

# ITT

B3GV

Wastewater

## Goulds Pumps

### 3GV up to 20 HP

Submersible Vortex Sewage Pump

Dual Seal with Seal Sensor Probe



*Shown with optional stand*



Goulds Pumps is a brand of ITT Corporation.

[www.goulds.com](http://www.goulds.com)

*Engineered for life*

### FEATURES

- **Impeller:** Ductile iron, vortex style, dynamically balanced with pump out vanes for mechanical seal protection.
- **Casing:** Heavy duty cast iron, volute type for maximum efficiency. 3" flange conforms to 125 # ANSI standard. Connects to A10-30 guide rail system.
- **Dual Mechanical Seals:** Silicon carbide vs. silicon carbide outer seal and ceramic vs. carbon inner seal, stainless steel metal parts, BUNA-N elastomers. Upper and lower shaft seals are positioned independently and are separated by an oil-filled chamber.
- **Seal Sensor Probe:** Located in oil-filled chamber. If pumpage should begin to leak past lower seal it indicates to pump control panel a fault has occurred. **Requires Seal Fail Circuit in the control panel.**
- **Standard High Temperature Sensor:** Requires optional high temperature in panel.
- **Shaft:** Corrosion resistant, 400 series stainless steel. Key and impeller bolt on all models to guard against component damage on accidental reverse rotation.
- **Fasteners:** 300 series stainless steel.
- Capable of running dry without damage to components.
- Designed for continuous operation, when fully submerged.

### APPLICATIONS

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Used in a variety of residential, commercial and industrial applications such as:

- Sewage systems
- Flood and pollution control
- Dewatering/Effluent
- Farms
- Hospitals
- Trailer courts
- Motels

### SPECIFICATIONS

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#### Pump:

- Maximum solid size: 2" / 2.5"
- Discharge size: 3", 125 # ANSI flange
- Maximum capacity: 400 GPM
- Maximum total head: 160 feet
- 300 Series stainless steel fasteners
- 50' Power cord
- Standard silicon carbide/silicon carbide outer seal

#### Motor:

- Maximum ambient temperature: 104° F (40° C) continuous duty, 140° F (60° C) intermittent duty
- Rated for continuous duty when fully submerged
- Insulation: Class F
- 60 Hertz
- Single row ball bearings
- 400 Series stainless steel keyed shaft
- Requires external motor components for single phase (not included)
- Requires overload protection in panel (not included)
- Includes high temperature sensor

### AIR-FILLED MOTOR

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- Efficient heat dissipation
- Run dry capability
- **Class F insulation**
- **Designed for Continuous Operation:** Pump ratings are within the motor manufacturer's recommended working limits and can be operated continuously without damage when fully submerged.
- **Bearings:** Upper and lower heavy duty ball bearing construction for precision positioning of parts and to carry thrust loads.
- High temperature sensor
- **Cable:** Severe duty rated, oil and water resistant. 50 foot standard.
- **O-ring:** Assures positive sealing against contaminants and oil leakage.

### MODEL AND MOTOR INFORMATION

Part No.	Discharge	HP	Phase	Volts	RPM	Impeller Diameter	Power Cable	Resistance		Weight (lbs.)	Solids	AMP Draw	KVA Code						
								Start	Line-Line										
3GVA72B3AF	3"	2.3	3	230	1750	4.72	14/7	—	2.2	95	2	7.1	G						
3GVA72B4AF				460				—	8.6			3.5							
3GVA72C3AF		3.4		230		—		2.2	10			C							
3GVA72C4AF				460		—		8.6					5						
3GVB72A1AF	3"	1	1*	230		1750		5.43	14/7	12.6	5.3	83	2.5	5.2	A				
3GVB72A3AF			3	460						230	3500			6.69	—	6.0	79	3.5	F
3GVB72A4AF															—	24.0		1.8	
3GVB72C3AF		3.4				230		—				2.2			10	C			
3GVB72C4AF			460	—	8.6	5													
3GVB72E3AF		5.4	230	—	3.2	15.3	E												
3GVB72E4AF			460	—	4.3			7.7											
3GVB71B1AF		3"	2.8	1*	230	3500	3.74	14/4		2.4	0.7	83		12.4	A				
3GVB71B3AF			2.3	460	230			1750		4.65	14/7	—		2.3	91	6.6	F		
3GVB71B4AF						—	9.2					3.3							
3GVB71D3AF			4	230	—	1.2	11.2	F											
3GVB71D4AF				460	—	4.4				5.6									
3GVB71F3AF			6.2	3	230	3500	12/7	—		1.8	95	16.5		M					
3GVB71F4AF							14/7	—		2.3		8.3							
3GVB71L4AF			19.7	460	460	1750	6.698	10/4-14/4		—	—	264		24.1	T				
3GVB71J4AF			14				6.107	12/4-14/4		—	—	229		17.3	R				
3GVB71G4AF	7.8		5.516				—	—	196	9.9	L								
3GVB72H4AF	11.5		8.865				14/7	—	—	203	15.3	N							
3GVB72G4AF	7.8		8.274	—	—	196	10.9	J											

\* Requires panel mounted motor capacitors and overload protection. (Not supplied with pump.)

### NOMENCLATURE DESCRIPTION

#### 1st, 2nd, 3rd and 4th Character –

#### Discharge Size and Type

3GVA = 3" discharge, 2" solids handling, dual seal with seal fail probe in pump.

3GVB = 3" discharge, 2.5" solids handling, dual seal with seal fail probe in pump.

#### 5th Character – Mechanical Seals

7 = Silicon carbide/silicon carbide/BUNA – lower seal and carbon/ceramic/BUNA – upper seal (standard)

#### 6th Character – Cycle/RPM

1 = 60 Hz/3500 RPM

2 = 60 Hz/1750 RPM

#### 7th Character – Horsepower

A = 1.0 HP      E = 5.4 HP      H = 11.5 HP

B = 2.3/2.8 HP      F = 6.2 HP      J = 14.0 HP

C = 3.4 HP      G = 7.8 HP      L = 19.7 HP

#### 8th Character – Phase/Voltage

1 = single phase, 230 V

3 = three phase, 230 V

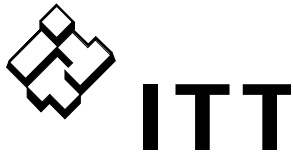
4 = three phase, 460 V

#### 9th Character – Impeller Diameter

A = maximum impeller

#### 10th Character – Cord Length (Power and Sensor)

F = 50'



## APPLICATION DATA

Maximum Solid Size	2" / 2 1/2"
Maximum Working Pressure	150 PSI
Maximum Submergence	66 feet
Minimum Submergence	Fully submerged for continuous operation
Maximum Environmental Temperature	40° C (104° F) continuous operation

## CONSTRUCTION DETAILS

Power and Sensor Cable	12/7, type: three phase		
	14/7, type: single and three phase		
Motor Cover	Gray Cast Iron – ASTM A48 Class 35		
Seal/Bearing Housing	Gray Cast Iron – ASTM A48 Class 35		
Casing	Gray Cast Iron – ASTM A48 Class 35		
Impeller	Ductile Iron – ASTM A395 Gr. 60-46-18		
Motor Shaft	AISI 400 Series Stainless Steel		
Motor Design	Air filled Class F		
Single Phase Capacitors	<b>HP</b>	<b>Volt</b>	<b>Rating of Capacitors</b>
	1	230	25 mfd/450
	2.8	230	50 mfd/450
Motor Overload Protection	Single/Three Phase: require ambient compensated Class 10, quick trip overloads in the control panel.		
Motor Seal Fail / High Temp. (Moisture) Detection	Seal fail sensor and high temp. in an oil-filled seal chamber. Connect to optional relays in control panel.		
External Hardware	300 Series Stainless Steel		
Impeller Type	Vortex with pump out vanes on back shroud		
Oil Capacity – Seal Chamber	20.3 ounces		

## STANDARD PARTS

Ball Bearing	Upper	Single row ball – 6304 2RS C3
	Lower	Single row ball – 6305 2RS C3
Mechanical Seals – Standard	Upper	Carbon/Ceramic
	Lower	Silicon Carbon
O-Ring – Stuffing	BUNA-N	
O-Ring – Motor Cover	BUNA-N	

## MATERIALS OF CONSTRUCTION

Item No.	Part Name	Material Standard				
		Outer Mech. Seal	Service	Rotary	Stationary	Elastomers
1	Impeller	Ductile Iron GR 60				
2	Castings	Cast Iron CI - 35				
3	Shaft-keyed	400 Series SS				
4	Fasteners	300 Series SS				
5	Ball bearings	Steel				
6	Cord	SOW, 50 feet				
7	O-ring	BUNA-N				
8	Outer Mech. Seal	Mild abrasives	Silicon Carbide		BUNA-N	300 Series SS
	Lower Mech. Seal	Service	Rotary	Stationary	Elastomers	Metal Parts
	STD	Mild abrasives	Carbon / Ceramic		BUNA-N	300 Series SS



ITT

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