

fluimac[®]
p u m p s o l u t i o n



PHOENIX

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS

Made in
Italy

www.fluimac.com

ENGLISH 

fluimac
pump solution



MAIN FEATURES

Fluimac is an original, young and dynamic company built in 2012 for a new concept of product. It is specialized in providing pump solutions with an innovative and continuously developing design of range. The huge experience, knowledge and efficiency of its team is the starting point of its own business. Fluimac stands out for its reliable and prompt technical support and assistance. The internal research and development department ensures the proficiency of its team, which constantly grows in order to satisfy all the customers' needs. The company keeps up with the constant evolution of the national and international market and its quality control guarantees innovative and certificated products, which respect current legal standards. The organization of the warehouse and the assembly/testing department, allows the company to offer short delivery times, immediate check of availability, speedy shipments and fast service assistance. The policy of Fluimac relies also on excellent customer service and a network of efficient, reliable distributors who ensure willingness, quality and technical support. This makes Fluimac a high quality company, grounded in excellence.

FLUIMAC'S CERTIFICATES



CE CONFORMITY MARKING



ATEX



ISO 9001:2015



FDA COMPLIANT



EAC CONFORMITY MARKING

PRODUCTS

RANGE

CERTIFICATES

Air operated double diaphragm pumps have long been recognized as the most flexible pumps of the industry for handling difficult liquids at relatively low pressures and flows. The range of applications is virtually limitless. Fluimac AODD pumps come in many sizes and choices of materials of construction. Almost every type of liquid from highly corrosive acids through high viscosity paints and adhesives, to food and drink products can be pumped.



PHOENIX

Air operated double diaphragm pumps
Realized in:
PP, PVDF, ALUMINIUM, SS AISI 316, POMc
Flow-rate from 7 lt/min to 1.000 lt/min. Connection from 1/4" to 3".



PHOENIX FOOD

Air operated double diaphragms pumps
Realized in:
SS AISI 316 electro-polished.
Flow-rate from 20 lt/min to 1.000 lt/min. Tri-Clamp Connection.



PHOENIX ATEX

Air operated double diaphragms pumps, ATEX certified for zone1.
Realized in:
PP+CF, PVDF+CF, ALUMINIUM, SS AISI 316, POMc+CF
Flow-rate from 7 lt/min to 1.000 lt/min. Connection from 1/4" to 3".



ACCURATE PHOENIX

Double diaphragm pumps with remote control
Realized in:
PP, PVDF, ALUMINIUM, SS AISI 316, POMc
Flow-rate from 7 lt/min to 250 lt/min. Connection from 1/4" to 1 1/4".



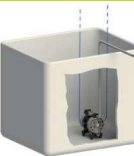
DRUM PHOENIX

Air operated double diaphragms pumps with special features to empty drums and tanks
Realized in:
PP, PVDF, ALUMINIUM, SS AISI 316, POMc
Flow-rate from 20 lt/min to 170 lt/min. Connection from 3/8" to 1".



TWIN PHOENIX

Air operated double diaphragms pumps with special features with double inlet/outlet
Realized in:
PP, PVDF, ALUMINIUM, SS AISI 316, POMc
Flow-rate from 7 lt/min to 700 lt/min. Connection from 1/4" to 2".



SUBMERSIBLE PHOENIX

Air operated double diaphragm pumps with special features, design to be submerged.
Applicable to all size of pumps.



POWDER PHOENIX

Air operated double diaphragms pump with special design to handle powder
Realized in: ALU, SS.
Size available 1 1/2 and 2".

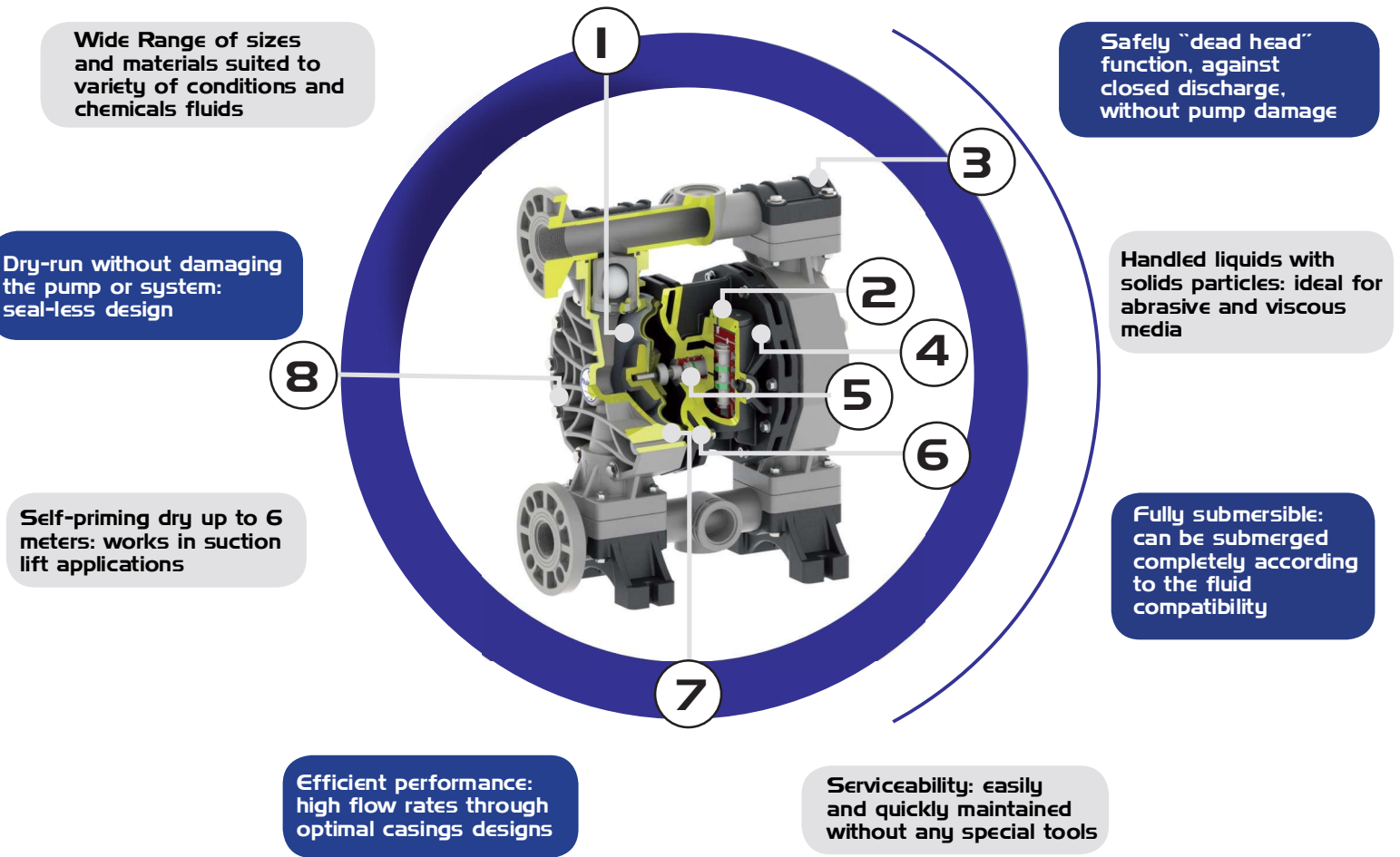


DAMPER

Pneumatic, automatic pulsation dampeners.
Realized in:
PP, PVDF, ALUMINIUM, SS AISI 316, POMc
Applicable to all size of pumps.
Available also in ATEX and FOOD version.



TECHNICAL FEATURES



| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|--|--|--|---|---|--|---|
| Long-lasting diaphragm construction ensures a consistent performance and a longer operating life. | Efficient air distribution design: low air consumption. Un-balanced pilot spool, precisely controls positioning of the main power spool to eliminate stalling and increase efficiency. | All bolted design for an effective sealing to extended leak-proof service. | Solid polypropylene air chambers and plastic air valve for maximum chemical resistance in highly corrosive environments. | Acetalic shuttle ensures long valve life, auto-lubricated material. | Pneumatic exchanger is easily externally accessible for a quick inspection. Special Air system: lube-free, non-stall, non-freeze. | Special pinch clamping, design to minimize wear and increase life of the diaphragm, and provides a uniform seal to avoid leak. | Special exhaust chamber with double silencer to expand diffusion passages, reduce the icing and assure low noise level. |

QUALITY 100% wet tested after final assembly: deadheading, priming and sealing

SAFE ATEX certifications in all versions: Conductive plastic pumps available

FLEXIBILITY Multiple porting options available along with interface options

PUMP OPERATION



○ Fluid
○ Air

Suction Cycle

1

Compressed air fills right inner chamber, causing the opposing diaphragm to create suction, lifting the lower valve ball, pulling in fluid at inlet. Simultaneously, the right chamber is in "Discharge" cycle.

Discharge Cycle

2

Compressed air fills left inner chamber, causing upper valve ball to open and discharge fluid. Simultaneously, the right chamber is in "Suction" cycle.

INSTALLATION



Pump installed below head (positive suction)

when it is necessary to empty completely the container

Self priming pump installed above head (negative suction)

pump initially works with dry column without problem

Pump installed above drum or tank

with special featuring pump

Pump installed on hopper for high viscosity liquid

hopper's height helps the pump to treat the fluid. Air pressure has to be high, Suction tube has to be bigger than pump's size

Submerged pump

it is necessary to check the chemical compatibility

Suspended

special version with fixing feet also in the upper part, for ceiling fixing

Pump installed on a mobile unit

with a trolley or cart when pump must be often moved

P

0160

P-

HT

T

MODEL

SIZE

CASING

DIAPHRAGM

BALL

P
PHOENIX



PF
PHOENIX FOOD



AP
ACCURATE
PHOENIX



TP
TWIN PHOENIX



PP
POWDER PHOENIX



SP
SUBMERSIBLE
PHOENIX



7 - 7 lt/min

18 - 20 lt/min

30 - 35 lt/min

55 - 55 lt/min

60 - 65 lt/min

90 - 100 lt/min

120 - 120 lt/min

170 - 170 lt/min

252 - 250 lt/min

400 - 380 lt/min

700 - 700 lt/min

1000 - 1050 lt/min



P
POLYPROPYLENE
Wide chemical compatibility. General purpose. Reinforced with glass-fiber.



PC
CONDUCTIVE POLYPROPYLENE
Wide chemical compatibility. General purpose. Groundable.



KC
CONDUCTIVE PVDF
Strong chemical resistance to acids. High temperature resistance. Groundable.



O
ACETAL
Wide range of solvent and hydrocarbons resistance. Good level of abrasion resistance.



OC
CONDUCTIVE ACETAL
Wide range of solvent and hydrocarbons. Good level of abrasion resistance. Groundable.



A
ALUMINIUM
Wide range of solvent and hydrocarbons. Good level of abrasion resistance.



S
SS AISI 316
High level of corrosion and abrasion resistance.



S
SS - AISI 316 Electropolished
High level of corrosion and abrasion resistance. Phoenix Food.



N
NBR
Good for petroleum-based fluids, water, oils, hydrocarbons and MILD chemicals



D
EPDM
Good with caustic solutions, dilute acids, ketones and alcohols. Good abrasion resistance



T
PTFE
Widest chemical compatibility, extreme corrosion resistance, non-adhesive, high heat resistance.



H
HYTREL
Good low temperature properties. Good abrasion resistance.



M
SANTOPRENE
solutions and dilute acids.



N
NBR
Good for petroleum-based fluids, water, oils, hydrocarbons and MILD chemicals



D
EPDM
Good with caustic solutions, dilute acids, ketones and alcohols. Good abrasion resistance



T
PTFE
Widest chemical compatibility, extreme corrosion resistance, non-adhesive, high heat resistance.



S
SS
High level of corrosion and abrasion resistance. Good for viscous fluids.

P

V

1

-

AB

BALL SEAT

GASKET

CONNECTIONS

ATEX ZONE CERTIFICATION

PORTS



P
POLYPROPYLENE
Wide chemical compatibility.
General purpose.



K
PVDF
Strong chemical resistance to acids.
High temperature resistance.



A
ALUMINIUM
Wide range of solvent and hydrocarbons.
Good level of abrasion resistance.



S
SS
High level of corrosion and abrasion resistance.



Z
PE
With high molecular weight: High level of abrasion resistance



O
ACETAL
Wide range of solvent and hydrocarbons resistance. Good level of abrasion resistance.



V
VITON
High heat resistance.
Good resistance to aggressive chemicals and hydrocarbons.



N
NBR
Good for petroleum-based fluids, water, oils, hydrocarbons and MILD chemicals.



D
EPDM
Good with caustic solutions, dilute acids, ketones and alcohols.
Good abrasion resistance.



T
PTFE
Widest chemical compatibility, extreme corrosion resistance, non-adhesive, high heat resistance.

1
BSP THREADED

2
FLANGED

3
TRI-CLAMP
(PHOENIX FOOD)

5
NPT THREADED

6 - DIN 11851/3
(PHOENIX FOOD)



-
ATEX ZONE 2
EX II 3/3 GD h IIB T4

X
ATEX ZONE 1
EX II 2/2 GD h IIB T4

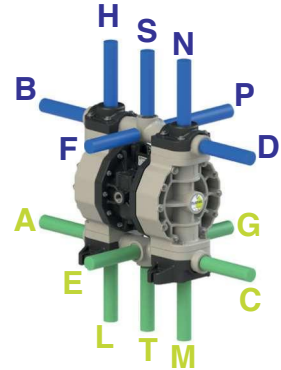


TABLE CODE

PUMP SELECTION

To select the right FLUIMAC pump for your application, the following factors should be considered to achieve economy of operation, long pump life, and minimal maintenance costs:

- The nature of the medium to be pumped, its viscosity, and the solids content
- Pumping capacity in relation to the desired output
- Suction and pressure conditions

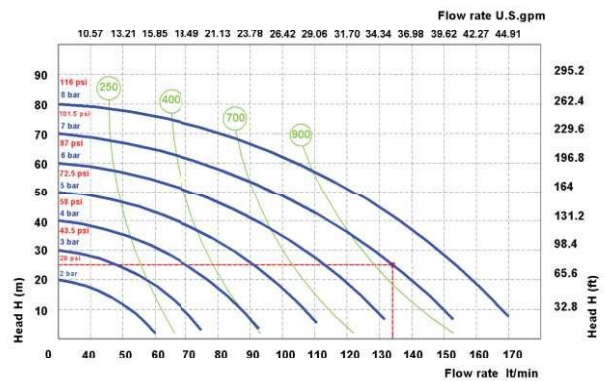
Considering these parameters, an optimal pump size is selected when the intersection of the intended installation “pressure vs. flow rate” is near the middle section of the curves.

USING PERFORMANCE CURVES

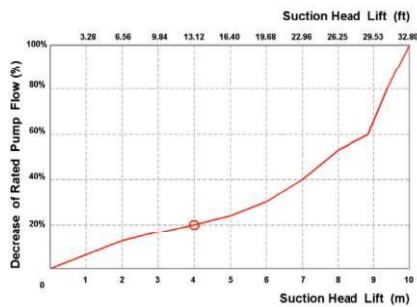
To determine compressed air requirements and proper size for a FLUIMAC AODD pump, two elements of information are required:

- 1 Required Flow Rate
- 2 Total Delivery Head

As an example, consider a P170 pump performance curve, pumping about 135 lt/min at 25m. Point A on the performance curve is where the desired Flow Rate and Total Delivery Head points intersect. This point determines compressed air requirements for the particular pump. At performance point A, the pump will require approximately 7 bar air inlet pressure. To arrive at this figure, follow the solid blue curve to the left to read the air pressure rating in BAR. By looking at the nearest green curve, it is determined the pump will require approximately 900 nl/min (Normal Liter per minute) of air consumption.

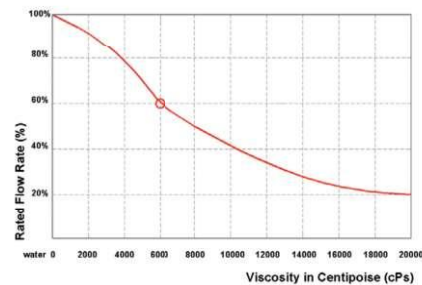


SPECIFIED SUCTION LIFT



With a suction lift of 4 m, pump rate decreases by approximately 20%. Valid for pumps 3/4" and larger; data varies with pump configuration.

VISCOUS LIQUIDS PERFORMANCE DATA



During the conveyance of a fluid with a viscosity of 6000cPs, the pump rate decreases to 60% of its rated value (100% = water). Valid for 3/4" pumps & larger.

| PUMP TYPE | AODD | CENTRIFUGAL | LOBE | GEAR | SCREW | PERISTALTIC | PISTON |
|------------------------------|------|-------------|------|------|-------|-------------|--------|
| Variable Flow & Head Control | ✓ | ✓ | ✓ | ✓ | ! | ✓ | ✓ |
| Deadhead Safely | ✓ | ! | ! | ! | ! | ! | ! |
| Dry-Running | ✓ | ✗ | ✗ | ✗ | ✗ | ✓ | ✗ |
| Dry Self-Priming | ✓ | ✗ | ✗ | ✓ | ✗ | ✓ | ! |
| No Mechanical Alignment | ✓ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| No Electrical Installation | ✓ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| Portability | ✓ | ✓ | ! | ! | ! | ✓ | ! |
| Submersible | ✓ | ! | ✗ | ✗ | ✗ | ✗ | ! |
| Sealless | ✓ | ! | ! | ! | ! | ! | ! |
| Cavitation Tolerance | ✓ | ✗ | ! | ! | ✓ | ✓ | ! |
| Low Shear & Degradation | ✓ | ✗ | ✓ | ✓ | ! | ✓ | ! |

✓ = Suitable ! = Limitations ✗ = Not Recommended



SPECIAL PUMPS

Air operated double diaphragms pumps
with special features:
PHOENIX ATEX certification zone I ATEX
ACCURATE PHOENIX remote control
DRUM PHOENIX to empty drums and tanks
TWIN PHOENIX with double inlet/outlet
POWDER PHOENIX to handle powder transferring
SUBMERSIBLE PHOENIX ready to be submerged directly into the fluid



POMc+CF



PP+CF



PVDF+CF



ALU



SS



SS FOOD



European ATEX Directive 94/9/CE

Ex II 2/2 GD h IIB T4

Ex Safety symbols: DIN 40012 Annex A

II Equipment Group: surface

2/2 Equipment category: 2 Level of protection - High level - Zone 1

GD Type of explosive atmospheres (group II) G = Gas vapours – D = Dust

h Equipment in protection mode “c”, or “b”, or “k”, in agreement with standard EN 80079-37

IIB Group of gas: IIB Ethylene. Exclusion of the following products: Hydrogen, acetylene, carbon disulphide.

T4 (T4) Temperature class (group II): Maximum surface temperature [°C] 135

PUMPS

ALL RANGE

MAIN APPLICATIONS

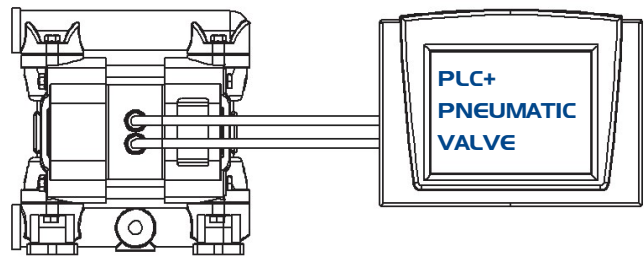
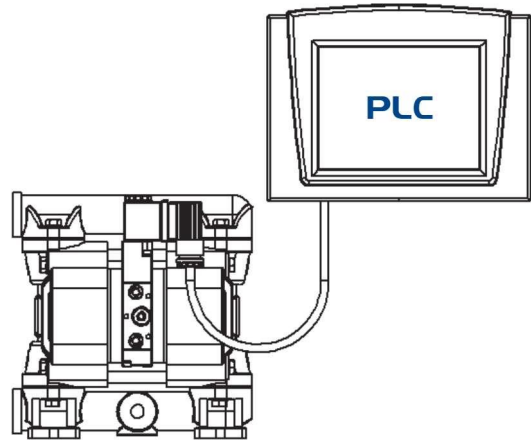
- Petrol-Chemical Industry
- Flexographic industry
- Food industry
- Painting industry
- Automotive industry

TECHNICAL DATA

Fluimac has filed with the BUREAU VERITAS certification body the documentation certifying ATEX compliance pursuant to Directive 94/9/CE for its ranges of AODD pumps and pulsation dampeners, with special construction materials to have zone 1 certification.



ACCURATE PHOENIX



PUMPS

AP7
AP18
AP30
AP60

AP90
AP120
AP170
AP252

MAIN APPLICATIONS

- CHEMICAL INDUSTRY
- WASTE DISPOSAL TECHNOLOGY
- FLEXOGRAPHIC INDUSTRY
- PAINTING INDUSTRY
- PRINTING INDUSTRY
- WATER TREATMENT

TECHNICAL DATA

ACCURATE PHOENIX are Pumps that give you the external pump control necessary for exacting applications such as batching. Featuring a direct electrical interface that utilizes electrical impulses to stroke the pump instead of differential pressure, the ACCURATE PHOENIX provides a variable stroke rate that you can easily control as needed.

Note: PLC and computer system not included.

DRUM PHOENIX

PUMPS

DP18 - DP30 - DP60 - DP120 - DP170

MAIN APPLICATIONS

- CHEMICAL INDUSTRY
- WASTE DISPOSAL TECHNOLOGY
- AUTOMOTIVE INDUSTRY
- FOOD INDUSTRY



TECHNICAL DATA

DRUM PHOENIX are designed for emptying drums and containers, and provide an economical and wear resistant alternative to other pumping systems. In order to handle a wide range of fluids, DP pumps are available in all materials. The pump can be quickly and easily mounted on the drum with its feet. The drum will be completely emptied with a suction pipe.

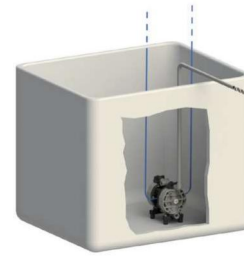
SUBMERSIBLE PHOENIX

PUMPS

ALL RANGE

MAIN APPLICATIONS

- CHEMICAL INDUSTRY
- WASTE DISPOSAL TECHNOLOGY
- FOOD INDUSTRY
- PETROL-CHEMICAL INDUSTRY



TECHNICAL DATA

SUBMERSIBLE pumps may be submerged into the liquid. It is important to make sure that all components which are in contact with the liquid are chemically compatible. The air exhaust must be led to the atmosphere by means of a hose.

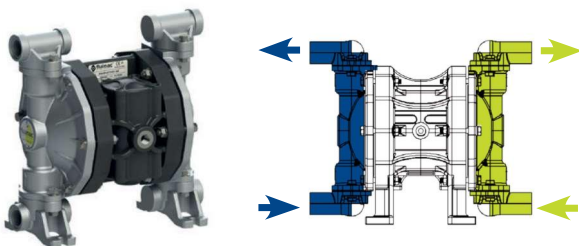
TWIN PHOENIX

PUMPS

ALL RANGE

MAIN APPLICATIONS

- PAINTING INDUSTRY
- WASTEWATER TECHNOLOGY
- PRINTING INDUSTRY
- PAPER PROCESSING
- FLEXOGRAPHIC INDUSTRY



TECHNICAL DATA

TWIN PHOENIX are mainly used in the textile and paper processing industry. These dual action pumps are able to transfer two different media independently and simultaneously. This is accomplished by using separate connections on the suction and discharge ports, keeping two pumped media isolated from each other, preventing unwanted mixing.

POWDER PHOENIX

PUMPS

PP400 - PP700 IN ALU AND SS

MAIN APPLICATIONS

- PAINTING INDUSTRY
- WASTEWATER TECHNOLOGY
- PRINTING INDUSTRY
- FOOD INDUSTRY
- CHEMICAL INDUSTRY



TECHNICAL DATA

POWDER pumps are designed to move bulk powders more effectively throughout your process vs. other unsafe and labor intensive means. These heavy duty pumps will consistently transfer fine-grained, low-bulk density dry powders in a dust-free operation.