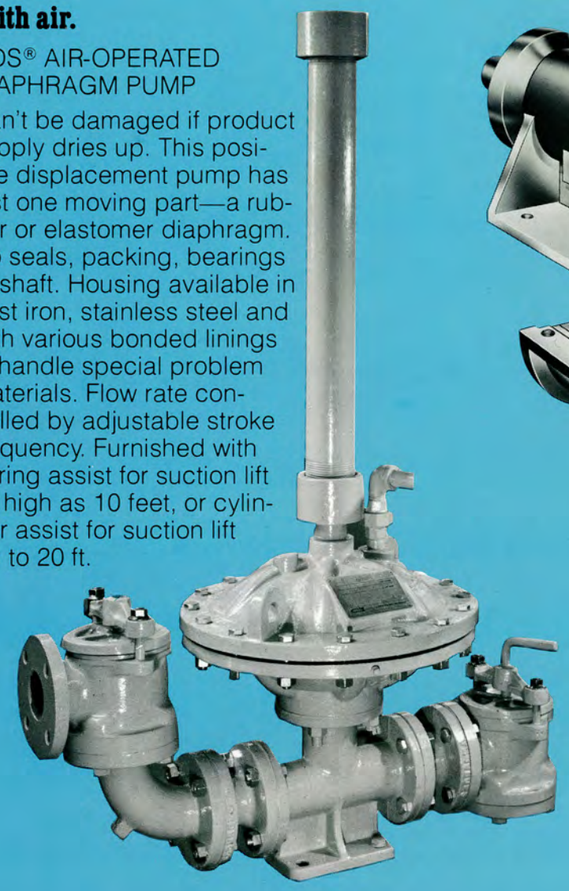
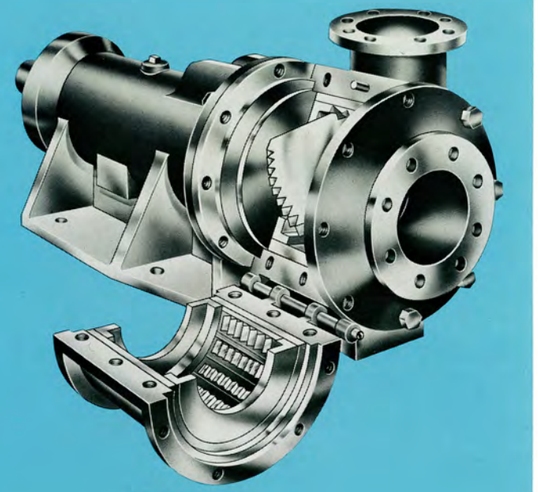
Dorr-Oliver offers two other hard-workers for difficult pumping problems.

With air.

ODS® AIR-OPERATED DIAPHRAGM PUMP

Can't be damaged if product supply dries up. This positive displacement pump has just one moving part—a rubber or elastomer diaphragm. No seals, packing, bearings or shaft. Housing available in cast iron, stainless steel and with various bonded linings to handle special problem materials. Flow rate controlled by adjustable stroke frequency. Furnished with spring assist for suction lift as high as 10 feet, or cylinder assist for suction lift up to 20 ft.





With teeth.

THE MIGHTY GORATOR®

The Gorator chews up chunks while it pumps. This time-saving, smooth-running pump is great for size reduction and dispersion in dozens of processes. Among them, rubber dispersion, refining, hot face pelletizing and pulping. Important features: self-cleaning, compact, easy maintenance and rugged construction for long life. The Mighty Gorator chews up hard process problems and spits out more profits.

DORR-OLIVER

CORPORATE HEADQUARTERS
DORR-OLIVER INCORPORATED
612 WHEELER'S FARM RD., P.O. BOX 3819
MILFORD, CT 06460-8719 U.S.A.
TEL: 203-876-5400 FAX: 203-876-5432

BULLETIN No. 011

A superior pump for handling acids, alkalies and chlorine.

Olivite®

Lined process pump.

DORR-OLIVER

Time-tested design

Dorr-Oliver, a well known and highly regarded manufacturer of equipment for the process industries, has been a leader in all-metal and polymer-lined centrifugal pumps for over 60 years. The lined Olivite pump, one of the most important in our line, has undergone literally hundreds of improvements in that time span. Today it is truly a state-of-the-art process pump for tough-to-handle materials.

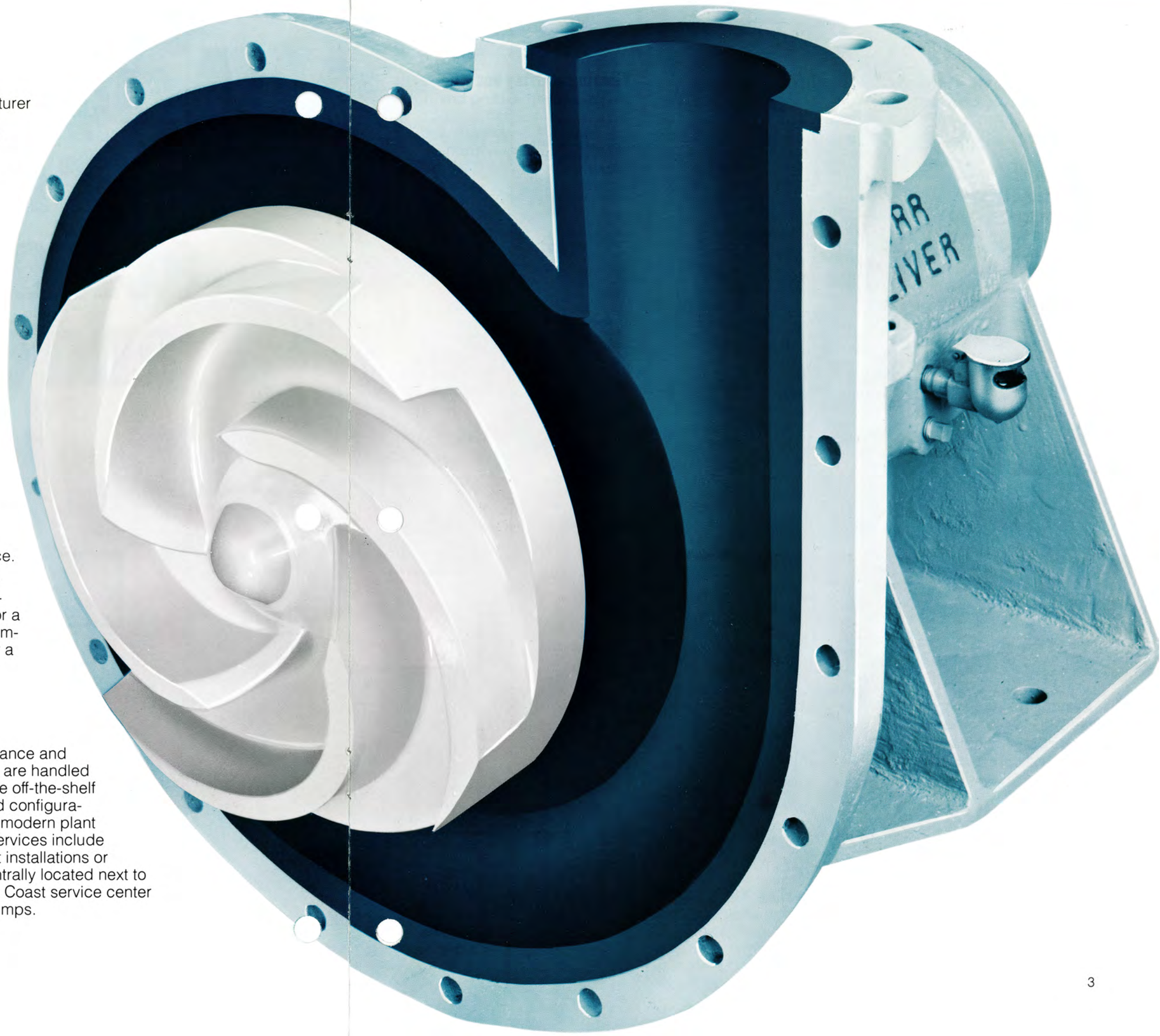
The impeller

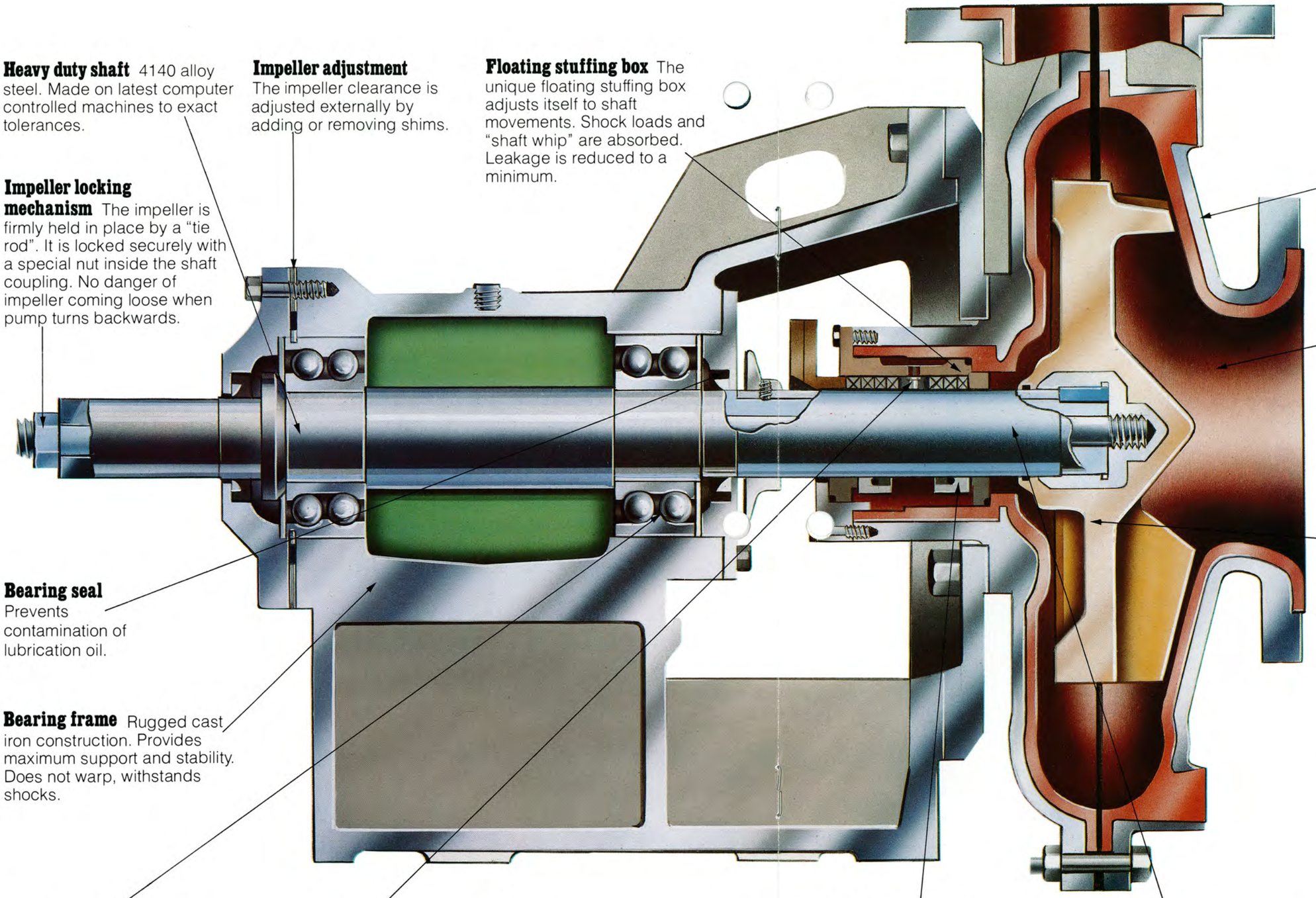
The Olivite impeller is probably the most important reason why this pump has enjoyed such widespread chemical and petrochemical industry acceptance through the years. The impeller is the most critical component in any process pump. It is where the work, and the wear, happens. The Olivite impeller, despite its relatively light weight (compared to metal construction), is very durable and highly wear resistant. It is made from Kynar® and reinforced with fine glass or carbon so that it will retain its shape during extreme temperature changes and prolonged service. Further, the Olivite impeller's low weight vastly reduces shaft deflection, which extends bearing life because wear and tear are reduced. In fact, dynamic balance of the molded Olivite impeller is practically perfect because of its uniform smooth surface.

Other than weight, the Olivite impeller also offers a considerable advantage in its vane geometry. Vane geometry is important in generating capacity and head, and for a low net positive suction head requirement. The Olivite employs a semi-shrouded impeller shape, developed after a good deal of study and testing. This design promotes operating efficiency.

Plus customer support

Dorr-Oliver offers expert applications engineering assistance and computerized order processing to make sure all orders are handled smoothly and efficiently. Olivite pumps also are available off-the-shelf for fast delivery when required. Bare pumps in standard configurations are stocked in our Allentown, Pa. facility — a new modern plant dedicated exclusively to pump production. After-sale services include strategically located field engineers to help with difficult installations or operating problems . . . a well stocked parts depot, centrally located next to O'Hare International Airport in Chicago . . . and an East Coast service center equipped to refurbish and overhaul used centrifugal pumps.





Heavy duty shaft 4140 alloy steel. Made on latest computer controlled machines to exact tolerances.

Impeller adjustment The impeller clearance is adjusted externally by adding or removing shims.

Floating stuffing box The unique floating stuffing box adjusts itself to shaft movements. Shock loads and "shaft whip" are absorbed. Leakage is reduced to a minimum.

Impeller locking mechanism The impeller is firmly held in place by a "tie rod". It is locked securely with a special nut inside the shaft coupling. No danger of impeller coming loose when pump turns backwards.

Casing Split casing. Tangential discharge provides highly efficient hydraulic design.

Lining of Kynar® or Hypalon® Minimum thickness ¼". Firmly locked and bonded to casing. Long wearing.

Solid Kynar impeller Has exceptional resistance to chemical attack. Impeller back vanes reduce seal liquid pressure requirements.

Bearing seal Prevents contamination of lubrication oil.

Bearing frame Rugged cast iron construction. Provides maximum support and stability. Does not warp, withstands shocks.

Steel sub-base (Not shown) Available for either direct connected or V-belt drive.

Bearings Double row ball bearings. High thrust capability with minimum end play.

Lantern ring Permits circulation of water or clear solution between shaft sleeve and packing.

Drip pan (Not shown) Plastic construction, corrosion-resistant. Connects to drain. No need for a drip lip on pump base.

Mechanical seal Wide choice of mechanical seals to match your application.

Shaft sleeve Corrosion resistant metal or non-metallic construction available. (Ceramic or Kynar-coated, eliminates virtually all metal contamination.)

Applications

Acids

Hydrochloric	Sulfuric	Phosphoric
Hydrofluoric	Nitric	Pickling acid
Hydrofluosilicic	Acetic	

Alkalies

Sodium hydroxide	Ammonium hydroxide
Caustic soda	Potassium hydroxide

Chlorine compounds.

Sodium hypochlorite	Zinc chloride
Calcium hypochlorite	Chlorine water
Ferric chloride	Bromine compounds
Sodium chloride	

Restrictions

Do not use pump in compounds containing OLEUM, SULFUR TRIOXIDE, PYRIDINE, M.E.K., XYLENE and TRICRESYL PHOSPHATE. Hypalon lining is not to be used in slurries containing FREE CHLORINE.

Maximum temperature — if not restricted by the chemical compound — maximum 250°F for Kynar and 215° for Hypalon.

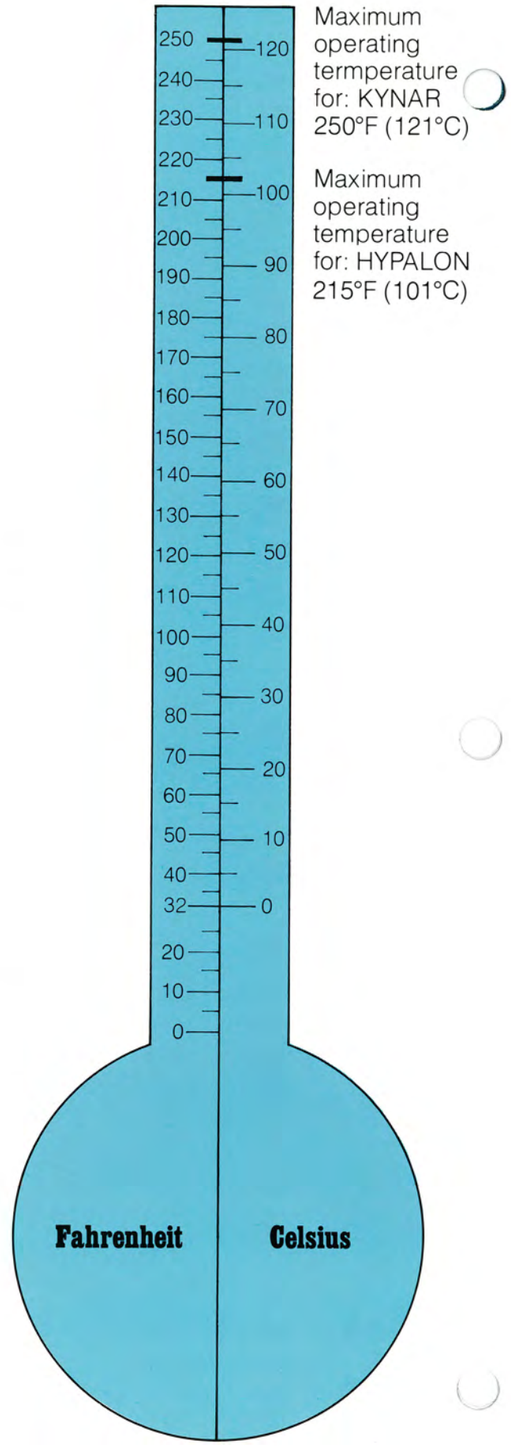
Maximum pressure 180 psi.

Liner material

Hypalon.* — A synthetic rubber that resists oil, ozone and oxidizing chemicals, with excellent abrasive and corrosive resistance. This chloro-sulfonated polyethylene elastomer has received wide acceptance in the chemical process industry for resistance to contaminated hydrochloric solutions and concentrated sulfuric acid, and other extremely corrosive acids, beyond the capability of some of the most exotic alloys. Its low coefficient of friction and its resilience gives it superior abrasion resistance.

Kynar.** — Kynar is a high performance fluorocarbon resin — a crystalline, high molecular weight, polymer of vinylidene fluoride. It combines a high degree of mechanical strength, impact and excellent abrasion resistance to most corrosive chemicals including acids, alkalies and strong oxidizers. Kynar is serviceable in a broad temperature range of minus 80°F through 300°F.

*Registered Trademark of E. I. duPont de Nemours & Co. (Inc.)
**Registered Trademark of Pennwalt Corp.



Maximum operating termperature for: KYNAR 250°F (121°C)

Maximum operating temperature for: HYPALON 215°F (101°C)

Pump selection check list

This check list is to assist you in making a proper pump selection. Please provide this information:

Liquid/Slurry characteristic

- ☐ Name of liquid/composition
- ☐ pH
- ☐ Viscosity
- ☐ Vapor pressure
- ☐ Name of solids
- ☐ Particle size
- ☐ % solids concentration by weight
- ☐ Min./norm./max. operating temperature

Pumping condition and type of duty

- ☐ Min./norm./max. discharge head
- ☐ Min./norm./max. flow capacity
- ☐ NPSH available *
- ☐ Flooded suction
- ☐ Suction lift
- ☐ Elevation above sea level
- ☐ Continuous or intermittent service

Seal

☐ Mechanical seal ☐ Braided packing

Drive

☐ Direct ☐ V-belt (R.H. or L.H.)
☐ Variable ☐ Volts ☐ Phases ☐ Cycles
☐ Motor specifications

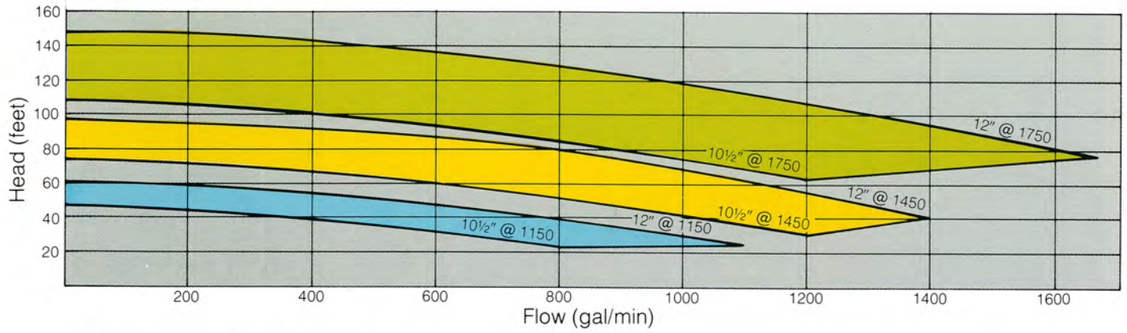
Installation and service

☐ Indoors ☐ Outdoors ☐ Portable
☐ Filtrate ☐ Transfer

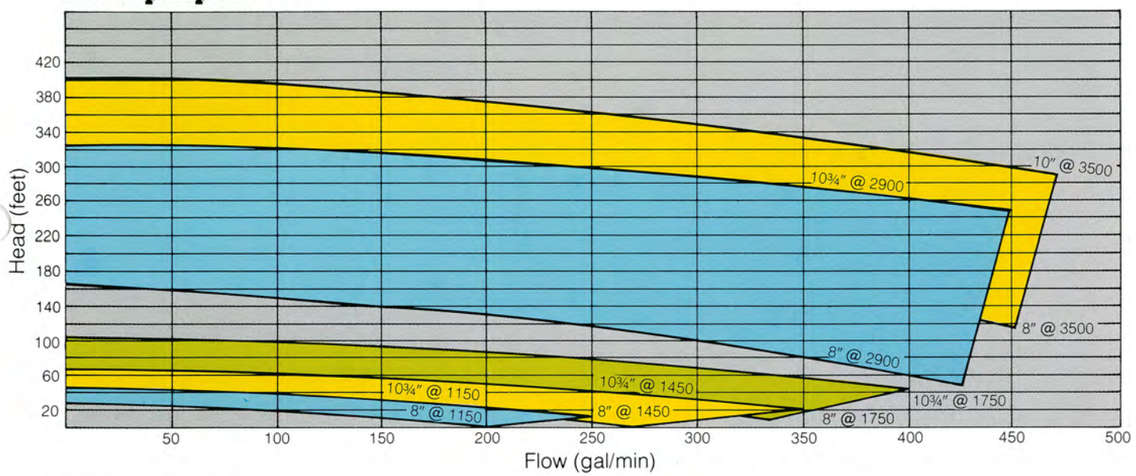
*Net positive suction head. Available NPSH, referred to the pump suction nozzle, is very important for successful operation. Many field problems result from insufficient NPSH, caused by the user's miscalculation or misunderstanding. If the buyer does not calculate NPSH, he should give the vendor static liquid suction height or lift (to pump centerline), suction line friction loss, vapor pressure of liquid at maximum temperature, pressure at the pump nozzle and pump elevation.

Performance chart

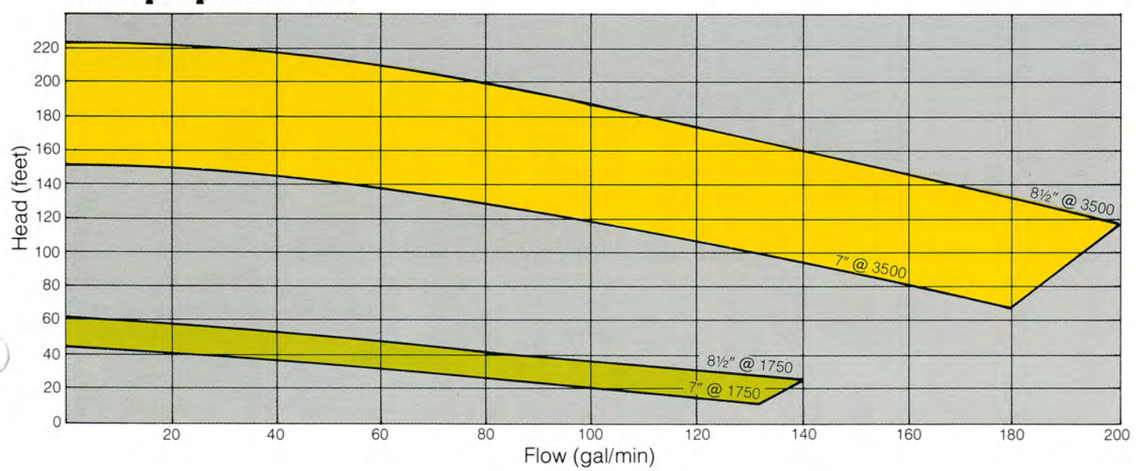
Olivite pump size 4" x 6"



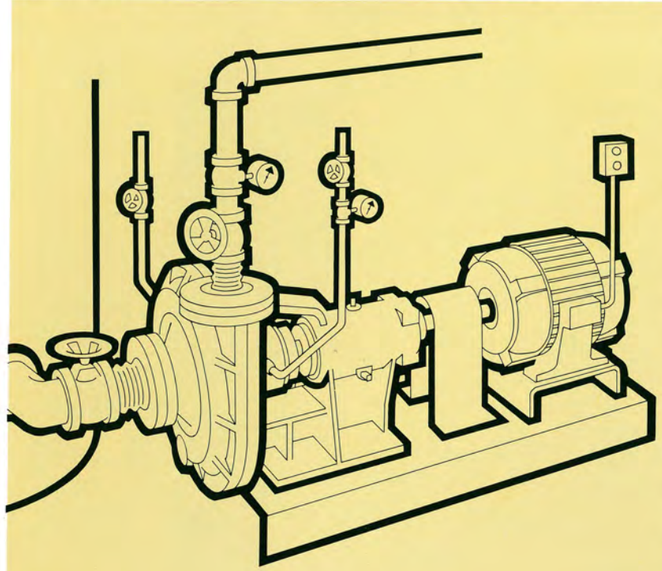
Olivite pump size 2" x 3"



Olivite pump size 1½" x 2"



Installation recommendations



LOCATION OF UNIT. Locate as to require shortest suction and discharge lines. Allow ample space for inspection and service.

FOUNDATION. Size large enough to provide support and absorb vibration.

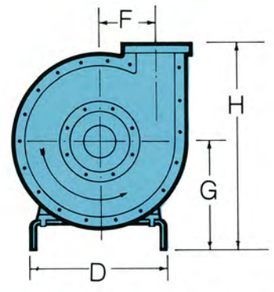
ALIGNMENT. Pump has to be level and sit firmly and uniformly at points of support.

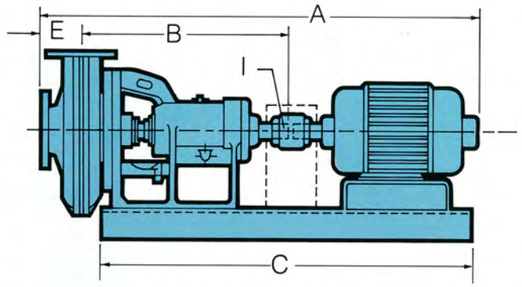
PIPING. To facilitate maintenance and prevent pipe strain to be transmitted into pump, install short flexible hoses in suction and discharge lines.

SEAL WATER. Assure ample supply of seal water. Seal water pressure to be 10 psi above 40% of discharge pressure.

NPSH. Calculate available NPSH and compare with curve. Available head has to exceed curve value.

ELECTRICAL CONNECTION. To meet local code. Controls near pump.





Dimensional data for direct connected pump

PUMP SIZE	MOTOR FRAME	A	B	C	D	E	F	G	H	I	SUCTION FLG.	DISCH. FLG.	PUMP WEIGHT
1½"x2"	143T -145T 182T -184T 213T -215T 254T -256T	3'-3 3'-5⅞ 3'-9⅛ 4'-3½	22 15/16	3'-0 3'-7¼	12	3 5/16	4 9/16	11½	18 5/16	1⅜	2	1½	275 lbs.
2"x3"	143T -145T 182T -184T 213T -215T 254T -256T 284TS-286TS 324TS-326TS	3'-8½ 3'-11⅜ 4'-2⅝ 4'-9 4'-10 5'-1⅛	23⅛	3'-0 3'-7¼ 3'-6 3/4	12 21	8 11/16	6	11½ 11⅞	19 9/16 19 15/16	1⅜	3	2	325 lbs.
4"x6"	254T -256T 284T -286T 324T -326T 364TS-365TS	4'-8⅛ 4'-10½ 5'-1⅝ 5'-1⅞	25 13/16	3'-8½ 4'-3½	18	5	8	14 1/16	24 3/16	1⅞	6	4	400 lbs.