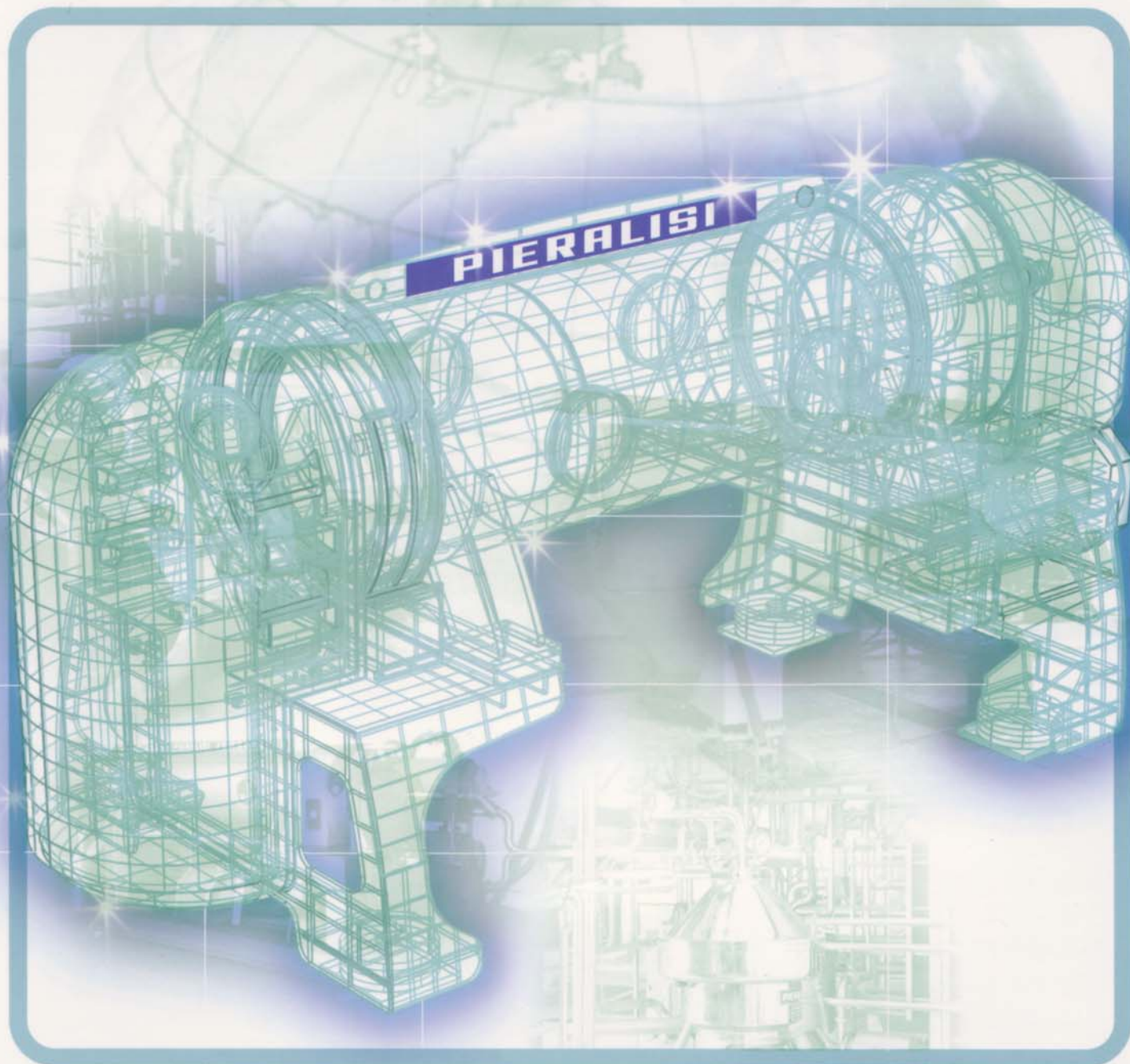


INDUSTRIAL DIVISION

CENTRIFUGAL EXTRACTORS  
for industrial use



GRUPPO

**PIERALISI**

## A LEADER IN CENTRIFUGATION

With its vast number and range of installations Peralisi is able to offer the full spectrum of centrifugation solutions available to meet production requirements and offer new solutions to industrial processes.

More than 35,000 Peralisi centrifuge installations are in operation worldwide in a wide variety of industrial fields. Centrifugal extractors (decanter), vertical centrifuges (separators), belt filter presses and filter centrifuges – Peralisi technology is available to solve any problem of clarifying, dewatering and separating with the safety and reliability derived from a progressive, innovative production.



being made to find new solutions to the many problems that arise, taking new approaches and anticipating future developments.



The aim of such activity is to generate new products, improve quality levels and reduce costs.

Peralisi's constant commitment to research is aimed at finding and developing new fields for the use of centrifuges, carrying out the necessary tests and monitoring the effectiveness of these new applications. The results have received wide recognition not only from the market, but also from top research institutes.

## RESEARCH - THE KEY TO GROWTH

Peralisi's business strategy is based on the constant commitment to research. Innovation is one of the foundation stones on which the group's strength lies. The group's dedication to this aspect is demonstrated by the efforts continually



## PRINCIPLES OF THE SEPARATION SYSTEM

The decanter is used for the separation of two or more phases of different specific gravity, in particular for the clarifying of liquids in which suspended solids are present. The separation of solids and liquids takes place within a cylindrical/conical rotating drum, upon the periphery of which the heavier solid phase collects and is continually removed by the internal conveyor.

A polyelectrolyte, suitably chosen for its type and specific characteristics, may be added to the product being fed to the machine in order to improve the solid-liquid separation. The polyelectrolyte favours the aggregation and thus the sedimentation of the solid

particles. A polyelectrolyte is not always compatible with products being processed. It is generally used in purification processes for the drying of sludge, but not in intermediate product conversion processes, and even less in the processing of foodstuffs.

The **ROTOVARIATOR** - an electronically programmable electro-mechanical system - is designed and manufactured by the Peralisi Group and patented worldwide for application on decanter centrifuges of the FP 600 and JUMBO series including already installed decanters.

The ROTOVARIATOR automatically adapts the differential speed between bowl

and conveyor to the process conditions and requirements:

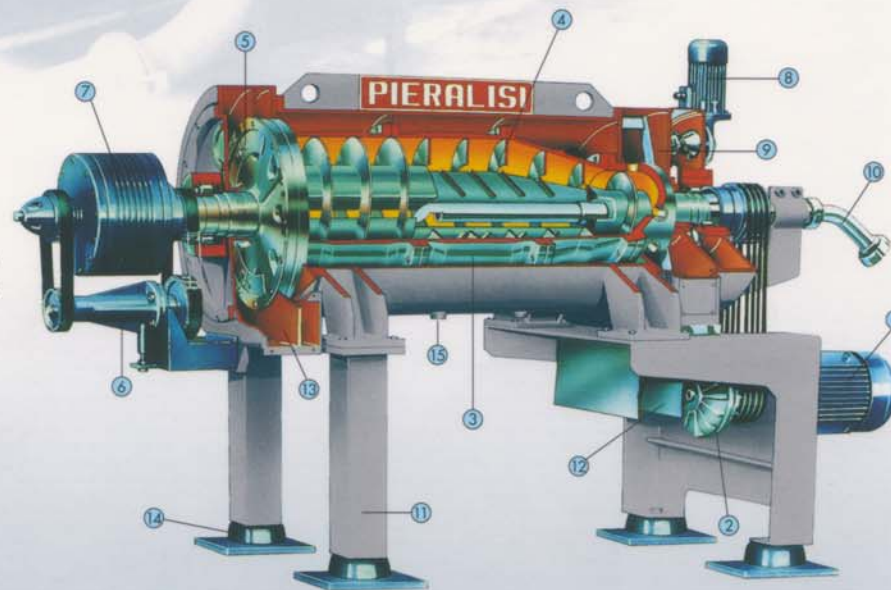
- maximum torque allowed on the reduction gear
- percentage of dry solids in feed flow
- percentage of dry solids required on dehydrated product
- required separation efficiency, thanks to a frequency converter in combination with an intelligent control system.



## CROSS SECTION OF THE CENTRIFUGAL EXTRACTOR

### Legenda:

1. Main motor
2. Hydraulic coupling
3. Bowl
4. Scroll, open type
5. Effluent weir plates
6. Rotovariator
7. Planetary reduction unit
8. Scraper motor (patented system)
9. Separate sediment scraper room (patented system)
10. Removable shuttle feed pipe
11. Studs (standard)
12. Cake discharge
13. Effluent discharge
14. Vibration dampers
15. Flushing drains



*All parts in contact with the product to be treated are made of stainless steel.*

## Optional variations for special applications of the decanters

- Automatic differential speed variation via Rotovariator - other systems on request
- Selection of optimum conveyor and bowl design
- Selection of product feedzone
- Conveyor and bowl in various stainless steels, incl. Duplex
- Wear protection incl. interchangeable sintered Tungsten Carbide segments
- 3-phase design
- Liquid discharge by pressure, centripetal pump
- CIP (Clean In Place) execution

## TECHNICAL SPECIFICATIONS OF CENTRIFUGAL EXTRACTORS

| Model                 | Main motor power kW | Drum diameter mm | Slender-ness ratio L/D | Drum revolution max rpm | Centrifugal force max x g | Hydraulic capacity l/h |
|-----------------------|---------------------|------------------|------------------------|-------------------------|---------------------------|------------------------|
| <b>BABY 1</b>         | 5,50                | 232              | 2,43                   | 5200                    | 3500                      | 2500                   |
| <b>BABY 2</b>         | 7,50                | 232              | 3,33                   | 5200                    | 3500                      | 4000                   |
| <b>FP600/M</b>        | 11                  | 353              | 2,62                   | 4100                    | 3300                      | 6000                   |
| <b>FP600 RS/M</b>     | 11                  | 353              | 3,48                   | 4100                    | 3300                      | 9000                   |
| <b>FP600 2RS/M</b>    | 15                  | 353              | 4,32                   | 4100                    | 3300                      | 12000                  |
| <b>JUMBO 1</b>        | 30                  | 470              | 2,51                   | 3350                    | 2950                      | 25000                  |
| <b>JUMBO 2</b>        | 37                  | 470              | 3,38                   | 3350                    | 2950                      | 35000                  |
| <b>JUMBO 3</b>        | 45                  | 470              | 4,25                   | 3350                    | 2950                      | 45000                  |
| <b>JUMBO 4</b>        | 45                  | 470              | 5,12                   | 3350                    | 2950                      | 55000                  |
| <b>HERCULES 470/2</b> | 45                  | 470              | 3,38                   | 3350                    | 2950                      | 35000                  |
| <b>HERCULES 470/3</b> | 52                  | 470              | 4,25                   | 3350                    | 2950                      | 45000                  |
| <b>HERCULES 470/4</b> | 52                  | 470              | 5,12                   | 3350                    | 2950                      | 55000                  |
| <b>MAMMOUTH</b>       | 75                  | 570              | 5,10                   | 2700                    | 2350                      | 85000                  |
| <b>GIANT 2</b>        | 75                  | 700              | 3,59                   | 2000                    | 1570                      | 110000                 |

NOTE: "Hercules" series decanters and Giant 2 are equipped with the Rotovariator system.

### FOR APPLICATIONS IN THE CHEMICAL-PHARMACEUTICAL INDUSTRY

|                  |     |     |      |      |      |
|------------------|-----|-----|------|------|------|
| <b>GIANT II</b>  | 110 | 735 | 3,20 | 2500 | 2500 |
| <b>GIANT III</b> | 132 | 800 | 2,90 | 2400 | 2500 |
| <b>GIANT IV</b>  | 160 | 880 | 3,10 | 2400 | 2500 |



GIANT III for applications in the chemical-pharmaceutical industry.

| Model                 | Total length mm | Total width mm | Total height mm |
|-----------------------|-----------------|----------------|-----------------|
| <b>BABY 1</b>         | 1700            | 785            | 1090            |
| <b>BABY 2</b>         | 1900            | 785            | 1090            |
| <b>FP600/M</b>        | 2250            | 1050           | 1400            |
| <b>FP600 RS/M</b>     | 2550            | 1050           | 1400            |
| <b>FP600 2RS/M</b>    | 3000            | 1050           | 1400            |
| <b>JUMBO 1</b>        | 3000            | 1470           | 1650            |
| <b>JUMBO 2</b>        | 3500            | 1470           | 1650            |
| <b>JUMBO 3</b>        | 3910            | 1470           | 1650            |
| <b>JUMBO 4</b>        | 4385            | 1470           | 1650            |
| <b>HERCULES 470/2</b> | 3380            | 1635           | 1720            |
| <b>HERCULES 470/3</b> | 3920            | 1635           | 1720            |
| <b>HERCULES 470/4</b> | 4330            | 1635           | 1720            |
| <b>MAMMOUTH</b>       | 5000            | 1750           | 2000            |
| <b>GIANT 2</b>        | 5200            | 2200*          | 2200            |
| <b>GIANT II</b>       | 5000            | 3000           | 1300            |
| <b>GIANT III</b>      | 5000            | 3000           | 1400            |
| <b>GIANT IV</b>       | 5500            | 3300           | 1500            |

\*3250 mm with stabilizers

# PIERALISI CENTRIFUGAL EXTRACTORS

## SOME APPLICATIONS OF PIERALISI CENTRIFUGES

### Chemical Industry

- Polyolefine, HDPE and PP
- PVC and EPS
- Calcium sulphate/sulphite
- Potassium sulphate
- Sodium sulphate/sulphite

### Pharmaceutical Industry,

### Biotechnology

- Fermentation broth

### Food industry

- Juice
- Starch
- Beer



### Dairy Industry

- Lactose
- Casein

### Wine Industry

- must and yeast



### Bioethanol

- Spent grain

### Bio-diesel production

### Bio-gas production

### Tar clarification

### Paint waste

### Steel works sludge

### Mining Industry

- Caoline
- Silicate
- Glimmer

### Plastic Industry

- Recovery
- Sewage

### Meat/Fat Industry

- Meat-bone suspension
- Fat clarification
- Blood

### Fat/Oil

- Vegetable oil
- Waste oil
- Residue fat
- Slop oil



### Water/Waste water, municipal and industrial

- Thickening waste activated sludge
- Dewatering of sludge
- Dry solids dewatering



Decanter centrifuge "Hercules" series.

## SOME EXAMPLES OF APPLICATIONS



Animal blood treatment



Sludges from depuration plants



Drilling mud recovery



Refinery slurries



Sugar beet wash water



Chemical-pharmaceutical industry



Distillery dregs



Pig manure

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