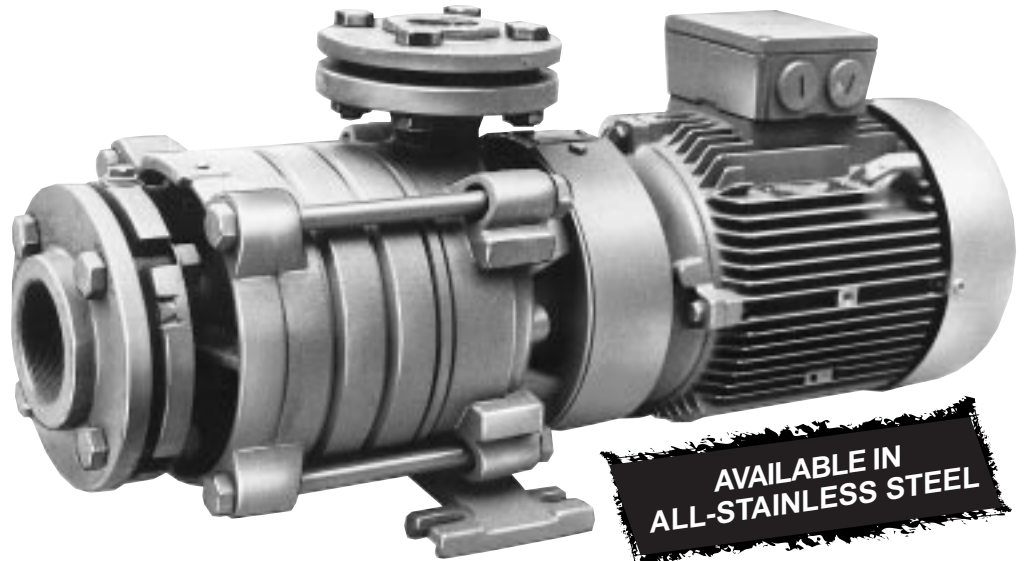


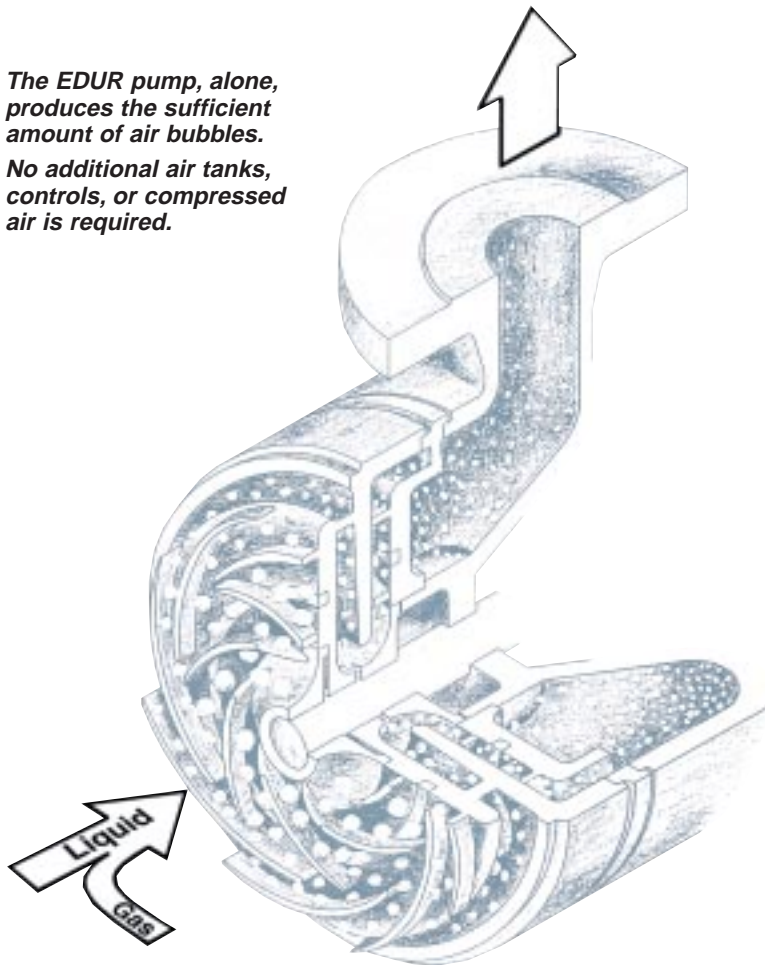


**INNOVATIVE
PUMP
TECHNOLOGY
FOR
DISSOLVED
AIR
FLOTATION**



**AVAILABLE IN
ALL-STAINLESS STEEL**

The EDUR pump, alone, produces the sufficient amount of air bubbles. No additional air tanks, controls, or compressed air is required.



Application

The EDUR dissolved air flotation (DAF) pump is a very effective way to separate suspended solids and emulsified oils from industrial waste streams. Microscopic air bubbles are produced and mixed with waste water containing the suspended contaminants. The small bubbles attach themselves to the suspended particles, which gives them a net positive buoyancy. These buoyant clusters of particles and bubbles rise smoothly to the surface forming a float which is removed by skimming.

Air and recycled "clean" effluent is introduced to the pump suction. The proportion of air/water is controlled through simple valves. Under pump discharge pressure this air effluent mixture becomes supersaturated with air microbubbles. This enriched stream is then recycled back into the dirty effluent and fed to the DAF unit. Up to 35% air can be achieved with 100% saturation and microbubble size smaller than 30 micron.

Design Features

For DAF applications, as specified above, EDUR pumps meet the following requirements:

- Long service life because of low wear caused by the inevitable contamination of liquids with solid particles. **Proper selection of materials of construction is critical.**
- Steady pumping characteristics even with changing points of operation.
- Sufficient blending of effluent and air to obtain maximum entrainment of air microbubbles @ 30 micron size.

Normal standard pumps are not able to meet these requirements. The hydraulic parts of EDUR pumps have been specially designed to cope with problems which arise when pumping effluent/air mixtures. The distinctive feature of the EDUR pump is the impeller, open on both sides, and the innovative hydraulic design of the impeller blades.

The following materials are available for construction of the EDUR DAF Pumps in the case of the following pH levels for the wastewater stream that you will be pumping:

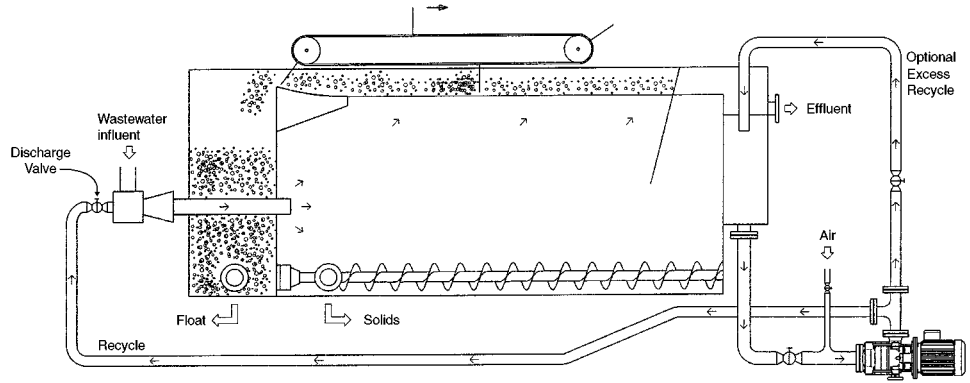
- pH value less than 3 Stainless Steel
- pH value 3 to 5.9 Bronze
- pH value 6 to 10 Gray Cast Iron
- pH value 11 to 14 Gray Cast Iron (all iron)

Design Features and Specifications

Built-in Economics and Efficiencies

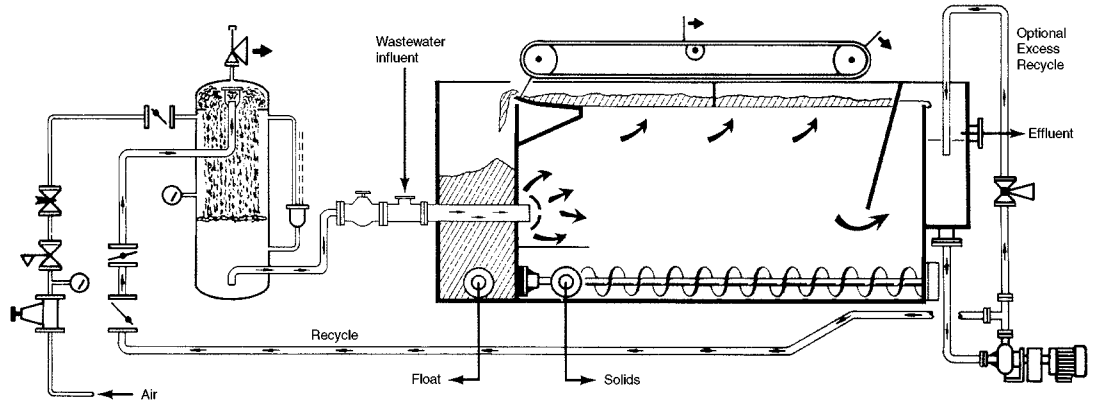
A DAF system with use of the EDUR DAF Pump providing air enriched recycle effluent.

A typical 100 GPM EDUR Recycle Pump provides 12% air with 93% saturation. Total Power: 10 HP.

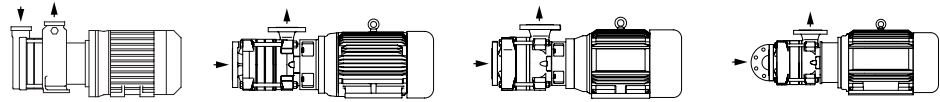


A typical DAF system available now. Note the required air tank and controls for providing air entrainment. This is all eliminated with the use of the EDUR DAF Pump.

Typical unit: 100 GPM recycle, 9% air at 80% entrainment. Total Power: 13 HP. (And you need 80 psi compressed air!)



Performance Specifications and Features



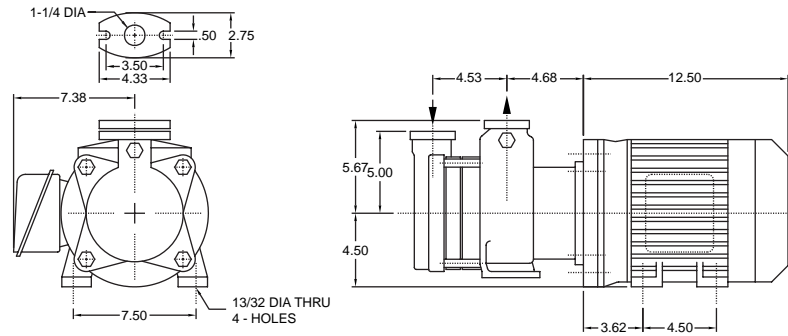
PUMP MODEL	EBX3U	LBUX403C120L	LBUX602C160L	LBUX602E162L
PERFORMANCE				
Flow	10 GPM	50 GPM	100 GPM	220 GPM
Pressure	100 PSI	100 PSI	100 PSI	100 PSI
Air Entrainment	12%	12%	12%	12%
Bubble Size	30 Micron	30 Micron	30 Micron	30 Micron
MOTOR				
Power Absorbed	2.3 Bhp	6.2 Bhp	12.8 Bhp	24.6 Bhp
Motor Power	3 Hp	10 Hp	20 Hp	30 Hp
Motor Speed	3500 RPM	3500 RPM	3500 RPM	3500 RPM
Motor Design NEMA C-Face	TEFC/230V	TEFC/460V	TEFC/460V	TEFC/460V
MATERIALS OF CONSTRUCTION				
Casing	Nodular CI	Nodular CI or 316 SS	Nodular CI or 316 SS	Nodular CI 316 SS
Impellers	Bronze or 316 SS	316 SS	316 SS	316 SS
Shaft	316 SS	316 SS	316 SS	316 SS
Mechanical Seal	SiC/SiC	SiC/SiC	SiC/SiC	SiC/SiC
FLANGES - NPT THREADED OR WELD-NECK				
Suction	1¼"/Top	2½"/End	3"/End	3"/End
Discharge	1¼"/Top	1½"/Top	2½"/Top	2½"/Top
Ratings: Suction/Discharge	150#/150# RF	150#/150# RF	150#/150# RF	150#/150# RF
UNIT WEIGHT				
Unit Weight with Motor	157 Pounds	270 Pounds	369 Pounds	554 Pounds

Note: All pumps can be supplied with companion flanges as an option. Companion flanges set includes: companion flanges, nuts, bolts and flange gaskets. Pump flanges manufactured to DIN standards. *Companion flanges are either NPT threaded or weld-neck.*

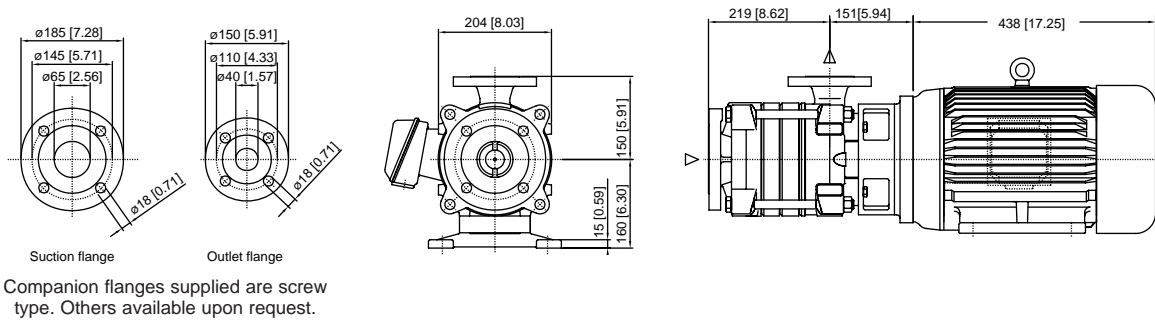
Other performances, designs and materials available upon request.

Pump Dimensions

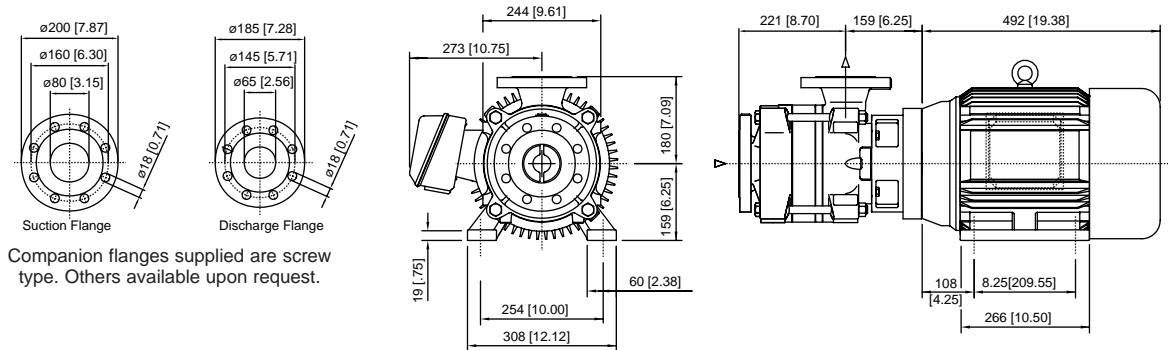
Model EBX3U (Unit Weight 157 Pounds)



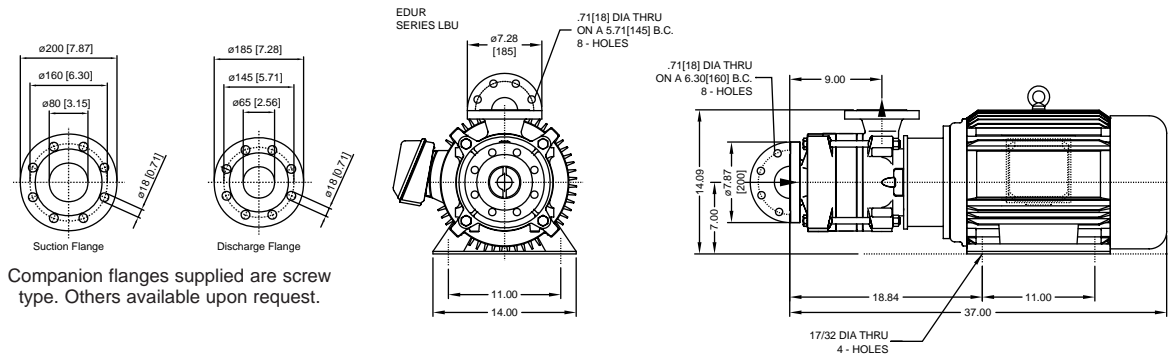
Model LBUX403C120L (Unit Weight 270 Pounds)



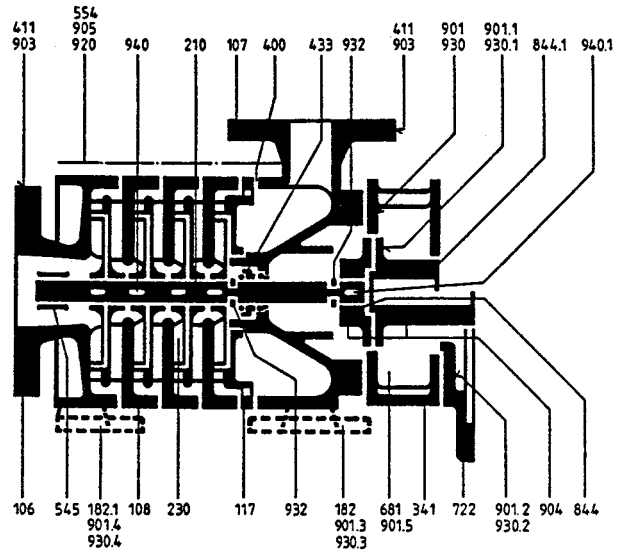
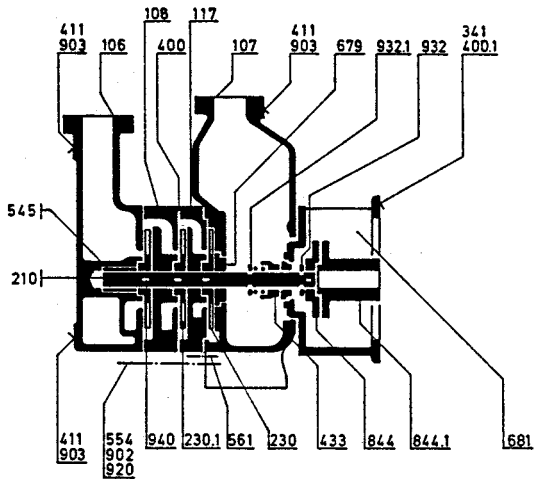
Model LBUX602C160L (Unit Weight 369 Pounds)



Model LBUX602E162L (Unit Weight 554 Pounds)



Sectional Drawings and Spare Parts Listings



EB

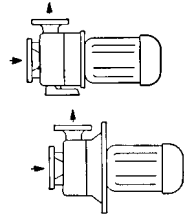
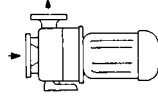
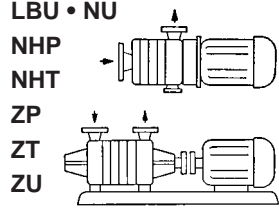
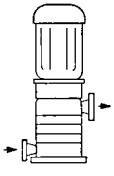
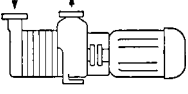
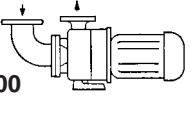
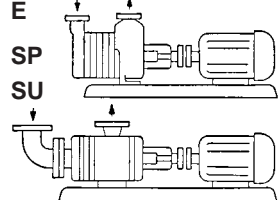
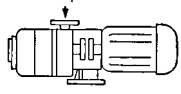
106 Suction casing	545 Bearing bushing
107 Discharge casing	554 Washer
108 Stage casing	561 Groove dowel pin
117 End stage casing	679 Nozzel plate
210 Shaft	681 Coupling guard
230 Impeller	844 Coupling half
230.1 Impeller	844.1 Coupling half
320 Ball bearing	902 Stud
341 Lantern	903 Screwed plug
350 Bearing housing	920 Nut
360 Bearing cover	932 Circlip
400 Gasket	932.1 Circlip
400.1 Gasket	940.1 Key
400.2 Gasket	
411 Joint ring	
433 Mechanical seal	
451 Stuffing box housing	
461 Gland packing	

LBU

106 Suction Casing	901 Hexagon screw
107 Discharge casing	901.1 Hexagon screw
108 Stage casing	901.2 Hexagon screw
117 End stage casing	901.3 Hexagon screw
182 Foot	901.4 Hexagon screw
182.1 Foot	901.5 Hexagon screw
210 Shaft	903 Screwed plug
230 Impeller	904 Hexagon socket set screw
341 Lantern	905 Tie bolt
400 Gasket	920 Nut
411 Joint ring	930 Lock washer
433 Mechanical seal	930.1 Lock washer
545 Bearing bushing	930.2 Lock washer
554 Washer	930.3 Lock washer
681 Coupling guard	930.4 Lock washer
722 Intermediate flange	932 Circlip
844 Coupling half	940 Key
844.1 Coupling half	940.1 Key

When ordering spare parts, kindly indicate the model number of the EDUR Pump, serial number, and the part numbers as well.

A Complete Pump Series Manufacturing Program

	Non-selfpriming Centrifugal Pumps unit-construction		Non-selfpriming Centrifugal Pumps	
	 <p>NUB NUBF CB</p>	 <p>FUB CBF</p>	 <p>LBU • NU NHP NHT ZP ZT ZU</p>	 <p>VBU VP VT</p>
Rate of Flow	≤ 350 m ³ /h, 1600 GPM	≤ 140 m ³ /h, 660 GPM	≤ 500 m ³ /h, 2200 GPM	≤ 500 m ³ /h, 2200 GPM
Head	≤ 55 m, 180 FT	≤ 38 m, 126 FT	≤ 400 m, 1330 FT	≤ 280 m, 932 FT
Pressure Range	≤ 12 bar, 175 PSI	≤ 12 bar, 175 PSI	≤ 40 bar, 580 PSI	≤ 30 bar, 435 PSI
Temperature	-40°C up to +140°C (285°F)	-40°C up to +140°C (285°F)	-60°C up to +160°C (320°F)	-60°C up to +140°C (285°F)
Shaft Sealing	Mechanical seal	Mechanical seal	Gland packing Mechanical seal	Gland packing Mechanical seal
	<p>Singlestage close-coupled centrifugal pump. By means of common pump and motor shaft optimal reliability of operation. High compatibility with air infested liquids. Limited selfpriming capability. NUB with mounting foot. NUBF with mounting flange for direct installation inside tanks.</p>	<p>Singlestage close-coupled torque flow pump. By means of common pump and motor shaft optimal reliability of operation. For liquids with high contamination. Clog-free transport of liquids containing fibrous or abrasive solids.</p>	<p>Singlestage and multistage ring section horizontal centrifugal pumps. Reliability of operation by means of positive alignment of pump and motor. Heavy-duty cast iron construction for rugged industrial service. High efficiencies.</p>	<p>Singlestage and multistage centrifugal pumps. Vertical mounting arrangement. Reliability of service by means of positive centering pump and motor. Heavy-duty cast iron construction for rugged industrial service. High efficiencies.</p>
	Selfpriming Centrifugal Pumps unit-construction		Selfpriming Centrifugal Pumps	
	 <p>EB</p>	 <p>SUB 700</p>	 <p>E SP SU</p>	 <p>GS ZS EF</p>
Rate of Flow	≤ 7 m ³ /h, 33 GPM	≤ 170 m ³ /h, 800 GPM	≤ 300 m ³ /h, 1350 GPM	≤ 500 m ³ /h, 300 CU FT/Min
Head	≤ 130 m, 432 FT	≤ 46 m, 160 FT	≤ 160 m, 530 FT	28" Hg, 49 TORR, 33 mBAR
Pressure Range	≤ 15 bar, 230 PSI	≤ 12 bar, 175 PSI	≤ 18 bar, 261 PSI	— 45 PSI
Temperature	-25°C up to +230°F (110°C)	-25°C up to +230°F (110°C)	-60°C up to +230°F (110°C)	— 200°F
Shaft Sealing	Mechanical seal	Mechanical seal	Gland packing Mechanical seal	Mechanical seal
	<p>Singlestage and multistage horizontal ring section centrifugal pumps. Reliability of operation due to positive alignment of pump and motor. Selfpriming capability by means of liquid/air mixture formation. Robust against signs of wear. Flow sustained with high share of air inclusions.</p>	<p>Horizontal centrifugal pump single stage in compact design. By means of common pump and motor shaft optimal reliability of operation. Selfpriming capability by means of liquid/air mixture formation. The bend fitted to the suction flange retains the auxiliary liquid during stop.</p>	<p>Singlestage and multistage horizontal ring section centrifugal pumps. Pump and motor on common baseplate. Selfpriming capability by means of liquid/air mixture formation type by means of an integrated jet pump. Sustained pump operation even with share of air inclusions.</p>	<p>Singlestage and double-stage horizontal close-coupled vacuum pumps. Reliability of operation by means of positive alignment of pump and motor. Maintenance-free construction without control elements susceptible to failure. Minimum cooling water requirement- oil free.</p>

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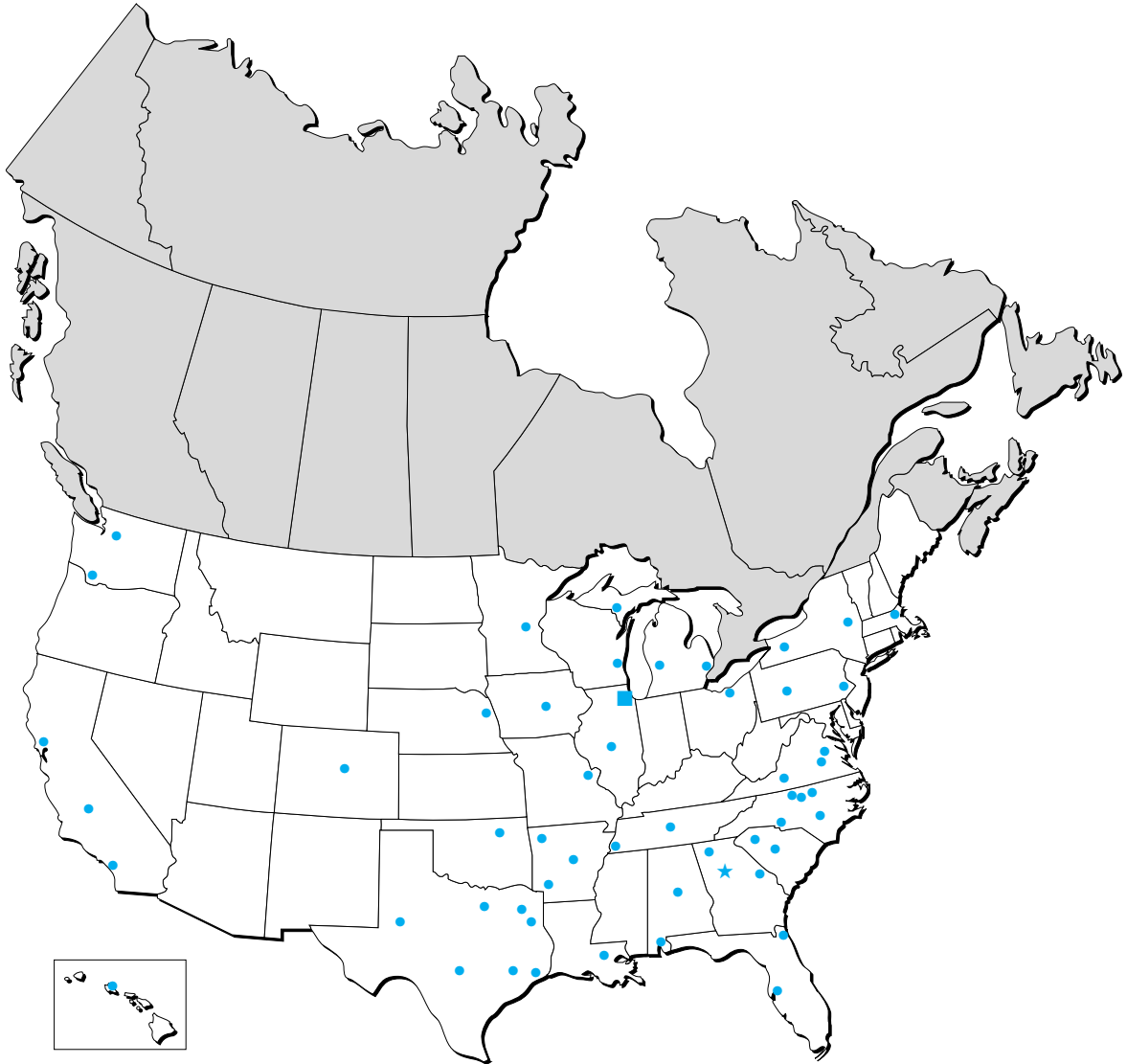
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