

Viking AccuLobe™ Pump

AccuLobe Series AL05 (standard pump)		
Flow Range	GPM	0.5 to 9.2
	LPM	2 to 35
Pressure Range	PSI	0 to 175
	Bar	0 to 12
Temperature Range	°F	-20 to +300
	°C	-30 to +150
Viscosity Range	SSU	28 to 75,000
	cPs	1 to 16,500

Product Description

The AccuLobe AL05 is a hygienic pump designed for low-flow, medium-pressure transfer and metering applications. Its 5-lobe rotors minimize pulsation and improve NPSH performance.

Using optional tri-wing rotors provides reduced slip on low viscosity fluids, the tri-wing AccuLobe was designed to offer more repeatable metering capabilities at higher pressures than competitive pumps.

With a multitude of porting, sealing and mounting options, this pump handles a wide variety of lab, pilot plant, production and OEM applications.

Major Design Features

- Positive displacement, rotary lobe pumping principle uses timed, non-contacting rotors.
- Unique one-piece casing and gearbox provides superior concentricity over two-piece designs, providing precise tolerance control that contributes to higher pressure capabilities and longer bearing and seal life.
- Semi-enclosed rotorcase geometry maintains volumetric efficiency, while enabling drainability by chamfering the cusps around the ports.
- Sanitary/hygienic design conforms to 3A standards, using FDA-conforming materials.
- Certified according to EHEDG* method for in-place cleanability. Suitable for CIP, SIP and self-draining applications.
- Front-loading seals are accessible without removing pump from service, simplifying maintenance.
- Shafts are supported by permanently greased tapered roller bearings.
- Rotors are driven by grease-lubricated helical alloy steel timing gears permanently welded to the shafts to eliminate timing slip issues.
- Flush rotor retainers provide improved hygiene and higher efficiency.
- Seal inspection ports allow visual confirmation of seal integrity. Shaft O-ring acts as slinger to prevent fluid from entering gearbox.
- Direction of flow is reversible. Porting may be vertical or horizontal.

316L Stainless Steel wetted materials of construction ensure minimal carbon pull-out.

*European Hygienic Engineering And Design Group



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Standard Construction and Options

Rotor:

Standard Five-lobe rotors. Options include:

- Alloy 808 non-galling Tri-wing for low viscosity liquids or for situations where occasional small or soft particles may pass through the pump.

Sealing:

Standard Mechanical Seal: Single mechanical seal with Silicon Carbide (SiC) faces and FDA EPDM elastomers.

Options include:

- Single mechanical seal with SiC faces and FDA Viton elastomers
- Single mechanical seal mounted for flush/quench with SiC faces and FDA EPDM elastomers
- Single mechanical seal mounted for flush/quench with SiC faces and FDA Viton elastomers

Fluid-Contact O-Rings: FDA EPDM. Options include:

- FDA Viton

Mounting:

Standard Foot-Mounted. Options include:

- Flange (bulkhead) mount
- Drop-In Face Mount Flange (drop-in fit providing interchangeability with common pumps in service)
- NEMA 56C frame motor mount adaptor with integral 3:1 gear reduction
- IEC Frame 80 motor mount with integral 3:1 gear reduction
- NEMA 143/145TC motor mount with integral 3:1 gear reduction

Porting:

Standard 3/4" Sanitary Clamp connections (5/8" full bore) with vertical ports. Options include:

- 3/4" sanitary clamp (5/8" full bore) with horizontal ports
- 1/2" sanitary clamp (3/8" full bore) with vertical ports
- 1/2" sanitary clamp (3/8" full bore) with horizontal ports
- Contact the factory for availability if other port connections styles are required.

Internal Surface Finish:

Standard 24 Ra (0.6 micron). Options include:

- 16 Ra (0.4 micron) finish

Standard Materials of Construction

Component	Material
Front Cover	316L SS
Front Cover O-Ring	FDA EPDM
Rotorcase / Gearbox	316L SS
Rotors	316L SS
Rotor Retaining Screw	316L SS
Rotor/Spline Sealing O-Ring	FDA EPDM
Shafts	316L SS
Bearing Shims	Steel
Gearbox Oil Seals and O-Rings	Nitrile
Timing Gears	Alloy Steel

Mounting Options



Foot Mount, Vertical



Foot Mount Horizontal



Flange (Bulkhead) Mount



NEMA or IEC Motor Mount with integral 3:1 speed reduction



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Specifications

Specification (standard pump)	U.S. Units	Metric Units
Displacement per Revolution	0.0053 Gallons	0.02 Liters (20 ml)
Maximum Rotor Speed	1750 RPM	1750 RPM
Maximum Flow Rate	9.2 GPM	35 LPM
Maximum Hydrostatic Pressure	265 PSI	18 BAR
Maximum Discharge Pressure for 15 cPs Liquid at rated speed	175 PSI	12 BAR
Minimum Recommended Temperature	-20°F	-30°C
Maximum Recommended Temperature	300°F	150°C
Maximum Fluid Viscosity	75,000 SSU	16,500 cPs
Seal Flush/Quench Ports*	1/8" BSP	1/8" BSP
Seal Flush/Quench Pressure*	7 PSI	0.5 BAR
Shipping Weight, Pump Only	21 LBS	9.5 KG
Shipping Weight, Pump with motor flange adapter	34 LBS	15.6 KG
Heating/Cooling Jacket Available?	No	No
Integral Pressure Relief Valve Available?	No	No

* Used with optional flush/quench mechanical seal designs.

Standard Construction can be used for the following application parameters. Standard material listed first, then optional material offerings for this application.

Clean, non-abrasive, non-corrosive liquids

Operating Temperature: -20-300 °F (-29 - 150°C)

Maximum Differential Pressure at rated speed: 175 PSI / 12 BAR

Maximum Speed: 1750 RPM (Refer to Pump Performance Curves to select the proper speed for the application.)

Viscosity Limits: 250-75000 SSU (50-16,500 cPs)

Major item	Material	Notes	Pump With This Option Will Be Quoted At Standard (S) Or Extended (E) Lead Time
Head	316L SS no RV	RV not offered	S
Casing	316L SS	3/4" Ports - "sanitary clamp style"	S
		1/2" Ports- "sanitary clamp style"	E
Retainers	316L SS		S
Seal Faces	Sic/Sic		S
Bearings	Sealed for Life		S
Lobes	316L SS	5 lobe design (will function at lower viscosity but with reduced efficiency)	S
	Alloy 808	Tri-wing for applications where occasional particles may be seen by the pump	E
Shafts	316L SS		S
O rings	FDA EPDM or Viton		S
Sealing		Application will determine required sealing selection. Refer to pricing page for sealing options and price adders	

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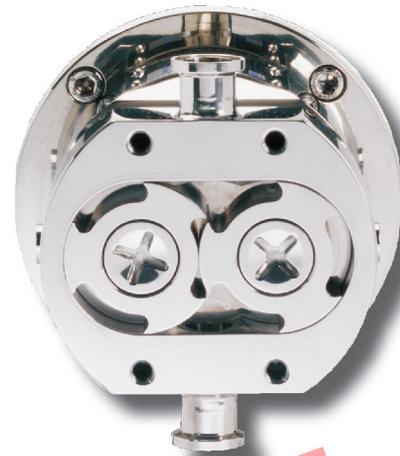


Thin Liquid Option

- Optional thin liquid construction provides significant increase in efficiency at the low viscosity ranges.

APPLICATION EXAMPLE: 31SSU (1cPs) 25 PSI (1.7 BAR)		
SPEED	TRI-WING	MULTI LOBE
1150 RPM	4.2 GPM / 18 l/m	1.6 GPM / 6.0 l/m
1750 RPM	7.3 GPM / 27.6 l/m	4.75 GPM / 18 l/m

- Fitted with Alloy 808 non-galling tri-wing rotors.



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Thin Liquid Construction can be used for the following application parameters. Thin liquids option materials listed first, then other material offerings for this application.

Clean, non-abrasive, non-corrosive liquids

Operating temperature: -20 - 300 °F (-29 - 150 °C)

Maximum Differential Pressure at rated speed: 175 PSI / 12 BAR

Maximum Speed: 1750 RPM (Refer to Pump Performance Curves to select the proper speed for the application.)

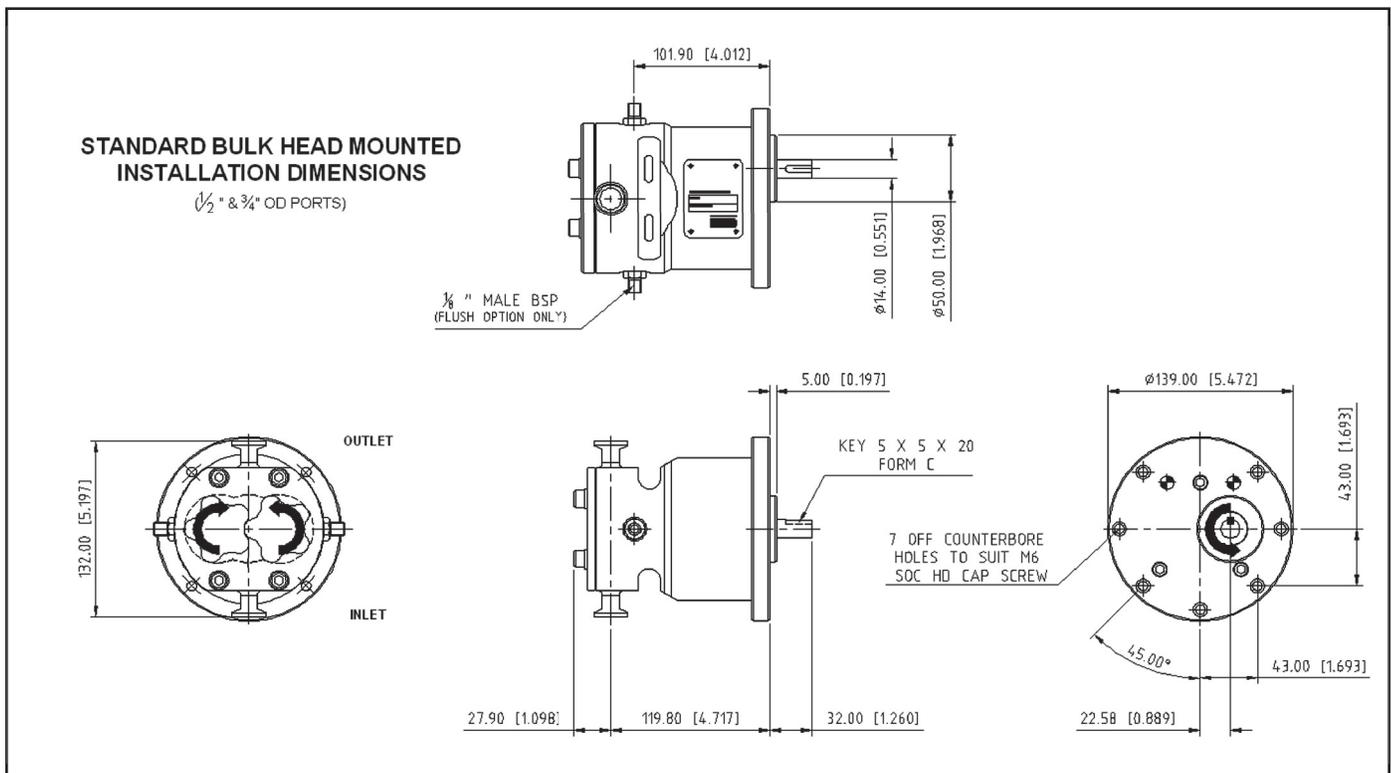
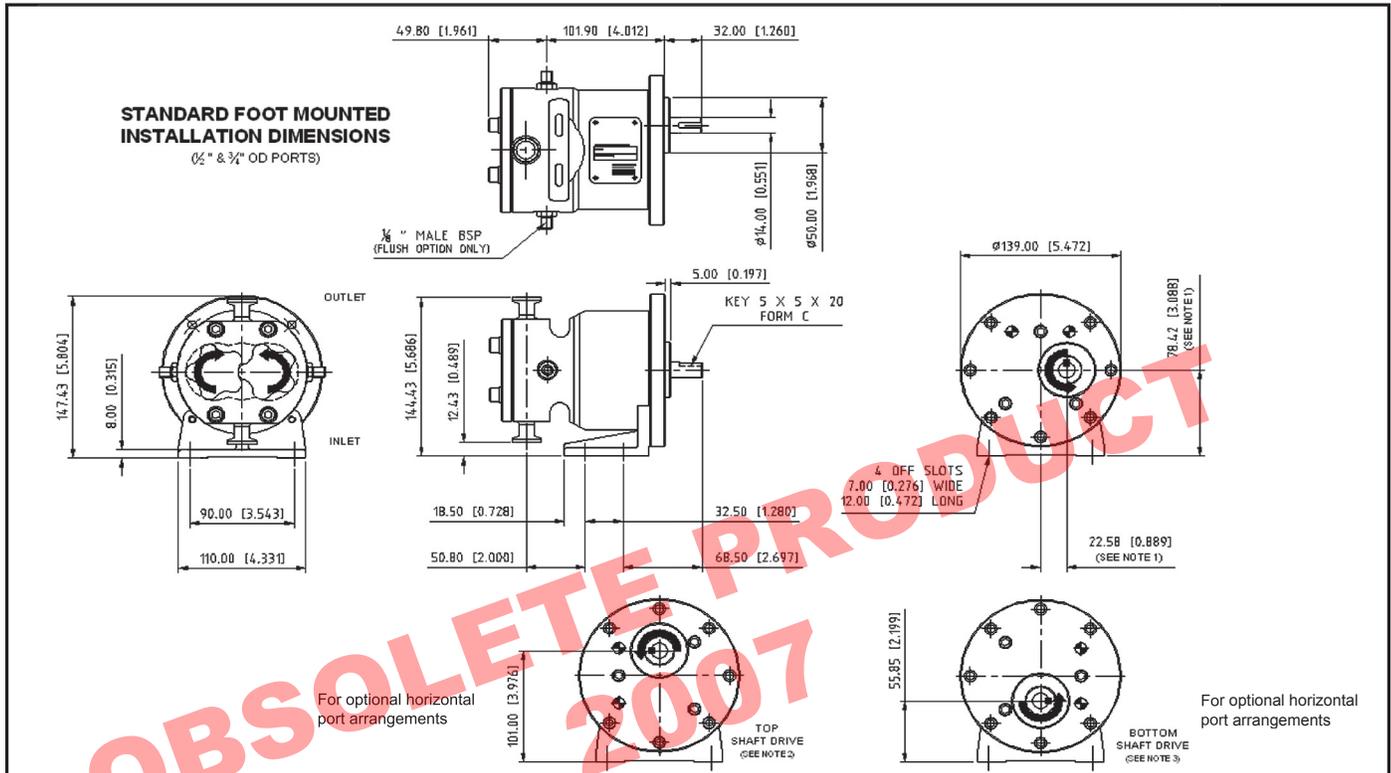
Viscosity limits: 31 - 750 SSU - (1 cPs-150 cPs)

Major Item	Material	Notes	Pump With This Option Will Be Quoted At Standard (S) Or Extended (E) Lead Time
Head	316L SS no RV	RV not offered	S
Casing	316L SS	3/4" Ports - "sanitary clamp style"	S
		1/2" Ports- "sanitary clamp style"	E
Retainers	316L SS		S
Seal Faces	Sic/Sic		S
Bearings	Sealed for life		S
Lobes	Alloy 808	Tri-wing	E
	316L SS multilobe	For applications requiring 316L stainless steel (but may not provide optimum thin liquid performance)	S
Shafts	316L SS		S
O rings	FDA EPDM or Viton		S
Sealing		Application will determine required sealing selection. Refer to pricing page for sealing options and price adders	

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Dimensions

Dimensions shown in mm (inch)



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Dimensions

Dimensions shown in mm (inch)

