23	0.24	80	3.96	0.34	80	-	-	-	-	-	-
	1360	6.6	0.34	80	6.34	0.34	80	-	-	-	-	-	-	-	-	-

## Bareshaft Pump Dimensions



Dimensions (inch)

Models	A	B			C	D	E	F	G	H	I	J	K	L	M	N	P	Q	S	T
		1	2	3																
M200	2.97	5.19	5.19	5.19	2.05	2.24	1.1	0.79	0.12	0.2*0.1	0.55	7/32"	2.75	2.64	1.26	2.05	1.67	1.42	1.06	∅0.25
M210	2.97	5.19	5.19	5.19	2.05	2.24	1.1	0.79	0.12	0.2*0.1	0.55	7/32"	2.75	2.64	1.26	2.05	1.67	1.42	1.06	∅0.25
M220	3.5	6.25	6.25	6.25	2.05	2.24	1.1	0.79	0.12	0.2*0.1	0.55	7/32"	2.75	2.64	1.26	2.05	1.67	1.42	1.06	∅0.25

<sup>1</sup> 1/2" BSP

<sup>2</sup> 1" Triclamp / SM

<sup>3</sup> 1" DIN11851

# Centrifugal pumps

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# Alfa Laval LKH

## Performance curves

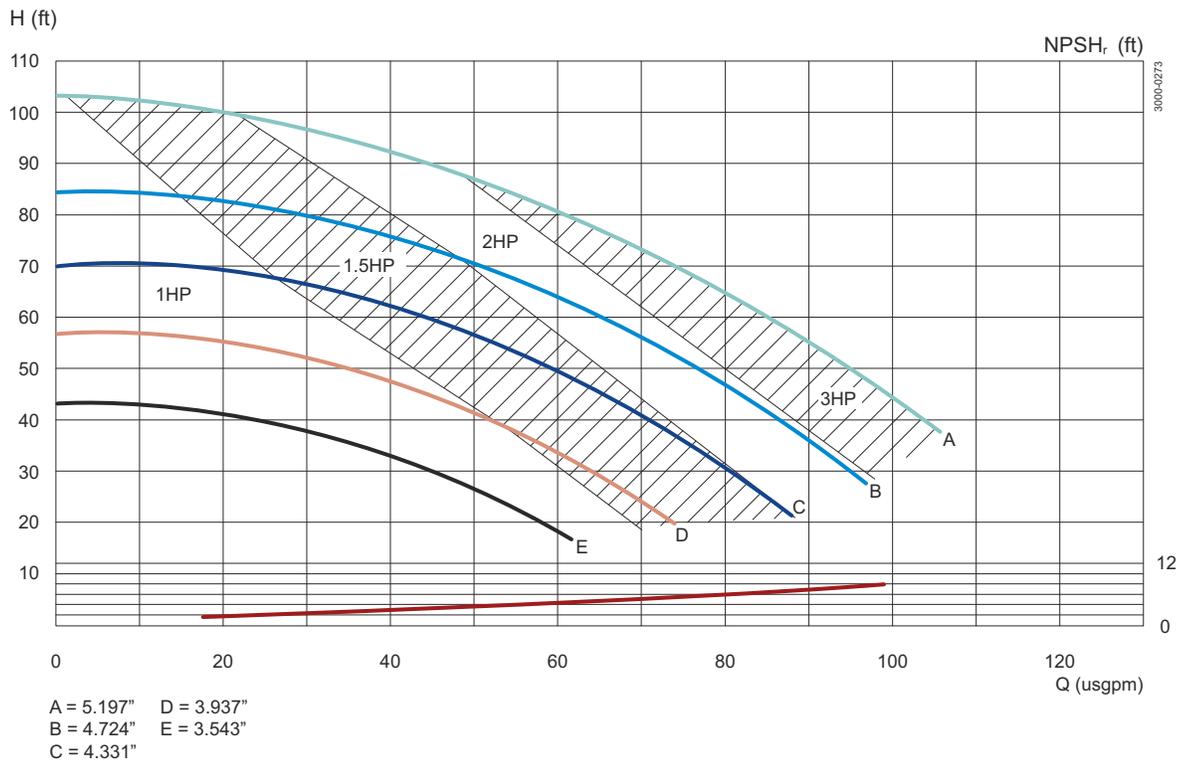
### LKH-5, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	5.197"
Impeller, Min. dia.:	3.54"
Pump inlet, dia.:	2", DN 50
Pump outlet, dia.:	1½", DN 40
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 3.4 Hp, 3460 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



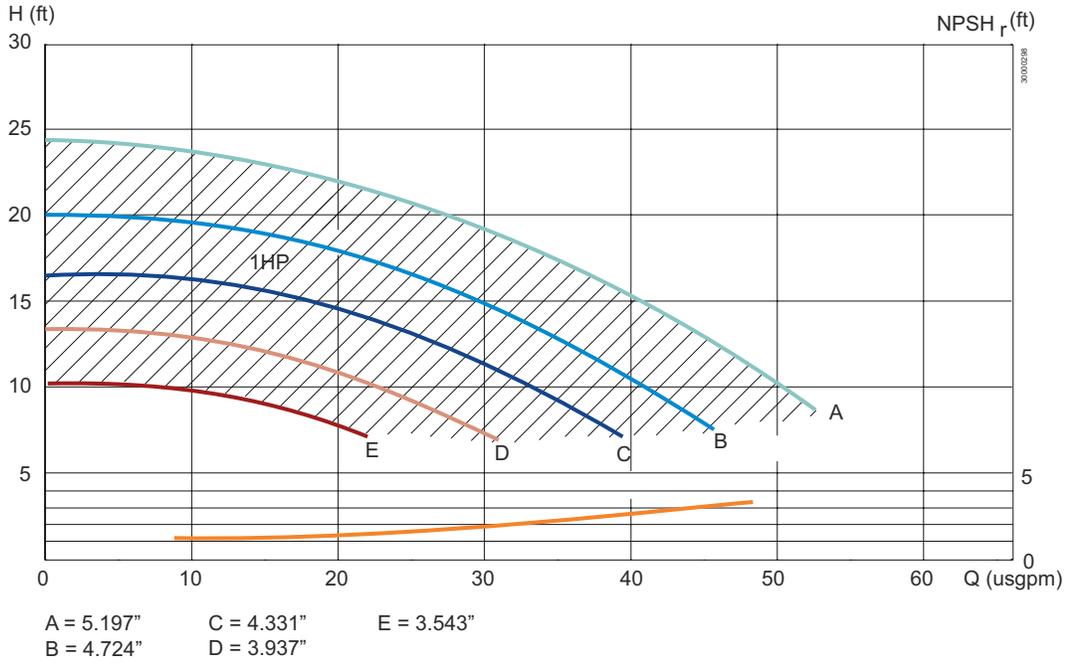
## LKH-5, 60 Hz

Motor:	1800 rpm. synchr
Tolerance:	±5%
Impeller, Max. dia.:	5.197"
Impeller, Min. dia.:	3.54"
Pump inlet, dia.:	2", DN 50
Pump outlet, dia.:	1½", DN 40
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 1.7 Hp, 1700 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



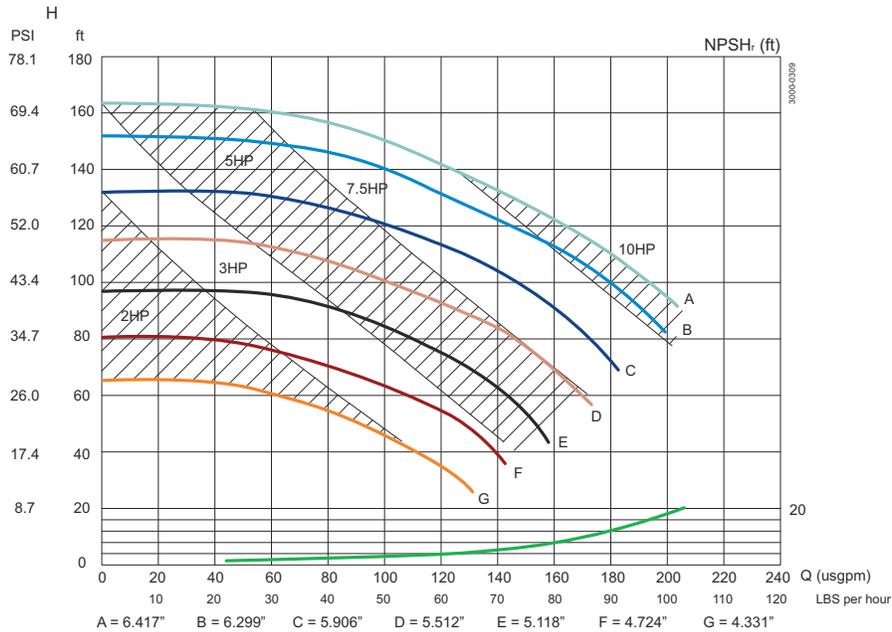
## LKH-10, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	6.417"
Impeller, Min. dia.:	4.331"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 11.5 Hp, 3500 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



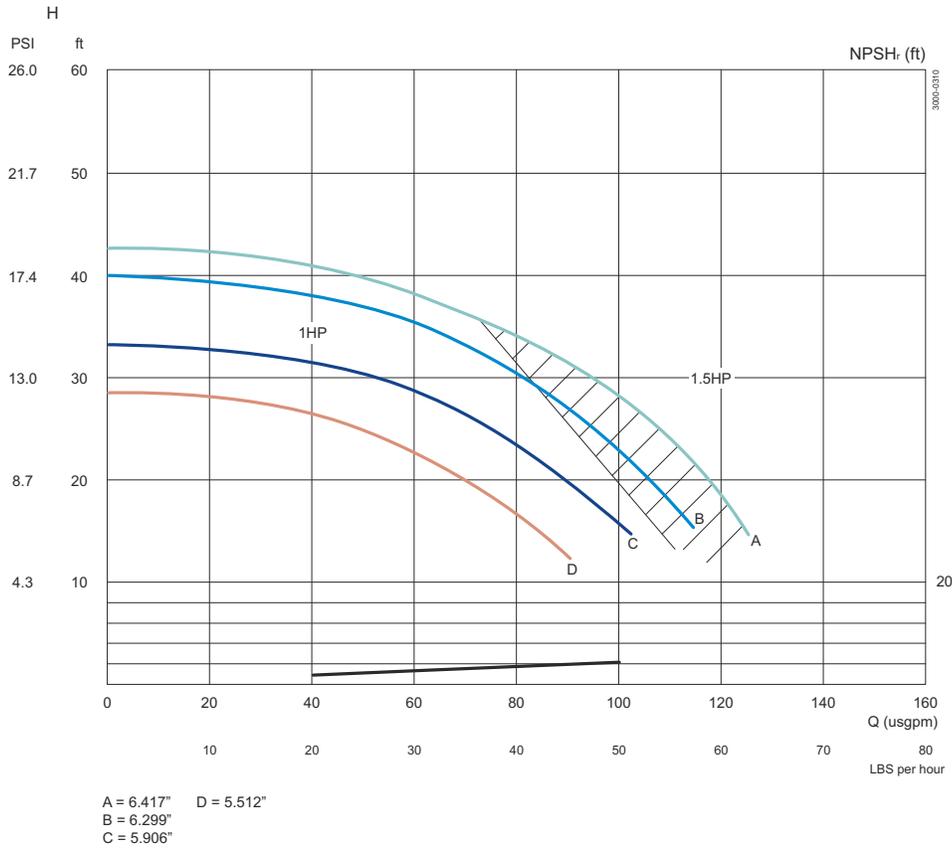
## LKH-10, 60Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	6.417"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 2.4 Hp, 1750 rpm. asynchron., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



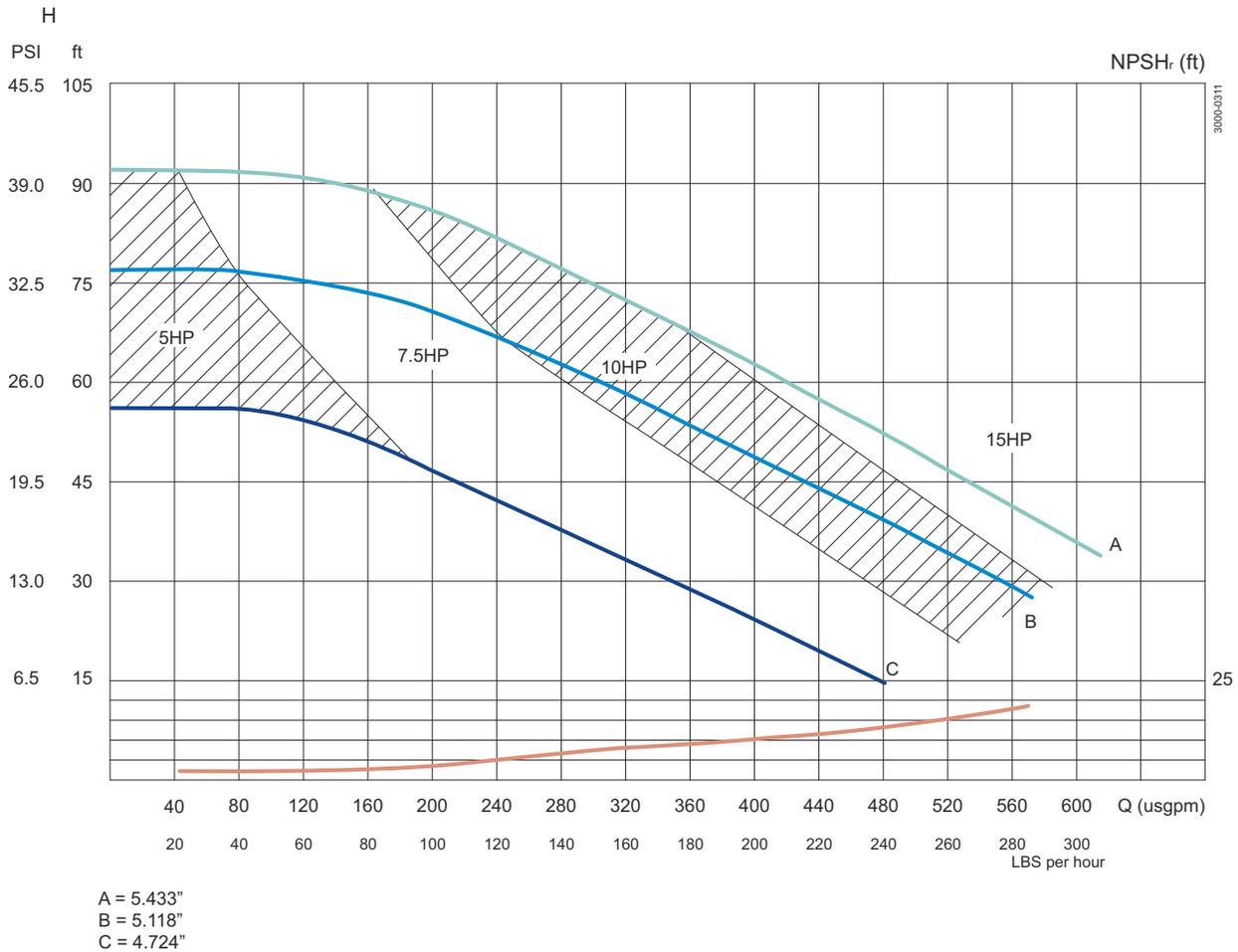
## LKH-15, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	5.433"
Impeller, Min. dia.:	4.724"
Pump inlet, dia.:	4"
Pump outlet, dia.:	3"
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 11.5 Hp, 3455 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



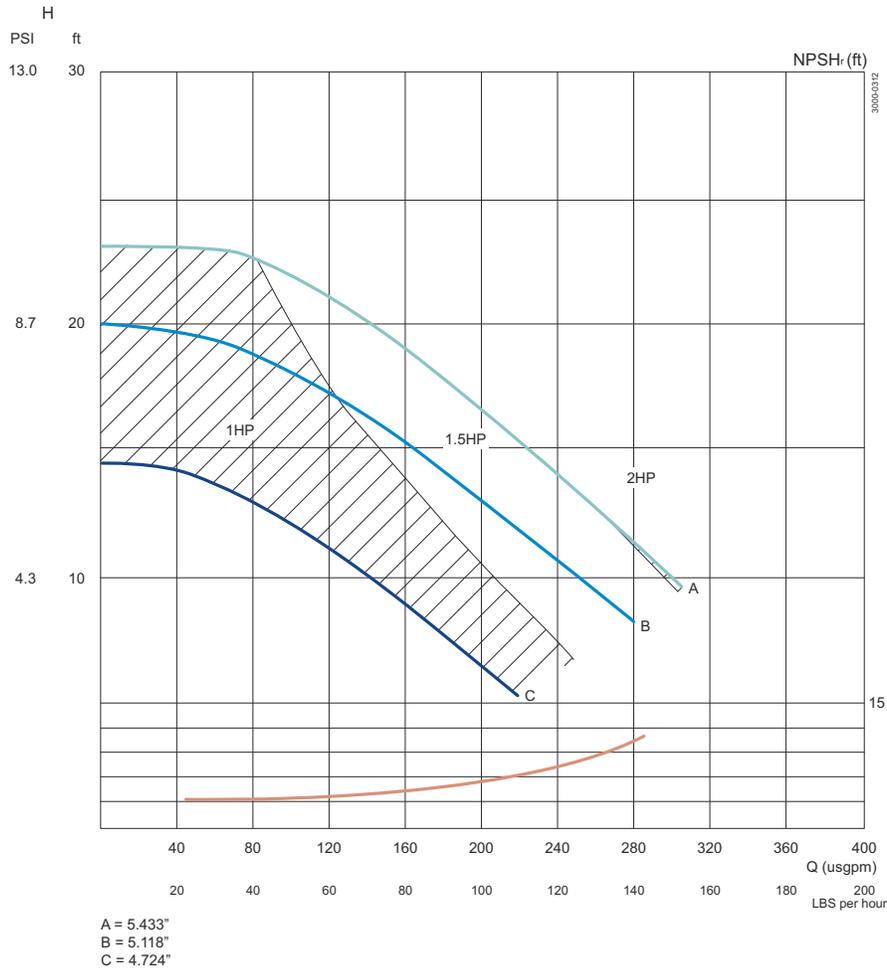
## LKH-15, 60 HZ

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	5.433"
Impeller, Min. dia.:	4.72"
Pump inlet, dia.:	4"
Pump outlet, dia.:	3"
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 2.4 Hp, 1710 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



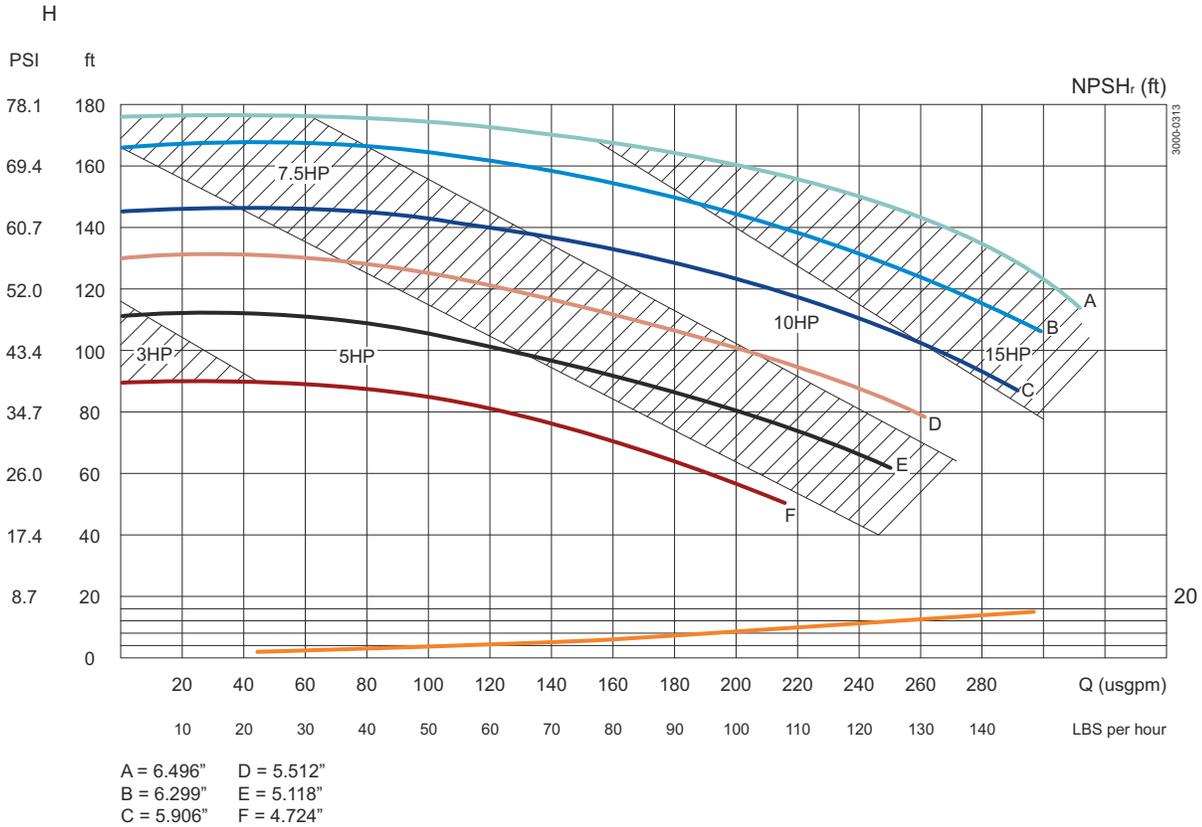
## LKH-20, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	6.496"
Impeller, Min. dia.:	4.724"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 16.8 Hp, 3500 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



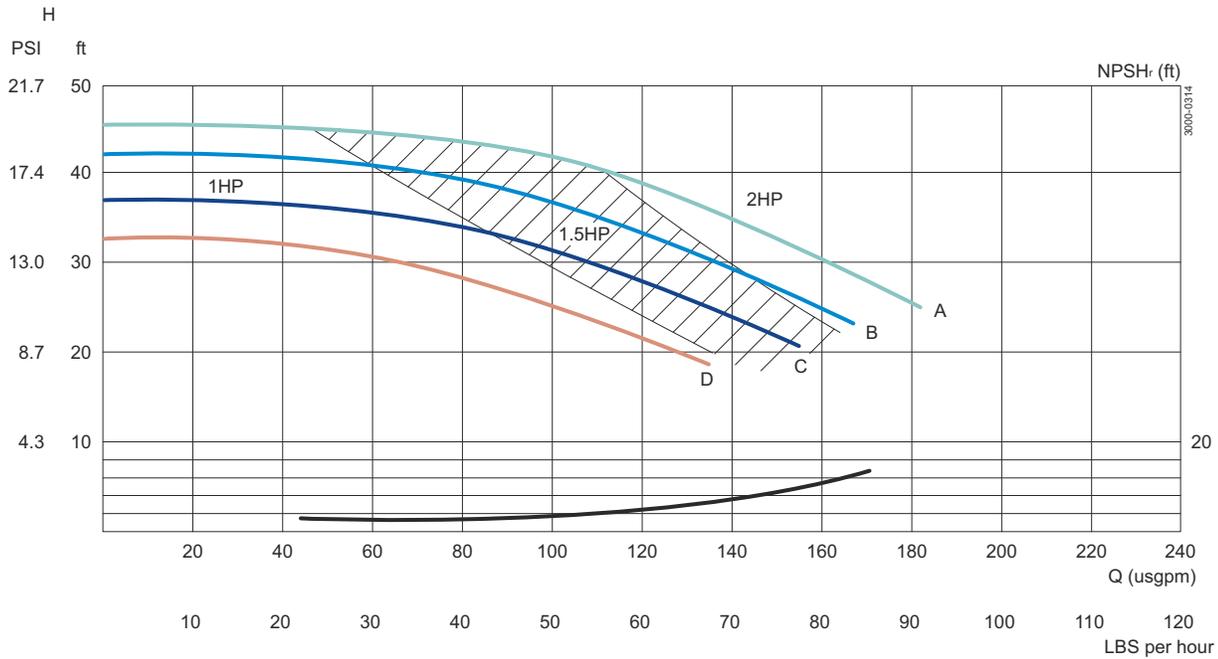
## LKH-20, 60 Hz

Motor:	1800 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	6.496"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 2.4 Hp, 1750 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



A = 6.496"    D = 5.512"  
 B = 6.299"  
 C = 5.906"

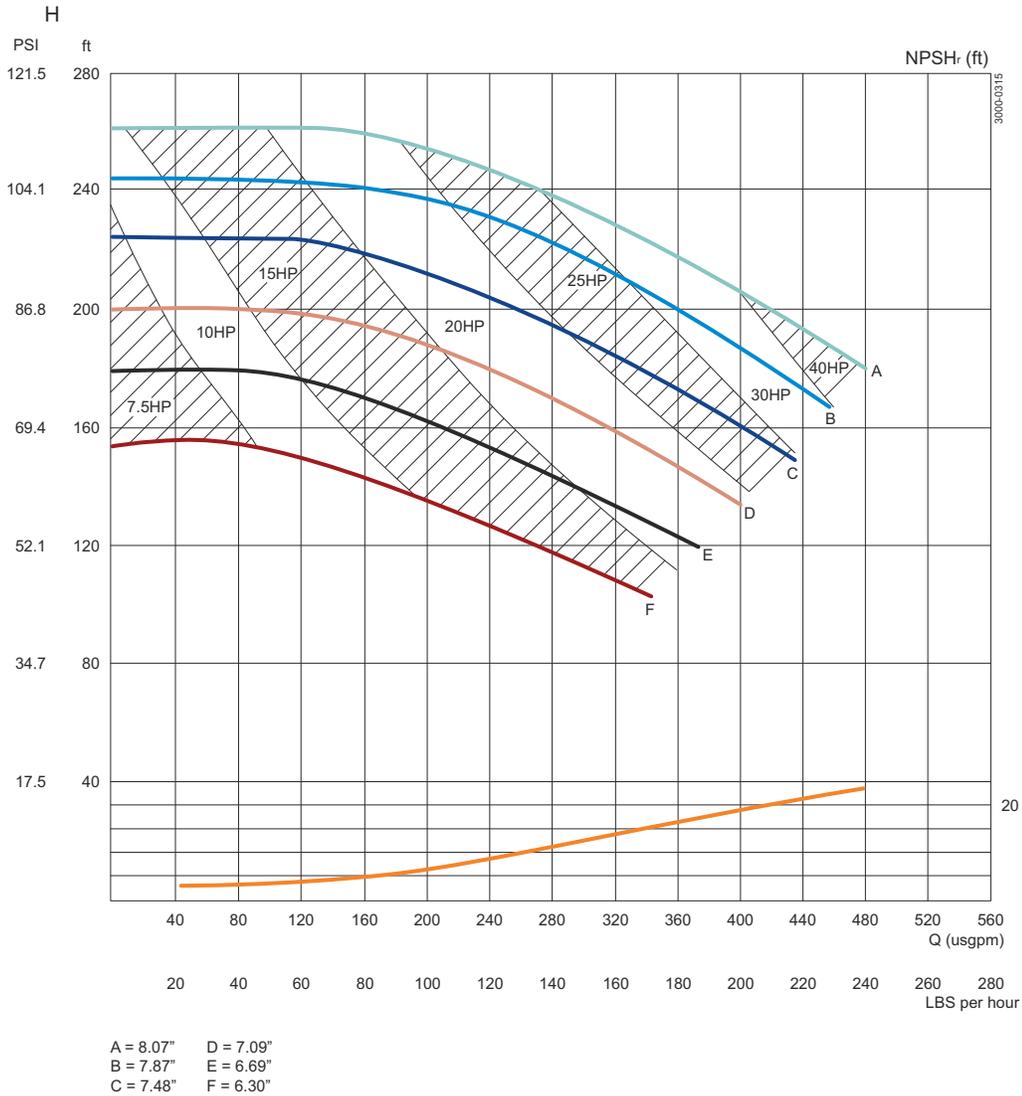
# LKH-25, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.070"
Impeller, Min. dia.:	6.299"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2½", DN 65
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 33.5 Hp, 3545 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with:  
 - 3% for 16.8-28.2 Hp.  
 - 5% for 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



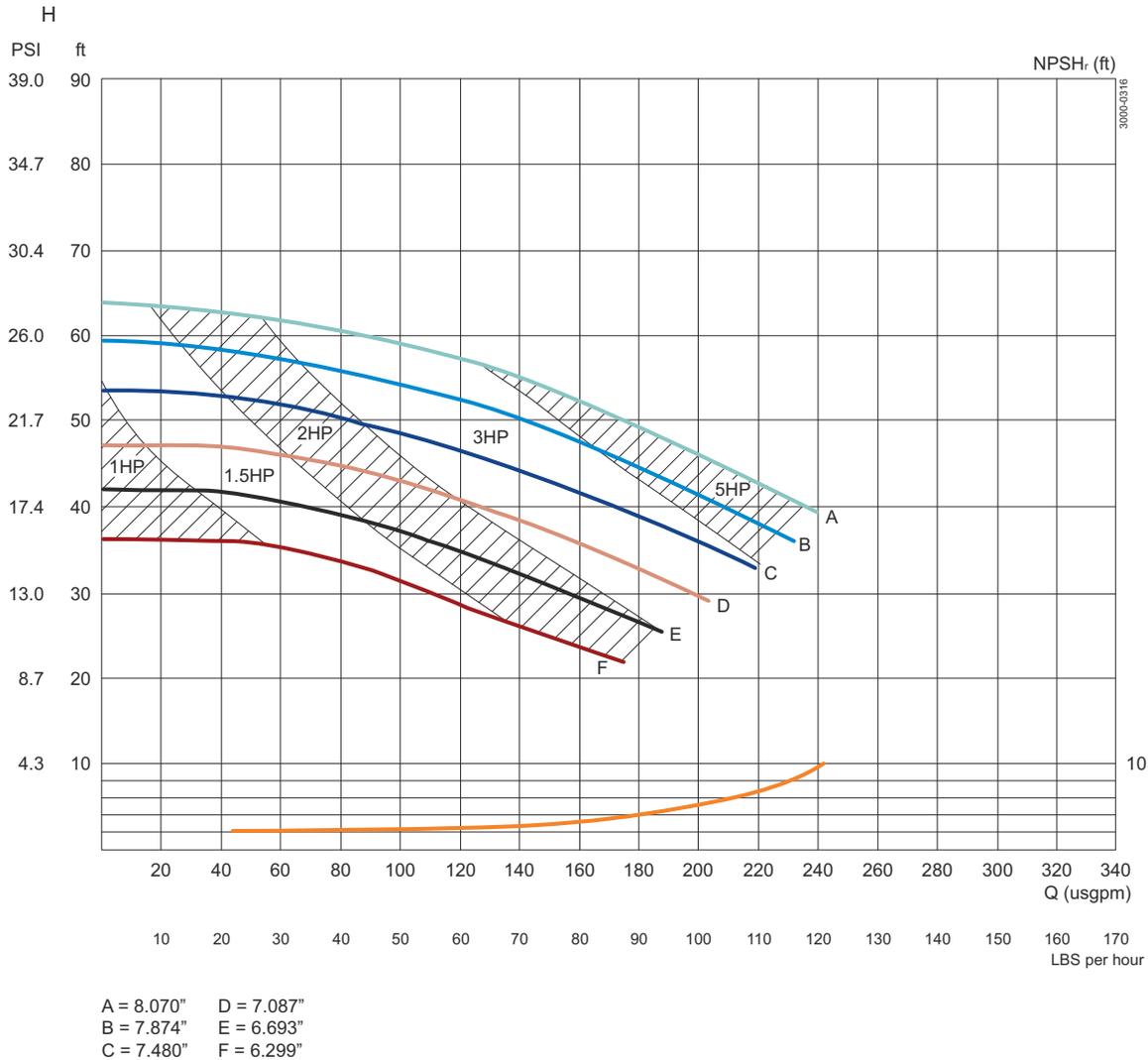
## LKH-25, 60 Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.070"
Impeller, Min. dia.:	6.299"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2½", DN 65
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 4.7 Hp (3.5 kW), 1720 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with 3%.

DO NOT FORGET THE SAFETY FACTOR



## LKH-35, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	8.661"
Impeller, Min. dia.:	6.69"
Pump inlet, dia.:	2.5", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



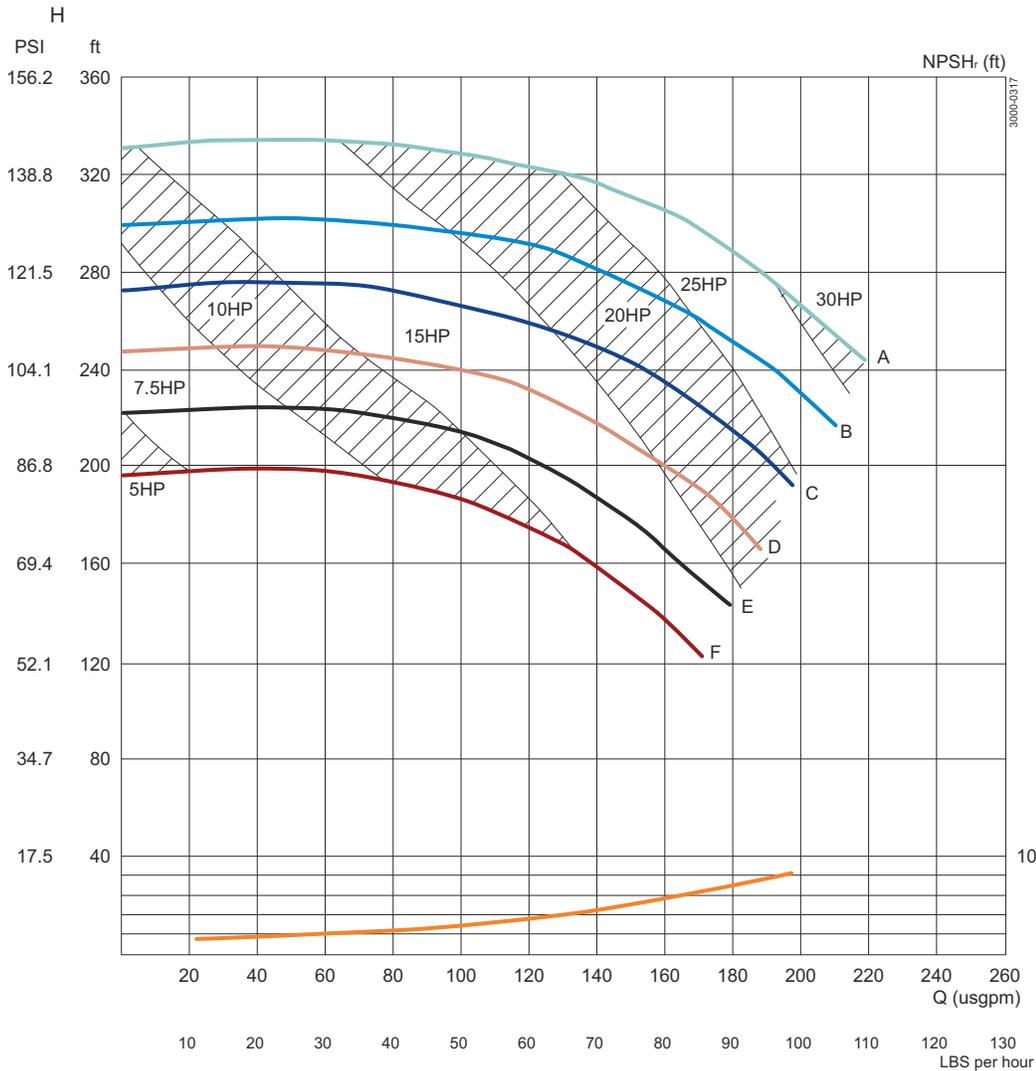
**Note!** The curves refer to motor: 28.2 Hp, 3535 rpm. asynchr., 60 Hz.

For smaller motors, reduce head (H) with:

- 3% 16.8-22.8 Hp.

- 3% 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



A = 8.661"    D = 7.480"  
 B = 8.268"    E = 7.087"  
 C = 7.874"    F = 6.693"

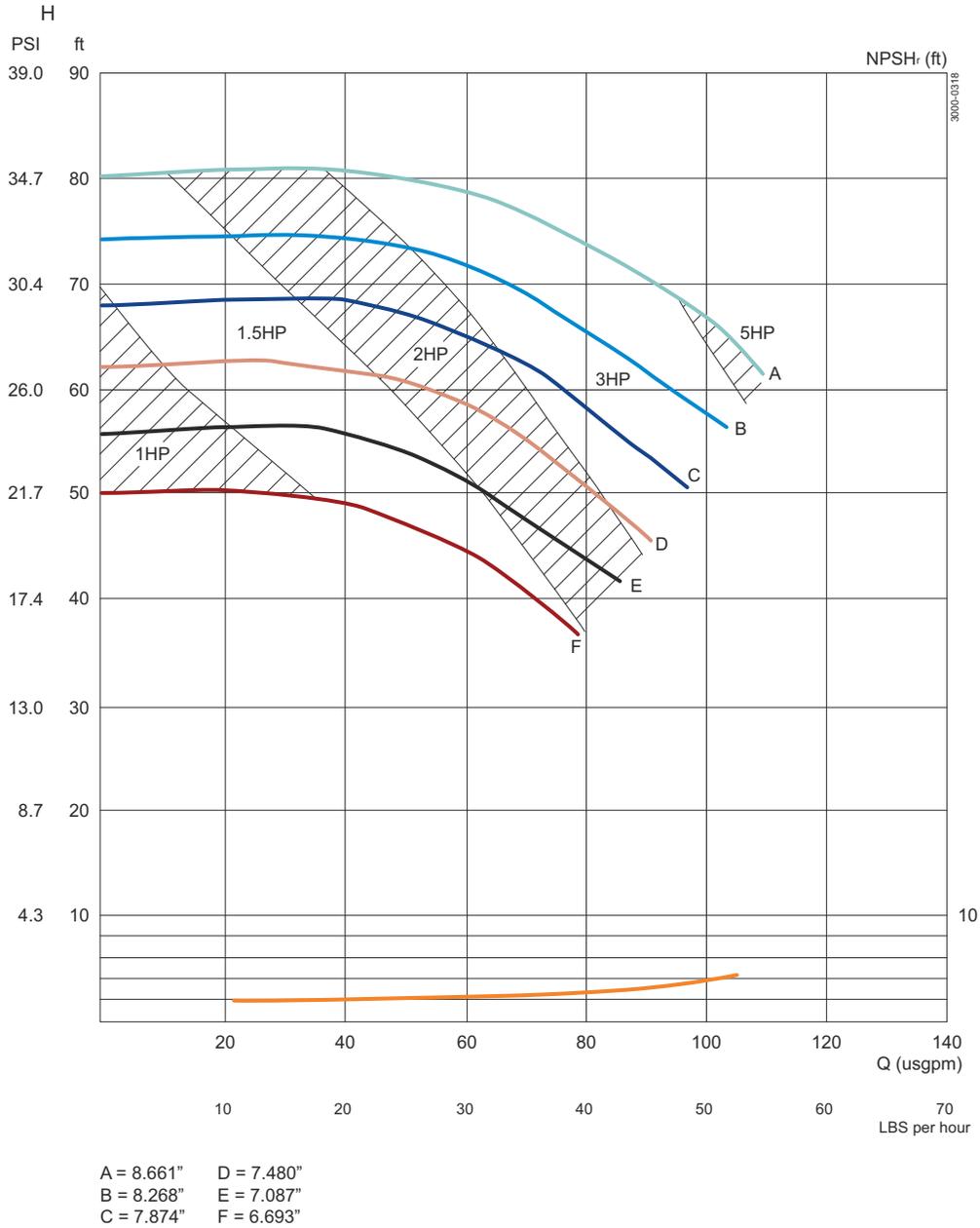
## LKH-35, 60 Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.661"
Impeller, Min. dia.:	6.69"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 3.4 Hp, 1720 rpm. asynchron., 60 Hz. For smaller motors, reduce head (H) with 3%

DO NOT FORGET THE SAFETY FACTOR



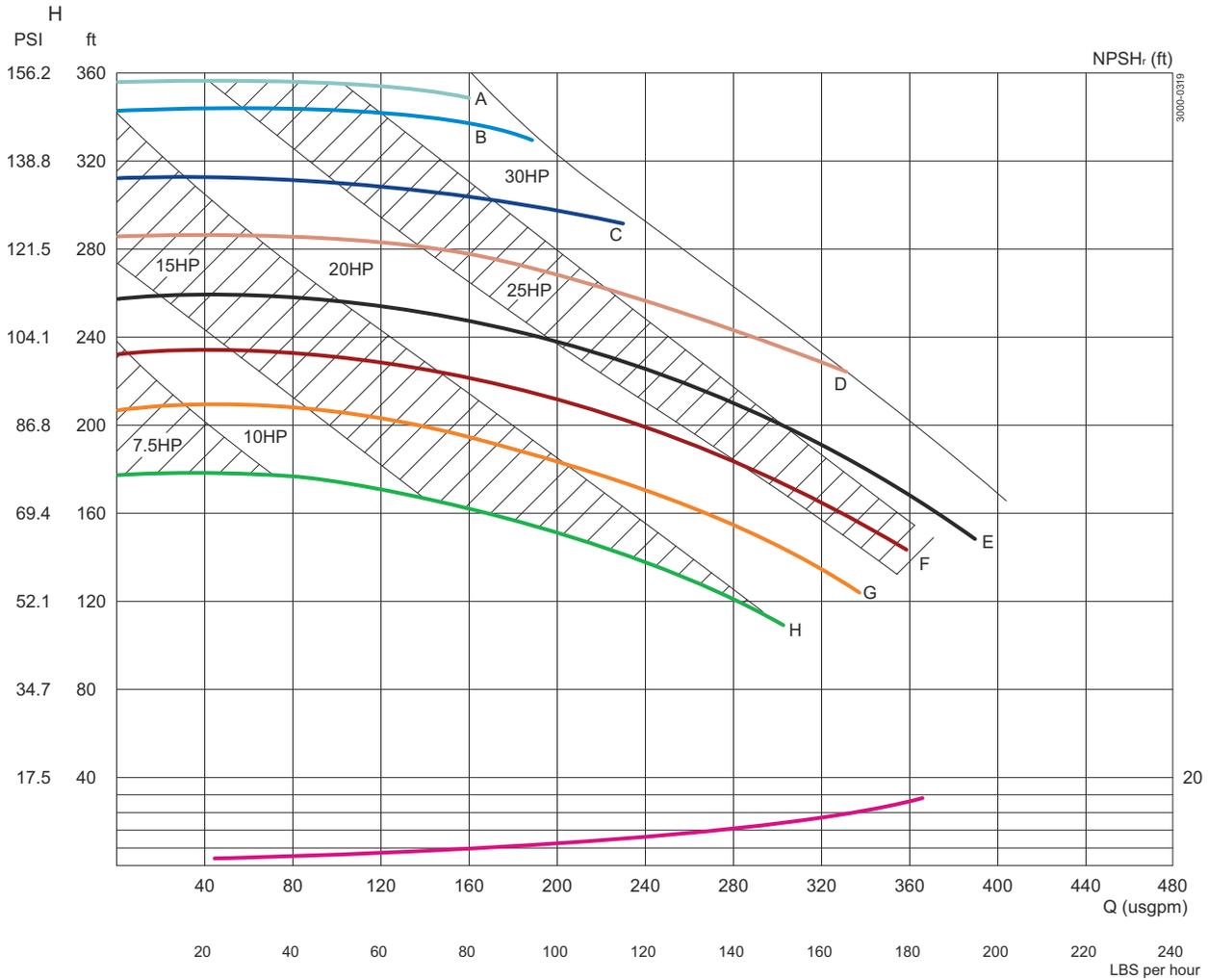
## LKH-40, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	9.291"
Impeller, Min. dia.:	6.693"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2", DN 65
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 33.5 Hp, 2940 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with:  
 - 3% for 16.8-28.2 Hp.  
 - 5% for 11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



A = 9.252"    D = 8.268"    G = 7.087"  
 B = 9.055"    E = 7.874"    H = 6.693"  
 C = 8.661"    F = 7.480"

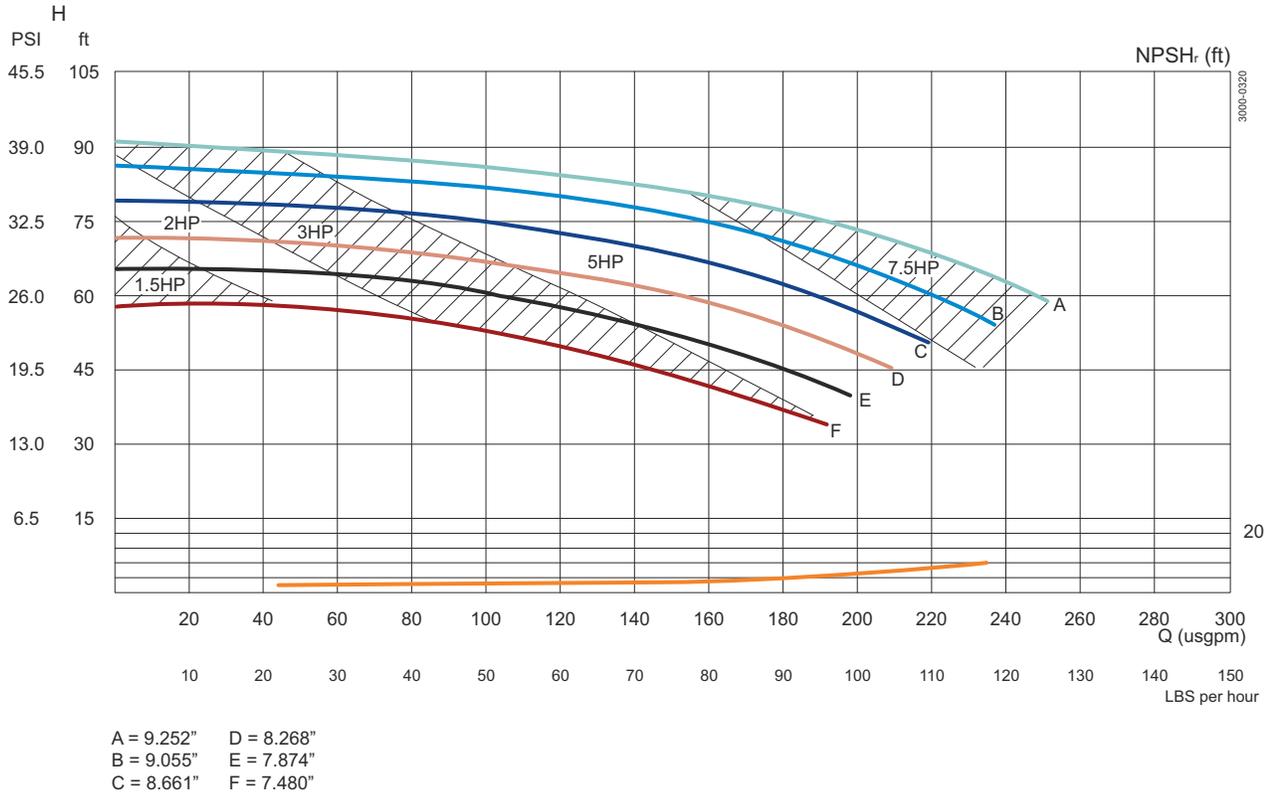
## LKH-40, 60 Hz

Motor:	1800 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	9.291"
Impeller, Min. dia.:	7.480"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2", DN 65
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 8.5 Hp, 1750 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with 5%

DO NOT FORGET THE SAFETY FACTOR



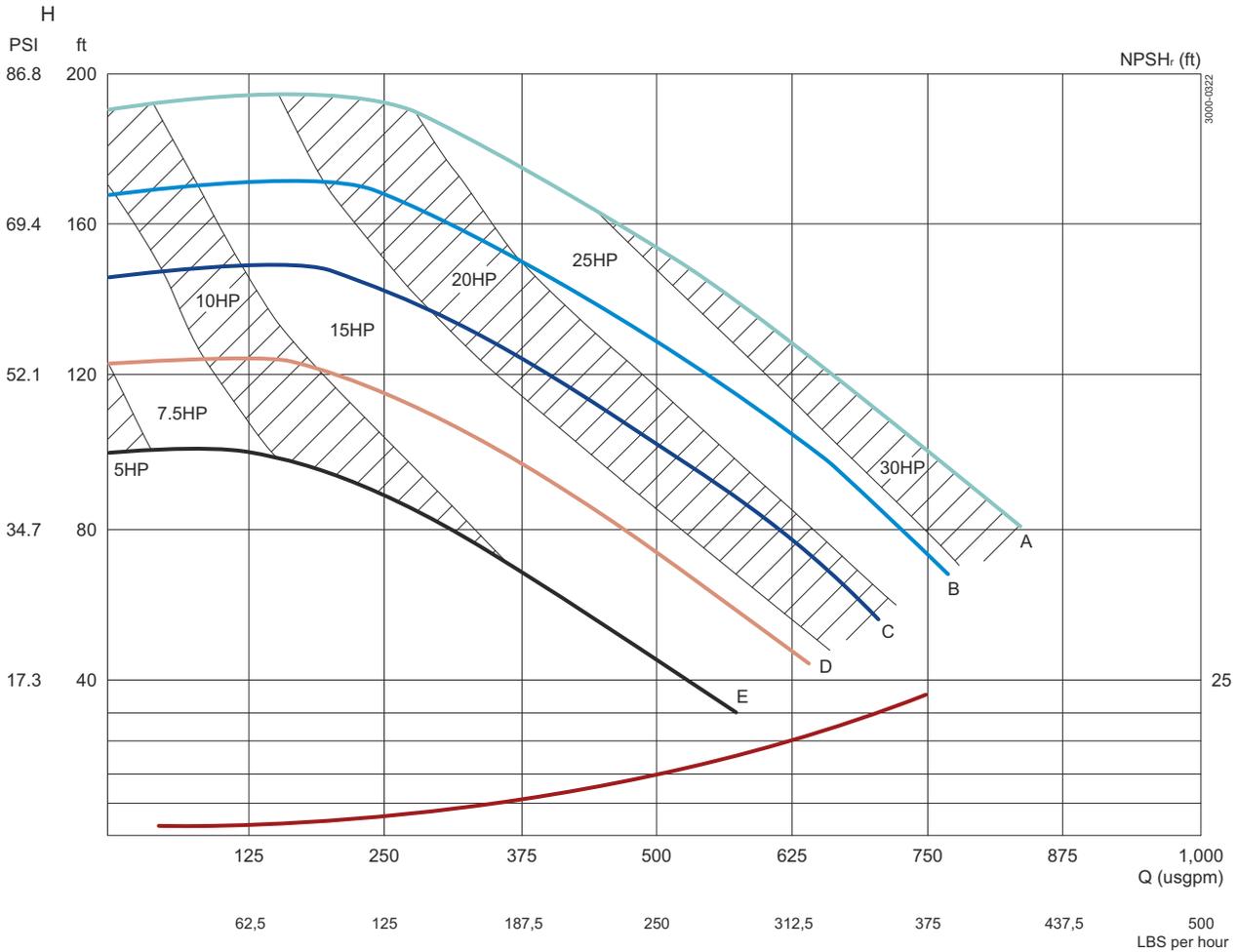
## LKH-45, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	7.008"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 33.5 Hp, 3545 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with:  
 - 3% for 16.8-28.2 Hp.  
 - 5% for 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



A = 7.008"    D = 5.906"  
 B = 6.693"    E = 5.512"  
 C = 6.299"

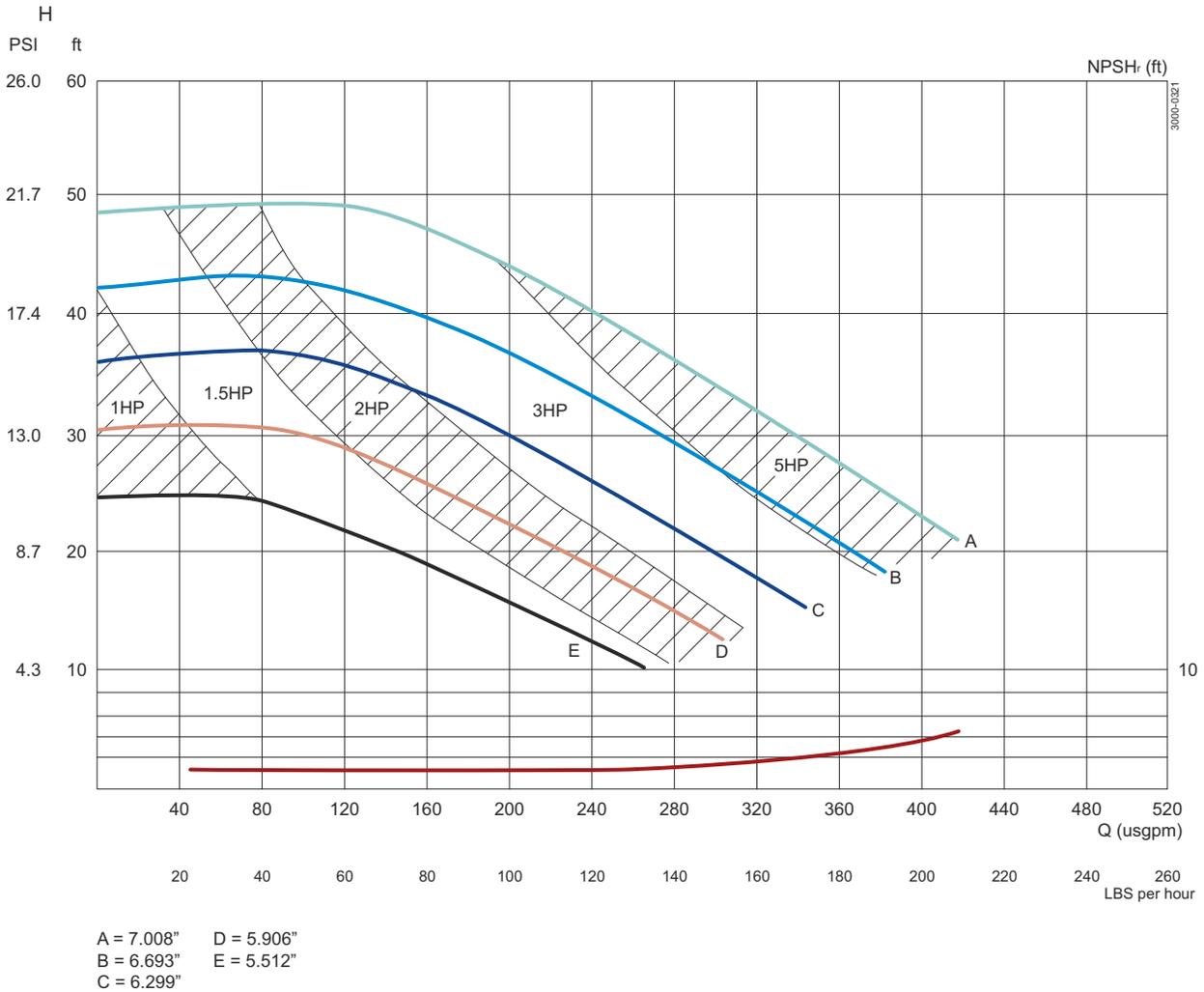
## LKH-45, 60Hz

Motor:	1800 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	7.008"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 4.7 Hp, 1720 rpm. asynchr., 60 Hz.  
For smaller motors.

DO NOT FORGET THE SAFETY FACTOR



## LKH-50, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	8.070"
Impeller, Min. dia.:	5.906"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



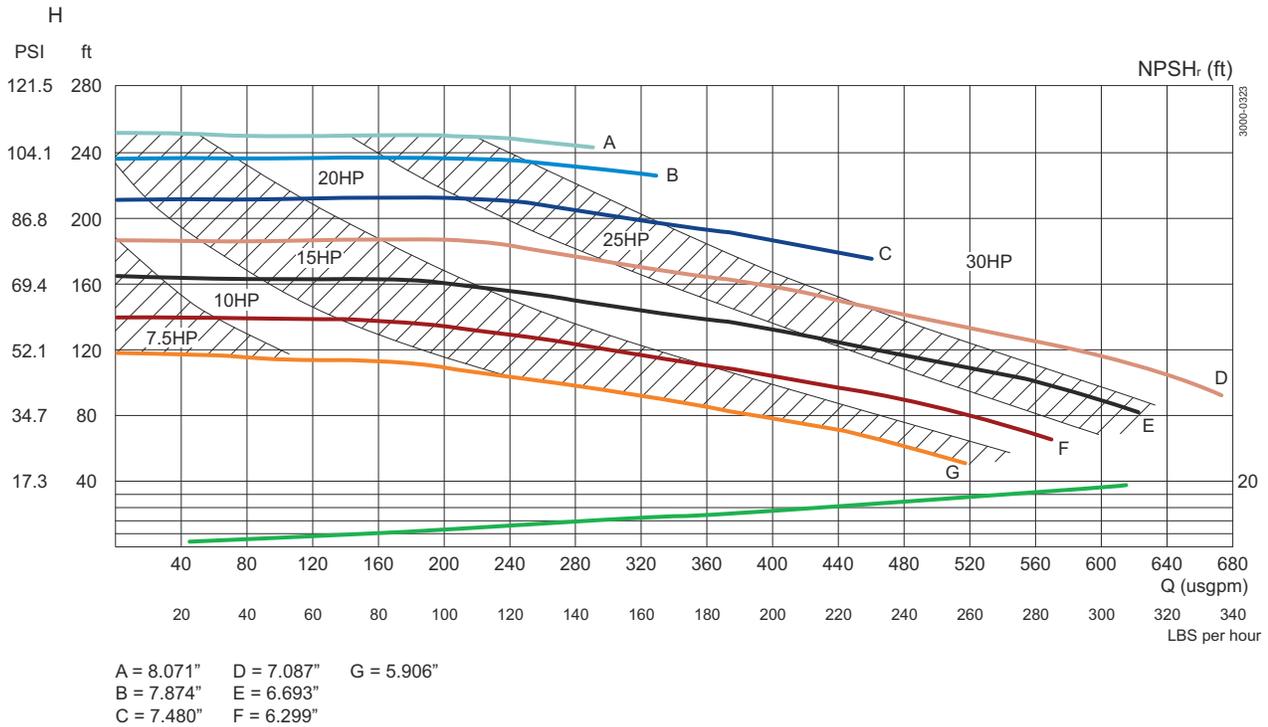
**Note!** The curves refer to motor: 33.5 Hp, 3500 rpm. asynchr., 60 Hz.

For smaller motors, reduce head (H) with:

- 3% for 16.8-28.2 Hp.

- 5% for 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



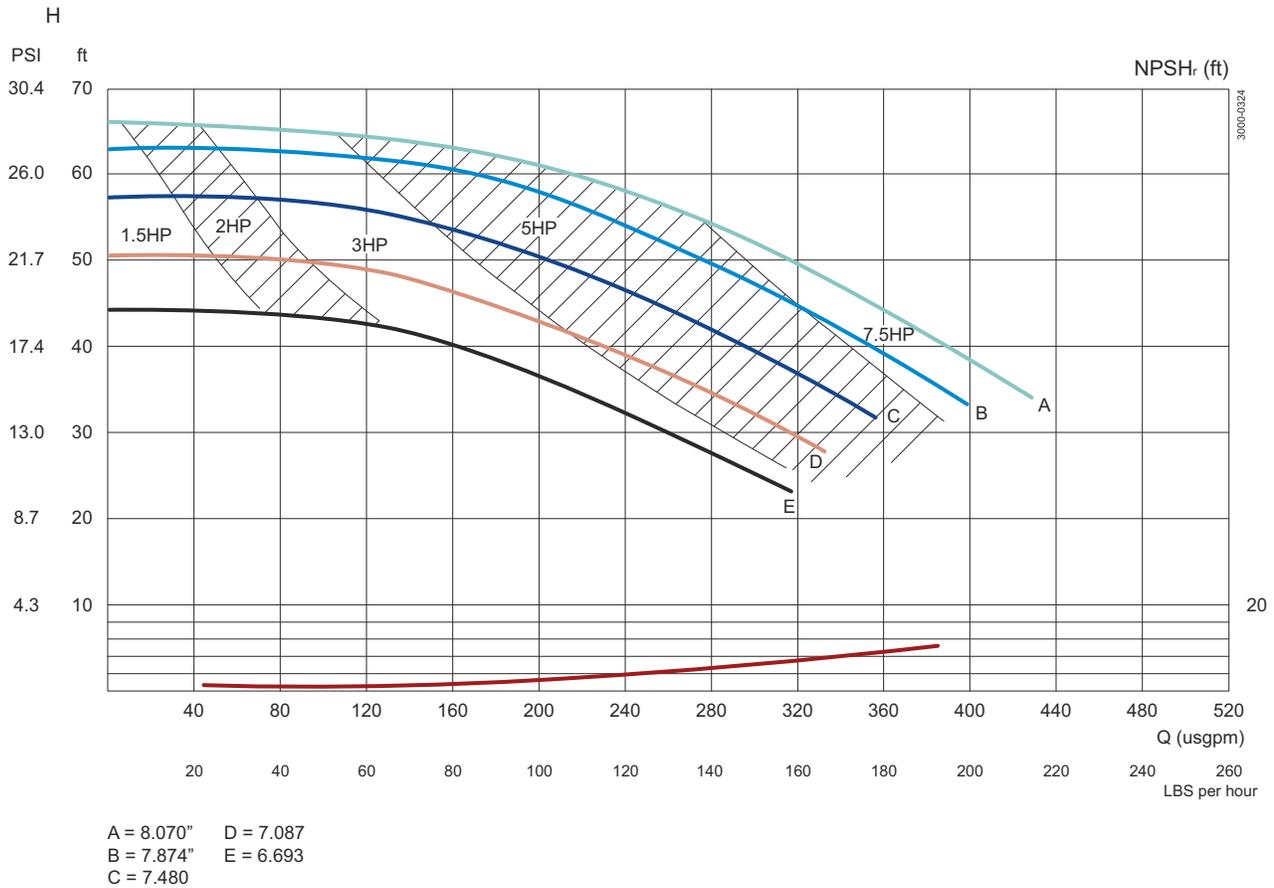
## LKH-50, 60Hz

Motor:	1800 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	8.070"
Impeller, Min. dia.:	6.693"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



The curves refer to motor: 6.0 Hp, 1750 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with 5%

DO NOT FORGET THE SAFETY FACTOR



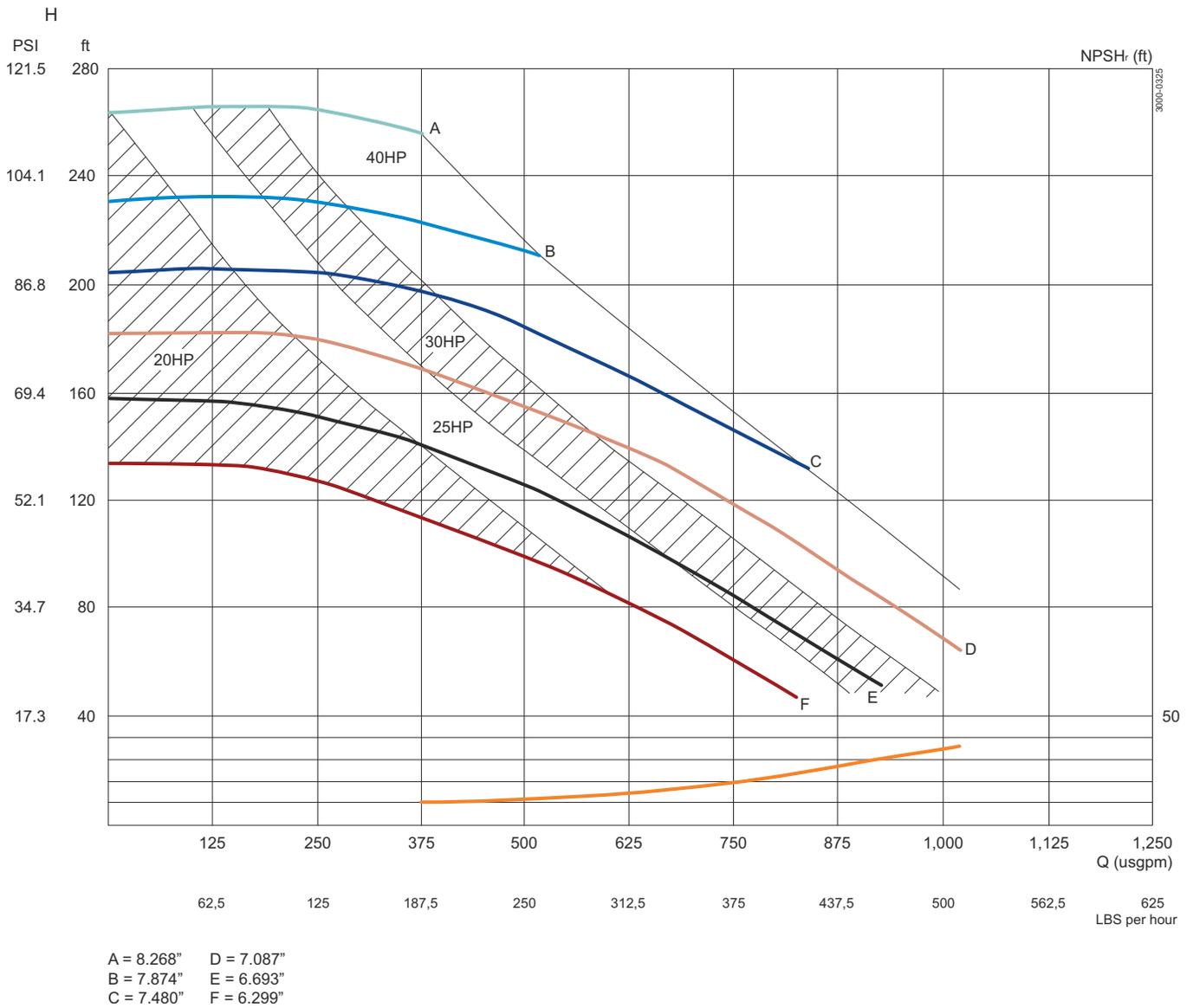
## LKH-60, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	8.268"
Impeller, Min. dia.:	6.299"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	6", DN 150
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 46.9 Hp, 3500 rpm. asynchr., 60 Hz.  
 For smaller motors, reduce head (H) with:  
 3% for 16.8-28.2 Hp.  
 6% for 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



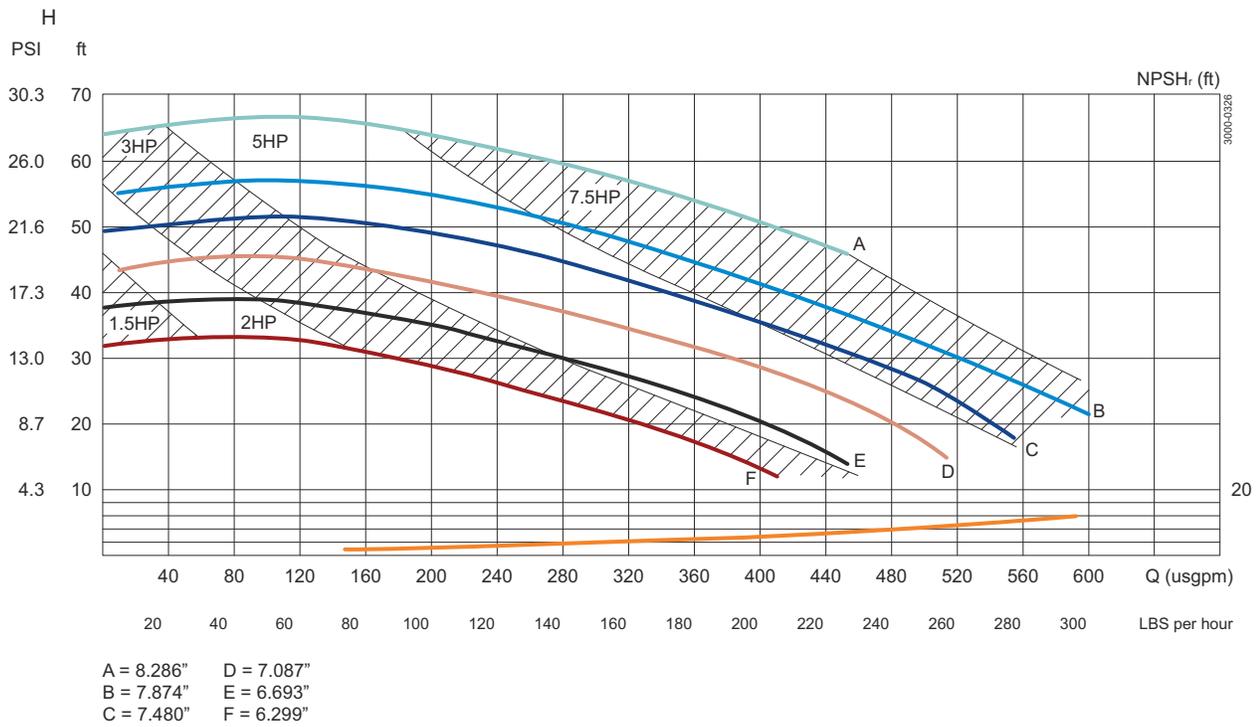
## LKH-60, 60Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.268"
Impeller, Min. dia.:	6.299"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	6", DN 150
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 8.5 Hp, 1750 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with 5%.

DO NOT FORGET THE SAFETY FACTOR



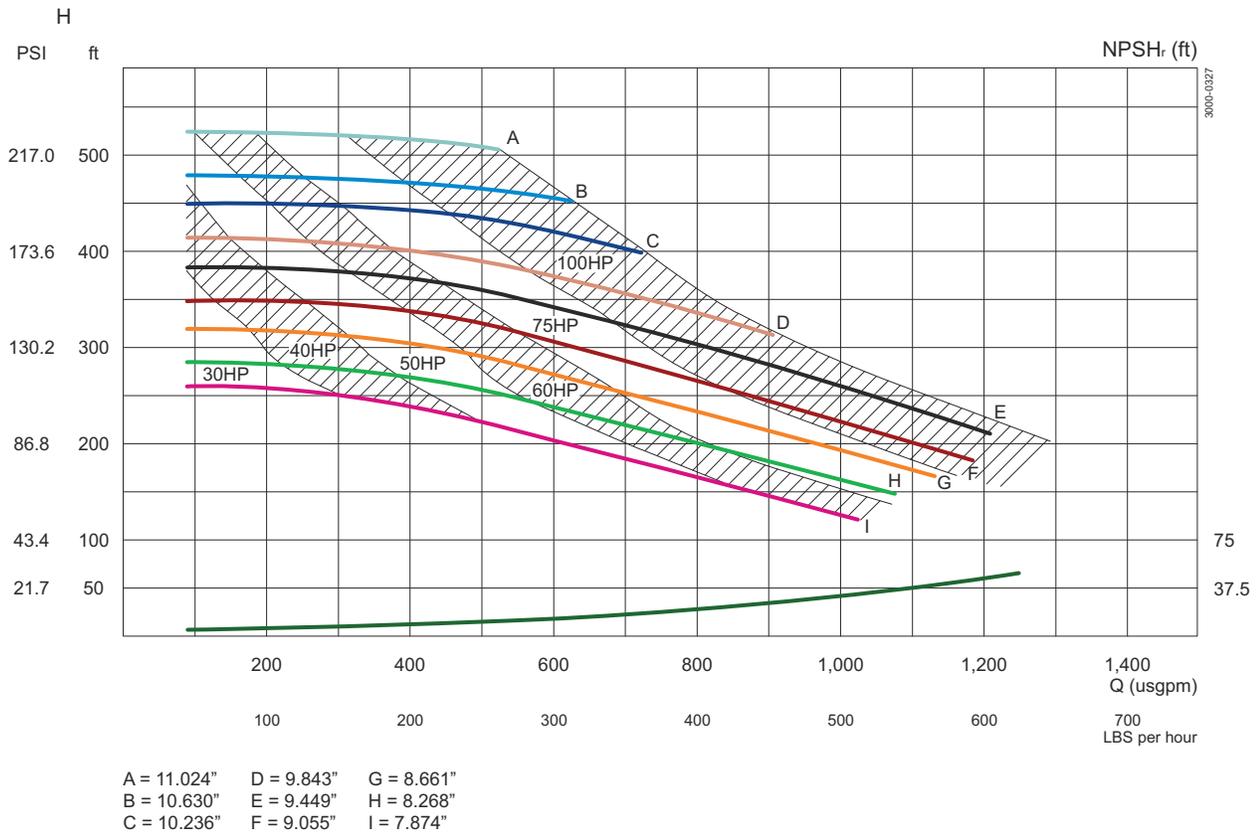
## LKH-70, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	11.024"
Impeller, Min. dia.:	7.874"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 115.3 Hp, 3565 rpm. asynchr., 60 Hz.  
For smaller motors, reduce head (H) with: -3%.

DO NOT FORGET THE SAFETY FACTOR



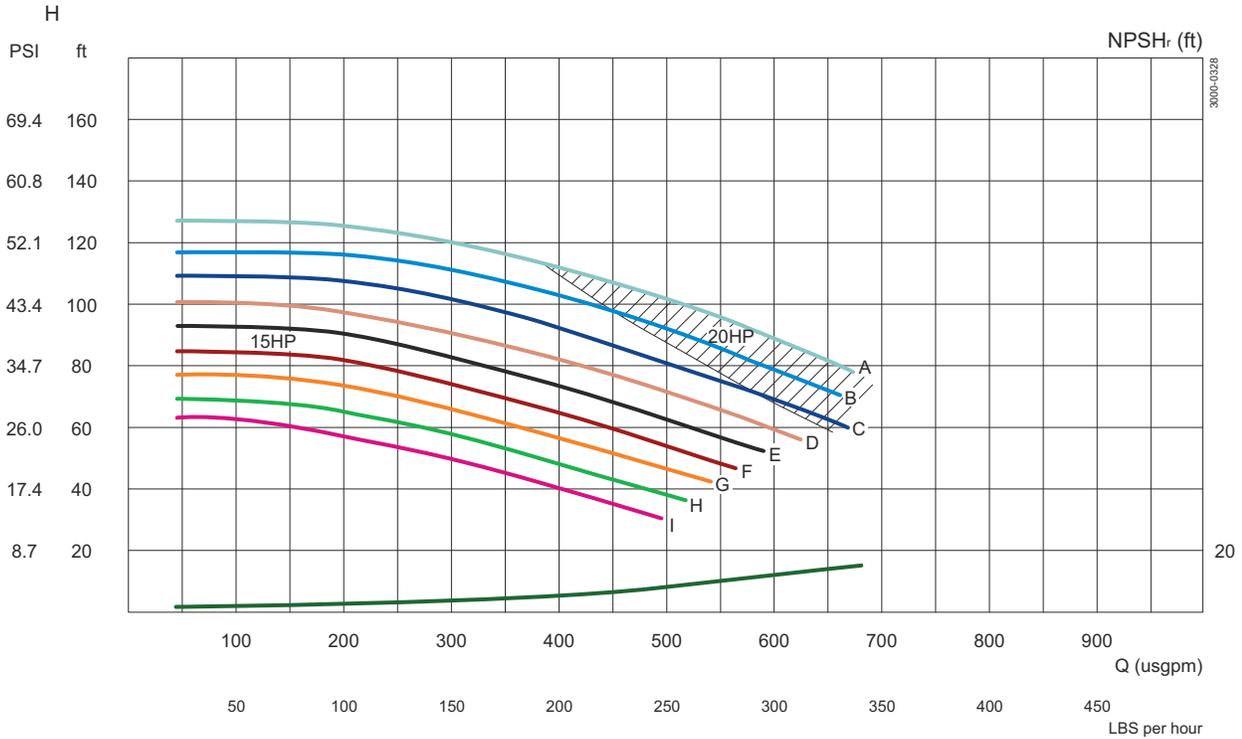
## LKH-70, 60 Hz

Motor:	1800 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	11.024"
Impeller, Min. dia.:	7.874"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



**Note!** The curves refer to max. motor: 22.8 Hp, 1750 rpm. asynchr., 60 Hz.

DO NOT FORGET THE SAFETY FACTOR



A = 11.024"	D = 9.843"	G = 8.661"
B = 10.630"	E = 9.449"	H = 8.268"
C = 10.236"	F = 9.055"	I = 7.874"

## LKH-75, 60 Hz

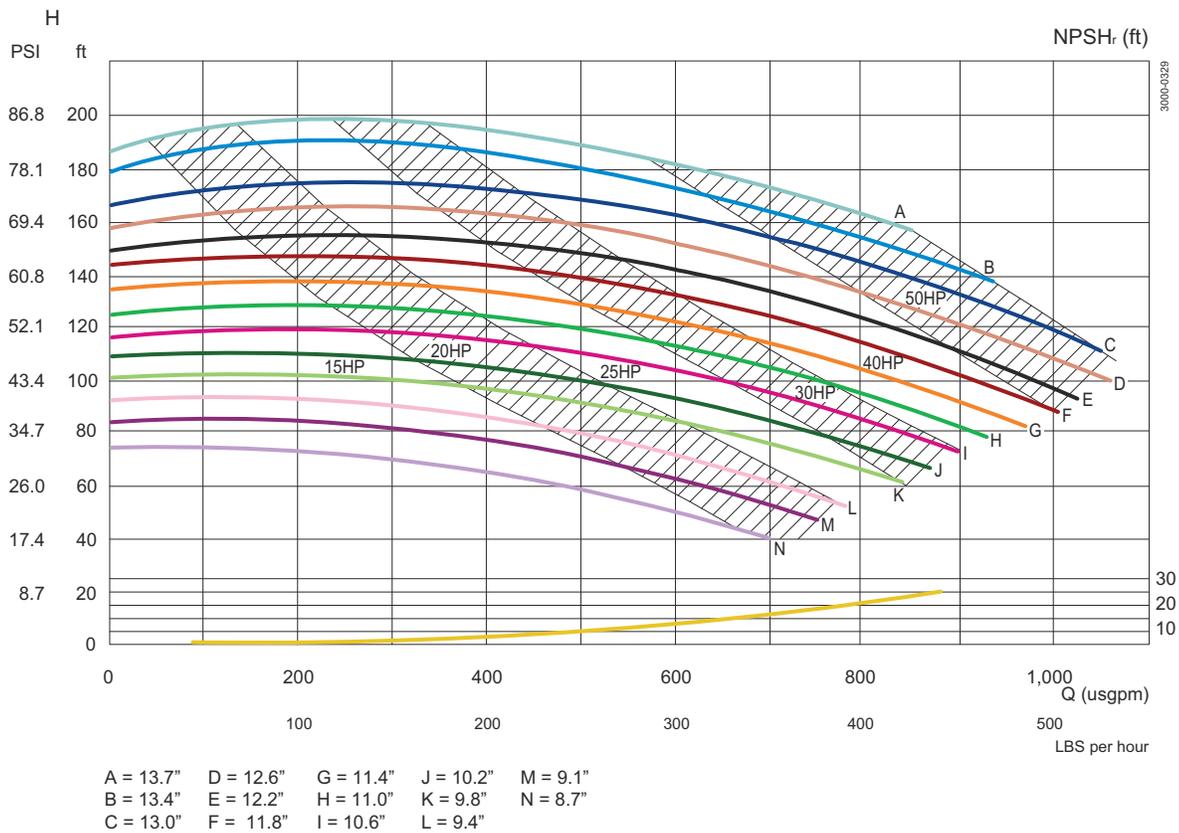
Motor:	1800 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	13.7"
Impeller, Min. dia.:	8.7"
Pump inlet, Dia.:	4" DN100
Pump outlet, Dia.:	4" DN100

Performance data refer to water at 68°F (20°C).



**Note!** The curves refer to max. motor: 40 Hp (30 kW), 1775 rpm. asynchr., 60 Hz. If Clear Flow impeller is mounted the performance can be up to 10% lower than on the curves shown.

DO NOT FORGET THE SAFETY FACTOR.



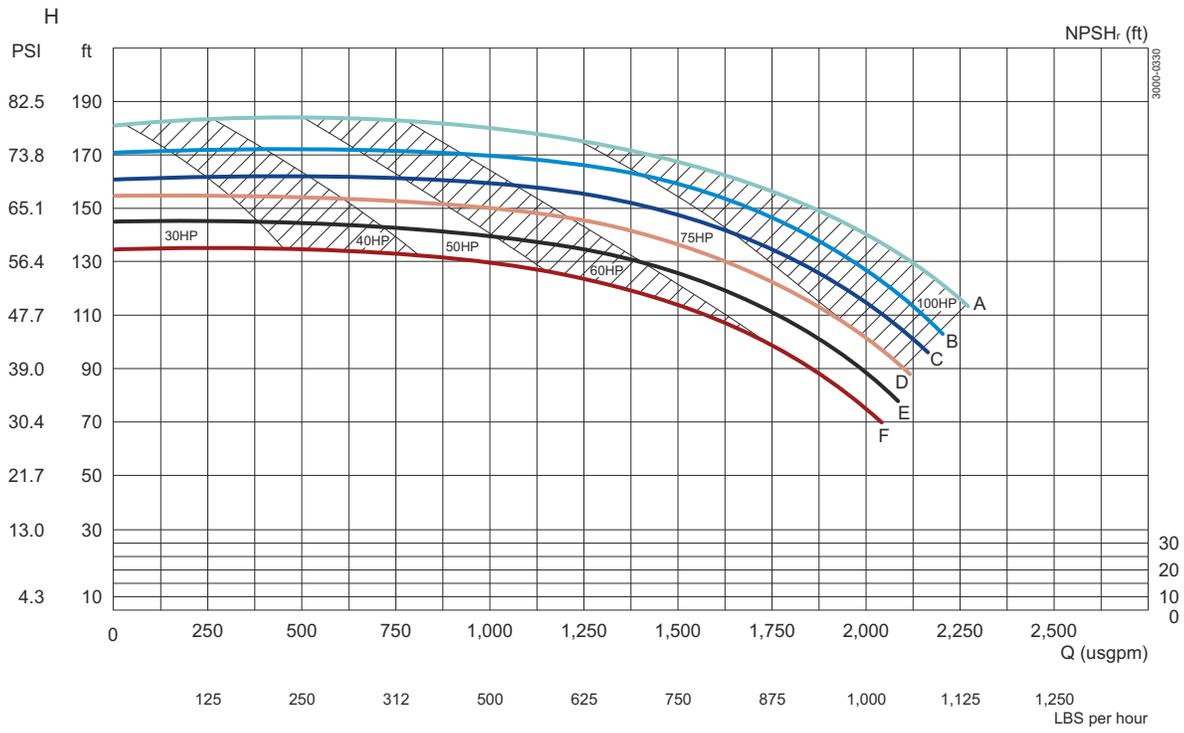
## LKH-90, 60 Hz

	60 Hz
Motor:	<b>1800 rpm. synchr.</b>
Tolerance:	±5%
Impeller, Max. dia.:	13.7"
Impeller, Min. dia.:	11.81"
Pump inlet, dia.:	6", DN 150
Pump outlet, dia.:	6", DN 150
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 75 kW, 1490 rpm. asynchr., 50 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



A = 13.70"    D = 12.60"  
 B = 13.39"    E = 12.20"  
 C = 12.99"    F = 11.81"

# Alfa Laval LKH Multistage

## Centrifugal pumps

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### Introduction

The Alfa Laval LKH-110, LKH-110P and LKH-120P pumps are highly efficient multistage centrifugal pumps for use in hygienic applications. Precision-engineered and available with up to four stages, these LKH Multistage Pumps deliver high energy efficiency. Their optimized design, premium motor, tight tolerances and advanced impeller design minimize recirculation and reduce energy consumption.

### Applications

Available in two-, three or four-stage models, the LKH Multistage Pumps save space and energy by replacing up to three booster pumps in a line. Used primarily in high-pressure applications with low capacity, they withstand system pressures up to 40 bar and deliver differential pressures up to 19 bar at 50 Hz. Designed for Cleaning-in-Place (CIP), the pumps are suitable for, but not limited to, many types of filtration applications across the food, beverage, home-personal care, biotechnology and pharmaceutical industries.

### Benefits

- Energy efficient: superior efficiency resulting in reduced energy consumption and CO2 footprint.
- Hygienic: designed according to the most stringent hygienic design standards and with verified effective CIP cleanability.
- High inlet pressure: designed for inlet pressures up to 40 bar and can therefore be used in the most demanding applications within filtration.
- High differential pressure: reduced need for serial pump installations saves space and energy.

### Standard design

All media contacting steel components like pump casing parts, impellers, and backplate are in W. 1.4404 (AISI 316L). A stainless steel shroud protects the motor and four adjustable stainless steel legs support the complete unit.

As standard, the LKH multistage pump is equipped with an internal single mechanical shaft seal but is also available with a flushed shaft seal. The secondary seal of the flushed seal is a long-lasting lip seal. The front-loading shaft seal makes maintenance fast, easy and inexpensive. It takes just a few minutes to replace the shaft seal. In addition, the balanced



design minimizes the risk of seal opening during unforeseen pressure shock.

## TECHNICAL DATA

### Materials

Product wetted steel parts:	Acid-resistant steel, AISI 316L and AISI 329L
Other steel parts:	Stainless steel, AISI 304
Product wetted seals:	EPDM
Other O-rings:	EPDM.
Finish:	Polished $\leq 32\text{Ra}$ and 3A approved.

### Motor

Standard C-Face, foot mounted motor according to NEMA standard at 3500. Premium efficiency, insulation Class F. High Thrust Bearings Required.	
Hp	Horsepower requirements based on flow curves.
Voltage and frequency	3 phase, 60 Hz, 230-460v standard. Other voltages and frequencies available upon request.

### Connections for FSS:

6mm tube/Rp 1/8"
------------------

## OPERATING DATA

### Max. outlet pressure, LKHM-110/P, LKHM-120/P:

Limited by the strength of the pump casing:	580 PSI (40 bar) temperature < 104° F.
Limited by the strength of the pump casing:	290 PSI (20 bar) temperature > 104° F.

Temperature range:	14°F to +284 °F (EPDM).
Water pressure:	Normally atmospheric, max. 15 PSI (flushed seal).
Water consumption:	0.066 -0.13 US GPM (flushed seal).
Noise level (at 3.3 ft):	60-80 dB (A).

## Max inlet pressure

### (Temperature < 40°C)

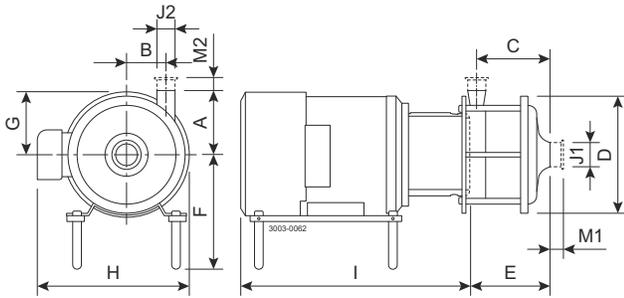
Pump size	Speed and shaft seal material								Motor	Backplate
	Max 50Hz				Max 60Hz					
	C/SiC		SiC/SiC		C/SiC		SiC/SiC			
	Max inlet pressure									
bar	psi	bar	psi	bar	psi	bar	psi			
LKH-112	10	145	10	145	10	145	10	145	Std.	Std.
LKH-113	10	145	10	145	10	145	10	145	Std.	Std.
LKH-114	10	145	10	145	10	145	10	145	Std.	Std.
LKH-112P	N/A	N/A	30	435	N/A	N/A	30	435	Special	Reinforced
LKH-113P	N/A	N/A	30	435	N/A	N/A	30	435	Special	Reinforced
LKH-114P	N/A	N/A	25	363	N/A	N/A	25	363	Special	Reinforced
LKH-122P	10	145	30	435	N/A	N/A	30	435	Special	Std.
LKH-123P	10	145	30	435	N/A	N/A	30	435	Special	Std.
LKH-124P	N/A	N/A	25	363	N/A	N/A	20	290	Special	Std.

### (Temperature > 40°C)

Pump size	Speed and shaft seal material								Motor	Backplate
	Max 50Hz				Max 60Hz					
	C/SiC		SiC/SiC		C/SiC		SiC/SiC			
	Max inlet pressure									
bar	psi	bar	psi	bar	psi	bar	psi			
LKH-112	10	145	10	145	10	145	10	145	Std.	Std.
LKH-113	10	145	10	145	10	145	10	145	Std.	Std.
LKH-114	10	145	10	145	10	145	10	145	Std.	Std.
LKH-112P	N/A	N/A	20	290	N/A	N/A	15	218	Special	Reinforced
LKH-113P	N/A	N/A	20	290	N/A	N/A	20	290	Special	Reinforced
LKH-114P	N/A	N/A	20	290	N/A	N/A	20	290	Special	Reinforced
LKH-122P	10	145	30	435	N/A	N/A	30	435	Special	Std.
LKH-123P	10	145	30	435	N/A	N/A	30	435	Special	Std.
LKH-124P	N/A	N/A	25	363	N/A	N/A	20	290	Special	Std.

## Dimensions

(inches)



### Pump specific measures

Pump Model	LKH-112/LKH-112P	LKH-113/LKH113P	LKH-114/LKH-114P	LKH-122	LKH-123	LKH-124
A	5.512	5.512	5.512	10.433	10.433	10.433
B	3.386	3.386	3.386	4.409	4.409	4.409
C	2.992	4.528	6.102	3.346	5.591	7.874
D	10.079	10.079	10.079	13.189	13.189	13.189
E	3.898	5.433	7.008	4.409	6.654	8.898

### Motor specific measures

Motor TC/TSC	213TC	215TC	254TC	256TC	284TSC	286TSC	324TSC	326TSC	364TSC	365TSC	405TSC
Motor HP	7.5	10.0	15.0	20.0	25.0	30.0	40.0	50.0	60.0	75.0	100.0
F(max) <sup>1</sup>	9.843	9.843	10.866	10.866	11.614	11.614	12.598	12.598	13.622	13.622	13.622
G	5.394	5.394	6.772	6.772	7.677	7.677	8.425	8.504	9.331	9.331	9.331
H	13.071	13.071	17.795	17.795	20.945	20.945	23.346	23.346	26.811	26.811	26.811
I	21.024	21.024	26.063	27.835	28.583	30.039	33.071	34.646	34.449	38.346	38.346

<sup>1</sup> Possible to reduce dimension F by min. 2.32 inch for all pump models. For smaller models it will be possible to reduce dimension F even further.

### Motor overview

Pump Model	LKH-112	LKH-113	LKH-114	LKH-122	LKH-123	LKH-124
Motor range (IEC)	213TC-215TSC	213TC-286TSC	213TC-286TSC	324TSC-364TSC	324TSC-405TSC	324TSC-405TSC

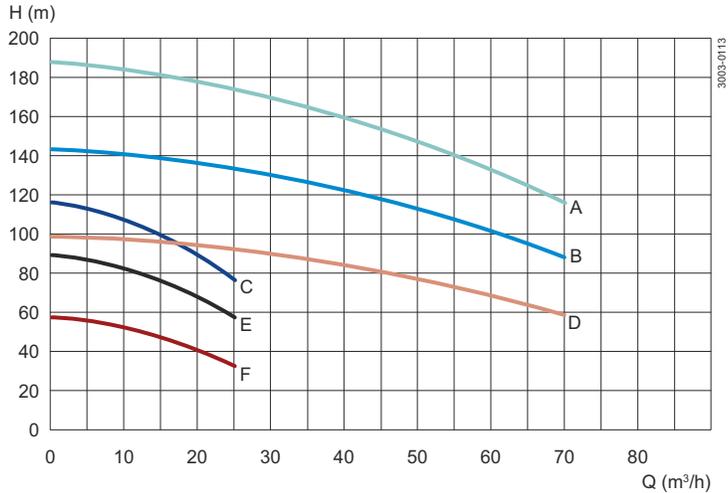
Dimensional data are based on 2 pole, Sterling motors.

### Connections

Pump Model	LKH-112 LKH-113 LKH-114		LKH-122 LKH-123 LKH-124	
	Tri-Clamp	M1	1.13	-
	M2	1.13	-	-
Heavy duty clamp	M1	-	-	1.14
	M2	-	-	1.14
Flange acc. To EN1092	M1	-	-	2.21
	M2	-	-	2.21
J1 <sup>1</sup>		2"		3"
J2 <sup>1</sup>		1.5"		2.5"

<sup>1</sup> Other dimensions available on request.

## Flow chart



A = LKH-124P      D = LKH-122P  
B = LKH-123P      E = LKH-113 -113P  
C = LKH-114 -114P      F = LKH-112 -112P

Frequency: 50Hz - Speed (synchr): 3000 rpm

## Options

- Motor with increased safety/flame proof motor. (only LKH-110)
- Flushed shaft seal.
- Impeller with reduced diameter.
- Product wetted seals of Buna (NBR), or Fluorinated rubber (FPM).
- Rotating seal ring of Silicon Carbide.
- Surface roughness, product wetted parts: unpolished, 32Ra, micro inches (0.8 mm), or higher finishes.

## Ordering

Please state the following when ordering:

For exact specification, please use the Anytime Configurator.

Use the following designation:

- Pump size.
- Version, hygienic or industrial.
- Connections.
- Impeller diameter.
- Motor size.
- Voltage and frequency.
- Flow, pressure and temperature.
- Density and viscosity of the product.
- Options.

# Alfa Laval LKHPF

## Centrifugal pumps

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### Introduction

The Alfa Laval LKHPF Centrifugal Pump for High Inlet Pressure is a high-pressure, high-efficiency centrifugal pump suited for high-pressure filtration applications. To increase process productivity, it is distinguished by high efficiency, low energy consumption, gentle product treatment, chemical resistance, and a wide range of flow rates, pressures and options.

Precision-engineered, the LKHP Filtration pump delivers greater energy efficiency than similar premium pumps. Its optimized design, premium motor, tight tolerances and advanced impeller design minimize recirculation and reduce energy consumption.

### Applications

Designed for inlet pressures up to 40 bar and for Cleaning-in-Place (CIP), the Alfa Laval LKHPF pump is ideal for use in filtration systems across the food, beverage, home-personal care, biotechnology and pharmaceutical industries. Tough under pressure, the LKHPF is ideal for demanding nanofiltration and reverse osmosis filtration installations.

The LKHPF pump is available in nine sizes to handle capacities up to 280 m<sup>3</sup>/h and differential pressures up to 11 bar at 50 Hz.

### Benefits

- Energy efficient: superior efficiency resulting in reduced energy consumption and CO<sub>2</sub> footprint.
- Hygienic: designed according to the most stringent hygienic design standards and with verified, effective CIP cleanability.
- Wide performance envelope: reduce need for parallel and serial pump installations and ensure pump operating with high efficiency.
- High inlet pressure: designed for inlet pressures up to 40 bar and can therefore be used in the most demanding applications within filtration.

### Standard design

All media contacting steel components like pump casing, impeller, impeller nut and backplate are in W. 1.4404 (AISI 316L). A stainless steel shroud protects the motor and four adjustable stainless steel legs support the complete unit.



A compression coupling securely attaches the stub shaft to the motor shaft with precision alignment, and the semi-open impeller with a special vane design ensures efficient and gentle handling of the product as it moves through the pump.

As standard, the LKHPF pump is equipped with an internal single mechanical shaft seal but is also available with a flushed shaft seal. The secondary seal of the flushed seal is a long-lasting lip seal. The front-loading shaft seal makes maintenance fast, easy and inexpensive. It takes just a few minutes to replace the shaft seal. In addition, the balanced design minimizes the risk of seal opening during unforeseen pressure shock.

With heavy-duty pump casing and backplate, high-pressure internal seals and multiple heavy-duty studs, the pump is capable of handling very high inlet pressures.

## TECHNICAL DATA

### Materials

Product wetted steel parts:	Acid-resistant steel AISI 316L and AISI 329L.
Other steel parts:	Stainless steel AISI 304.
Product wetted seals:	EPDM
Optional:	NBR (Buna); FPM (Viton)
Finish:	Polished $\leq 32$ Ra.

### Motor

Special high thrust bearing NEMA C-Face motor, foot mounted motor according to NEMA standards at 3500 RPM. Premium efficiency, TEFC, insulation Class F

### Connections

Connections for flushed shaft seal:	1/4 tube/Rp 1/8
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## OPERATING DATA

### Pressure

Max. inlet pressure:	600 PSI.
Water pressure:	Max. 14.5 PSI

### Temperature

Temperature range:	14° F to 284° F (EPDM).
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### Water consumption

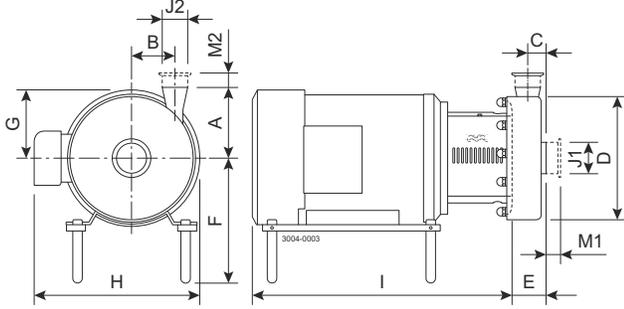
Water consumption:	4-8 usgph
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Footnote: (Flushed seal)

### Noise

Noise level (at 3 ft.):	60 - 80 dB (A).
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## Dimensions (inch)



## Pump specific measures

Pump Model	LKHPF-10	LKHPF-20	LKHPF-25	LKHPF-35	LKHPF-40	LKHPF-45	LKHPF-50	LKHPF-60	LKHPF-70
A	5.591	7.087	7.598	7.598	8.346	7.598	8.071	10.315	10.000
B	3.425	3.425	4.173	4.685	4.961	3.819	4.646	4.016	5.787
C	1.142	1.693	1.496	1.102	1.339	1.693	1.654	1.654	1.102
D	9.724	9.961	11.929	11.929	12.953	11.929	12.953	12.953	16.063
E	2.520	3.071	3.228	2.598	3.031	3.661	3.583	3.661	3.661

## Motor specific measures

Motor TC/TSC	213TC	215TC	254TC	256TC	284TSC	286TSC	324TSC	326TSC	364TSC	365TSC
Motor HP	7.5	10.0	15.0	20.0	25.0	30.0	40.0	50.0	60.0	75.0
F(max) <sup>1</sup>	9.843	9.843	10.866	10.866	11.614	11.614	12.598	12.598	13.622	13.622
G	5.394	5.394	6.772	6.772	7.677	7.677	8.425	8.504	9.331	9.331
H	13.071	13.071	17.795	17.795	20.945	20.945	23.346	23.346	26.811	26.811
I (LKHPF-10 to LKHPF-60)	21.024	21.024	26.063	27.835	28.583	30.039	33.071	34.646	34.449	-
I (LKHPF-70)	21.811	21.811	26.575	28.346	29.094	30.551	33.583	35.157	34.961	38.346

<sup>1</sup> Possible to reduce dimension F by min. 2.32 mm for all pump models. For smaller models it will be possible to reduce dimension F even further.

## Motor overview

Pump Model	LKHPF-10	LKHPF-20	LKHPF-25	LKHPF-35	LKHPF-40	LKHPF-45	LKHPF-50	LKHPF-60	LKHPF-70
Motor range (TC/TSC)	213TC	213TC- 215TC	213TC- 256TC	213TC- 256TC	215TC- 286TSC	213TC- 256TC	213TC- 286TSC	213TC- 364TSC	234TSC- 405TSC



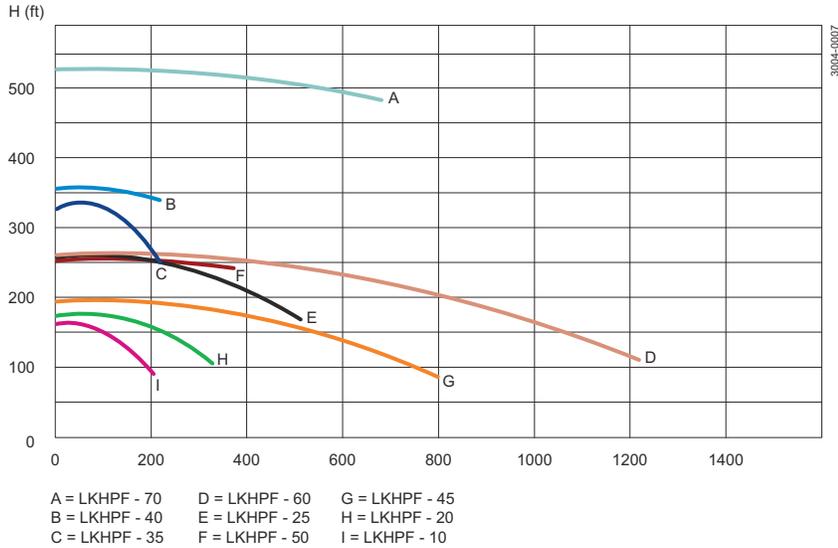
Note! Dimensional data are based on 2 pole, Sterling motors.

## Connections

Pump Model		LKHPF-10 LKHPF-20 LKHPF-35	LKHPF-25	LKHPF-40	LKHPF-45 LKHPF-50 LKHPF-70	LKHPF-60
Tri-Clamp	M1	1.12	1.12	1.12	1.12	1.12
	M2	1.12	1.12	1.12	1.12	1.12
J1 <sup>1</sup>		2.50"	3.00"	3.00"	4.00"	4.00"
J2 <sup>1</sup>		2.00"	2.50"	2.00"	3.00"	4.00"

<sup>1</sup> Other dimensions available on request.

## Flow chart



## Options

- Impeller with reduced diameter.
- Motor for other voltage and/or frequency.
- Flushed shaft seal.
- Cauder connection.

## Ordering

Please state the following when ordering:

- Pump size.
- Connections.
- Impeller diameter.
- Motor size.
- Single or flushed shaft seal.
- Elastomer type.
- Optional extras.

## Material grades

- Surface roughness, product wetted parts: unpolished, 32Ra, micro inches (0.8 mm), or higher finishes.
- Seals in Nitrile (NBR/Buna) or Fluorinated rubber (FPM/Viton).

# Alfa Laval LKH UltraPure

## Centrifugal pumps

### Introduction

The Alfa Laval LKH UltraPure Centrifugal Pump is designed for use in high-purity applications where high efficiency, exceptional cleanability, contamination safety, robust design and low maintenance are of paramount importance. With verified cleanability, these pumps provide unobstructed product flow, very low NPSH requirements and excellent hydraulic efficiency.

Precision-engineered, the LKH UltraPure pump delivers greater energy efficiency than similar pumps. Its optimized design, premium motor, tight tolerances and advanced impeller design minimize recirculation and reduce energy consumption.

### Applications

The Alfa Laval LKH UltraPure pump is designed to meet the stringent demands and regulations of high-purity applications across the biotechnology and pharmaceutical industries which require equipment with the highest material integrity.

All pumps are delivered with a complete Alfa Laval Q-doc package. Q-doc provides easier validation, proof of origin and compliance for inspection according to Good Manufacturing Practice (GMP) and ASME BPE requirements.

The LKH UltraPure pump is available in eight sizes to handle capacities up to 1300 USGPM and differential pressures up to 500 feet at 60 Hz.

### Benefits

- Energy efficient: superior efficiency resulting in reduced energy consumption and CO2 footprint.
- Maximized uptime and reduced maintenance costs: robust mechanical design and ease of maintenance with modular front-loading seals.
- Low contamination risk: comes with full material traceability and USP Class VI elastomers to reduce risk of process contamination from extractables.
- Smooth qualification, validation and process control: material traceability, and pump supplied with the Alfa Laval Q-doc package in line with Good Documentation Practice (GDP).



### Standard design

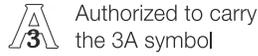
All media contacting steel components like pump casing, impeller, impeller nut and backplate are in AISI 316L with material traceability 3.1 according to EN 10204. Product wetted elastomers are specified to USP Class VI, 249.8°F, Chapter 88 and Chapter 87. Four adjustable stainless steel legs support the complete unit.

A compression coupling securely attaches the stub shaft to the motor shaft with precision alignment, and the semi-open impeller with a special vane design ensures efficient and gentle handling of the product as it moves through the pump.

As standard, the LKH UltraPure pump is equipped with a single mechanical shaft seal but is also available with a double mechanical shaft seal. The front-loading shaft seal, with the spring and washers mounted on the atmospheric side, makes maintenance fast, easy and inexpensive. It takes just a few minutes to replace the shaft seal. In addition, the balanced

design minimizes the risk of seal opening during unforeseen pressure shock.

### Certificates



## TECHNICAL DATA

Materials	
Product wetted steel parts:	AISI 316L and 329L with material traceability 3.1 according to EN 10204 (Mill test reports)
Other steel parts:	Stainless steel
Inside surface finish:	Electropolished $Ra \leq 15 \mu\text{in}$
External finish:	Ra 32 $\mu\text{in}$
Product wetted elastomers:	EPDM - USP Class VI, 249.8°F. Chapter 88, and Chapter 87
Rotary seal face:	Silicon Carbide
Stationary seal face:	Silicon Carbide

### Motor

Standard C-faced, foot mounted motor according to NEMA standard. 3 phase, 60 HZ, 230/460V. 3500 RPM or 1750 RPM. Premium efficiency, Class F.

### Motor sizes

60Hz:	2 - 100 Hp
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## OPERATING DATA

### Max. inlet pressure

LKH UltraPure 10 - 60:	145 PSI (10 bar)
LKH UltraPure 70	72.5 PSI (5 bar)

### Temperature

Temperature range:	14°F to +284°F (EPDM)
Flush media:	Max. 158°F
Flush housing sterilization (pump not in operation):	Max. 257°F

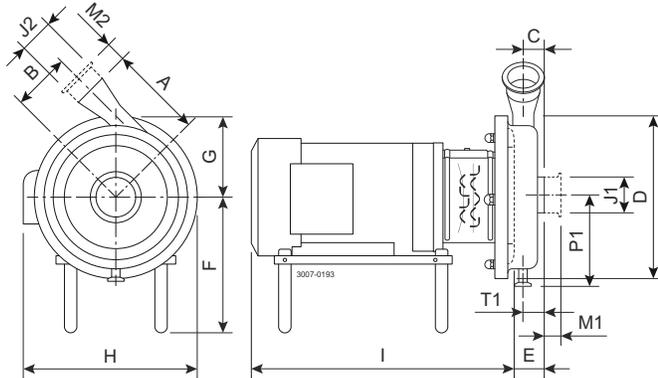
### Double mechanical shaft seal

Water pressure inlet, LKH UltraPure 10 - 60:	Max. 72.5 PSI (5 bar)
Water pressure inlet, LKH UltraPure 70:	Max. 43.5 PSI (3 bar)
Water consumption:	4 - 8 USGPH

### Connections for double mechanical shaft seal

LKH UltraPure 10 - 70:	1/8" G
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## Dimensions (inch)



## Pump specific measures

Pump Model	LKH UltraPure-10	LKH UltraPure-20	LKH UltraPure-25	LKH UltraPure-35	LKH UltraPure-40	LKH UltraPure-45	LKH UltraPure-60	LKH UltraPure-70
A	5.591	7.087	7.598	7.598	8.346	8.346	10.276	10.000
B	3.425	3.465	4.173	4.685	4.961	4.961	4.016	5.787
C	0.906	1.063	1.260	0.906	1.102	1.102	2.441	0.984
D	9.724	9.961	11.929	11.929	12.953	12.953	12.953	16.063
E	2.008	2.480	2.717	2.126	2.520	2.520	4.173	2.992
P1	5.283	5.516	6.388	6.604	7.071	5.335	6.878	8.598
T1	0.803	1.219	1.441	0.850	1.262	1.992	0.953	1.453

## Motor specific measures

Motor TC/TSC	143TC	145TC	182TC	184TC	213TC	215TC	254TC	256TC	284TSC	286TSC	324TSC	326TSC	364TSC	365TSC
Motor HP	1.0-1.5	2.0	3.0	5.0	7.5	10.0	15.0	20.0	25.0	30.0	40.0	50.0	60.0	75.0
F(max.) <sup>1</sup>	8.110	8.110	9.094	9.094	9.843	9.843	10.866	10.866	11.614	11.614	12.598	12.598	13.622	13.622
G	3.504	3.543	4.488	4.488	5.394	5.394	6.772	6.772	7.677	7.677	8.425	8.504	9.331	9.331
H	9.094	9.094	11.102	11.102	13.071	13.071	17.795	17.795	20.945	20.945	23.346	23.346	26.811	26.811
I (LKH-10 to LKH-60)	14.843	15.118	17.992	18.150	21.024	21.024	26.063	27.835	28.583	30.039	33.071	34.646	34.449	-
I (LKH-70)	-	-	-	-	21.811	21.811	26.575	28.346	29.094	30.551	33.583	35.157	34.961	38.346

<sup>1</sup> Possible to reduce dimension F by min. 2,32 in for all pump models. For smaller models it will be possible to reduce dimension F even further.

## Frame overview

Pump Model	LKH UltraPure-10	LKH UltraPure-20	LKH UltraPure-25	LKH UltraPure-35	LKH UltraPure-40	LKH UltraPure-45	LKH UltraPure-60	LKH UltraPure-70
Motor range (TC/TSC)	143TC-254TC	145TC-256TC	145TC-286TSC	182TC-286TSC	182TC-286TSC	182TC-286TSC	213TC-364TSC	213TC-405TSC



**Note!** Dimensional data are based on 2 pole, Sterling motors.

## Drain diameter

	TC Clamp
1/2"	12.7



**Note!** Dimensions are for guidance only. For exact measures of specific pump specifications, please refer to Anytime Configurator.

## Connections

Pump Model		LKH UltraPure-10	LKH UltraPure-25	LKH UltraPure-40	LKH UltraPure-45	LKH UltraPure-60
		LKH UltraPure-20			LKH UltraPure-70	
		LKH UltraPure-35				
TRI-Clamp	M1	1.13	1.13	1.13	1.13	1.13
	M2	1.13	1.13	1.13	1.13	1.13
J1		2,50"	3,00"	3,00"	4,00"	4,00"
J2		2,00"	2,50"	2,00"	3,00"	4,00"

## Flow chart

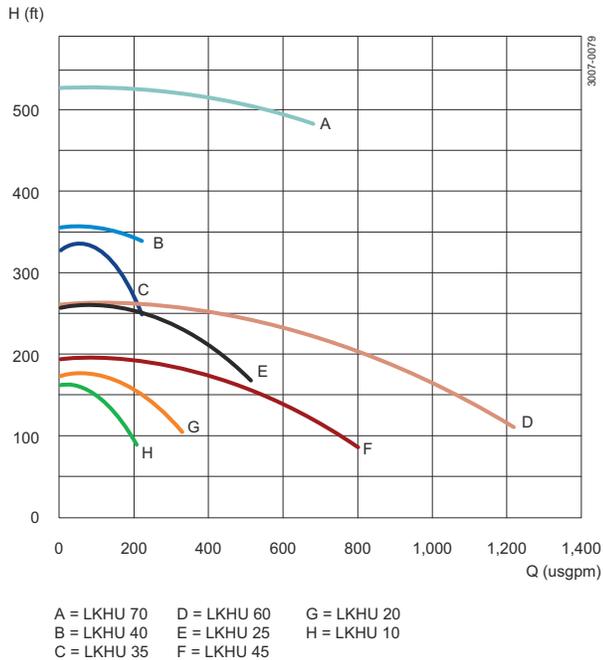


Figure 1. Flow chart – Frequency: 60Hz - Speed (synchr): 3600 rpm

## Q-doc

### Standard documentation package:

- Declaration of compliance to EN 10204 type 3.1 (MTR).
- Declaration of compliance to the U.S. Food & Drug Administration CFR 21 (non-metallic parts).
- Declaration of compliance to the U.S. Pharmacopeia (Elastomers and polymers).
- TSE (Transmissible Spongiform Encephalopathy) / ADI (Animal Derivative Ingredient) declaration.
- Declaration of surface finish compliance.
- Declaration of passivation and electro polishing (if specified).
- 3.1 certification in accordance to EN10204.
- Pump performance test certificate.

### Optional documentation:

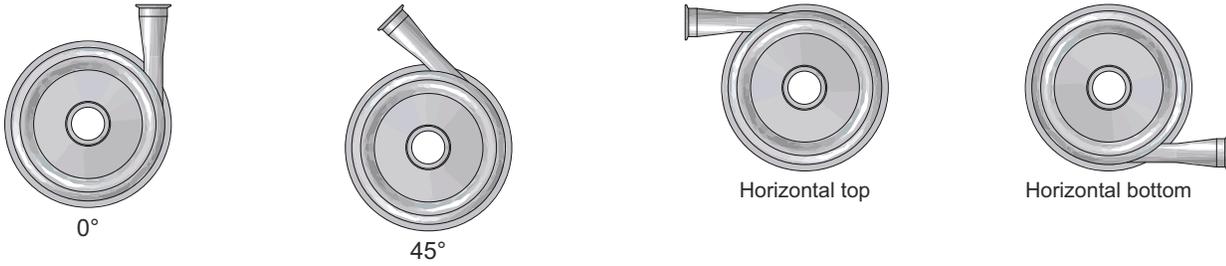
- Hydrostatic test certificate.
- Surface measurement report.
- Delta ferrite report (impeller).

## Options

- Impeller with reduced diameter.
- Impeller with delta ferrite max. 1%.
- Motor for other voltage and/or frequency.
- 1800 rpm. motor
- Motor with increased safety/flame proof motor.
- Double mechanical shaft seal.
- Pump with legs.
- 3/4" drain connection.
- Horizontal drain connection, see illustration below.
- Special flush arrangement with 1/2" Alfa Laval Unique DVST UltraPure diaphragm valve, needle valve and flow meter, see illustration below.
- No drain.
- Product wetted surface finish mechanically polished to  $Ra \leq 20 \mu\text{in}$ .
- Passivated surface.
- Product wetted elastomers FPM or FEP to USP Class VI, 121°C Chapter 88, and Chapter 87.
- Hydrostatic testing with certificate.

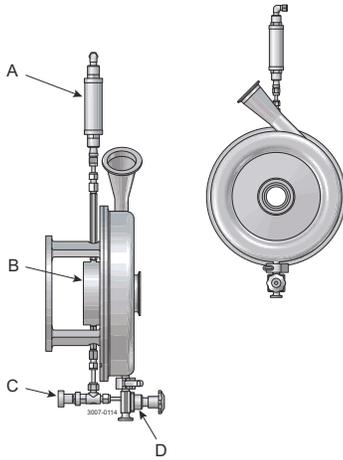
- Surface finish measurement with certificate.
- Horizontal top, 90° or horizontal bottom outlet, see illustration below.

### Available outlet positions



### Flush arrangement

With the flush kit arrangement some process fluid is passing through the flush housing of the double mechanical seal, creating a barrier from the atmosphere to avoid potential process contamination across the seal face.



A = Flow meter

B = Flush Housing

C = Flow control needle valve

D = Alfa Laval Unique DVST UltraPure valve

### Available drain connections



1/2" or 3/4" vertical drain:

- Tri-clamp for ASME.



1/2" or 3/4" horizontal drain:

- Tri-clamp for ASME.

### Ordering

Please state the following when ordering:

- Pump size.
- Connections.
- Impeller diameter.
- Motor size.
- Voltage and frequency.
- Flow, pressure and temperature.
- Density and viscosity of the product.
- Options.



**Note!** For further details, see also Instruction manual ESE01703. This product has EHEDG certificate.

# Alfa Laval LKH Prime

## Centrifugal pumps

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### Introduction

Based on the market-leading Alfa Laval LKH pump, the Alfa Laval LKH Prime Centrifugal Pump is a versatile, highly efficient self-priming pump for use in hygienic applications, especially tank emptying and CIP return applications. With its combination of air-screw technology and advanced design, the pump can remove air from the suction pipe.

Precision-engineered, the LKH Prime delivers greater energy efficiency than similar pumps. Its optimized design, premium motor, tight tolerances and advanced impeller and airscrew design minimize recirculation and reduce energy consumption.

### Application

The LKH Prime pump is designed to meet the stringent hygienic requirements across the food, dairy, beverage, and home-personal care industries. It is ideal for tank emptying and CIP return applications. With verified and effective CIP cleanability, the LKH Prime can be used as a product pump as well.

The LKH Prime is available in three sizes to handle capacities up to 100 m<sup>3</sup>/h and differential pressures up to 7.5 bar at 50 Hz.

### Benefits

- Energy efficient: superior efficiency resulting in reduced energy consumption and CO<sub>2</sub> footprint.
- Hygienic: designed according to the most stringent hygienic design standards and with verified and effective CIP cleanability.
- Quiet: operates very quietly compared to other self-priming pumps improving the working environment.
- Reduced capital investment: designed for Cleaning-in-Place (CIP) duties containing entrained air but can also pump product reducing need for additional pump.

### Standard design

All media contacting steel components like pump casing, impeller, airscrew, front cover, recirculation pipe and backplate are in W. 1.4404 (AISI 316L). A stainless steel shroud protects the motor and four adjustable stainless steel legs support the complete unit.



A compression coupling securely attaches the stub shaft to the motor shaft with precision alignment, and the semi-open impeller with a special vane design ensures efficient handling of the product as it moves through the pump.

As standard, the LKH prime pump is equipped with a single mechanical shaft seal but is also available with a double mechanical shaft seal. The front-loading shaft seal, with the spring and washers mounted on the atmospheric side, makes maintenance fast, easy and inexpensive. It takes just a few minutes to replace the shaft seal. In addition, the balanced design minimizes the risk of seal opening during unforeseen pressure shock.

### Working principle

On applications where the pumped media contains a mixture of air and liquid in the suction line, airscrew rotation causes the formation of a continuous liquid ring within the canister. Due to the eccentric position of the canister relative to the airscrew, an

air chamber forms between the liquid ring and the airscrew, which separates into air pockets between the air-screw vanes.

The continuous rotation of the air-screw forces air pockets through the canister into the suction stage of the impeller which are then pumped out via the discharge.

Liquid is returned from the discharge via the recirculation pipe into the canister to ensure the liquid ring is maintained at all times. When there is no air present, the canister and

recirculation loop have no function and are fully filled with liquid. The liquid passes through the canister into the suction stage of the impeller, allowing the pump to act as a traditional centrifugal pump.

### Certificates



Authorized to carry the 3A symbol

## TECHNICAL DATA

### Standard materials

Product wetted steel parts:	W. 1.4404 (316L)
Other steel parts:	Stainless steel
Inside surface finish:	Mech Ra ≤ 32
Product wetted elastomers:	EPDM

### Motor

Standard C-faced, foot mounted motor according to NEMA standard. 3500 RPM. Premium efficiency, Class F. Note different frame sizes.

### Connections

Connections for double mechanical shaft seal	1/8" NPT
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### Min/Max speed

Air evacuation:	2800 - 3600 rpm.
Pumping product (no air):	900 - 3600 rpm.

## OPERATING DATA

### Pressure

Max. inlet pressure:	72.5 PSI (5 bar)
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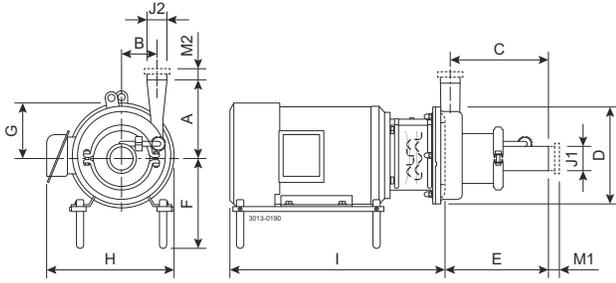
### Temperature

Temperature range:	14 °F to 284 °F (EPDM)
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### Double mechanical shaft seal

Water pressure inlet:	Max. 72.5 PSI (5 bar)
Water consumption:	4-8 US gph.

## Dimensions (inch)



## Pump specific measures

Pump Model	LKH Prime 10	LKH Prime 20	LKH Prime 40
A	7.17	7.64	10.20
B	3.35	3.62	4.96
C	8.74	9.76	10.67
D	9.72	9.96	12.95
E	9.64	11.02	11.85

## Motor specific measures

Motor TC/TSC	182TC	184TC	213TC	215TC	254TC	256TC	284TSC	286TSC	324TSC	326TSC	364TSC
Motor HP	3.0	5.0	7.5	10.0	15.0	20.0	25.0	30.0	40.0	50.0	60.0
F(max.) <sup>1</sup>	9.09	9.09	9.84	9.84	10.87	10.87	11.61	11.61	12.60	12.60	13.62
G	4.49	4.49	5.39	5.39	6.77	6.77	7.68	7.68	8.43	8.50	9.33
H	11.10	11.10	13.07	13.07	17.80	17.80	20.94	20.94	23.35	23.35	26.81
I	17.99	18.15	21.02	21.02	26.06	27.83	28.58	30.04	33.07	34.65	34.45

<sup>1</sup> Possible to reduce dimension F by min. 2.32 inches for all pump models. For smaller models it will be possible to reduce dimension F even further.

## Motor overview

Pump Model	LKH Prime 10	LKH Prime 20	LKH Prime 40
Motor range (TC/TSC)	182TC-215TC	182TC-256TC	254TC-286TSC



**Note!** Dimensional data are based on 2 pole, Sterling motors.

## Connections

Pump Model	LKH Prime 10	LKH Prime 20	LKH Prime 40
TRI-Clamp	M1	1.13	1.13
	M2	1.13	1.13
J1 <sup>1</sup>	2.00"	2.50"	3.00"
J2 <sup>1</sup>	2.00"	2.00"	2.50"

<sup>1</sup> Other dimensions available on request.

## Flow chart

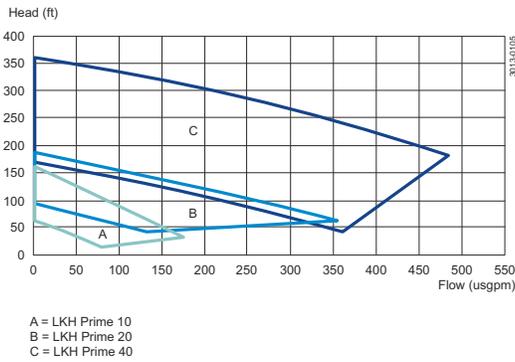


Figure 1. Frequency: 60Hz - Speed (synchr): 3600 rpm

## Options

- Impeller with reduced diameter.
- Motor enclosures: washdown, TEFC, explosion proof, inverter duty and others upon request.
- Double mechanical shaft seal.
- Product wetted surface finish  $Ra \leq 20$ .
- Product wetted elastomers of Nitrile (NBR) or Fluorinated rubber (FPM).
- Rotating seal ring of Silicon Carbide.
- 1/2" or 3/4" tri clamp drain connections (two connections)

## Ordering

Please state the following when ordering:

- Pump size.
- Connections.
- Impeller diameter.
- Motor size.
- Voltage and frequency.
- Flow, pressure and temperature.
- Density and viscosity of the product.
- Options.

# Alfa Laval LKH Prime UltraPure

## Centrifugal pumps

---

### Introduction

The Alfa Laval LKH Prime UltraPure Centrifugal Pump is designed for use in high-purity applications where high efficiency, exceptional cleanability, contamination safety, robust design and low maintenance are of paramount importance.

Precision-engineered, the LKH Prime UltraPure delivers greater energy efficiency than similar pumps. Its optimized design, premium motor, tight tolerances and advanced impeller and airscrew design minimize recirculation and reduce energy consumption.

### Applications

The Alfa Laval LKH Prime UltraPure is designed to meet the stringent demands and regulations of high-purity applications across the biotechnology and pharmaceutical industries that require equipment with the highest material integrity. It is ideal for tank emptying and CIP return applications; it has verified and effective CIP cleanability. The LKH Prime UltraPure can also be used as a product pump.

All pumps are delivered with a complete Alfa Laval Q-doc package. Q-doc provides easier validation, proof of origin and compliance for inspection purposes according to Good Manufacturing Practice (GMP) and ASME BPE requirements.

The LKH Prime UltraPure pump is available in two sizes to handle capacities up to 70 m<sup>3</sup>/h and differential pressures up to 4 bar at 50 Hz.

### Benefits

- Energy efficient: superior efficiency resulting in reduced energy consumption and CO<sub>2</sub> footprint.
- Quiet: operates very quietly compared to other self-priming pumps, thereby improving the working environment.
- Low contamination risk: comes with full material traceability and USP Class VI elastomers to reduce risk of process contamination from extractables.
- Smooth qualification, validation and process control: material traceability, and pump supplied with the Alfa Laval Q-doc package in line with Good Documentation Practices (GDP).



### Standard design

All media contacting steel components like pump casing, impeller, airscrew, front cover, recirculation pipe and backplate are in W. 1.4404 (AISI 316L) with material traceability 3.1 according to EN 10204. Product wetted elastomers are specified to USP Class VI, 249.8°F, Chapter 88 and Chapter 87. A stainless steel shroud protects the motor and four adjustable stainless steel legs support the complete unit.

A compression coupling securely attaches the stub shaft to the motor shaft with precision alignment, and the semi-open impeller with a special vane design ensures efficient handling of the product as it moves through the pump.

As standard, the LKH prime pump is equipped with a single mechanical shaft seal but is also available with a double mechanical shaft seal. The front-loading shaft seal, with the spring and washers mounted on the atmospheric side, makes maintenance fast, easy and inexpensive. It takes just a few minutes to replace the shaft seal. In addition, the balanced

design minimizes the risk of seal opening during unforeseen pressure shock.

### Working principle

On applications where the pumped media contains a mixture of air and liquid in the suction line, airscrew rotation causes the formation of a continuous liquid ring within the canister. Due to the eccentric position of the canister relative to the airscrew, an air chamber forms between the liquid ring and the airscrew, which separates into air pockets between the air-screw vanes.

The continuous rotation of the airscrew forces air pockets through the canister into the suction stage of the impeller which are then pumped out via the discharge.

Liquid is returned from the discharge via the recirculation pipe into the canister to ensure the liquid ring is maintained at all times. When there is no air present, the canister and recirculation loop have no function and are fully filled with liquid. The liquid passes through the canister into the suction stage of the impeller, allowing the pump to act as a traditional centrifugal pump.

### Certificates



Authorized to carry the 3A symbol

## TECHNICAL DATA

Standard materials	
Product wetted steel parts:	AISI 316L and 329L with material traceability 3.1 acc. to EN 10204 (Mill test reports).
Other steel parts:	Stainless steel.
Inside surface finish:	EP Ra ≤ 15 µin.
Product wetted elastomers:	EPDM- USP Class VI, 249.8°F Chapter 88, and Chapter 87.

### Motor

Standard C-faced, foot mounted motor according to NEMA standard. 3500 RPM. Premium efficiency, Class F. Note different frame sizes.

### Connections

Connections for double mechanical shaft seal:	1/8" NPT.
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### Min/max motor speed

Air evacuation:	2800 - 3600 rpm.
Pumping product (no air):	900 - 3600 rpm.

## OPERATING DATA

### Pressure

Max inlet pressure:	72.5 PSI (5 bar).
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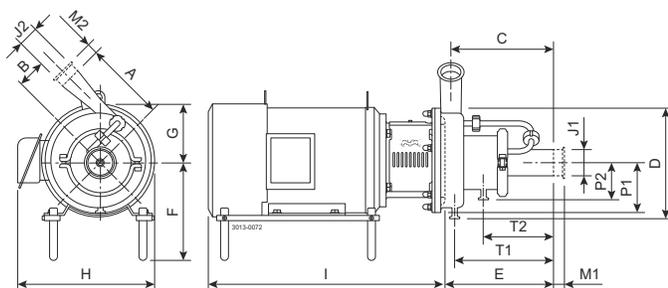
### Temperature

Temperature range:	14°F to 284°F (EPDM).
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### Double mechanical shaft seal

Water pressure inlet:	Max. 72.5 PSI (5 bar).
Water consumption:	4-8 US gph.

## Dimensions



### Pump specific measures

Pump Model	LKH Prime UltraPure 10	LKH Prime UltraPure 20
A	7.17	7.64
B	3.35	3.62
C	8.74	9.76
D	9.72	9.96
E	9.64	11.02
P1	4.57	4.84
P2	3.24	3.27
T1	8.63	9.41
T2	6.35	6.69

### Motor specific measures

Motor TC/TSC	182TC	184TC	213TC	215TC	254TC	256TC
Motor HP	3.0	5.0	7.5	10.0	15.0	20.0
F(max) <sup>1</sup>	9.09	9.09	9.84	9.84	10.87	10.87
G	4.49	4.49	5.39	5.39	6.77	6.77
H	11.10	11.10	13.07	13.07	17.80	17.80
I	17.99	18.15	21.02	21.02	26.06	27.83

<sup>1</sup> Possible to reduce dimension F by min. 2.32 inch for all pump models.

### Motor overview

Pump Model	LKH Prime UltraPure 10	LKH Prime UltraPure 20
Motor range (TC/TSC)	182TC-215TC	182TC-256TC



**Note!** Dimensional data are based on 2 pole, Sterling motors.

### Connections

Pump Model		LKH Prime UltraPure 10	LKH Prime UltraPure 20
TRI-Clamp	M1	1.13	1.13
	M2	1.13	1.13
J1 <sup>1</sup>		2.00"	2.50"
J2 <sup>1</sup>		2.00"	2.00"

<sup>1</sup> Other dimensions available on request.

	TC Clamp
1/2"	0.5
3/4"	0.75

## Flow chart

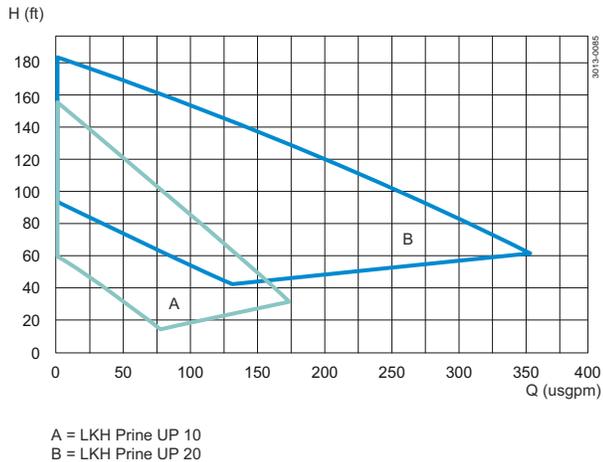


Figure 1. Frequency: 60Hz - Speed (synchr): 3600 rpm

## Options

- Impeller with reduced diameter.
- Motor with increased safety/flare proof motor.
- Double mechanical shaft seal.
- Product wetted surface finish mechanically polished to Ra 20  $\mu\text{m}$ .
- Passivated surface.
- Product wetted elastomers FPM or FEP to USP Class VI, 249.8°F Chapter 88, and Chapter 87.
- 3/4" drain connection.
- No drain.
- 0° outlet position.
- Hydrostatic testing with certificate.
- Surface finish measurement with certificate.

## Q-doc

### Standard documentation package:

- Declaration of compliance to EN 10204 type 3.1 (MTR).
- Declaration of compliance to the U.S. Food & Drug Administration CFR 21 (non-metallic parts).
- Declaration of compliance to the U.S. Pharmacopeia (Elastomers and polymers).
- TSE (Transmissible Spongiform Encephalopathy) / ADI (Animal Derivative Ingredient) declaration.
- Declaration of surface finish compliance.
- Declaration of passivation and electro polishing (if specified).
- 3.1 certification in accordance to EN10204.
- Pump performance test certificate.

### Optional documentation:

- Hydrostatic test certificate.
- Surface measurement report.

## Ordering

Please state the following when ordering:

- Pump size.
- Connections.
- Impeller diameter.
- Motor size.
- Voltage and frequency.
- Flow, pressure and temperature.
- Density and viscosity of the product.
- Options.

# Alfa Laval LKH Evap

## Centrifugal pumps

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### Introduction

The Alfa Laval LKH Evap Centrifugal Pump is a premium pump for use in hygienic applications. As a low-NPSHr, high-efficiency centrifugal pump, the LKH Evap is a tailored evaporator pump supported by strong and extensive documentation, including a comprehensive vacuum curve package. It features a special scraper impeller, ClearFlow, that solves the product buildup problem in high solids applications, which can prolong production time between cleaning.

Precision-engineered, the LKH Evap pump delivers greater energy efficiency than similar pumps. Its optimized design, premium motor, tight tolerances and advanced impeller design minimize recirculation and reduce energy consumption.

### Applications

The LKH Evap Centrifugal Pump is designed for hygienic applications across the dairy, food, beverage, brewery, alcohol, ethanol, starch and chemical industries. It is ideal for use in evaporation duties for applications, such as liquid concentration and powder processing as well as plant and equipment dewatering.

The LKH Evap pump is available in 10 sizes to handle capacities up to 280 m<sup>3</sup>/h and differential pressures up to 11 bar at 50 Hz.

### Benefits

- Energy efficient: superior efficiency resulting in reduced energy consumption and CO<sub>2</sub> footprint.
- Hygienic: designed according to the most stringent hygienic design standards and with verified and effective Cleaning-in-Place.
- Low NPSHr: reduced NPSHr enables optimized system designs.
- Maximized uptime and reduced maintenance costs: robust mechanical design and ease of maintenance with modular front-loading seals.

### Standard design

All media contacting steel components like pump casing, impeller, impeller nut and backplate are in W. 1.4404 (AISI 316L). A stainless steel shroud protects the motor and four adjustable stainless steel legs support the complete unit.



A compression coupling securely attaches the stub shaft to the motor shaft with precision alignment, and the semi-open impeller with a special vane design ensures efficient and gentle handling of the product as it moves through the pump.

As standard, the LKH Evap pump is equipped with a single mechanical shaft seal but is also available with a single flushed or a double mechanical shaft seal. The front-loading shaft seal, with the spring and washers mounted on the atmospheric side, makes maintenance fast, easy and inexpensive. It takes just a few minutes to replace the shaft seal. In addition, the balanced design minimizes the risk of seal opening during unforeseen pressure shock.

LKH Evap is available with the Clear Flow Impeller which is to be used in applications where there is a risk of building up a hard layer of product between impeller and backplate.

## TECHNICAL DATA

### Materials

Product wetted steel parts:	Acid-resistant steel AISI 316L and AISI 329
Other steel parts:	Stainless steel AISI 304.
Finish:	Polished $\leq 32Ra$ . and 3A approved.
Product wetted seals:	EPDM.
Optional:	NBR, FPM, FEP.
Single seal SSS/Flushed shaft seal FSS:	SiC/C or SiC/SiC.
Double seal DMSS:	SiC/C or SiC/SiC.

### Motor

Standard C-faced, foot mounted motor according to NEMA standard. 3500 RPM or 1750 RPM. efficiency, Class F. Note different frame sizes.  
LKH Evap-75 only low speed (1750 RPM).

### Voltage and frequency

3 phase, 60 HZ, 230/460V standard. Other voltages and frequencies available upon request.

### Connections for FSS and DMSS:

1/4 tube/Rp 1/8

## OPERATING DATA

### Max. inlet pressure

LKH Evap-10 to -60	145 PSI
LKH Evap-70 to -75	72.5 PSI

### Temperature

Temperature range	14°F to +284°F (EPDM)
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### Flushed shaft seal:

Water pressure inlet:	Max. 14.5 PSI
Water consumption:	4-8 usgph

### Double mechanical shaft seal:

LKH Evap-5 to -60:	Max. 72.5 PSI
LKH Evap-70 to -75:	Max. 43.5 PSI

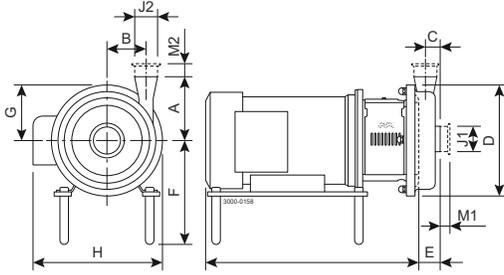
### Noise level

Noise level (at 3.3 ft.):	60 - 85 dB (A)
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### Water consumption:

Water consumption:	4 - 8 usgph
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## Dimensions



### Pump specific measures (inch)

Pump Model	LKHevap-1 0	LKHevap-1 5	LKHevap-2 0	LKHevap-25	LKHevap-35	LKHevap-40	LKHevap-45	LKHevap-50	LKHevap-60	LKHevap-70	LKHevap-75
A	5.591	6.535	7.087	7.598	7.598	8.346	8.346	8.071	10.276	10.000	10.197
B	3.425	2.598	3.465	4.173	4.685	4.961	4.961	4.646	4.016	5.787	6.929
C	0.906	1.693	1.063	1.260	0.906	1.102	1.102	1.378	2.441	0.984	1.890
D	9.724	9.724	9.961	11.929	11.929	12.953	12.953	12.953	12.953	16.063	18.425
E	2.008	3.425	2.480	2.717	2.126	2.520	2.520	3.031	4.173	2.992	3.622

### Motor specific measures (inch)

Motor HP	TC/TSC 143TC	145TC 2.0	182TC 3.0	184TC 5.0	213TC 7.5	215TC 10.0	254TC 15.0	256TC 20.0	284TSC 25.0	286TSC 30.0	324TSC 40.0	326TSC 50.0	364TSC 60.0	365TSC 75.0
F(max) <sup>1</sup>	8.110	8.110	9.094	9.094	9.843	9.843	10.866	10.866	11.614	11.614	12.598	12.598	13.622	13.622
G	3.504	3.543	4.488	4.488	5.394	5.394	6.772	6.772	7.677	7.677	8.425	8.504	9.331	9.331
H	9.094	9.094	11.102	11.102	13.071	13.071	17.795	17.795	20.945	20.945	23.346	23.346	26.811	26.811
I (LKHevap-10 to LKHevap-60)	14.843	15.118	17.992	18.150	21.024	21.024	26.063	27.835	28.583	30.039	33.071	34.646	34.449	-
I (LKHevap-70 to LKHevap-75)	-	-	-	-	21.811	21.811	26.575	28.346	29.094	30.551	33.583	35.157	34.961	38.346

<sup>1</sup> Possible to reduce dimension F by min. 2.32 inch for all pump models. For smaller models it will be possible to reduce dimension F even further.

### Motor overview

Pump Model	LKHevap-10	LKHevap-1 5	LKHevap-2 0	LKHevap-2 5	LKHevap-3 5	LKHevap-40 5	LKHevap-4 5	LKHevap-50	LKHevap-6 0	LKHevap-70	LKHevap-75
Motor range (TC/TSC)	143TC -254TC	145TC-254T C	145TC-256 TC	145TC-286T SC	182TC-286T SC	182TC-286T SC	182TC-286T SC	182TC-324T SC	213TC-326 TC	254TC-326T SC	254TC-326T SC



Note! Dimensional data are based on 2 pole. Sterling motors.

### Connections (inch)

Pump Model		LKHevap-10 LKHevap-20 LKHevap-35	LKHevap-15 LKHevap-45 LKHevap-50 LKHevap-70	LKHevap-15 LKHevap-45 LKHevap-50	LKHevap-25	LKHevap-40	LKHevap-60	LKHevap-60 LKHevap-75
Tri-Clamp	M1	1.13	1.13	1.13	1.13	1.13	1.13	1.13
	M2	1.13	1.13	1.13	1.13	1.13	1.13	1.13
J1 <sup>1</sup>		2.5"	4.00"	3.00"	3.00"	3.00"	3.00"	3.00"
J2 <sup>1</sup>		2.00"	3.00"	3.00"	2.00"	2.00"	4.00"	4.00"

<sup>1</sup> Other dimensions available on request.

### Options

- Impeller with reduced diameter.
- Motor for other voltage and/or frequency.
- Motor enclosures: washdown, TEFC, explosion proof, inverter duty and others upon request.
- Inducer (only LKH Evap 10 to -50).

- Flushed shaft seal.
- Double mechanical shaft seal.
- Counter connections.
- Clear Flow Impeller. Special designed impeller for applications where there is a risk of building up a hard layer of product between impeller and backplate.
- Surface roughness, product wetted parts:  $R_a \leq 32 \mu\text{m}$ .
- Product wetted seals of Nitrile (NBR), Fluorinated rubber (FPM) or FEP.
- Rotating seal ring of Silicon Carbide.

### Ordering

Please state the following when ordering:

- Pump size.
- Version, hygienic or industrial.
- Connections.
- Seal and Elastomer Type
- Impeller diameter.
- Motor size.
- Voltage and frequency.
- Flow, pressure and temperature.
- Density and viscosity of the product.
- Options.



**Note!** For further details, see also instruction manual.

# Alfa Laval SolidC

## Centrifugal pumps

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### Introduction

The Alfa Laval SolidC Centrifugal Pump is designed for basic transport of fluids in hygienic applications. It provides reliable, low-maintenance operation. With its hygienic design, cost-effective operation and quick, easy maintenance, the SolidC offers excellent value for money.

### Applications

Designed for Cleaning-in-Place (CIP), the Alfa Laval SolidC is ideal for basic duties across the dairy, food, beverage and personal care industries in which hygienic treatment is required. Typical applications are pumping of CIP solutions, utilities, cooling or heating water, and other simple transport duties.

The SolidC pump is available in four sizes to handle capacities up to 75 m<sup>3</sup>/hour and differential pressures up to 8 bar at 50Hz.

### Benefits

- Hygienic: designed according to international hygienic design standards and with verified effective CIP cleanability.
- Cost-effective operation: consistent performance ensured.
- Quick and easy maintenance: wear parts changed in just a few minutes.

### Standard design

All media contacting steel components like pump casing, impeller, impeller nut and backplate are in W. 1.4404 (AISI 316L). A stainless steel shroud protects the motor and four adjustable stainless steel legs support the complete unit.

The semi-open impeller with a special vane design and balance holes enhance circulation around the shaft seal and reduce axial forces. This maximizes cleanability while minimizing wear on the shaft seal and motor bearings.

As standard, the SolidC pump is equipped with a single mechanical shaft seal, but is also available with a single flushed mechanical shaft seal. The secondary seal of the flushed seal is a long-lasting lip seal. The front-loading shaft seal, with the spring and washers mounted on the



atmospheric side, makes maintenance fast, easy and inexpensive. It takes just a few minutes to replace the shaft seal. In addition, the balanced design minimizes the risk of seal opening during unforeseen pressure shock.

## TECHNICAL DATA

### Materials

Product wetted steel parts:	AISI 316L and AISI 329L
Other steel parts:	Stainless steel AISI 304
Inside surface finish:	3A polish Ra 32 µin
Product wetted elastomers:	EPDM.
Rotary seal face:	Carbon
Stationary seal face:	Silicon Carbide

### Motor

Standard C-faced, foot mounted motor according to NEMA standard. 3500 RPM or 1750 RPM. Premium efficiency, Class F. Note frame size per horsepower.

### Motor sizes

60 Hz:	1, 1½, 2, 3, 5, 7.5, 10, 15, 20, 25, 30 Hp.
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## OPERATING DATA

### Max inlet pressure

SolidC 1 - 4:	58 PSI (4 bar)
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### Temperature

Temperature range:	14°F to +248°F (EPDM)
Flush media:	Max 158°F

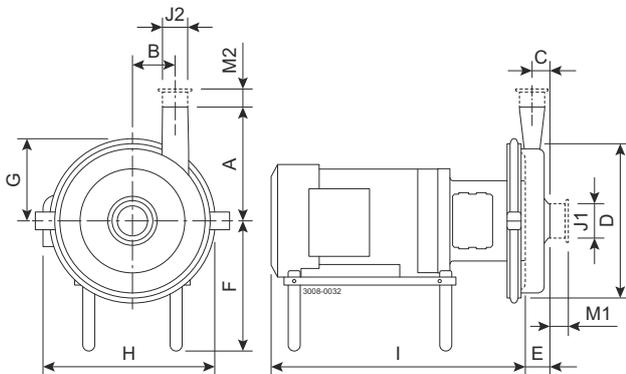
### Flushed shaft seal

Water pressure inlet:	14.5 PSI
Water consumption:	4-8 usgph

### Connections for flushed shaft seal

SolidC 1 - 4:	1/8" G
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## Dimensions (inch)



## Pump specific measures (inch)

Pump Model	SolidC-1	SolidC-2	SolidC-3	SolidC-4
A	7.087	7.874	8.268	9.055
B	2.638	3.701	4.764	4.724
C	1.102	1.378	1.220	1.063
D	9.370	8.937	12.244	13.110
E	1.575	1.850	1.732	1.732

## Motor specific measures (inch)

Motor TC/TSC	143TC	145TC	182TC	184TC	213TC	215TC	254TC	256TC	284TSC	286TSC
Motor HP	1.5	2.0	3.0	5.0	7.5	10.0	15.0	20.0	25.0	295
F(max) <sup>1</sup>	8.110	8.110	9.094	9.094	9.843	9.843	10.866	10.866	11.614	11.614
G	3.504	3.504	4.370	4.488	5.394	5.394	6.772	6.772	7.677	7.677
H	9.094	9.094	11.102	11.102	13.071	13.071	452725.400	17.795	20.945	20.945
I	15.669	16.220	18.543	18.701	22.480	22.480	26.417	28.189	29.055	30.512

<sup>1</sup> Possible to reduce dimension F by min. 0.59 inch for all pump models. For smaller models it will be possible to reduce dimension F even further.

## Motor overview

Pump Model	SolidC-1	SolidC-2	SolidC-3	SolidC-4
Motor range (TC/TSC)	143TC-215TC	182TC-256TC	184TC-286TSC	215TC-286TSC



**Note!** Dimensional data are based on 2 pole, Sterling motors.

## Connections (inch)

Pump Model		SolidC-1	SolidC-2	SolidC-3	SolidC-4
Tri-Clamp	M1	0.50	0.50	0.50	1.13
	M2	0.50	0.50	0.50	0.50
J1 <sup>1</sup>		2.00"	2.50"	3.00"	3.00"
J2 <sup>1</sup>		1.50"	1.50"	1.50"	2.00"

<sup>1</sup> Other dimensions available on request.

## Options

- Impeller with reduced diameter.
- Flushed shaft seal.
- Rotating seal face of Silicon Carbide.
- Product wetted elastomers NBR or FPM.
- Product wetted surface finish mechanically polished to  $Ra \leq 0.8 \mu\text{m}$ .
- Surface finish measurement with certificate ( $Ra \leq 0.8 \mu\text{m}$ ).
- Motor for other voltage and/or frequency.
- Half speed motor.

## Ordering

Please state the following when ordering:

- Pump size.
- Connections. (Tri-Clamp®)
- Impeller diameter.
- Motor size.
- Seal and Elastomer Type
- Voltage and frequency.
- Flow, pressure and temperature.
- Density and viscosity of the product.
- Options.



**Note!** For further details, see also ESE00797.

# Alfa Laval LKH Multi—Stage

## Performance curves

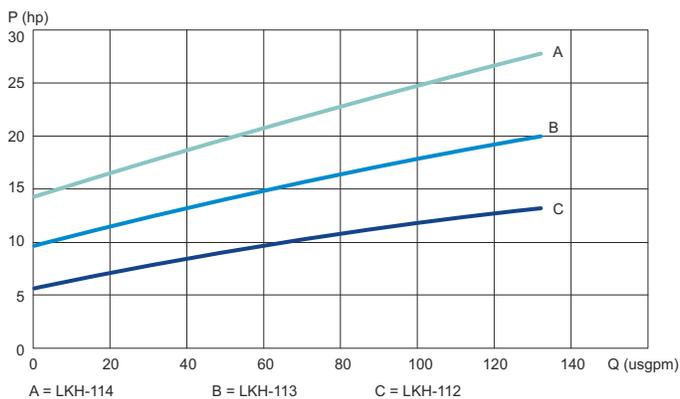
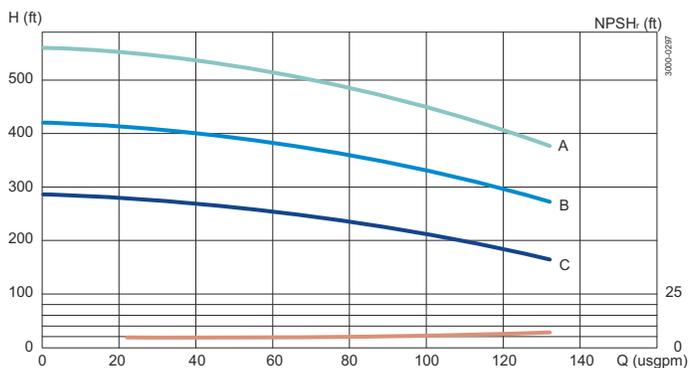
### LKH-110 Multi-Stage, 60 Hz

Motor:	<b>3600 rpm. synchr.</b>
Tolerance:	±5%.
Impeller, LKH-112:	2 x dia.: 6.42"
Impeller, LKH-113:	3 x dia.: 6.42"
Impeller, LKH-114:	4 x dia.: 6.42"
Pump inlet, Dia.:	2", DN 50
Pump outlet, Dia.:	1½", DN 40
Performance data refer to water at 68 °F	



**Note!** The curves refer to max. motor: LKH-112, 16.8 Hp 3515 rpm. asynchr, 60 Hz. LKH-113, 22.8 Hp 3505 rpm. asynchr, 60 Hz. LKH-114, 28.2 Hp 3510 rpm. asynchr, 60 Hz. For smaller motors, reduce head (H) by: 3%.

DO NOT FORGET THE SAFETY FACTOR



## LKH-120/P Multi-Stage, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%.
Impeller, LKH-122/P:	8.11"
Impeller, LKH-123/P:	8.11"
Impeller, LKH-124/P:	8.11"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2½", DN 65
Performance data refer to water at 68 °F	

**Note!** The curves refer to max. motor:

LKH-122/P, 50 Hp, 3510 rpm. asynchr., 60 Hz

LKH-123/P, 75 Hp, 3540 rpm. asynchr., 60 Hz

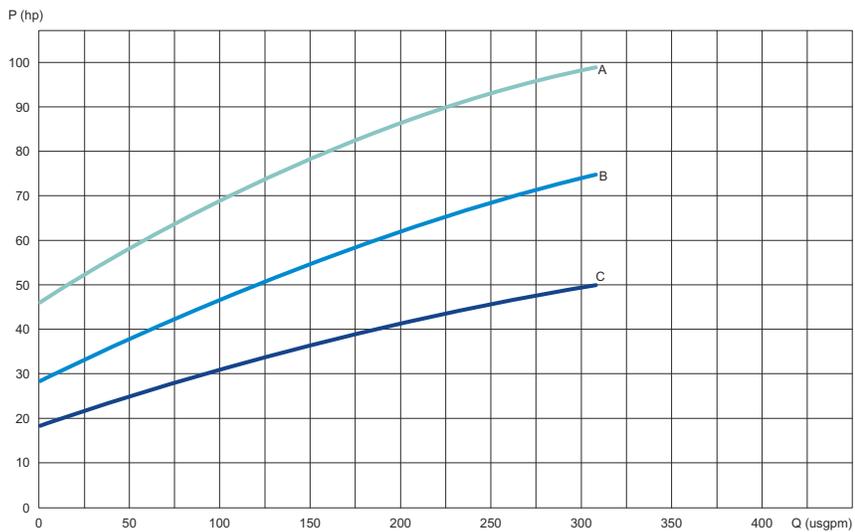
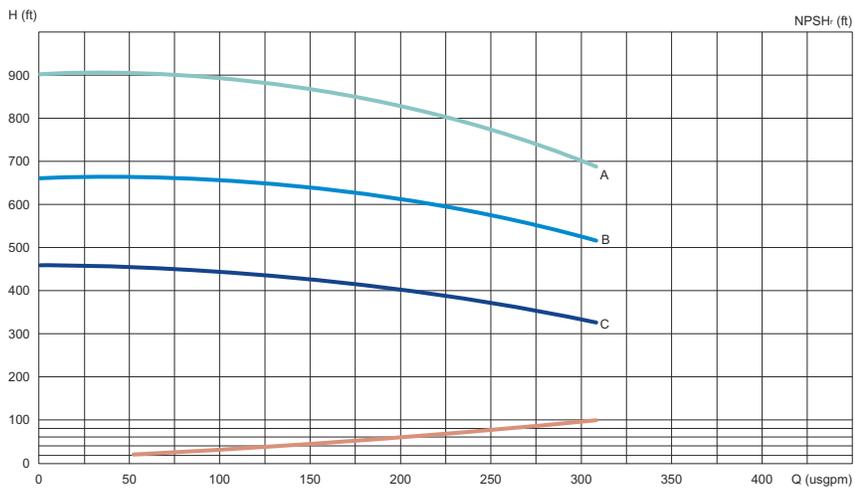
LKH-124/P, 100 Hp 3570 rpm. asynchr., 60 Hz

For smaller motors, reduce head (H) by 3%

For inlet pressure > 10 bar, reduce head (H) by 5%



DO NOT FORGET THE SAFETY FACTOR



A = LKH-124/P  
 B = LKH-123/P  
 C = LKH-122/P

# Alfa Laval LKHPF

## Performance curves

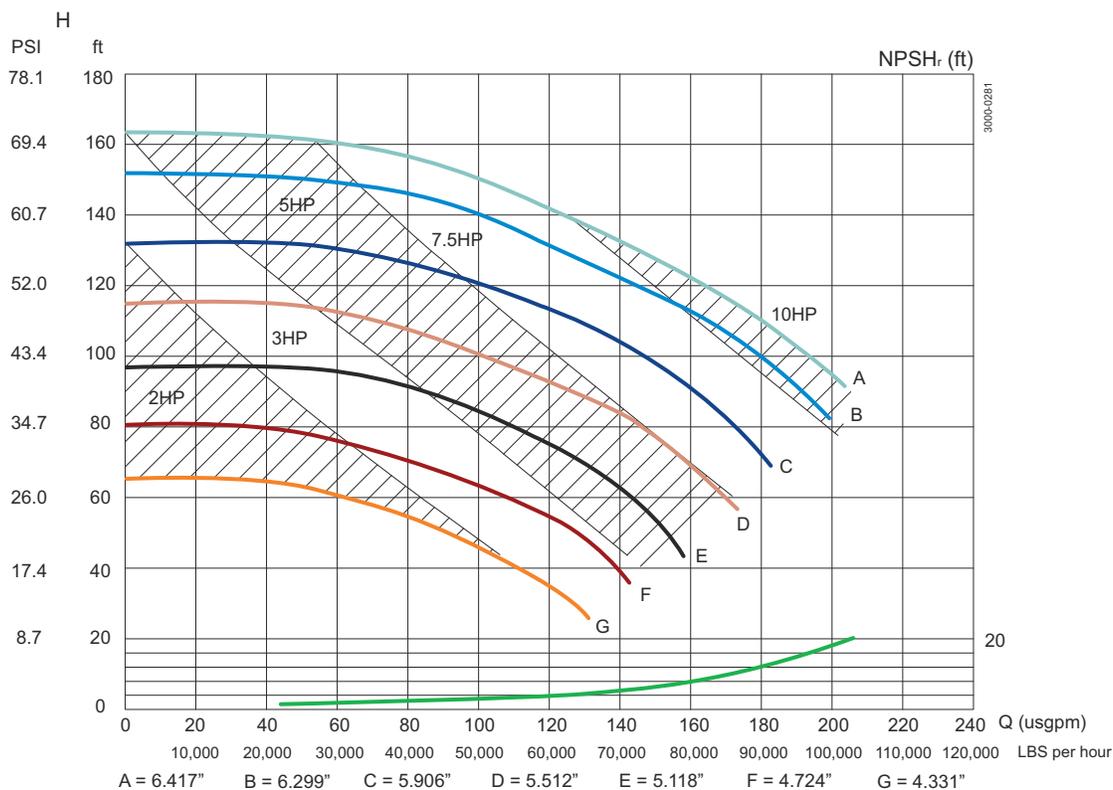
### LKHPF-10, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	6.417"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 11.5 Hp, 3500 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



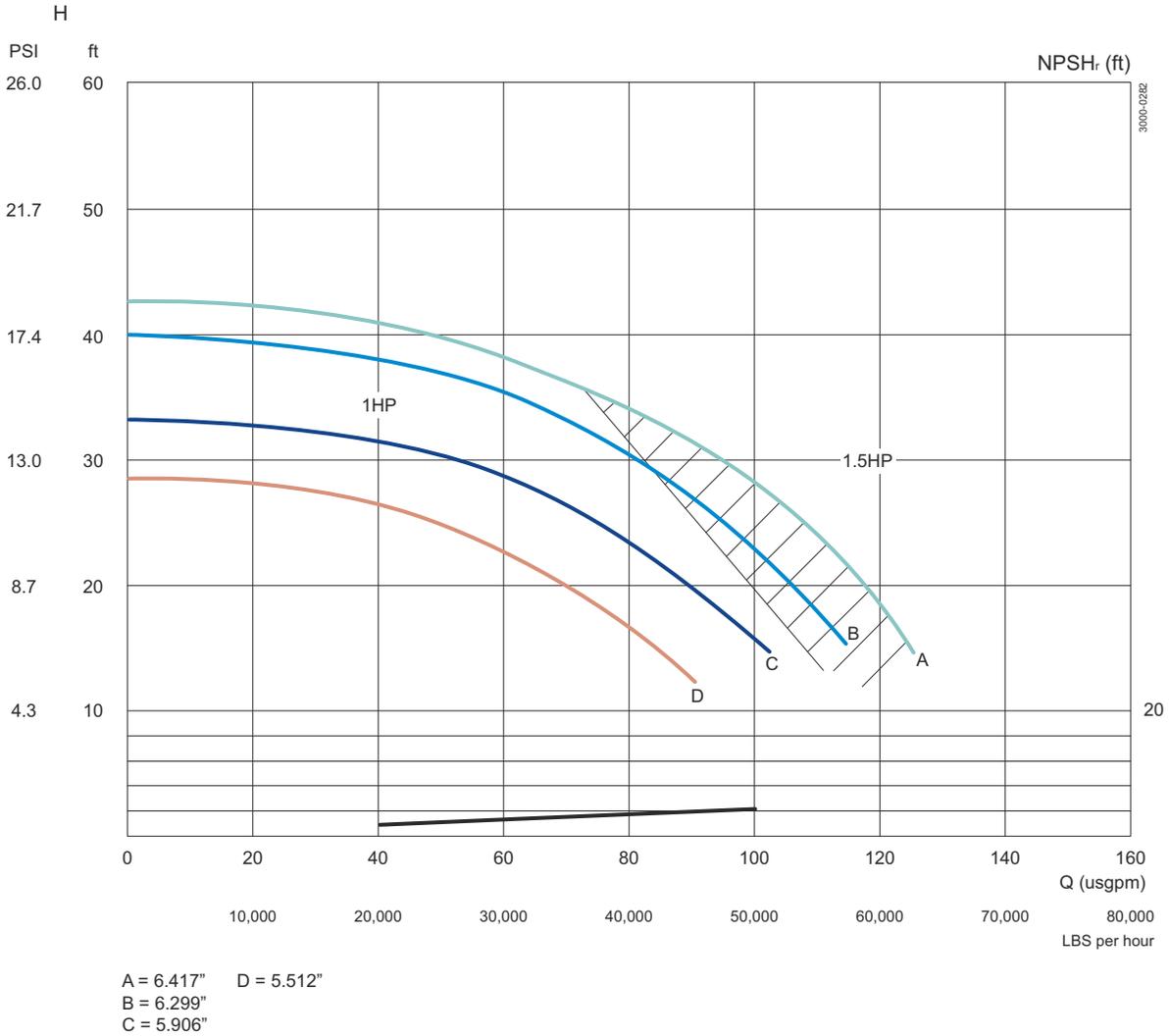
## LKHPF-10, 60Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	6.417"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 2.4 Hp, 1750 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



## LKHPF-20, 60 Hz

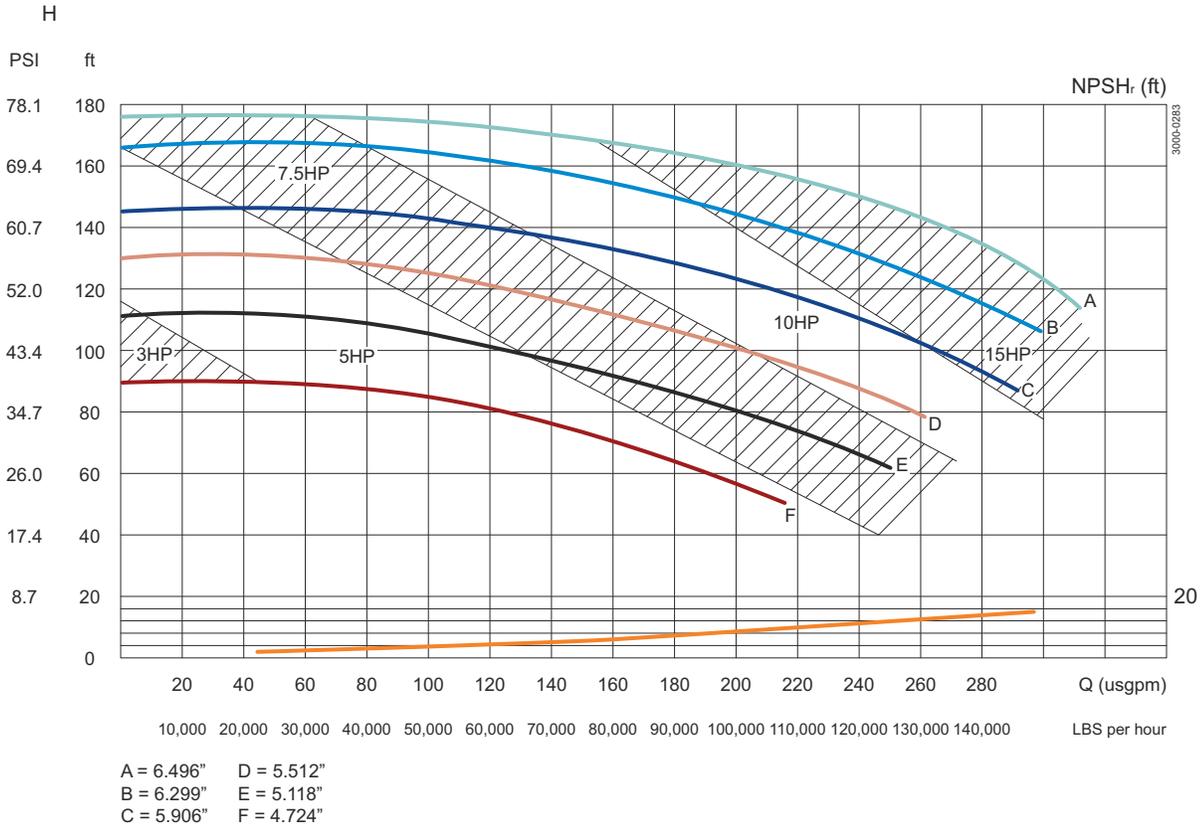
Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	6.496"
Impeller, Min. dia.:	4.724"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50

Performance data refer to water at 68 °F



**Note!** The curves refer to motor: 16.8 Hp, 3500 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



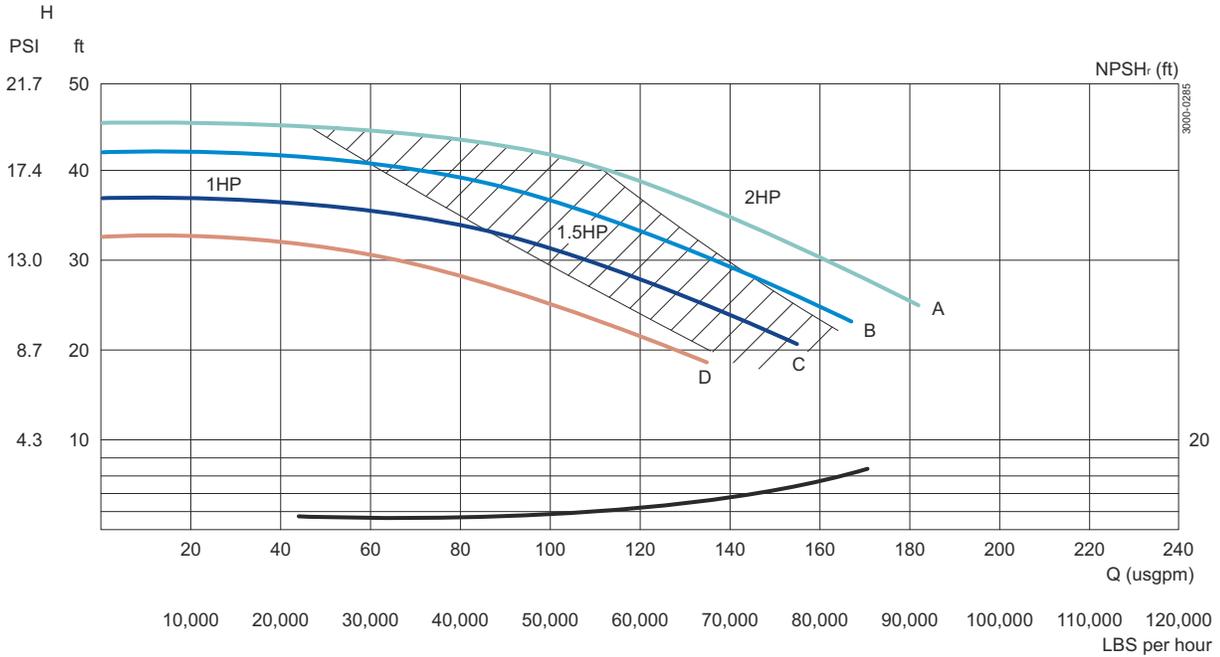
## LKHPF-20, 60 Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	6.496"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 2.4 Hp, 1750 rpm. asynchron., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



A = 6.496"    D = 5.512"  
 B = 6.299"  
 C = 5.906"

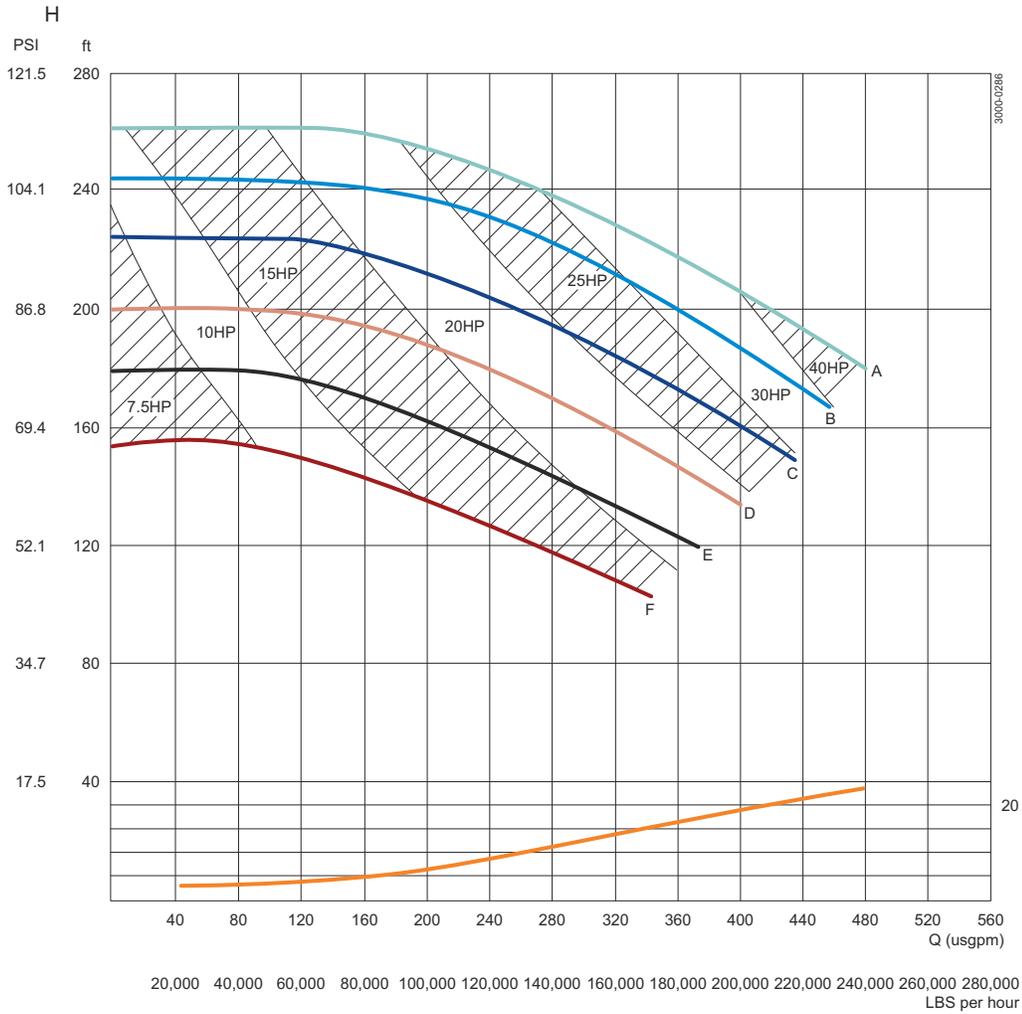
## LKHPF-25, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	8.070"
Impeller, Min. dia.:	6.299"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2½", DN 65
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 33.5 Hp, 3545 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with:  
 - 3% for 16.8-28.2 Hp.  
 - 5% for 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



A = 8.07"    D = 7.09"  
 B = 7.87"    E = 6.69"  
 C = 7.48"    F = 6.30"

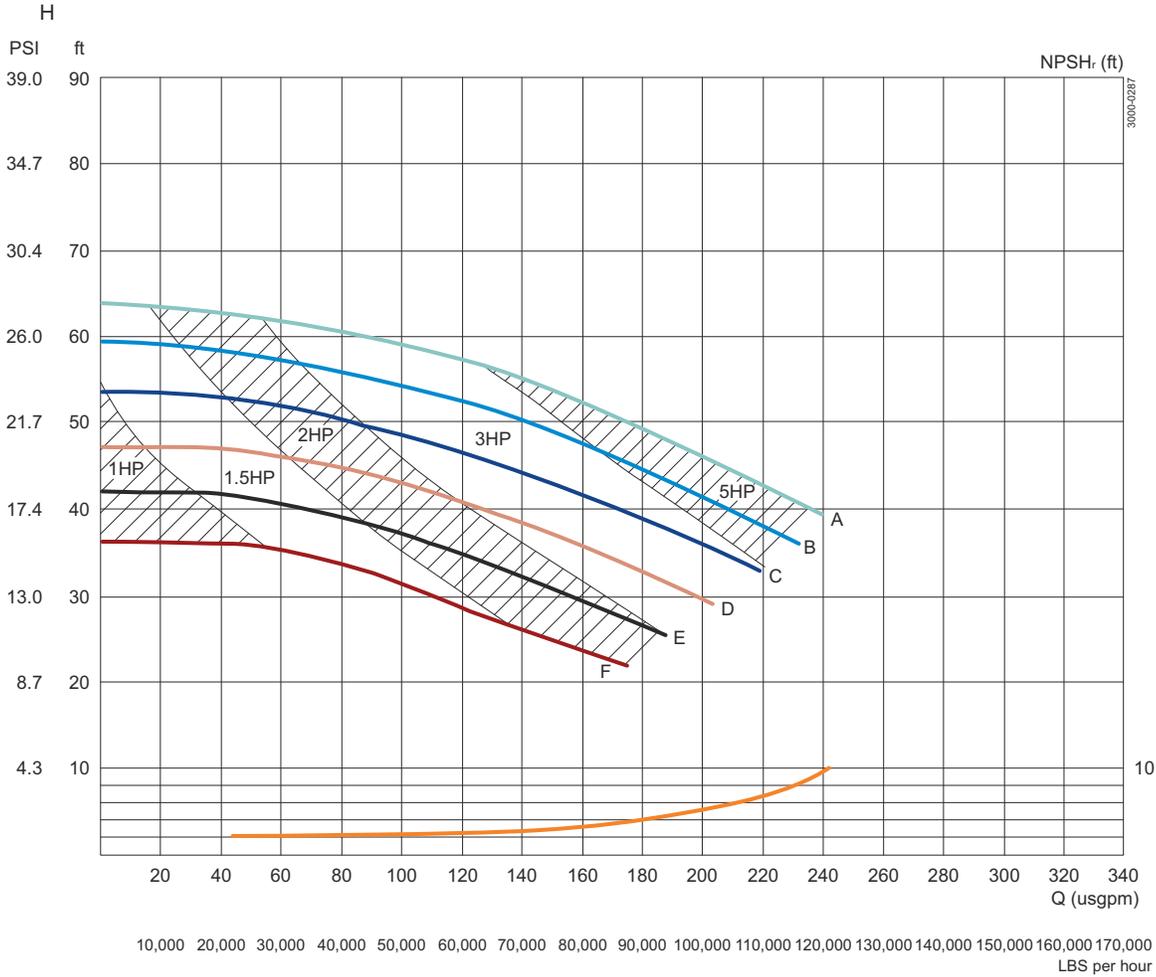
## LKHPF-25, 60 Hz

Motor:	1800 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	8.070"
Impeller, Min. dia.:	6.299"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2½", DN 65
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 4.7 Hp (3.5 kW), 1720 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%

DO NOT FORGET THE SAFETY FACTOR



A = 8.070"    D = 7.087"  
 B = 7.874"    E = 6.693"  
 C = 7.480"    F = 6.299"

## LKHPF-35, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	8.661"
Impeller, Min. dia.:	6.69"
Pump inlet, dia.:	2.5", DN 65
Pump outlet, dia.:	2", DN 50

Performance data refer to water at 68 °F



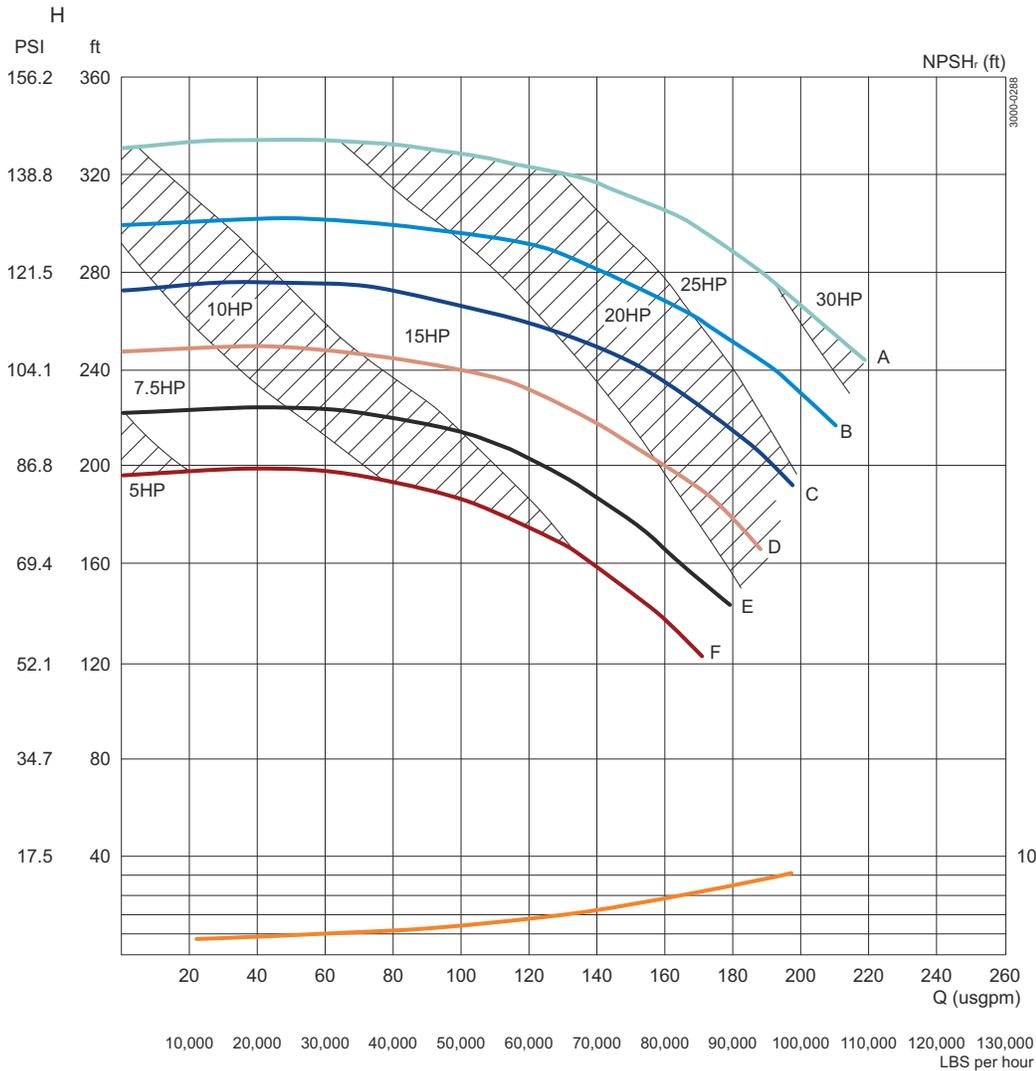
**Note!** The curves refer to motor: 28.2 Hp, 3535 rpm. asynchr., 60 Hz.

For smaller motors, reduce head (H) with:

- 3% 16.8-22.8 Hp.

- 3% 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



A = 8.661"    D = 7.480"  
 B = 8.268"    E = 7.087"  
 C = 7.874"    F = 6.693"

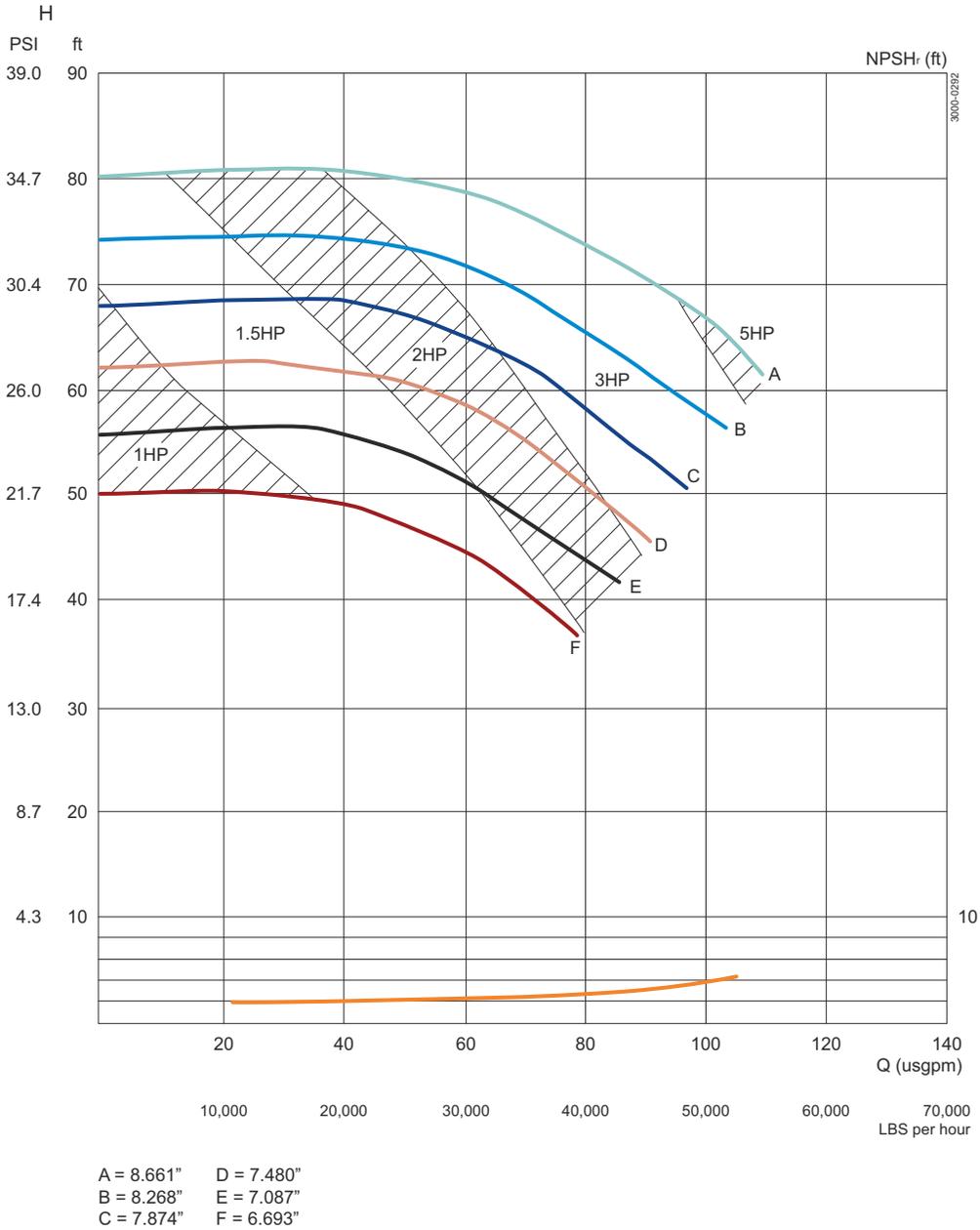
## LKHPF-35, 60 Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.661"
Impeller, Min. dia.:	6.69"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 3.4 Hp, 1720 rpm. asynchron., 60 Hz. For smaller motors, reduce head (H) with: 3%

DO NOT FORGET THE SAFETY FACTOR



## LKHPF-40, 60 Hz

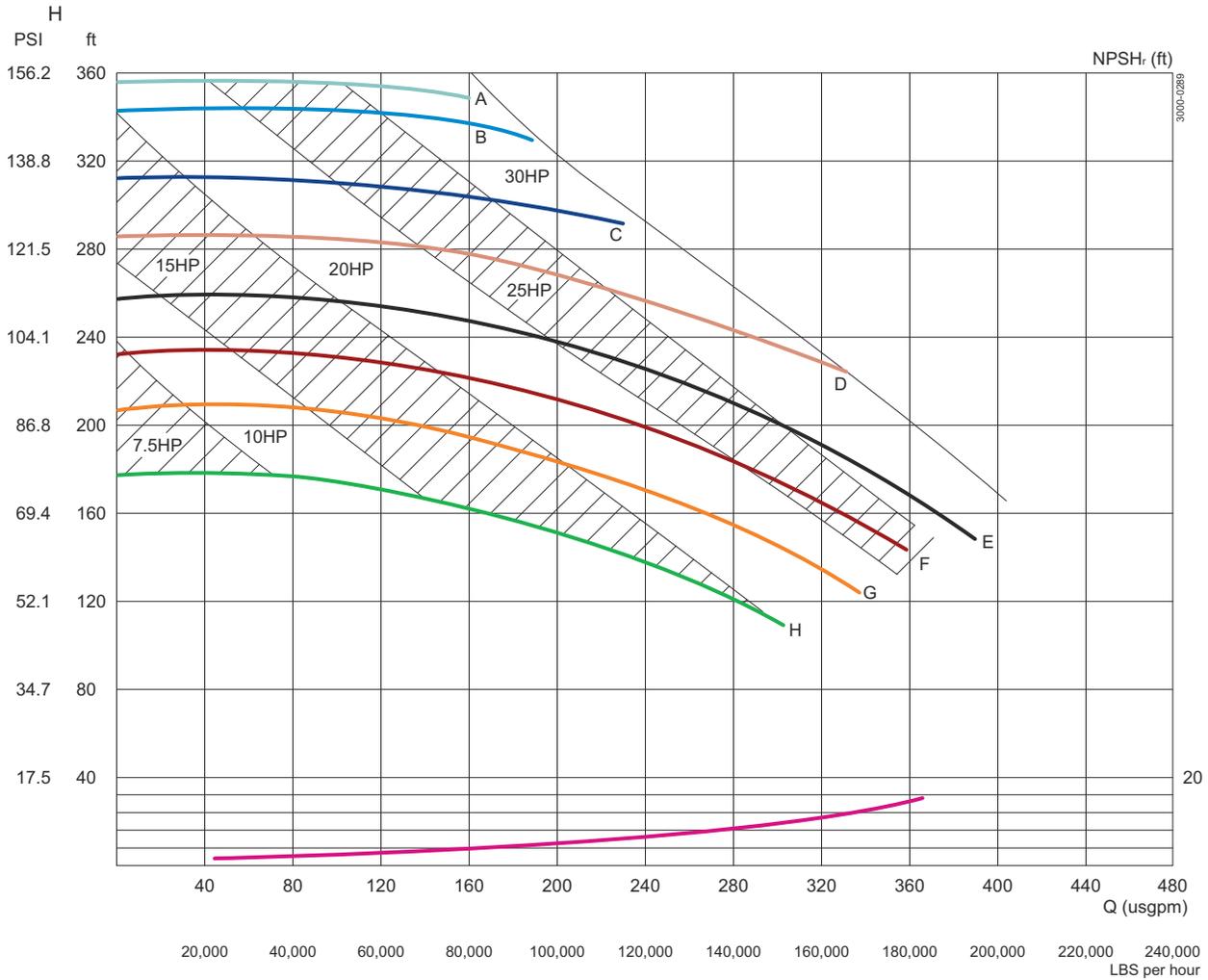
Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	9.252"
Impeller, Min. dia.:	6.693"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2", DN 65

Performance data refer to water at 68 °F



**Note!** The curves refer to motor: 33.5 Hp, 2940 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with:  
 - 3% for 16.8-28.2 Hp.  
 - 5% for 11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



A = 9.252"    D = 8.268"    G = 7.087"  
 B = 9.055"    E = 7.874"    H = 6.693"  
 C = 8.661"    F = 7.480"

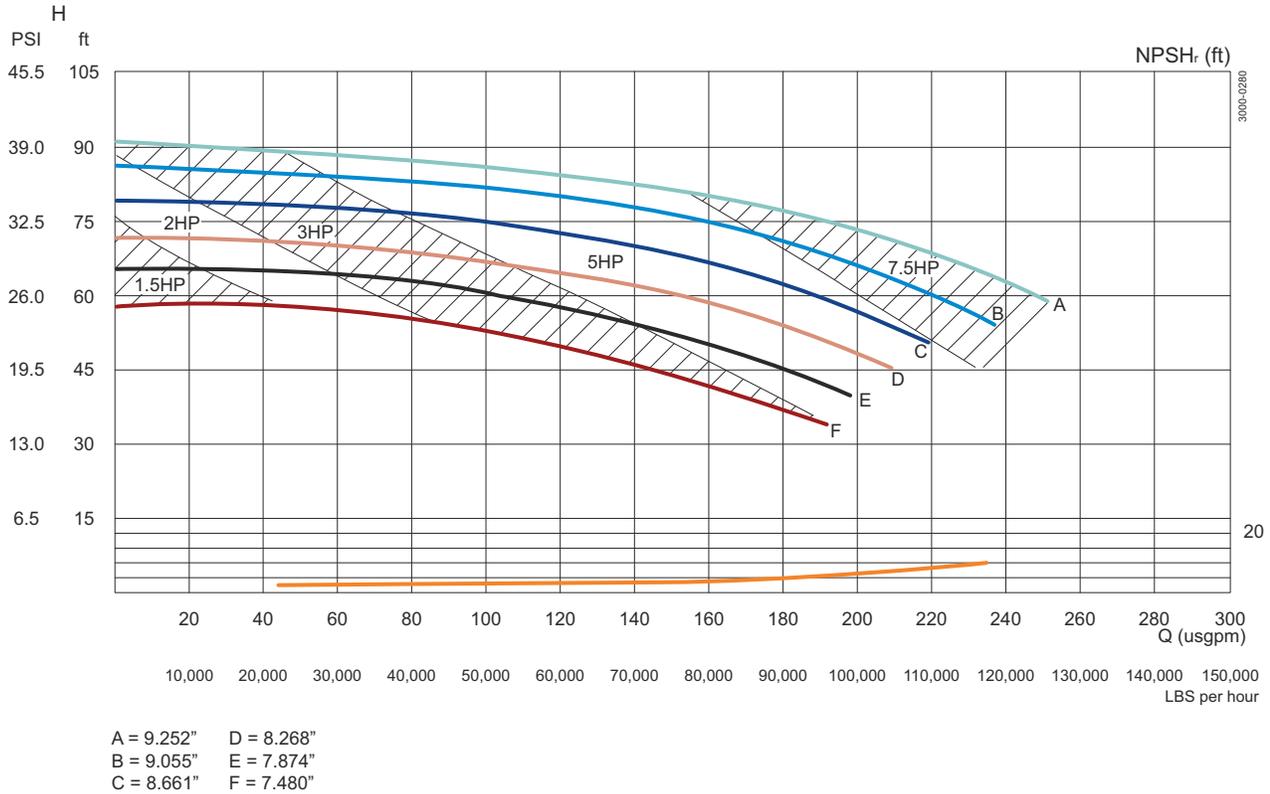
## LKHPF-40, 60 Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	9.252"
Impeller, Min. dia.:	7.480"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2", DN 65
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 8.5 Hp, 1750 rpm. asynchron., 60 Hz. For smaller motors, reduce head (H) with 5%

DO NOT FORGET THE SAFETY FACTOR



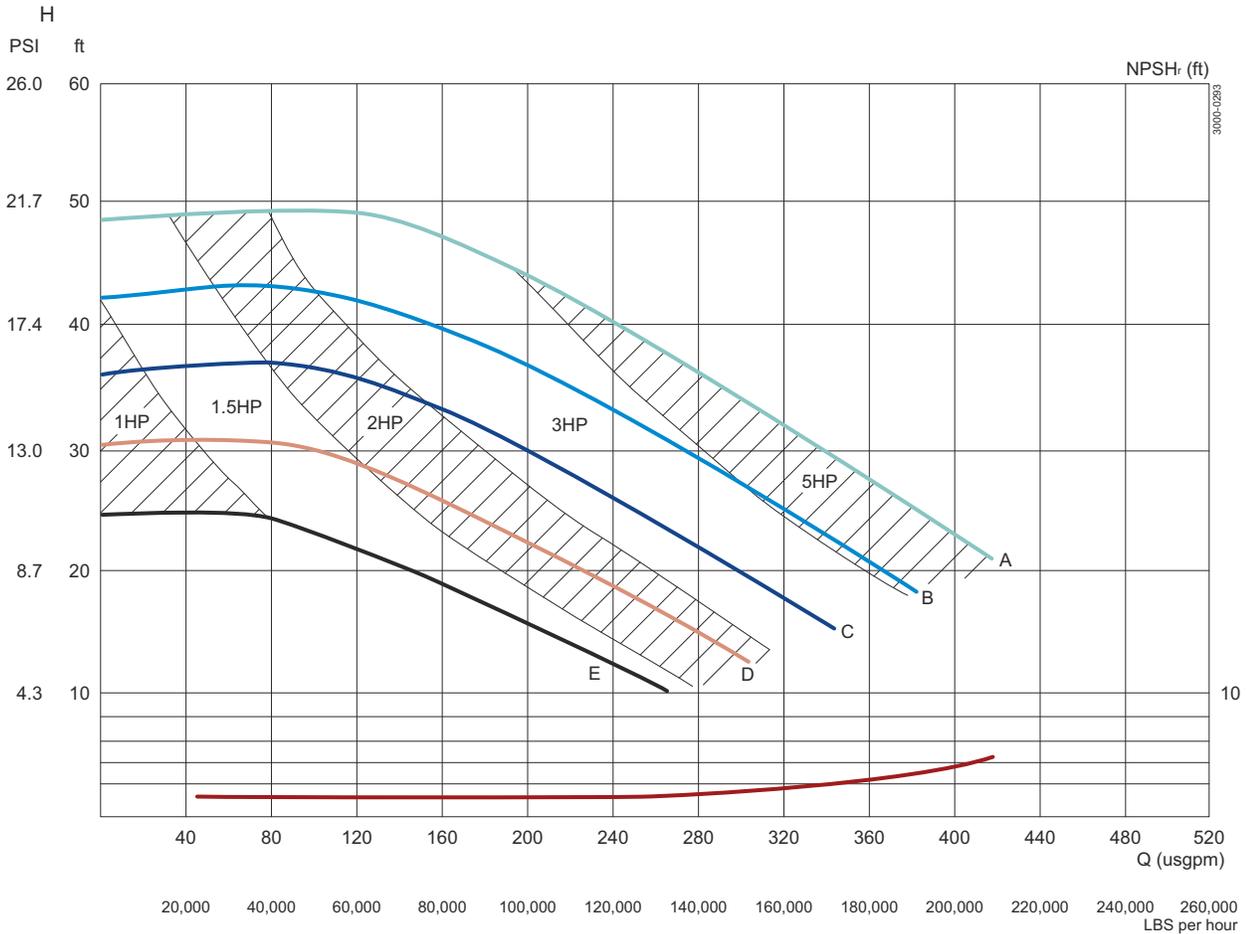
## LKHPF-45, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	7.008"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 33.5 Hp, 3545 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with:  
 - 3% for 16.8-28.2 Hp.  
 - 5% for 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



A = 7.008"    D = 5.906"  
 B = 6.693"    E = 5.512"  
 C = 6.299"

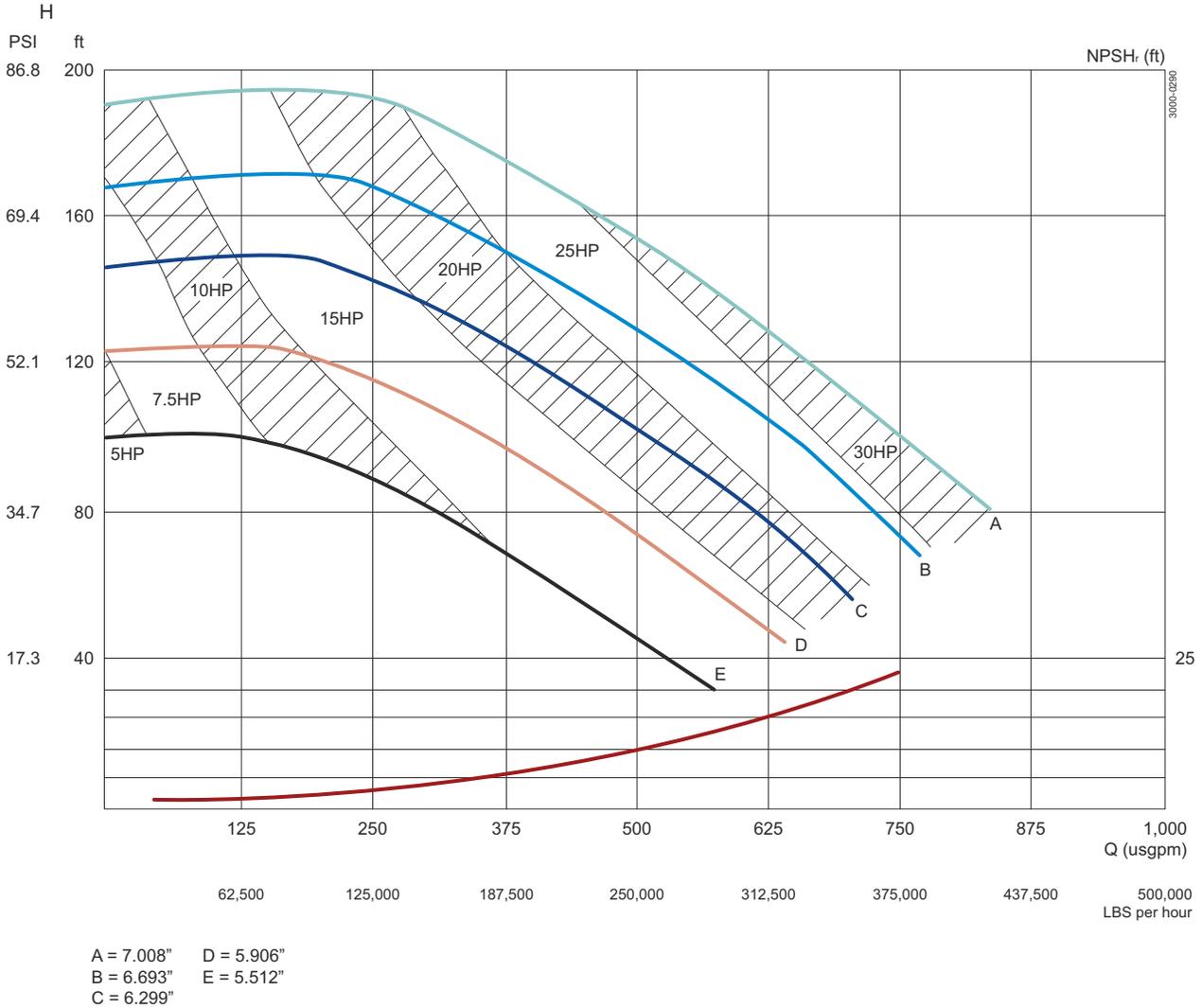
## LKHPF-45, 60Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	7.008"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 4.7 Hp, 1720 rpm. asynchr., 60 Hz.  
For smaller motors.

DO NOT FORGET THE SAFETY FACTOR



## LKHPF-50, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.070"
Impeller, Min. dia.:	5.906"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



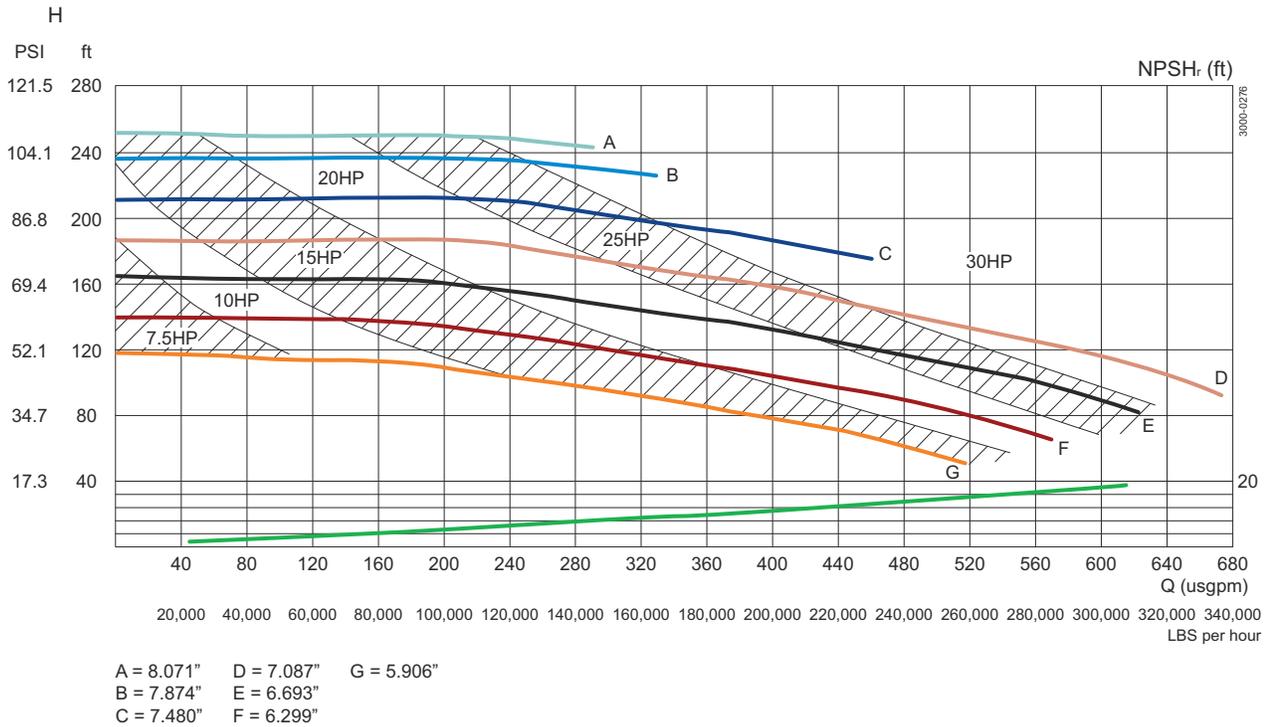
**Note!** The curves refer to motor: 33.5 Hp, 3500 rpm. asynchron., 60 Hz.

For smaller motors, reduce head (H) with:

- 3% for 16.8-28.2 Hp.

- 5% for 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



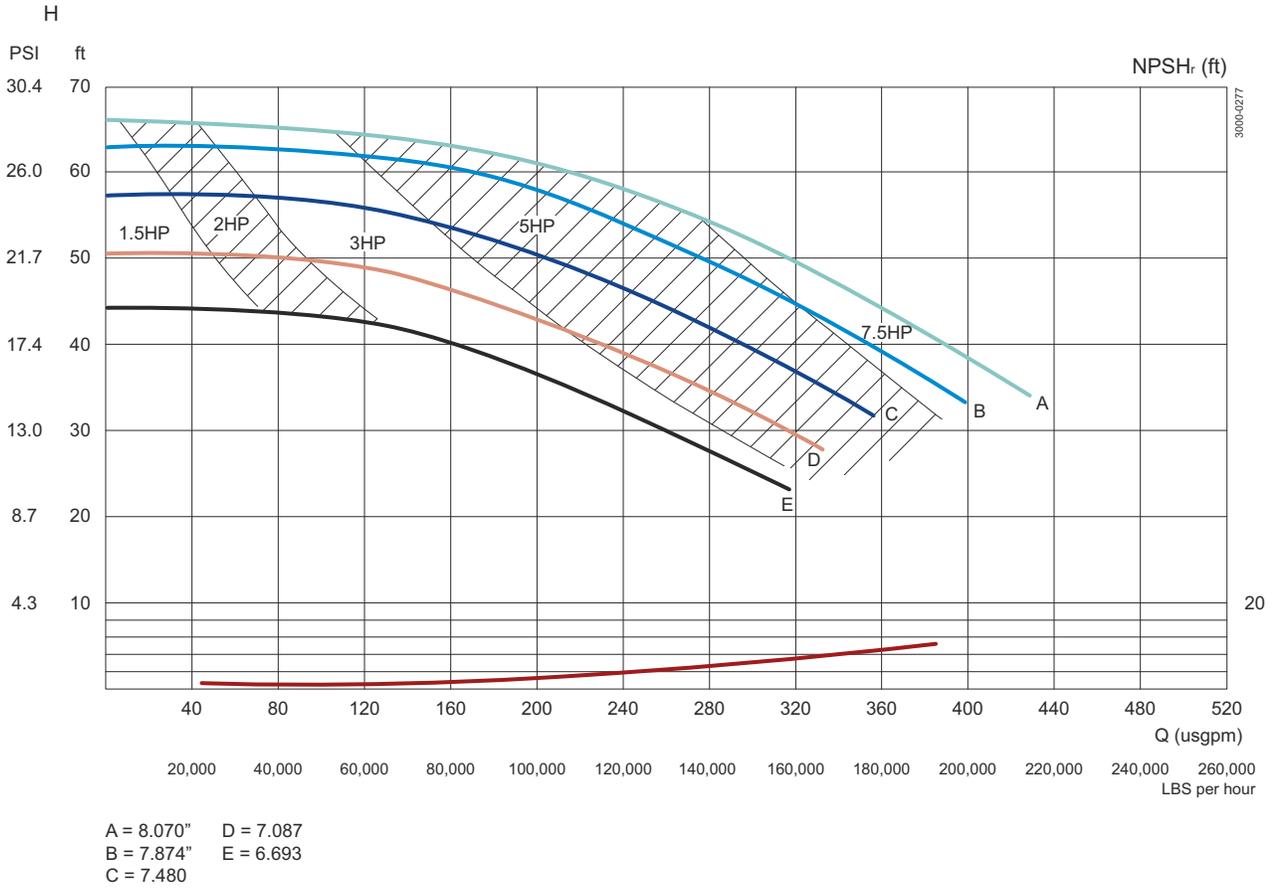
# LKHPF-50, 60Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.070"
Impeller, Min. dia.:	6.693"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



The curves refer to motor: 6.0 Hp, 1750 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with 5%

DO NOT FORGET THE SAFETY FACTOR



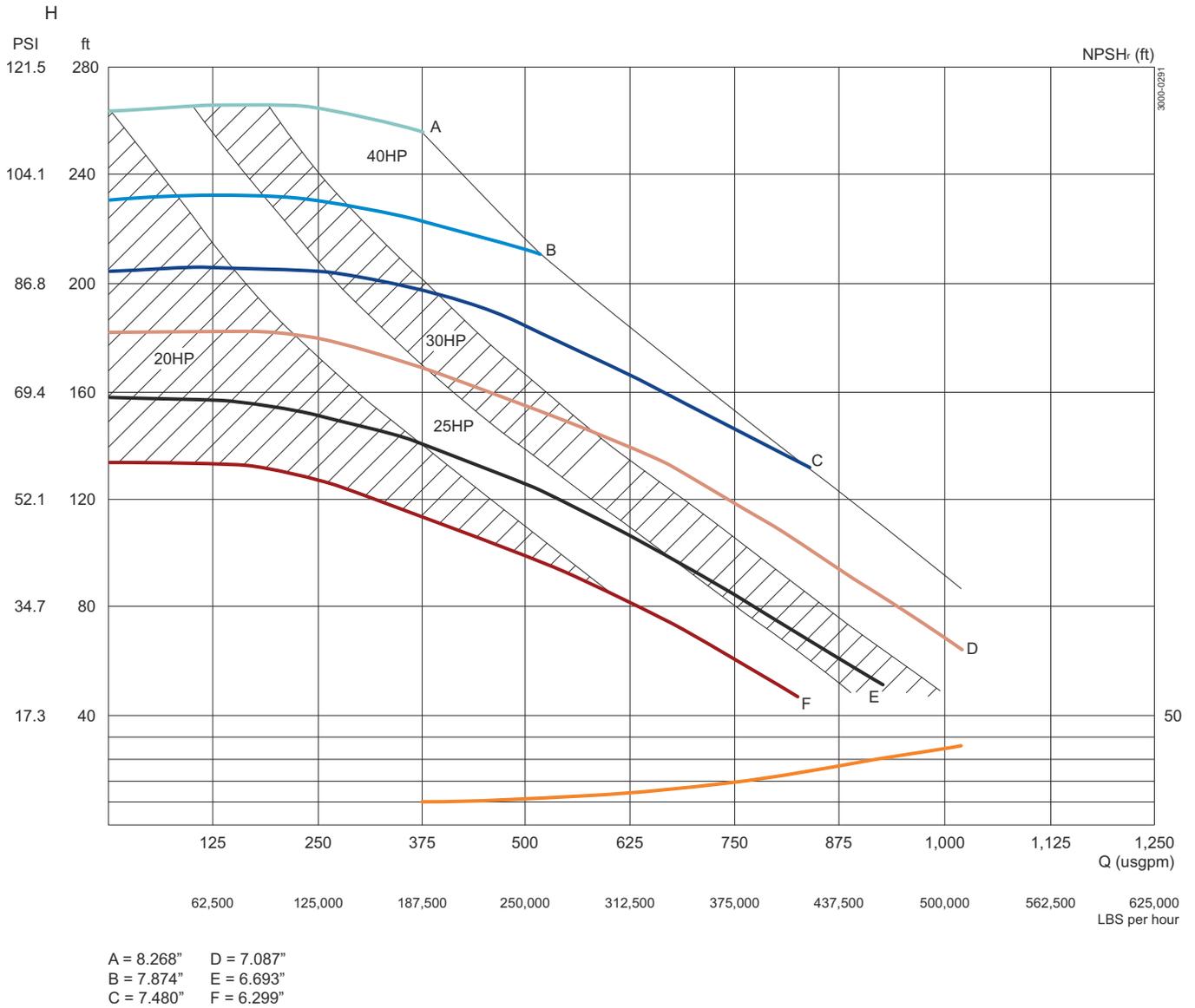
## LKHPF-60, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.268"
Impeller, Min. dia.:	6.299"
Pump inlet, dia.:	4", DN 100 6", DN 150
Pump outlet, dia.:	4" mm, DN 100
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 46.9 Hp, 3500 rpm. asynchron., 60 Hz.  
 For smaller motors, reduce head (H) with:  
 3% for 16.8-28.2 Hp.  
 6% for 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



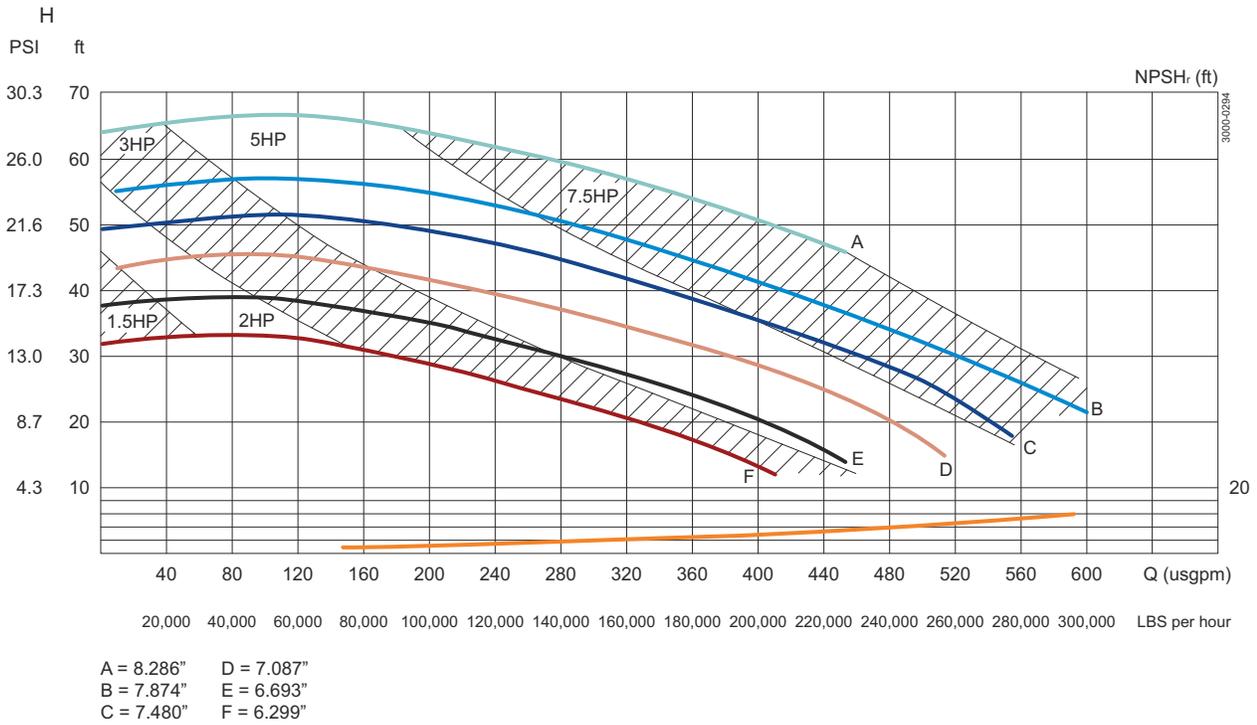
## LKHPF-60, 60Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.268"
Impeller, Min. dia.:	6.299"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	6", DN 150
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 8.5 Hp, 1750 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with 5%.

DO NOT FORGET THE SAFETY FACTOR



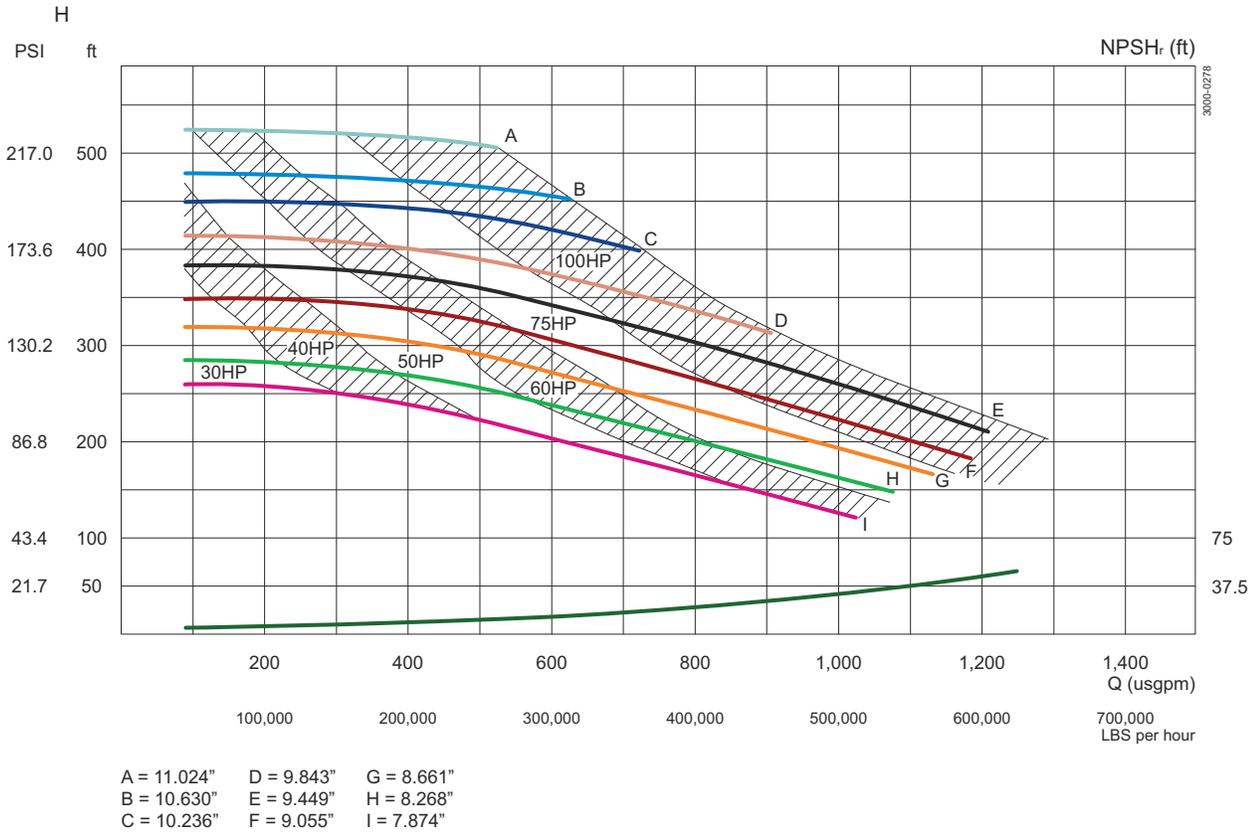
## LKHPF-70, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	11.024"
Impeller, Min. dia.:	7.874"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 115.3 Hp, 3565 rpm. asynchr., 60 Hz.  
For smaller motors, reduce head (H) with: -3%.

DO NOT FORGET THE SAFETY FACTOR



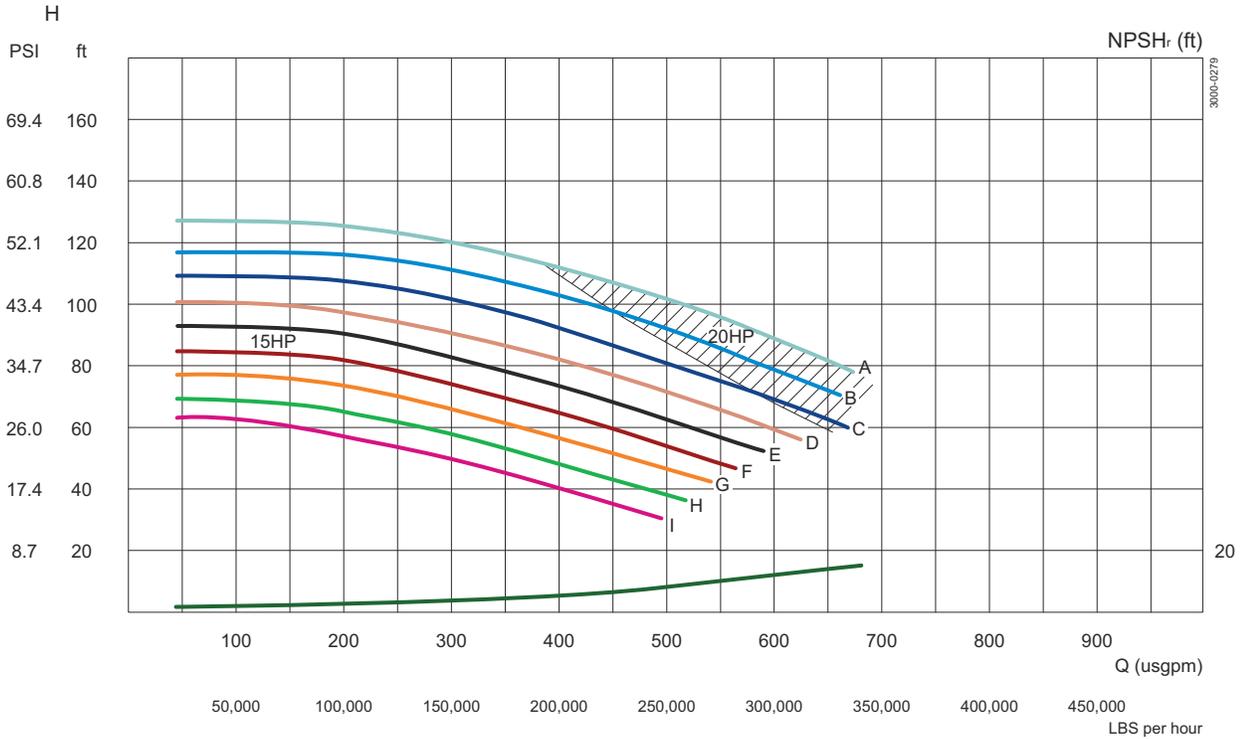
## LKHPF-70, 60 Hz

Motor:	1800 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	11.024"
Impeller, Min. dia.:	7.874"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



**Note!** The curves refer to max. motor: 22.8 Hp, 1750 rpm. asynchr., 60 Hz.

DO NOT FORGET THE SAFETY FACTOR



A = 11.024"	D = 9.843"	G = 8.661"
B = 10.630"	E = 9.449"	H = 8.268"
C = 10.236"	F = 9.055"	I = 7.874"

# Alfa Laval LKH UltraPure

## Performance curves

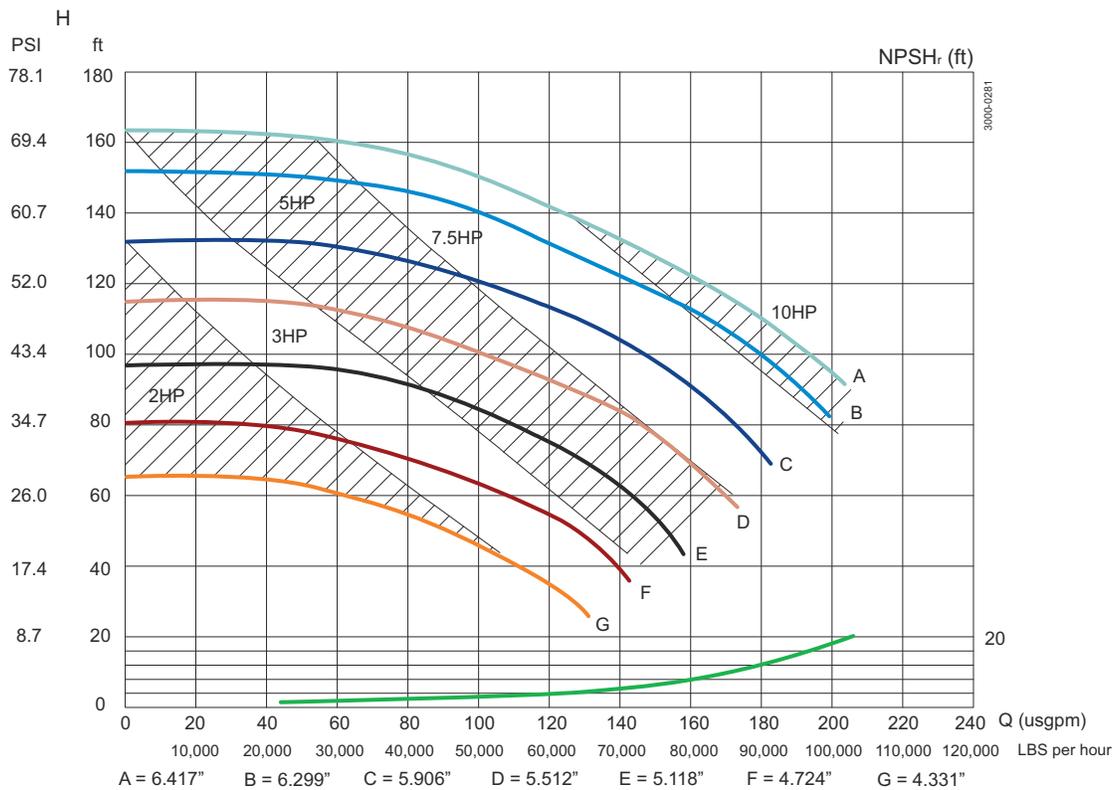
### LKHUP-10, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	6.417"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 11.5 Hp, 3500 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



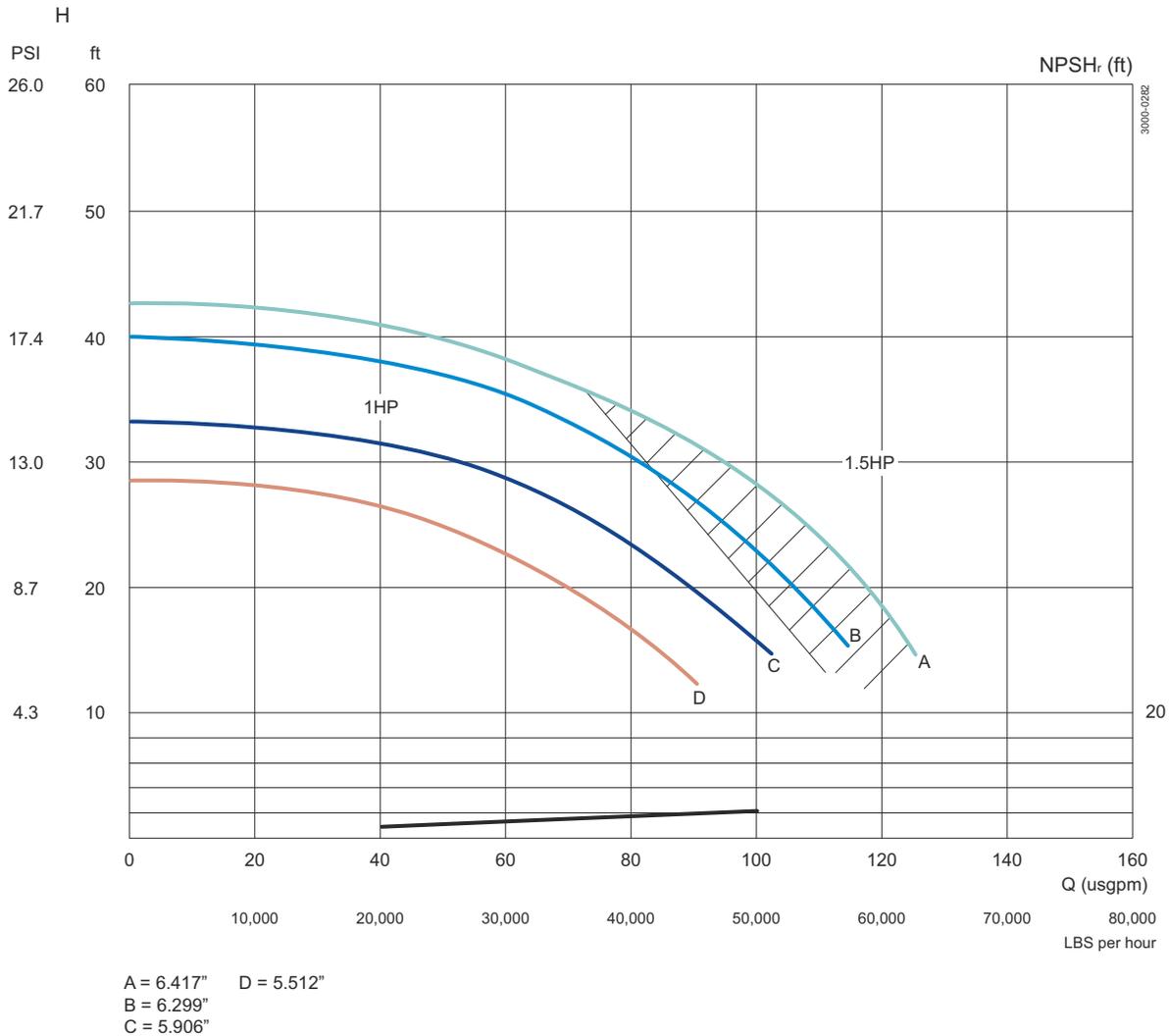
## LKHUP-10, 60Hz

Motor:	1800 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	6.417"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 2.4 Hp, 1750 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



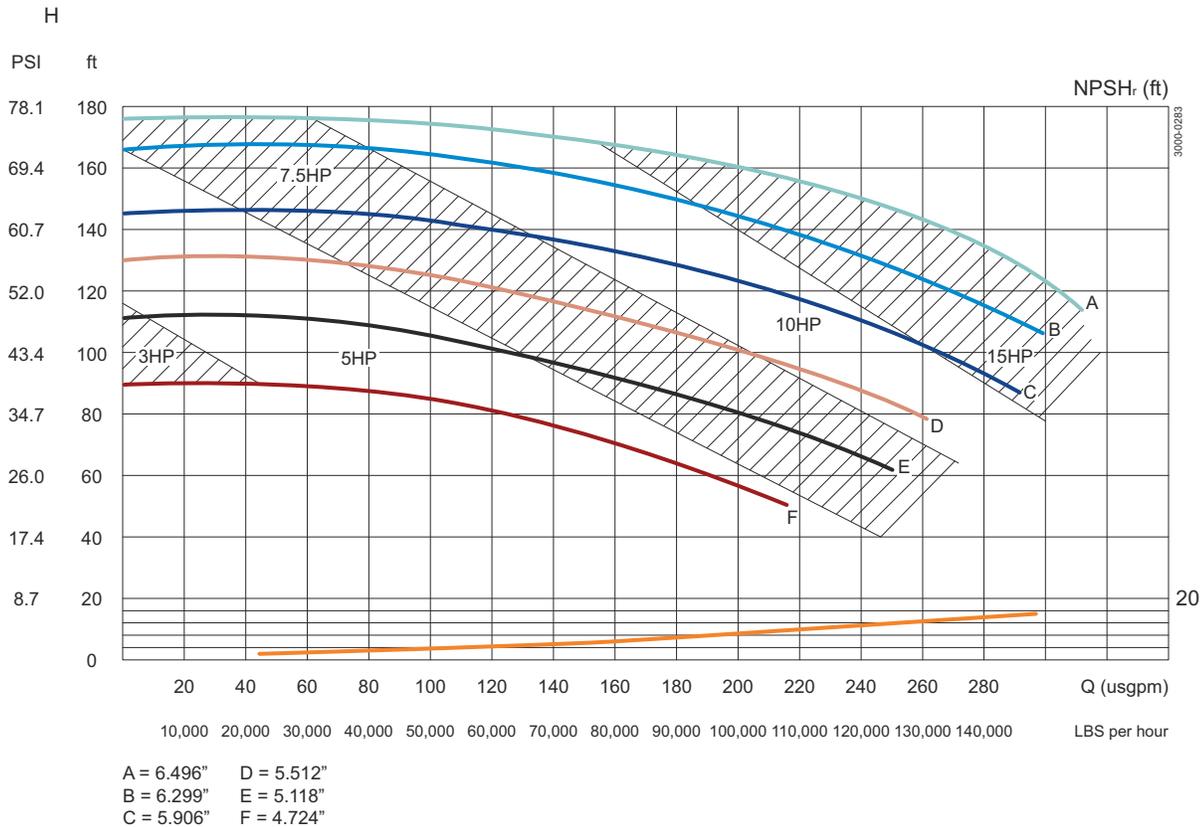
## LKHUP-20, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	6.496"
Impeller, Min. dia.:	4.724"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 16.8 Hp, 3500 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



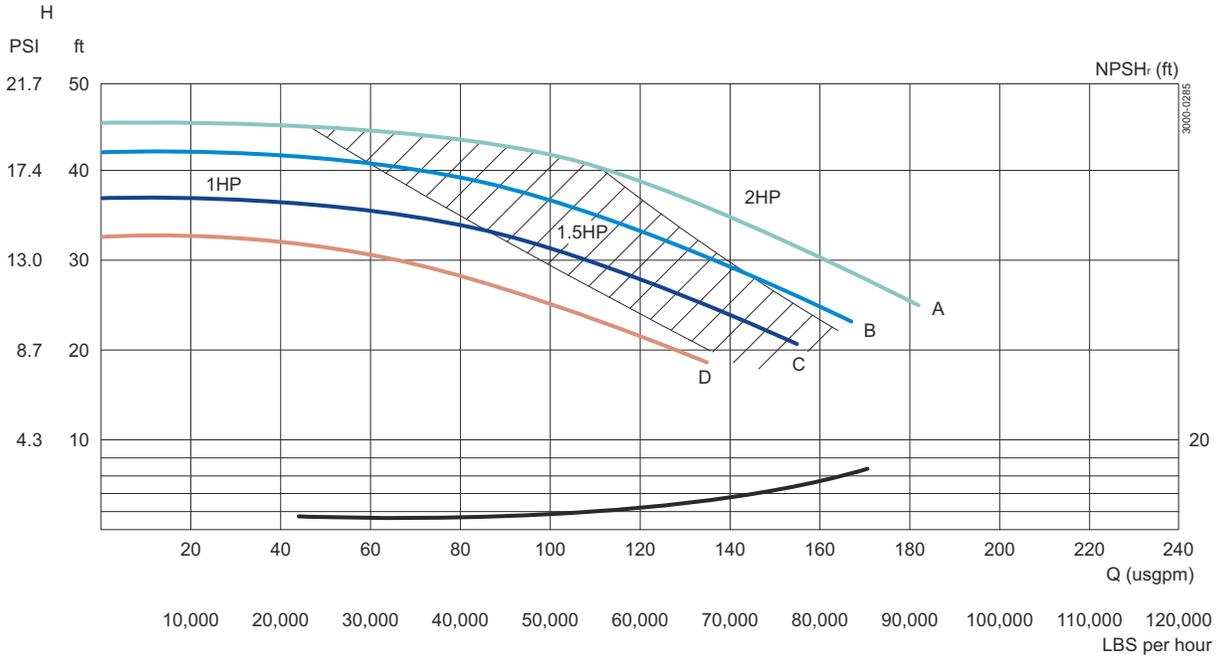
## LKHUP-20, 60 Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	6.496"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 2.4 Hp, 1750 rpm. asynchron., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



A = 6.496"    D = 5.512"  
 B = 6.299"  
 C = 5.906"

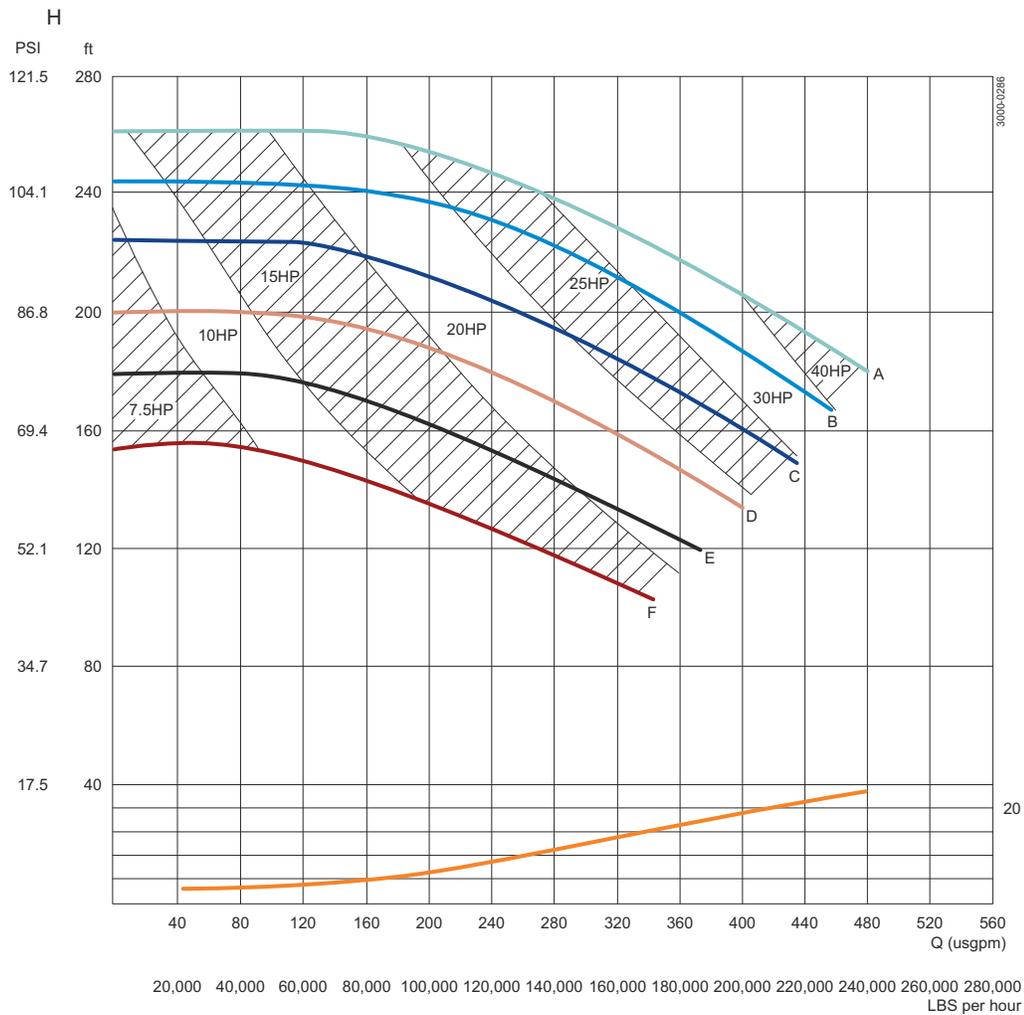
## LKHUP-25, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	8.070"
Impeller, Min. dia.:	6.299"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2½", DN 65
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 33.5 Hp, 3545 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with:  
 - 3% for 16.8-28.2 Hp.  
 - 5% for 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



A = 8.07"    D = 7.09"  
 B = 7.87"    E = 6.69"  
 C = 7.48"    F = 6.30"

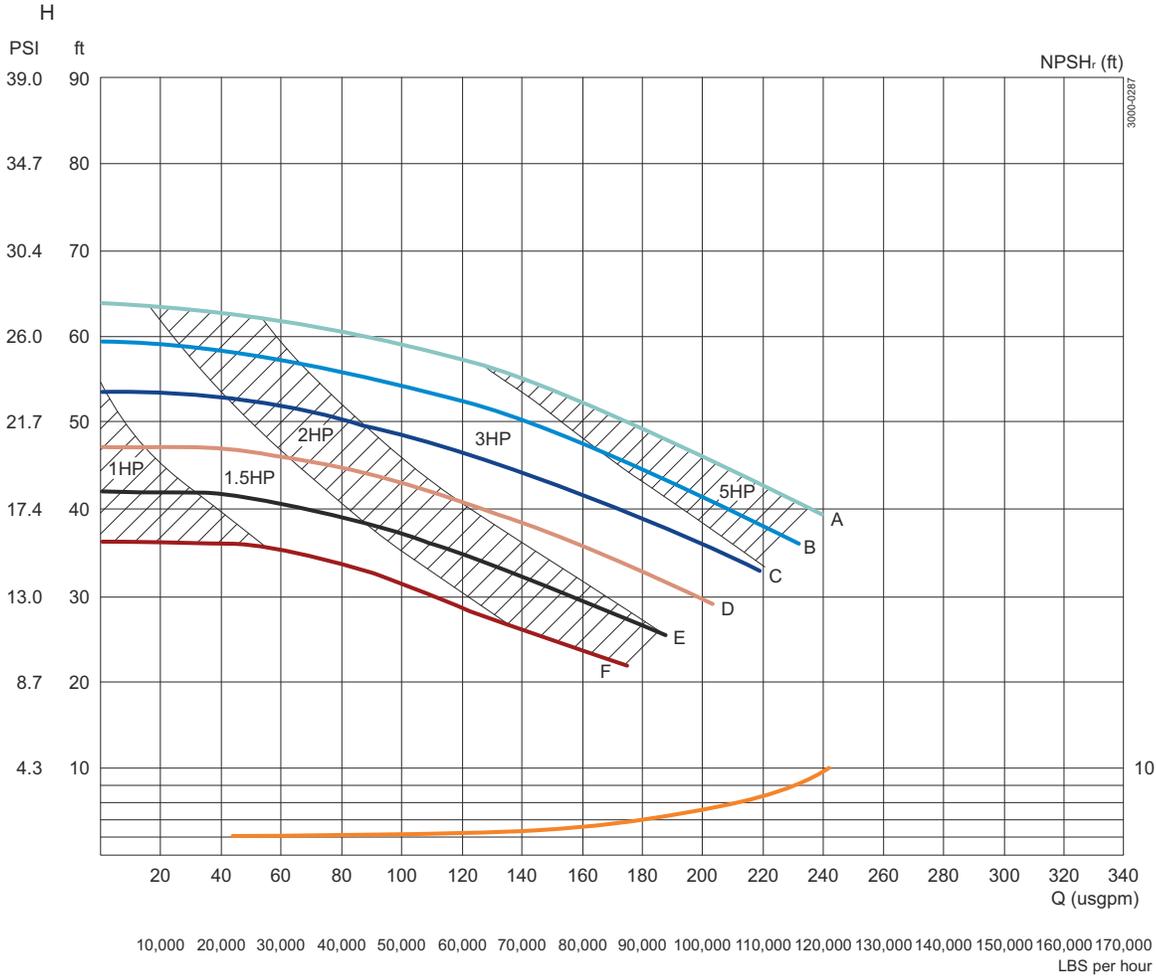
## LKHUP-25, 60 Hz

Motor:	1800 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	8.070"
Impeller, Min. dia.:	6.299"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2½", DN 65
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 4.7 Hp (3.5 kW), 1720 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with 3%.

DO NOT FORGET THE SAFETY FACTOR



A = 8.070"    D = 7.087"  
 B = 7.874"    E = 6.693"  
 C = 7.480"    F = 6.299"

## LKHUP-35, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	8.661"
Impeller, Min. dia.:	6.69"
Pump inlet, dia.:	2.5", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



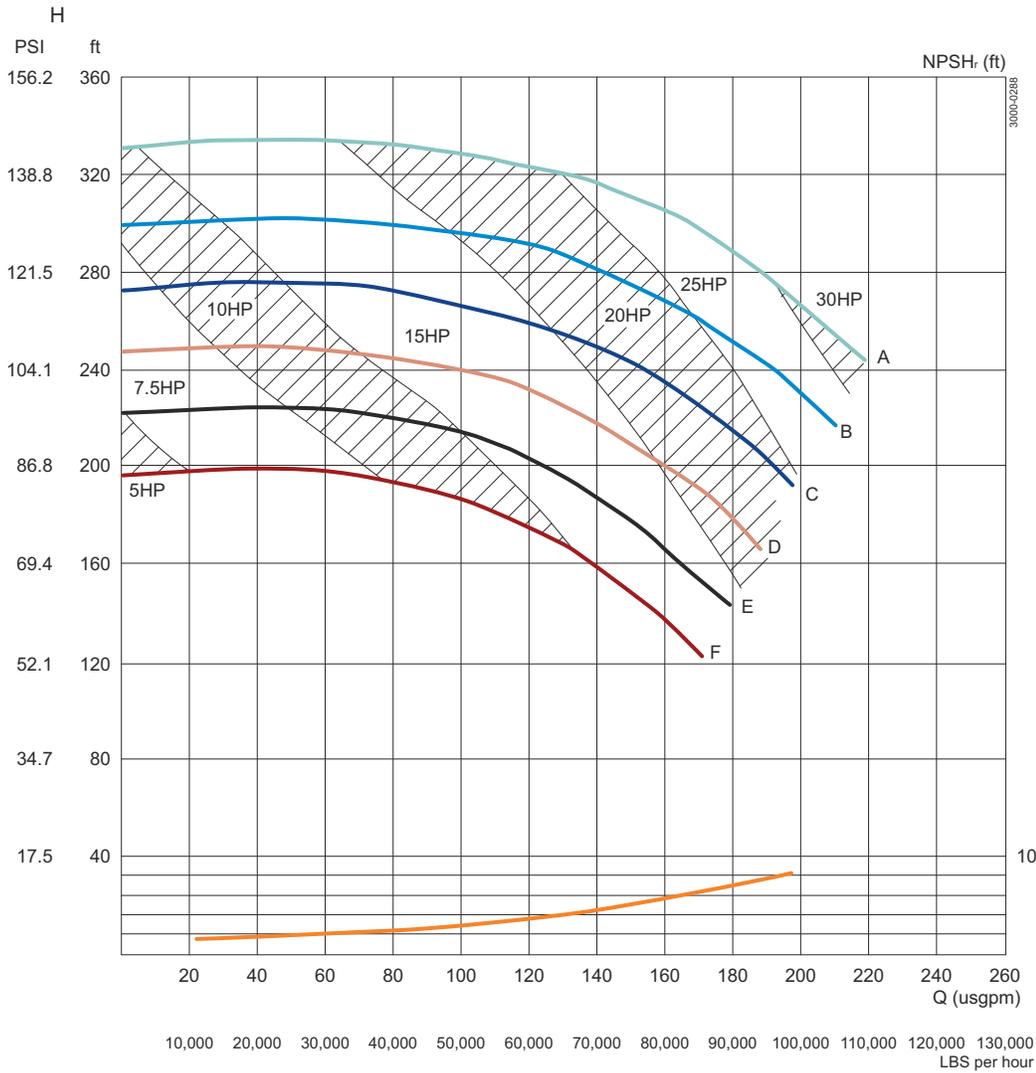
**Note!** The curves refer to motor: 28.2 Hp, 3535 rpm. asynchr., 60 Hz.

For smaller motors, reduce head (H) with:

- 3% 16.8-22.8 Hp.

- 3% 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



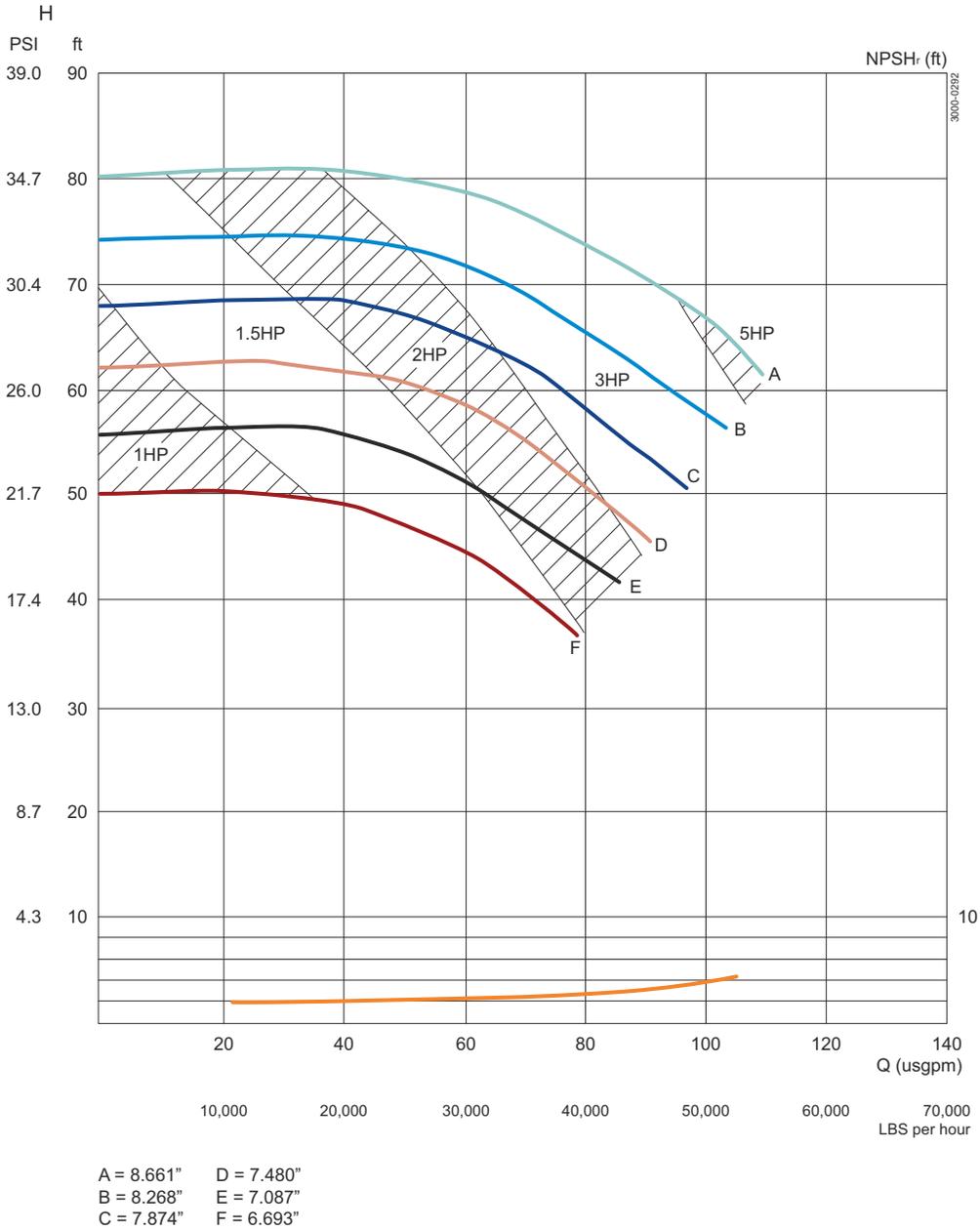
## LKHUP-35, 60 Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.661"
Impeller, Min. dia.:	6.69"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 3.4 Hp, 1720 rpm. asynchron., 60 Hz. For smaller motors, reduce head (H) with 3%

DO NOT FORGET THE SAFETY FACTOR



## LKHUP-40, 60 Hz

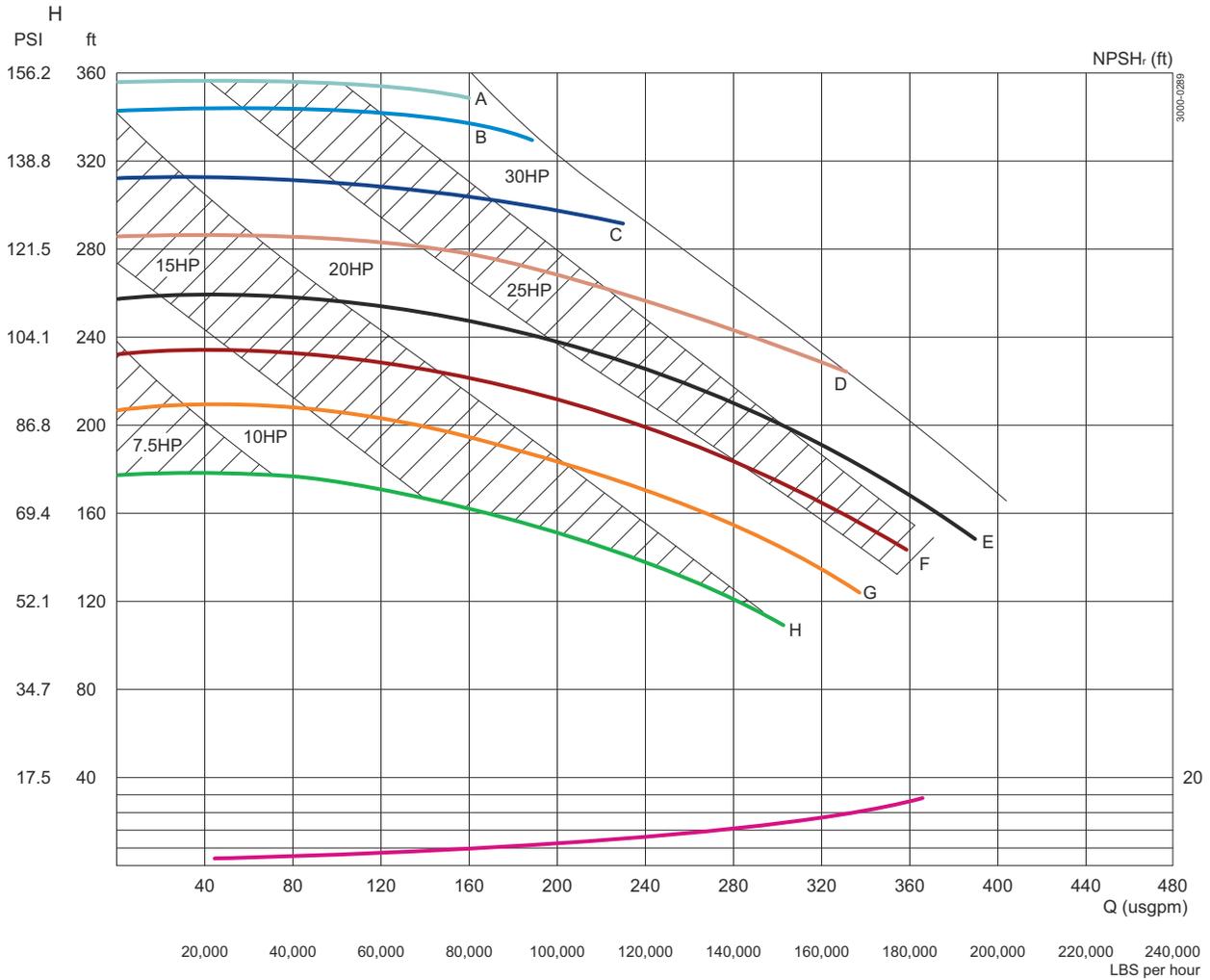
Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	9.252"
Impeller, Min. dia.:	6.693"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2", DN 65

Performance data refer to water at 68 °F



**Note!** The curves refer to motor: 33.5 Hp, 2940 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with:  
 - 3% for 16.8-28.2 Hp.  
 - 5% for 11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



A = 9.252"    D = 8.268"    G = 7.087"  
 B = 9.055"    E = 7.874"    H = 6.693"  
 C = 8.661"    F = 7.480"

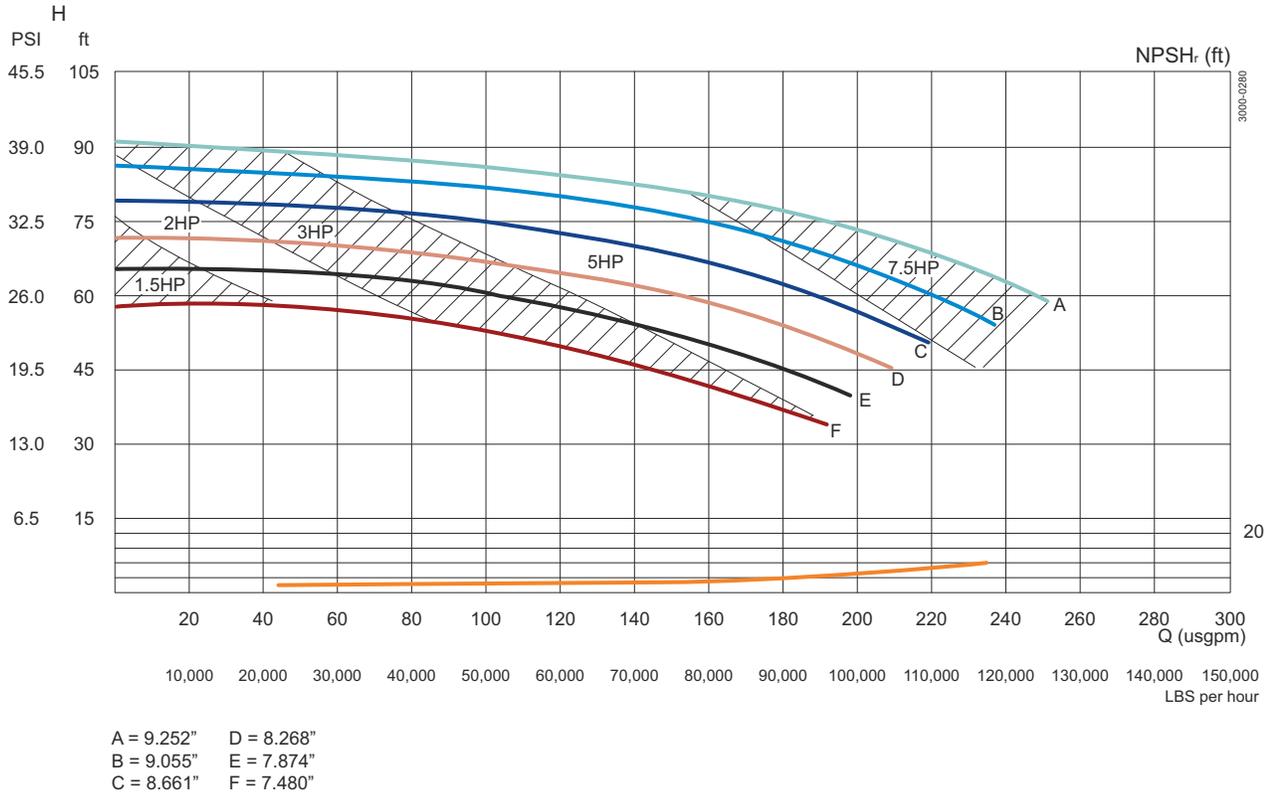
## LKHUP-40, 60 Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	9.252"
Impeller, Min. dia.:	7.480"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2", DN 65
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 8.5 Hp, 1750 rpm. asynchron., 60 Hz. For smaller motors, reduce head (H) with 5%

DO NOT FORGET THE SAFETY FACTOR



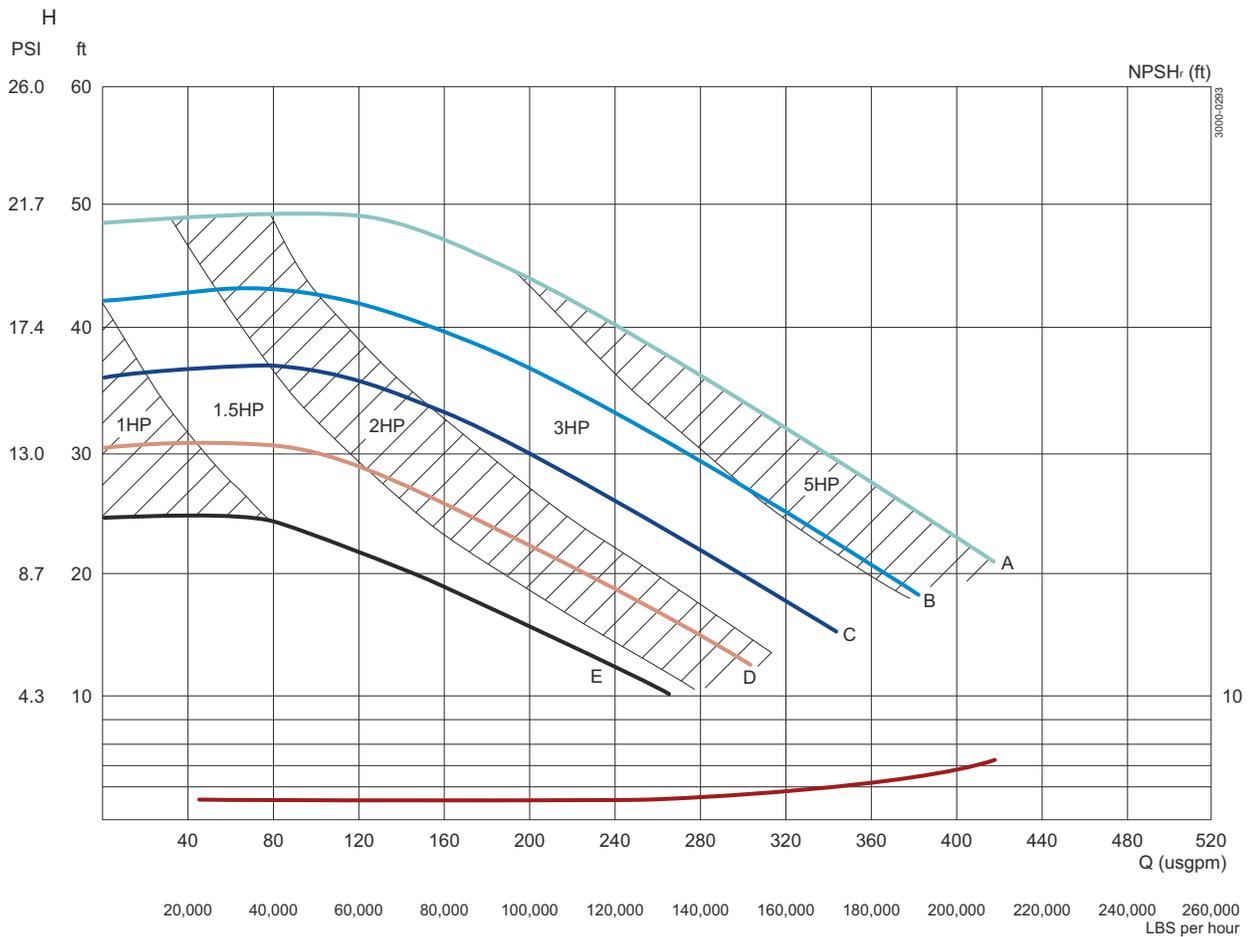
## LKHUP-45, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	7.008"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 33.5 Hp, 3545 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with:  
 - 3% for 16.8-28.2 Hp.  
 - 5% for 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



A = 7.008"    D = 5.906"  
 B = 6.693"    E = 5.512"  
 C = 6.299"

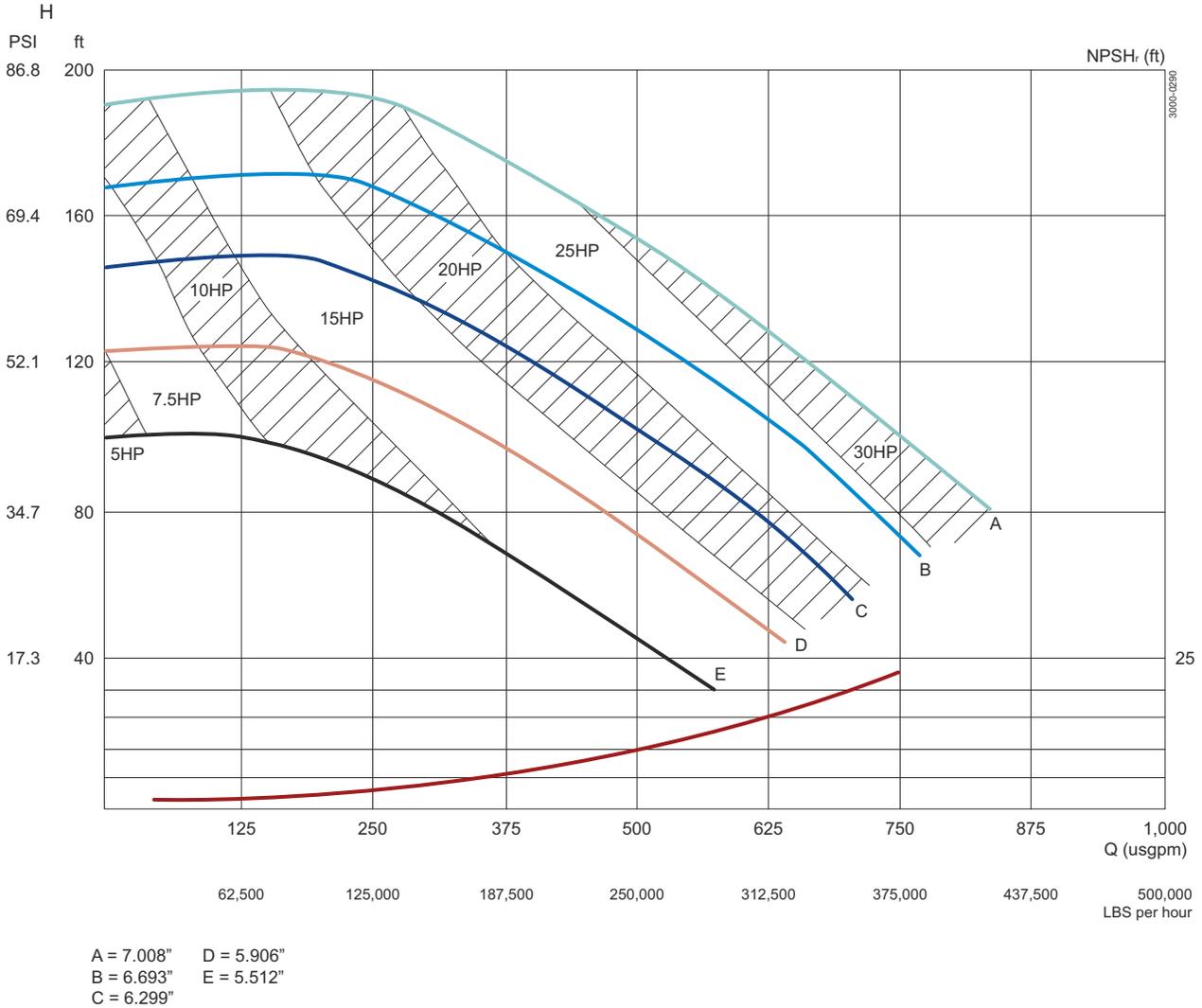
## LKHUP-45, 60Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	7.008"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 4.7 Hp, 1720 rpm. asynchr., 60 Hz.  
For smaller motors.

DO NOT FORGET THE SAFETY FACTOR



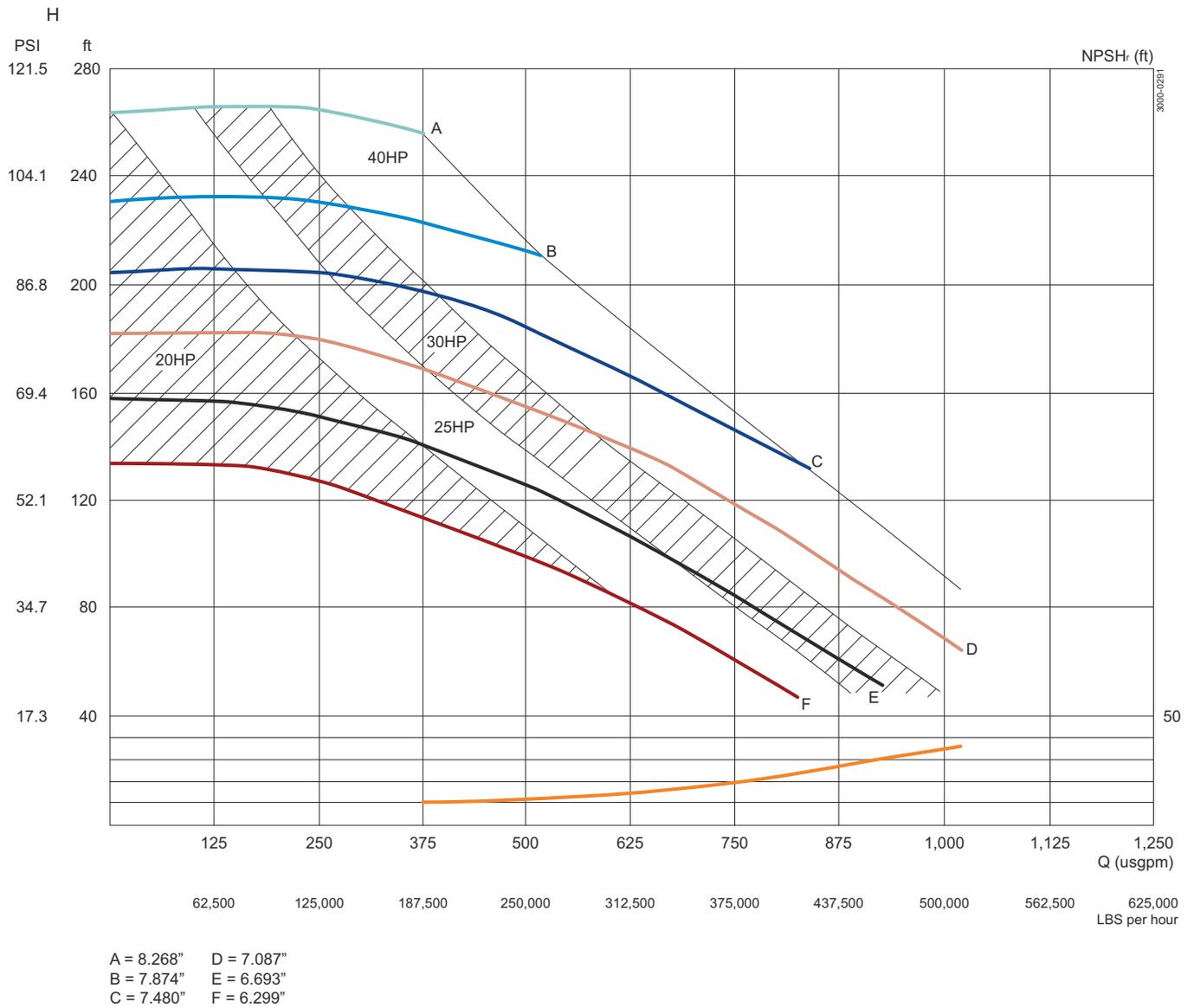
## LKHUP-60, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.268"
Impeller, Min. dia.:	6.299"
Pump inlet, dia.:	4", DN 100 6", DN 150
Pump outlet, dia.:	4" mm, DN 100
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 46.9 Hp, 3500 rpm. asynchron., 60 Hz.  
 For smaller motors, reduce head (H) with:  
 3% for 16.8-28.2 Hp.  
 6% for 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



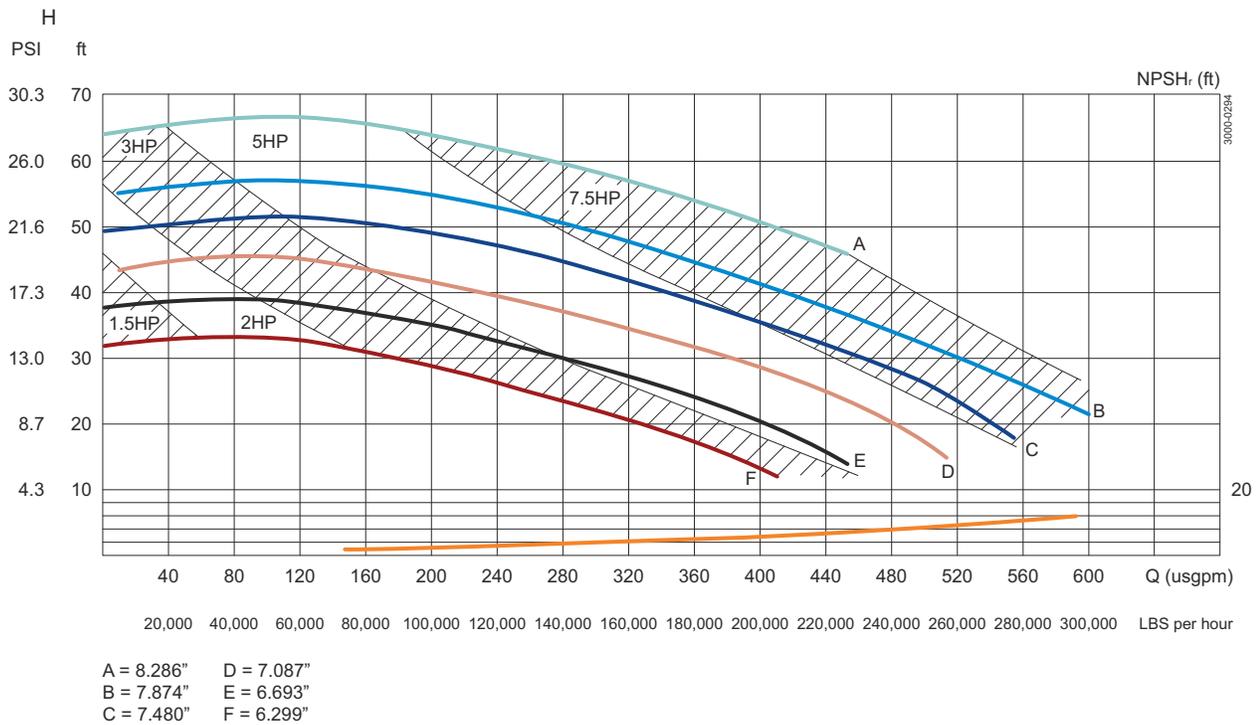
## LKHUP-60, 60Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.268"
Impeller, Min. dia.:	6.299"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	6", DN 150
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 8.5 Hp, 1750 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with 5%.

DO NOT FORGET THE SAFETY FACTOR



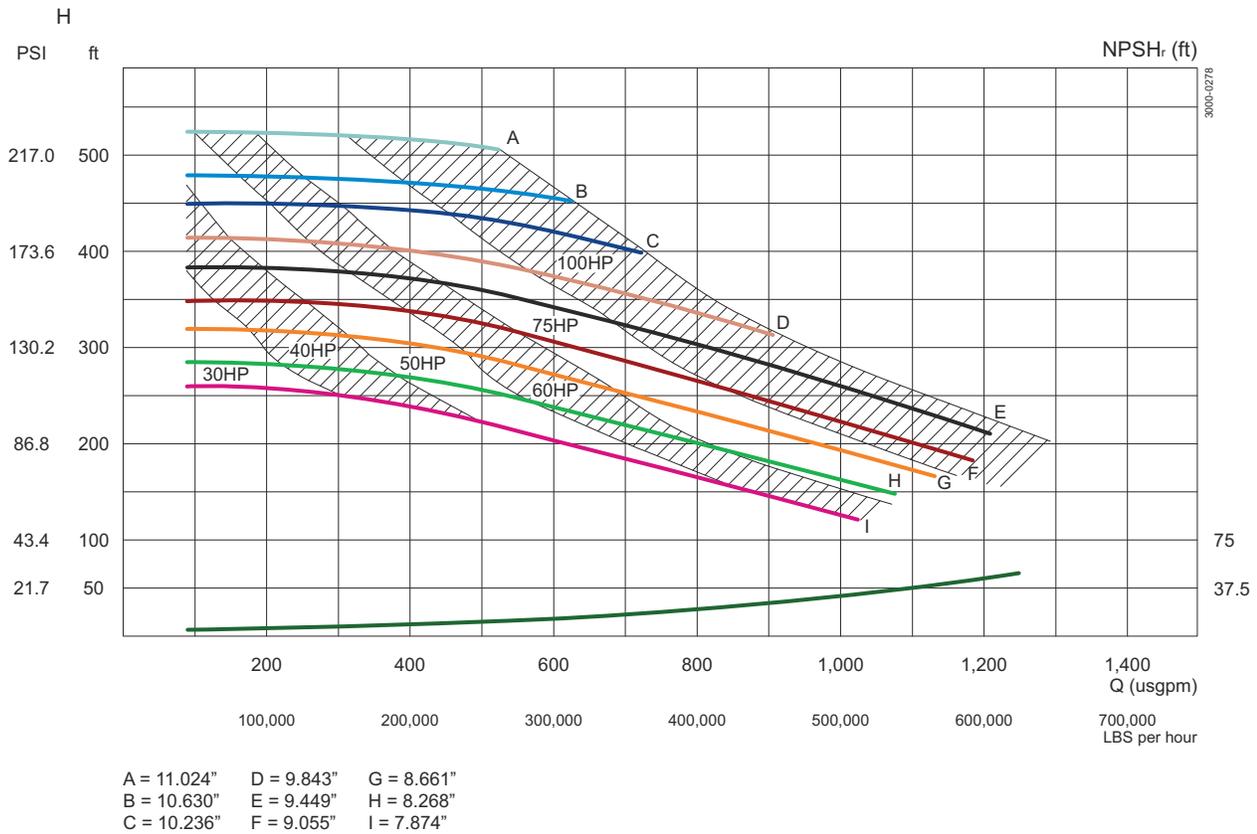
## LKHUP-70, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	11.024"
Impeller, Min. dia.:	7.874"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 115.3 Hp, 3565 rpm. asynchr., 60 Hz.  
For smaller motors, reduce head (H) with: -3%.

DO NOT FORGET THE SAFETY FACTOR



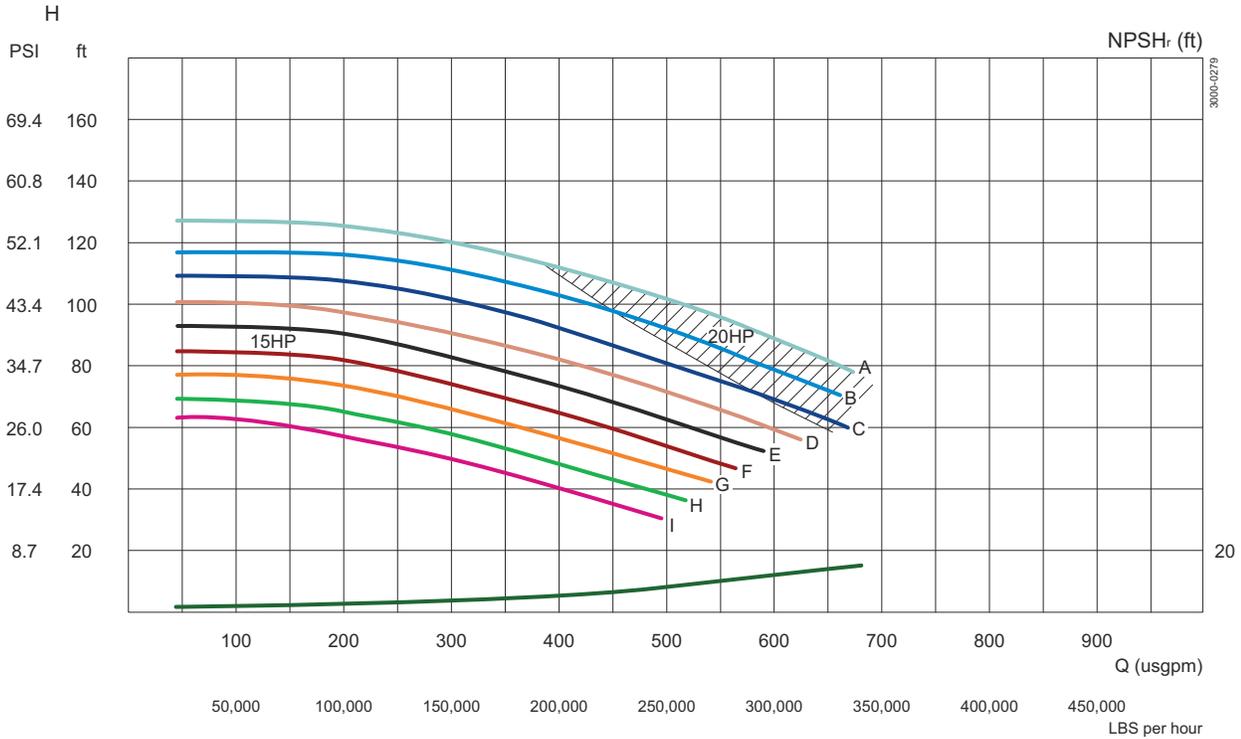
## LKHUP-70, 60 Hz

Motor:	1800 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	11.024"
Impeller, Min. dia.:	7.874"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



**Note!** The curves refer to max. motor: 22.8 Hp, 1750 rpm. asynchr., 60 Hz.

DO NOT FORGET THE SAFETY FACTOR



A = 11.024"	D = 9.843"	G = 8.661"
B = 10.630"	E = 9.449"	H = 8.268"
C = 10.236"	F = 9.055"	I = 7.874"

# Alfa Laval LKH Prime

## Performance curves

### LKH Prime 10

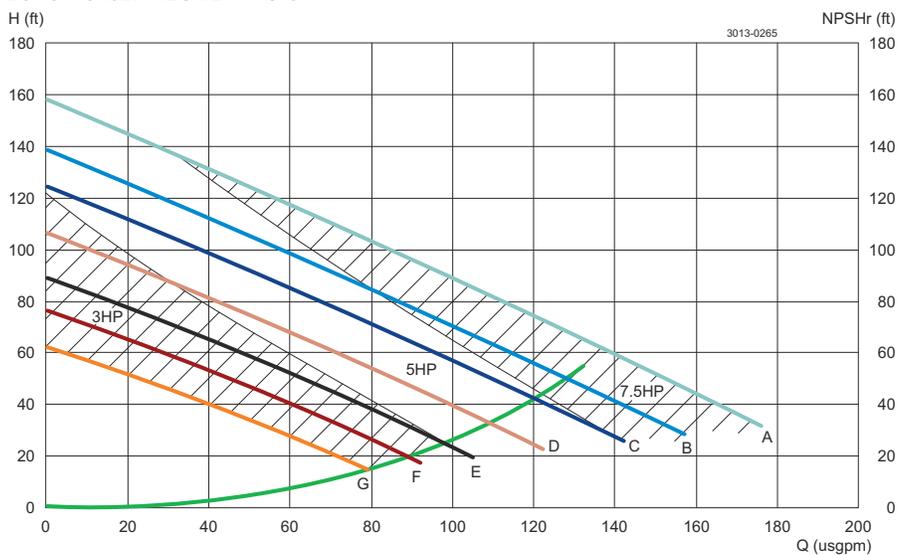
	60 Hz
Motor:	<b>3600 rpm. synchr.</b>
Tolerance:	±8% for Q ±6% for H
Impeller, Max. dia.:	5.906" (150 mm)
Impeller, Min. dia.:	3.543" (90 mm)
Pump inlet, dia.:	2" (51 mm, DN 50)
Pump outlet, dia.:	2" (51 mm, DN 50)
Performance data refer to water at 68 °F. (20 °C)	



**Note!** The curves refer to motor: 10 Hp (7.5 kW), 3490 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR

DO NOT FORGET THE SAFETY FACTOR



A = 5.91"    D = 4.72"    G = 3.54"  
 B = 5.51"    E = 4.33"  
 C = 5.12"    F = 3.94"

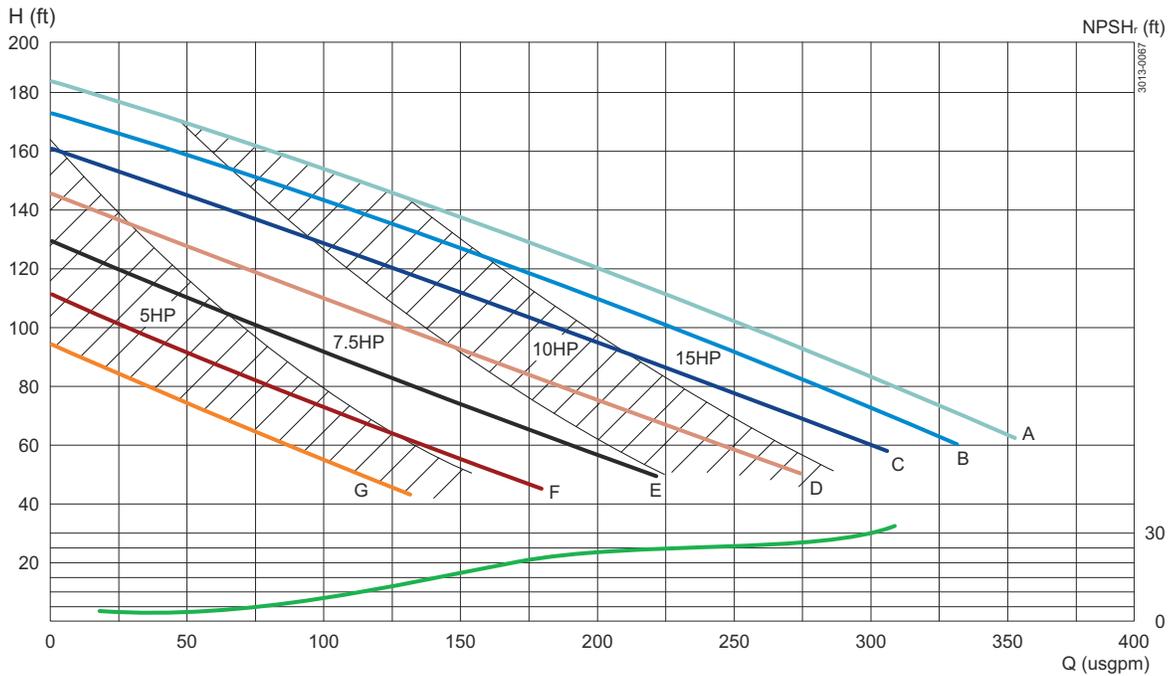
## LKH Prime 20

	60 Hz
Motor:	<b>3600 rpm. synchr.</b>
Tolerance:	±8% for Q ±6% for H
Impeller, Max. dia.:	6.496" (165 mm)
Impeller, Min. dia.:	4.331" (110 mm)
Pump inlet, dia.:	2.5" (63.5 mm, DN 65)
Pump outlet, dia.:	2" (51 mm, DN 50)
Performance data refer to water at 68 °F. (20 °C)	



**Note!** The curves refer to motor: 17.5 Hp (13 kW), 3547 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



A = 6.50"    D = 5.51"    G = 4.33"  
 B = 6.30"    E = 5.12"  
 C = 5.91"    F = 4.72"

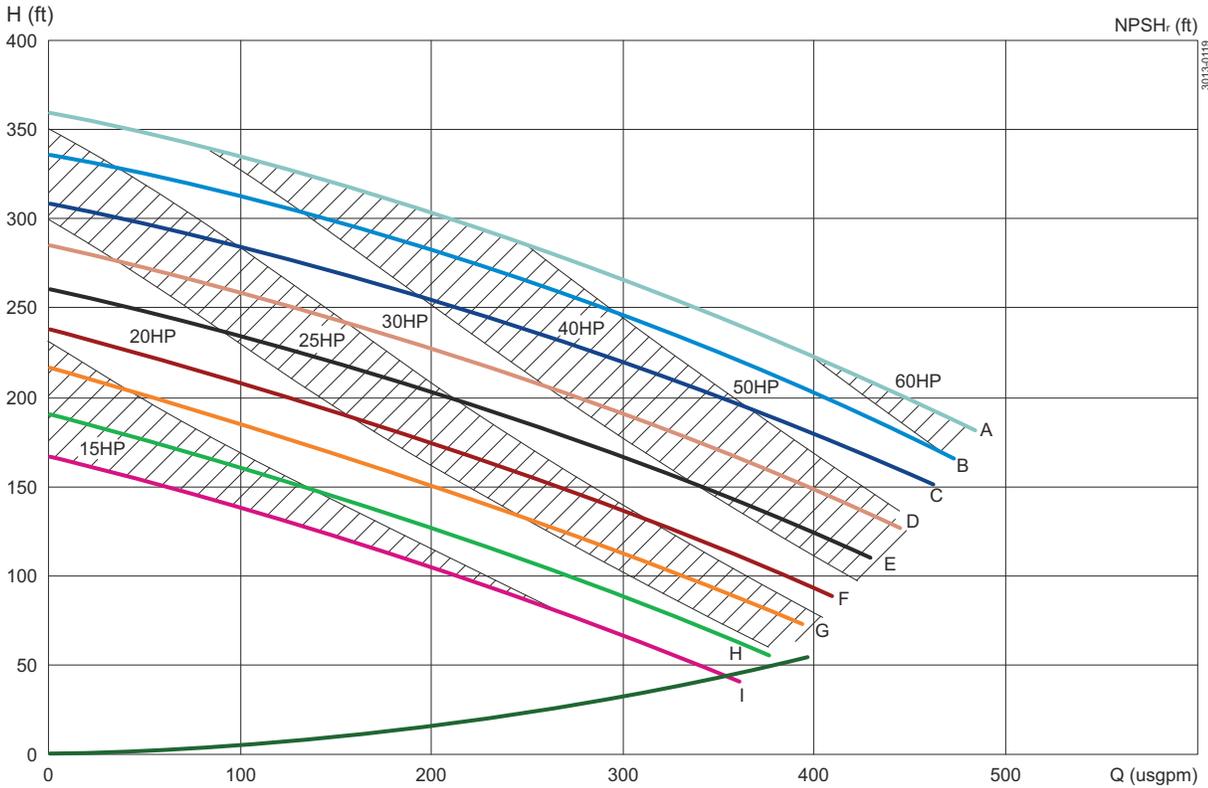
## LKH Prime 40

Motor:	3600 rpm. synchr.
Tolerance:	±8% for Q ±6% for H
Impeller, Max. dia.:	9.251" (235mm)
Impeller, Min. dia.:	6.299" (160mm)
Pump inlet, dia.:	3" (76.1mm/ DN80)
Pump outlet, dia.:	2½" (63.5mm/ DN65)
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 60Hp (45kW), 3520 Rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



A = 9.25"	D = 8.27"	G = 7.09"
B = 9.06"	E = 7.87"	H = 6.69"
C = 8.66"	F = 7.48"	I = 6.30"

# Alfa Laval LKH Prime UltraPure

## Performance curves

### LKH Prime UltraPure 10

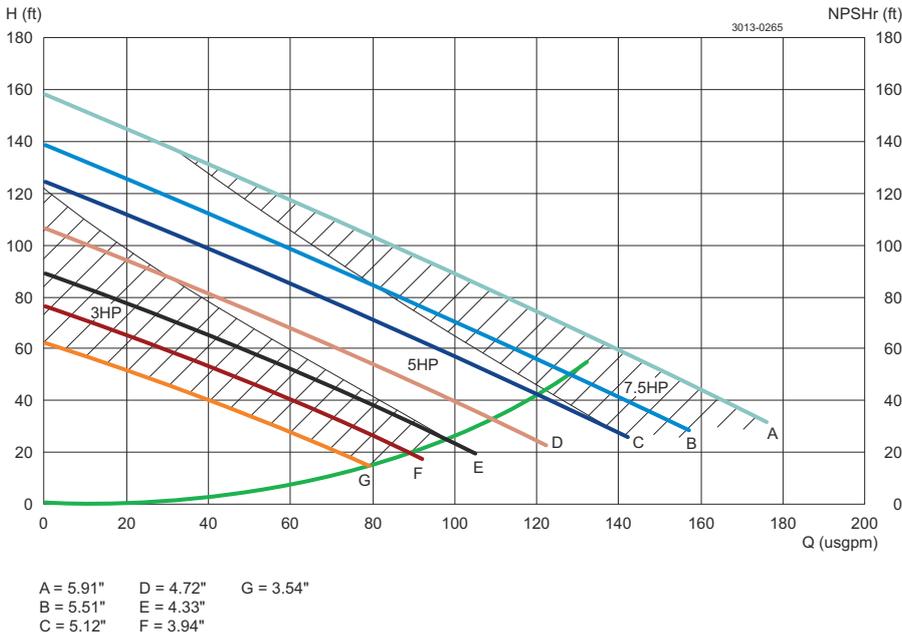
Motor:	60 Hz <b>3600 rpm. synchr.</b>
Tolerance:	±8% for Q ±6% for H
Impeller, Max. dia.:	5.906" (150 mm)
Impeller, Min. dia.:	3.543" (90 mm)
Pump inlet, dia.:	2" (51 mm, DN 50)
Pump outlet, dia.:	2" (51 mm, DN 50)
Performance data refer to water at 68 °F. (20 °C)	



**Note!** The curves refer to motor: 10 Hp (7.5 kW), 3490 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR

DO NOT FORGET THE SAFETY FACTOR



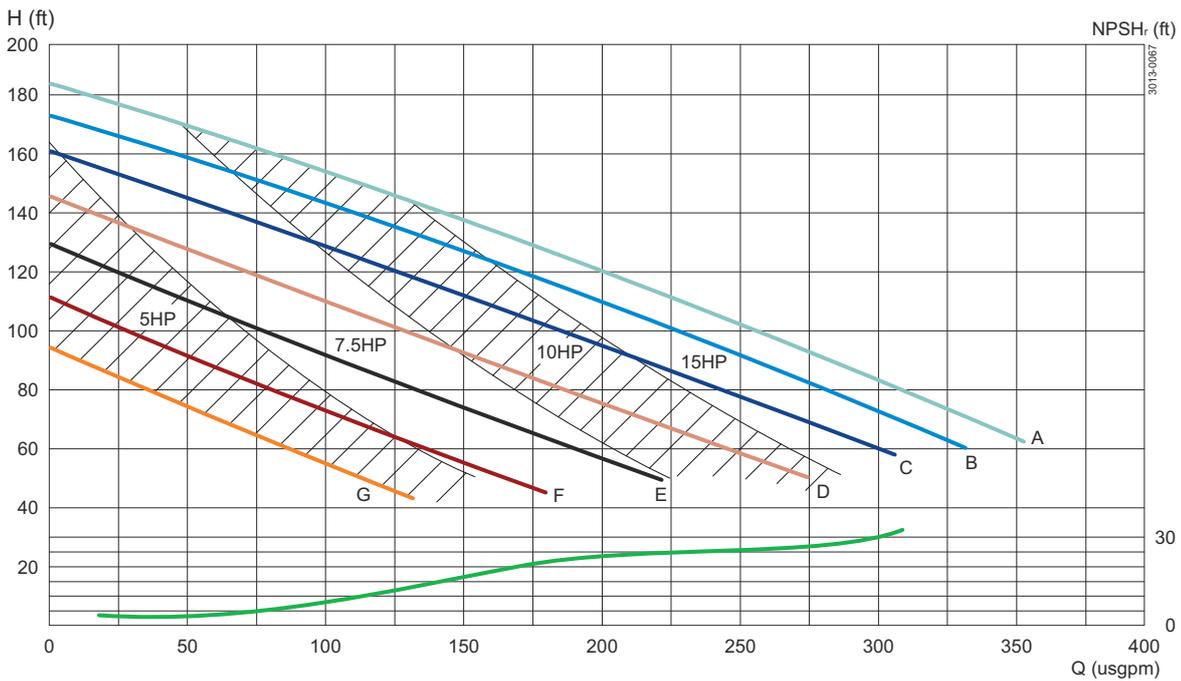
## LKH Prime UltraPure 20

	60 Hz
Motor:	<b>3600 rpm. synchron.</b>
Tolerance:	±8% for Q ±6% for H
Impeller, Max. dia.:	6.496" (165 mm)
Impeller, Min. dia.:	4.331" (110 mm)
Pump inlet, dia.:	2.5" (63.5 mm, DN 65)
Pump outlet, dia.:	2" (51 mm, DN 50)
Performance data refer to water at 68 °F. (20 °C)	



**Note!** The curves refer to motor: 17.5 Hp (13 kW), 3547 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



A = 6.50"    D = 5.51"    G = 4.33"  
 B = 6.30"    E = 5.12"  
 C = 5.91"    F = 4.72"

# Alfa Laval LKH evap

## Performance curves

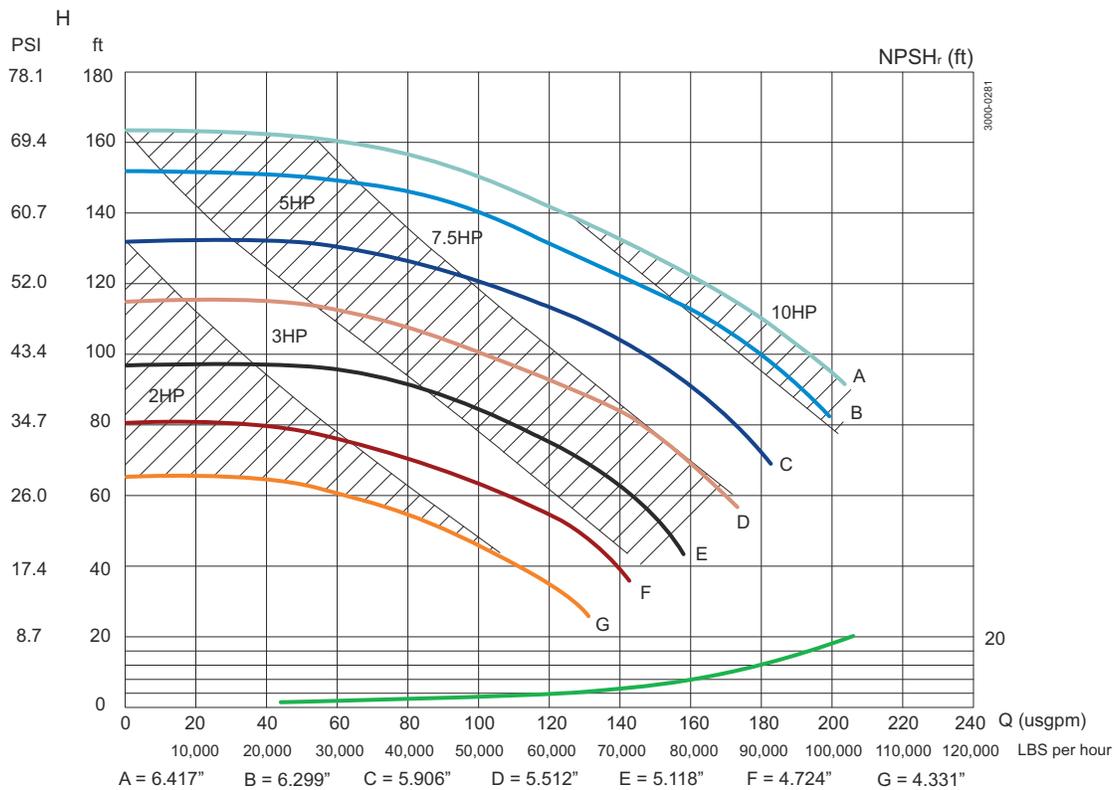
### LKH evap-10, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	6.417"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 11.5 Hp, 3500 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



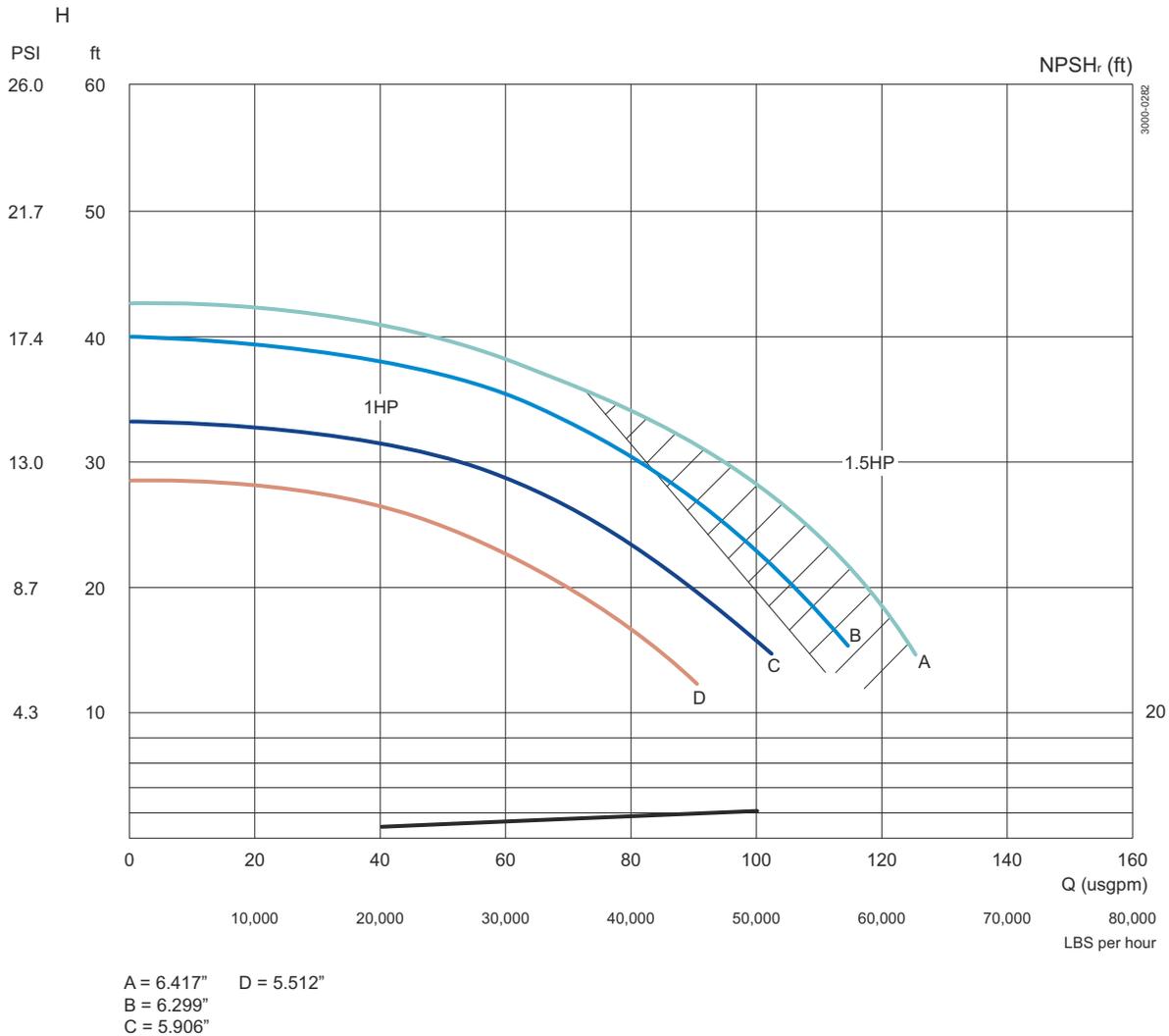
## LKHevap-10, 60Hz

Motor:	1800 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	6.417"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 2.4 Hp, 1750 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



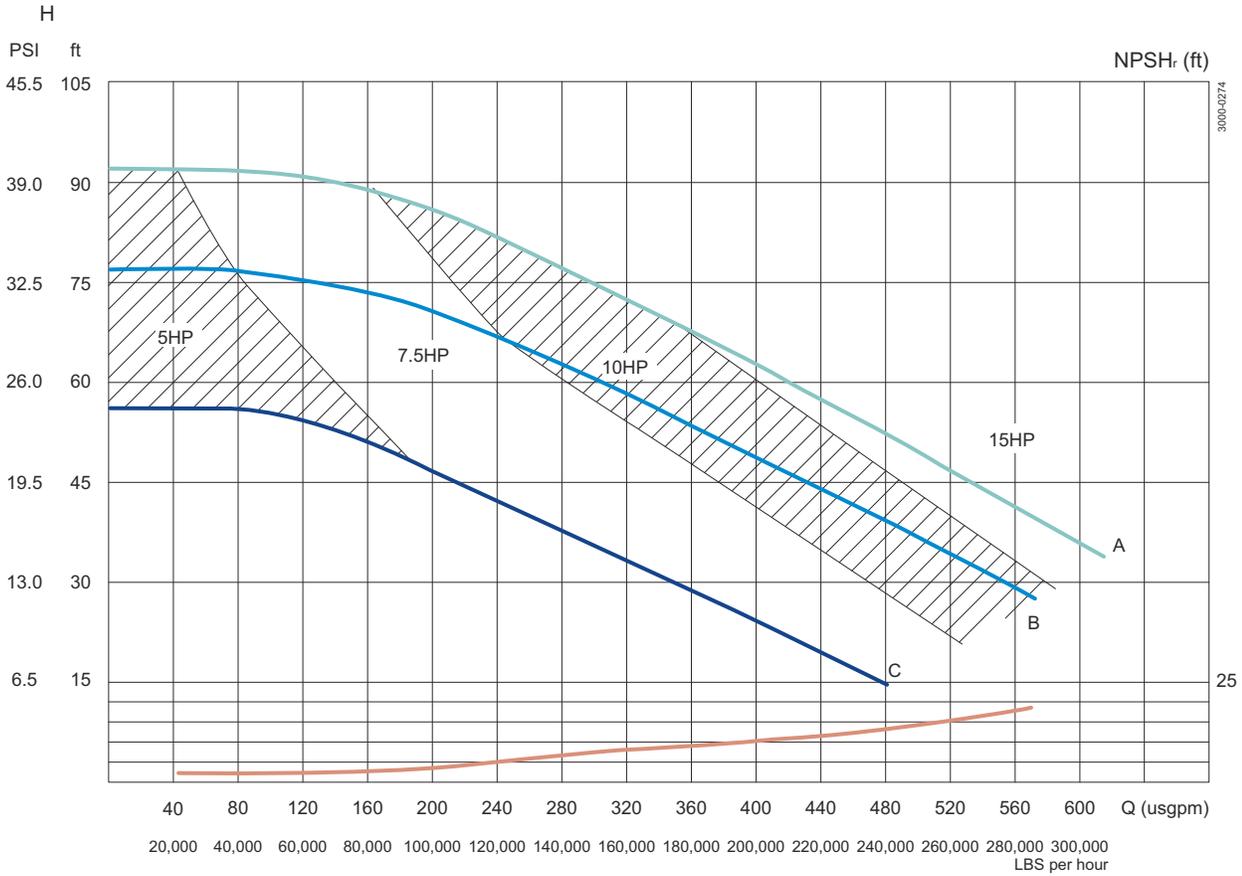
## LKHevap-15, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	5.433"
Impeller, Min. dia.:	4.724"
Pump inlet, dia.:	4"
Pump outlet, dia.:	3"
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 11.5 Hp, 3455 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



A = 5.433"  
 B = 5.118"  
 C = 4.724"

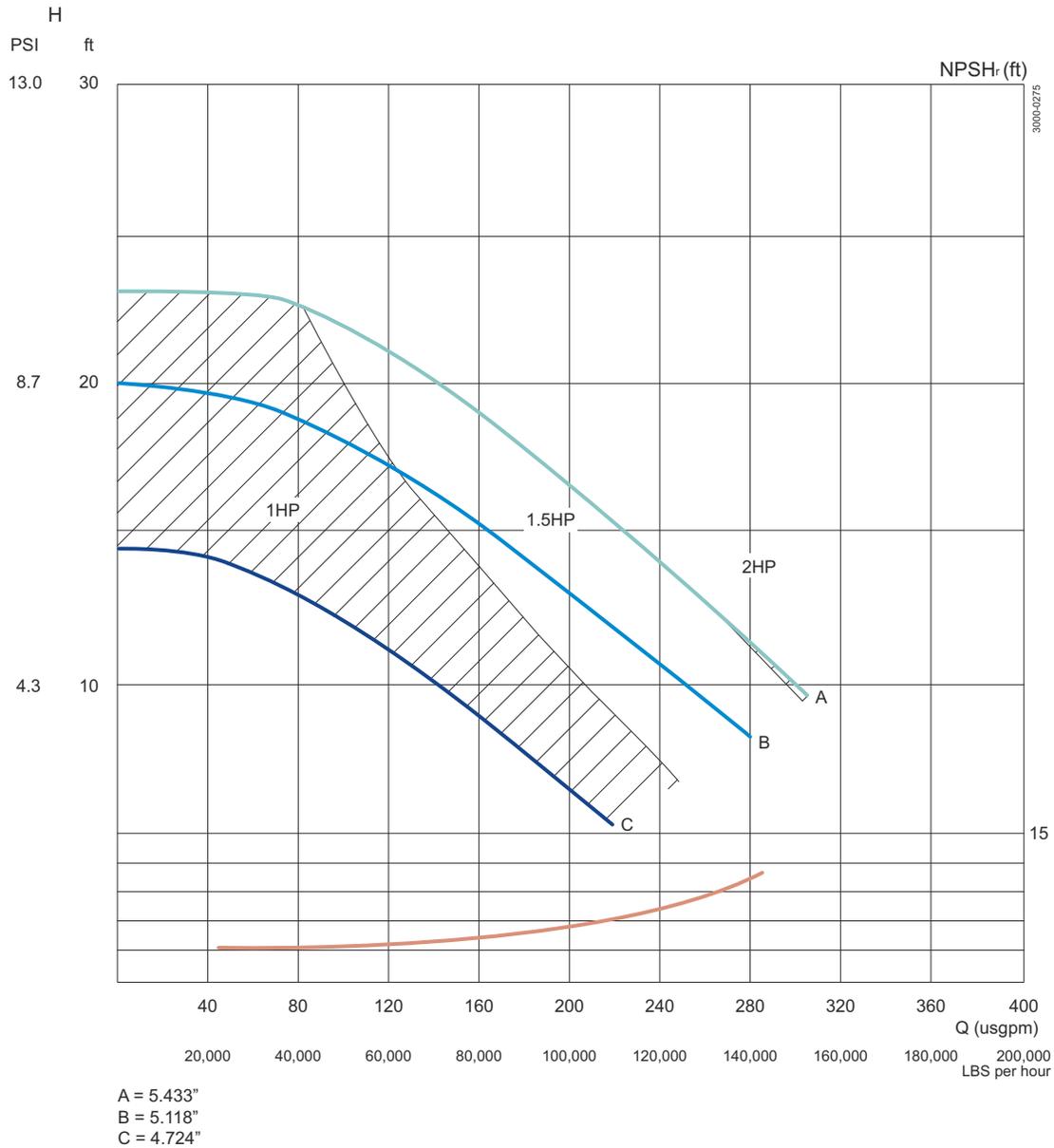
## LKHevap-15, 60 HZ

Motor:	1800 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	5.433"
Impeller, Min. dia.:	4.72"
Pump inlet, dia.:	4"
Pump outlet, dia.:	3"
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 2.4 Hp, 1710 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



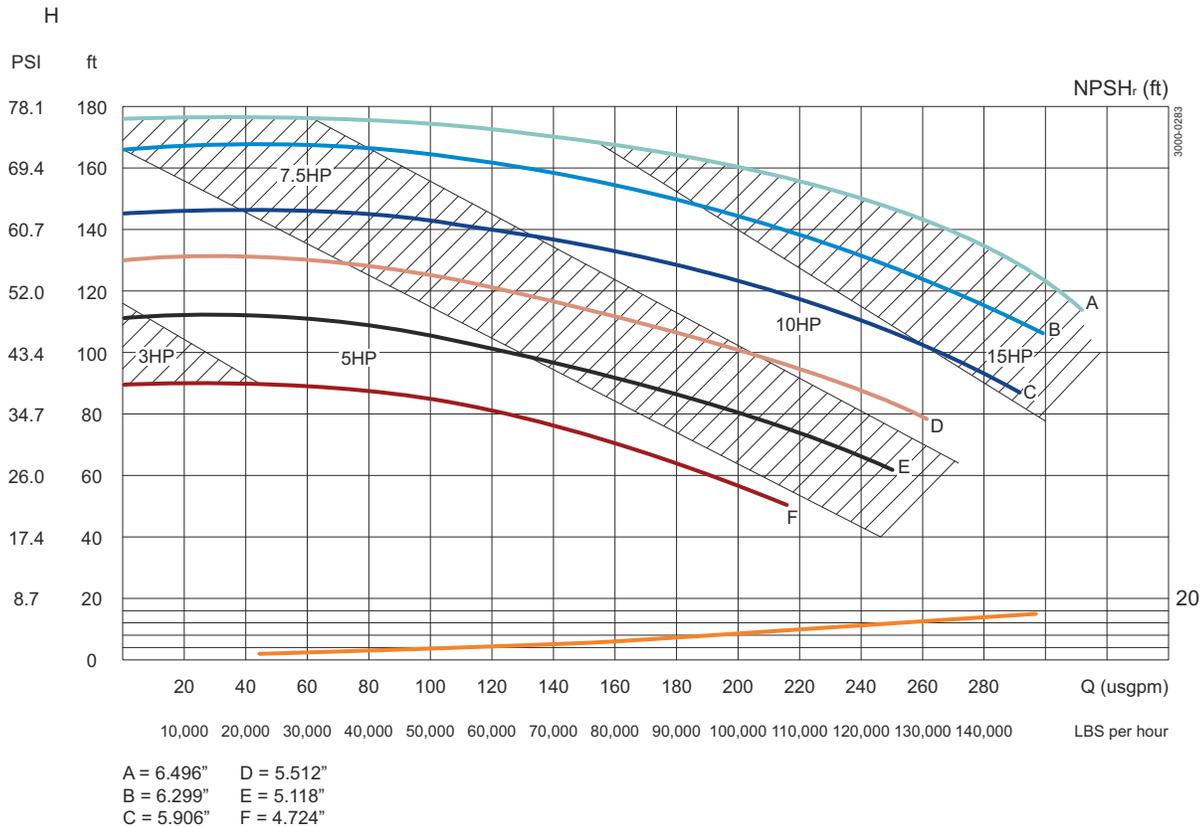
## LKHevap-20, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	6.496"
Impeller, Min. dia.:	4.724"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 16.8 Hp, 3500 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



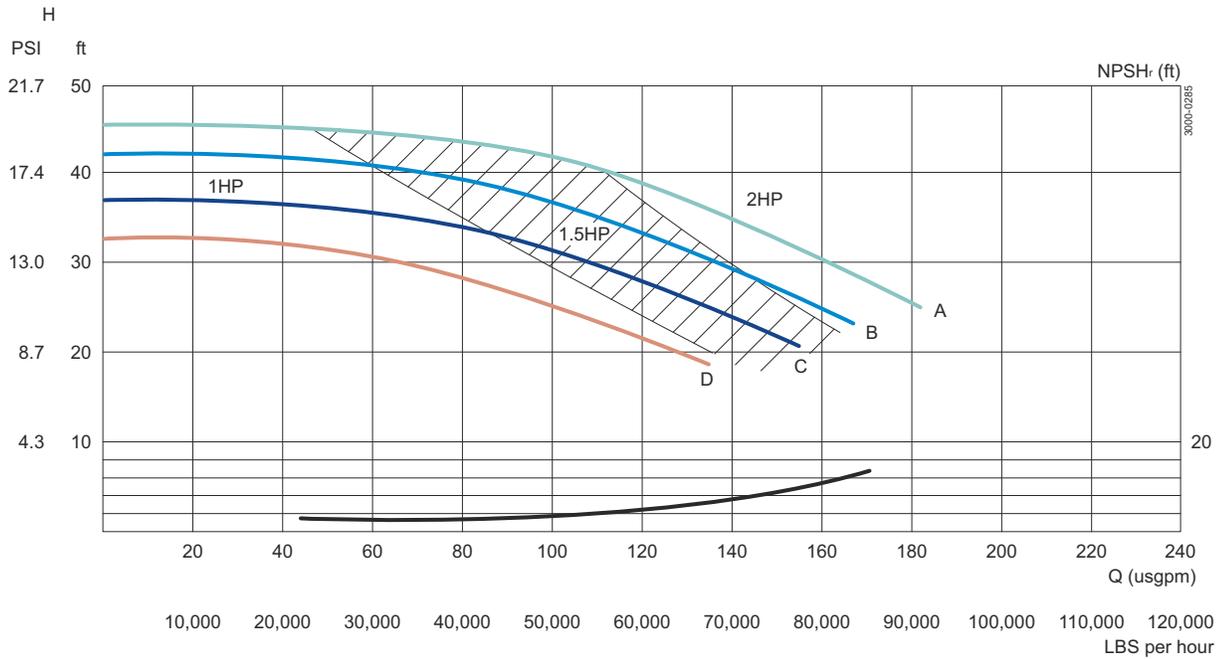
## LKHevap-20, 60 Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	6.496"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 2.4 Hp, 1750 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



A = 6.496"    D = 5.512"  
 B = 6.299"  
 C = 5.906"

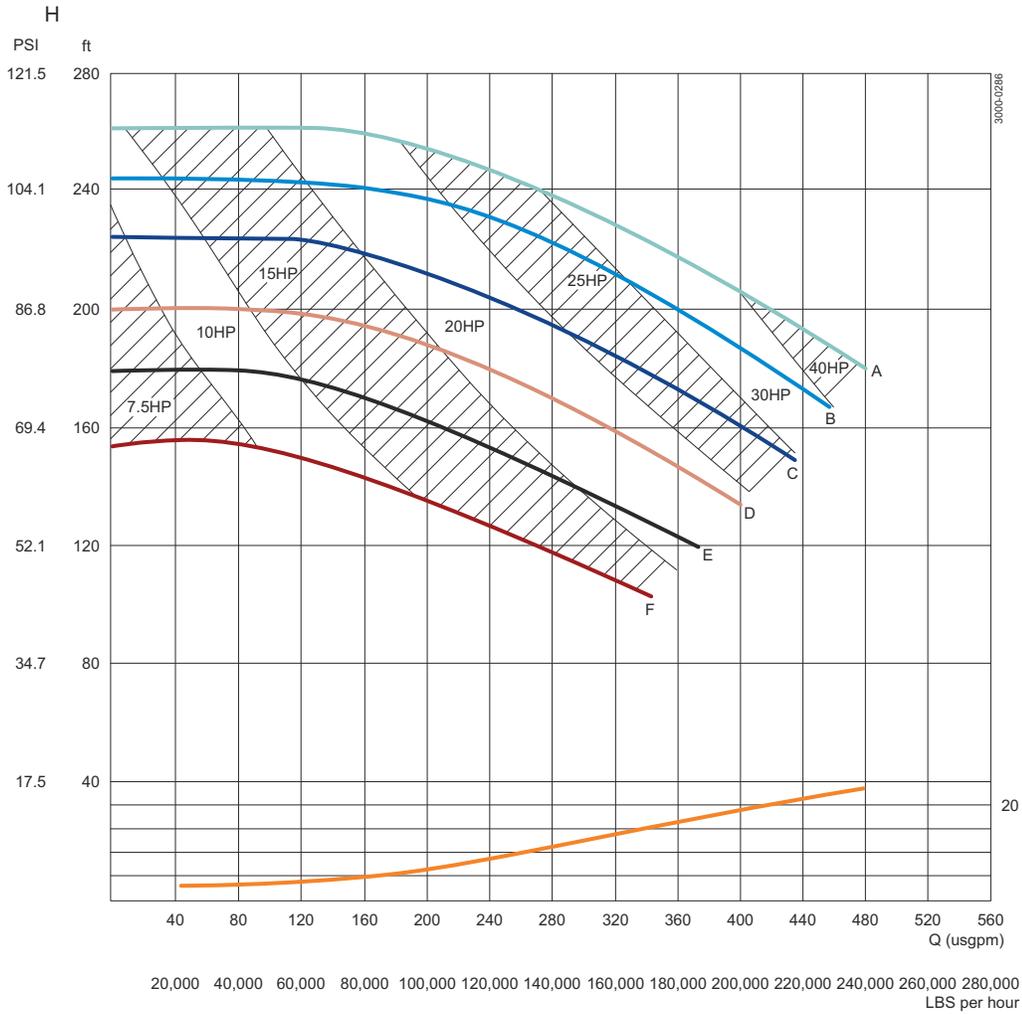
## LKHevap-25, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.070"
Impeller, Min. dia.:	6.299"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2½", DN 65
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 33.5 Hp, 3545 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with:  
 - 3% for 16.8-28.2 Hp.  
 - 5% for 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



A = 8.07"    D = 7.09"  
 B = 7.87"    E = 6.69"  
 C = 7.48"    F = 6.30"

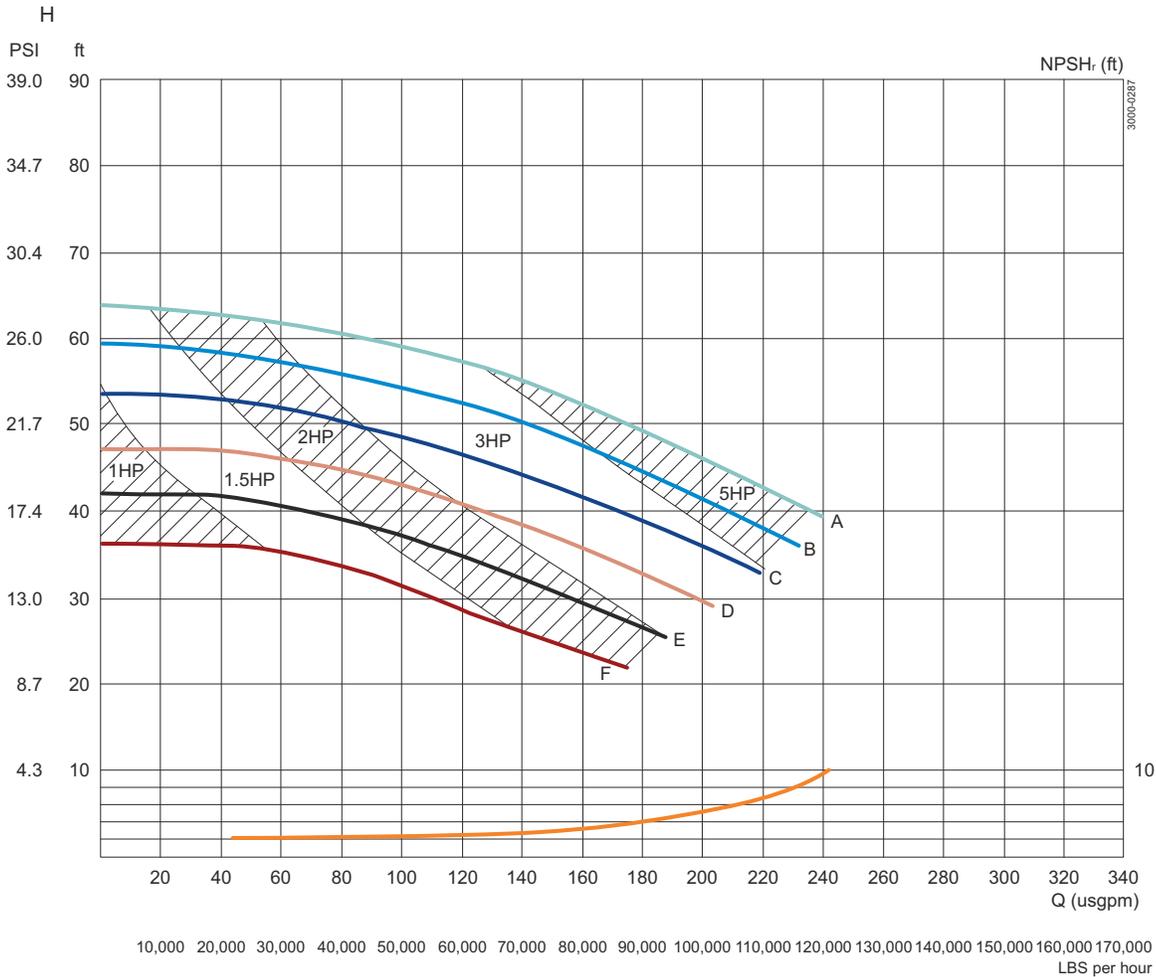
## LKHevap-25, 60 Hz

Motor:	1800 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	8.070"
Impeller, Min. dia.:	6.299"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2½", DN 65
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 4.7 Hp (3.5 kW), 1720 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



A = 8.070"    D = 7.087"  
 B = 7.874"    E = 6.693"  
 C = 7.480"    F = 6.299"

## LKHevap-35, 60 Hz

Motor:	3600 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	8.661"
Impeller, Min. dia.:	6.69"
Pump inlet, dia.:	2.5", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



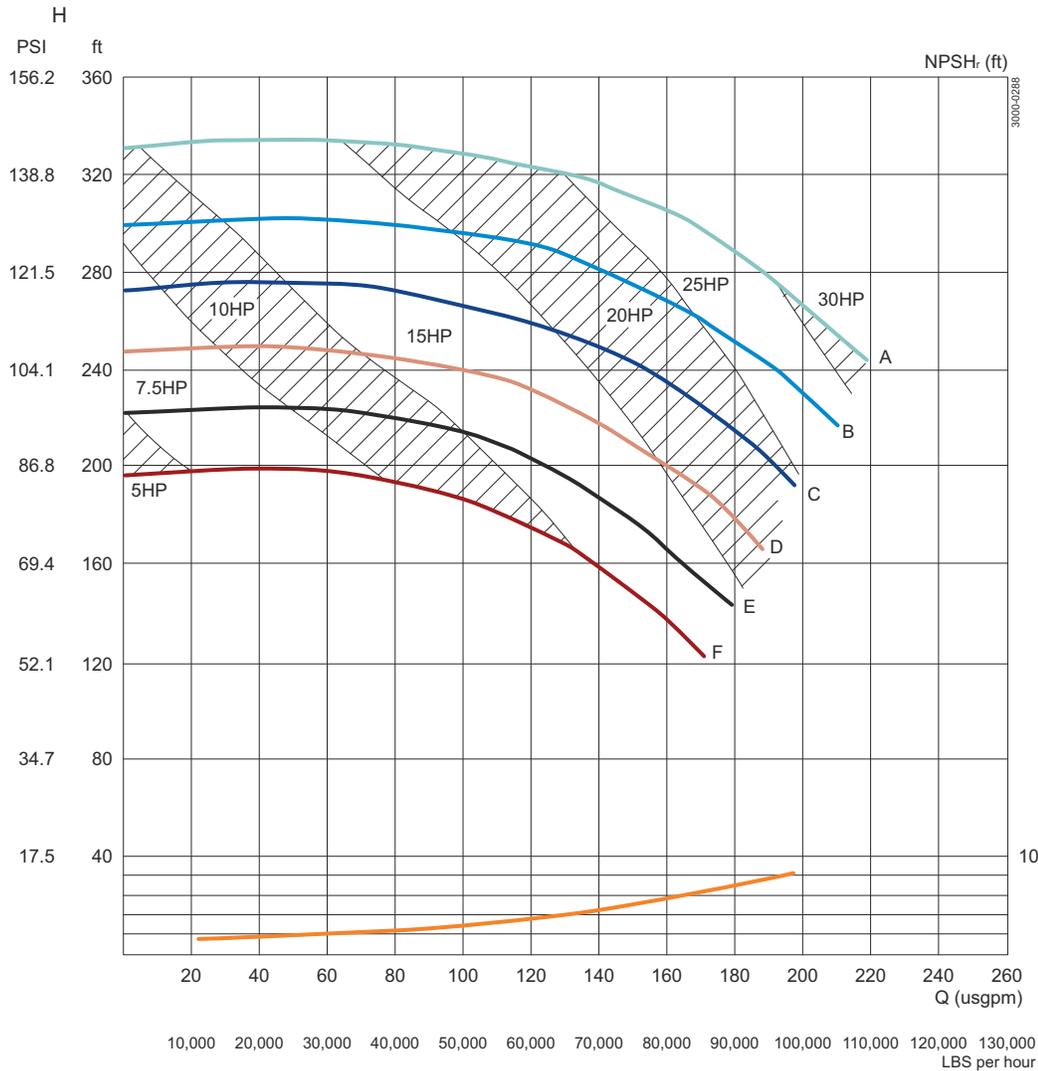
**Note!** The curves refer to motor: 28.2 Hp, 3535 rpm. asynchr., 60 Hz.

For smaller motors, reduce head (H) with:

- 3% 16.8-22.8 Hp.

- 3% 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



A = 8.661"    D = 7.480"  
 B = 8.268"    E = 7.087"  
 C = 7.874"    F = 6.693"

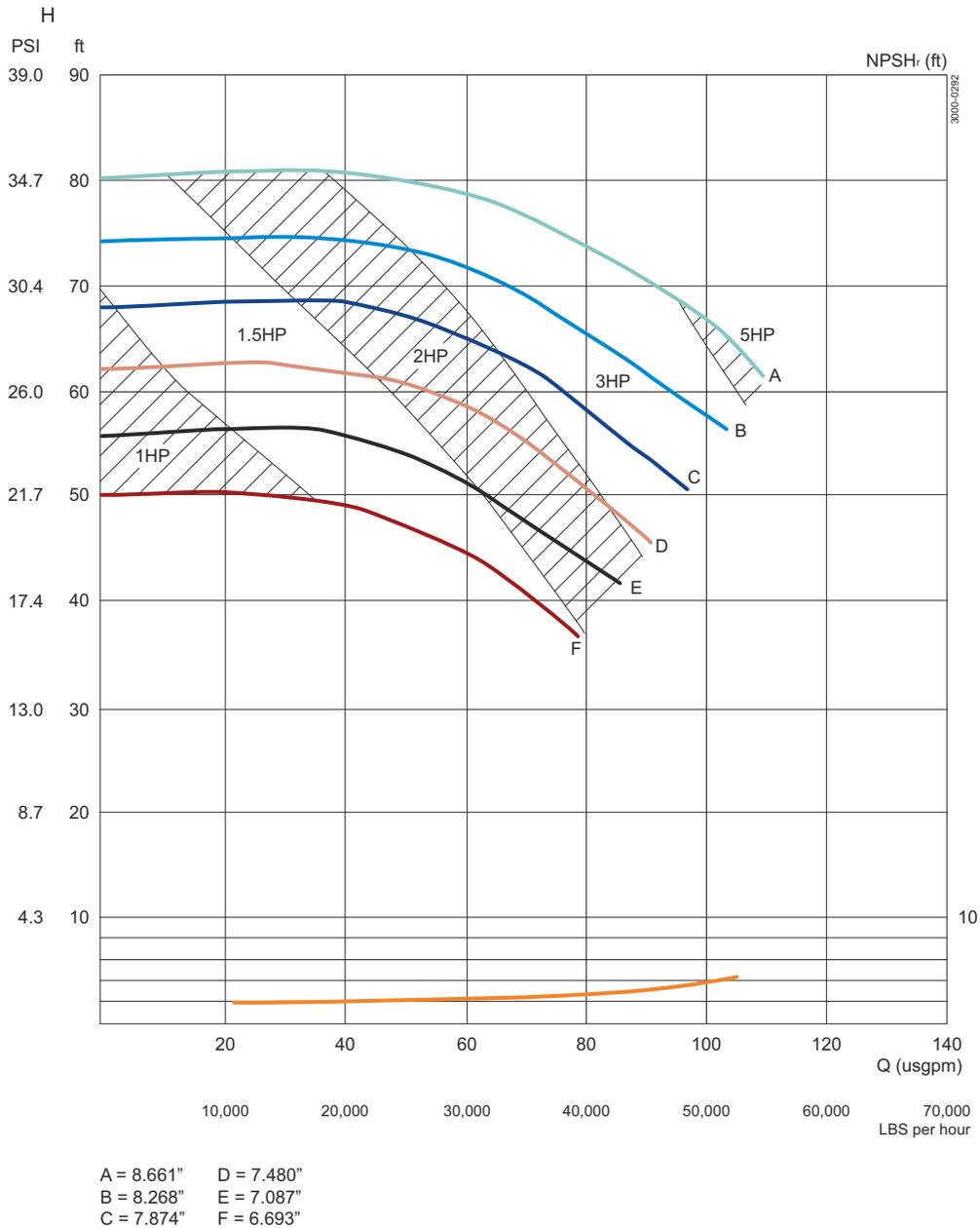
## LKHevap-35, 60 Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.661"
Impeller, Min. dia.:	6.69"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 3.4 Hp, 1720 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with: 3%.

DO NOT FORGET THE SAFETY FACTOR



## LKHevap-40, 60 Hz

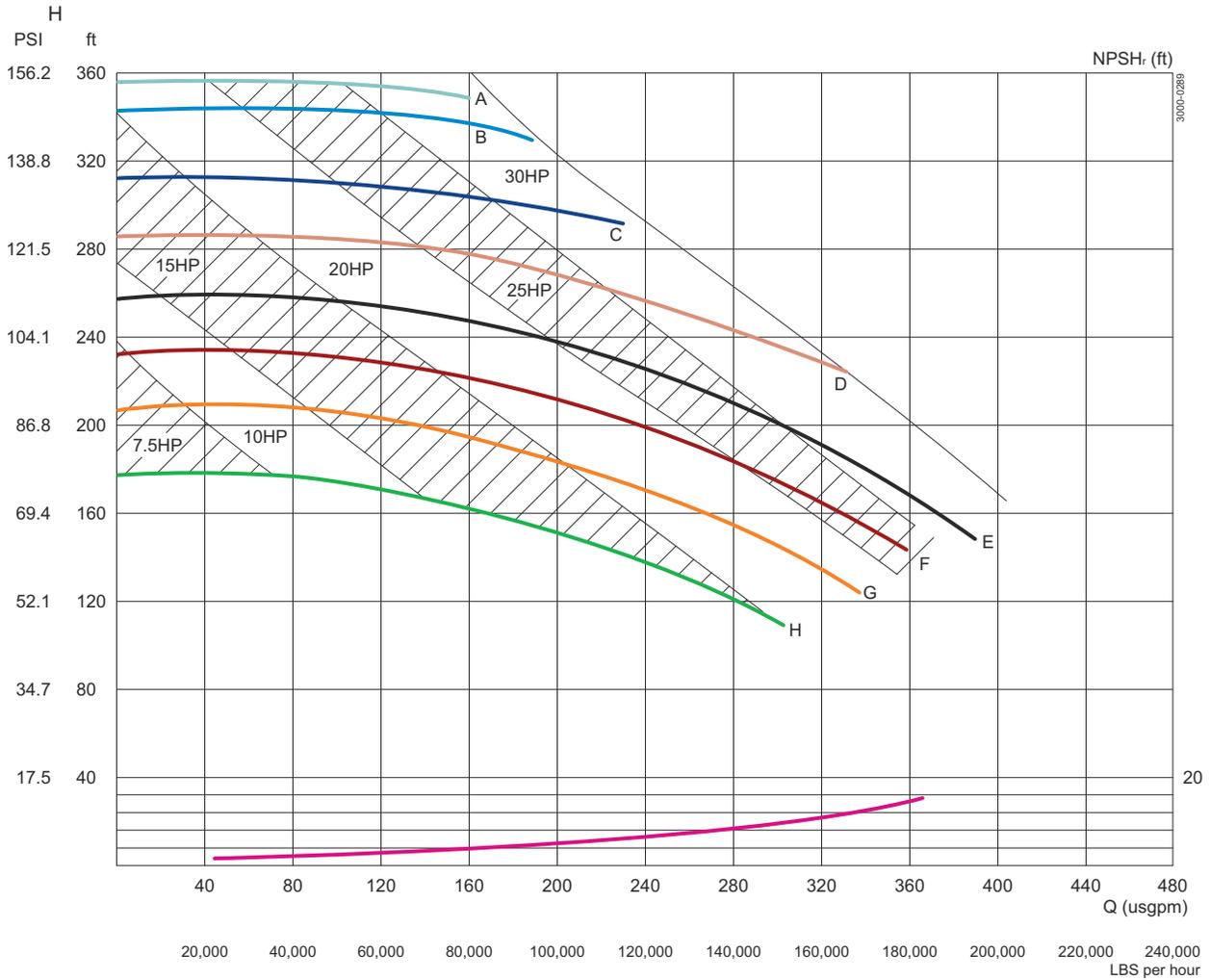
Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	9.252"
Impeller, Min. dia.:	6.693"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2", DN 65

Performance data refer to water at 68 °F



**Note!** The curves refer to motor: 33.5 Hp, 2940 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with:  
 - 3% for 16.8-28.2 Hp.  
 - 5% for 11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



A = 9.252"	D = 8.268"	G = 7.087"
B = 9.055"	E = 7.874"	H = 6.693 "
C = 8.661"	F = 7.480"	

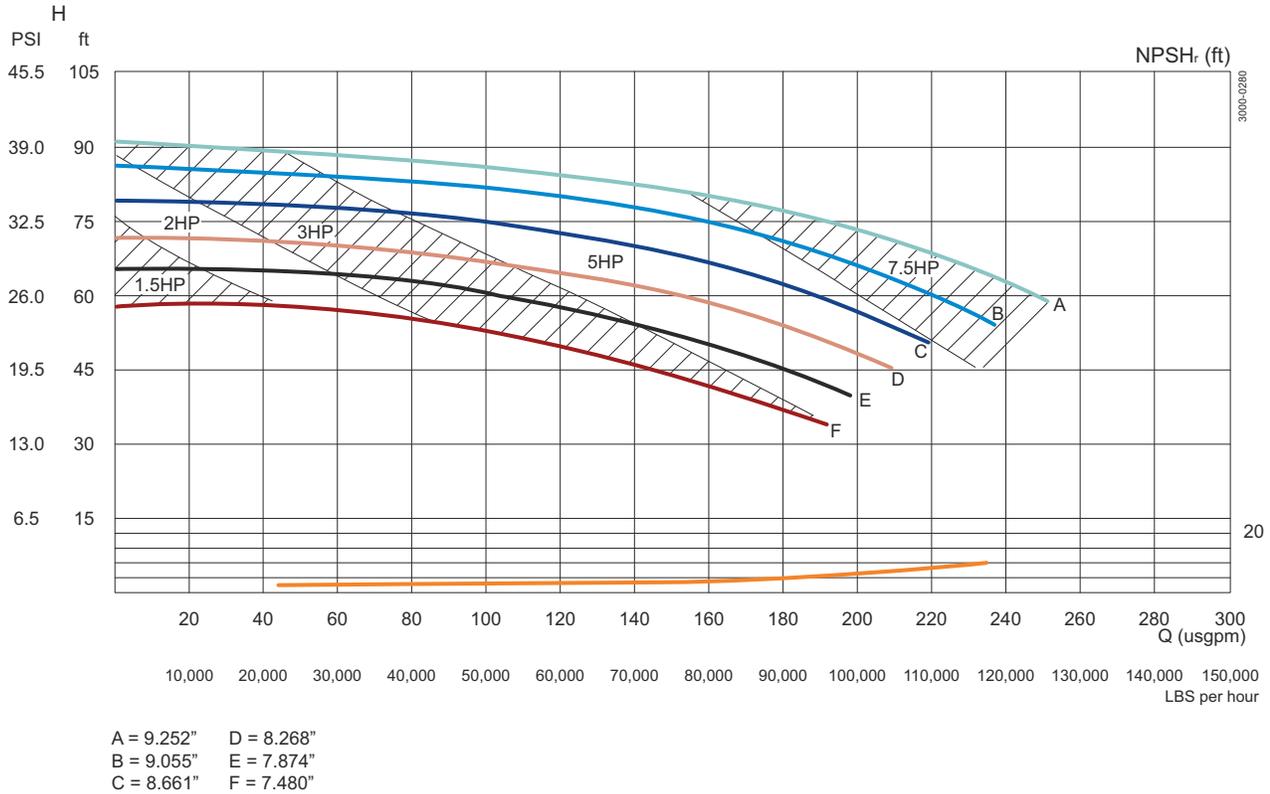
## LKHevap-40, 60 Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	9.252"
Impeller, Min. dia.:	7.480"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2", DN 65
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 8.5 Hp, 1750 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with 5%

DO NOT FORGET THE SAFETY FACTOR



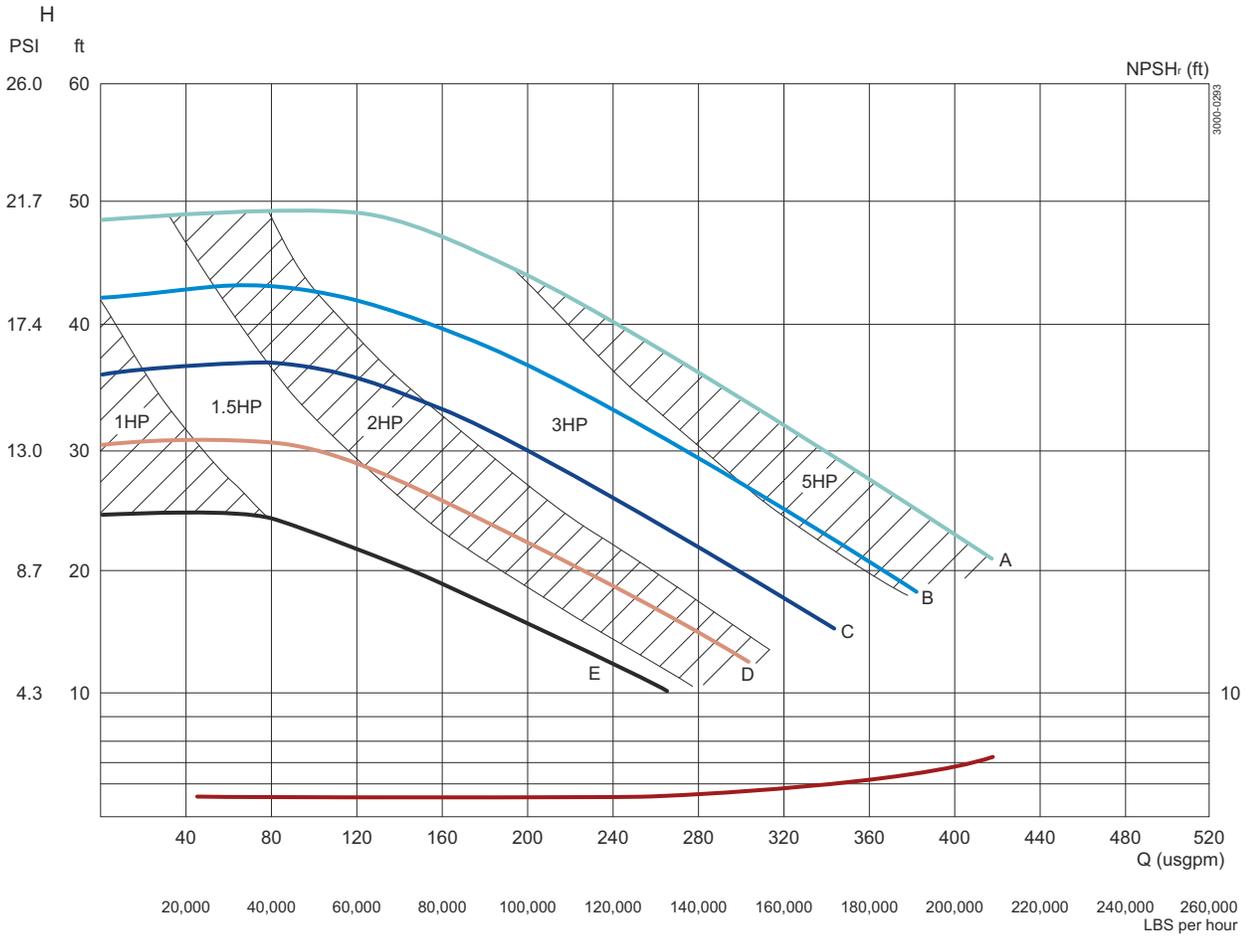
## LKHevap-45, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	7.008"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 33.5 Hp, 3545 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with:  
 - 3% for 16.8-28.2 Hp.  
 - 5% for 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



A = 7.008"    D = 5.906"  
 B = 6.693"    E = 5.512"  
 C = 6.299"

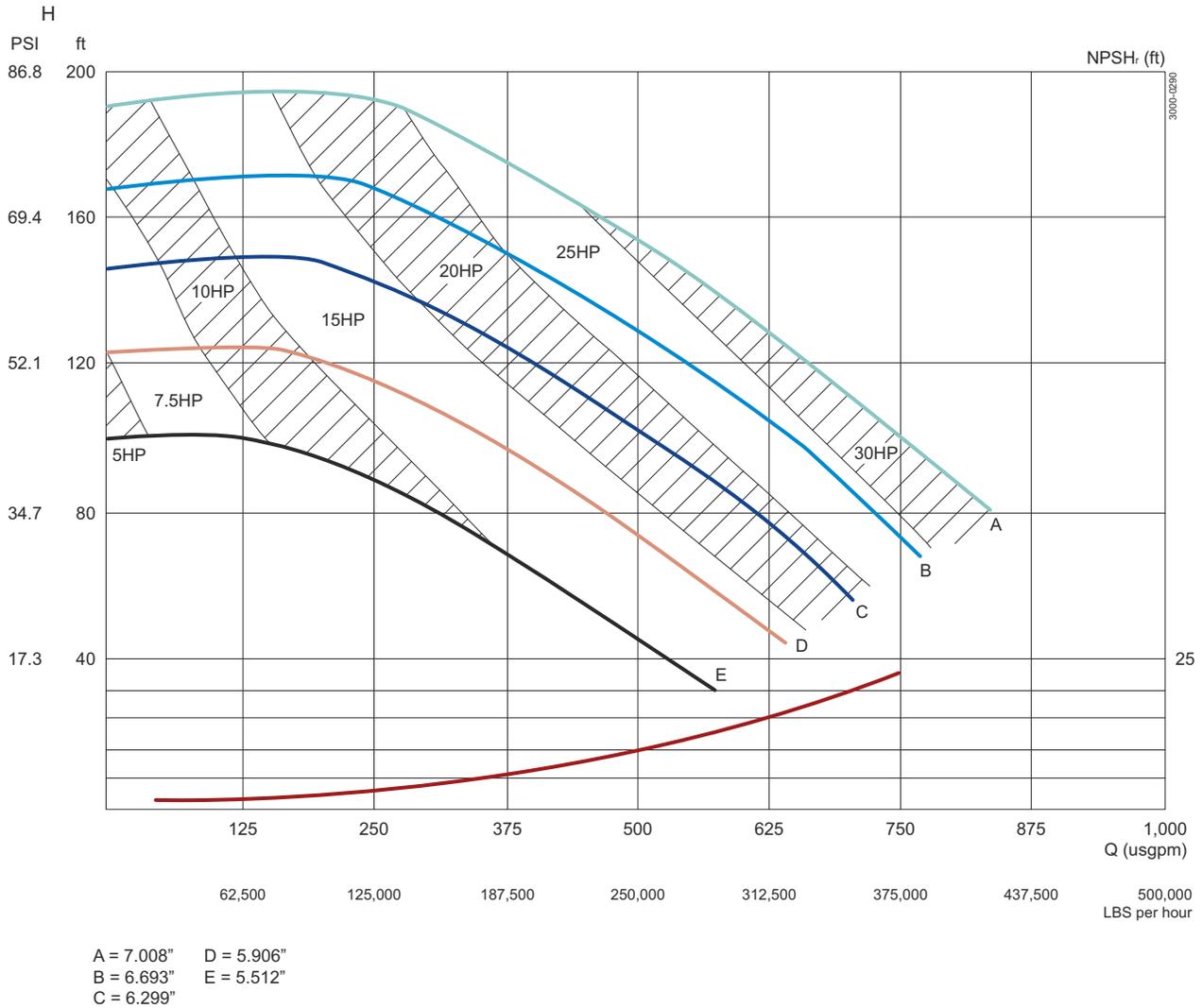
## LKHevap-45, 60Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	7.008"
Impeller, Min. dia.:	5.512"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 4.7 Hp, 1720 rpm. asynchr., 60 Hz.  
For smaller motors.

DO NOT FORGET THE SAFETY FACTOR



## LKH-50evap, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.070"
Impeller, Min. dia.:	5.906"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



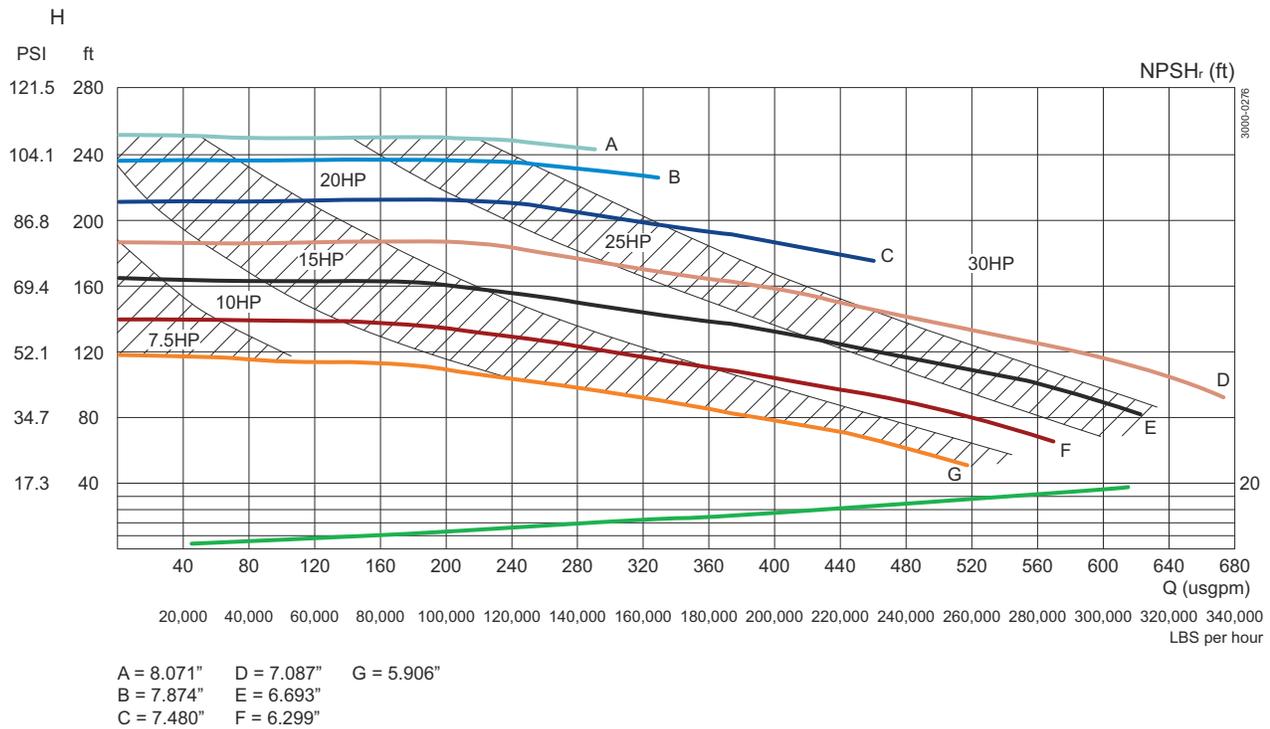
**Note!** The curves refer to motor: 33.5 Hp, 3500 rpm. asynchron., 60 Hz.

For smaller motors, reduce head (H) with:

- 3% for 16.8-28.2 Hp.

- 5% for 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



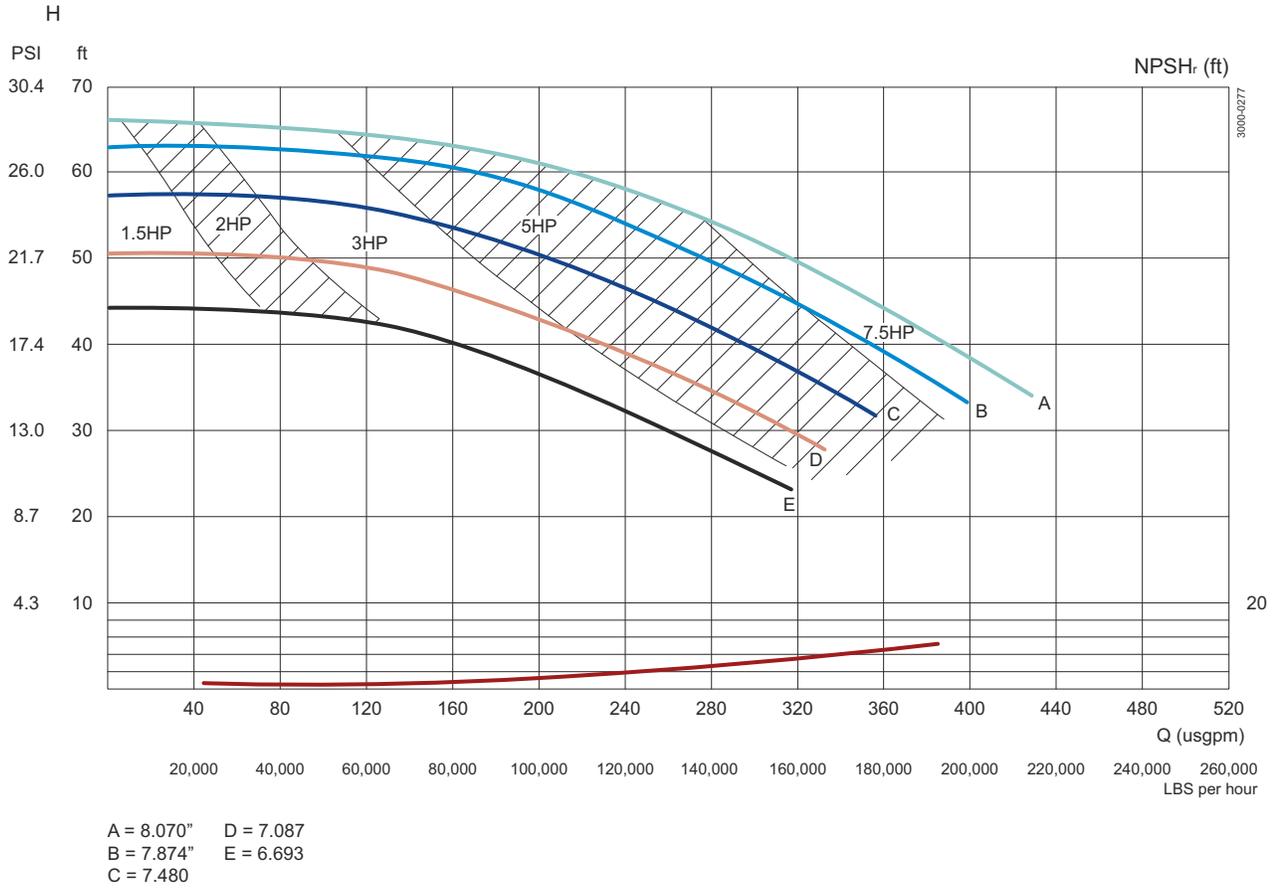
## LKHevap-50, 60Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.070"
Impeller, Min. dia.:	6.693"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



The curves refer to motor: 6.0 Hp, 1750 rpm. asynchron., 60 Hz. For smaller motors, reduce head (H) with 5%

DO NOT FORGET THE SAFETY FACTOR



## LKHevap-60, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.268"
Impeller, Min. dia.:	6.299"
Pump inlet, dia.:	4", DN 100 6", DN 150
Pump outlet, dia.:	4" mm, DN 100
Performance data refer to water at 68 °F	



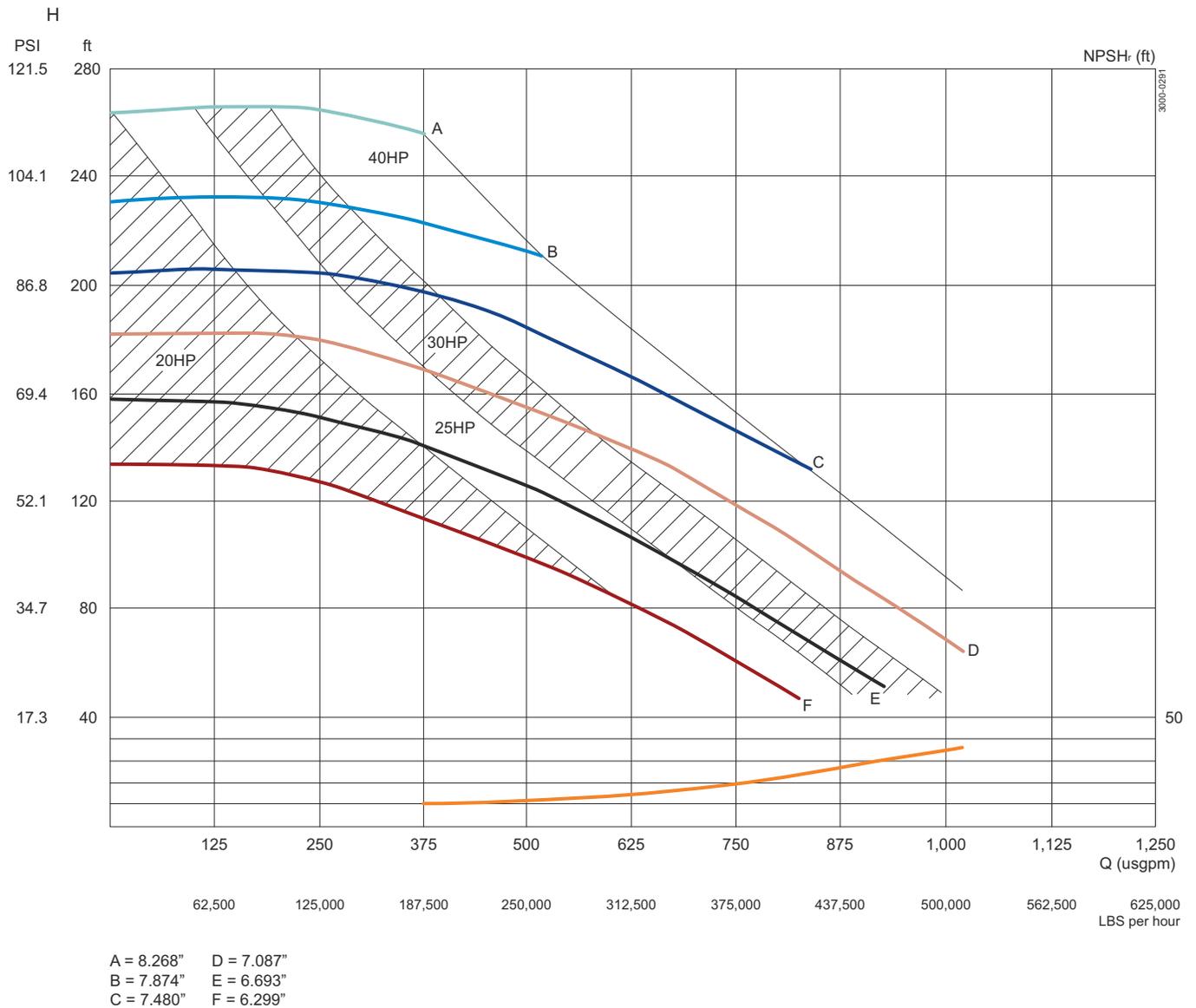
**Note!** The curves refer to motor: 46.9 Hp, 3500 rpm. asynchr., 60 Hz.

For smaller motors, reduce head (H) with:

3% for 16.8-28.2 Hp.

6% for 8.5-11.5 Hp.

DO NOT FORGET THE SAFETY FACTOR



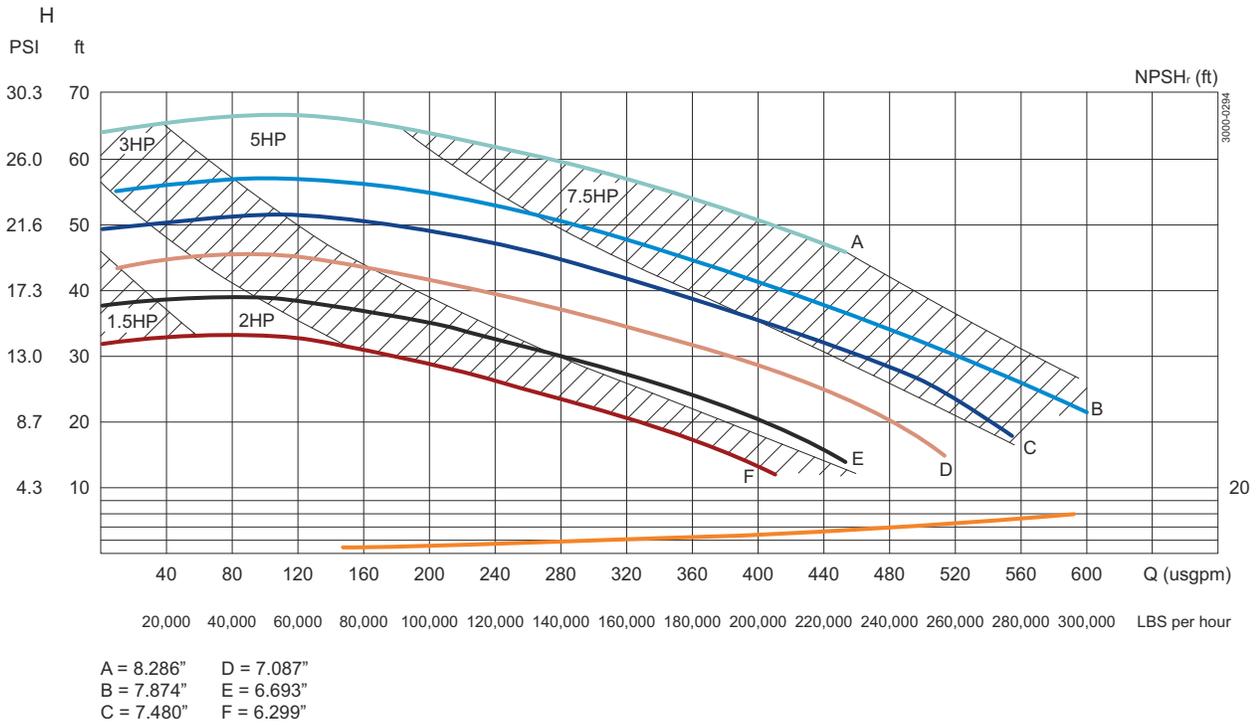
## LKHevap-60, 60Hz

Motor:	1800 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	8.268"
Impeller, Min. dia.:	6.299"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	6", DN 150
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 8.5 Hp, 1750 rpm. asynchr., 60 Hz. For smaller motors, reduce head (H) with 5%.

DO NOT FORGET THE SAFETY FACTOR



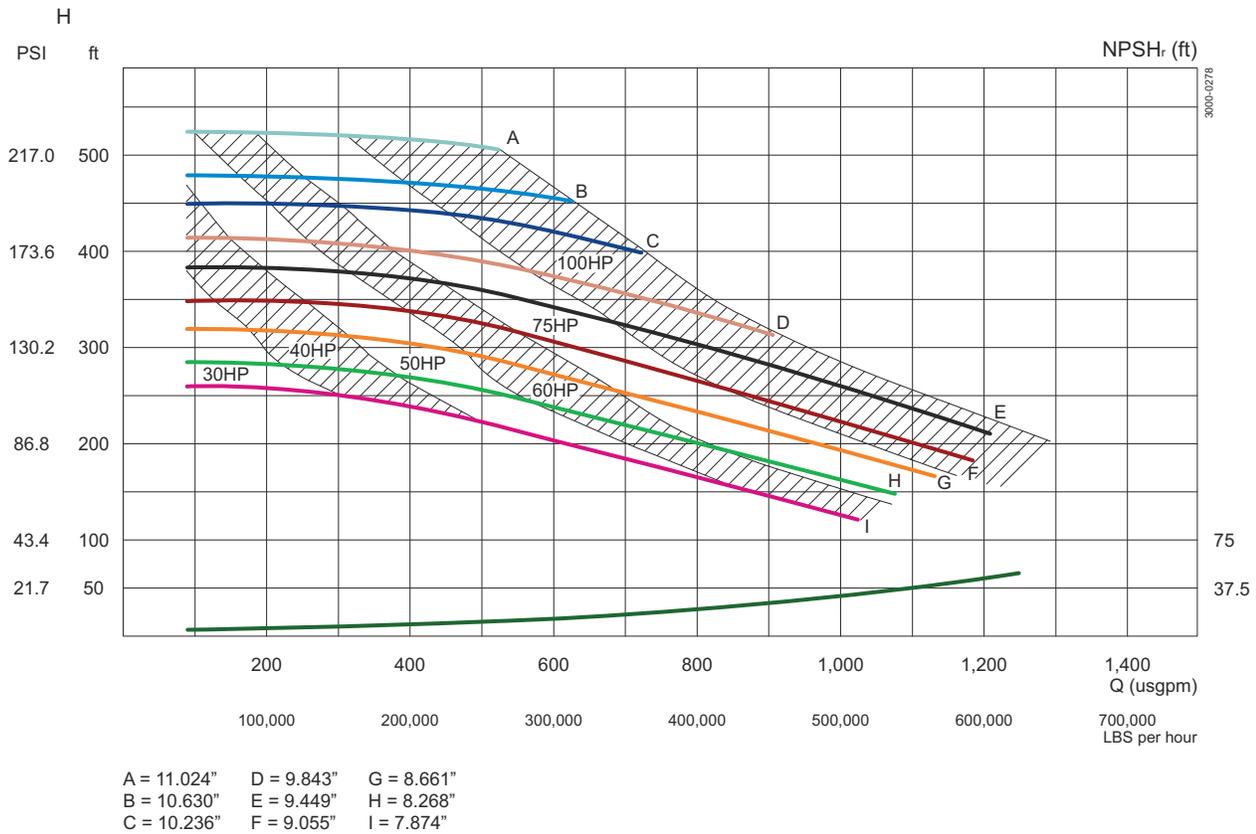
## LKHevap-70, 60 Hz

Motor:	3600 rpm. synchron.
Tolerance:	±5%
Impeller, Max. dia.:	11.024"
Impeller, Min. dia.:	7.874"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 115.3 Hp, 3565 rpm. asynchr., 60 Hz.  
For smaller motors, reduce head (H) with: -3%.

DO NOT FORGET THE SAFETY FACTOR



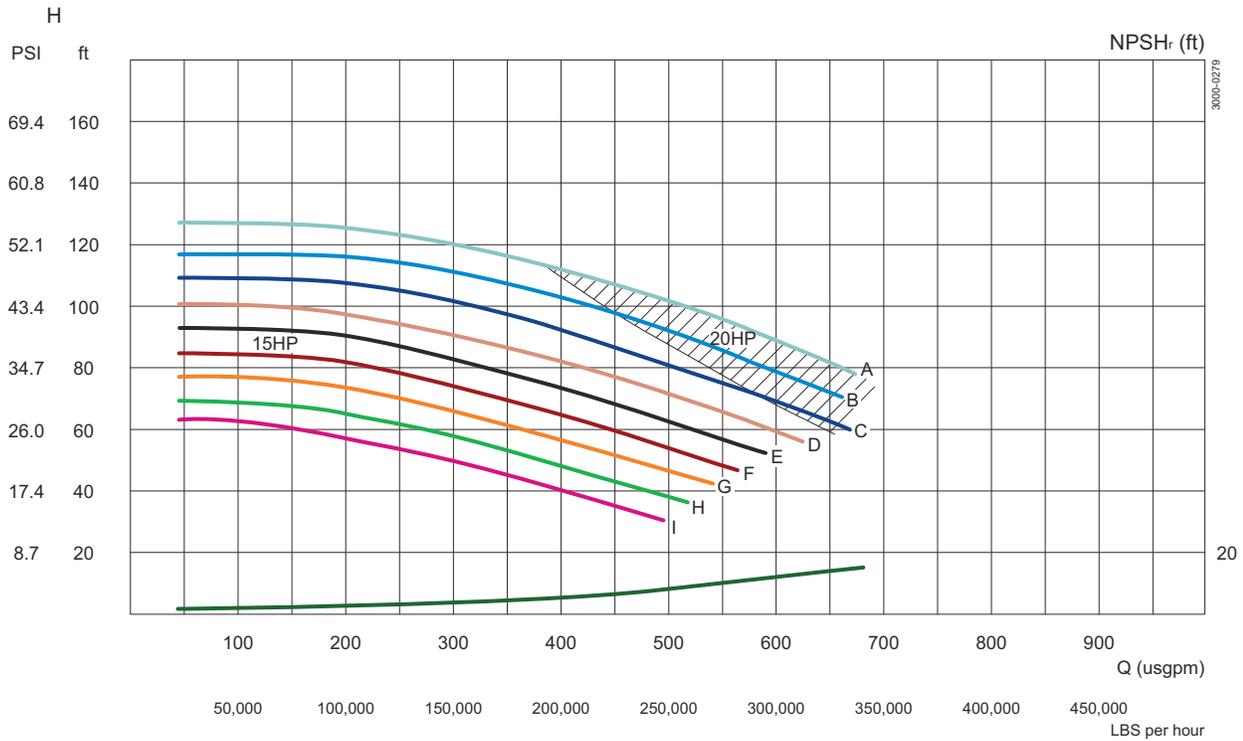
## LKHevap-70, 60 Hz

Motor:	1800 rpm. synchr.
Tolerance:	±5%
Impeller, Max. dia.:	11.024"
Impeller, Min. dia.:	7.874"
Pump inlet, dia.:	4", DN 100
Pump outlet, dia.:	3", DN 80
Performance data refer to water at 68 °F	



**Note!** The curves refer to max. motor: 22.8 Hp, 1750 rpm. asynchr., 60 Hz.

DO NOT FORGET THE SAFETY FACTOR



A = 11.024"	D = 9.843"	G = 8.661"
B = 10.630"	E = 9.449"	H = 8.268"
C = 10.236"	F = 9.055"	I = 7.874"

# Alfa Laval SolidC

## Performance curves

### SolidC-1, 60 Hz (1800 rpm. synchr.)

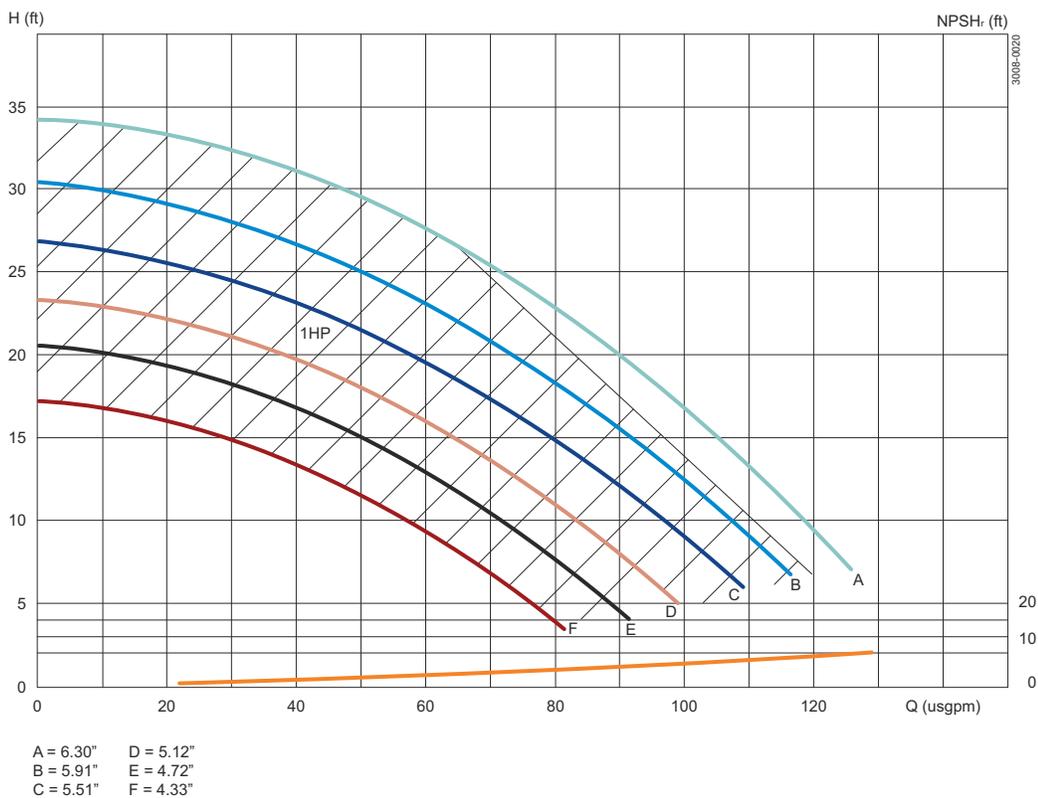
Motor:	1800 rpm. synchr.
Tolerance:	±8% for Q ±6% for H
Impeller, Max. dia.:	6.30"
Impeller, Min. dia.:	4.33"
Pump inlet, dia.:	2", DN 50
Pump outlet, dia.:	1½", DN 40
Performance data refer to water at 68 °F	



**Note!**

The curves refer to motor: 2.4 Hp, 1710 rpm. asynchr., 60 Hz

DO NOT FORGET THE SAFETY FACTOR



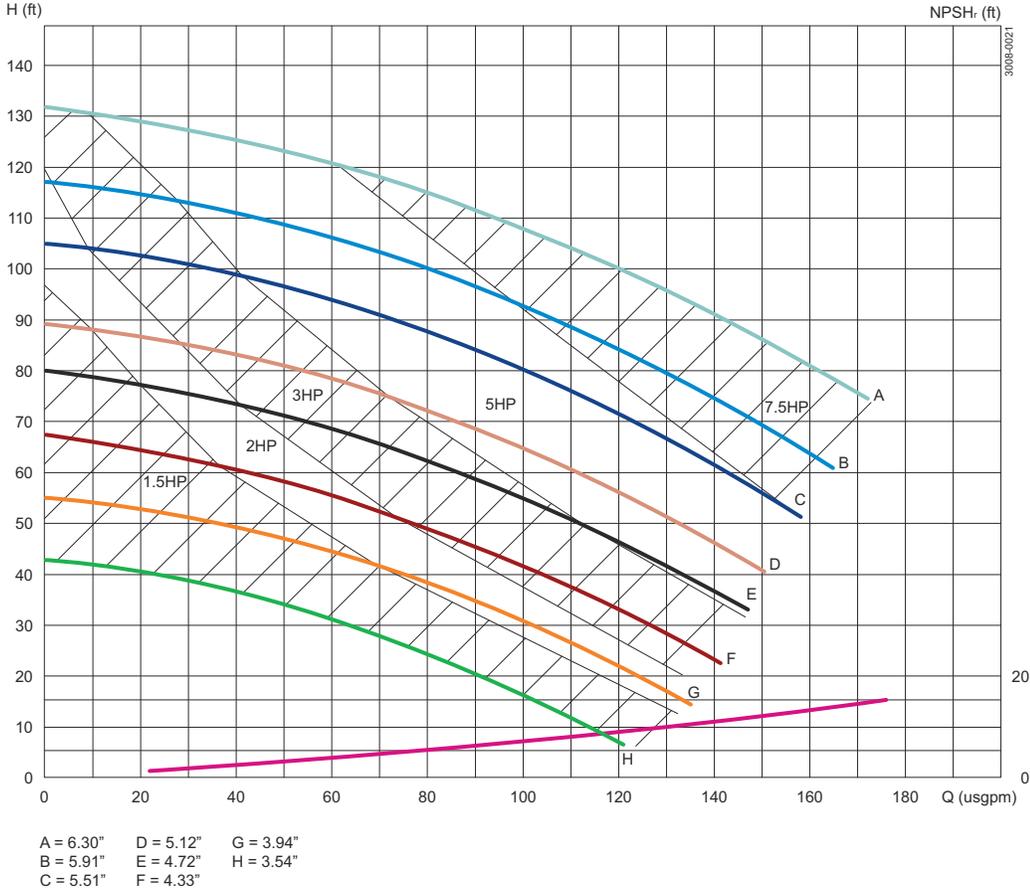
### SolidC-1, 60 Hz (3600 rpm. synchr.)

Motor:	3600 rpm. synchr
Tolerance:	±8% for Q ±6% for H
Impeller, Max. dia.:	6.30"
Impeller, Min. dia.:	3.54"
Pump inlet, dia.:	2", DN 50
Pump outlet, dia.:	1½", DN 40
Performance data refer to water at 58 °F	



**Note!**  
The curves refer to max. motor: 8.85 HP, 3540 rpm. asynchr., 60 Hz.

DO NOT FORGET THE SAFETY FACTOR



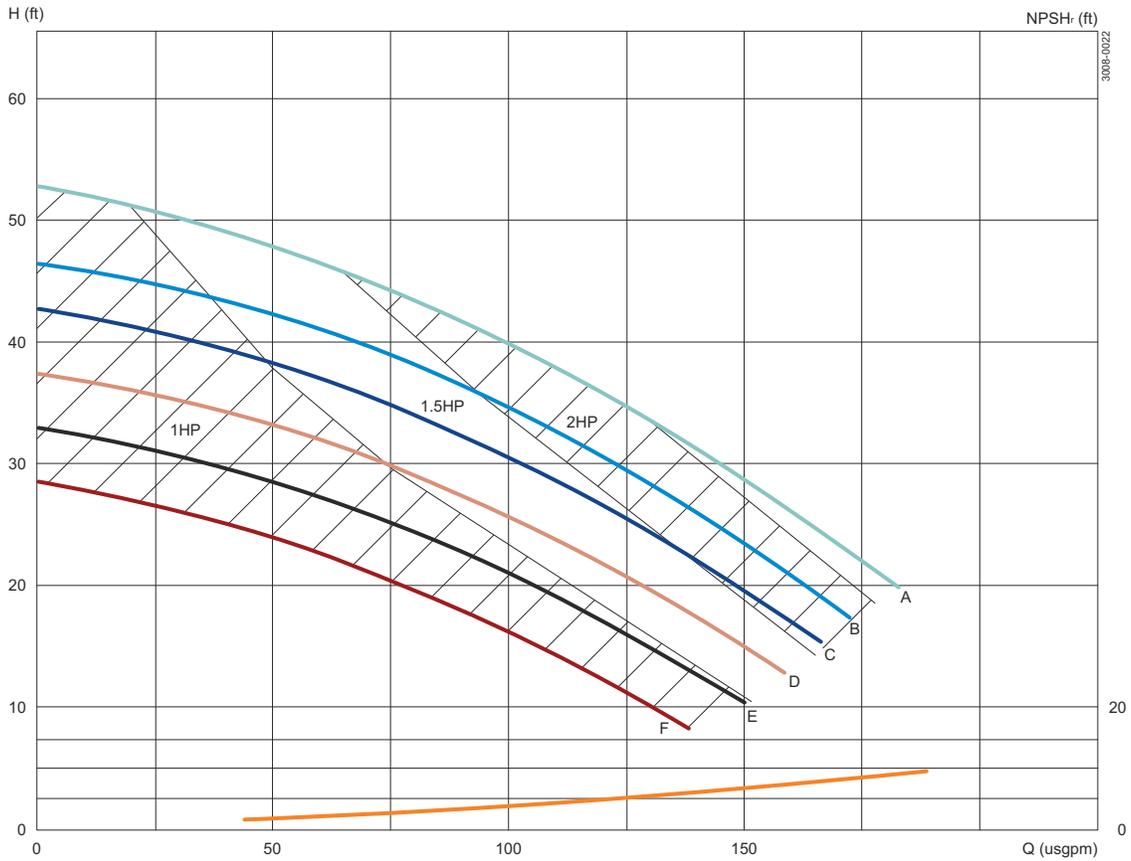
### SolidC-2, 60 Hz (1800 rpm. synchr.)

Motor:	1800 rpm. synchr.
Tolerance:	±8% for Q ±6% for H
Impeller, Max. dia.:	7.48"
Impeller, Min. dia.:	5.51"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	1½", DN 40
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 3,6 Hp, 1710 rpm. asynchr., 60 Hz.

DO NOT FORGET THE SAFETY FACTOR



A = 7.48"    D = 6.30"  
 B = 7.09"    E = 5.91"  
 C = 6.69"    F = 5.51"

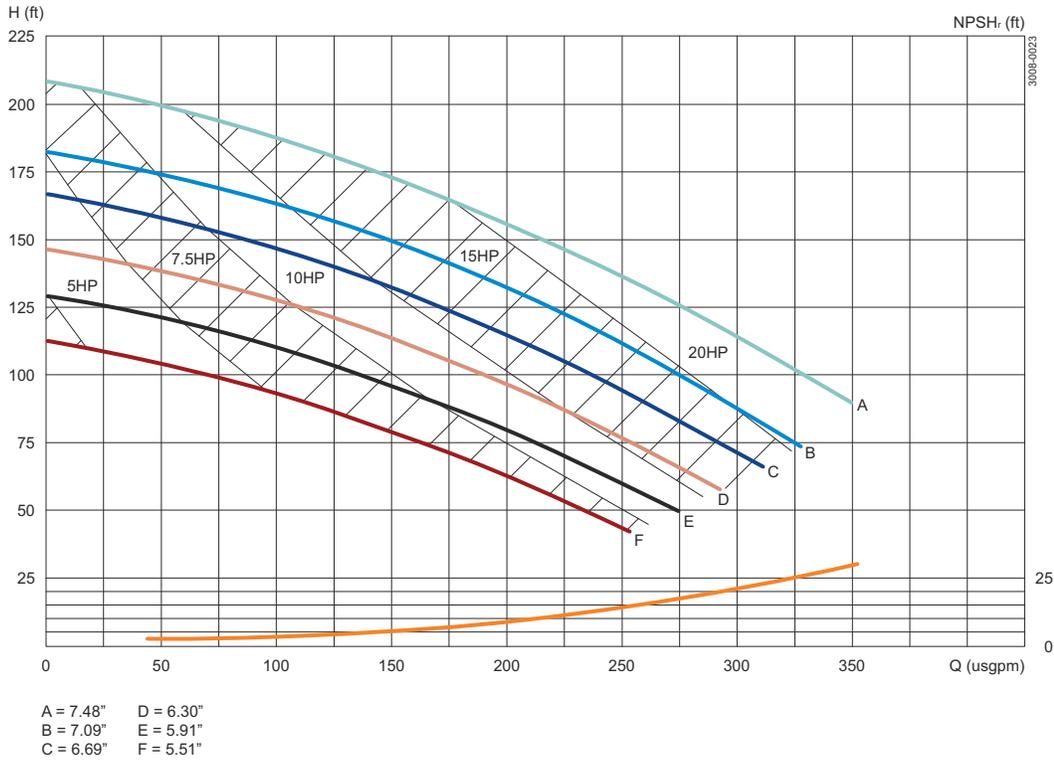
### SolidC-2, 60 Hz (3600 rpm. synchr.)

Motor:	3600 rpm. synchr.
Tolerance:	±8% for Q ±6% for H
Impeller, Max. dia.:	7.48"
Impeller, Min. dia.:	5.51"
Pump inlet, dia.:	2½", DN 65
Pump outlet, dia.:	1½", DN 40
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 22.8 Hp, 3535 rpm. asynchr., 60 Hz.

DO NOT FORGET THE SAFETY FACTOR



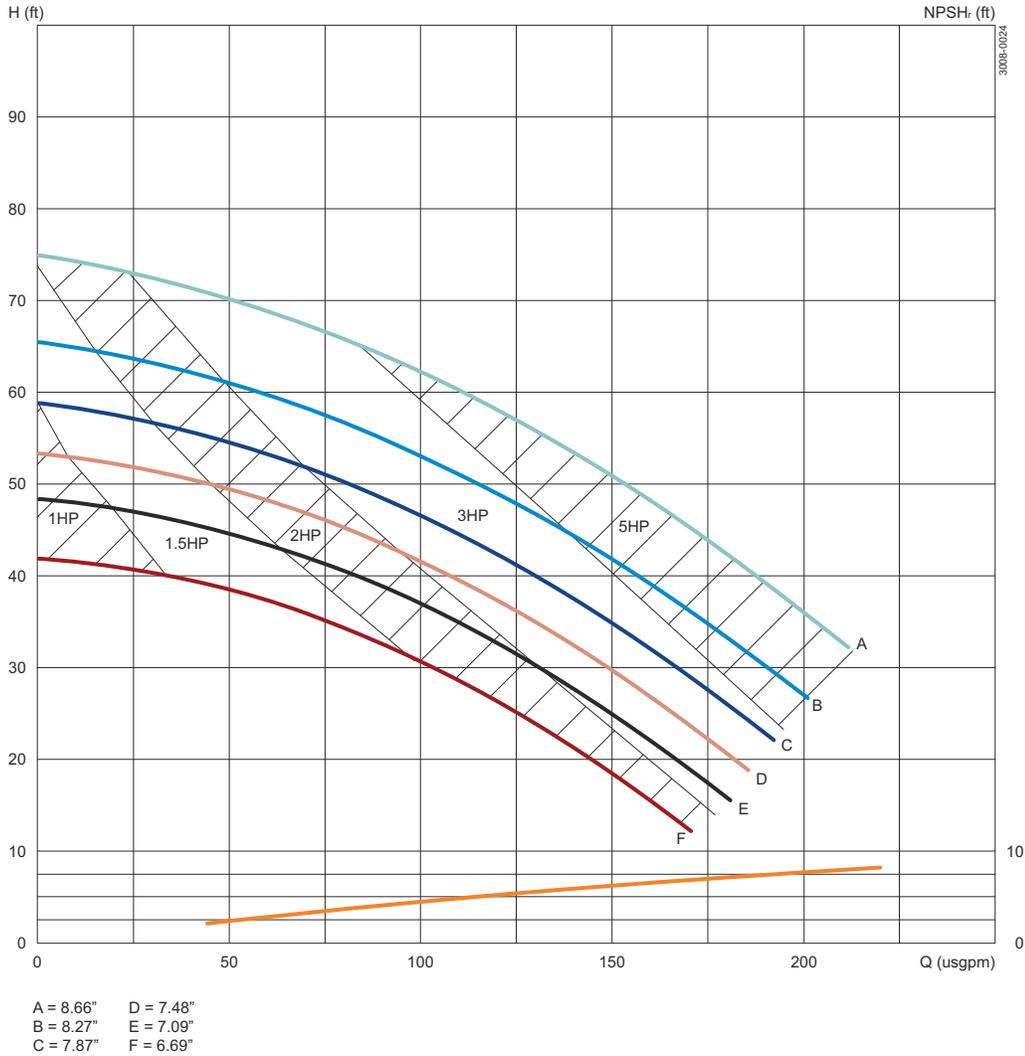
### SolidC-3, 60 Hz (1800 rpm. synchr.)

Motor:	1800 rpm. synchr.
Tolerance:	±8% for Q ±6% for H
Impeller, Max. dia.:	8.66"
Impeller, Min. dia.:	6.69"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	1½", DN 40
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 8.4 Hp, 1720 rpm. asynchr., 60 Hz.

DO NOT FORGET THE SAFETY FACTOR



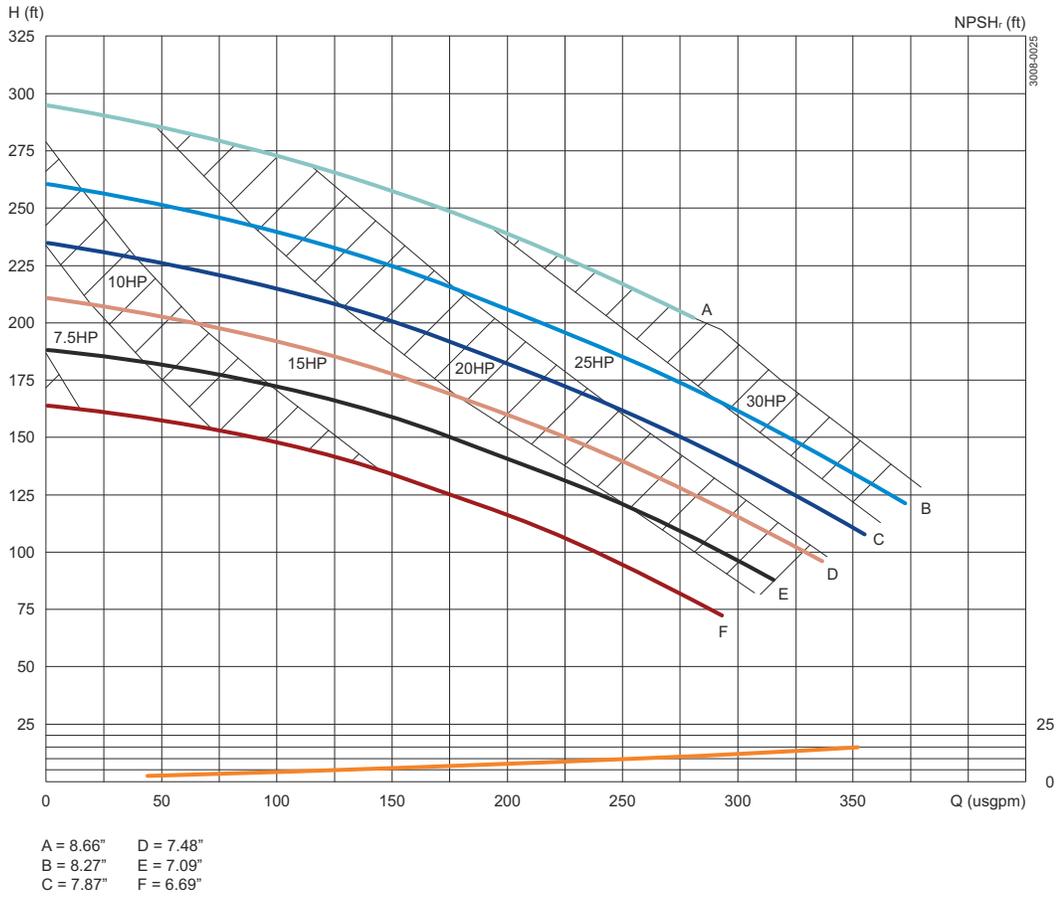
### SolidC-3, 60 Hz (3600 rpm. synchr.)

Motor:	3600 rpm. synchr.
Tolerance:	±8% for Q ±6% for H
Impeller, Max. dia.:	8.66"
Impeller, Min. dia.:	6.69"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	1½", DN 40
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 3.6 kW, 1720 rpm. asynchr., 60 Hz.

DO NOT FORGET THE SAFETY FACTOR



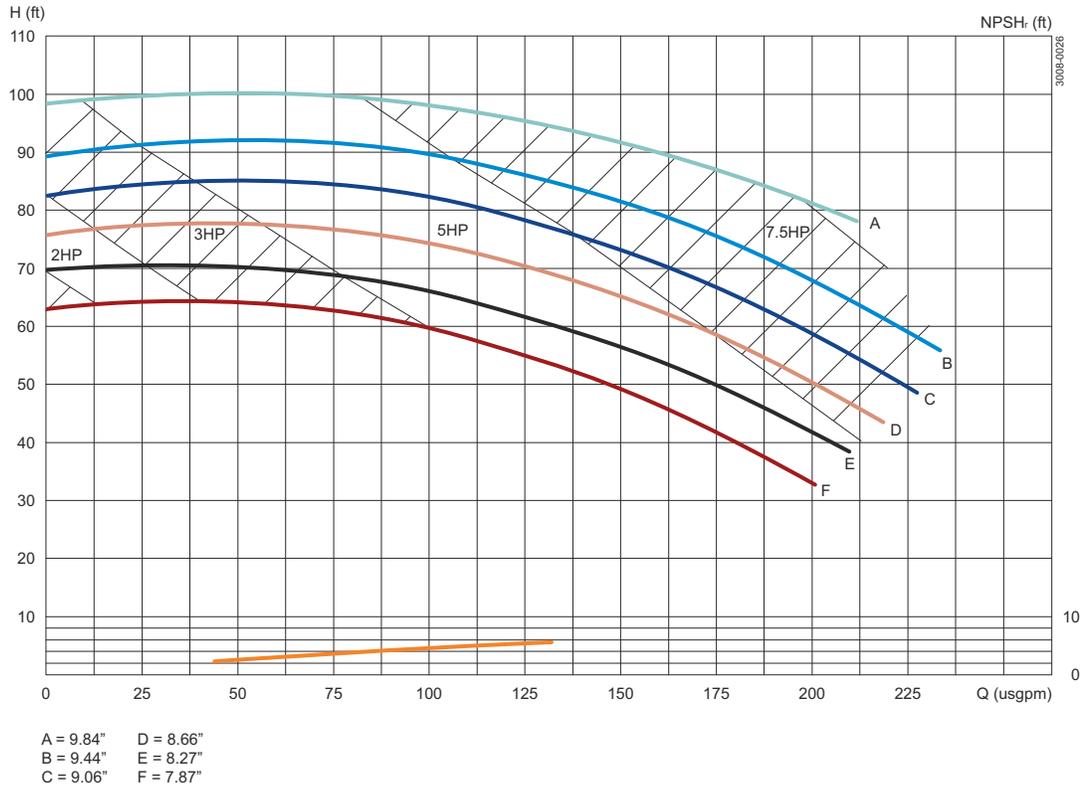
### SolidC-4, 60 Hz (1800 rpm. synchr.)

Motor:	1800 rpm. synchr.
Tolerance:	±8% for Q ±6% for H
Impeller, Max. dia.:	9.84"
Impeller, Min. dia.:	7.87"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2", DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 9.1 Hp, 1770 rpm. asynchr., 60 Hz.

DO NOT FORGET THE SAFETY FACTOR



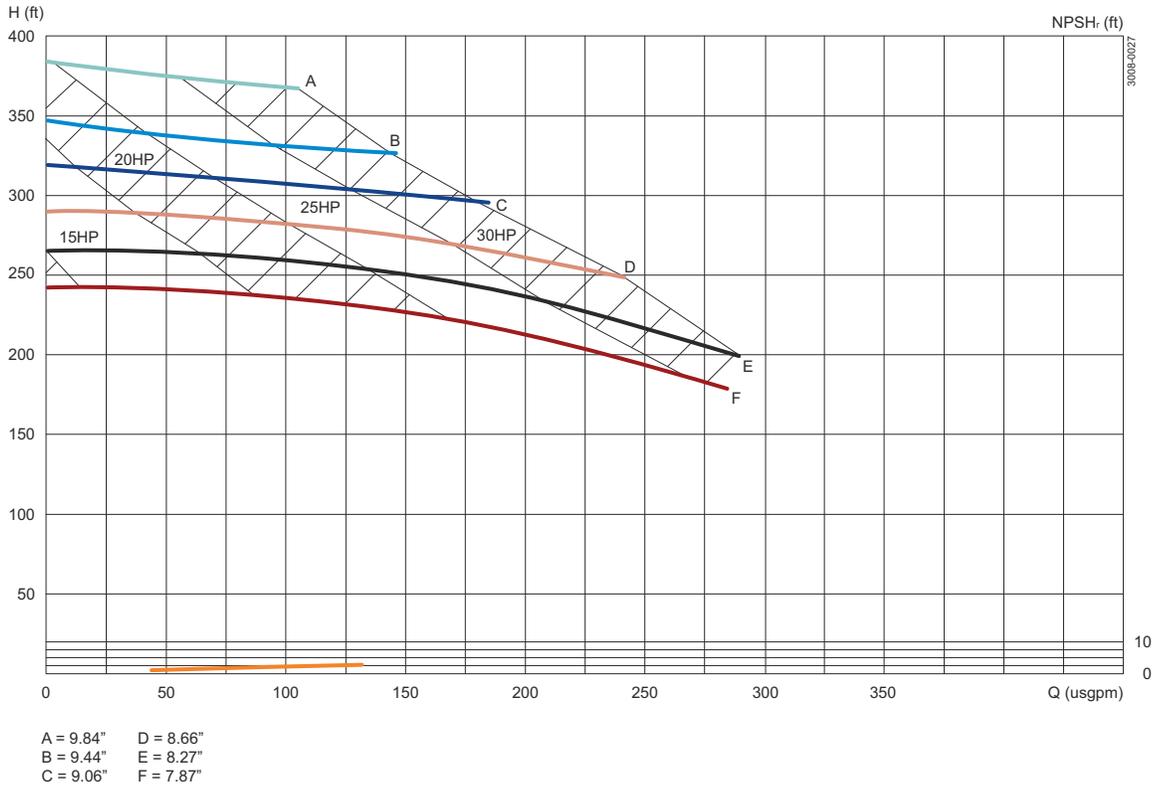
### SolidC-4, 60 Hz (3600 rpm. synchr.)

Motor:	3600 rpm. synchr.
Tolerance:	±8% for Q ±6% for H
Impeller, Max. dia.:	9.84"
Impeller, Min. dia.:	7.87"
Pump inlet, dia.:	3", DN 80
Pump outlet, dia.:	2, DN 50
Performance data refer to water at 68 °F	



**Note!** The curves refer to motor: 33.5 Hp, 3555 rpm. asynchr., 60 Hz

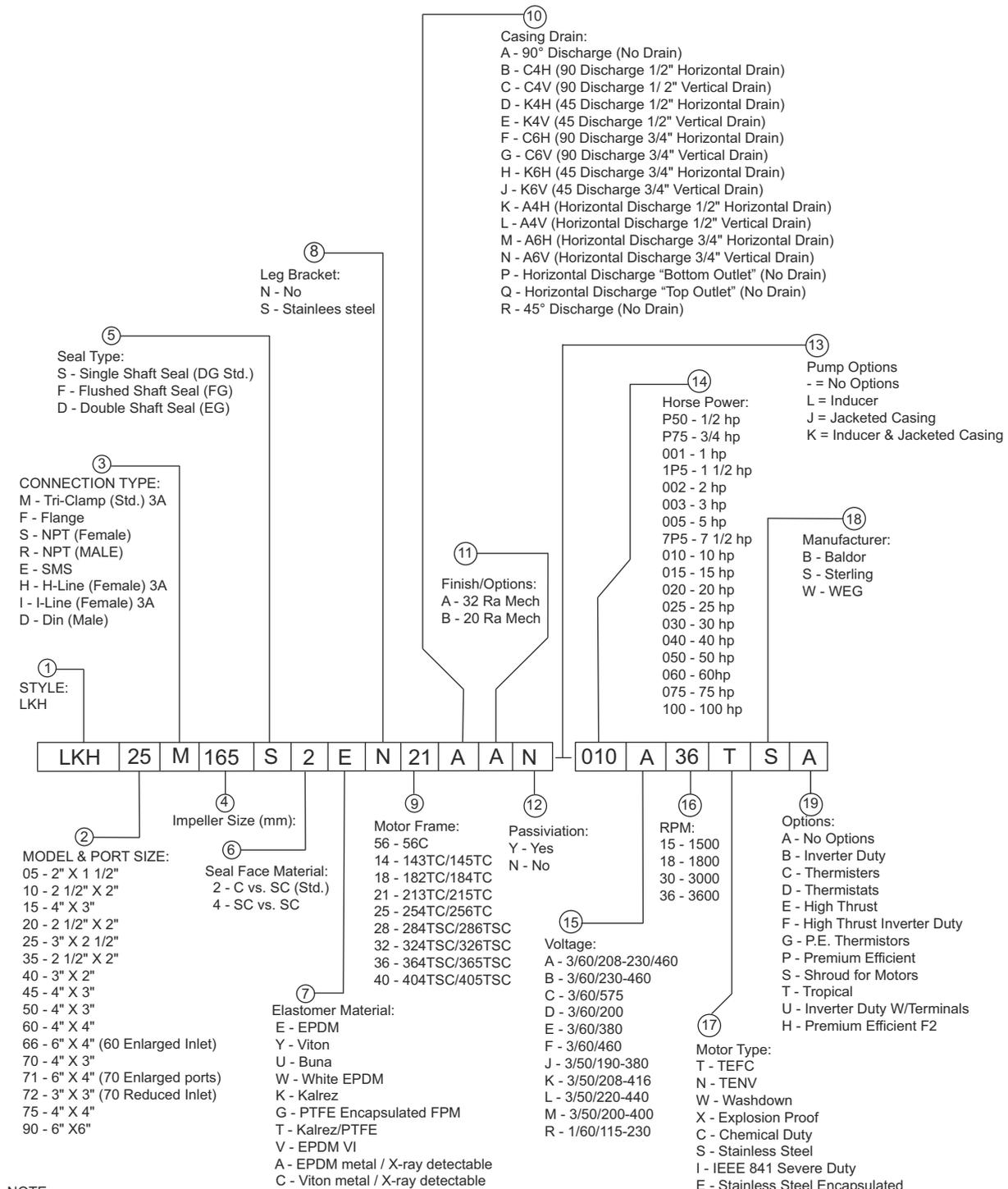
DO NOT FORGET THE SAFETY FACTOR



# Alfa Laval LKH

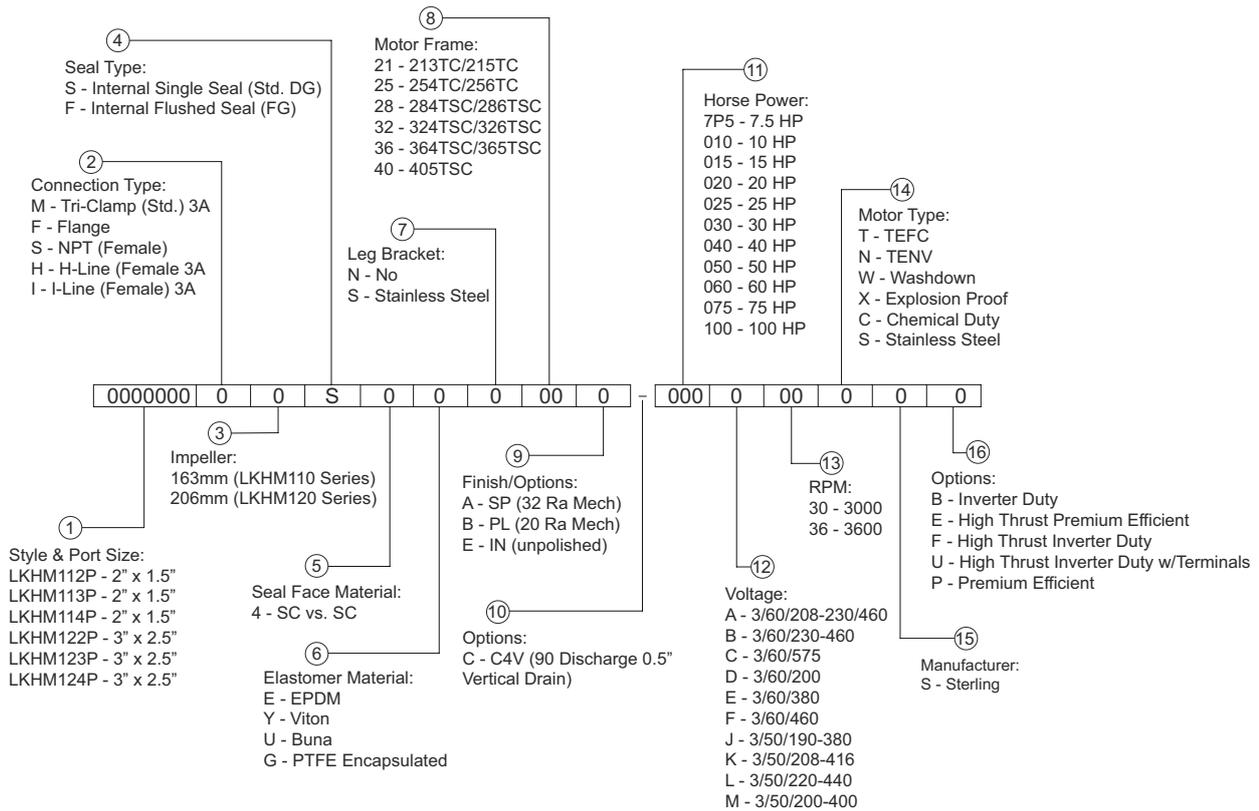
## Product description

### LKH Centrifugal Pumps



# Alfa Laval LKH Multistage

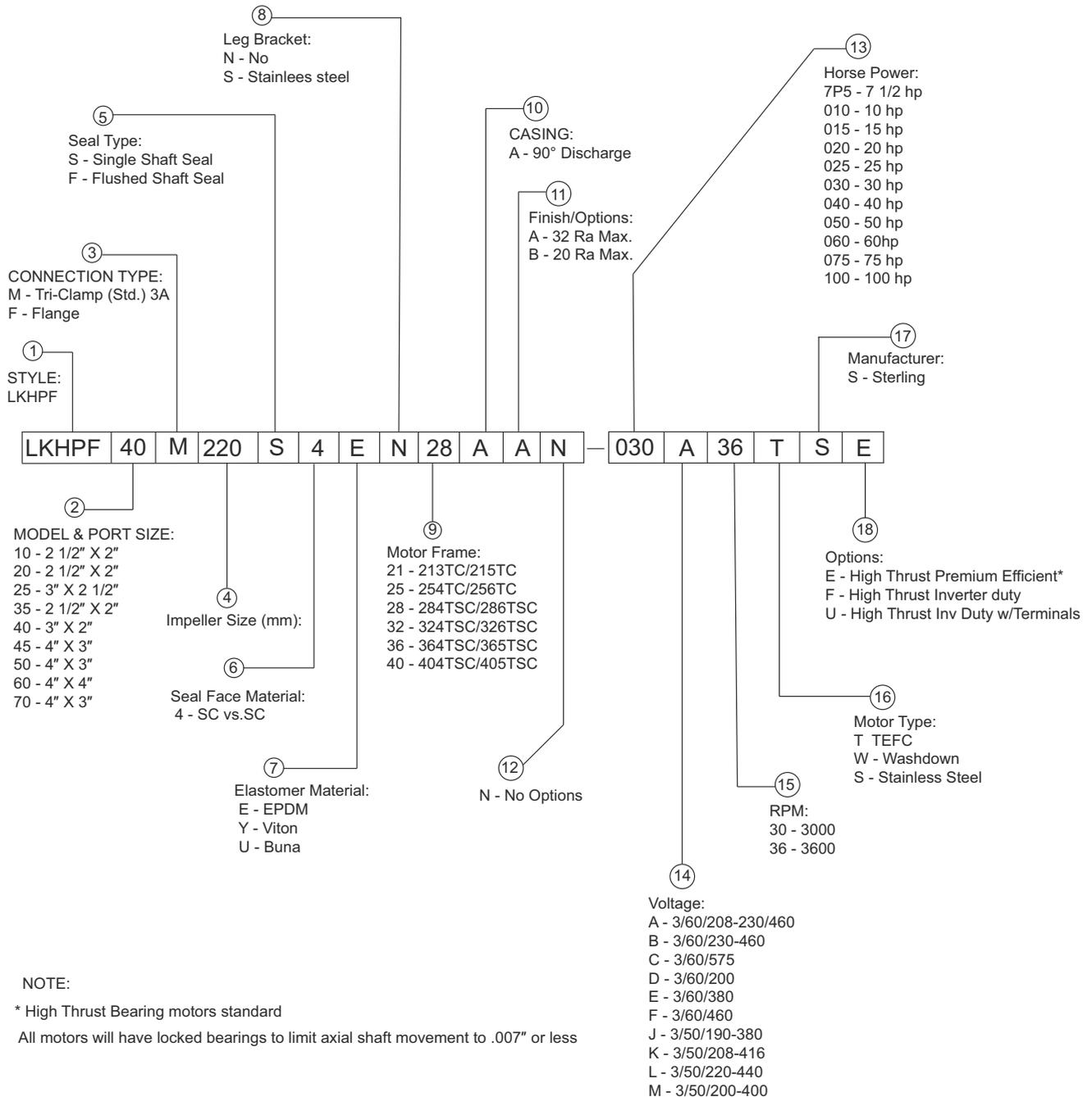
## Product description



Note:  
All motors will have locked bearings to limit axial shaft movement to .007" or less

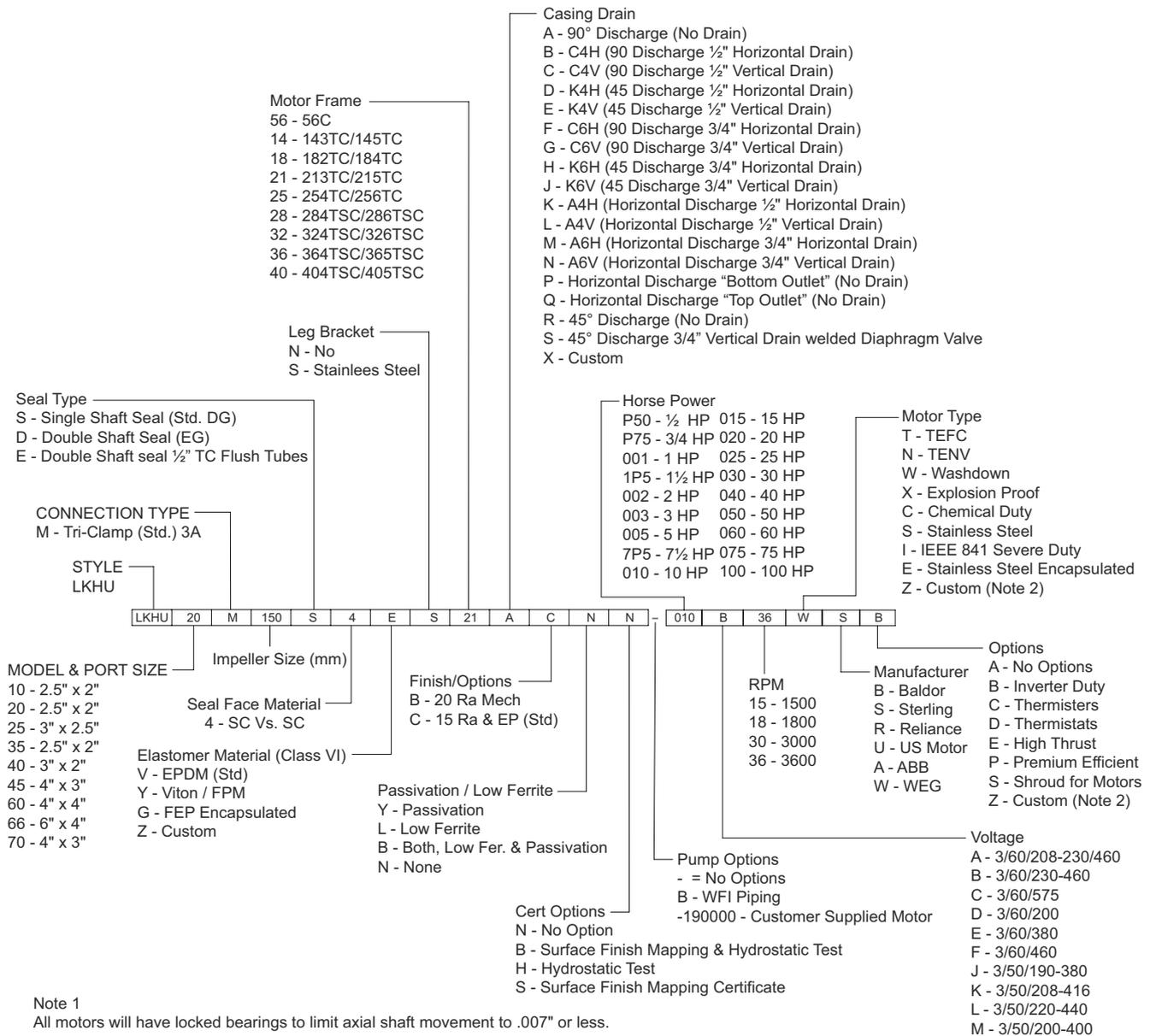
# Alfa Laval LKHPF

## Product description



# Alfa Laval LKH UltraPure

## Product description



Note 1  
 All motors will have locked bearings to limit axial shaft movement to .007" or less.

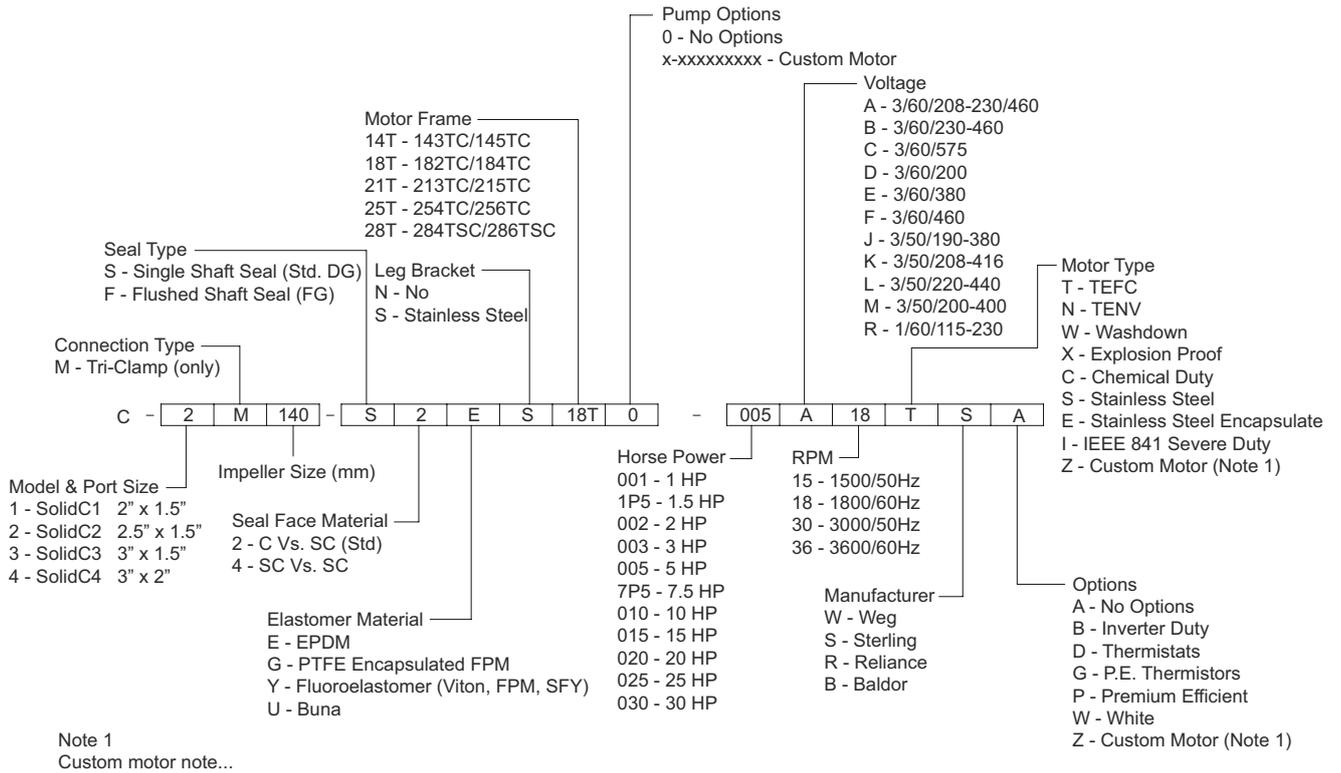
The LKH-70 will have special High Thrust Bearings designed for the following axial loads:

HP	RPM	Frame	Axial Load (LBS)
30	3600	286TSC	650
40	3600	324TSC	820
50	3600	326TSC	980
60	3600	364TSC	1150
75	3600	365TSC	1150
100	3600	405TSC	1150

Note 2  
 Custom Motor...  
 The "Z" in Position 18 & 20 are used simultaneously not individually.  
 Ex. -010B36ZSZ

# Alfa Laval SolidC

## Product description

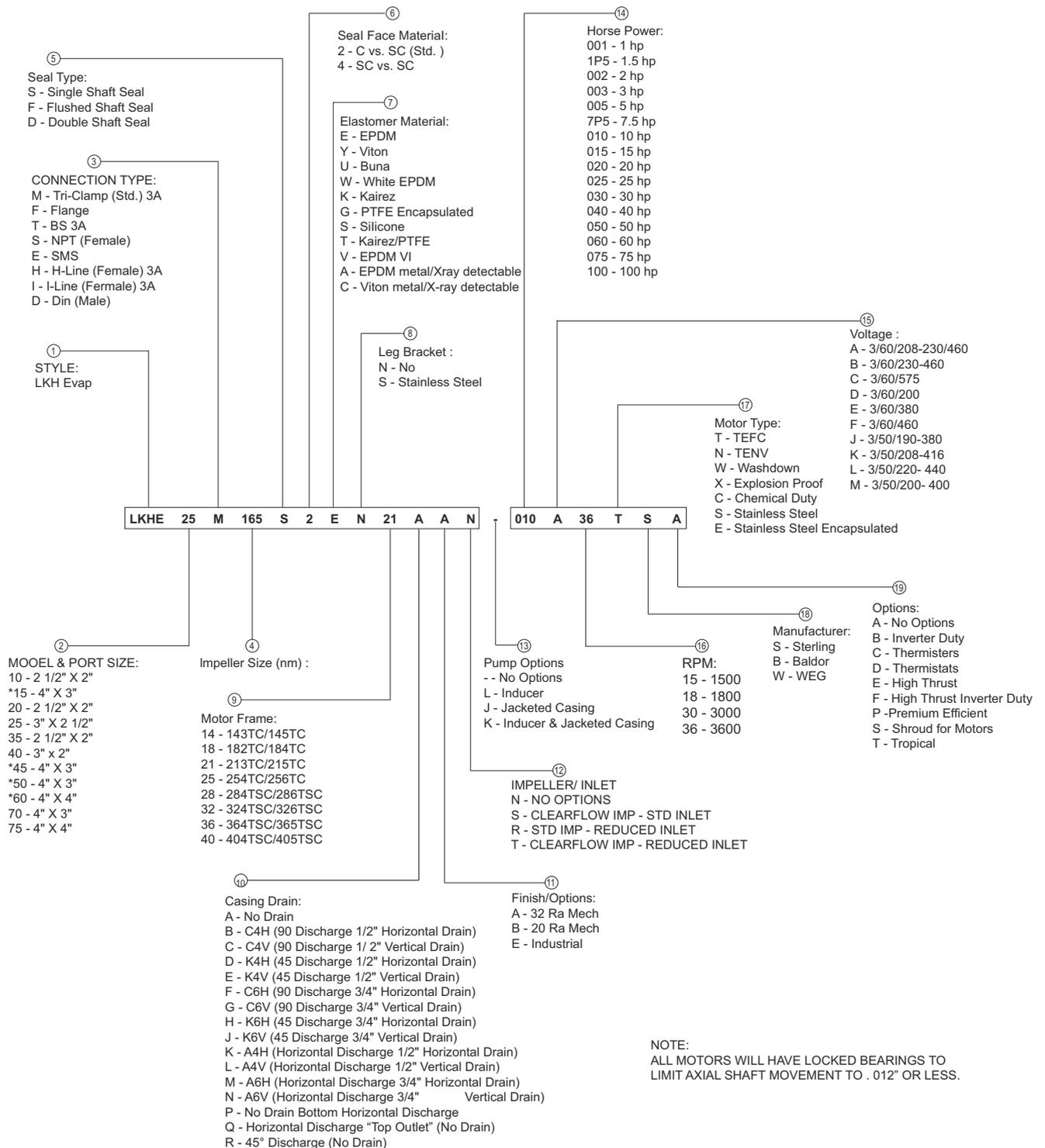


Note 1  
 Custom motor note...

The "Z" in Position 13 and 15 are used simultaneously not individually  
 Ex. -010B36ZSZ

# Alfa Laval LKH Evap

## Product description



\* AVAILABLE WITH OPTIONAL REDUCED 3" INLET (SEE POSITION 12)

# Circumferential piston pumps

<b>Product leaflet</b>	
DuraCirc .....	152
DuraCirc Aseptic .....	157

# Alfa Laval DuraCirc

## Circumferential Piston Pump

### Introduction

The Alfa Laval DuraCirc delivers the perfect balance of durability, reliability, high efficiency and superior hygienic performance. Combined with design features enabling simple service, the DuraCirc keeps process running. In addition to a class leading range of flow and pressure capabilities, DuraCirc comes with globally recognized hygienic certification. The innovative design also includes features that make cleaning and maintenance faster, easier and more dependable.

### Applications

Designed for Cleaning-in-Place (CIP), the Alfa Laval DuraCirc is ideal for hygienic applications within the dairy, food, beverage, home and personal care industries. The highly efficient design is particularly suited to applications that are low in viscosity with medium to high discharge pressures and require equipment that can be cleaned in place.

The DuraCirc Circumferential Piston Pump is available with 13 different pump head displacements to handle flow rates up to 656 US gpm and differential pressures up to 40 bar.

### Benefits

- DuraCirc Hi-Life rotors provides high efficiency while eliminating contact to casing thus increasing pump life.
- Certified to both EHEDG and 3A, reducing both process cross contamination risk and CIP cycle time, maintaining process yield as well as cutting cleaning costs.
- Truly front-loading single seal, full component interchangeability without complicated maintenance procedures, long life bearing operation and one single long-life lubricant making service faster and easier, increasing process uptime.
- Robust, durable design via strong gearcase incorporating increased diameter shafts and optimally positioned heavy-duty bearings, minimizes risk of pump head contact, reducing service requirement, maintaining process continuity.
- DuraCirc Uni-Fit port option allows easy direct replacement of other major brands into existing process systems, without changing pipework.



### Standard design

Twin-wing Hi-Life piston rotors made of special non-galling alloy are standard. All other media contacting steel components, like the rotor case, front cover and rotor nuts are in W. 1.4404 (AISI 316L). With stainless steel gear case and feet, the DuraCirc pump has an all stainless steel exterior, making it exceptional corrosion resistant.

The gearbox is as standard designed with duplex shafts and a strong, long life bearing arrangement. This provides for a very robust and rigid shaft assembly design – a prerequisite for the very high volumetric efficiency achieved.

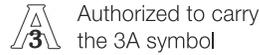
With profiled defined compression elastomers and an optimised shaft seal location, the DuraCirc is designed according to the most stringent hygienic design standards and with verified and effective CIP cleanability.

The pump features a front-loading single mechanical seal, which allows quick and easy inspection or replacement without the

need to disassemble pipework. Single flushed and double mechanical shaft seals as well as O-ring seals are available as options.

The Alfa Laval DuraCirc can be supplied either as a bare shaft pump or mounted on a base plate complete with coupling, guard, gear motor and shroud for easy, plug-and-play installation.

vacuum at the suction port as the rotors unmesh, causing fluid to enter the pump. The fluid is transported around the channel by the rotor pistons, and is displaced as the rotor pistons re-mesh, generating pressure at the discharge port. The direction of flow is reversible.



Authorized to carry the 3A symbol

## Working principle

The rotor pistons rotate around the circumference of the channel in the pump casing. This continuously generates a partial

## Technical data

### Standard specification

Piston rotors:	DuraCirc Hi-Life, Non-Galling Alloy
Other product wetted steel parts:	W. 1.4404 (316L)
Inside surface finish:	Mech Ra ≤ 0.8
Shafts:	Duplex 1.4460 (329)
Gear box:	Stainless steel
Base plate:	Stainless steel
Coupling guard:	Stainless steel
Product wetted elastomers:	EPDM
Other elastomers:	FPM
Shaft seal:	Single mechanical
Rotary seal face:	Silicon Carbide
Stationary seal face:	Carbon

### Shaft seals

Single mechanical, single mechanical with flush, double mechanical and single and flushed O-ring seal available.

Max process pressure, mechanical seal, SiC/Car:	217 PSI
Max process pressure, mechanical seal, SiC/SiC:	Max pressure of pump
Max flush pressure, single flush:	7.25 PSI
Max flush pressure, double mechanical seal, SiC/Car:	232 PSI
Max flush pressure, double mechanical seal, SiC/SiC:	290 PSI
Max process pressure, O-ring seal:	102 PSI
Max flush pressure, O-ring seal:	7.25 PSI
Flush water consumption:	7 gallon/hour
Flush connections, DuraCirc 32-43:	NPT 1/8"
Flush connections, DuraCirc 52-74:	NPT 1/4"

### Temperature

Max process and CIP temperature:	302°F
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### Motors

Gear motor, 4 poles, to Nema standard, premium efficiency, suitable for frequency conversion.

### Warranty

Extended 3-years warranty on DuraCirc pumps. The warranty covers all non wear parts on the condition that genuine Alfa Laval Spare Parts are used.

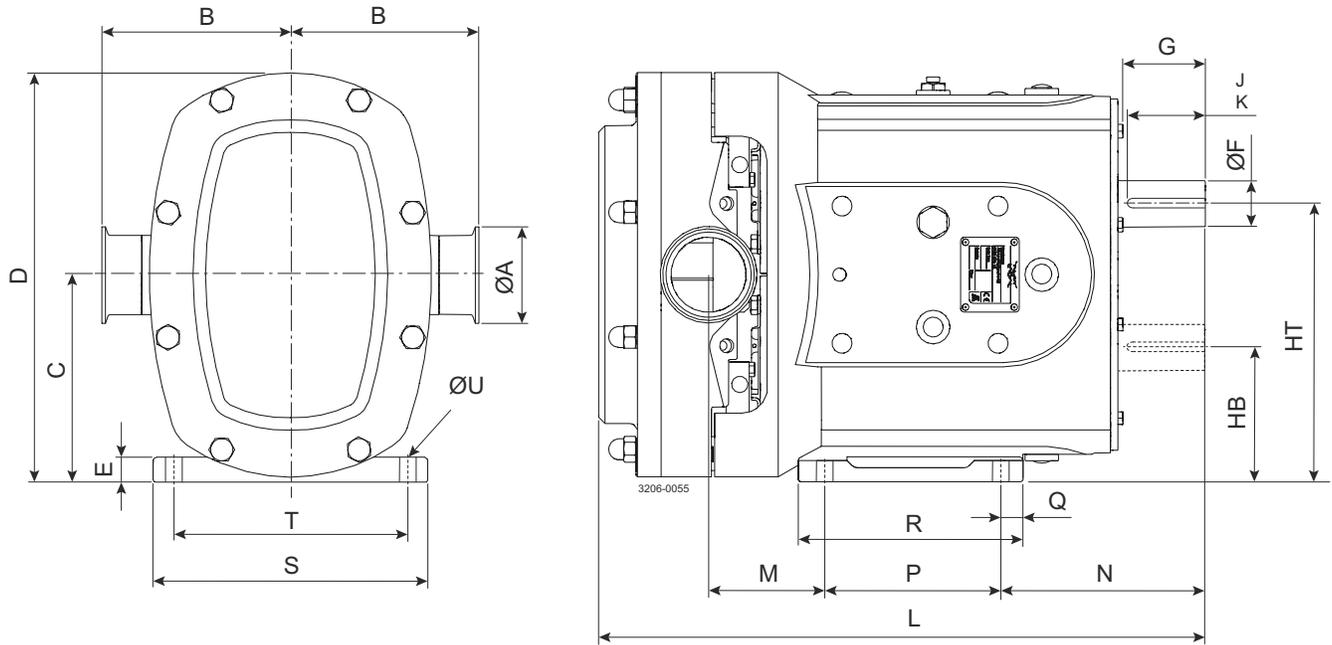
## Process data

Pump Model	Displacement			Inlet/Outlet		Diff. Pressure		Max speed
	Litres/rev	Imp gall/100 rev	US gall/100 rev	mm	inch	Bar	PSI	rpm
32	0,03	0.66	0.79	25	1	25	362	1000
33	0,06	1.32	1.58	40	1½	25	362	1000
34	0,12	2.64	3.17	50	2	16	232	1000
42	0,23	5.06	6.07	50	2	20	290	750
43	0,29	6.38	7.66	50	2	13	188	750
52	0,38	8.36	10.03	50	2	37	536	750

Pump Model	Displacement			Inlet/Outlet		Diff. Pressure		Max speed
	Litres/rev	Imp gal/100 rev	US gal/100 rev	mm	inch	Bar	PSI	rpm
53	0,59	12.97	15.57	65	2½	25	362	750
54	0,96	21.12	25.3	80	3	16	232	750
62	1,44	31.67	38.04	80	3	37	536	600
63	1,97	43.33	52.03	100	4	25	362	600
72	1,92	42.23	50.7	100	4	40	580	600
73	2,86	62.91	75.55	150	6	25	362	600
74	4,14	91.1	109.4	150	6	16	232	600

## Dimensions

(inch)



**Figure 1. Horizontally ported**

ØU = 4 Holes

J = Key Length

K = Key Width

## DuraCirc Uni-Fit dimensions

Pump Model	A	B	C	D	E	F	G	HB	HT	J	K	L	M	N	P	Q	R	S	T	U
32	1.0	3.5	4.2	8.3	0.5	0.9	1.7	2.9	5.6	1.3	0.2	13.0	2.0	4.9	3.9	1.0	5.5	5.9	4.9	0.5
33	1.5	3.5	4.2	8.3	0.5	0.9	1.7	2.9	5.6	1.3	0.2	13.2	2.0	4.9	3.9	1.0	5.5	5.9	4.9	0.5
34	1.5	3.5	4.2	8.3	0.5	0.9	1.7	2.9	5.6	1.3	0.2	14.0	2.4	4.9	3.9	1.0	5.5	5.9	4.9	0.5
42	1.5	4.3	5.2	10.3	0.4	1.1	2.2	3.5	6.9	1.6	0.3	16.3	2.8	5.5	4.9	0.6	6.2	7.3	6.0	0.6
43	2.0	4.3	5.2	10.3	0.4	1.1	2.2	3.5	6.9	1.6	0.3	16.6	3.2	5.5	4.9	0.6	6.2	7.3	6.0	0.6
52	2.0	5.4	7.3	13.7	1.6	1.5	2.6	5.1	9.6	2.5	0.4	18.6	3.3	6.6	5.5	0.9	7.1	8.7	7.5	0.6
53	2.5	5.4	7.3	13.7	1.6	1.5	2.6	5.1	9.6	2.5	0.4	19.1	3.5	6.6	5.5	0.9	7.1	8.7	7.5	0.6
54	3.0	5.4	7.3	13.7	1.6	1.5	2.6	5.1	9.6	2.5	0.4	20.2	4.4	6.6	5.5	0.9	7.1	8.7	7.5	0.6
62	3.0	6.3	9.4	17.2	2.3	1.8	3.3	6.4	12.3	2.8	0.6	23.1	4.6	7.8	6.3	1.0	8.8	9.8	8.5	0.6
63	4.0	6.3	9.4	17.2	2.3	1.8	3.3	6.4	12.3	2.8	0.6	23.9	4.9	7.8	6.3	1.0	8.8	9.8	8.5	0.6
72	4.0	7.4	10.4	19.8	1.7	2.4	4.1	6.9	13.9	3.5	0.7	27.6	4.3	9.7	8.5	0.8	10.9	11.0	9.7	0.6
73	6.0	8.0	10.4	19.8	1.7	2.4	4.1	6.9	13.9	3.5	0.7	28.5	4.8	9.7	8.5	0.8	10.9	11.0	9.7	0.6
74	6.0	8.5	10.4	19.8	1.7	2.4	4.1	6.9	13.9	3.5	0.7	29.9	5.7	9.7	8.5	0.8	10.9	11.0	9.7	0.6



**Note!** DuraCirc Uni-Fit is an option to meet port to port and port height dimensions of other major brands.

DuraCirc standard dimensions

Pump Model	A	B	C	D	E	F	G	HB	HT	J	K	L	M	N	P	Q	R	S	T	U
32	1.0	4.1	4.5	8.7	0.5	0.9	1.7	3.2	5.9	1.3	0.2	13.0	2.0	4.9	3.9	1.0	5.5	5.9	4.9	0.5
33	1.5	4.1	4.5	8.7	0.5	0.9	1.7	3.2	5.9	1.3	0.2	13.2	2.0	4.9	3.9	1.0	5.5	5.9	4.9	0.5
34	2.0	4.1	4.5	8.7	0.5	0.9	1.7	3.2	5.9	1.3	0.2	13.9	2.4	4.9	3.9	1.0	5.5	5.9	4.9	0.5
42	2.0	4.9	5.2	10.3	0.4	1.1	2.2	3.5	6.9	1.6	0.3	16.3	2.8	5.5	4.9	0.6	6.2	7.3	6.1	0.6
43	2.0	4.9	5.2	10.3	0.4	1.1	2.2	3.5	6.9	1.6	0.3	16.6	3.2	5.5	4.9	0.6	6.2	7.3	6.1	0.6
52	2.0	5.9	6.4	12.8	0.7	1.5	2.6	4.2	8.7	2.5	0.4	18.6	3.3	6.6	5.5	0.9	7.1	8.7	7.5	0.6
53	2.5	5.9	6.4	12.8	0.7	1.5	2.6	4.2	8.7	2.5	0.4	19.1	3.5	6.6	5.5	0.9	7.1	8.7	7.5	0.6
54	3.0	6.3	6.4	12.8	0.7	1.5	2.6	4.2	8.7	2.5	0.4	20.2	4.4	6.6	5.5	0.9	7.1	8.7	7.5	0.6
62	3.0	7.3	7.9	15.7	0.8	1.8	3.3	4.9	10.8	2.8	0.6	23.1	4.6	7.8	6.3	1.0	8.8	9.8	8.5	0.6
63	4.0	7.3	7.9	15.7	0.8	1.8	3.3	4.9	10.8	2.8	0.6	23.9	4.9	7.8	6.3	1.0	8.8	9.8	8.5	0.6
72	4.0	8.0	9.5	18.9	0.9	2.4	4.1	6.0	13.0	3.5	0.7	27.6	4.3	9.7	8.5	0.8	10.9	11.0	9.7	0.6
73	6.0	8.0	9.5	18.9	0.9	2.4	4.1	6.0	13.0	3.5	0.7	28.5	4.8	9.7	8.5	0.8	10.9	11.0	9.7	0.6
74	6.0	8.0	9.5	18.9	0.9	2.4	4.1	6.0	13.0	3.5	0.7	29.9	5.7	9.7	8.5	0.8	10.9	11.0	9.7	0.6

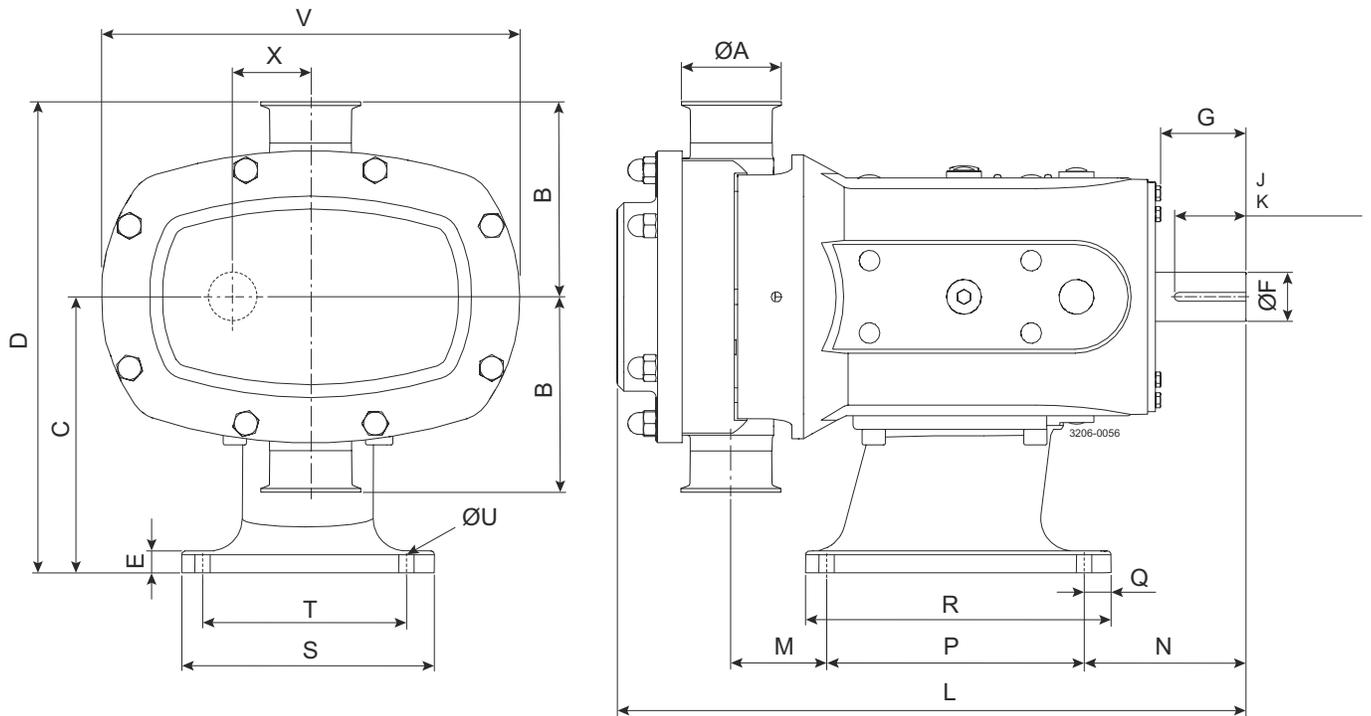


Figure 2. Vertically ported

ØU = 4 Holes

J = Key Length

K = Key Width

DuraCirc standard dimensions

Pump Model	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	R	S	T	U	V	X
32	1.0	4.1	5.8	9.9	0.5	0.9	1.7	1.3	0.2	13.0	2.0	4.9	4.0	1.6	6.3	5.1	4.0	0.5	8.0	1.3
33	1.5	4.1	5.8	9.9	0.5	0.9	1.7	1.3	0.2	13.2	2.0	4.9	4.0	1.6	6.3	5.1	4.0	0.5	8.0	1.3
34	2.0	4.1	5.8	9.9	0.5	0.9	1.7	1.3	0.2	13.9	2.4	4.9	4.0	1.6	6.3	5.1	4.0	0.5	8.0	1.3
42	2.0	4.9	6.9	11.8	0.6	1.1	2.2	1.6	0.3	16.3	2.0	5.1	6.1	1.9	8.7	6.3	4.9	0.6	10.0	1.7
43	2.0	4.9	6.9	11.8	0.6	1.1	2.2	1.6	0.3	16.6	2.4	5.1	6.1	1.9	8.7	6.3	4.9	0.6	10.0	1.7
52	2.0	5.9	8.4	14.3	0.7	1.5	2.6	2.5	0.4	18.6	2.4	5.2	7.9	0.7	9.1	7.5	5.9	0.6	12.8	2.2
53	2.5	5.9	8.4	14.3	0.7	1.5	2.6	2.5	0.4	19.1	2.6	5.2	7.9	0.7	9.1	7.5	5.9	0.6	12.8	2.2
54	3.0	6.3	8.4	14.6	0.7	1.5	2.6	2.5	0.4	20.2	3.5	5.2	7.9	0.7	9.1	7.5	5.9	0.6	12.8	2.2
62	3.0	7.3	10.1	17.4	0.7	1.8	3.3	2.8	0.6	23.1	3.3	7.9	7.9	1.7	10.2	8.7	7.1	0.6	15.6	3.0
63	4.0	7.3	10.1	17.4	0.7	1.8	3.3	2.8	0.6	23.9	3.6	7.9	7.9	1.7	10.2	8.7	7.1	0.6	15.6	3.0

Pump Model	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	R	S	T	U	V	X
72	4.0	8.0	11.6	19.6	0.8	2.4	4.1	3.5	0.7	27.6	3.8	8.4	10.2	1.2	12.2	9.8	8.3	0.6	18.7	3.5
73	6.0	8.0	11.6	19.6	0.8	2.4	4.1	3.5	0.7	28.5	4.3	8.4	10.2	1.2	12.2	9.8	8.3	0.6	18.7	3.5
74	6.0	8.0	11.6	19.6	0.8	2.4	4.1	3.5	0.7	29.9	5.2	8.4	10.2	1.2	12.2	9.8	8.3	0.6	18.7	3.5

## Options

- Silicon Carbide/Silicon Carbide mechanical seal faces.
- Single mechanical shaft seal with flush.
- Double mechanical shaft seal.
- EDPM or FPM O-ring seal, single and flushed.
- Product wetted elastomers in FPM or FFPM.
- High efficiency Hi-Flow rotor.
- Horizontal or vertical porting.
- Heating and cooling jacket.
- Rectangular inlet.
- Aseptic option (see separate data sheet)
- Stainless steel shroud covering coupling and motor.
- Baseplate fitted with adjustable stainless steel ball feet.

## Pump sizing

In order to correctly size a circumferential piston pump some essential information is required. Provision of this information listed below enables our Technical Support personnel to obtain the optimum pump selection.

### Product/Fluid Data

- Fluid to be pumped
- Viscosity
- Pumping temperature, minimum, normal and maximum
- Cleaning in Place temperature(s), minimum, normal and maximum

### Performance Data

- Flow rate, minimum, normal and maximum
- Discharge head/pressure (closest to pump outlet)
- Suction condition

# Alfa Laval DuraCirc Aseptic

## Circumferential Piston Pump

### Introduction

The Alfa Laval DuraCirc Aseptic delivers the perfect balance of durability, reliability, high efficiency and superior hygienic performance. Combined with design features enabling simple service, the DuraCirc Aseptic keeps process running. In addition to a class leading range of flow and pressure capabilities and globally recognized hygienic certification, DuraCirc Aseptic specification allows for a sterile environment to be maintained within the pump. The innovative design also includes features that make cleaning and maintenance faster, easier and more dependable.

### Applications

Designed for sterile flushing at all product media to atmosphere interfaces, as well as Cleaning-in-Place (CIP), the Alfa Laval DuraCirc Aseptic is ideal for aseptic processing within the dairy, food, beverage, home and personal care industries. The highly efficient design is particularly suited to applications that are low in viscosity with medium to high discharge pressures and require equipment that can be cleaned in place.

The DuraCirc Aseptic Circumferential Piston Pump is available with 5 different pump head displacements to handle flow rates up to 453 US gpm and differential pressures up to 25 bar.

### Benefits

- Ability to introduce steam barrier on all media/atmosphere interfaces - front cover, ports and mechanical seals, allows for sterile pump operation.
- High volumetric efficiency performance allowing for optimized pump selection, reducing capital cost, whilst improving process yield.
- Certified to both EHEDG and 3A, reducing both process cross contamination risk and CIP cycle time, maintaining process yield whilst cutting cleaning costs.



- Full component interchangeability without complicated maintenance procedures, long life bearing operation and one single long-life lubricant making service faster and easier, increasing process uptime.
- Robust, durable design via strong gearcase incorporating increased diameter shafts and optimally positioned heavy-duty bearings, minimizes risk of pump head contact, reducing service requirement, maintaining process continuity.

### Standard design

Twin-wing Hi-Life piston rotors made of special non-galling alloy are standard. All other media contacting steel components, like the rotor case, front cover and rotor nuts are in W. 1.4404 (AISI 316L). With stainless steel gear case and feet, the DuraCirc pump has an all stainless steel exterior, making it exceptional corrosion resistant.

The gearbox is as standard designed with duplex shafts and a strong, long life bearing arrangement. This provides for a very

robust and rigid shaft assembly design – a prerequisite for the very high volumetric efficiency achieved.

With profiled defined compression elastomers and an optimised shaft seal location, the DuraCirc is designed according to the most stringent hygienic design standards and with verified and effective CIP cleanability.

The pump features a double mechanical seal prepared for sterile flushing. Furthermore, with special double sealing designs the pump is prepared for sterile flushing at the port connections and in the front cover.

The Alfa Laval DuraCirc Aseptic can be supplied either as a bare shaft pump or mounted on a base plate complete with coupling,

guard, gear motor and shroud for easy, plug-and-play installation.

### Working principle

The rotor pistons rotate around the circumference of the channel in the pump casing. This continuously generates a partial vacuum at the suction port as the rotors unmesh, causing fluid to enter the pump. The fluid is transported around the channel by the rotor pistons, and is displaced as the rotor pistons re-mesh, generating pressure at the discharge port. The direction of flow is reversible.



Authorized to carry the 3A symbol

## Technical data

### Standard specification

Piston rotors:	DuraCirc Hi-Life, Non-Galling Alloy
Other product wetted steel parts:	W. 1.4404 (316L)
Inside surface finish:	Mech Ra ≤ 0.8
Shafts:	Duplex 1.4460 (329)
Gear box:	Stainless steel
Base plate:	Stainless steel
Coupling guard:	Stainless steel
Product wetted elastomers:	EPDM
Other elastomers:	FPM
Shaft seal:	Double mechanical
Rotary seal face:	Silicon Carbide
Stationary seal face:	Silicon Carbide

### Shaft seals

Max flush pressure, double mechanical seal:	290 PSI
Max flush pressure, port connections and front cover:	58 PSI
Flush connections, DuraCirc 32-43:	NPT 1/8"
Flush connections, DuraCirc 52-74:	NPT 1/4"
Flush connections, port connections and front cover:	BSP/G 1/8" or NPT 1/8"

### Temperature

Max process and CIP temperature:	302°F
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### Motors

Gear motor, 4 poles, to Nema standard, premium efficiency, suitable for frequency conversion.

### Warranty

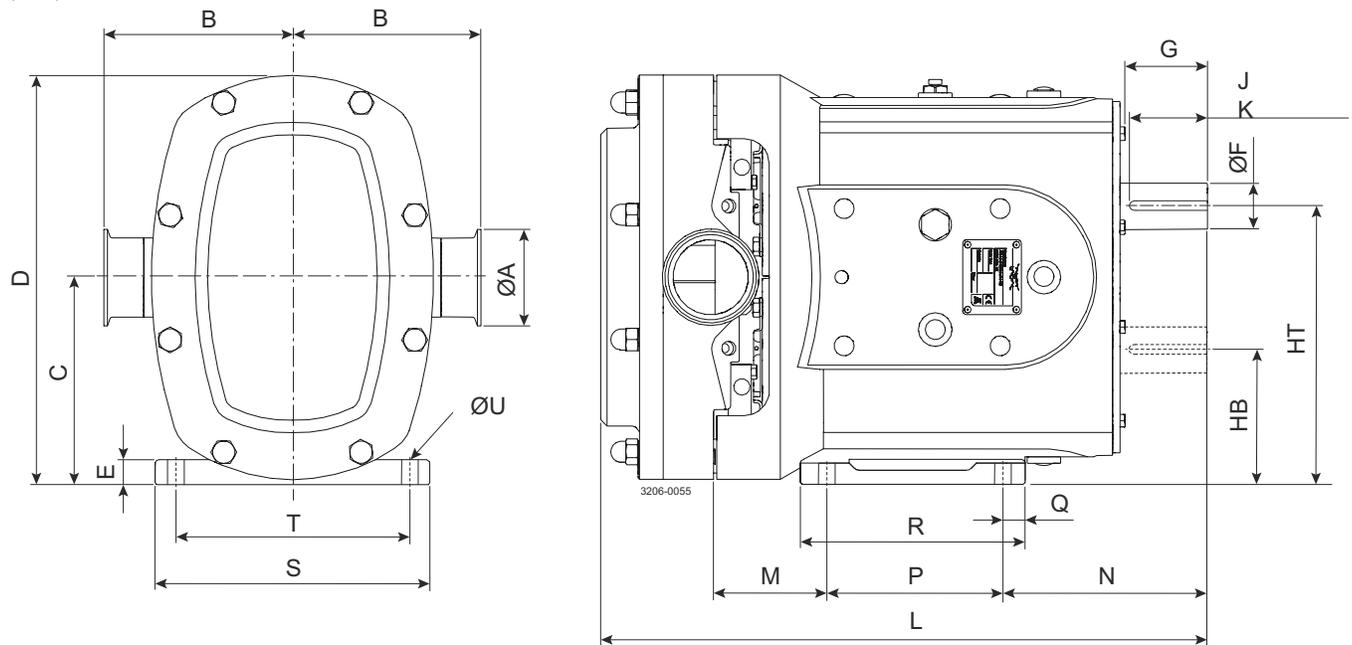
Extended 3-years warranty on DuraCirc pumps. The warranty covers all non wear parts on the condition that genuine Alfa Laval Spare Parts are used.

## Process data

Pump Model	Displacement			Inlet/Outlet		Diff. Pressure		Max speed
	Litres/rev	Imp gall/100 rev	US gall/100 rev	mm	inch	Bar	PSI	rpm
42	0,23	5.06	6.07	50	2	20	290	750
53	0,59	12.97	15.57	65	2½	25	362	750
54	0,96	21.12	25.3	80	3	16	232	750
63	1,97	43.33	52.03	100	4	25	362	600
73	2,86	62.91	75.55	150	6	25	362	600

## Dimensions

(inch)



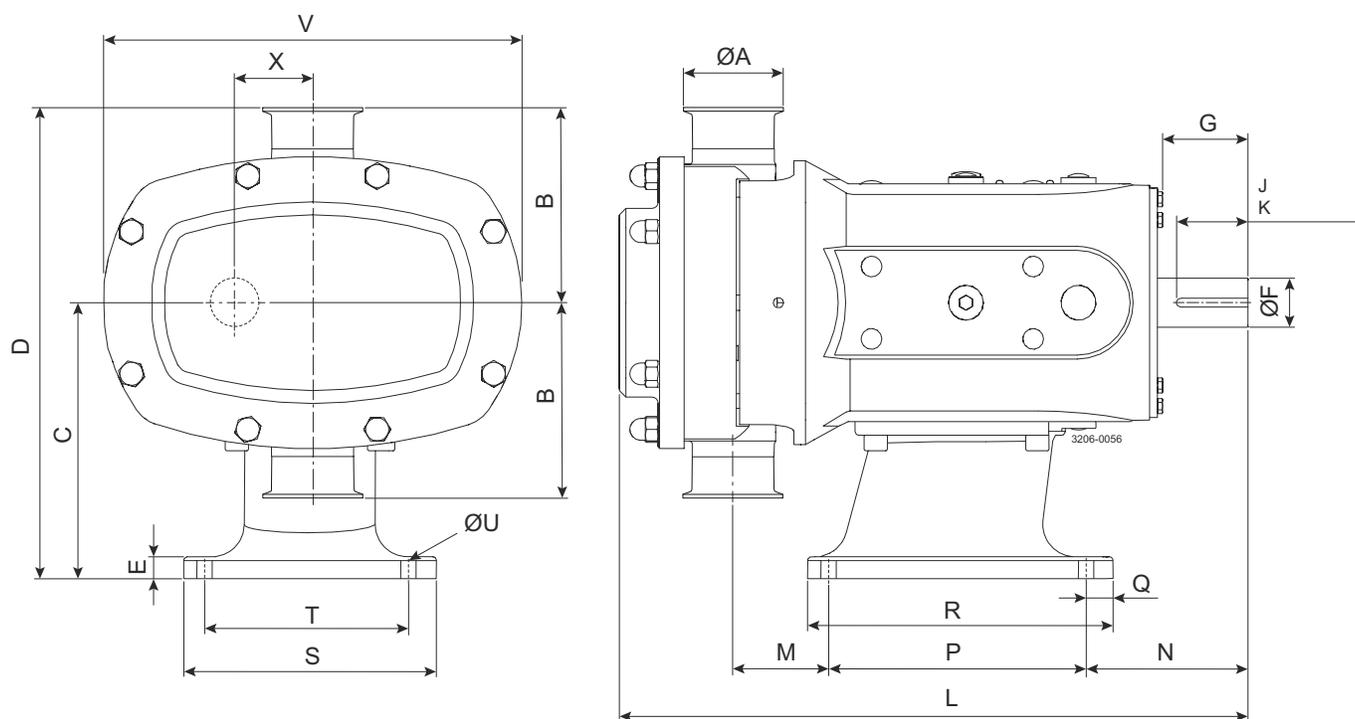
**Figure 1. Horizontally ported**

ØU = 4 Holes

J = Key Length

K = Key Width

Pump Model	A	B	C	D	E	F	G	HB	HT	J	K	L	M	N	P	Q	R	S	T	U
42	2.0	4.9	5.2	10.3	0.4	1.1	2.2	3.5	6.9	1.6	0.3	16.3	2.8	5.5	4.9	0.6	6.2	7.3	6.1	0.6
53	2.5	5.9	6.4	12.8	0.7	1.5	2.6	4.2	8.7	2.5	0.4	19.1	3.5	6.6	5.5	0.9	7.1	8.7	7.5	0.6
54	3.0	6.3	6.4	12.8	0.7	1.5	2.6	4.2	8.7	2.5	0.4	20.2	4.4	6.6	5.5	0.9	7.1	8.7	7.5	0.6
63	4.0	7.3	7.9	15.7	0.8	1.8	3.3	4.9	10.8	2.8	0.6	23.9	4.9	7.8	6.3	1.0	8.8	9.8	8.5	0.6
73	6.0	8.0	9.5	18.9	0.9	2.4	4.1	6.0	13.0	3.5	0.7	28.5	4.8	9.7	8.5	0.8	10.9	11.0	9.7	0.6



**Figure 2. Vertically ported**

ØU = 4 Holes

J = Key Length

K = Key Width

Pump Model	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	R	S	T	U	V	X
42	2.0	4.9	6.9	11.8	0.6	1.1	2.2	1.6	0.3	16.3	2.0	5.1	6.1	1.9	8.7	6.3	4.9	0.6	10.0	1.7
53	2.5	5.9	8.4	14.3	0.7	1.5	2.6	2.5	0.4	19.1	2.6	5.2	7.9	0.7	9.1	7.5	5.9	0.6	12.8	2.2
54	3.0	6.3	8.4	14.6	0.7	1.5	2.6	2.5	0.4	20.2	3.5	5.2	7.9	0.7	9.1	7.5	5.9	0.6	12.8	2.2
63	4.0	7.3	10.1	17.4	0.7	1.8	3.3	2.8	0.6	23.9	3.6	19.2	7.9	1.7	10.2	8.7	7.1	0.6	15.6	3.0
73	6.0	8.0	11.6	19.6	0.8	2.4	4.1	3.5	0.7	28.5	4.3	8.4	10.2	1.2	12.2	9.8	8.3	0.6	18.7	3.5

### Options

- Product wetted elastomers in FPM
- High efficiency Hi-Flow rotor.
- Horizontal or vertical porting.
- Heating and cooling jacket.
- Stainless steel shroud covering coupling and motor.
- Baseplate fitted with adjustable stainless steel ball feet.

### Pump sizing

In order to correctly size a circumferential piston pump some essential information is required. Provision of this information listed below enables our Technical Support personnel to obtain the optimum pump selection.

#### Product/Fluid Data

- Fluid to be pumped
- Viscosity
- Pumping temperature, minimum, normal and maximum
- Cleaning in Place temperature(s), minimum, normal and maximum

#### Performance Data

- Flow rate, minimum, normal and maximum
- Discharge head/pressure (closest to pump outlet)
- Suction condition

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# Rotary lobe pumps

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## **Product Description**

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# Alfa Laval OptiLobe

## Rotary lobe pumps

### Introduction

The Alfa Laval OptiLobe Rotary Lobe Pump is a cost-effective alternative for general applications that require gentle product treatment and easy serviceability. Versatile, dependable and energy efficient, this hygienic positive displacement pump enhances both process flexibility and operational reliability.

The pump is designed according to the most stringent hygienic design standards and with verified, effective Cleaning-in-Place.

### Applications

The OptiLobe Rotary Lobe Pump is designed for gentle product treatment in general applications across the dairy, food, beverage, home and personal care industries.

The OptiLobe pump is available with 10 different pump head displacements based on five different gearbox modules to handle flow rates up to 77 m<sup>3</sup>/h and differential pressures up to 8 bar.

### Benefits

- Cost-effective, hygienic pump.
- Optimal product quality due to gentle, low-shear operation.
- Robust design for long service life.
- Easy maintenance due to self-setting, front-loading seals.
- Low total cost of ownership.

### Standard design

All media contacting steel components, like the rotor case, front cover, rotors and rotor nuts, are in W. 1.4404 (AISI 316L). With stainless steel bearing housing, canister and feet, the OptiLobe pump has an all stainless steel exterior, making it corrosion resistant.

The pump features the Alfa Laval EasyFit front-loading seal, which allows quick and easy inspection or replacement without the need to disassemble pipework. Single and single-flushed shaft seals are available as options.

The Alfa Laval OptiLobe can be supplied either as a bare shaft pump or mounted on a base plate complete with coupling, guard, gear motor and shroud for easy, plug-and-play installation.



### Working principle

A gear train in the pump gearbox drives the rotors and provides accurate synchronization of the tri-lobe rotors. The movement of the counter-rotating rotors creates a partial vacuum that allows atmospheric pressure or other external pressures to force fluid into the pump chamber. As the rotors revolve, an expanding cavity forms, filling with fluid. As the blades disengage, each dwell forms a cavity. As the rotor blades engage, the cavity diminishes and fluid is displaced into the outlet port.

### Certificates



Authorized to carry the 3A symbol

## TECHNICAL DATA

### Standard specification

Product wetted steel parts:	W. 1.4404 (316L)
Inside surface finish:	Mech Ra ≤ 31
Gear canister:	Stainless steel
Base plate:	Stainless steel
Coupling guard:	Stainless steel
Rotor:	Tri-lobe
Product wetted elastomers:	EPDM
Other elastomers:	NBR
Shaft seal:	Single mechanical EasyFit
Rotary seal face:	Carbon
Stationary seal face:	Stainless steel

### Shaft seals

EasyFit single and single flush available. All options are fully front loading and interchangeable.

Max flush pressure, single flush:	7 psi
Water consumption, single flush:	8 gph
Flush connections:	BSPT or NPT

### Temperature

Max process and CIP temperature (dependent on rotor selection)	266°F
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### Motors

Gear motor, 4 poles, to NEMA standard, premium efficiency, suitable for frequency conversion.

### Warranty

Extended 3-years warranty on OptiLobe pumps. The warranty covers all non wear parts on the condition that genuine Alfa Laval Spare Parts are used.

## Process data

	Displacement			Inlet/Outlet		Diff. Pressure		Max Speed
	Litres/ rev	Imp gall/ 100 rev	US gall/ 100 rev	mm	inch	bar	psi	rpm
OptiLobe 12	0.06	1.23	1.48	25	1	8	115	1000
OptiLobe 13	0.10	2.18	2.61	40	1.5	8	115	1000
OptiLobe 22	0.17	3.74	4.49	40	1.5	8	115	1000
OptiLobe 23	0.21	4.62	5.55	40	1.5	8	115	1000
OptiLobe 32	0.32	7.04	8.45	50	2	8	115	1000
OptiLobe 33	0.40	8.80	10.57	50	2	8	115	1000
OptiLobe 42	0.64	14.08	16.91	65	2.5	8	115	1000
OptiLobe 43	0.82	18.04	21.66	80	3	8	115	1000
OptiLobe 52	1.17	25.74	30.89	80	3	8	115	750
OptiLobe 53	1.72	37.84	45.41	100	4	8	115	750

## Dimensions (inch)

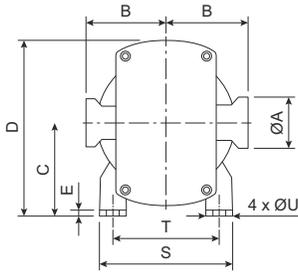


Figure 1. Horizontally Ported

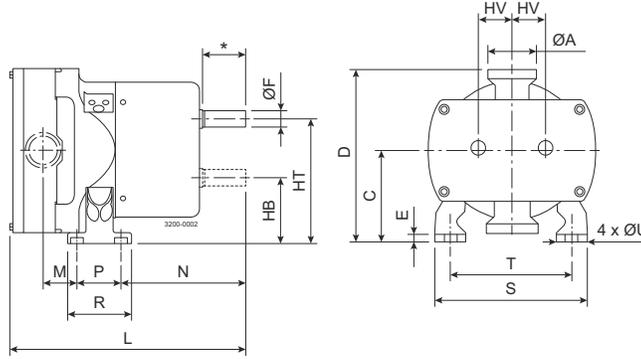


Figure 2. Vertically Ported

\* Shaft length G; Key width K; Key length J.

	Pump Model	A (FLANGE <O>)	B (Port Width Dim)	C (Port Height Dim)	D (Overall Height)	E (Foot Thickness)	F (Shaft <O>)	G (Shaft Length)	HB (Btm Shaft Height)	HT (Top Shaft Height)	HV (SHAFT OFFSET)
10	12	0.98	3.39	3.74	6.73	0.45	0.63	1.57	2.68	4.80	1.06
	13	1.57	3.39	3.74	6.73	0.45	0.63	1.57	2.68	4.80	1.06
20	22	1.57	3.78	4.72	8.48	0.57	0.79	1.97	3.31	6.14	1.42
	23	1.57	3.78	4.72	8.48	0.57	0.79	1.97	3.31	6.14	1.42
30	32	1.97	4.72	5.35	9.88	0.57	0.94	1.99	3.62	7.09	1.73
	33	1.97	4.72	5.35	9.88	0.57	0.94	1.99	3.62	7.09	1.73
40	42	2.56	5.12	6.26	11.57	0.77	1.18	2.20	4.17	8.35	2.09
	43	3.15	5.43	6.26	11.57	0.77	1.18	2.20	4.17	8.35	2.09
50	52	3.15	6.38	7.72	14.41	0.81	1.77	3.52	5.20	10.24	2.52
	53	3.94	6.38	7.72	14.41	0.81	1.77	3.52	5.20	10.24	2.52

	Pump Model	J (Key Length)	K (Key Width)	L (Overall Length)	M (Front Bolt Hole to Port)	N (Back Bolt Hole to End of Shaft)	P (Bolt Hole Length)	R (Foot Length)	S (Foot Width)	T (Bolt Hole Width)	U (Bolt Hole <O>)
10	12	1.18	0.20	9.07	1.08	4.23	2.36	3.31	4.96	3.70	0.39
	13	1.18	0.20	9.59	1.36	4.23	2.36	3.31	4.96	3.70	0.39
20	22	1.26	0.26	10.91	1.38	5.49	2.36	3.54	6.38	4.88	0.47
	23	1.26	0.26	11.26	1.73	5.49	2.36	3.54	6.38	4.88	0.47
30	32	1.57	0.31	11.97	1.38	6.18	2.52	3.74	7.56	5.91	0.47
	33	1.57	0.31	12.44	1.85	6.18	2.52	3.74	7.56	5.91	0.47
40	42	1.57	0.31	14.61	2.02	6.34	3.94	5.71	9.25	7.09	0.55
	43	1.57	0.31	15.24	2.38	6.34	3.94	5.71	9.25	7.09	0.55
50	52	2.76	0.55	16.08	2.44	4.80	4.72	6.69	11.22	8.27	0.55
	53	2.76	0.55	20.02	3.13	4.80	4.72	6.69	11.22	8.27	0.55

## Options

- Single mechanical shaft seal with flush.
- Silicon Carbide/Carbon seal faces.
- Silicon Carbide/Silicon Carbide seal faces.
- Product wetted elastomers in FPM.
- Heating and cooling front cover.
- Horizontal or vertical porting.
- Stainless steel shroud covering coupling and motor.
- Baseplate fitted with adjustable stainless steel ball feet.

## Pump sizing

In order to correctly size a rotary lobe pump some essential information is required. Provision of this information listed below enables our Technical Support personnel to obtain the optimum pump selection.

Product/Fluid Data

- Fluid to be pumped
- Viscosity
- Pumping temperature, minimum, normal and maximum
- Cleaning in Place temperature(s), minimum, normal and maximum

Performance Data

- Flow rate, minimum, normal and maximum
- Discharge head/pressure (closest to pump outlet)
- Suction condition

# Alfa Laval SRU

## Rotary lobe pump

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### Introduction

The Alfa Laval SRU Rotary Lobe Pump is a reliable positive displacement pump for the gentle handling of sensitive process fluids. The pump is carefully engineered to provide reliable performance, trouble-free operation and superior energy efficiency for demanding applications. It is an excellent choice for duties that require contamination-proof pumps to meet high standards of hygiene, low-shear and low-pulsation operation.

The pump is designed according to the most stringent hygienic design standards and with verified, effective Cleaning-in-Place.

### Applications

The SRU Rotary Lobe Pump is designed for gentle handling of sensitive process fluids across the dairy, food, beverage, brewing, chemical, pharmaceutical, and home and personal care industries.

Its smooth, low-shear pumping action makes the pump suitable for handling media of varying viscosities, whether low or high—from creams, gels, emulsions, and aerated mixtures to delicate cells and organic solids in suspension.

The SRU Rotary Lobe Pump is available with 12 different pump head displacements based on six different gearbox modules to handle flow rates up to 106 m<sup>3</sup>/h and differential pressures up to 20 bar.

### Benefits

- Consistent performance.
- Minimal risk of contamination.
- Low maintenance, increased process uptime.
- Modular design for greater flexibility to configure exactly the right solution for specific process requirements.

### Standard design

All media contacting steel components, like the rotor case, front cover, rotors and rotor nuts, are in W. 1.4404 (AISI 316L). The robust cast iron gearbox provides maximum shaft rigidity and easy oil seal replacement. The gearbox design is universal, which enables the flexibility of mounting pumps with the inlet and outlet ports in either a vertical or horizontal plane by changing the foot and its position.



The standard Alfa Laval SRU Rotary Lobe Pump has tri-lobe rotors. Optional bi-lobe rotors for handling fluids containing large delicate solids are available. All rotors are available in three temperature ratings enabling the pump to be operated at maximum process temperatures of 158°F, 266°F and 392°F for both fluid pumped and CIP.

Single, single flushed, and double mechanical shaft seals as well as packed gland, unflushed or flushed, are available.

The Alfa Laval SRU can be supplied either as a bare shaft pump or mounted on a base plate complete with coupling, guard, gear motor and shroud for easy, plug-and-play installation.

### Working principle

A gear train in the pump gearbox drives the rotors and provides accurate synchronization of the tri-lobe rotors. The movement of the counter-rotating rotors creates a partial vacuum that allows atmospheric pressure or other external pressures to force fluid into the pump chamber. As the rotors revolve, an expanding

cavity forms, filling with fluid. As the blades disengage, each dwell forms a cavity. As the rotor blades engage, the cavity diminishes and fluid is displaced into the outlet port.

## TECHNICAL DATA

### Standard specification

Product wetted steel parts:	W. 1.4404 (316L)
Inside surface finish:	Mech Ra ≤ 31
Gearbox:	Cast iron
Base plate:	Stainless steel
Coupling guard:	Stainless steel
Rotor:	Tri-lobe, 158°F
Product wetted elastomers:	EPDM
Other elastomers:	NBR
Shaft seal:	Single mechanical (R90)
Rotary seal face:	Carbon
Stationary seal face:	Stainless steel

### Shaft seals

Single, single flush, double mechanical and packed gland, flushed and unflushed, available. For EHEDG compliance Hyclean type must be used.

Max flush pressure, single flush:	7 psi
Max flush pressure, double mechanical:	1 bar over product pressure
Max flush pressure, packed gland, flushed:	1 bar over product pressure
Water consumption, flushed or double mechanical:	0.13 gallon/min
Flush connections:	BSPT or NPT

### Temperature

Max process and CIP temperature (dependent on rotor selection)	158°F , 266°F or 392°F
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### Motor

Gear motor, 4 poles, to IEC metric standard, 50/60 Hz, suitable for frequency conversion, IP55, insulation class F.

### Warranty

Extended 3-years warranty on SRU pumps. The warranty covers all non wear parts on the condition that genuine Alfa Laval Spare Parts are used.

## Flows/Pressures/Connections

SRU Series	Build Selection				Displacement			Inlet and Outlet Connection Size				Differential Pressure (see note 1)		Maximum Speed
	Pump Head Code	Gear-box	Shaft	SRU Model	Litres/rev	Imp gall/100 rev	US gall/100 rev	Hygienic		Enlarged		bar	psi	rev/min
								mm	in	mm	in			
1	005	L or H	D	SRU1NLD	0.053	1.17	1.4	25	1	-	-	8	115	1000
	008	L or H	D	SRU1WLD	0.085	1.87	2.25	25	1	40	1.5	5	75	1000
2	013	L or H	S	SRU2NLS	0.128	2.82	3.38	25	1	40	1.5	10	145	1000
	013	L or H	D	SRU2NLD	0.128	2.82	3.38	25	1	40	1.5	15	215	1000
	018	L or H	S	SRU2WLS	0.181	3.98	4.78	40	1.5	50	2	7	100	1000
	018	L or H	D	SRU2WLD	0.181	3.98	4.78	40	1.5	50	2	10	145	1000
	027	L or H	S	SRU3NLS	0.266	5.85	7.03	40	1.5	50	2	10	145	1000
3	027	L or H	D	SRU3NLD	0.266	5.85	7.03	40	1.5	50	2	15	215	1000
	038	L or H	S	SRU3WLS	0.384	8.45	10.15	50	2	65	2.5	7	100	1000
	038	L or H	D	SRU3WLD	0.384	8.45	10.15	50	2	65	2.5	10	145	1000
4	055	L or H	S	SRU4NLS	0.554	12.19	14.64	50	2	65	2.5	10	145	1000
	055	L or H	D	SRU4NLD	0.554	12.19	14.64	50	2	65	2.5	20	290	1000
	079	L or H	S	SRU4WLS	0.79	17.38	20.87	65	2.5	80	3	7	100	1000
	079	L or H	D	SRU4WLD	0.79	17.38	20.87	65	2.5	80	3	15	215	1000
5	116	L or H	S	SRU5NLS	1.16	25.52	30.65	65	2.5	80	3	10	145	600
	116	L or H	D	SRU5NLD	1.16	25.52	30.65	65	2.5	80	3	20	290	600
	168	L or H	S	SRU5WLS	1.68	36.95	44.39	80	3	100	4	7	100	600
	168	L or H	D	SRU5WLD	1.68	36.95	44.39	80	3	100	4	15	215	600

SRU Series	Build Selection				Displacement			Inlet and Outlet Connection Size				Differential Pressure (see note 1)		Maximum Speed
	Pump Head Code	Gear-box	Shaft	SRU Model	Litres/rev	Imp gal/100 rev	US gal/100 rev	Hygienic		Enlarged		bar	psi	rev/min
								mm	in	mm	in			
6	260	L or H	S	SRU6NLS	2.60	57.20	68.70	100	4	100	4	10	145	600
	260	L or H	D	SRU6NLD	2.60	57.20	68.70	100	4	100	4	20	290	600
	353	L or H	S	SRU6WLS	3.53	77.65	93.26	100	4	150	6	7	100	600
	353	L or H	D	SRU6WLD	3.53	77.65	93.26	100	4	150	6	15	215	600

L - Horizontal Porting  
H - Vertical Porting  
S - Stainless Steel  
D - Duplex Stainless Steel

**Note 1.** These pressure ratings may vary for pumps with certain threaded connections.

### Maximum Solid Size Capability

	Max. size of spherical solids			
	Bi-lobe rotors		Tri-lobe rotors	
	mm	in	mm	in
SRU1/005	8	0.31	6	0.24
SRU1/008	8	0.31	6	0.24
SRU2/013	8	0.31	6	0.24
SRU2/018	13	0.51	9	0.35
SRU3/027	13	0.51	9	0.35
SRU3/038	16	0.63	11	0.43
SRU4/055	16	0.63	11	0.43
SRU4/079	22	0.87	15	0.59
SRU5/116	22	0.87	15	0.59
SRU5/168	27	1.06	18	0.71
SRU6/260	27	1.06	18	0.71
SRU6/353	37	1.46	24	0.94

### Weight

	Bare Shaft Pump (lbs)	
	Horizontal porting	Vertical porting
SRU1N	37	39
SRU1W	41	44
SRU2N	66	70
SRU2W	68	72
SRU3N	121	127
SRU3W	127	134
SRU4N	242	256
SRU4W	254	267
SRU5N	326	408
SRU5W	344	425
SRU6N	503	573
SRU6W	514	584

### Shaft Seal Options

- Single or single flush/quenched. R90 or Hyclean type mechanical seals.
- Double R90 type mechanical seal for flush (steam barrier for aseptic application).
- Packed gland (unflushed or flushed versions).



**Note!** EHEDG compliance only for Hyclean type mechanical seals.

### Materials for Mechanical Seals

Carbon/Stainless steel, Tungsten Carbide/Tungsten Carbide, Silicon Carbide/Silicon Carbide or variations of these materials to suit fluid being pumped and/or application requirements. (N.B. Material variants are not available on all R90/Hyclean seal types).

## Pump Sizing

In order to correctly size a rotary lobe pump some essential information is required. Provision of this information listed below enables our Technical Support personnel to obtain the optimum pump selection.

### Product/Fluid Data

- Fluid to be pumped
- Viscosity
- SG/Density
- Pumping temperature, minimum, normal and maximum
- Cleaning in Place temperature(s), minimum, normal and maximum

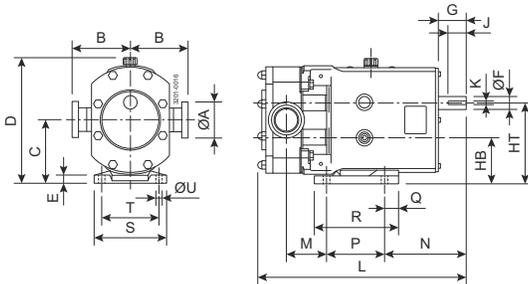
### Performance Data

- Flow rate, minimum, normal and maximum
- Discharge head/pressure (closest to pump outlet)
- Suction condition

### Standard Specification Options

- Tri-clamp inlet and outlet ports standard
- Specification of inlet and outlet ports (Screwed male to BSP, DIN11851, SMS, ISS/IDF, RJT, or Flanged to EN1092-1 B1 PN16, ASA/ANSI 150, BS10E and other standards).
- Rotorcase Cover with integral Pressure Relief Valve.
- Heating/Cooling Saddle Jackets for Rotorcase and Jacket for Rotorcase Cover (not available when relief valve fitted).
- Bi-lobe Rotors in stainless steel and non-galling alloy.
- Complete pump unit comprising: Pump + Baseplate (mild or stainless steel) + coupling with guard + Geared electric motor suitable for (or supplied with) frequency speed control or manual variable speed drive (advise motor enclosure and electrical supply).

### Dimensions (inch)

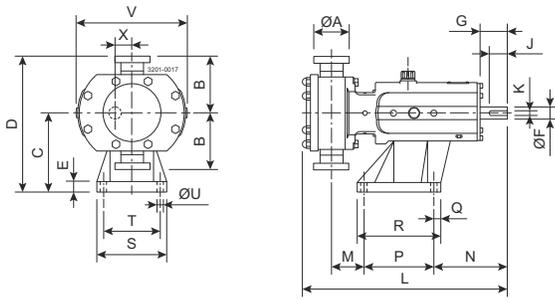


**Figure 1. Horizontally ported**

A1 — denotes hygienic port dimension

A2 — denotes enlarged port dimension

PUMP	A1	A2	B	C	D	E	F	G	HB	HT	J	K	L	M	N	P	Q	R	S	T	U
SRU1N	1.00	-	3.74	3.56	7.44	0.39	0.63	1.57	2.68	4.45	1.18	0.2	11.18	1.65	4.88	3.15	0.39	3.94	3.94	3.15	0.39
SRU1W	1.00	1.50	3.74	3.56	7.44	0.39	0.63	1.57	2.68	4.45	1.18	0.2	11.57	1.89	4.88	3.15	0.39	3.94	3.94	3.15	0.39
SRU2N	1.00	1.50	4.13	4.53	9.17	0.63	0.87	1.97	3.35	5.71	1.26	0.24	13.35	2.36	5.16	3.94	0.75	5.20	4.88	3.94	0.47
SRU2W	1.50	2.00	4.13	4.53	9.17	0.63	0.87	1.97	3.35	5.71	1.26	0.24	13.74	2.50	5.16	3.94	0.75	5.20	4.88	3.94	0.47
SRU3N	1.50	2.00	4.92	5.41	10.71	0.71	1.10	2.36	3.94	6.89	1.57	0.31	17.28	3.25	6.93	4.92	1.18	7.13	6.06	4.92	0.55
SRU3W	2.00	2.50	4.92	5.41	10.71	0.71	1.10	2.36	3.94	6.89	1.57	0.31	17.80	3.43	6.93	4.92	1.18	7.13	6.06	4.92	0.55
SRU4N	2.00	2.50	5.91	6.42	12.80	0.79	1.49	3.15	4.53	8.31	2.48	0.39	21.30	3.98	8.82	5.91	1.38	7.95	7.24	5.91	0.55
SRU4W	2.50	3.00	5.91	6.42	12.80	0.79	1.49	3.15	4.53	8.31	2.48	0.39	21.97	4.33	8.82	5.91	1.38	7.95	7.24	5.91	0.55
SRU5N	2.50	3.00	6.89	7.68	15.04	0.87	1.77	4.33	5.31	10.04	2.76	0.55	24.76	3.80	10.98	7.09	1.38	9.45	8.27	7.09	0.55
SRU5W	3.00	4.00	6.89	7.68	15.04	0.87	1.77	4.33	5.31	10.04	2.76	0.55	25.67	4.25	10.98	7.09	1.38	9.45	8.27	7.09	0.55
SRU6N	4.00	-	7.48	8.86	17.17	0.87	1.89	4.33	6.10	11.61	2.76	0.55	29.45	4.88	10.51	10.24	0.79	11.81	8.66	7.48	0.55
SRU6W	4.00	6.00	7.48	8.86	17.17	0.87	1.89	4.33	6.10	11.61	2.76	0.55	30.63	5.49	10.51	10.24	0.79	11.81	8.66	7.48	0.55



**Figure 2. Vertically ported**

A1 — denotes hygienic port dimension

A2 — denotes enlarged port dimension

PUMP	A1	A2	B	C	D	E	F	G	J	K	L	M	N	P	Q	R	S	T	U	V	X
SRU1N	1.00	-	3.74	4.45	8.19	0.59	16	1.57	1.18	5	11.18	1.93	4.61	3.15	0.87	4.49	4.09	3.15	0.39	6.85	0.89
SRU1W	1.00	1.50	3.74	4.45	8.19	0.59	16	1.57	1.18	5	11.57	2.17	4.61	3.15	0.87	4.49	4.09	3.15	0.39	6.85	0.89
SRU2N	1.00	1.50	4.13	5.79	9.92	0.63	22	1.97	1.26	6	13.35	2.64	4.88	3.94	0.47	4.88	4.88	3.94	0.47	8.39	1.18
SRU2W	1.50	2.00	4.13	5.79	9.92	0.63	22	1.97	1.26	6	13.74	2.78	4.88	3.94	0.47	4.88	4.88	3.94	0.47	8.39	1.18
SRU3N	1.50	2.00	4.92	6.89	11.81	0.87	28	2.36	1.57	8	17.28	2.66	6.34	6.10	0.59	7.28	6.10	4.92	0.55	9.69	1.48
SRU3W	2.00	2.50	4.92	6.89	11.81	0.87	28	2.36	1.57	8	17.80	2.83	6.34	6.10	0.59	7.28	6.10	4.92	0.55	9.69	1.48
SRU4N	2.00	2.50	5.91	8.39	14.29	0.98	38	3.15	2.48	10	12.30	3.07	7.76	7.87	0.67	9.21	7.24	5.91	0.55	11.85	1.89
SRU4W	2.50	3.00	5.91	8.39	14.29	0.98	38	3.15	2.48	10	21.97	3.43	7.76	7.87	0.67	9.21	7.24	5.91	0.55	11.85	1.89
SRU5N	2.50	3.00	6.89	10.12	17.01	1.06	45	4.33	2.76	14	24.76	3.60	10.39	7.87	0.79	9.45	8.66	7.09	0.55	13.82	2.36
SRU5W	3.00	4.00	6.89	10.12	17.01	1.06	45	4.33	2.76	14	25.67	4.05	10.39	7.87	0.79	9.45	8.66	7.09	0.55	13.82	2.36
SRU6N	4.00	-	7.48	11.61	19.09	1.06	48	4.33	2.76	14	29.45	4.88	10.51	10.24	0.79	11.81	9.84	8.27	0.55	15.75	2.76
SRU6W	4.00	6.00	7.48	11.61	19.09	1.06	48	4.33	2.76	14	30.63	5.49	10.51	10.24	0.79	11.81	9.84	8.27	0.55	15.75	2.76

# Alfa Laval SX

## Rotary lobe pumps

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### Introduction

The Alfa Laval SX Rotary Lobe Pump is designed with optimized pump head geometry and multi-lobe rotors to ensure low-shear operation with minimum pulsation. This makes the SX the best choice for maintaining the integrity of delicate products.

The pump is designed according to the most stringent hygienic design standards and with verified, effective Cleaning-in-Place (CIP) and Sterilization-in-Place (SIP).

### Applications

The SX Rotary Lobe pump is designed for gentle transportation of process fluids in hygienic and ultra-clean applications in the biotechnology and pharmaceutical industries, in the home and personal care sector, and for demanding food applications.

The SX Rotary Lobe Pump is available with 14 different pump head displacements based on seven different gearbox modules to handle flow rates up to 115 m<sup>3</sup>/h and differential pressures up to 15 bar.

### Benefits

- Low pulsation and very gentle pumping, making the pump ideal for sensitive products.
- Minimized shearing for protecting end-product quality.
- Low maintenance, increased process uptime.
- Maximized performance and minimized risk of contamination.

### Standard design

All media contacting steel components, like the rotor case, front cover, rotors and rotor nuts, are in W. 1.4404 (AISI 316L). The robust cast iron gearbox provides maximum shaft rigidity and easy oil seal replacement. The gearbox design is universal which enables the flexibility of mounting pumps with the inlet and outlet ports in either a vertical or horizontal plane by changing the foot and its position.

The standard Alfa Laval SX has four-lobe rotors rated to 302°F, facilitating use with CIP and SIP processes.

Fully front-loading and fully interchangeable single, single flushed, and double mechanical shaft seals are available. All



media contacting elastomers are controlled compression joints, the latest technology where static and dynamic elastomer seals are used to prevent leakage of pumped media to the atmosphere.

The Alfa Laval SX can be supplied either as a bare shaft pump or mounted on a base plate complete with coupling, guard, gear motor and shroud for easy, plug-and-play installation.

### Working principle

A gear train in the pump gearbox drives the rotors and provides accurate synchronization of the multi-lobe rotors. The movement of the counter-rotating rotors creates a partial vacuum that allows atmospheric pressure or other external pressures to force fluid into the pump chamber. As the rotors revolve, an expanding cavity forms, filling with fluid. As the blades disengage, each dwell forms a cavity. As the rotor blades engage, the cavity diminishes, and fluid is displaced into the outlet port.

## TECHNICAL DATA

### Standard specification

Product wetted steel parts:	W. 1.4404 (316L)
Inside surface finish:	Mech Ra ≤ 32
Gearbox:	Cast iron
Base plate:	Stainless steel
Coupling guard:	Stainless steel
Rotor:	Four-lobe
Product wetted elastomers:	EPDM
Other elastomers:	FPM
Shaft seal:	Single mechanical (R00)
Rotary seal face:	Carbon
Stationary seal face:	Stainless steel

### Shaft seals

Single, single flush and double mechanical available. All options are fully front loading and interchangeable.

Max flush pressure, single flush:	7.25 psi
Max flush pressure, double mechanical:	1 bar over product pressure
Water consumption, flushed or double mechanical:	0.13 gallon/min
Flush connections:	BSPT or NPT

### Temperature

Max process and CIP temperature	302°F
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### Motor

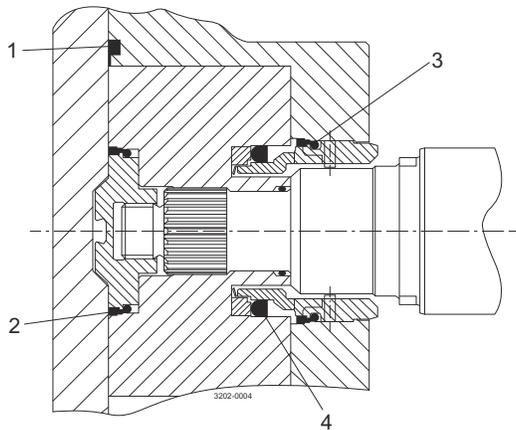
Gear motor, 4 poles, to IEC metric standard, 50/60 Hz, suitable for frequency conversion, IP55, insulation class F.

### Warranty

Extended 3-years warranty on SX pumps. The warranty covers all non wear parts on the condition that genuine Alfa Laval Spare Parts are used.

## Media contacting elastomers

All media contacting elastomers are controlled compression joints, the latest technology where static and dynamic elastomer seals are used to prevent pumped media leaking to atmosphere.



1. Front cover compression joint
2. Spline sealing cup seal
3. Cup seal
4. Squad ring

## Flows/Pressures/Connections

SX Series	SX Model	Displacement			Inlet and Outlet Connection Size		Differential Pressure (see note 1)		Maximum Speed
		Litre/rev	Imp gall/100 rev	US gall/100 rev	mm	in	bar	psi	rev/min
1	SX1NLD	0.05	1.11	1.32	25	1	12	175	1200
	SX1WLD	0.07	1.54	1.85	40	1.5	7	100	1200
2	SX2NLD	0.128	2.82	3.38	40	1.5	15	215	1000
	SX2WLD	0.181	3.98	4.78	50	2	7	100	1000
3	SX3NLD	0.266	5.85	7.03	50	2	15	215	1000
	SX3WLD	0.35	7.70	9.25	65	2.5	7	100	1000
4	SX4NLD	0.46	10.12	12.15	50	2	15	215	1000
	SX4WLD	0.63	13.86	16.65	65	2.5	10	145	1000
5	SX5NLD	0.82	18.04	21.67	65	2.5	15	215	600
	SX5WLD	1.15	25.30	30.38	80	3	10	145	600
6	SX6NLD	1.40	30.80	36.99	80	3	15	215	500
	SX6WLD	1.90	41.80	50.20	100	4	10	145	500
7	SX7NLD	2.50	55.00	66.05	100	4	15	215	500
	SX7WLD	3.80	83.60	100.40	150	6	10	145	500

**Note 1.** These pressure ratings may vary for pumps with certain threaded connections.

## Maximum Solid Size Capability

Pump sizes	Max. size of spherical solids (in)
SX1	0.28
SX2	0.39
SX3	0.51
SX4	0.63
SX5	0.75
SX6	0.98
SX7	1.10

## Weight

Model	Bare Shaft Pump (lbs.)	
	Horizontal porting	Vertical porting
SX1NLD	37	39
SX1WLD	39	41
SX2NLD	75	77
SX2WLD	77	79
SX3NLD	130	134
SX3WLD	134	138
SX4NLD	247	254
SX4WLD	260	267
SX5NLD	342	342
SX5WLD	364	364
SX6NLD	613	613
SX6WLD	639	639
SX7NLD	741	758
SX7WLD	789	807

## Shaft Seal Options

- Single or single flush/quench (steam barrier for aseptic application) R00 type mechanical seals.
- Double R00 type mechanical seal for flush.

All sealing options are fully front loading and fully interchangeable without the need for additional housings or pump component changes. Specialised seal setting of the mechanical seal is not required as the seal is dimensionally set on assembly. This feature further enhances fast and efficient on-site seal interchangeability.

## Materials for Mechanical Seals

Carbon/Stainless Steel, Silicon Carbide/Silicon Carbide or variations of these materials to suit fluid being pumped and/or application requirements. The seal seat and face material combinations are all EHEDG compliant.

### Standard Specification Options

- Tri-clamp inlet and outlet ports standard.
- Screwed male inlet and outlet ports to DIN11851, DIN11864, SMS, ISS/IDF, RJT or Tri-clamp.
- Heating/Cooling Jacket for Rotorcase Cover.
- ATEX compliance.
- Complete pump unit comprising: Pump + Baseplate (mild or stainless steel) + coupling with guard + Geared electric motor suitable for (or supplied with) frequency speed control or manual variable speed drive (advise motor enclosure and electrical supply).

### Pump Sizing

In order to correctly size a rotary lobe pump some essential information is required. Provision of this information listed below enables our Technical Support personnel to obtain the optimum pump selection.

#### Product/Fluid Data

- Fluid to be pumped
- Viscosity
- SG/Density
- Pumping temperature, minimum, normal and maximum
- Cleaning in Place temperature(s), minimum, normal and maximum

#### Performance Data

- Flow rate, minimum, normal and maximum
- Discharge head/pressure (closest to pump outlet)
- Suction condition

### Bareshaft Pump Dimensions

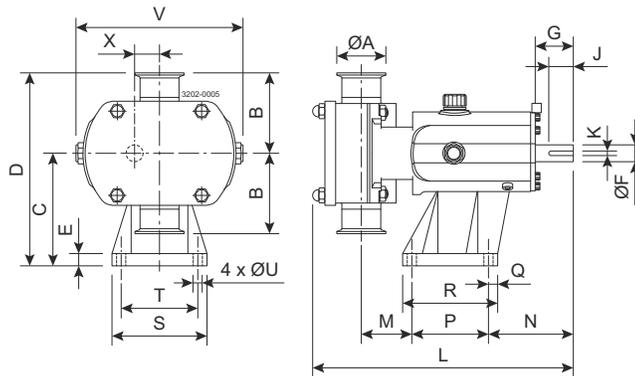


Figure 1. Vertically ported

All dimensions in inches, except where noted

PUMP	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	R	S	T	U	V	X
SX1NLD	1.00	3.74	4.45	8.19	0.63	0.63	1.57	1.18	0.20	11.14	2.11	3.94	3.15	0.87	4.49	4.09	3.15	0.39	7.05	0.93
SX1WLD	1.50	3.74	4.45	8.19	0.63	0.63	1.57	1.18	0.20	11.65	2.36	3.94	3.15	0.87	4.49	4.09	3.15	0.39	7.05	0.93
SX2NLD	1.50	4.13	5.79	9.92	0.63	0.87	1.97	1.26	0.24	12.87	2.30	4.37	3.94	0.47	4.88	4.88	3.94	0.47	8.62	1.28
SX2WLD	2.00	4.13	5.79	9.92	0.63	0.87	1.97	1.26	0.24	13.50	2.58	4.37	3.94	0.47	4.88	4.88	3.94	0.47	8.62	1.28
SX3NLD	2.00	4.92	6.89	11.81	0.87	1.10	2.36	1.57	0.31	17.09	2.85	5.59	6.10	0.59	7.28	6.10	4.92	0.55	9.96	1.48
SX3WLD	2.50	4.92	6.89	11.81	0.87	1.10	2.36	1.57	0.31	17.72	3.07	5.59	6.10	0.59	7.28	6.10	4.92	0.55	9.96	1.48
SX4NLD	2.00	5.91	8.39	14.29	0.98	1.50	3.15	2.48	0.39	20.35	2.95	6.85	7.87	0.67	9.21	7.24	5.91	0.55	12.09	1.95
SX4WLD	2.50	5.91	8.39	14.29	0.98	1.50	3.15	2.48	0.39	21.10	3.20	6.85	7.87	0.67	9.21	7.24	5.91	0.55	12.09	1.95
SX5NLD	2.50	6.89	10.12	17.01	1.06	1.77	4.33	2.76	0.55	23.70	2.40	10.39	7.87	0.79	9.45	8.66	7.09	0.55	13.81	2.36
SX5WLD	3.00	6.86	10.12	17.01	1.06	1.77	4.33	2.76	0.55	24.80	3.17	10.39	7.87	0.79	9.45	8.66	7.09	0.55	13.81	2.36
SX6NLD	3.00	7.48	11.61	19.09	1.06	1.89	4.33	2.76	0.55	27.20	3.07	10.51	10.24	0.79	11.81	9.84	8.27	0.55	15.75	2.76
SX6WLD	4.00	7.48	11.61	19.09	1.06	1.89	4.33	2.76	0.55	28.31	3.54	10.51	10.24	0.79	11.81	9.84	8.27	0.55	15.75	2.76
SX7NLD	4.00	8.07	14.37	22.44	1.02	2.36	4.33	3.54	0.71	30.20	3.70	11.34	11.02	0.98	12.99	11.42	9.45	0.71	18.70	3.21
SX7WLD	6.00	8.07	14.37	22.44	1.02	2.36	4.33	3.54	0.71	32.32	4.76	11.34	11.02	0.98	12.99	11.42	9.45	0.71	18.70	3.21

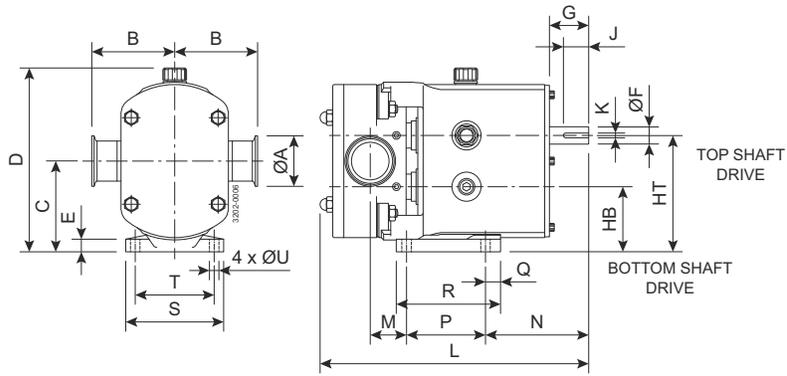


Figure 2. Horizontally ported

All dimensions in inches, except where noted

PUMP	A	B	C	D	E	F	G	HB	HT	J	K	L	M	N	P	Q	R	S	T	U
SX1NLD	1.00	3.74	3.54	7.40	0.39	0.63	1.57	2.62	4.47	1.18	0.20	11.14	1.16	4.61	3.15	0.98	4.53	3.94	3.15	0.39
SX1WLD	1.50	3.74	3.54	7.40	0.39	0.63	1.57	2.62	4.47	1.18	0.20	11.65	1.69	4.61	3.15	0.98	4.53	3.94	3.15	0.39
SX2NLD	1.50	4.13	4.53	9.17	0.63	0.87	1.97	3.25	5.81	1.26	0.24	12.87	1.52	5.16	3.94	0.75	5.20	4.88	3.94	0.47
SX2WLD	2.00	4.13	4.53	9.17	0.63	0.87	1.97	3.25	5.81	1.26	0.24	13.50	1.79	5.16	3.94	0.75	5.20	4.88	3.94	0.47
SX3NLD	2.00	4.92	5.43	10.75	0.71	1.1	2.36	3.96	6.91	1.57	0.31	17.09	2.74	6.89	4.92	1.18	7.13	6.06	4.92	0.55
SX3WLD	2.50	4.92	5.43	10.75	0.71	1.1	2.36	3.96	6.91	1.57	0.31	17.72	2.95	6.89	4.92	1.18	7.13	6.06	4.92	0.55
SX4NLD	2.00	5.91	6.42	12.80	0.79	1.5	3.15	4.47	8.37	2.48	0.39	20.35	2.95	8.81	5.91	1.38	7.95	7.24	5.91	0.55
SX4WLD	2.50	5.91	6.42	12.80	0.79	1.5	3.15	4.47	8.37	2.48	0.39	21.10	3.21	8.81	5.91	1.38	7.95	7.24	5.91	0.55
SX5NLD	2.50	6.89	7.68	15.04	0.87	1.77	4.33	5.31	10.04	2.76	0.55	23.70	2.60	10.98	7.09	1.38	9.45	8.27	7.09	0.55
SX5WLD	3.00	6.89	7.68	15.04	0.87	1.77	4.33	5.31	10.04	2.76	0.55	24.80	3.37	10.98	7.09	1.38	9.45	8.27	7.09	0.55
SX6NLD	3.00	7.48	8.86	17.17	0.87	1.89	4.33	6.10	11.61	2.76	0.55	28.20	3.07	10.51	10.2	0.79	11.81	8.66	7.48	0.55
SX6WLD	4.00	7.48	8.86	17.17	0.87	1.89	4.33	6.10	11.61	2.76	0.55	28.31	3.54	10.51	10.2	0.79	11.81	8.66	7.48	0.55
SX7/NLD	3.94	8.07	10.89	20.63	1.06	2.36	4.33	7.68	14.09	3.54	0.71	30.20	3.90	10.75	11.42	0.98	13.39	11.42	9.45	0.71
SX7/WLD	5.91	8.07	10.89	20.63	1.06	2.36	4.33	7.68	14.09	3.54	0.71	32.32	4.96	10.75	11.42	0.98	13.39	11.42	9.45	0.71

# Alfa Laval SX UltraPure

## Rotary lobe pumps

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### Introduction

The Alfa Laval SX UltraPure Rotary Lobe Pump is designed with optimized pump head geometry and multi-lobe rotors to ensure low-shear operation with minimum pulsation. This makes the SX UltraPure the best choice for maintaining the integrity of delicate products in high-purity applications.

The pump is designed according to the most stringent hygienic design standards and with verified, effective Cleaning-in-Place (CIP) and Sterilization-in-Place (SIP).

### Applications

The SX UltraPure Rotary Lobe Pump is designed for gentle transportation of process fluids in high-purity applications across the biotechnology, pharmaceutical, and home and personal care industries.

The SX UltraPure is available with 14 different pump head displacements based on seven different gearbox modules to handle flow rates up to 30380 gallon/h and differential pressures up to 218 psi (15 bar).

### Benefits

- Low pulsation and very gentle pumping, making the pump ideal for sensitive products.
- Minimized shearing to protect end-product quality.
- Low maintenance, increased process uptime.
- Low contamination risk due to full material traceability and USP Class VI elastomers that reduce the risk of process contamination from extractables.
- Smooth qualification, validation and process control: material traceability, and pump supplied with the Alfa Laval Q-doc package in line with Good Documentation Practices.

### Standard design

All media contacting steel components, like the rotor case, front cover, rotors and rotor nuts, are in W. 1.4404 (AISI 316L). The stainless steel gearbox provides maximum shaft rigidity and easy oil seal replacement. The gearbox design is universal, which enables the flexibility of mounting pumps with the inlet and outlet ports in either a vertical or horizontal plane by changing the foot and its position.



The standard Alfa Laval SX UltraPure has four-lobe rotors rated to 302°F, facilitating use with CIP and SIP processes.

Fully front-loading and fully interchangeable single, single flushed and double mechanical shaft seals are available. All media contacting elastomers are controlled compression joints, the latest technology where static and dynamic elastomer seals are used to prevent leakage of pumped media to the atmosphere.

The Alfa Laval SX UltraPure can be supplied either as a bare shaft pump or mounted on a base plate complete with coupling, guard, gear motor and shroud for easy, plug-and-play installation.

### Working principle

A gear train in the pump gearbox drives the rotors and provides accurate synchronization of the multi-lobe rotors. The movement of the counter-rotating rotors creates a partial vacuum that allows atmospheric pressure or other external pressures to force fluid into the pump chamber. As the rotors

revolve, an expanding cavity forms, filling with fluid. As the blades disengage, each dwell forms a cavity. As the rotor blades engage, the cavity diminishes and fluid is displaced into the outlet port.

## Certificates



Authorized to carry the 3A symbol

## TECHNICAL DATA

### Standard specification

Product wetted steel parts:	W. 1.4404 (316L) with material traceability 3.1 according to EN 10204
Inside surface finish:	Mech Ra ≤ 32
Gearbox:	Stainless steel
Base plate:	Stainless steel
Coupling guard:	Stainless steel
Rotor:	Four-lobe
Product wetted elastomers:	EPDM - USP Class VI, 121°C. Chapter 88, and Chapter 87
Other elastomers:	FPM
Shaft seal:	Single mechanical (R00)
Rotary seal face:	Silicon Carbide
Stationary seal face:	Silicon Carbide

### Shaft seals

Single, single flush and double mechanical available. All options are fully front loading and interchangeable.

Max. flush pressure, single flush:	Max. 7.25 psi
Max. flush pressure, double mechanical:	Max. 1 bar over product pressure
Water consumption, flushed or double mechanical:	0.13 gallon/min
Flush connections:	BSPT or NPT

### Temperature

Max. process and CIP temperature:	302°F
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### Motor

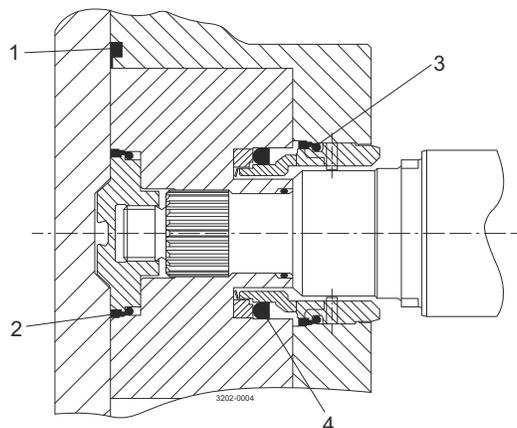
Gear motor, 4 poles, to IEC metric standard, 50/60 Hz, suitable for frequency conversion, IP55, insulation class F.

### Warranty

Extended 3-years warranty on SX UltraPure pumps. The warranty covers all non wear parts on the condition that genuine Alfa Laval Spare Parts are used.

## Media contacting elastomers

All media contacting elastomers are controlled compression joints, the latest technology where static and dynamic elastomer seals are used to prevent pumped media leaking to atmosphere.



1. Front cover compression joint.
2. Spline sealing cup seal.
3. Cup seal.
4. Squad ring.

## Flows/Pressures/Connections

SX Model	Displacement			Inlet and Outlet Connection Size		Differential Pressure <sup>1</sup>		Maximum Speed
	Litre/rev	Imp gall/100 rev	US gall/100 rev	mm	in	bar	psi	rev/min
SX UltraPure 1NDL	0.05	1.11	1.32	25	1	12	175	1200
SX UltraPure 1WLD	0.07	1.54	1.85	40	1.5	7	100	1200
SX UltraPure 2NDL	0.128	2.82	3.38	40	1.5	15	215	1000
SX UltraPure 2WLD	0.181	3.98	4.78	50	2	7	100	1000
SX UltraPure 3NDL	0.266	5.85	7.03	50	2	15	215	1000
SX UltraPure 3WLD	0.35	7.70	9.25	65	2.5	7	100	1000
SX UltraPure 4NDL	0.46	10.12	12.15	50	2	15	215	1000
SX UltraPure 4WLD	0.63	13.86	16.65	65	2.5	10	145	1000
SX UltraPure 5NDL	0.82	18.04	21.67	65	2.5	15	215	600
SX UltraPure 5WLD	1.15	25.30	30.38	80	3	10	145	600
SX UltraPure 6NDL	1.40	30.80	36.99	80	3	15	215	500
SX UltraPure 6WLD	1.90	41.80	50.20	100	4	10	145	500
SX UltraPure 7NDL	2.50	55.00	66.05	100	4	15	215	500
SX UltraPure 7WLD	3.80	83.60	100.40	150	6	10	145	500

<sup>1</sup> These pressure ratings may vary for pumps with certain threaded connections.

## Weight

Model	Bare Shaft Pump lbs.	
	Horizontal porting	Vertical porting
SX UltraPure 1NLD	37	39
SX UltraPure 1WLD	39	41
SX UltraPure 2NLD	75	77
SX UltraPure 2WLD	77	79
SX UltraPure 3NLD	130	134
SX UltraPure 3WLD	134	138
SX UltraPure 4NLD	247	254
SX UltraPure 4WLD	260	267
SX UltraPure 5NLD	342	342
SX UltraPure 5WLD	364	364
SX UltraPure 6NLD	613	613
SX UltraPure 6WLD	639	639
SX UltraPure 7NLD	-	750
SX UltraPure 7WLD	-	798

## Shaft Seal Options

- Single or single flush/quench (steam barrier for aseptic application) R00 type mechanical seals.
- Double R00 type mechanical seal for flush.

All sealing options are fully front loading and fully interchangeable without the need for additional housings or pump component changes. Specialised seal setting of the mechanical seal is not required as the seal is dimensionally set on assembly. This feature further enhances fast and efficient on-site seal interchangeability.

## Materials for Mechanical Seals

As standard the SX UltraPure is supplied with EHEDG compliant Silicon Carbide/Silicon Carbide seal faces avoiding any risk of potential extractable contamination.

## Standard Specification Options

- Screwed male inlet and outlet ports to DIN11851, SMS, RJT, Triclamp for ASME, DIN 32676 Clamp, DIN 11864-1 (Union) Form A, DIN 11864-2 (Flange) Form A or DIN 11864-3 (Clamp) Form A.
- Heating/Cooling Jacket for Rotorcase Cover.
- Product wetted surface finish electropolished to Ra 15 µin.
- Passivated surface.
- Surface finish measurement with certificate.
- Hydrostatic testing with certificate.
- ATEX compliance.

- Complete pump unit comprising: Pump + stainless steel baseplate + coupling with guard + Geared electric motor suitable for (or supplied with) frequency speed control or manual variable speed drive (advise motor enclosure and electrical supply).
- Low delta ferrite material for product wetted components.
- High alloy materials for product wetted components i.e. AL6XN or Titanium.

**Q-doc**

**Standard documentation package:**

- Declaration of compliance with Regulation (EC) No.: 1935/2004.
- Declaration of compliance to EN 10204 type 3.1 (MTR).
- Declaration of compliance to the U.S. Food & Drug Administration CFR 21 (non-metallic parts).
- Declaration of compliance to the U.S. Pharmacopeia (Elastomers and polymers).
- TSE (Transmissible Spongiform Encephalopathy) / ADI (Animal Derivative Ingredient) declaration.
- Declaration of surface finish compliance.
- Declaration of passivation and electro polishing (if specified).
- 3.1 certification in accordance to EN10204.
- Pump performance test certificate.

**Optional documentation:**

- Hydrostatic test certificate.
- Surface measurement report.

**Pump Sizing**

In order to correctly size a rotary lobe pump some essential information is required. Provision of this information listed below enables our Technical Support personnel to obtain the optimum pump selection.

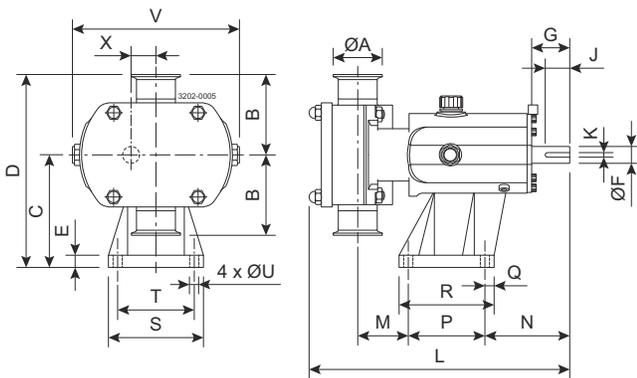
**Product/Fluid Data:**

- Fluid to be pumped.
- Viscosity.
- SG/Density.
- Pumping temperature, minimum, normal and maximum.
- Cleaning in Place temperature(s), minimum, normal and maximum.

**Performance Data:**

- Flow rate, minimum, normal and maximum.
- Discharge head/pressure (closest to pump outlet).
- Suction condition.

**Bareshaft Pump Dimensions**



**Figure 1. Vertically ported**

**All dimensions in inches, except where noted**

PUMP	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	R	S	T	U	V	X
SX UltraPure 1NLD	1.00	3.74	4.45	8.19	0.63	0.63	1.57	1.18	0.20	10.87	2.13	3.94	3.15	0.87	4.49	4.09	3.15	0.39	7.05	0.93
SX UltraPure 1WLD	1.50	3.74	4.45	8.19	0.63	0.63	1.57	1.18	0.20	11.38	2.36	3.94	3.15	0.87	4.49	4.09	3.15	0.39	7.05	0.93
SX UltraPure 2NLD	1.50	4.13	5.79	9.92	0.63	0.87	1.97	1.26	0.24	12.76	2.32	4.37	3.94	0.47	4.88	4.88	3.94	0.47	8.62	1.28
SX UltraPure 2WLD	2.00	4.13	5.79	9.92	0.63	0.87	1.97	1.26	0.24	13.39	2.60	4.37	3.94	0.47	4.88	4.88	3.94	0.47	8.62	1.28

PUMP	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	R	S	T	U	V	X
SX UltraPure 3NLD	2.00	4.92	6.89	11.81	0.87	1.10	2.36	1.57	0.31	16.97	2.83	5.59	6.10	0.59	7.28	6.10	4.92	0.55	9.96	1.48
SX UltraPure 3WLD	2.50	4.92	6.89	11.81	0.87	1.10	2.36	1.57	0.31	17.60	3.03	5.59	6.10	0.59	7.28	6.10	4.92	0.55	9.96	1.48
SX UltraPure 4NLD	2.00	5.91	8.39	14.29	0.98	1.50	3.15	2.48	0.39	20.24	2.95	6.85	7.87	0.67	9.21	7.24	5.91	0.55	12.09	1.95
SX UltraPure 4WLD	2.50	5.91	8.39	14.29	0.98	1.50	3.15	2.48	0.39	20.98	3.19	6.85	7.87	0.67	9.21	7.24	5.91	0.55	12.09	1.95
SX UltraPure 5NLD	2.50	6.89	10.12	17.01	1.18	1.77	4.33	2.76	0.55	23.58	2.40	10.39	7.87	0.79	9.45	8.66	7.09	0.55	13.58	2.36
SX UltraPure 5WLD	3.00	6.86	10.12	17.01	1.18	1.77	4.33	2.76	0.55	24.65	3.19	10.39	7.87	0.79	9.45	8.66	7.09	0.55	13.58	2.36
SX UltraPure 6NLD	3.00	7.48	11.61	19.09	1.18	1.89	4.33	2.76	0.55	27.05	3.03	10.51	10.24	0.79	11.81	9.84	8.27	0.55	15.75	2.76
SX UltraPure 6WLD	4.00	7.48	11.61	19.09	1.18	1.89	4.33	2.76	0.55	28.15	3.50	10.51	10.24	0.79	11.81	9.84	8.27	0.55	15.75	2.76
SX UltraPure 7NLD	4.00	8.07	14.37	22.44	1.18	2.36	4.33	3.54	0.71	30.04	3.70	11.34	11.02	0.98	12.99	11.42	9.45	0.71	18.70	3.21
SX UltraPure 7WLD	6.00	8.07	14.37	22.44	1.18	2.36	4.33	3.54	0.71	32.17	4.76	11.34	11.02	0.98	12.99	11.42	9.45	0.71	18.70	3.21

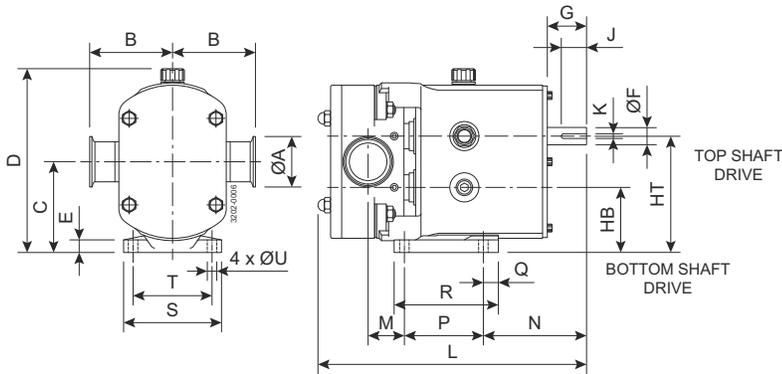


Figure 2. Horizontally ported

All dimensions in inches, except where noted

PUMP	A	B	C	D	E	F	G	HB	HT	J	K	L	M	N	P	Q	R	S	T	U
SX UltraPure 1NLD	1.00	3.74	3.54	7.40	0.39	0.63	1.57	2.62	4.47	1.18	0.20	10.87	1.46	4.61	3.15	0.98	4.53	3.94	3.15	0.39
SX UltraPure 1WLD	1.50	3.74	3.54	7.40	0.39	0.63	1.57	2.62	4.47	1.18	0.20	11.38	1.69	4.61	3.15	0.98	4.53	3.94	3.15	0.39
SX UltraPure 2NLD	1.50	4.13	4.53	9.17	0.63	0.87	1.97	3.25	5.81	1.26	0.24	12.76	1.54	5.16	3.94	0.75	5.20	4.88	3.94	0.47
SX UltraPure 2WLD	2.00	4.13	4.53	9.17	0.63	0.87	1.97	3.25	5.81	1.26	0.24	13.39	1.81	5.16	3.94	0.75	5.20	4.88	3.94	0.47
SX UltraPure 3NLD	2.00	4.92	5.43	10.75	0.71	1.1	2.36	3.96	6.91	1.57	0.31	16.97	2.72	6.89	4.92	1.18	7.13	6.06	4.92	0.55
SX UltraPure 3WLD	2.50	4.92	5.43	10.75	0.71	1.1	2.36	3.96	6.91	1.57	0.31	17.60	2.91	6.89	4.92	1.18	7.13	6.06	4.92	0.55
SX UltraPure 4NLD	2.00	5.91	6.42	12.80	0.79	1.5	3.15	4.47	8.37	2.48	0.39	20.24	2.95	8.86	5.91	1.38	7.95	7.24	5.91	0.55
SX UltraPure 4WLD	2.50	5.91	6.42	12.80	0.79	1.5	3.15	4.47	8.37	2.48	0.39	20.98	3.19	8.86	5.91	1.38	7.95	7.24	5.91	0.55
SX UltraPure 5NLD	2.50	6.89	7.68	14.80	0.79	1.77	4.33	5.31	10.04	2.76	0.55	23.58	1.81	10.98	7.09	1.38	10.83	8.27	7.09	0.55
SX UltraPure 5WLD	3.00	6.89	7.68	14.80	0.79	1.77	4.33	5.31	10.04	2.76	0.55	24.65	2.60	10.98	7.09	1.38	10.83	8.27	7.09	0.55
SX UltraPure 6NLD	3.00	7.48	8.86	16.89	0.79	1.89	4.33	6.10	11.61	2.76	0.55	27.05	3.07	10.47	10.2	1.57	14.57	8.66	7.48	0.55
SX UltraPure 6WLD	4.00	7.48	8.86	16.89	0.79	1.89	4.33	6.10	11.61	2.76	0.55	28.15	3.54	10.47	10.2	1.57	14.57	8.66	7.48	0.55

# Alfa Laval OptiLobe

## Product description

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L22 - 15 - M - Q02 - A - A - A - A

①      ②      ③      ④      ⑤      ⑥      ⑦      ⑧

① MODEL SIZE

L12  
L13  
L22  
L23  
L32  
L33  
L42  
L43  
L52  
L53

② PORT SIZE

10 (25 mm) 1"  
15 (40 mm) 1½"  
20 (50 mm) 2"  
25 (65 mm) 2½"  
30 (80 mm) 3"  
40 (100 mm) 4"

③ MODEL SIZE

M = Triclamp

④ SEAL / ELASTOMER

Q02 - Easy Fit SS/C FPM  
Q06 - Easy Fit SS/C EPDM  
Q12 - Easy Fit SC/C FPM  
Q16 - Easy Fit SC/C EPDM  
Q22 - Easy Fit SC/SC FPM  
Q26 - Easy Fit SC/SC EPDM  
S02 - Easy Fit SS/C Flush FPM  
S06 - Easy Fit SS/C Flush EPDM  
S12 - Easy Fit SC/C Flush FPM  
S16 - Easy Fit SC/C Flush EPDM  
S22 - Easy Fit SC/SC Flush FPM  
S26 - Easy Fit SC/SC Flush EPDM

⑤ ROTOR TYPE & CLEARANCE

A = SS Trilobe (8 bar, 130°C, 266°F)

⑥ SHAFT POSITION

A - Vertical Left Side Drive  
B - Vertical Right Side Drive  
C - Horizontal Bottom Drive  
D - Horizontal Top Drive

⑦ SURFACE FINISH

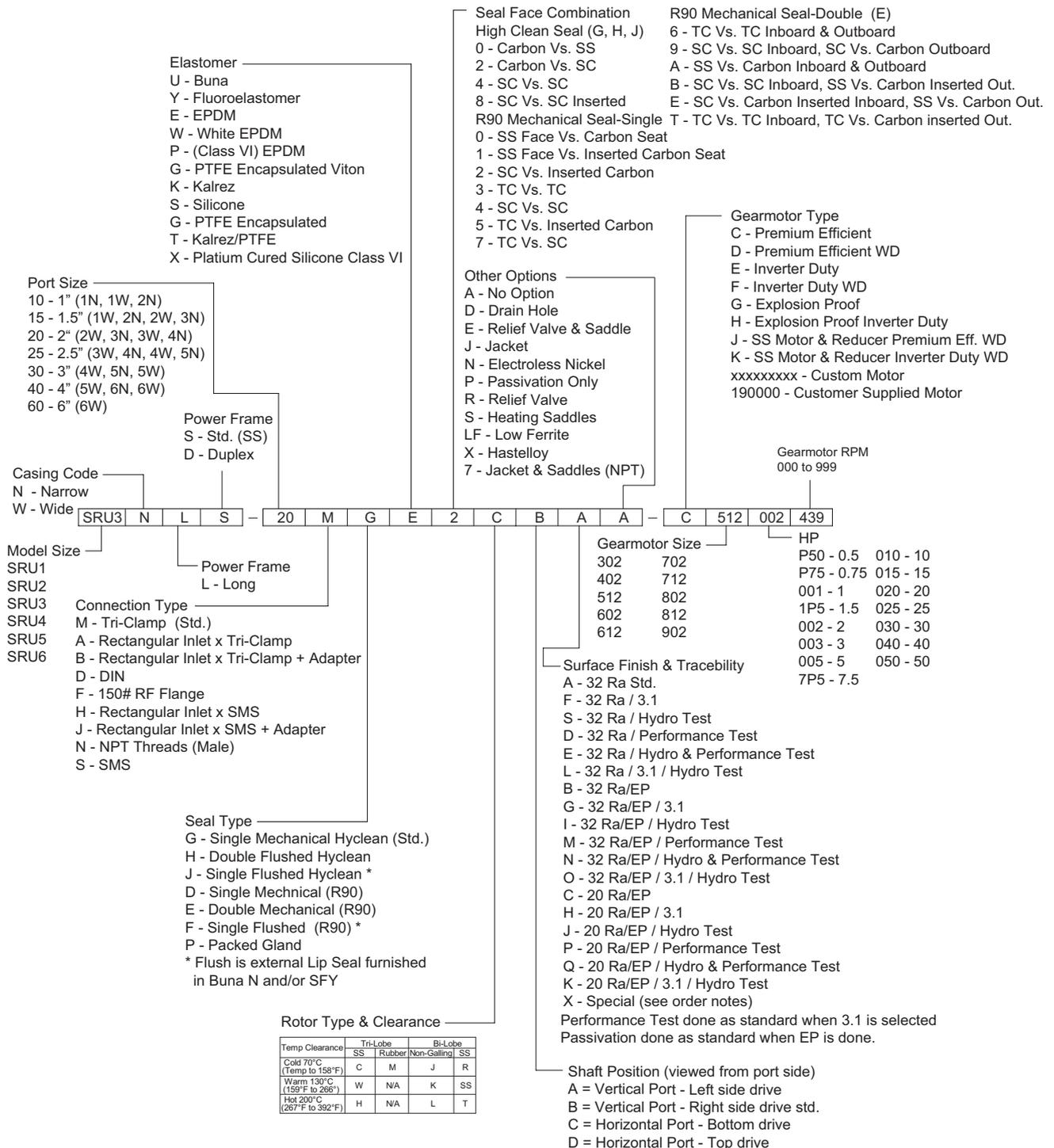
A = Standard 32 Ra

⑧ ELASTOMER

A = No Options

# Alfa Laval SRU

## Product description



# Alfa Laval SX

## Product description

SX3	N	L	D	-	20	M	D	E	2	03	A	A	1	-	C	512	002	439
1	2	3	4		5	6	7	8	9	10	11	12	13		14	15	16	17
0000	0	0	0	-	00	0	0	0	0	0	0	0	0	-	0	000	000	000

### 1 MODEL SIZE

SX1  
SX2  
SX3  
SX4  
SX5  
SX6  
SX7

### 2 CASING CODE

N - Narrow  
W - wide

### 3 POWER FRAME

L - Long

### 4 SHAFT MATERIAL

D - Duplex

### 5 PORT SIZE

10 - 1" (1N)  
15 - 1.5" (1W, 2N)  
20 - 2" (2W, 3N, 4N)  
25 - 2.5" (3W, 4W, 5N)  
30 - 3" (5W, 6N)  
40 - 4" (6W, 7N)  
60 - 6" (7W)

### 6 CONNECTION TYPE

M - Tri-clamp

### 7 SEAL TYPE

D - Single Mechanical (R00)  
E - Double Mechanical Flushed (R00)  
F - Single Mechanical Flushed<sup>2</sup> (R00)

<sup>2</sup>Flush is external lip seal-furnished in Buna and/or SFY (Fluoroelastomer)

### 8 ELASTOMER

E - EPDM (Class IV)  
X - Silicone  
V - FPM (Viton)

### 9 SEAL FACE COMBINATIONS

0 - Carbon vs. SS  
2 - Carbon vs. SC  
4 - SC vs. SC

### 10 ROTOR TYPE & CLEARANCE

03 - 43 PSI (3 bar)  
05 - 70 PSI (5 bar)  
07 - 100 PSI (7 bar)  
10 - 145 PSI (10 bar)  
12 - 174 PSI (12 bar)  
15 - 215 PSI (15 bar)

### 11 SHAFT POSITION

A - Horizontal Port - (Top Side Drive)  
B - Horizontal Port - (Bottom Side Drive)  
C - Vertical Port - (Left Side Drive - Bi-Directional)

### 12 SURFACE FINISH & TRACEABILITY

A - 32 Ra Std.  
D - 32 Ra/Performance test

### 13 COVER OPTIONS

0 - Custom  
1 - No option  
2 - Jacket  
3 - 1/2" Tri-clamp drain  
4 - Aseptic

### 14 GEAR MOTOR TYPE

C - Premium Efficient  
D - Premium Efficient WD  
E - Inverter Duty  
F - Inverter Duty WD  
G - Explosion Proof  
H - Explosion Proof Inverter Duty  
J - SS Motor & Reducer Premium Eff WD  
K - SS Motor & Reducer Inverter Duty WD  
L - Inverter Duty W/D 50 Hz

### 15 GEAR MOTOR SIZE

302	702
402	712
512	802
602	812
612	902

### 16 HP

P50 - 0.5	010 - 10
P75 - 0.75	015 - 15
001 - 1	020 - 20
1P5 - 1.5	025 - 25
002 - 2	030 - 30
003 - 3	040 - 40
005 - 5	050 - 50
7P5 - 7.5	

### 17 GEAR MOTOR RPM

000 to 999

\* Sterling gearmotors are standard others available upon request.

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# Twin screw pumps

<b>Product leaflet</b>	
OS Twin Screw .....	188

# Alfa Laval OS Twin screw

## Twin screw pumps

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### Introduction

The Alfa Laval Twin Screw Pump combines process duties typically handled by positive displacement with Cleaning-in-Place (CIP) duties typically handled by centrifugal pumps. This provides a robust and reliable platform that offers greater process flexibility.

Designed for process flexibility, the Alfa Laval Twin Screw Pump is built on a robust, reliable platform that meets stringent hygienic standards. It is capable of handling both product transfer and CIP. Its low pulsation characteristics and excellent solids-handling capability reduce the risk of product damage, thereby improving product quality.

The pump is designed according to the most stringent hygienic design standards and with verified, effective CIP.

### Applications

Designed for handling sensitive, abrasive and high and low viscosity fluids, the Alfa Laval Twin Screw Pump is ideal for use in hygienic applications across the dairy, food, beverage, and home and personal care industries. Quiet and virtually pulse-free, the pump provides smooth and gentle operation, making it an excellent choice for handling sensitive products.

Two-in-one operation provides easy handling of process media of varying viscosities as well as CIP fluids. This simplifies piping and pump control, cutting costs and minimizing contamination risks.

Superior suction performance with excellent lift capability and low NPSHr provides installation flexibility and increases product recovery.

The Alfa Laval Twin Screw Pump is available in sixteen models based on four frame sizes. Each frame is available with an assortment of different screw profiles for varying pressure, flow and solids-handling capabilities.

### Benefits

- Greater process flexibility.
- Ease of service, increased process uptime.
- Robust reliable design, reducing cost of ownership and increasing process uptime.



- Improved product quality.
- Exceptional hygiene and cleanability.

### Standard design

All media contacting steel components, like pump casing, front cover and feed screws are in W. 1.4404 (AISI 316L). Furthermore, the pump casing is diffusion hardened. A stainless steel gearbox, end cover and foot ensure increased life and assist in washdown.

The gearbox is designed with the timing gears located between the bearing sets, rather than external to them. This allows the bearing location to be optimized in order to provide maximum support to the shaft assembly, thereby providing a robust rigid design. The internal gearcase design optimizes oil circulation to both sets of bearings and the timing gears with an oil sump design. This improves the lubrication effect on both bearings and timing gears, minimizing the energy produced due to friction and thereby reducing heat generation within the pump gearbox.

The front-loading, self-setting cartridge design makes it easy to replace the shaft seal while the pump is in place. Single, single flush and double mechanical cartridge seals are available. All options are fully front-loading and interchangeable.

The Alfa Laval Twin Screw Pump can be supplied either as a bare shaft pump or mounted on a base plate complete with coupling, guard, shroud and a direct coupled motor or a gear motor for easy, plug-and-play installation.

### Working principle

The Alfa Laval Twin Screw Pump is a positive displacement pump. As the pump rotates, the intermeshing of the two contra-

rotating screws, along with the pump casing, form volumetric chambers. These chambers fill with the pumped fluid and move the fluid axially from the suction side of the pump to the higher pressure discharge side.

### Certificates



Authorized to carry the 3A symbol

## TECHNICAL DATA

### Standard specification

Pump casing:	W. 1.4404 (316L), diffusion hardened
Screws, front cover, seal housing:	W. 1.4404 (316L)
Inside surface finish:	Mech Ra ≤ 0.8 (≤ 32)
Gear box:	Stainless steel
Base plate:	Stainless steel
Coupling guard:	Stainless steel
Product wetted elastomers:	EPDM
Other elastomers:	FPM
Shaft seal:	Single flush
Rotary seal face:	Silicon Carbide
Stationary seal face:	Silicon Carbide

### Shaft seals

Single, Single flush and double mechanical cartridge seals available. All options are fully front loading and interchangeable.

Max. flush pressure, single flush:	0.5 bar (7.25 psi)
Max. flush pressure, double mechanical:	16 bar (max. 6 bar over product pressure) (232 psi (max. 87 psi over product pressure))
Water consumption, single flush and double mechanical:	0.5 l/min. (0.13 gallon/min.)
Flush connections, OS10-30:	G 1/4" or NPT 1/4"
Flush connections, OS40-46:	G 1/2" or NPT 1/2"

### Pressure

Max. inlet pressure:	16 bar (232 psi)
Max. discharge pressure:	16 bar (232 psi)

### Temperature

Max. process temperature:	100°C (212°F)
Max. CIP/SIP temperature:	150°C (302°F)

### Motor

Direct coupled motor, 4, 6 or 8 poles, or gear motor, 4 poles, to either IEC metric standard, 50/60 Hz, suitable for frequency conversion, IP55, insulation class F or Nema standard, premium efficiency, suitable for frequency conversion.

### Warranty

Extended 3-years warranty on Alfa Laval Twin Screw pumps. The warranty covers all non wear parts on the condition that genuine Alfa Laval Spare Parts are used.

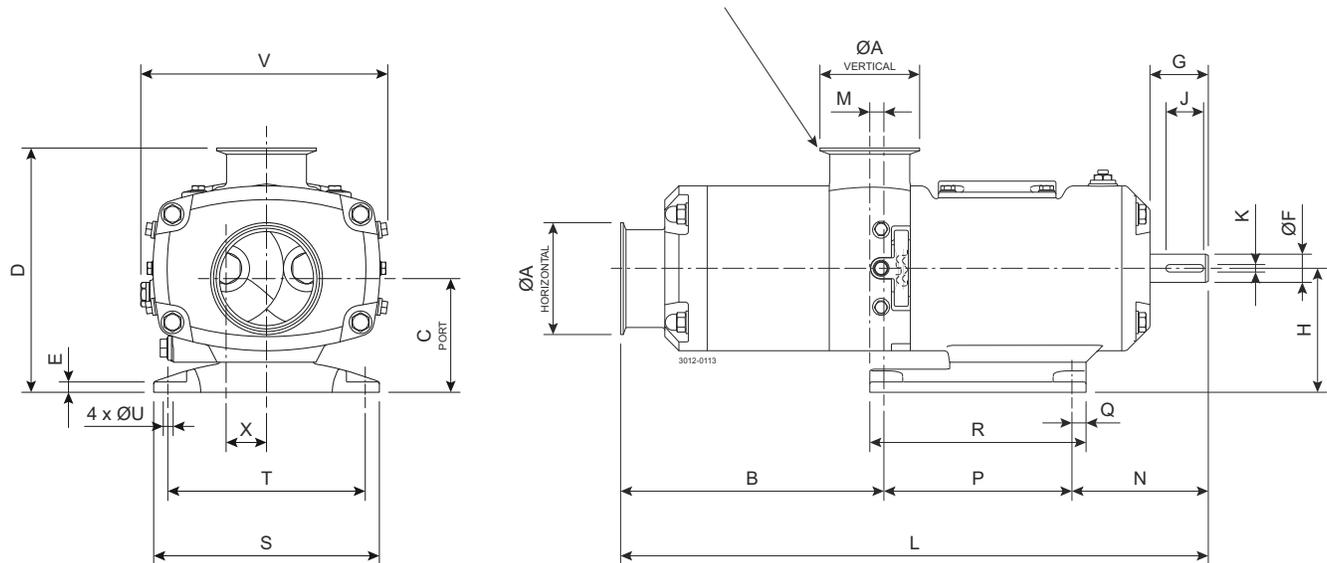
## Operating data

Model	Max. Flow		Max. Differential Pressure		Max. speed		Max. Particle Size	
	m3/h	gpm	bar	psi	Process rpm	CIP rpm	mm	inch
OS12	6.1	27	16	232	2800	3300	6	0.24
OS14	10.4	46	12	174	2800	3300	11	0.43
OS16	16.0	70	8	116	2800	3300	17	0.67
OS22	18.2	80	16	232	2500	3300	12	0.47
OS24	24.3	107	12	174	2500	3300	16	0.63
OS26	36.5	161	8	116	2500	3300	24	0.94
OS27	45.7	201	6	87	2500	3300	15	0.59

Model	Max. Flow		Max. Differential Pressure		Max. speed		Max. Particle Size	
	m3/h	gpm	bar	psi	Process rpm	CIP rpm	mm	inch
	OS28	38.7	170	5.5	80	2000	2000	32
OS32	34.8	153	16	232	2200	3000	16	0.63
OS34	46.6	205	12	174	2200	3000	21	0.83
OS36	69.9	308	8	116	2200	3000	32	1.26
OS37	88.0	387	6	87	2200	3000	20	0.79
OS38	84.8	373	5.5	80	2000	2000	42	1.65
OS42	66.8	294	16	232	1800	2800	21	0.83
OS44	89.5	394	12	174	1800	2800	29	1.14
OS46	134.3	591	8	116	1800	2800	43	1.69

### Dimension mm (inch)

PUMP SHOWN WITH TRI-CLAMP, SUCTION AND DISCHARGE CONNECTIONS



Model	ØA Vertical	B	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V <sup>1</sup>	X
mm (inch)																				
OS12	25 (1)																			
OS14	40 (1½)	170 (6.69)	180 (7.09)	7 (0.28)	18 (0.71)	50 (1.97)	90 (3.54)	40 (1.57)	6 (0.24)	405 (15.94)	10 (0.39)	110 (4.33)	125 (4.92)	10 (0.39)	145 (5.70)	155 (6.10)	135 (5.31)	9 (0.35)	188,5 (7.42)	28 (1.10)
OS16	50 (2)																			
OS22	40 (1½)																			
OS24	50 (2)	222,5 (8.76)	220 (8.66)	9 (0.35)	20 (0.79)	54,5 (21.46)	112 (4.41)	40 (1.57)	6 (0.24)	505 (19.88)	12,5 (0.49)	117,5 (4.63)	165 (6.50)	12,5 (0.49)	190 (7.48)	200 (7.87)	175 (6.89)	11 (0.43)	216 (8.50)	33 (1.30)
OS26	65 (2½)																			
OS27	65 (2½)																			
OS28	65 (2½)	252,5 (9.9)	"	"	"	"	"	"	"	535 (21.1)	"	"	"	"	"	"	"	"	"	"

<sup>1</sup> Dimension 'V' is with flush plugs installed - NPT adaptors will increase this dimension by ~10mm

Model	ØA																			
	Verti cal	B	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V <sup>1</sup>	X
mm (inch)																				
OS32	65 (2½)																			
OS34	65 (2½)	280	260	11	30	62	132	40	8	625	15	145	200	15	230	240	210	13	262,5	43
OS36	80 (3)	(11.02)	(10.24)	(0.43)	(1.18)	(2.44)	(5.20)	(1.57)	(0.31)	(24.61)	(0.59)	(5.71)	(7.87)	(0.59)	(9.06)	(9.45)	(8.27)	(0.51)	(10.33)	(1.69)
OS37	80 (3)																			
OS38	80 (3)	320 (12.6)	"	"	"	"	"	"	"	665 (26.2)	"	"	"	"	"	"	"	"	"	"
OS42	80 (3)																			
OS44	80 (3)	360 (14.17)	350 (13.78)	15 (0.59)	45 (1.77)	87 (3.43)	180 (5.51)	70 (2.76)	14 (0.55)	790 (31.10)	20 (0.79)	180 (7.09)	250 (9.84)	20 (0.79)	290 (11.42)	320 (12.60)	280 (11.02)	17,5 (0.68)	346 (13.62)	58 (2.28)
OS46	100 (4)																			

<sup>1</sup> Dimension 'V' is with flush plugs installed - NPT adaptors will increase this dimension by ~10mm

Model	C				
	ØA Horizontal	DIN11851 DIN 11864-1-A-A DIN 11864-2-A-A	SMS	Tri-Clamp DIN 11864-1-A-C DIN 11864-2-A-C	BS 4825-4 (IDF) BS 4825-5 (RJT)
	mm (inch)	mm	mm	mm (inch)	mm
OS12	40 (1.5)	72	70.75	70.4 (2.77)	70.45
OS14	50 (2)	78	77.25	76.75 (3.02)	76.8
OS16	65 (2.5)	86	83.15	83.1 (3.27)	83.15
OS22	50 (2)	90	89.3	88.75 (3.49)	88.8
OS24	65 (2.5)	98	95.15	95.10 (3.74)	95.15
OS26	80				
OS27	80 (3)	105.5	101.45	101.45 (4.00)	101.5
OS28					
OS32	80				
OS34	80 (3)	111.5	107.45	107.45 (4.23)	107.5
OS36	100				
OS37	100 (4)	121	119.8	119.7 (4.71)	119.8
OS38					
OS42	100				
OS44	100 (4)	148.5	147.3	147.2 (5.80)	147.3
OS46	150 (6)	173.5	-	171.93 (6.77)	-

## Options

- Single mechanical shaft seal
- Double mechanical shaft seal
- Silicon Carbide/Carbon seal faces
- Product wetted elastomers in FPM or FFFPM
- Diffusion hardened screws
- Heating jacket
- Rectangular inlet
- Hydrostatic testing with certificate
- Reversed flow
- Bottom inlet or outlet
- Stainless steel shroud covering coupling and motor

- Baseplate fitted with adjustable stainless steel ball feet
- ATEX / Ex-proof approval

### Pump sizing

In order to correctly size a twin screw pump some essential information is required. Provision of this information listed below enables our Technical Support personnel to obtain the optimum pump selection. Specific CIP data are important as well.

#### Product/Fluid Data:

- Fluid to be pumped.
- Viscosity.
- Pumping temperature, minimum, normal and maximum.
- Cleaning in Place temperature(s), minimum, normal and maximum.

#### Performance Data:

- Flow rate, minimum, normal and maximum.
- Discharge head/pressure (closest to pump outlet).
- Suction condition.



#### **Note!**

For further details, see also 100000817.  
This product has EHEDG certificate.

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#### **This is Alfa Laval**

Alfa Laval is active in the areas of Energy, Marine, and Food & Water, offering its expertise, products, and service to a wide range of industries in some 100 countries. The company is committed to optimizing processes, creating responsible growth, and driving progress – always going the extra mile to support customers in achieving their business goals and sustainability targets.

Alfa Laval's innovative technologies are dedicated to purifying, refining, and reusing materials, promoting more responsible use of natural resources. They contribute to improved energy efficiency and heat recovery, better water treatment, and reduced emissions. Thereby, Alfa Laval is not only accelerating success for its customers, but also for people and the planet. Making the world better, every day. It's all about Advancing better™.

#### **How to contact Alfa Laval**

Contact details for all countries are continually updated on our web site. Please visit [www.alfalaval.com](http://www.alfalaval.com) to access the information.