



**EBARA**

## Wastewater Pump Products



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EBARA water and wastewater pumps are an integral part within the wastewater treatment process and cycle of cleaning our used water.



# Why Treat Wastewater?

Water scarcity is among the most serious crises facing the world. It is under constant threat due to climate change and resulting drought, explosive population growth, and waste. Even though the world is two-thirds water, most of it is not potable.

The world's supply of fresh water is slowly running dry. Forty percent of the world's population is already reeling under the problem of scarcity. The growing water shortage will make food scarcer, potable water less accessible and water-borne diseases even more rampant. The number of people expected to suffer under these circumstances is expected to reach more than 500 million by the 2025.

Over the past decade, the United States has been plagued by horrific flooding and drought caused by less predictable geographically interdependent weather patterns and long periods of record high temperatures, large snow-falls/melts and persistent rains. The severe swings in weather conditions have been close together and drastic.

## Recycling Our "Used" Water

With water scarcity increasing, the continued unpredictability of volatile weather patterns and constraints in federal funding for municipality infrastructure, the need to recycle and reuse our water is an abundantly clear necessity. One of the most promising efforts to stem the global water crisis is industrial and municipal water recycling – the reuse of treated wastewater for beneficial purposes such as agricultural and landscape irrigation, industrial processes, toilet flushing, or replenishing a groundwater basin.

Wastewater is water that comes from homes, businesses and industries that includes substances such as run-off, human waste, food scraps, oils, soaps and chemicals from the water from sinks, showers, bathtubs, toilets, washing machines and dishwashers. Wastewater also includes storm runoff that contains harmful substances that wash off roads, parking lots and rooftops that can harm our rivers and lakes, and cannot not be used without some treatment.

Wastewater treatment is a multi-stage process to renovate wastewater before it reenters a body of water, is applied to the land or is reused. As the world endures major water challenges, **EBARA is committed** to engineering and producing water and wastewater pumps and products integral to the wastewater reclamation, treatment and recycling processes.



# EBARA products: Engineered for Performance.

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Founded in 1912, EBARA Corporation is recognized as a world leader in the design, development and manufacture of industrial machinery with a predominant focus on the production of pumps, pumping systems and compressors for a wide range of applications. EBARA Corporation now operates 104 subsidiaries and 15 affiliate companies in 17 countries under three principal business groups: Fluid Machinery and Systems, Environmental Engineering and Precision Machinery.



The variety of pump types and sizes produced by the EBARA Fluid Machinery and Systems Group is tremendous, ranging from fractional horsepower recirculation pumps to vertical mixed flow pumps with horsepower's into the thousands. EBARA's engineering and manufacturing capabilities are best demonstrated by the Futtsu manufacturing plant. The plant is focused on the production of high pressure, large scale pumps and systems targeting specific applications in oil and gas, nuclear power, water and wastewater infrastructure industries. EBARA's Fujisawa plant is one of the most technologically advanced manufacturing plants for the mass production of small size pumps; including the D-series of cast iron pumps.



EBARA Fluid Handling (EFH), the US sales and service subsidiary, provides engineered pump, pump products and related services for the water, wastewater, commercial, municipal, energy and power industries offering reliable product knowledge, application expertise and responsive support including aftermarket replacement parts services.



Recognizing the continued strain on water and wastewater facilities and infrastructures with increased maintenance, energy, and environmental demands and costs, EBARA Fluid Handling strives to deploy the best water and wastewater pumps, pump products, and technologies to meet these requirements.



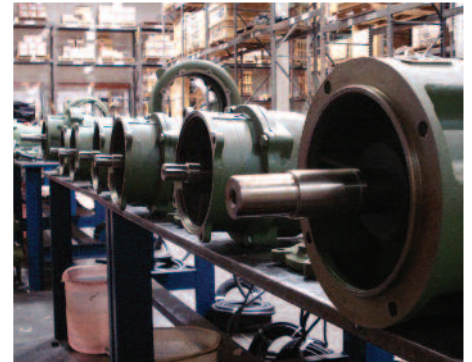


With horsepower ranges up to 500 HP and capacities to 35,000 GPM, EFH's cast iron submersible pumps meet a wide range of industrial, municipal, flood control, and residential water and wastewater applications. The cast iron line of pumps includes submersible sewage, submersible sump, semi-vortex, vortex, grinder, non-clog, and dry pit models.












EBARA Fluid Handling completed a 36,000 square foot expansion of its Rock Hill facilities in 2009, doubling its size and allowing larger pumps and products to be built, tested and shipped from the South Carolina location. The Rock Hill facility includes a new 81,000 gallon computer-aided testing area capable of handling large-scale pump models in both wet and dry pit configurations up to 350 HP. The expanded facility houses a large, state-of-the-art training facility to accommodate pump product training services with access to amenities such as guest offices and facility services.

EBARA Fluid Handling maintains inventory that allows it to assemble, test, and ship ½ to 150 HP cast iron submersible pumps in 5 to 14 working days, and offer quick shipments of other standard product lines as well.

EBARA pump service and parts are available through an extensive service network throughout North America to assist customers in replacement of parts or complete pumps and motors.



# EBARA products: designed for performance.

EBARA Model	Description	Flow (GPM)	Head (feet)	HP	Discharge Size (inches)	Maximum Temp	Type of Pumpage
	<b>EPD, Optima</b> High quality stainless steel submersible sump and drainage pump	3 to 86	9 to 61	1/3 to 1 1/2	1 to 1 1/2	122°F / 50°C	water, semi-dirty water; solids to 3/8"
	<b>DWU, DWXU</b> High quality stainless steel submersible sump and effluent pump	8 to 235	8 to 74	3 to 10	2	104°F / 40°C	water, wastewater; solids to 2"
	<b>DSU, DSHU</b> Durable cast iron submersible sump, drainage pump	8 to 390	8 to 126	1/2 to 10	2, 3, 4	122°F / 50°C up to 176°F / 80° C	(hot) water, wastewater, treated sewage
	<b>DVSU, DVSHU</b> Durable cast iron submersible pump with semi-vortex impeller	7 to 250	7 to 90	1/2 to 5	2, 3	122°F / 50°C up to 176°F / 80° C	(hot) water, wastewater, abrasive, suspended solids to 2 1/4"
	<b>DWP, DWPM</b> Portable, slim-line top discharge submersible dewatering pumps	30 to 2000	5 to 340	1.3 to 58	2, 3, 4, 6, 8	104°F / 40°C	severe corrosive, contaminated, abrasive fluids
	<b>DMLEU</b> Durable cast iron submersible non-clog, single channel impeller pump	55 to 1345	12 to 136	3 to 30	3, 4, 6	104°F / 40°C	water, wastewater, effluent; solids to 3"
	<b>DGUII, DGFU</b> Submersible grinder pump with heavy duty high chrome iron grinder system reduce solid sizes for smooth, non-clogging flow.	5 to 80	27 to 148	2 to 5	1 1/4, 2	104°F / 40°C	water, wastewater, sewage, solids to 3"
	<b>DLU</b> Durable cast iron submersible pump with semi-open impellers with large wear area and open passageways	13 to 430	9 to 66	1 to 5	2, 3, 4	104°F / 40°C	wastewater, sewage, stringy, abrasive materials solids to 3"
	<b>DVU, DVFU</b> Durable cast iron submersible pump with vortex impeller large solids handling capabilities	16 to 430	9 to 66	<b>DVU:</b> 1 to 5	2, 3, 4	104°F / 40°C	wastewater, sewage, abrasive, suspended solids to 4", 5"
		16 to 1200	13 to 121	<b>DVFU:</b> 2 to 30	2, 3, 4, 6		
	<b>DLFU, DDLFU</b> Cast iron submersible pump with high efficiency impeller and large solids handling capabilities; dry and wet pit configurations	13 to 4000	7 to 243	<b>DLFU:</b> 2 to 60	2 to 12	104°F / 40°C	water, wastewater, sewage, fibrous solids to 3 1/4"
		80 to 4000	20 to 243	<b>DDL FU (dry pit):</b> 15 to 60	4 to 12		
	<b>DSC4, DSCA4, DSC</b> Large cast iron submersible pump available with semi-open or enclosed impellers with large passageways, dry and wet pit configurations	530 to 35000	8 to 300	40 to 500	6 to 24	104°F / 40°C	wastewater, sewage, stringy, abrasive materials solids to 8 1/8"

	Residential	Commercial	Municipal	Industrial	Wastewater	Applications			Sewage	Drainage	Irrigation	Construction	Transfer	Flood control	Page No.
						Water	Sump	Effluent							
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# Model EPD, Optima

submersible stainless steel sump, drainage



## Features

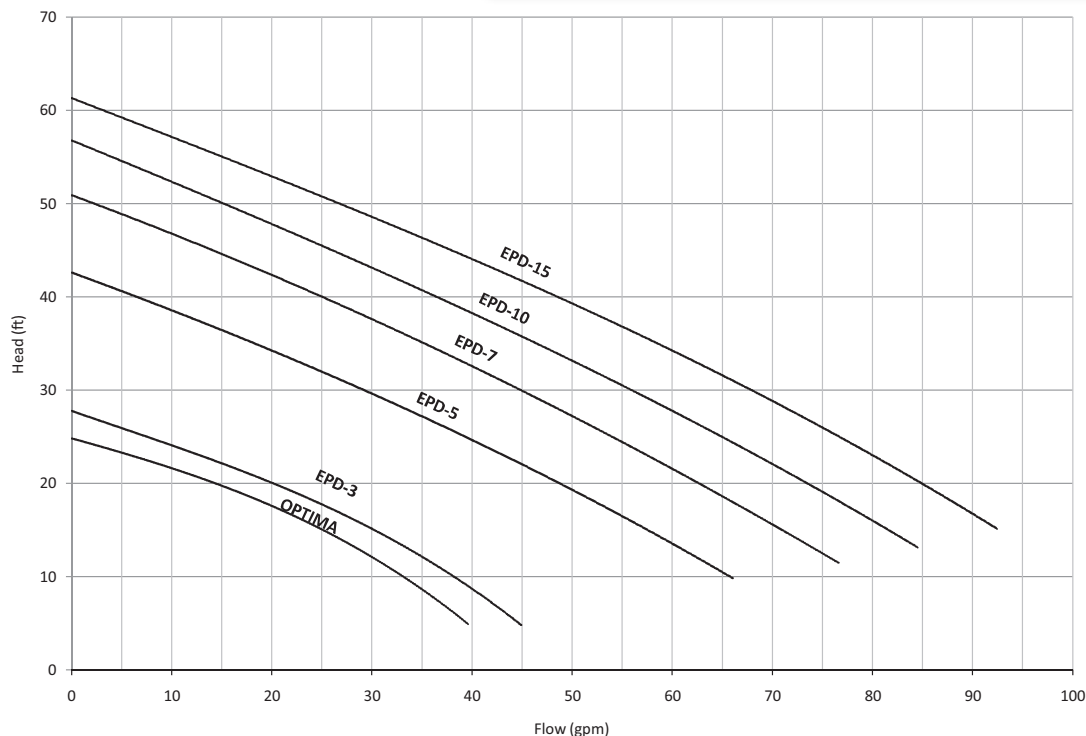
- High quality stainless steel (*Note:* Optima has Noryl impeller)
- Single and three phase models available
- Air filled, continuous duty rated, permanent split capacitor motors
- Built-in thermal protection with automatic reset
- Built to operate whether fully or partially submerged
- Oil lubricated double mechanical shaft seal  $\frac{1}{2}$  -  $1\frac{1}{2}$  HP models
- 20' UL/CSA approved, water resistant #16 AWG cord
- Optima and EPD slimline automatic models can operate in a 12" diameter basin or 8" x 8" square basin

## Standard Specifications

		Automatic	Manual
Design	Discharge	1/3 HP - 1 1/4," 1/2 HP and 3/4 HP - 1 1/2"	1/3 HP - 1 1/4," 1/2 HP through 1 1/2 HP - 1 1/2"
	Horsepower	1/3, 1/2, and 3/4 HP	1/3, 1/2, 3/4, 1, and 1 1/2 HP
	Capacity	2.7 to 72 GPM	2.7 to 86 GPM
	Total head	9.3 to 57 feet	9.3 to 61 feet
	Max.Liquid temp.	122°F/50°C (140°F/60°C intermittent duty)	
	Solids	3/8" Spherical (2% by concentration)	
Speed	3600 RPM		
Materials	Casing	304L Stainless Steel	
	Impeller	304L Stainless Steel*	
	Shaft	303 Stainless Steel	
	Motor Frame	304L Stainless Steel	
	Fastener	304L Stainless Steel	
Construction	Shaft Seal (Double)**		
	Material – Upper	NBR Fitted Carbon/Ceramic - 1/2, 3/4, 1, and 1 1/2 HP	
	Material – Lower	FPM Fitted Silicon Carbide/Silicon Carbide - 1/2, 3/4, 1, and 1 1/2 HP	
	Impeller Type	Semi-Open	
	Bearing	Sealed Ball Bearing	
	Motor	Air-filled, Insulation Class F, 2 Pole, Rated Continuous Duty—Permanent Split Capacitor	
	Single Phase	115 V	115 V
	Three Phase		230V or 460V
	Motor Protection†	Built-in Motor Protection with Auto Reset	
Power Cord	Single Phase	UL/CSA SJTOW-A with ECS No. 250 cap plug with grounding pin – 20 Ft. Length Rated 15 Amp 125V – NEMA 5-15P	
	Three Phase	UL/CSA STOW-A water resistant, stripped end jacket removed 2" and conductor stripped 5/8" – 20 Ft. length	
Automatic Float Switch		Mechanical Float	

**Notes:** \* ITEM NO. Optima-3AS1, Optima-3MS1 – Impeller material is Thermo Plastic-Noryl GFN2  
 \*\* Optima-3 & EPD-3 –  $\frac{1}{2}$  HP Shaft Seal is single mechanical seal (lower side) and 1 lip seal (upper side)  
 – Mechanical Seal material: Carbon/Ceramic/FPM  
 † Three Phase models require user to provide motor protection

## EPD, Optima selection chart



# Model DWU, DWXU

submersible stainless steel sump, effluent



## Features

- High quality stainless steel
- Single and three phase models available
- Motor is 2 pole submersible, rated continuous duty
- Class F motor insulation
- 104°F maximum fluid temperature continuous operation, fully submerged; 140° F intermittent operation
- Automatic and manual operation
- Auto float switch is mechanical/non-mercury
- NPT thread discharge or 150 lb ANSI flange
- Double mechanical seal with viton elastomers
- Shielded, prelubricated ball bearings 50,000 hour
- Single channel and vortex impellers
- Thermal overloads

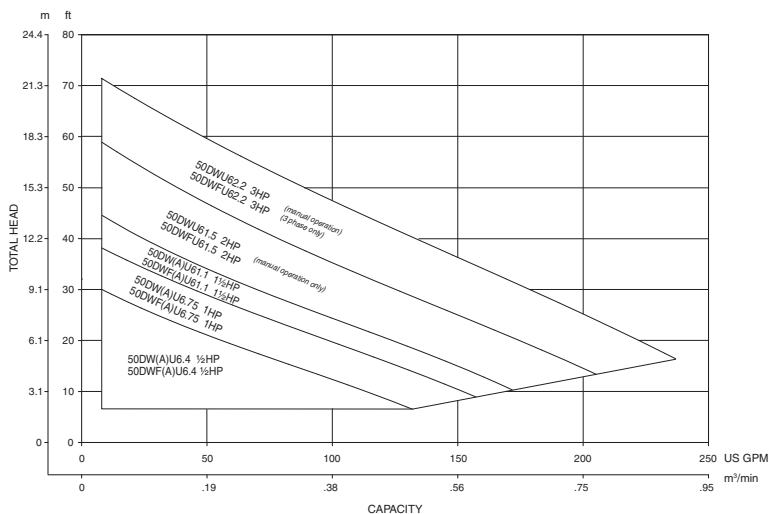
## Standard Specifications

Design		Automatic	Manual
		2" NPT or 2" ANSI Flanged	
	Discharge	1/2 HP to 1 1/2 HP	1/2 HP to 3 HP
	Horsepower	8 to 180 GPM	8 to 235 GPM
	Capacity	8 to 54 feet	8 to 74 feet
	Total head	104°F (40°C)	
	Max. Liquid temp.	2" Spherical	
	Solids	3600 RPM	
Speed			
Materials	Casing	304L Stainless Steel	
	Impeller	304L Stainless Steel	
	Shaft	304L Stainless Steel	
	Motor Frame	304L Stainless Steel	
	Fastener	304L Stainless Steel	
Construction	Mechanical Seal	Double Mechanical Seal	
	Material – Upper	Carbon/Ceramic/NBR	
	Material – Lower	Silicon Carbide/Silicon Carbide/FPM	
	Impeller Type	Single Channel/Vortex	
	Bearing	Sealed Ball Bearing	
	Motor	Air-filled, Insulation Class F	
	Single Phase	115 V (1/2, - 1HP)	115 V (1/2, 1HP), 230V
		230V (1/2, - 1 1/2HP)	
	Three Phase		230V or 460V
	Motor Protection†	Built-in Overload Protection (Single phase models)	
		Submersible Cable 25 ft.	
		Consult factory for additional cable lengths.	

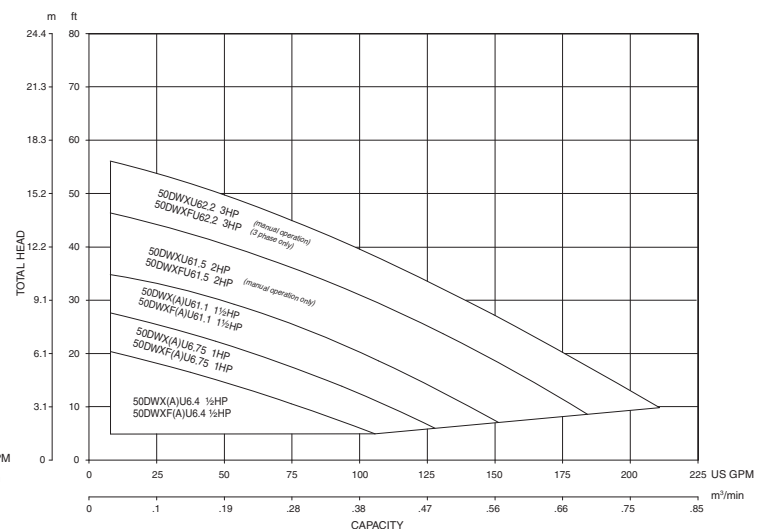
Accessories QDC System

Notes: \* 2HP, 1-phase and 3HP, 3-phase units have a cast iron intermediate bracket.

## DWU, DWXU selection chart



\*Note: Model DW(A)(F)U, DWX(A)(F)U is listed by the Canadian Standards Association (CSA) as certified (3HP excluded).





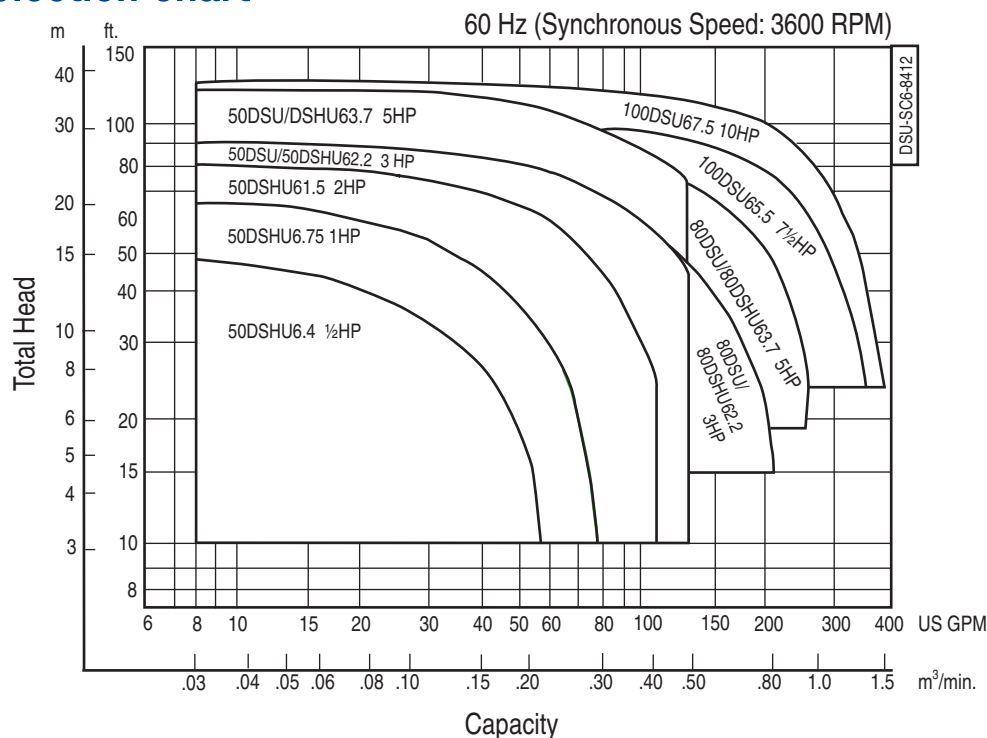
## Standard Specifications

		DSU	DSHU (Hot Water pumps)
Design	Discharge	2, 3, 4 inch	2, 3 inch
	Horsepower	3 to 10HP	1/2 to 5 HP
	Capacity	8 to 390 GPM	8 to 250 GPM
	Total head	10 to 126 feet	8 to 126 feet
	Max.Liquid temp.	122°F/50°C	158°F/70°C - 1/2, 1 HP 176°F/80°C - 2 to 5 HP 200°F/93°C - limited to 10 minutes
Speed		3600 RPM	
Materials	Casing	Cast Iron	
	Impeller	Ductile Iron	Cast Iron (1/2 to 2HP) Ductile Iron (3, 5HP)
	Shaft	403 Stainless Steel	
	Motor Frame	Cast Iron	
	Fastener	304 Stainless Steel	
Construction	Mechanical Seal	Double Mechanical Seal	
	Material – Upper	Carbon/Ceramic	Silicon Carbide/Silicon Carbide
	Material – Lower	Silicon Carbide/Silicon Carbide	Silicon Carbide/Silicon Carbide
	Impeller Type	Semi-open	
	Bearing	Prelubricated Ball Bearing	
	Motor	Air-filled, Insulation Class F	Class H (1/2, 1 HP) Class F (2, 3, 5HP)
	Three Phase	208/230V/460V	208/230V, 460V - Single voltage
	Motor Protection	Built-in Auto Cut - overload out of phase, single phasing protection	Built-in Overload Protection
Submersible Cable		33 ft. standard cable length, Optional 66 ft.	
Accessories		Cast Iron discharge elbow (3 to 5HP) Optional QDC System	Cast iron companion flange with NPT thread (1/2 to 2 HP)

## Features

- **Air filled, heavy duty motor, rated for 20 starts/hour**, dissipates heat easily, operates cooler with higher efficiencies; longer service life with lower operating costs
- **Built in motor protection autocut** protects motor against overheat, out of phase, single phasing, and no load; saves money on costly motor replacement
- **60,000 hour bearings** ensure long dependable operation; lower maintenance costs
- **Semi-open impellers** offer the best design for handling stringy and/or abrasive materials due to the large wear area and open passageways, providing durability and longer life
- **Double mechanical seals** – silicon carbide lower seals, carbon/ceramic upper - hard faced upper and lower seals operate in an oil bath; providing longer service life and lower maintenance costs
- **Small and light weight** portability; easy to transport for temporary installations
- **Available for slide rail installations** provides ease of maintenance for small sump type installations

## DSU, DSHU selection chart



# Model DVSU, DVSHU

submersible cast iron semi-vortex sewage



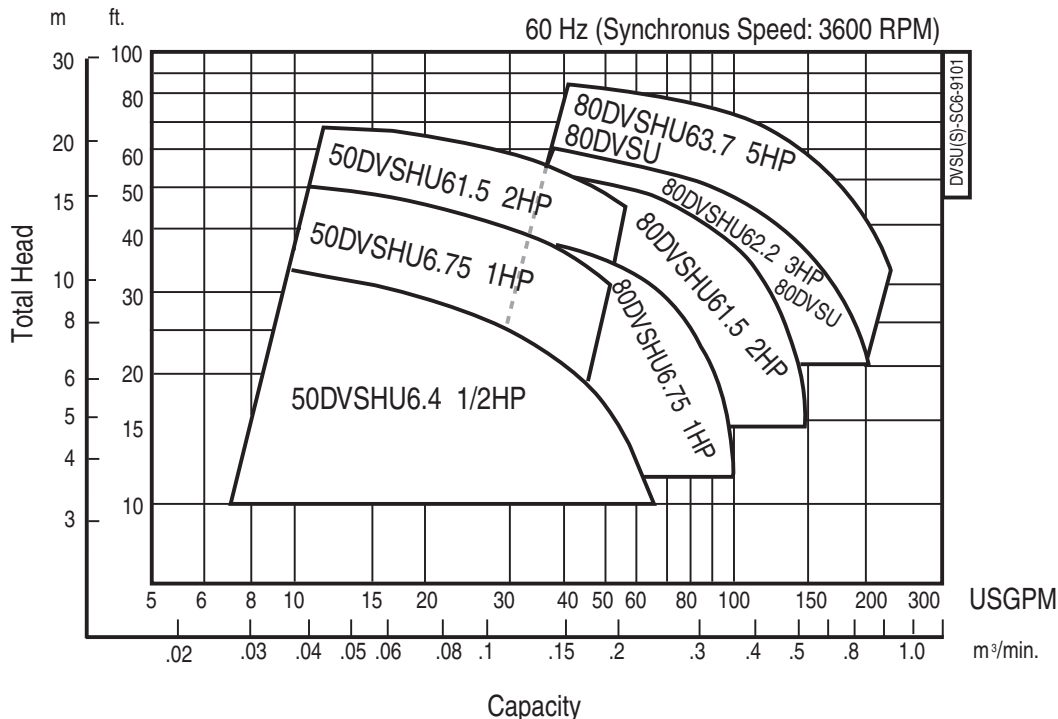
## Features

- **Air filled, heavy duty motor, rated for 20 starts/hour**, dissipates heat easily, operates cooler with higher efficiencies; longer service life with lower operating costs
- **Built in motor protection autocut** protects motor against overheat, out of phase, single phasing, and no load; saves money on costly motor replacement
- **60,000 hour bearings** ensure long dependable operation; lower maintenance costs
- **Large solids handling capabilities** prevents clogging
- **Semi-open vortex type recessed impeller**; vortex action prevents clogging and handles stringy material better, high reliability, and lowers maintenance costs
- **Double mechanical seals** – silicon carbide lower seals, carbon/ceramic upper - hard faced upper and lower seals operate in an oil bath; providing longer service life and lower maintenance costs
- **Available for slide rail installations** provides ease of maintenance for small sump type installations

## Standard Specifications

		DVSU	DVSHU (Hot Water pumps)
Design	Discharge	3 inch	2, 3 inch
	Horsepower	3 to 5HP	1/2 to 5 HP
	Capacity	29 to 240 GPM	5 to 240 GPM
	Total head	20 to 80 feet	10 to 75 feet
	Max.Liquid temp.	122°F/50°C	158°F/70°C - 1/2, 1 HP 176°F/80°C - 2 to 5 HP 200°F/93°C - limited to 10 minutes
Speed		3600 RPM	
Materials	Casing	Cast Iron	
	Impeller	Cast Iron (1/2 to 2 HP)	
	Shaft	403 Stainless Steel	
	Motor Frame	Cast Iron	
Construction	Fastener	304 Stainless Steel	
	Mechanical Seal	Double Mechanical Seal	
	Material – Upper	Carbon/Ceramic	Silicon Carbide/Silicon Carbide
	Material – Lower	Silicon Carbide/Silicon Carbide	Silicon Carbide/Silicon Carbide
	Impeller Type	Semi-open vortex	
	Bearing	Prelubricated Ball Bearing	
	Motor	Air-filled, Insulation Class F	
	Three Phase	208/230V, 460V	Insulation Class H (1/2, 1, 2 HP) Class F (3, 5HP)
	Motor Protection	Built-in Auto Cut - overload out of phase, single phasing protection	Built-in Overload Protection
	Submersible Cable	33 ft. standard cable length, Optional 66 ft.	
Accessories		Cast Iron discharge elbow (3 to 5HP)	Cast Iron discharge elbow (3" 1 to 5HP) Cast iron companion flange with NPT thread (2", 1/2 to 2 HP)
		Optional QDC System	

## DVSU, DVSHU selection chart





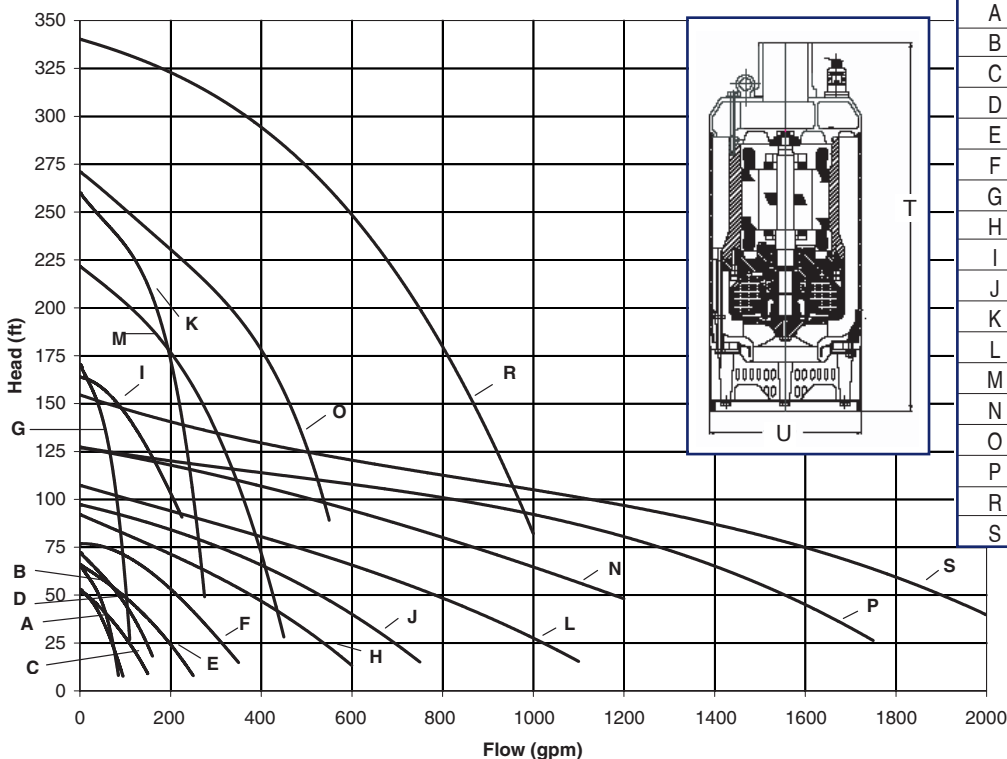
## Standard Specifications

		Standard construction	Stainless Steel
Design	Discharge	2, 3, 4, 6, 8 inch	
	Horsepower	1.3 to 58HP	
	Capacity	30 to 2000 GPM	
	Total head	5 to 34 feet	
	Max.Liquid temp.	104°F/40°C	
Materials	Inner casing		
	1.3 to 58 HP	Epoxy coated aluminum	316 SS
	58HP DWPM	Cast iron	316 SS
	Outer casing		
	1.3 to 10 HP	Epoxy coated aluminum	316 SS
	16 to 58 HP	Epoxy coated carbon steel	316 SS
	58HP DWPM	Cast iron	316 SS
	Shaft	431 SS	
	Impeller		
	Open mixed flow	410 SS (optional 316SS)	
Mechanical Seal	Diffuser/Wearplate	Nitrile rubber coated	
	Strainer	304 SS	316 SS
	Impeller nut		410 SS
		Tandem Mechanical Seal	
	Material – Upper	Tungsten Carbide/ Tungsten Carbide	Upper seal is lip seal only, for 1.3 - 2 HP models
	Material – Lower	Tungsten Carbide/ Tungsten Carbide	
Bearing	Upper	Single row deep groove with high temperature grease containing special anti-corrosion additive	
	Lower		
	1.3 to 10 HP	Single row deep groove with high temperature grease containing special anti-corrosion additive	
	16 to 58 HP	Double angular contact lower bearings; enclosed with high temperature grease containing special anti-corrosion additive	

## Features

- Heavy duty motor
  - Oversized shaft and bearings
  - Available in most voltage / frequency combination
  - 2- pole squirrel cage induction type continuous rated, Class F insulation
  - Maximum 15 starts per hour
- Tandem UPPER & LOWER mechanical seals - Pressure compensated oil chamber for optimal seal life
- Unique SAND GUARD seal housing prevents sand/debris from collecting on outer seal face during pump operation
- Standard sacrificial zinc anodes provide protection from galvanic corrosion
- Cable sealing system seals power cord AND individual leads in the gland assembly
- SS impeller, shaft, strainer, hardware and outlet for maximum corrosion resistance
- Hardened 410 SS impeller for abrasive applications
- 316 SS impeller for corrosive applications (optional)
- Field adjustable rubber lined diffuser and wear plates provide for optimum pump efficiency

## DWP, DWPM selection chart / Dimensions



Curve	Model	Disch. NPT	T	U
A	50DWP 1.3HP	2	12-1/4	6-1/4
B	50DWPM 1.5HP	2	12-1/4	6-1/4
C	50DWP 2HP	2	13-1/2	6-1/4
D	50DWPM 2HP	2	13-1/2	6-1/4
E	80DWP 3HP	3	26-1/4	7-1/2
F	80DWP 5HP	3	28-1/2	7-1/2
G	80DWPM 5HP*	3	28-1/2	10-3/4
H	100DWP 7.5HP	4	28-1/2	10-3/4
I	80DWPM 10HP*	3	29-1/2	10-3/4
J	100DWP 10HP	4	29-1/2	10-3/4
K	100DWPM 16HP	4	33-1/4	14-1/4
L	150DWP 16HP	6	33-1/4	14-1/4
M	100DWPM 25HP	4	36	15-3/4
N	150DWP 25HP	6	36	15-3/4
O	150DWPM 35HP	6	40-1/2	15-3/4
P	200DWP 35HP	8	40-1/2	15-3/4
R	150DWPM 58HP	6	41-1/2	17-1/8
S	200DWP 58HP	8	41-1/2	15-3/4

\* 2-stage pumps



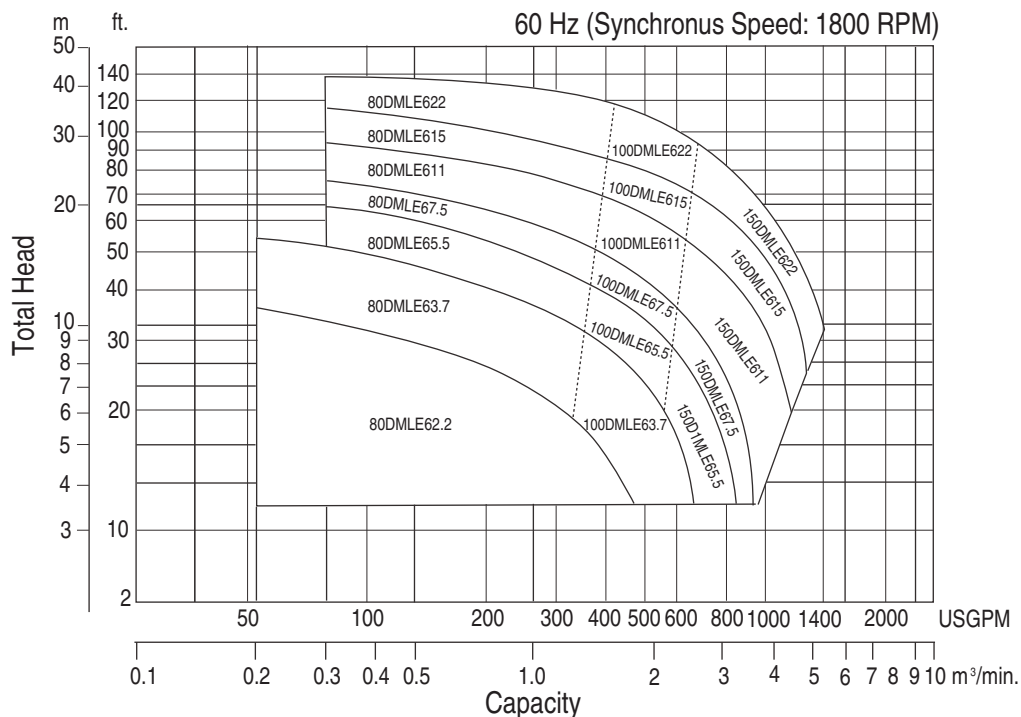
## Features

- **Air filled, Class F insulated, heavy duty motor**, rated for 20 starts/hour, dissipates heat easily, operates cooler with higher efficiencies; longer service life with lower operating costs
- **Built in motor protection autocut** protects motor against overheat, out of phase, single phasing, and no load; saves money on costly motor replacement
- **60,000 hour bearings** ensure long dependable operation; lower maintenance costs
- **Large solids handling capabilities** prevents clogging
- **Non-clog, single channel impeller has 3" spherical passage**; prevents clogging; high efficiency and saves energy
- **Double mechanical seals** – silicon carbide lower seals, carbon/ceramic upper - hard faced upper and lower seals operate in an oil bath; providing longer service life and lower maintenance costs
- **Available for slide rail installations** provides ease of maintenance for small sump type installations

## Standard Specifications

<b>Design</b>	Discharge	3, 4, 6 inch
	Horsepower	3 to 30HP
	Capacity	55 to 1345 GPM
	Total head	12 to 136 feet
	Max.Liquid temp.	104°F/40°C
<b>Speed</b>		1800 RPM
<b>Materials</b>	Casing	Cast Iron
	Impeller	Cast Iron
	Shaft	403 Stainless Steel
	Motor Frame	Cast Iron
	Fastener	304 Stainless Steel
<b>Construction</b>	<b>Mechanical Seal</b>	
	Double Mechanical Seal	
	Material – Upper	Carbon/Ceramic
	Material – Lower	Silicon Carbide/Silicon Carbide
	Impeller Type	Non-clog single channel enclosed
	Bearing	Prelubricated Ball Bearing
	Motor	Air-filled, Insulation
		Insulation Class F
	Three Phase	208/230V, 460V
	Service Factor	1.15
	Motor Protection	Built-in Auto cut (3HP model)
		Thermal Detector – Klixons
		Mechanical seal leak detector – internal oil probe
	<b>Submersible Cable</b>	
	33 ft. standard cable length, Optional 66 ft.	
	<b>Accessories</b>	
	Optional QDC System	

## DMLEU selection chart





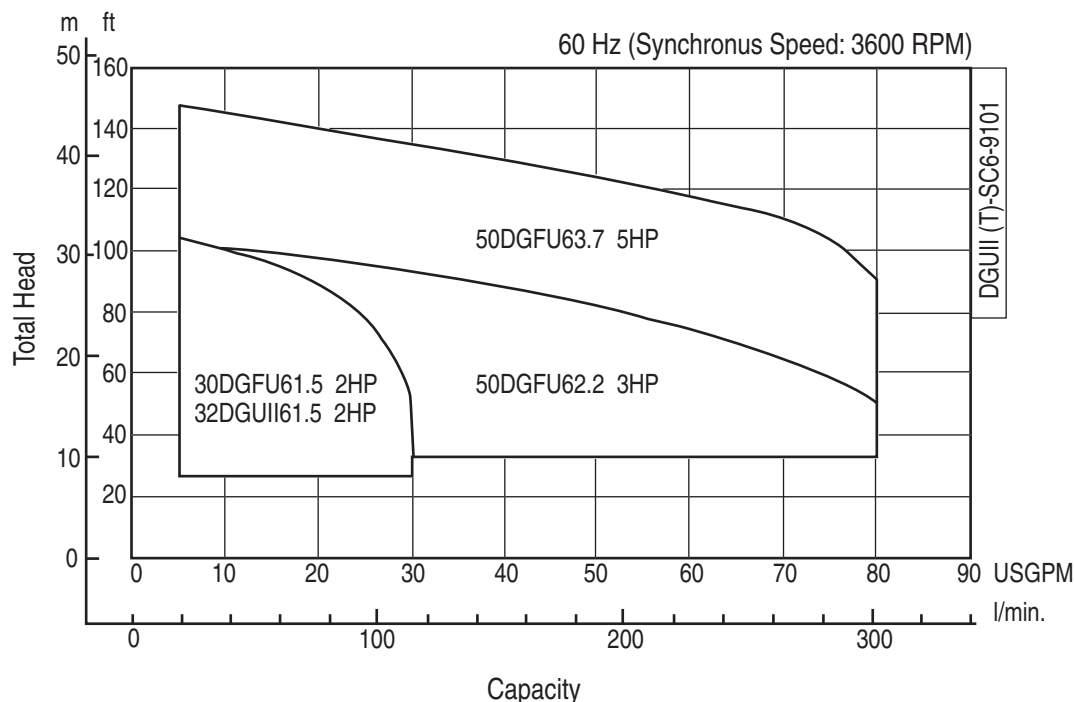
## Standard Specifications

		DGUII	DGFU
<b>Design</b>	Discharge	1 1/4 inch	1 1/4, 2 inch
	Horsepower	2HP (single phase)	2 to 5HP
	Capacity	5 to 30 GPM	5 to 80 GPM
	Total head	27 to 112 feet	27 to 148 feet
	Max.Liquid temp.	104°F/40°C	
<b>Speed</b>		3600 RPM	
<b>Materials</b>	Casing	Cast Iron	
	Impeller	Cast Iron	
	Grinder Impeller	High Chrome Cast Iron HRC 60	
	Grinder Disk	High Chrome Cast Iron HRC 60	
	Shaft	403 Stainless Steel	
	Motor Frame	Cast Iron	
<b>Construction</b>	Fastener	304 Stainless Steel	
	<b>Mechanical Seal</b>	Double Mechanical Seal	
	Material – Upper	Carbon/Ceramic	
	Material – Lower	Silicon Carbide/Silicon Carbide	
	Impeller Type	Semi-open vortex	
	Bearing		
	Upper/Lower	Prelubricated Ball Bearing	
	Motor	Air-filled, Insulation Class F	
		Optional: FM Explosion Proof Class 1, Division 1, Group C, D	
	Single Phase	208/230V	
	Three Phase	208/230V/460V	
	Motor Protection	Built-in Auto Cut - overload no load, out of phase, and single phasing protection	Built-in Thermal Detector - Klixon Built-in Mechanical Seal Leakage
<b>Submersible Cable</b>		33 ft. standard cable length, Optional 66 ft.	
<b>Accessories</b>		Optional QDC System	

## Features

- **Heavy duty high chrome iron grinder system** - powerful blades reduce solids size for smooth, non-clogging flow
- **Reversible grinder ring** provides longer service life and less maintenance
- **Air filled, Class F insulated, heavy duty motor, rated for 20 starts/hour**, dissipates heat easily, operates cooler with higher efficiencies; longer service life with lower operating costs
- **Built-in motor protection**; (DGUII models) protects motor against overheating, out-of-phase, single phasing, and no load; (DGFU models) provide overtemp and seal fail protection; saving money on costly motor replacement
- **60,000 hour bearings** ensures long dependable operation; lower maintenance costs
- **Semi-open vortex type recessed impeller**; vortex action prevents clogging and handles stringy material better vs moving pumpage through impeller vanes; provides durability, high reliability, and lowers maintenance costs
- **Double mechanical seals** – upper and lower seals operate in an oil bath; providing longer service life and lower maintenance costs
- **Small and light weight portability**; easy to transport for temporary installations

## DGUII, DGFU selection chart





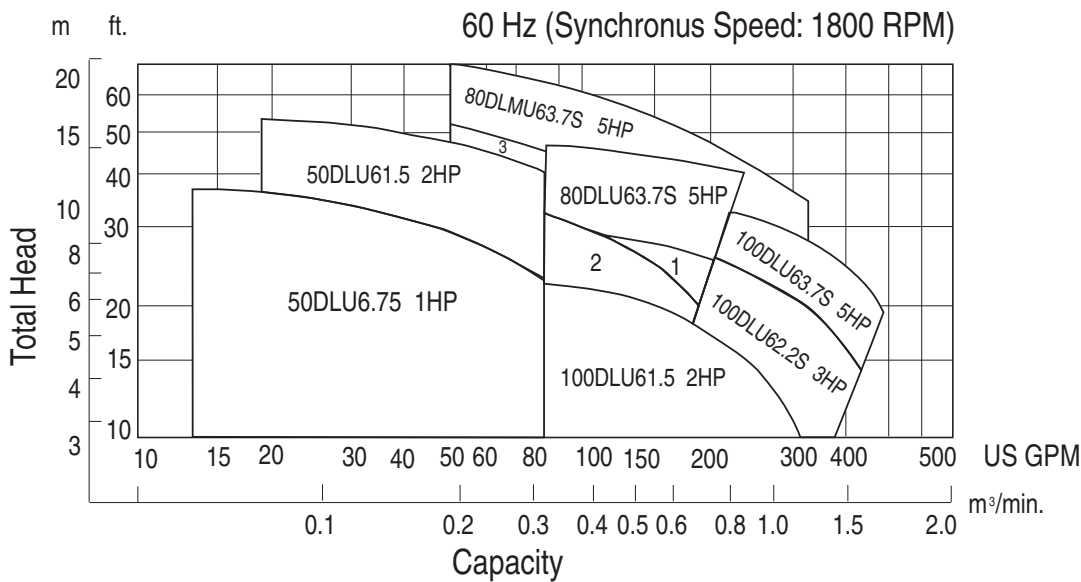
## Standard Specifications

<b>Design</b>	Discharge	2, 3, 4 inch
	Horsepower	1 to 5HP, Single Phase 1 to 2 HP, Three Phase
	Capacity	13 to 430 GPM
	Total head	9 to 66 feet
	Max.Liquid temp.	104°F/40°C
<b>Speed</b>		1800 RPM
<b>Materials</b>	Casing	Cast Iron
	Impeller	Cast Iron
	Shaft	403 Stainless Steel
	Motor Frame	Cast Iron
	Fastener	304 Stainless Steel
<b>Construction</b>	<b>Mechanical Seal</b>	
	Double Mechanical Seal	
	Material – Upper	Carbon/Ceramic
	Material – Lower	Silicon Carbide/Silicon Carbide
	Impeller Type	Semi-open
	Bearing	Prelubricated Ball Bearing
	Motor	Air-filled, Insulation Class F
	Single Phase	208/230V
	Three Phase	208/230V, 460V
	Service Factor	1.15
	Motor Protection	Built-in Auto cut - overload, out of phase, single phasing protection
<b>Submersible Cable</b>		33 ft. standard cable length, Optional 66 ft.
<b>Accessories</b>		Optional QDC System

## Features

- **Air filled, Class F insulated, heavy duty motor, rated for 20 starts/hour,** dissipates heat easily, operates cooler with higher efficiencies; longer service life with lower operating costs
- **Built in motor protection with autocut** protects motor against overheat, out of phase, single phasing, and no load; saves money on costly motor replacement
- **60,000 hour bearings** ensure long dependable operation; lower maintenance costs
- **Large solids handling capabilities** prevents clogging
- **Semi-open impellers;** offer the best design for handling stringy and/or abrasive materials better due to large wear area and open passageways, providing durability and longer life
- **Double mechanical seals** – silicon carbide lower seals, carbon/ceramic upper - hard faced upper and lower seals operate in an oil bath; providing longer service life and lower maintenance costs
- **Available for slide rail installations** provides ease of maintenance for small sump type installations

## DLU selection chart



- 1 80DLU62.2S 3HP
- 2 80DLMU61.5 2HP
- 3 80DLMU62.2S 3HP

# Model DVU, DVFU

## Standard Specifications, DVU

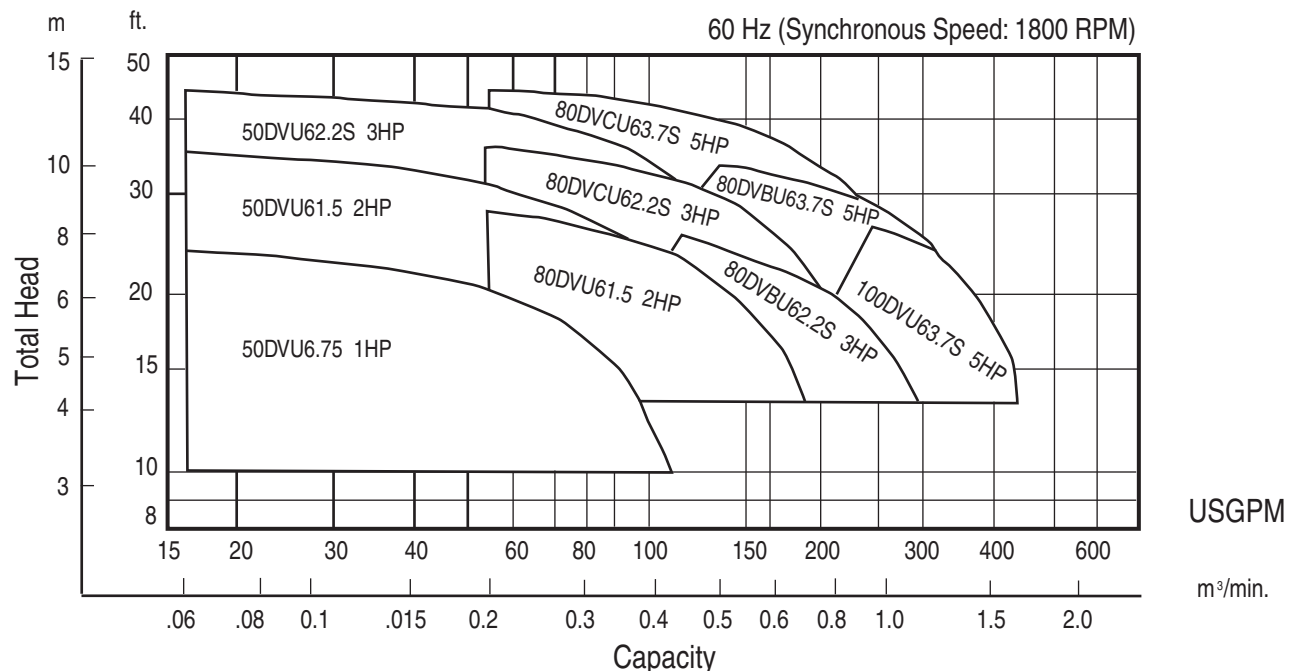
<b>Design</b>	Discharge	2, 3, 4 inch
	Horsepower	1 to 5HP, Single Phase 1 to 2 HP, Three Phase
	Capacity	16 to 430 GPM
	Total head	9 to 66 feet
	Max.Liquid temp.	104°F/40°C
<b>Speed</b>		1800 RPM
<b>Materials</b>	Casing	Cast Iron
	Impeller	Cast Iron
	Shaft	403 Stainless Steel
	Motor Frame	Cast Iron
	Fastener	304 Stainless Steel
<b>Construction</b>	<b>Mechanical Seal</b>	
	Double Mechanical Seal	
	Material – Upper	Carbon/Ceramic
	Material – Lower	Silicon Carbide/Silicon Carbide
	Impeller Type	Semi-open Recessed Vortex
	Bearing	Prelubricated Ball Bearing
	Motor	Air-filled, Insulation Class F
	Single Phase	208/230V
	Three Phase	208/230V, 460V
	Service Factor	1.15
	Motor Protection	Built-in Auto cut - overload, no load, out of phase, single phasing protection
	<b>Submersible Cable</b>	33 ft. standard cable length, Optional 66 ft.
	<b>Accessories</b>	Optional QDC System

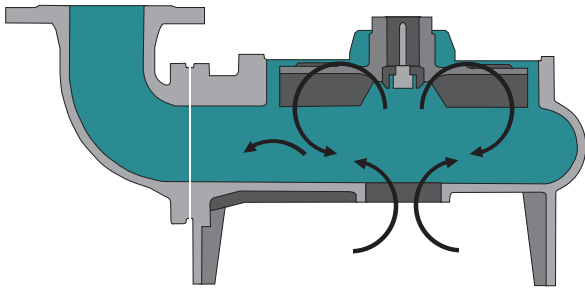
## Features

- **Air filled, heavy duty motor, rated for 20 starts/hour**, dissipates heat easily, operates cooler with higher efficiencies; longer service life with lower operating costs
- **Built-in motor protection with autocut**, protects motor against overheating, single phasing, and no load; saves money on costly motor replacement
- **Molded cable** prevents capillary action; reduces maintenance costs
- **60,000 hour bearings**; ensures long, dependable operation and lowers maintenance costs
- **Large solids handling capabilities** prevents clogging
- **Semi-open vortex type recessed impeller**; vortex action prevents clogging and handles stringy material better vs moving pumpage through impeller vanes; provides durability, high reliability, and lowers maintenance costs
- **High quality stainless steel shaft**; provides high tensile strength, corrosion resistance, longer life, and lower maintenance costs
- **Double mechanical seals**-silicon carbide lower seals, carbon/ceramic upper - hard faced upper and lower seals operate in an oil bath; providing longer service life and lower maintenance costs
- High wire to water efficiencies reduced power consumption; reduced cost of operation
- **Available for slide rail installations** provides ease of maintenance for small sump type installations
- Three phase, FM explosion proof, Class 1, Div. 1, Group C & D available in DVFU series 2 HP and above



## DVU selection chart





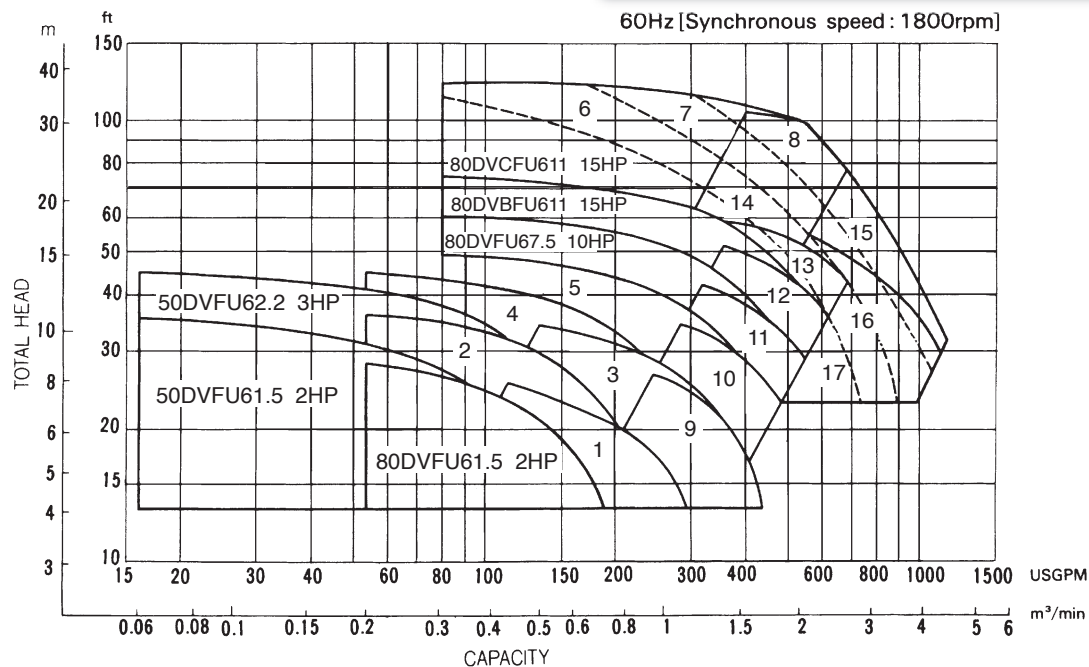
## Semi-Open Vortex Impeller Design

- **Semi-open vortex type recessed impeller;** vortex action prevents clogging and handles stringy material better vs moving pumpage through impeller vanes; provides durability, high reliability, and lowers maintenance costs

## Standard Specifications, DVFU

<b>Design</b>	Discharge	2, 3, 4, 6 inch
	Horsepower	2 to 30HP
	Capacity	16 to 1200 GPM
	Total head	13 to 121 feet
	Max.Liquid temp.	104°F/40°C
<b>Speed</b>		1800 RPM
<b>Materials</b>	Casing	Cast Iron
	Impeller	Cast Iron
	Shaft	403 Stainless Steel, 2 to 5HP 420 Stainless Steel, 7½ to 30HP
	Motor Frame	Cast Iron
	Fastener	304 Stainless Steel
<b>Construction</b>	<b>Mechanical Seal - Double Mechanical Seal</b>	
	Material – Upper	Carbon/Ceramic
	Material – Lower	Silicon Carbide/Silicon Carbide
	Impeller Type	Semi-opne Recessed Vortex
	Bearing	Prelubricated Ball Bearing
	Motor	Insulation Class H; <i>Optional:</i> FM Explosion Proof Class 1, Division 1, Group C, D
	Three Phase	208/230V, 460V
	Service Factor	1.15
	Motor Protection	Built-in Thermal Detector - Klixon Built-in Mechanical Seal Leakage
<b>Submersible Cable</b>		2 to 5HP - 33 ft. standard cable length 7½ to 30HP - 40 ft. standard cable length Optional _____ ft. (customer specified)
<b>Accessories</b>		Optional QDC System

## DVFU selection chart



- |                   |                     |
|-------------------|---------------------|
| 1 80DVBFU62.2 3HP | 10 100DVFU65.5 7HP  |
| 2 80DVCFU62.2 3HP | 11 100DVFU67.5 10HP |
| 3 80DVBFU63.7 5HP | 12 100DVBFU611 15HP |
| 4 80DVCFU63.7 5HP | 13 100DVCFU611      |
| 5 80DVFU65.5 7HP  | 14 100DVCFU615      |
| 6 80DVFU615 20HP  | 15 150DVCFU622      |
| 7 80DVFU618 25HP  | 16 150DVBFU622      |
| 8 80DVFU622 30HP  | 17 150DVBFU622 15HP |
| 9 100DVFU63.7 5HP |                     |

# Model DLFU, DLKFU, DDLFU



## K-Series, Model DLKFU – Features

Model DLKFU series pumps are designed to tackle clogging challenges with enhanced passage capabilities for handling of fibrous waste. The design features address the most common reasons for clogging caused by fibrous materials:

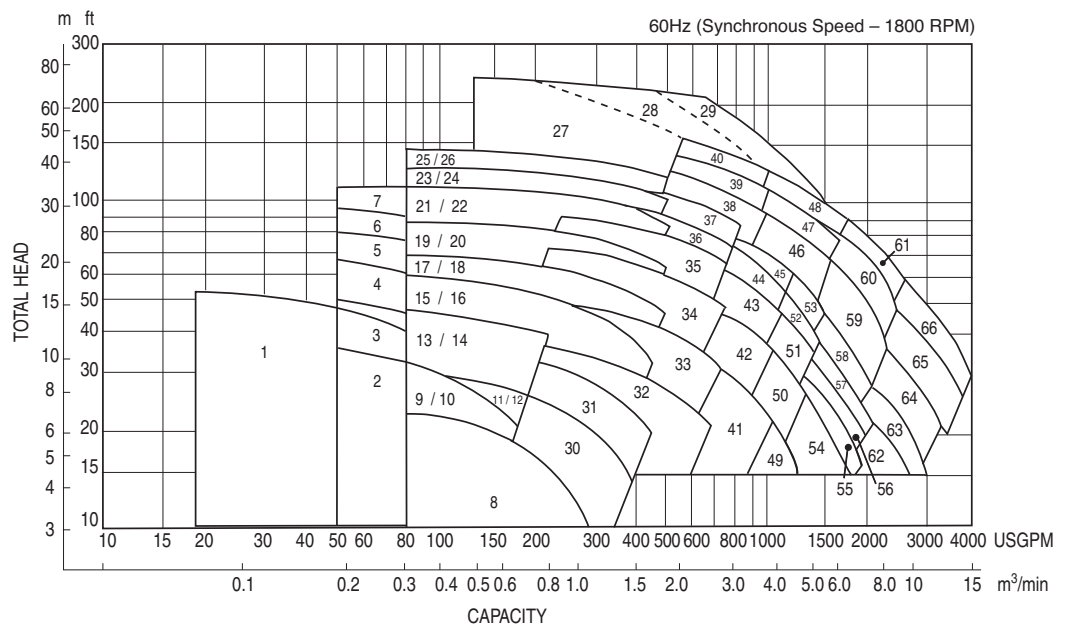
- Reduces material caught on the vane tips
- Increases inlet pressure which keeps debris moving instead of recirculating
- E-eliminators groove disrupts the accumulation of fibrous debris.

## DLFU selection chart

1 50DLFU61.5 2HP	34 100DLFU611 15HP
2 80DLMFU61.5 2HP	35 100DLFU615 20HP
3 80DLMFU62.2 3HP	36 100DLFU618 25HP
4 80DLMFU63.7 5HP	37 100DLFU622 30HP
5 80DLMFU65.5 7½HP	38 150DLFU630 40HP
6 80DLCMFU67.5 10HP	39 150DLFU637 50HP
7 80DLCMFU611 15HP	40 150DLFU645 60HP
8 100DLFU61.5 2HP	41 150DLFU67.5 10HP
9 80DLFU61.5 2HP	42 150DLFU611 15HP
10 100DLMFU61.5 2HP	43 150DLFU615 20HP
11 80DLFU62.2 3HP	44 150DLFU618 25HP
12 100DLMFU62.2 3HP	45 150DLFU622 30HP
13 80DLFU63.7 5HP	46 200DLFU630 40HP
14 100DLMFU63.7 5HP	47 200DLFU637 50HP
15 80DLFU65.5 7½HP	48 200DLFU645 60HP
16 100DLMFU65.5 7½HP	49 200DLFU67.5 10HP
17 80DLFU67.5 10HP	50 200DLFU611 15HP
18 100DLMFU67.5 10HP	51 200DLFU615 20HP
19 80DLFU611 15HP	52 200DLFU618 25HP
20 100DLMFU611 15HP	53 200DLFU622 30HP
21 80DLFU615 20HP	54 250DLFU611 15HP
22 100DLMFU615 20HP	55 250DLBFU615 20HP
23 80DLFU618 25HP	56 250DLCFU615 20HP
24 100DLMFU618 25HP	57 250DLFU618 25HP
25 80DLFU622 30HP	58 250DLFU622 30HP
26 100DLMFU622 30HP	59 250DLFU630 40HP
27 100DLFU630 40HP	60 250DLFU637 50HP
28 100DLFU637 50HP	61 250DLFU645 60HP
29 100DLFU645 60HP	62 300DLFU618 25HP
30 100DLFU62.2 3HP	63 300DLFU622 30HP
31 100DLFU63.7 5HP	64 300DLFU630 40HP
32 100DLFU65.5 7½HP	65 300DLFU637 50HP
33 100DLFU67.5 10HP	66 300DLFU645 60HP

## Standard Specifications, DLFU, DLKFU

<b>Design</b>	Discharge	2, 3, 4, 6, 8, 10, 12 inch
	Horsepower	2 to 60
	Capacity	13 to 4000 GPM
	Total head	7 to 243 feet
	Max.Liquid temp.	104°F/40°C
<b>Speed</b>		1800 RPM
<b>Materials</b>	Casing	Cast Iron
	Impeller	Cast Iron (2 to 60HP) Ductile Iron (150-300DLFU, 40 to 60HP)
	Shaft	403 Stainless Steel, 2 to 5HP 420 Stainless Steel, 7½ to 60HP
	Motor Frame	Cast Iron
	Fastener	304 Stainless Steel
<b>Construction</b>	<b>Mechanical Seal</b>	Double Mechanical Seal
	Material – Upper	Carbon/Ceramic <i>Optional:</i> Tungsten Carbide/Tungsten/Carbide
	Material – Lower	Silicon Carbide/Silicon Carbide, 2 to 60HP <i>Optional:</i> Tungsten Carbide/Tungsten/Carbide
	Impeller Type	Tungsten Carbide/Tungsten Carbide, 150-300DLFU, 50 & 60 HP Semi-open, 2 to 30HP Enclosed, 40 to 60HP
	Bearing	Prelubricated Ball Bearing
	Motor	Insulation Class H <i>Optional:</i> FM Explosion Proof Class 1, Division 1, Group C, D
	Three Phase	208/230V, 460V
	Service Factor	1.15
	Motor Protection	Built-in Thermal Detector - Klixon Mechanical Seal Leakage - Float Switch
<b>Submersible Cable</b>		2 to 5HP - 33 ft. standard cable length 7½ to 60HP - 40 ft. standard cable length Optional _____ ft. (customer specified)
<b>Accessories</b>		Optional QDC System



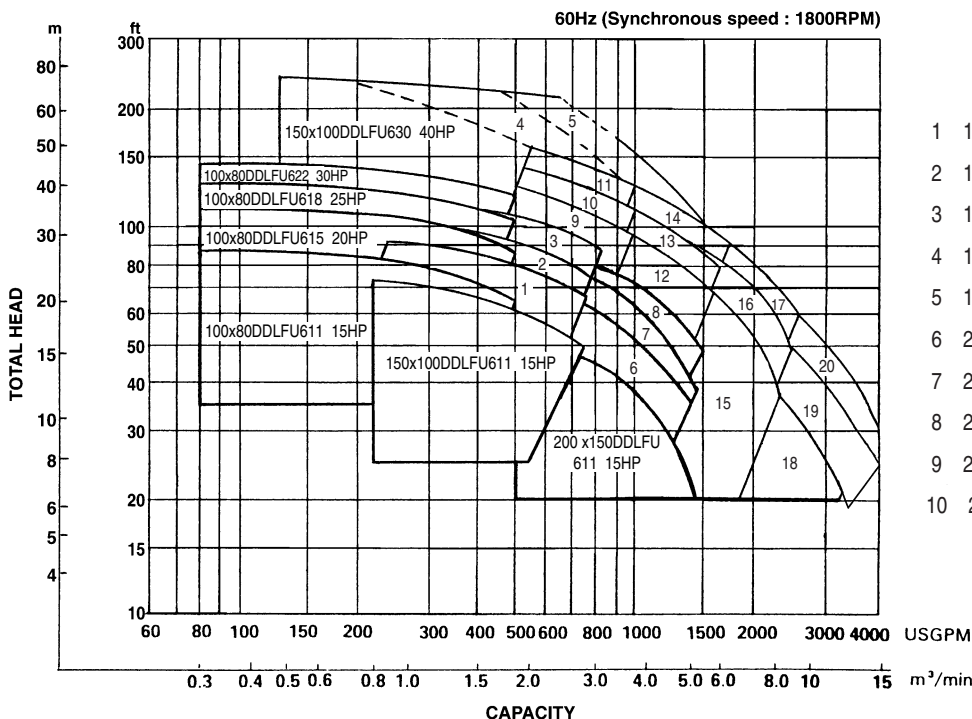
**Please note:** Overlap in coverage is designated by the two numbers; for example "9 / 10". Refer to the legend left for the specific model numbers.



## Standard Specifications, DDLFU

<b>Design</b>	Discharge	4"×3", 6"×4", 8"×6", 8"×8", 10"×10", 12"×12"
	Horsepower	15 to 60HP
	Capacity	80 to 4000 GPM
	Total head	20 to 243 feet
	Max.Liquid temp.	104°F/40°C
<b>Speed</b>		1800 RPM
<b>Materials</b>	Casing	Cast Iron
	Impeller	Cast Iron
	Shaft	420 Stainless Steel
	Motor Frame	Cast Iron
	Fastener	304 Stainless Steel
<b>Construction</b>	<b>Mechanical Seal</b>	
	Double Mechanical Seal – Tandem Arrangement	
	Material – Upper	Carbon/Ceramic
		<i>Optional:</i> Tungsten Carbide/Tungsten/Carbide
	Material – Lower	Silicon Carbide/Silicon Carbide
		<i>Optional:</i> Tungsten Carbide/Tungsten/Carbide
		Tungsten Carbide/Tungsten Carbide
		(200×150DDLFU and greater, 50 & 60 HP only)
	Impeller Type	Semi-open for 15 to 30HP
		Enclosed for 40 to 60HP
	Bearing	Prelubricated Ball Bearing
	Motor	Insulation Class H
		<i>Optional:</i> FM Explosion Proof Class 1, Division 1, Group C, D
	Three Phase	208/230V, 460V
	Service Factor	1.15
	Motor Protection	Built-in Thermal Detector - Klixon
		Mechanical Seal Leakage - Float Switch
<b>Submersible Cable</b>		40 ft. standard cable length, Optional 66 ft. Optional _____ ft. (customer specified)

## DDLFU selection chart



- |                         |                         |
|-------------------------|-------------------------|
| 1 150x100DDLFU615 20HP  | 11 200x150DDLFU645 60HP |
| 2 150x100DDLFU618 25HP  | 12 200x200DDLFU630 40HP |
| 3 150x100DDLFU622 30HP  | 13 200x200DDLFU637 50HP |
| 4 150x100DDLFU637 50HP  | 14 200x200DDLFU645 60HP |
| 5 150x100DDLFU645 60HP  | 15 250x250DDLFU630 40HP |
| 6 200x150DDLFU615 20HP  | 16 250x250DDLFU637 50HP |
| 7 200x150DDLFU618 25HP  | 17 250x250DDLFU645 60HP |
| 8 200x150DDLFU622 30HP  | 18 300x300DDLFU630 40HP |
| 9 200x150DDLFU630 40HP  | 19 300x300DDLFU637 50HP |
| 10 200x150DDLFU637 50HP | 20 300x300DDLFU645 60HP |

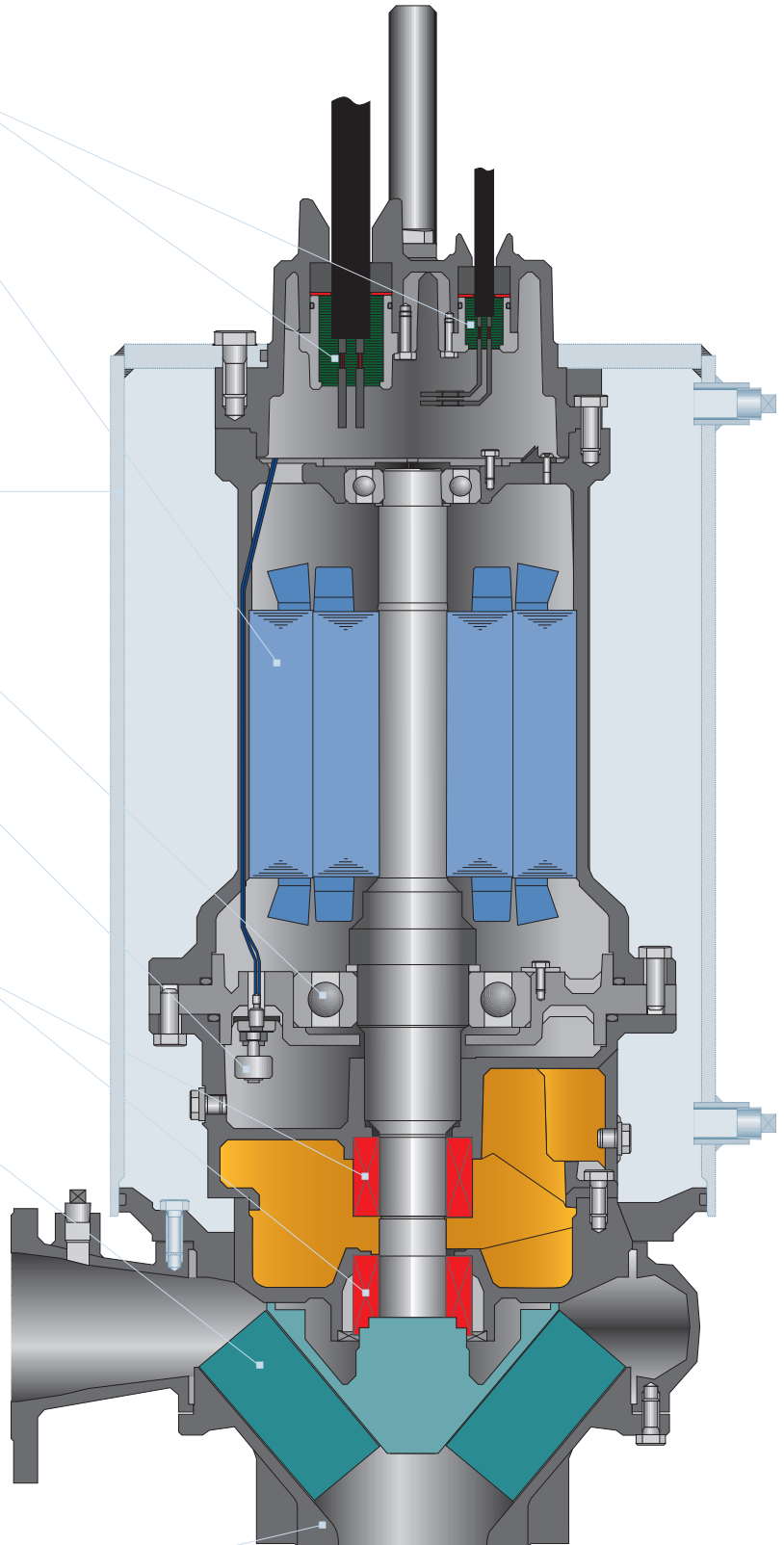
# Model DLFU, DLKFU, DDLFU

## Features

- **Watertight cable entry system** prevents capillary action and protects against moisture; reduces maintenance costs
- **Heavy duty, high efficiency, air filled, Class H insulated, rated for 356°F with a 1.15 service factor** dissipates heat easily; thermal protection in each phase of windings protects; operates cooler with higher efficiencies; longer service life with lower operating costs
- **Self cooling jacket** (Model DDLFU) eliminates the need for external pumping devices or special heat transfer fluids; offers simplicity and high reliability by effectively dissipating heat in dry pit applications only
- **Single and double row thrust bearings** carries thrust loads with L-10 life of 60,000 hours; ensures long, dependable operation and lowers maintenance costs
- **Mechanically actuated float switch** provides early warning of mechanical seal failure; avoids costly motor repairs
- **Double mechanical seals – silicon carbide lower seals, carbon/ceramic upper** – hard faced upper and lower seals operate in an oil bath; providing longer service life and lower maintenance costs
- **High efficiency impellers** pass large solids with high outputs and reduces power consumption; impellers are optimized for hydraulic coverage; lowers operating costs

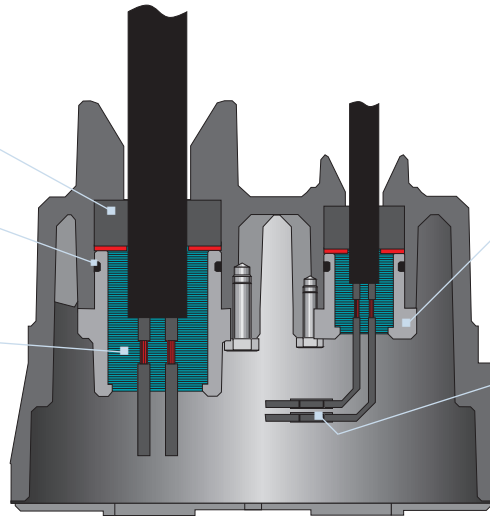
**Model DLKFU series pumps** are designed to tackle clogging challenges with enhanced passage capabilities for handling of fibrous waste. The design features address the most common reasons for clogging caused by fibrous materials: Reduces material caught on the vane tips, increases inlet pressure which keeps debris moving instead of recirculating and E-eliminator groove disrupts the accumulation of fibrous debris

- **Replaceable wear components** maintains working clearances while reducing casing and volute costs



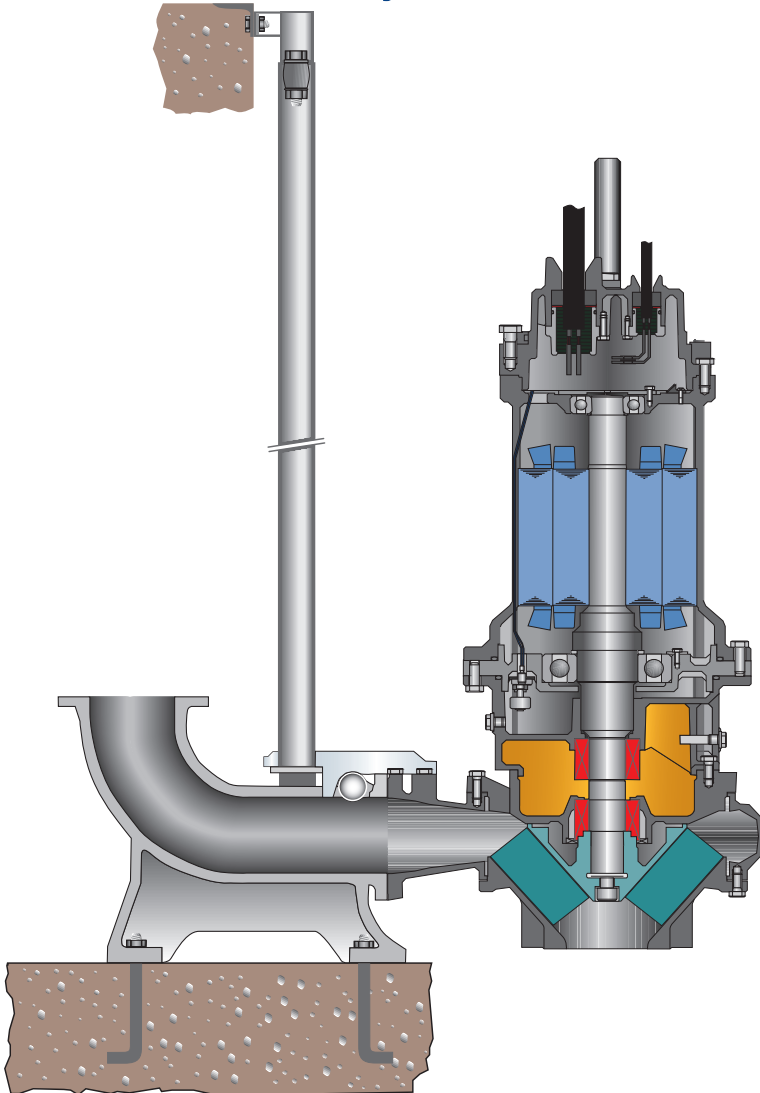
## Cable Entry System

- Primary seal – grommet (NBR)
- Secondary sealing – O-rings (NBR)
- Epoxy resin – prevents capillary action
- Cable gland (grey cast iron)
- Solid joint butt connector (copper)



*Note:* Entry system is the same for both power and control cables.

## QDC & Slide Rail System



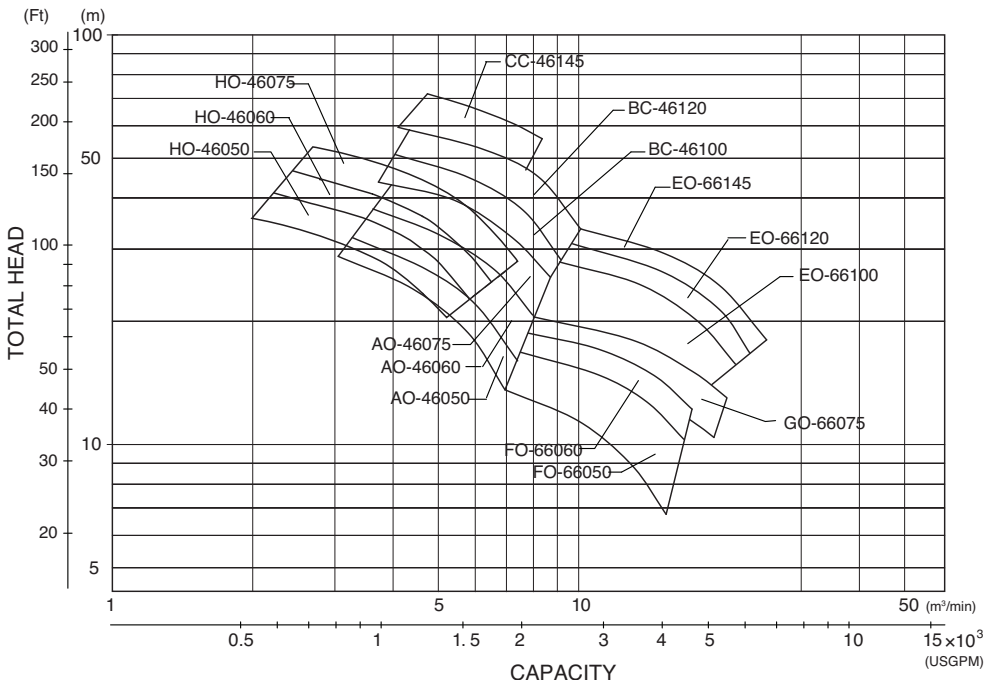
# Model DSC4, DSCA4, DSC



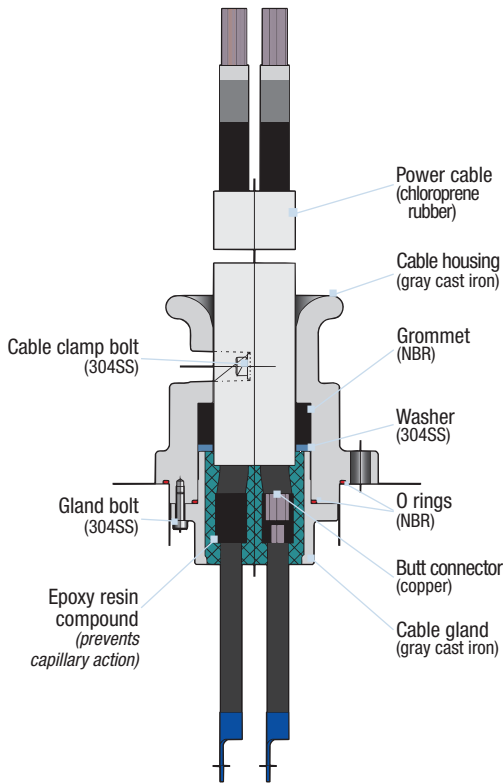
## Standard Specifications

Design	Discharge	6 to 24 inch
	Horsepower	50 to 500
	Capacity	530 to 35000 GPM
	Total head	23 to 300 feet
	Max. Liquid temp.	104°F/40°C
Materials	Casing	Cast Iron
	Impeller	Cast Iron
	Casing Ring	420 Stainless Steel (enclosed Impeller models)
	Shaft	420 Stainless Steel
	Motor Frame	Cast Iron
	Cooling Jacket	Steel
	Fastener	304 Stainless Steel
Construction	Impeller Type	Semi-open Enclosed <i>Optional:</i> Impeller Ring (enclosed impeller models)
	Shaft Seal	Cartridge type duplex mechanical seals in tandem arrangement
	Material – Upper	Carbon/Ceramic
	Material – Lower	Silicon Carbide/Silicon Carbide <i>Optional materials available, consult factory.</i>
	Bearing	Grease Lubricated Ball Bearing
	Motor	Class H insulation Air filled water tight with cooling jacket 15 starts/hour, 1.15 Service Factor <i>Optional:</i> FM explosion proof, Class 1, Group C, D
		Built-in winding temperature detector
		Built-in float type leak detector
		<i>Optional:</i> Temperature detector for thrust bearing
	Mounting method	Wet Pit: Quick discharge connector (QDC) Dry Pit: with baseplate (DSCA4)
Accessories		50 ft (15.24 m) water tight rubber insulated flexible cable <i>Optional cable lengths available, consult factory.</i>

## DSC4, DSCA4 selection chart



## Cable Entry Detail







## Wastewater Experience

EBARA blends superior engineering expertise with state of the art production techniques to produce pumps of unsurpassed quality and long life. EBARA remains the largest single brand pump company in the world and strives to develop high quality, efficient products and key system components for addressing improvements and solutions in the fields of water supply, energy and environmental issues. EBARA provides a full range of services from engineering, project design and construction to operation and maintenance for solid waste treatment, water treatment, gasification, incineration and other facilities.

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