

HORIZONTAL
& VERTICAL
CENTRIFUGAL
PUMPS
AODD
PUMPS
PULSATION
DAMPENERS
SELF-PRIMING
PUMPS
SUBMERSIBLE
PUMPS

METALLIC
NON-METALLIC
COMPOSITE
MATERIALS

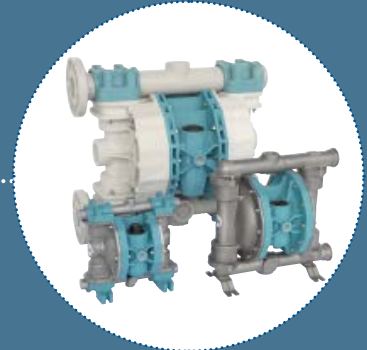
PRODUCTION
PROGRAM



SINCE 1975

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QUALITY EXPERIENCE INNOVATION SINCE 1975

ARGAL® boasts forty years of activity in the invention and production of pumps made of thermoplastic material, compounds and corrosion-resistant metal alloys. During the past decade, significant efforts were directed to research and development on the entire production and such an effort resulted in pump ranges entirely new or renovated both regarding mechanics and hydraulics systems.

The mission of **ARGAL®** is continuous and constant technological improvement, along the path of innovation instead of emulation, with the aim to offer always the best technical performance and engineering obtaining the leadership in performance while providing appropriate responses to the needs of market dynamics always realizing a “State-of-the-art? quality.

During ACHEMA exhibition of 2015, anticipating all competitors, the company has revealed two important world news, in fact, thanks to the experience gained in the field of Fibreglass, it developed the first double diaphragm pumps and the first range of submersible pumps made of this material.

Today the company has an extensive range of pumps in various constructions for industrial applications requiring temperatures ranging from -40° C to +120°C, with load capacities up to 1700 m³/h-head over the 100 m.

All is certified ISO 9001:2000 according to Vision ISO 9001:2000 rule. We strongly want to offer a wide production program with high-quality pumps ranges and competitive prices.



CONTENTS

MATERIALS

PP Polypropylene	E-CTFE Ethylene-Chloro Trifluoro Ethylene	UPPE Ultra High Molecular Weight Polyethylene	U-PVC Polyvinyl Chloride	
PVDF Polyvinylidene Fluoride	PTFE Poly Tetra Fluoro Ethylene	POMc Polyoxymethylene	FRP Fiberglass	
HC HastelloyC	Alu Aluminium	DX Alloy Duplex	AISI 316 L Stainless Steel (low Carbon)	AISI 316 Stainless Steel

TECHNOLOGY

Seal-less magnetic drive	Sealed	Self-priming	Submersible
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TEMPERATURES

CERTIFICATION/WARRANTY

Atex	Food and Drug Administration COMPLIANT
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WARRANTY

12 months	24 months	60 months
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SERIES

1 = TECHNOLOGY

T	Seal-less magnetic drive
Z	Sealed

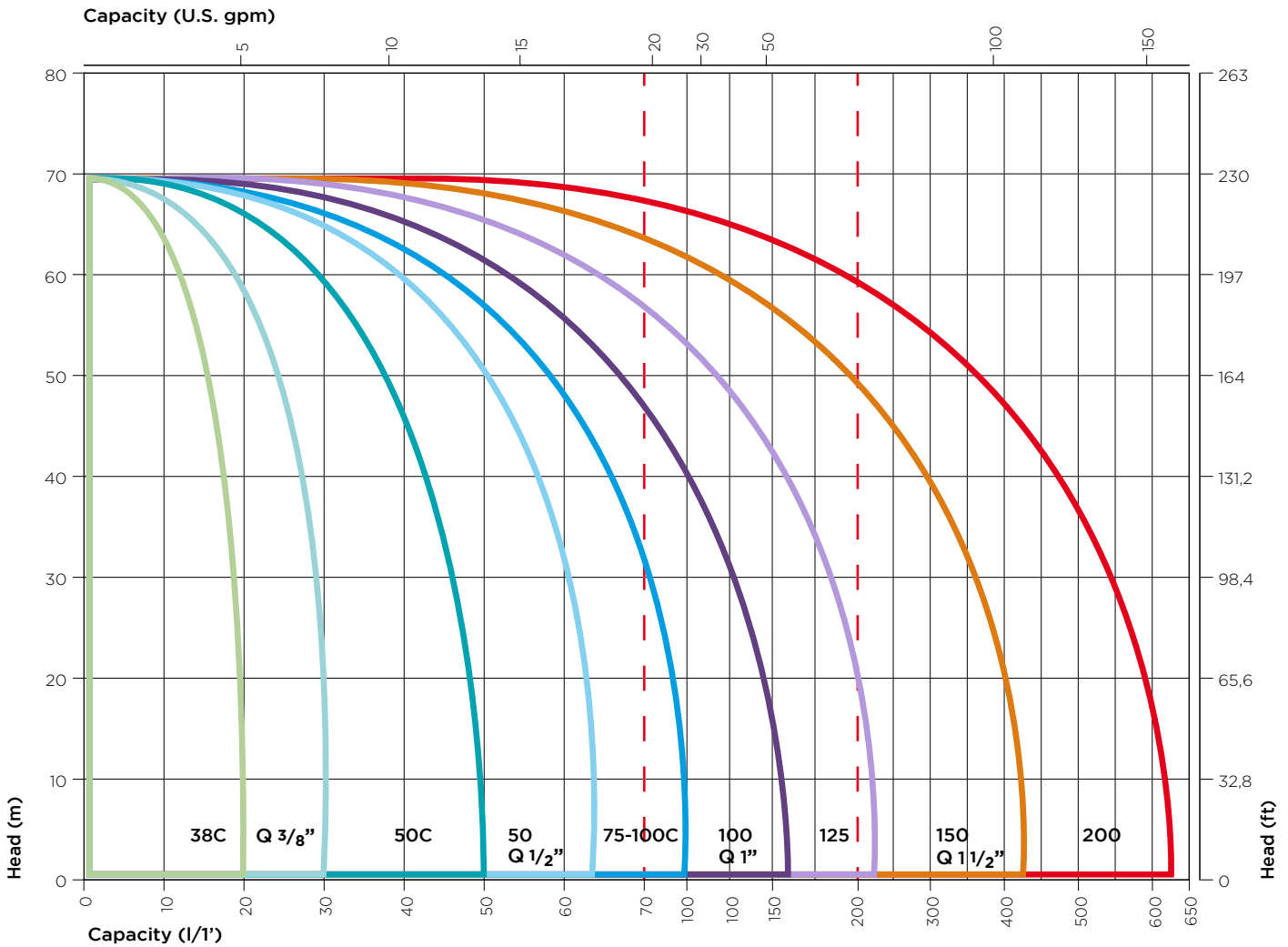
2 = CONSTRUCTION

M	Monoblock
G	Long-coupled

3 = RANGE NAME

“P”	rima
“S”	aturn

ARGAL® with the production programme of pneumatic pumps actuated by compressed air is one of the leading European manufacturers of these machines, from vast fields of application and all types of liquids with low, medium and high viscosity and various densities, from chemically inert to very corrosive, up to food. As with all Argal products, from the very beginning, the primary focus of the company was to design them with technique and innovation skills to be able to meet the challenges of the market. So, in 2015, a new business division was created: **“ARGALAIR”** for the continuous development of volumetric pumps with **ARGAL®** internal design and manufacturing.



ATEX: All standard work, both plastic and metal, are suitable to operate in explosive atmospheres which, according to the ATEX standard, is classified as **“Zone 2”** (Series II 3/3GD C IIB T 135°C). For applications of ATEX pumps in **“Zone 1”** (Series II 2/2gd IIB T 135°C) **ARGAL®** manufactures pumps with bodies and other “conductive” parts for all plastic and metal versions.

AIRCUBE - QUANTUM



The latest addition is a new range of double diaphragm pumps, not traditionally configured, with the special cube shape, obtained using pure high-performance thermoplastic polymers semi-finished products and the PTFE (poly tetra fluoroethylene) and fluoride-PTFE polymer with precision machining. These pumps are compared to the ASTRA ones, but actually they are a further evolution for functional innovation, structural and constructive compactness of various components of the pump. They also ensure a more solid and precise execution when compared to what you can get from other manufacturers? of injection molded pumps.

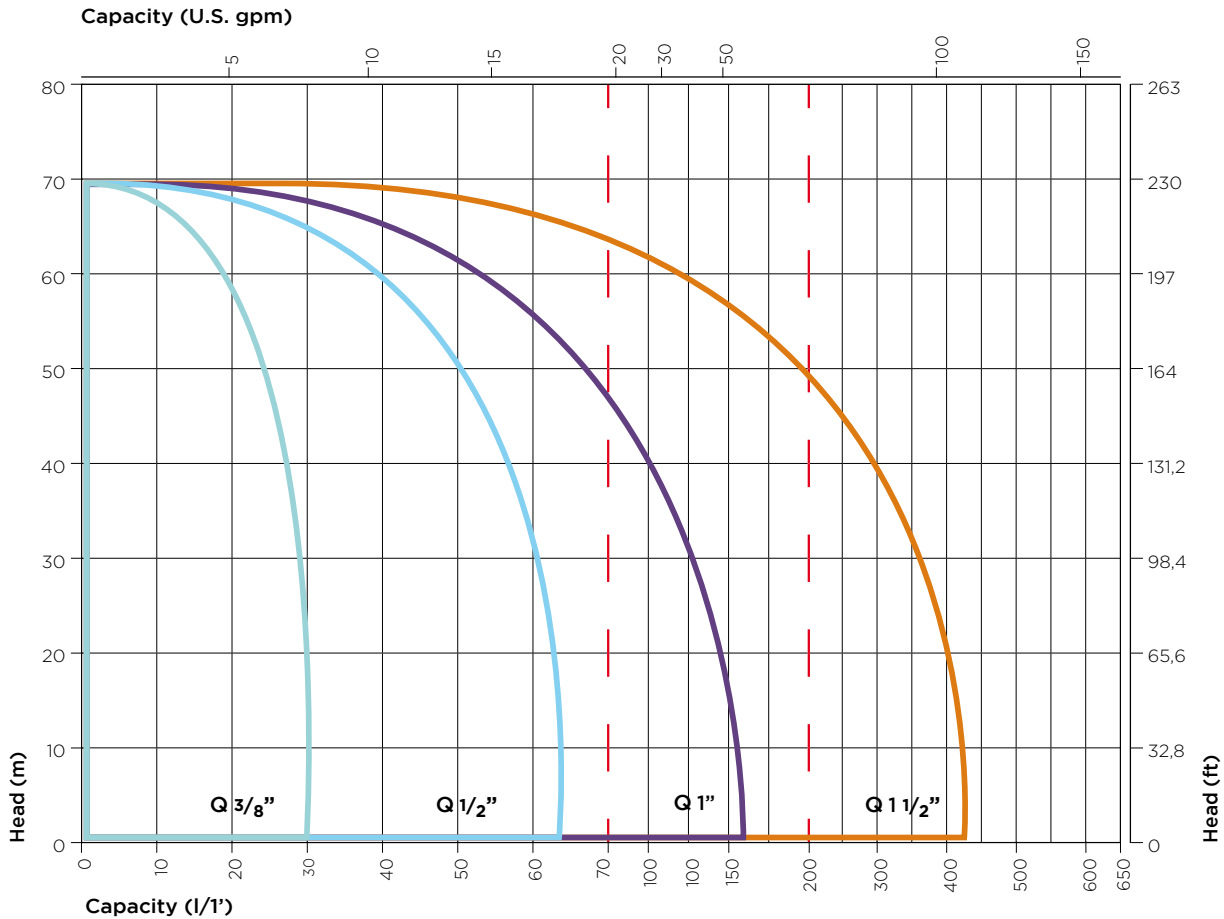
Currently, they are available in sizes 3/8", 1/2", 1", 1 1/2" but they will be further enriched by other sizes and metallic executions to complete the range of our offer.



Port size: 3/8" - 1/2" - 1" - 1 1/2"

Wetted Section • Temperatures:

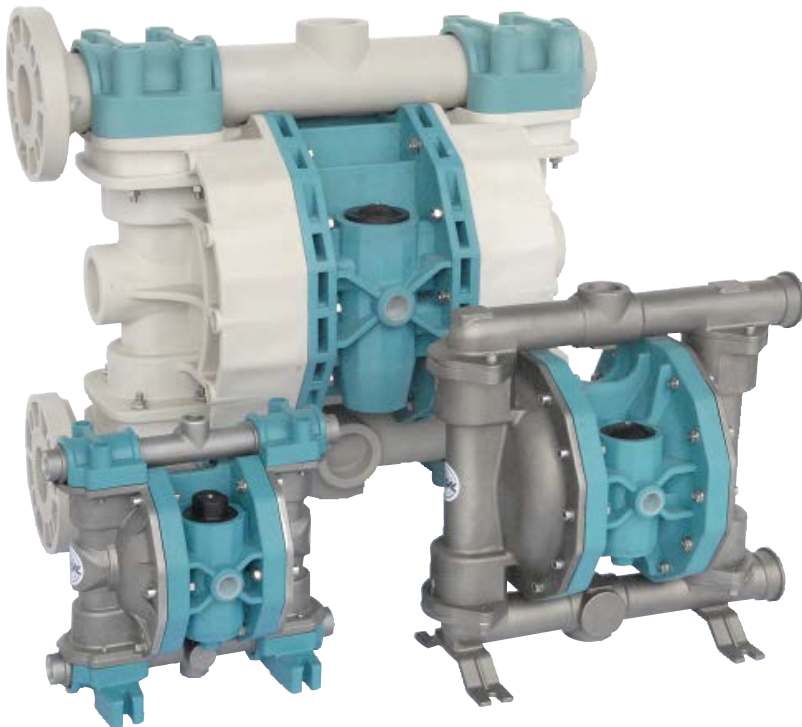
			(PTFE diaphragms)	
				(NBR, EPDM, SANTOPRENE diaphragms)





RANGE ASTRA

It is a series of two-chamber volumetric pumps of traditional design, made in sizes from 1/4" up to 2", both in plastic polymers and in aluminium or stainless steel. All executions, both plastic or metal, are suitable to operate in explosive atmospheres according to the ATEX standard.



ASTRA DDA 50 - 75 - 100 - 125 - 150 - 200

These pumps are available in 2 versions: "Normal" and "Progress". Both versions are designed and set to obtain the following variants: connected drains, detection of pumping cycle with sensor having features as per corresponding standard, operation under very low pressure with power supply circuit of membranes separate from the control circuit, pneumatic position signal of membranes, external power adapter, submersible pump configuration.

"Progress" Version. All pump models can be equipped with a Distribution Valve with "Performance Regulator", consisting of a regulator that can be adjusted to different positions, assigning the pump itself a performance limit. This regulator allows a perfect functional balance especially operating with complex fluids (high viscosity and solid content in suspension), with consequent reduction of air consumption, significant energy savings and increased performance.

Port size: 1/2" - 3/4" - 1" - 1 1/4" - 1 1/2" - 2"

Wetted Section • Temperatures:

PP			
PVDF			(PTFE diaphragms) (NBR, EPDM, SANTOPRENE diaphragms)
AISI 316			(PTFE diaphragms) (NBR, EPDM, SANTOPRENE diaphragms)
Alu			

ASTRA COMPACT DDA 38C - 50C - 100C

These pump size has a high demand from the market and **ARGAL**® wants to offer a perfectly calibrated modern pump that has great quality, high performance, and complete internal fittings.



Port size: 3/8" - 1/2" - 1"
Wetted Section • Temperatures:

- PP
- PVDF

(PTFE diaphragms)
(NBR, EPDM, SANTOPRENE diaphragms)
- POMc

(PTFE diaphragms)
(NBR, EPDM, SANTOPRENE diaphragms)
- AISI 316

(PTFE diaphragms)
(NBR, EPDM, SANTOPRENE diaphragms)

SANTOPRENE® is a registered trademark of Exxon Mobil Corp.



ASTRAFOOD DFA 50 - 75 - 125 - 150 - 200



The **ASTRAFOOD** range can be used for handling and pumping products for the food industry and related industries. They comply with FDA, with the parts in contact with the fluid made of AISI 316 electro-polished with 125 Ra finish and PTFE, both certified for food usage.

Clamp Port size: 1" - 1 1/2" - 2" - 2 1/2"
Capacity: from 5 to 650 l/1'
Max dry suction lift: 6 m
Max solids handling: from 3,5 mm to 8,5 mm
Max viscosity: from 10 000 a 50 000 cP
Wetted Section • Temperatures:

- AISI 316 (electro polished)

SELENE AND ZEFIRO PULSATION DAMPENERS



The pneumatic pulsation dampeners built by **ARGAL**® grew thanks to a new technology that allow minimizing the pulse effect of the flow. They are "active" and do not require adjustments or pre-loading since they automatically adapt to the curve of the fluid. They feature a damping capacity up to 90%. They come in both plastic resins, in metal and stainless alloys.

Port size: 3/4" - 1" - 1 1/2" - 2"
Wetted Section • Temperatures:

- PP
- PVDF
- POMc
- AISI 316



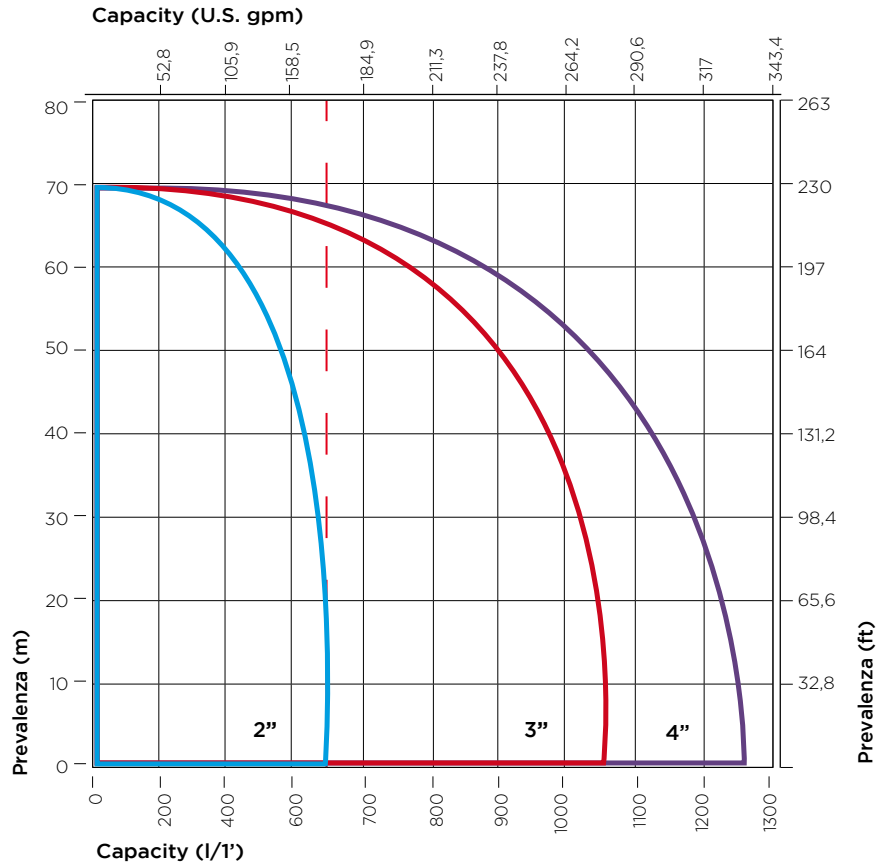
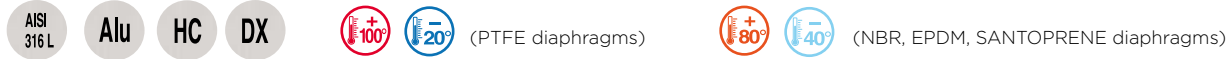
MISTRAL



The range of double diaphragm pumps was expanded with the Mistral and Sirocco series, available in large sizes, 2", 3" and 4", respectively in various stainless metal alloys and a special self-extinguishing polyester resin (FRP).

Port size: 2" - 3" - 4"

Wetted Section • Temperatures:



AIRSATURN



"COMPOSITE MATERIALS PNEUMATIC PUMPS: THE WORLD'S FIRST AND ONLY".

The main functional features and peculiarities of pneumatic pumps and the main applications are widespread and generally known. But a concrete and efficient proposal of big-sized pneumatic pumps made of non-metallic material was lacking. Some Competitors offer 3? pumps made of plastic with the limitations inherent in the physical-mechanical nature of thermoplastic resins used. To overcome them we must resort to metal alloys set with new limits: **ARGAL® PUMPS IN COMPOSITES**, are proposed as the synthesis solution and/or alternative.

Port size: 3" - 4"

Wetted Section • Temperatures:



AIRCRONO



Compressed metering pump for high viscosity liquids, totally pneumatic-powered version with pneumatic timer or electric version with solenoid valve mounted on-board of the pump. It comes with timer as standards or it can be connected to a remote pneumatic control. The pneumatic version works with compressed air, it does not require electrical connections. Built with materials particularly resistant to chemical attack. The AIRCRONO offer versatility in uses, from chemical dosing to that of food and pharmaceutical products.



- Capacity:** 3/ 2/ 0,032 cc/cycle, maximum 100 cycles/1'
- Air supply max pressure:** 7 bar
- Pressure ratio:** 1 : 4,5
- Max dry suction lift:** 6 m
- Max viscosity:** up to 100'000 cP
- Port size:** asp. 1/4", discharge 1/8"
- Wetted Section •** Temperatures:



AIRDRUM - PNEUMATIC DOSING PUMP (PISTON and BELLOW)



This type of pumps should not be confused with the power operated on the market, since they are completely pneumatic. They serve primarily to meet the needs of dosing high and very high viscosity fluids with degrees of abrasion too. They are made in different high-performance thermoplastic polymers and metal and stainless work. They can be operated both externally and completely immersed in fluids.

- Max capacities l/h:** 27 - 54 - 200 - 600
- Max dry suction lift:** from 3,5 up to 7 m
- Max viscosity:** up to 300'000 cP
- Port size: intake/discharge:** 1"
- Wetted Section •** Temperatures:



AIRDRAIN - PNEUMATIC BELLOW PUMPS



These pneumatic pumps, small-sized, are suitable to operate in particularly difficult environments, and that require the greatest safety degree. They can work under the water, with the ability to run dry. The pumped fluids can be viscous and with suspended solids.

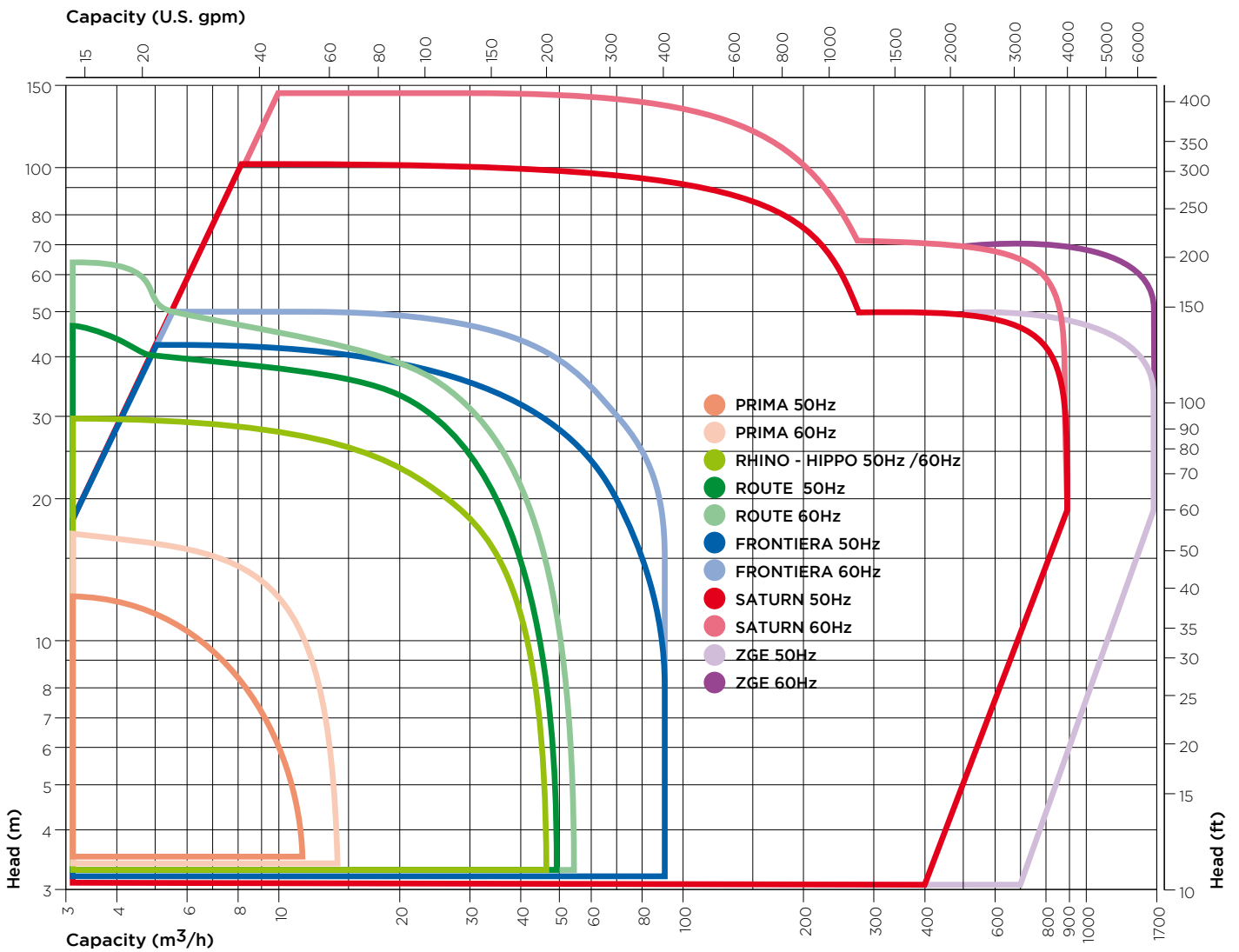
- Capacity:** up to 20 l/1'
- Max pressure:** 8 bar
- Max dry suction lift:** 6 m
- Max viscosity:** up to 10'000 cP
- Wetted Section •** Temperatures:



HORIZONTAL CENTRIFUGAL PUMPS

The “chemical pumps” with horizontal axis by **ARGAL®** boast the following important features:

- Pump liquids with a specific gravity ranging between 1 and 2 kg/cm³ without having to reduce performance but by installing adequate horsepower engines;
- the use of E-CTFE such as fluoropolymer that offers a chemical resistance unparalleled when compared to any injection moulded polymer;
- up to 90 mc/h flow rate delivered by either magnetic drive pumps or mechanical sealed pumps;
- The close coupled pumps process executions have stayed an additional bearing to support those of the electric motor;
- All equipment, including monobloc ones, involve the use of standardized electric motors.





BASIS TMB

Small magnetic drive pumps that come in 5 models with threaded or hose connection. The small size, low noise, and the total absence of sealing components make its application ideal and safe in any special equipment and environment.

Capacity: up to 70l/1'
Construction: Monoblock
Motor powers: W 15 ÷ 100
Wetted Section • Temperatures:



(only TMB35 model)



PRIMA TMP



Magnetic drive pumps constructed with reinforced thermoplastic or fluorinated polymers and internal components made of ceramic oxides and carbon graphite excluding any metal part in contact with the pumped liquid. The combinations of materials, including the one that tolerates a temporary dry operation, **ATEX** construction and various electric motor power rates available, actually make these devices full-fledged small chemical pumps.

Capacity: up to 12 m³/h
Construction: Monoblock
Motor powers: kW 0,18 ÷ 1,1
Wetted Section • Temperatures:



RANGE ROUTE



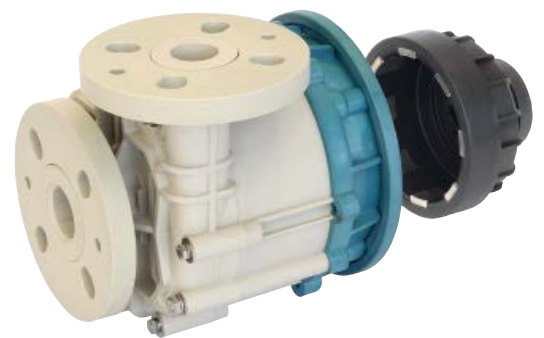
This series of thermoplastic or fluorinated polymers chemical pumps is available in both magnetic drive setting and mechanical seal for pumping various chemical liquids even if laden with impurities and suspended solids. Mainly by the quantity and quality of these, you can choose the setting that better suits you. A patented system for dry running without damage is available for the magnetic drive version.



Patent video



The magnetic drive pump features the patented “bi-directional axial self-alignment system” which allows, for the “R” configuration, the dry running. The combination of adequate materials of the driving system of the impeller with a specific magnetic field wholly eliminate all frontal frictions that are the cause of breakage when dry running. It is possible to couple standard motors without disassembling the pump.



Capacity: up to 50 m³/h
Construction: Monoblock
Motor powers: kW 0,25 ÷ 11
Wetted Section • Temperatures:

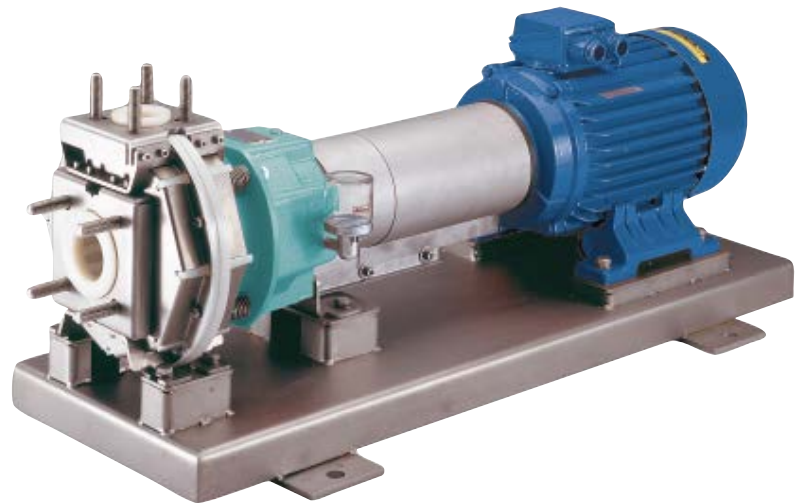


RANGE FRONTIERA



Chemical centrifugal pumps of **standardized process ISO 2858**, made of pure thermoplastics and fluoropolymers, with various solutions to solve the pumping of chemicals in their many applications. Innovation with the use of stainless steel surface areas instead of cast iron: casings, joint cover and base. The materials used and the pump housings are identical for the entire project "Frontiera", while interior settings and type of motor connection are different. The pumps can be magnetic driven or with mechanical seal. The coupling of the pump to the motor can be accomplished by mechanical support and flexible removable coupling (for back-pull out operation) or self-centring flanged for monobloc construction.

Capacity: up to 90 m³/h
Construction: Monoblock or Long-coupled
Motor powers: kW 0,55 ÷ 15
Wetted Section • Temperatures:

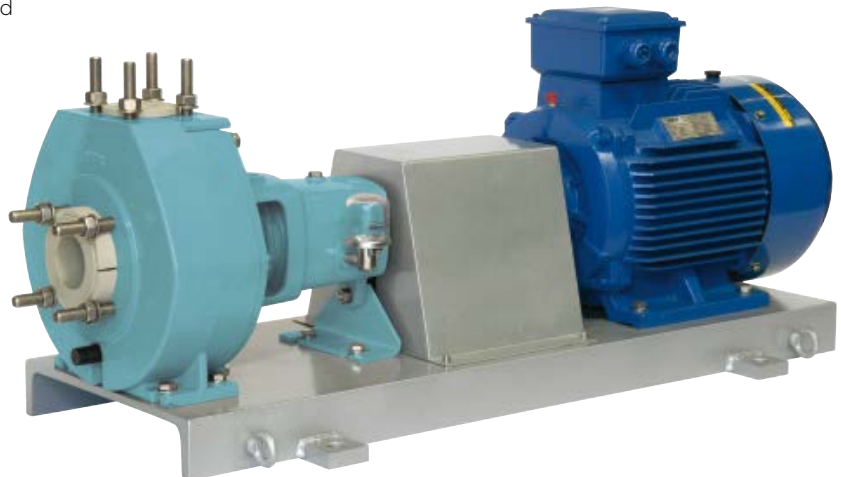


RANGE ZGE



A wide and comprehensive range of process chemical centrifugal pumps made of pure thermoplastics and fluoropolymers, they are sized according to ISO 2858 and can be supplied bare shaft or complete with base and coupling with spacer (for back-pull out operation), they normalized too. The pump bodies are extremely rugged, machined from solid thermoplastic with outer metal casing.

Capacity: up to 1700 m³/h
Construction: Monoblock or Long-coupled
Motor powers: kW 0,55 ÷ 200
Wetted Section • Temperatures:





RANGE SATURN

Argal, with SATURN process pumps made from composites of thermosetting resins of high mechanical resistance, dimensional stability and excellent chemical resistance, will implement a more comprehensive and effective response to the various requirements of pumping of corrosive fluids in industrial processes, from the applications in waste water treatment, up to those using sea water. These pumps are made in accordance with ANSI/ASME B73.1, in versions with mechanical support, base and coupling to the motor and monobloc with the pump directly flanged to the engine, with specific support bearing.

- Capacity:** up to 900 m³/h
- Construction:** Monoblock or Long-coupled
- Motor powers:** kW 3 ÷ 160
- Wetted Section •** Temperatures:



SATURN SUB

SUBMERSIBLE PUMPS



Vinylester thermosetting resin submersible pumps with high mechanical resistance, dimensional stability and excellent chemical resistance. Electric motor completely in stainless steel AISI 316 I or better alloys. Used in pumping corrosive fluids of industrial processes, wastewater treatment, seawater applications.

- Capacity:** up to 900 m³/h
- Construction:** Monoblock
- Motor powers:** kW 3 ÷ 80
- Motor materials:** AISI 316L, Duplex, Hastelloy, Coated cast iron
- Wetted Section •** Temperatures:



SELF-PRIMING PUMPS

The “vertical pumps” by **ARGAL**® boast the following important features:

- pumping liquids with a specific gravity ranging between 1 and 2 Kg/cm³ without reducing performance by installing electric motors of increased power;
- in magnetic versions, the use of E-CTFE such as fluoropolymer that offers an unparalleled chemical resistance when compared to other injection moulded polymers;
- monobloc pumps with standardized electric motors.



ELK



Peripheral magnetic drive self/priming pump particularly suitable for suction and delivery of chemical liquids with very rapid priming times. It is reversible, so by reversing the direction of rotation, the flow direction of fluids to be transferred is reversed.

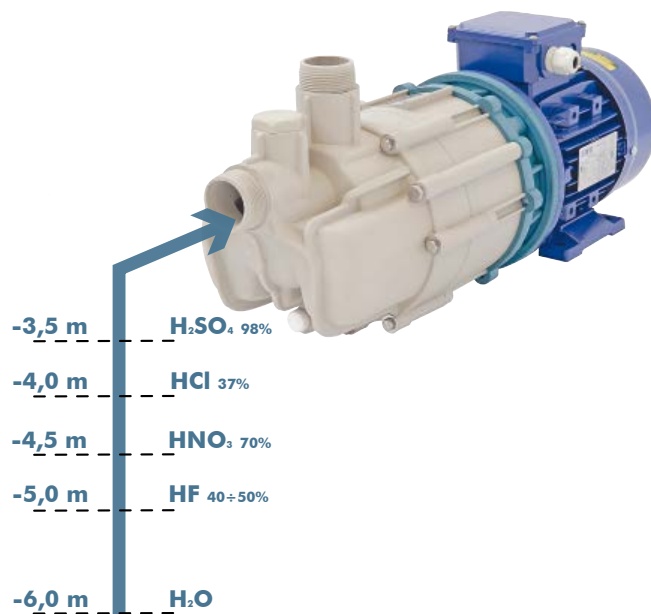
- Capacity:** up to 40 l/1'
- Construction:** Monoblock
- Motor powers:** kW 0,55 ÷ 1,1
- Wetted Section • Temperatures:**



RHINO



It is an original magnetic drive self-priming pump born from the study of R&D Department of **ARGAL®** and for which the company has filed an international patent application, still pending. You can define it as a "magnetic drive bi-phase self-priming radial turbo pump" and is produced in both thermoplastic and a fluorinated polymer having the same maximum chemical resistance. Because of the particular construction, this pump can operate with higher suction levels and with reduced fluid self-priming times compared to traditional self-priming centrifugal pumps. The primary purpose of the invention is to provide a self-priming pump with bi-phase impeller to prime both high-density fluids both with high vapour pressure.



Capacity: up to 17 m³/h
Construction: Monoblock
Motor powers: kW 2,2 ÷ 4
Wetted Section • Temperatures:



HIPPO



Chemical fluid pumps, self-priming without foot valve and trailered. Versions with fluxed single or double mechanical seals. Self-priming depth depending on the nature of the fluids (specific gravity, vapour pressure) with a maximum of 5 m. The building is with an open impeller and is suitable for handling liquids with suspended solid particles.

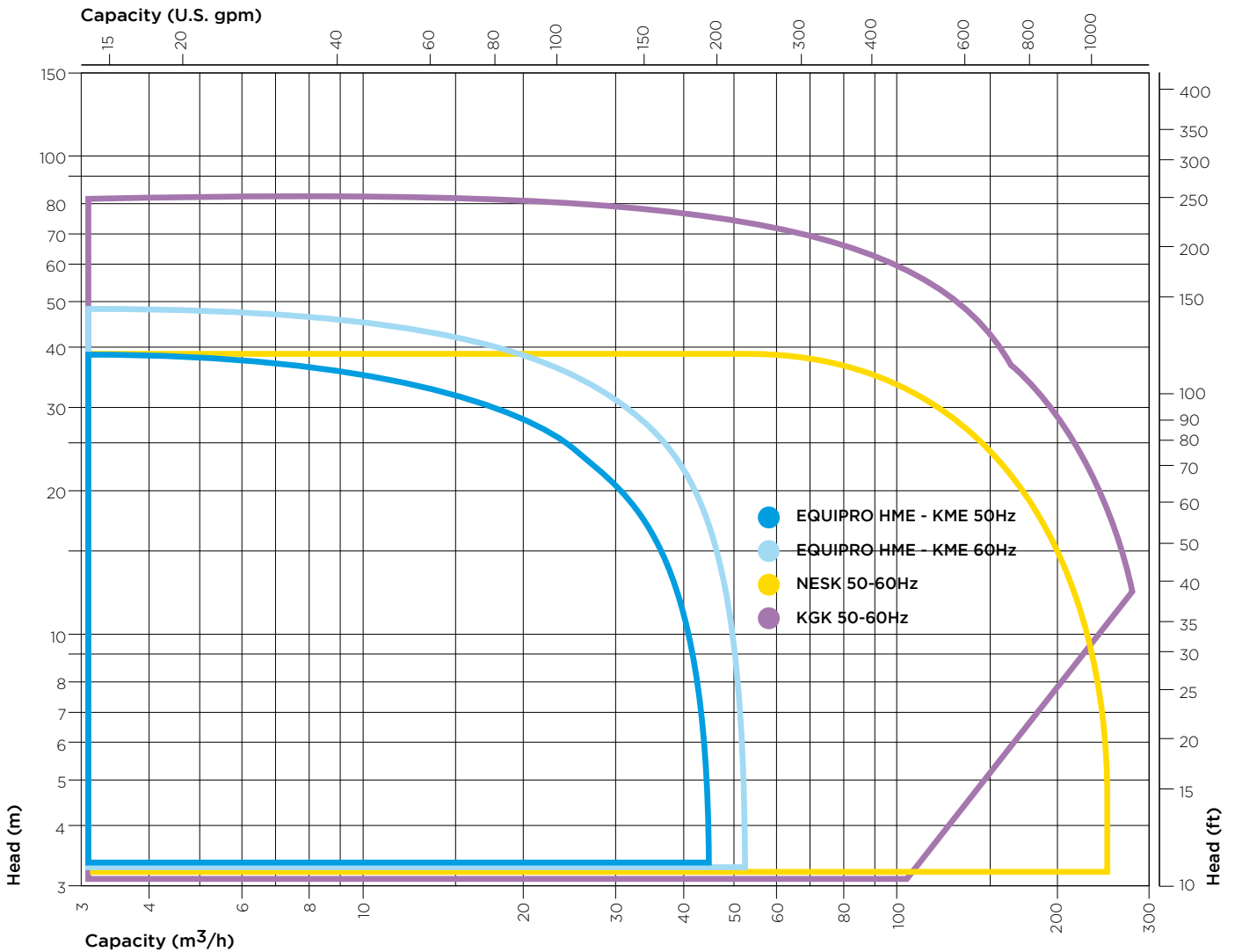
Capacity: up to 50 m³/h
Construction: Monoblock
Motor powers: kW 0,55 ÷ 7,5
Wetted Section • Temperatures:



HANDLING SUMP PUMPS

The “vertical pumps” by **ARGAL**® boast the following important features:

- Pump liquids with a specific gravity ranging between 1 and 2 kg/cm³ reducing performance by installing electric motor of adequate power rating;
- combinations of immersed bushing to guide the shaft in anti-abrasion materials;
- effective vapour sealing systems to protect mechanical parts;
- pump column reinforced with FRP (polyester resin and glass fibre) for strength and elongation containment;
- exclusive use of standardized electric motors also for monobloc constructions.





RANGE EQUIPRO HME



Vertical centrifugal monobloc pumps, ideally suited to pump solutions with solids in suspension because of cantilever shaft, absence of wet wearing components and vapour dry seal. They can be installed with casing and column plunged into the liquid or outside the tank. Standard lengths of floats: 275 mm and 450 mm. Design foresees the use of motors with increasing power rating to cope with liquids with high specific weight.

Capacity: up to 50 m³/h

Motor powers: kW 0,25 ÷ 7,5

Wetted sections: • Temperature:



(to be reduced as function of column length)



(to be reduced as function of column length)



RANGE EQUIPRO KME



The KME are vertical axis pumps, monobloc, with column and casing body immersed. Their lengths are between 600 and 1500 mm. and have a terminal guide of the shaft, close to the pump whose sliding bearings are made from Ceramic Oxides and Silicon Carbide. To protect the mechanical components an effective dry operating vapour seal system is made. Worthy of note is the generalised application of IEC standardized motors.

Capacity: up to 50 m³/h

Motor powers: kW 0,55 ÷ 11

Wetted sections: • Temperature:



(to be reduced as function of column length)



(to be reduced as function of column length)





RANGE KGK



Argal pumps series KGK are centrifugal, to be mounted vertically, with column and pump body completely immersed, independent mechanical support and external electric motor, above of liquid level. Pump lengths are between 500 and 4000 mm, no metal part is in contact with the fluid and no nuts and bolts immersed.

Shaft's guide bushings made of ceramic and Silicon Carbide for pumping liquids with solid and average abrasives can be lubricated with liquid from outside source. Various types of seal systems are provided: dry vapours or with rotating mechanical seal for protecting from corrosion the upper metallic components.

- Capacity:** up to 275 m³/h
- Motor powers:** kW 0,55 ÷ 45
- Wetted Section:** PP - PVDF
- Material of submerged parts • Temperatures:**

PP	↑ +70° (to be reduce as function of column length)	↓ -0°
PP + FRP	↑ +70°	↓ -0°
PVDF	↑ +90° (to be reduce as function of column length)	↓ -10°
PVDF + FRP	↑ +90°	↓ -10°

GAMMA NESK



The range consists of vertical shaft pumps for installation outside of the tank for transfer or recirculation of large volumes of corrosive fluids. They can be fitted with various types of seals: mechanical, simple or double flushed and innovative is the semi-axial flow system generated by the profiles of the impellers and pump casings conformation.

- Capacity:** up to 275 m³/h
- Motor powers:** kW 4 ÷ 45
- Wetted Section • Temperatures:**

PP	↑ +70°	↓ -5°
E-CTFE	↑ +90°	↓ -20°



Agriculture and Biogas



Food and Dairy



Beverages and Liquids



Paper Mills



Ceramic



Chemical and Petrochemical



Adhesives



Paints & Coatings



Tanning and Textiles



Cosmetics



Purification and water treatment



Building



Enology



Explosives



Pharmaceutical



Galvanic



Inks and Printing



Lubricants



Metallurgical



Mining



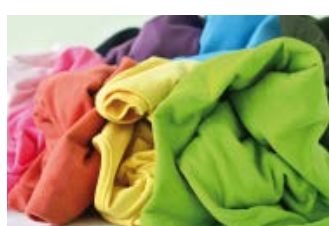
Naval



Resins



Dry Cleaners and Laundries



Sugar factories





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