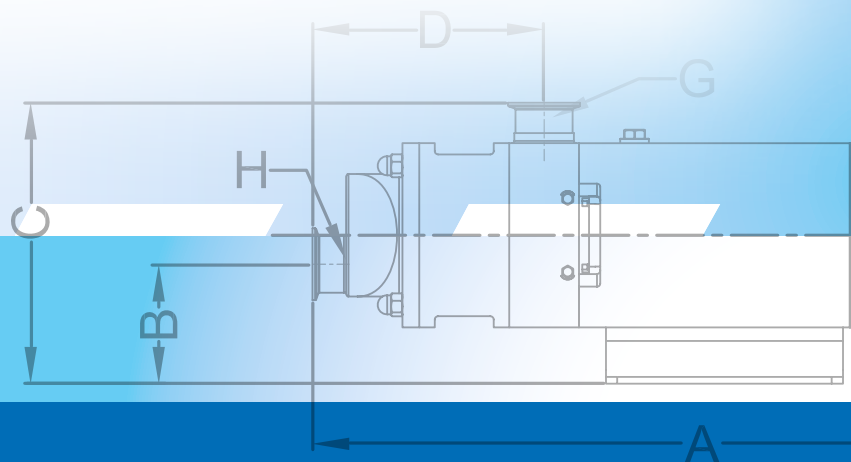
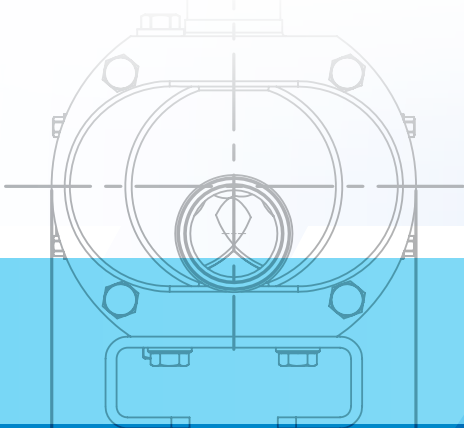


AXIFLOW 

TECHNOLOGIES, INC.

The New Benchmark in Positive Displacement Pumps



Axiflow, The Company

Axiflow Technologies, Inc., in partnership with Jung Process Systems, brings to the sanitary market a revolutionary pumping technology that sets a New Benchmark for a wide range of pumping applications. The Axiflow / Jung relationship combines German Precision Engineering with American Innovation & Process Experience. We offer viable solutions to many difficult process problems often experienced with positive displacement pumps. The Axiflow Solution far exceeds current industry standards and expectations.

Axiflow/Jung maintains 3A and EHEDG certifications for all pumps in our offering. Axiflow Pumps and Components are manufactured in Kummerfeld, Germany, and assembled in the United States. A complete inventory of pumps, assemblies and spare parts are located at various Axiflow facilities throughout North America. Demo and Trial pumps are available for testing at customer facilities. Whether your needs call for timing product through a high pressure drop pasteurizer, stuffing a homogenizer with a high viscosity liquid, or simply transferring a shear sensitive slurry or emulsion, give Axiflow a try.

Twin Screw Pumping Technology

Twin Screw Pumping Technology was created over 100 years ago for the oil & gas industry, providing a means for pumping high viscosity products under high pressure. The high suction capability of the pump eliminated the problems associated with low NPSH availability. This design was later proven to be a viable alternative for transferring multiphase products and designed to be capable of running at much higher speeds than conventional positive displacement pumps.

In their development of the twin screw pump for the Sanitary & Hygienic Markets, Jung Process Systems has created a NEW BENCHMARK in Positive Displacement Pumps. The Axiflow pump offers a wide range of benefits over all other PD pumps. Pumps such as rotary lobe, circumferential piston, progressive cavity, peristaltic, reciprocating plunger and air-operated diaphragm pumps prove to be far more limited in capability in comparison to the Axiflow.



**BRING US YOUR TOUGHEST
PUMPING APPLICATION AND LET
AXIFLOW SOLVE YOUR PROCESS
PUMPING ISSUE TODAY!**

Featured Benefits

- Ability to Handle viscosities from <1 to 1,000,000 cps
- Flow rates from 0.1 GPM to 1,450 GPM
- Differential pressures of up to 725 PSI
- High Suction Capabilities & Low NPSH Requirements - An ideal fit for long suction lines and vessels that are difficult to completely empty.
- 3A and EHEDG Certified
- Virtually Pulse-free, Repeatable Flow – Ideal for Product Timing and Metering
- Speed ranges from 10 RPM to 4,000 RPM
- At the high speeds, this Unique Twin Screw Design is fully CIP-able AND capable of performing system CIP functions by providing required pipe line velocities and meeting tank cleaning requirements.
- All Stainless Steel Bearing Housing — NO PAINTING REQUIRED!
- All Stainless Components are Machined out of 316L Billet Stainless — No Cast Parts!
- Low Shear Product Handling - Capable of Delicately Pumping Soft Solids up to 15/8" in Size without degradation.
- Excellent wear resistance on abrasive materials - Hardened wear surfaces available.
- Wide Range of Mounting Options which include Direct Coupled C-Face Motors for Reduced Footprint
- Ability to Run Dry Indefinitely without damaging Pump or Seals (certain seal arrangements required)—Ideal for removing ingredients from Drums, Totes and Bag in a Box
- Ability to pump products with up to 60% entrained air – eliminates “air-locking”!
- Ability to Reverse Flow – Uses include Product Recovery resulting in reduced yield loss.

THE AXIFLOW PD PUMP HAS THE LOWEST TOTAL COST OF OWNERSHIP OF ANY POSITIVE DISPLACEMENT PUMP ON THE MARKET TODAY!

AXIFLOW 
TECHNOLOGIES, INC.

A Comparison of Pumping Principles

Operating Features

Pump Type	Hygienic	Suction Capability	Pressure	Dry Running Capability	Gentle Handling of Soft Solids	Maintenance	Shear Rate	CIP***
Axiflow Twin Screw	+++	+++	+++	++	++	+++	++	+++
Twin Lobe	+-	++ Low Speed	+++	+	+-	+-	+	+-
Circumferential Piston	+-	++ Low Speed	+++	+	+-	+-	+	+-
Tri Lobe	+-	+	+	+	-	-	-	+-
Sinusoidal	-	+	+	-	++	-	+	-
Progressive Cavity	-	+++	+++	-	++	-	++	+
Eccentric Disc	+	++	-	-	+-	-	+++	-

+++ Excellent ++ Good + Fair - Poor

***CIP Capability relates not only to the cleaning of the pump, but also using the pump to clean the system.

Axiflow STS Series

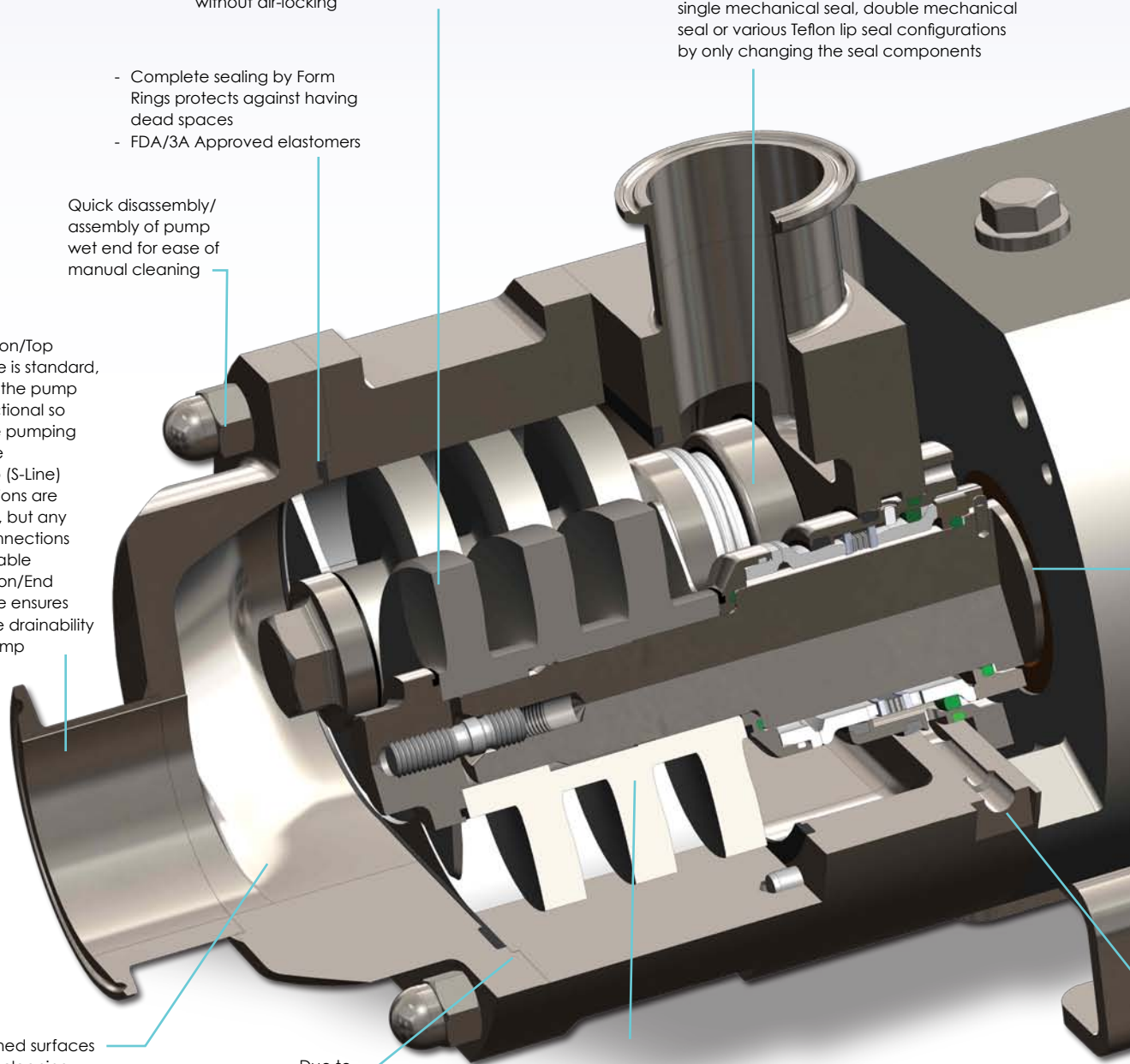
- Balanced Feed Screws with various screw pitches available
- Wide Speed Range of <math>< 5 - 120\text{ Hz}</math> for performing Process & CIP Conditions with just one pump
- Excellent suction capabilities and Low NPSHr requirements
- Smooth and non pulsating Axial movement of product
- Pumps soft solids up to 1-5/8" maintaining product integrity
- Capable of dry running & pumping air entrained product without air-locking

Due to standardization, all pumps can use a single mechanical seal, double mechanical seal or various Teflon lip seal configurations by only changing the seal components

- Complete sealing by Form Rings protects against having dead spaces
- FDA/3A Approved elastomers

Quick disassembly/assembly of pump wet end for ease of manual cleaning

- End Suction/Top Discharge is standard, however the pump is bi-directional so reversible pumping is possible
- Tri-Clamp (S-Line) Connections are standard, but any other connections are available
- Top Suction/End Discharge ensures complete drainability of the pump



Electro-polished surfaces for optimum cleaning (Standard Ra <math>< 0.8</math>, for the Pharmaceutical Industry, smoother surfaces are available)

Due to precision machining, components are easily disassembled and assembled

Wear resistant JUNG-Chromcarbide coating is standard on all pump housings (Advanced hardening options of the pump casing are available)

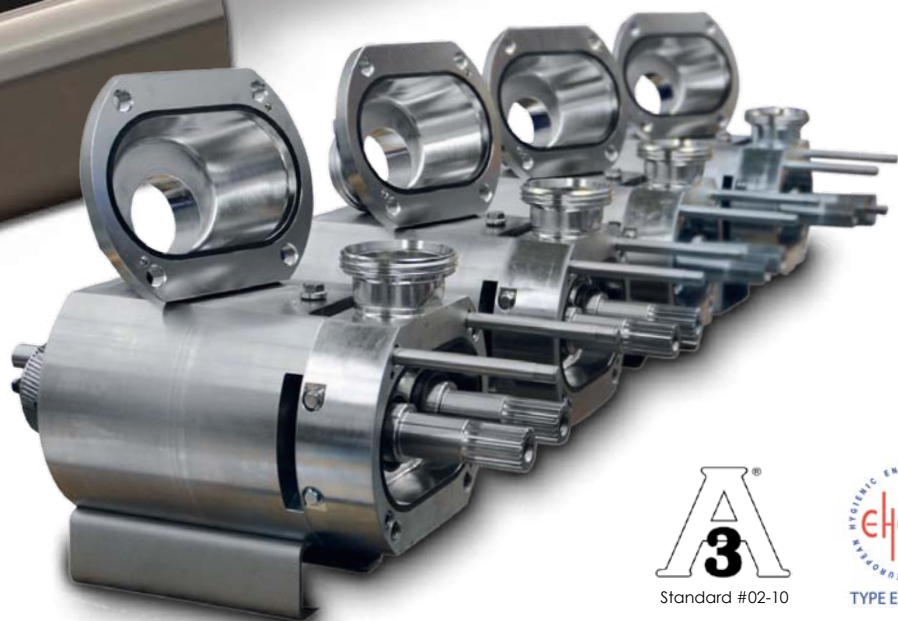
Stainless Steel Bearing Housing capable of operating up to 4,000 Rpm at Low Temperatures

Precision machined timing gears guarantee the non-contact operation of the Feed Screws

Gear cover machined from aluminum with a wear & chemical resistant Teflon coating (Stainless Steel is also available)

Drive and Driven Shafts are hardened in the bearing housing shaft sealing area to eliminate shaft wear and gear oil loss

For sealing flexibility, mechanical seal flushing connections are standard on all pumps



Standard #02-10



TYPE EL - CLASS I

Axiflow ST Series

Standard Sizes Available:

STSC 50 (C-Face)

Suction/Discharge Connections - 1 1/2" to 3"

STS 70

Suction/Discharge Connections - 2" to 3"

STSC 70 (C-Face) (Not Shown)

Suction/Discharge Connections - 2" to 3"

STS 90

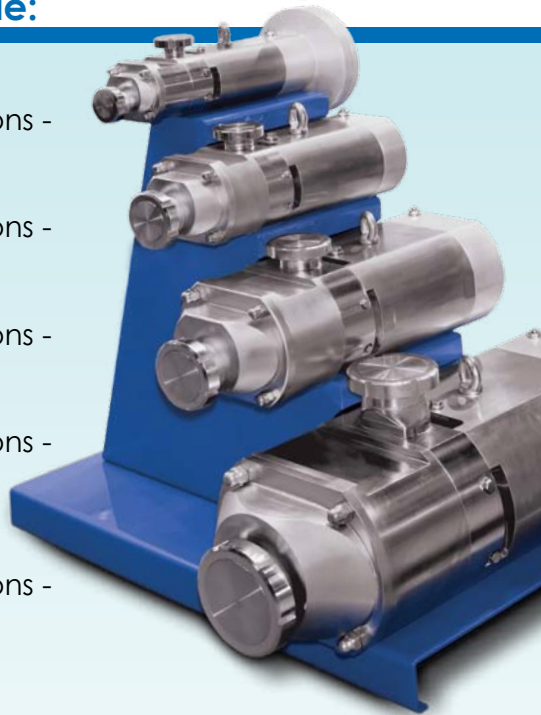
Suction/Discharge Connections - 2 1/2" to 4"

STSC 90 (C-Face) (Not Shown)

Suction/Discharge Connections - 2 1/2" to 4"

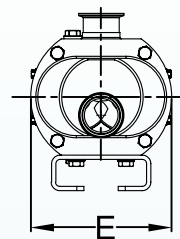
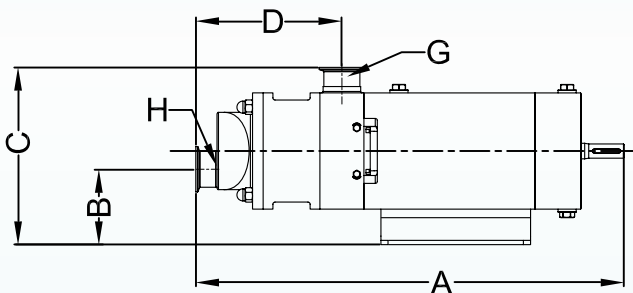
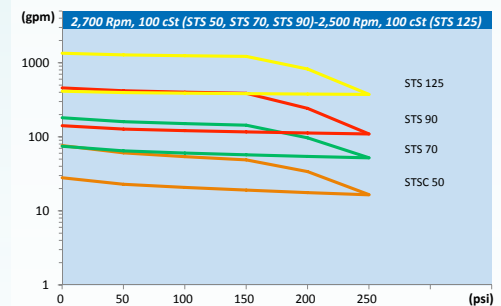
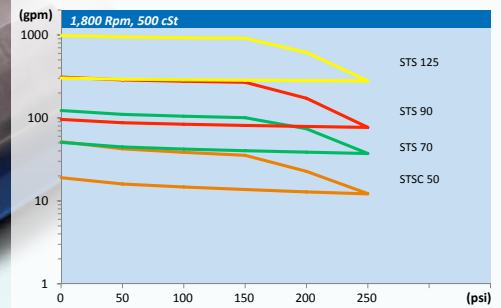
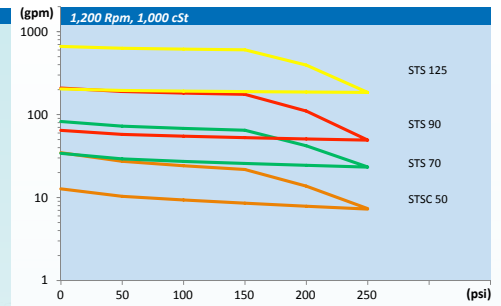
STS 125

Suction/Discharge Connections - 3" to 8"



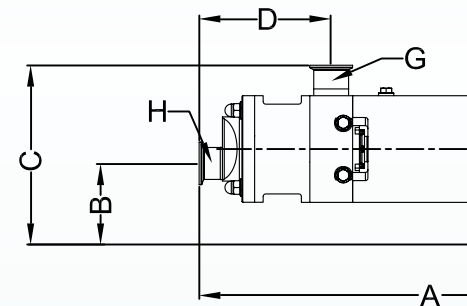
***STSCA 70, STSA 70, STSCA 90 & STSA 90 Aseptic Version Pumps are also available. Standard Connections are Tri-Clamp. Other Connection Types such as I-Line, Q-Line, ANSI Flange, Bevel Seat are Available Upon Request.

Standard Pump Curves



Standard Coupling Mount Pumps

Pump Model	Nominal Capacity (Gpm)	Maximum Soft Solid Size (In)	Nominal Dimensions (In)					Top Connection Size	Endcover Connection Size	Weight (Lbs)
			A	B	C	D	E			
STS 70	0.4 - 250	3/4"	24.21	4.88	9.92	8.62	7.83	2" - 2 1/2"	2" - 3"	145
STS 90	4.4 - 550	1 1/8"	28.46	5.75	13.46	10.83	10.20	2 1/2" - 4"	2 1/2" - 4"	285
STS 125	30 - 1,440	1 5/8"	39.53	8.35	19.33	11.02	13.74	4" - 8"	4" - 8"	825

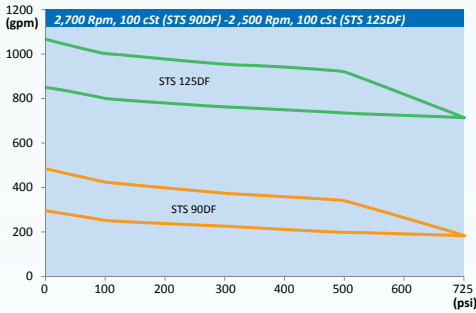
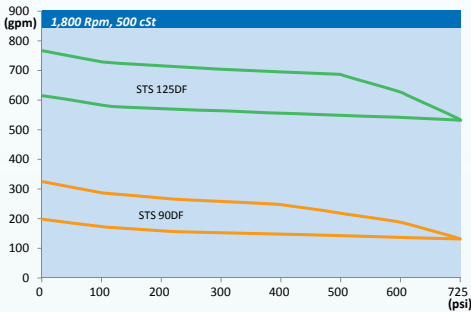
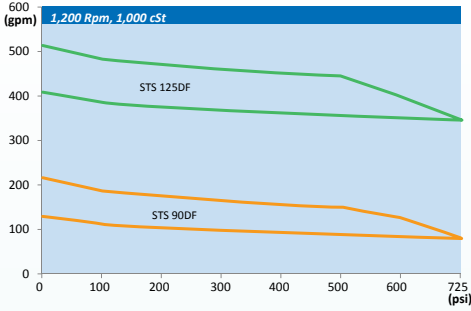


C-Face Mount Pumps

Pump Model	Nominal Capacity (Gpm)	Maximum Soft Solid Size (In)	Nominal Dimensions (In)		
			A	B	C
STSC 50	0.1 - 88	5/8"	19.49	4.25	8.35
STSC 70	0.4 - 250	3/4"	25.59	7.87	11.02
STSC 90	4.4 - 550	1 1/8"	30.91	5.83	13.46

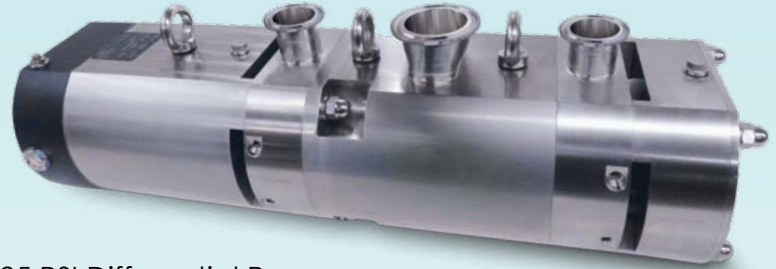
Axiflow High Pressure Series

High Pressure Pumps Curves

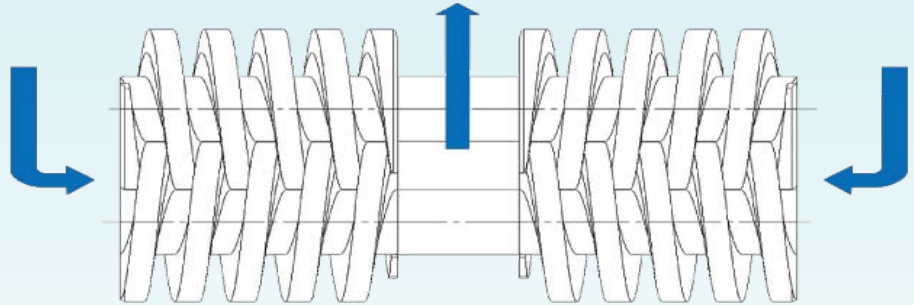


High Pressure Sizes Available

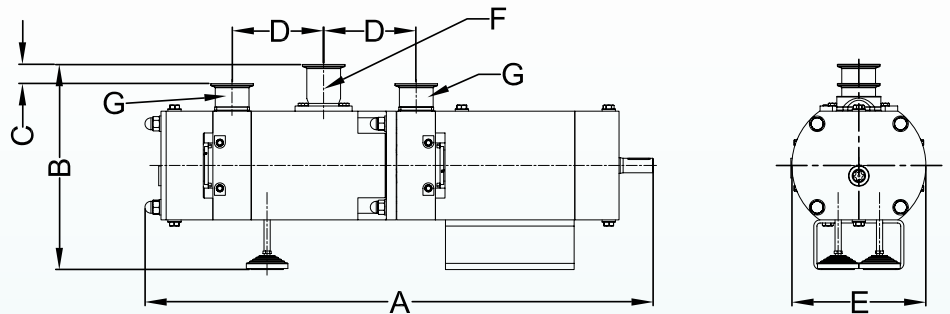
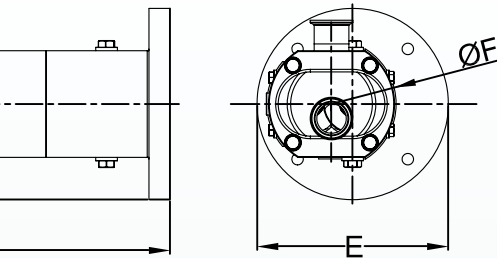
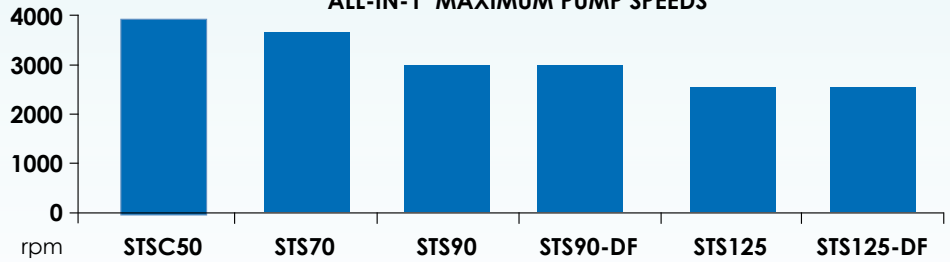
- STS 90DF-23
- STS 90DF-28
- STS 90DF-38
- STS 125DF-36
- STS 125DF-45



Capable of 725 PSI Differential Pressure



ALL-IN-1 MAXIMUM PUMP SPEEDS



Nominal Dimensions (In)				Top Connection Size	Endcover Connection Size	Weight (Lbs)
C	D	E	F	G	H	
8.82	6.14	9.84	5.87	1 1/2" - 2"	1 1/2" - 3"	82
11.61	8.62	13.78	7.83	2" - 2 1/2"	2" - 3"	150
13.15	10.83	13.78	10.20	2 1/2" - 4"	2 1/2" - 4"	335

High Pressure Pumps

Pump Model	Nominal Capacity (Gpm)	Maximum Soft Solid Size (In)	Nominal Dimensions (In)					Inlet (2x) G	Outlet H	Weight (Lbs)
			A	B	C	D	E			
STS 90DF	4.4 - 500	3/4"	38.58	16.38	2.24	7.01	10.20	2" - 2 1/2"	2" - 3"	685
STS 125DF	50 - 1,030	7/8"	46.71	23.50	3.00	10.73	13.74	3" - 4"	3" - 4"	1,500



YOGURT / GREEK-STYLE YOGURT

- ▶ Unloads viscous yogurt base with high suction capability
- ▶ Fruit Injection with delicate handling of solids
- ▶ Fully CIPable
- ▶ Doubles as a CIP Pump by providing required line velocities and flow for entire system cleaning



CHEESE

- ▶ Pumps Cultures and Curd gently without degradation
- ▶ Handles solids with low shear up to 1-5/8"
- ▶ Pumps Molten Cheese with high suction capability
- ▶ Fully CIPable
- ▶ Doubles as a CIP Pump by providing required line velocities and flow for entire system cleaning



SOUR CREAM

- ▶ Transfers Sour Cream at high pressure through smoothing disks
- ▶ Pulls viscous finished product through long suction lines with high suction
- ▶ Provides Smooth Repeatable Flow for In-Line Blending of Flavored Sour Creams
- ▶ Fully CIPable
- ▶ Doubles as a CIP Pump by providing required line velocities and flow for entire system cleaning

BUTTER / MARGARINE

- ▶ Capable of high pressure delivery for in-line scrape surface cooling
- ▶ Provides repeatable smooth flow delivery for continuous blending
- ▶ Fully CIPable
- ▶ Doubles as a CIP Pump by providing required line velocities and flow for entire system cleaning
- ▶ Pump with Axi-Mix system is ideal for adding dry ingredients to brine and calcium for slurry make-up





COTTAGE CHEESE

- ▶ Protects Large Curd Cottage Cheese by low shear transfer
- ▶ High suction capability for pulling finished product from long distances
- ▶ Fully CIPable
- ▶ Doubles as a CIP Pump by providing required line velocities and flow for entire system cleaning



ICE CREAM

- ▶ Capable of smooth flow delivery through the ingredient feeder resulting in more uniform distribution of particles (cookie dough, chocolate chips, etc.)
- ▶ Gentle Product handling while pumping soft solids
- ▶ Fully CIPable
- ▶ Doubles as a CIP Pump by providing required line velocities and flow for entire system cleaning



PEANUT BUTTER / ALMOND BUTTER

- ▶ Provides excellent abrasive resistance
- ▶ Capable of high pressure delivery
- ▶ Provides non-pulsating repeatable flow for continuous in-line blending of honey, molasses, "crunchies" etc.
- ▶ Capable of handling large soft solids.
- ▶ Reverse flow capable for line evacuation and product recovery

MAYONNAISE / SALAD DRESSINGS

- ▶ Gentle low shear pumping enables pumping long distances without emulsion breakdown
- ▶ Capable of pumping large soft solids such as blue cheese chunks without degradation
- ▶ Feeds the colloid mill with non-pulsating flow to ensure flooded suction reducing maintenance issues
- ▶ High suction allows evacuation of vessel of viscous product which minimizes waste
- ▶ Fully CIPable
- ▶ Doubles as a CIP Pump by providing required line velocities and flow for entire system cleaning





TOMATO PASTE, KETCHUPS & BBQ SAUCES

- ▶ Capable of developing high suction so that removal of high viscosity ingredients such as tomato paste from drums, totes, bag on the box containers, etc.
- ▶ Capability of running dry without seal failure—essential for priming and removal of viscous products from vessels
- ▶ Feeds homogenizers with smooth non-pulsing flow when stuffing pressure is required
- ▶ High resistance to abrasiveness resulting in reduced maintenance costs
- ▶ Capable of heat exchanger timing with smooth flow at high pressures
- ▶ High pressure capable for long discharge runs
- ▶ Fully CIPable
- ▶ Doubles as a CIP Pump by providing required line velocities and flow for entire system cleaning



BREWING

- ▶ Delicate handling of yeast cells during transfer
- ▶ Capable of high suction for long manifold suction lines, especially effective on waste yeast

- ▶ Pumps multiphase flow effectively eliminating air-locking and problems associated with CO2
- ▶ Capable of running dry without seal damage
- ▶ Fully CIPable
- ▶ Doubles as a CIP Pump by providing required line velocities and flow for entire system cleaning



BAKED GOODS/ICINGS/PIE FILLINGS

- ▶ Capable of pumping up to 1-5/8" solids making it ideal for pumping fruit fillings, toppings, slurries etc.
- ▶ Pumps all types of viscous cake icing and is ideal for in-line mixer and mill feeds
- ▶ Delivers smooth non-pulsing flow to enable continuous in-line flavor and color injection
- ▶ Capable of running dry without seal damage
- ▶ Fully CIPable
- ▶ Doubles as a CIP Pump by providing required line velocities and flow for entire system cleaning
- ▶ Axi-Mix is ideal for adding dry ingredient solids to make up solutions and slurries





CHOCOLATE / WHITE CHOCOLATE

- ▶ Capable of pumping delicate confectionary products with low shear
- ▶ Excellent abrasion resistance
- ▶ Jacketed pump casing fluid head available to maintain required product temperatures
- ▶ Capable of running dry without seal damage



JUICE CONCENTRATE, SINGLE STRENGTH JUICE/SMOOTHIES AND OTHER BEVERAGES

- ▶ Easily removes viscous concentrates and bases from drums, totes and dumpers with smooth flow
- ▶ Effectively removes pulp slurries from bag in the box with low shear
- ▶ Smooth flow timing of Pasteurizers and Chillers
- ▶ Pulp slurry unloading and injection with high turndown capability
- ▶ Low NPSH for viscous product feed
- ▶ Ideal for pumping concentrates long distances at high flowrates
- ▶ Reverse flow capable for yield savings
- ▶ Smooth flow lends itself continuous blending and flavor injection
- ▶ Fully CIPable
- ▶ Doubles as a CIP Pump by providing required line velocities and flow for entire system cleaning
- ▶ Axi-Mix is ideal for adding dry ingredients to make suspensions and slurries



FROZEN FOODS / PREPARED MEALS

- ▶ Capable of pumping up to 1-5/8" solids so that dips, sauces, fruit, vegetables, etc. are handled without damage or degradation
- ▶ Capable of running dry without seal damage
- ▶ Fully CIPable
- ▶ Doubles as a CIP Pump by providing required line velocities and flow for entire system cleaning



PERSONAL CARE/ PHARMACEUTICAL PRODUCTS

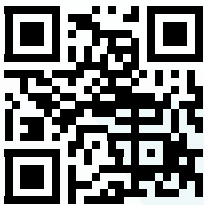
- ▶ Provides non-pulsating delivery of product that protects against foaming
- ▶ High suction capability easily pulls viscous products such as toothpaste, shampoo, and cream based ointments from vessels
- ▶ Capable of running dry without seal damage
- ▶ Fully CIPable
- ▶ Doubles as a CIP Pump by providing required line velocities and flow for entire system cleaning
- ▶ Low shear protects against cell and culture destruction



Axi-Mix

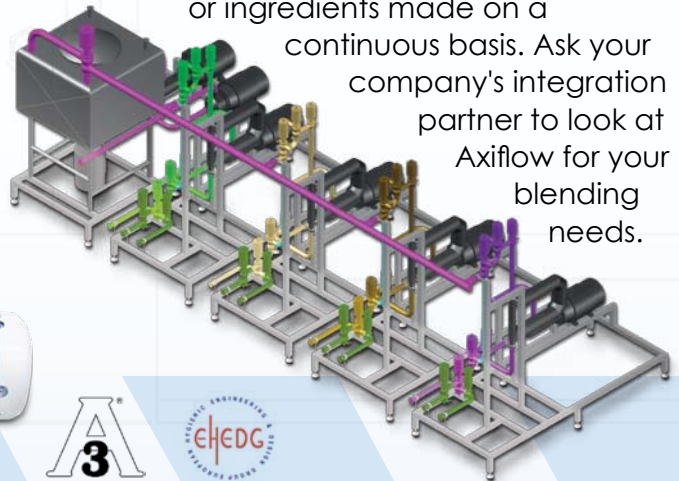
The Axiflow pump has the ability to handle high viscosity product at high pressure with virtually pulse free delivery. When coupled with an eductor feed system, this attribute makes for an extremely effective means of incorporating dry solids into liquids. We call this system package the Axi-Mix. Unlike many solids incorporating systems which are limited to relatively low viscosity liquids, the Axi-Mix functions effectively with low as well as high viscosity liquid streams. It can be used in conjunction with an in-line high shear mixer if necessary for ingredient blending that requires high shear or continuous homogenization.

Scan to visit our site:



Axi-Blend

Axiflow pumps deliver virtually pulse free repeatable flowrates over a wide range of viscosity with high turndown capability. This makes Axiflow an ideal pump selection for continuous blending systems. Multiple pumps integrated in a system with flow metering controls and in line mixing provides a complete blending package that can be used in many types of industries. The results are consistent repeatable blended products or ingredients made on a continuous basis. Ask your company's integration partner to look at Axiflow for your blending needs.



Take advantage of our trial and rental pool.

We want to ensure your satisfaction with the results before you purchase. Trial pumps are provided for in-plant testing without charge for a two week period. Rental arrangements can be made available for longer trials if needed. If capital availability is a problem during the time when an urgent need arises, we offer a lease to own option to suit a wide range of expense budgets. Axiflow wants to solve your pumping problems.

AXIFLOW TECHNOLOGIES, INC.

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