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Novel design of a continuous centrifugal and its operational benefits

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Novel design of a continuous centrifugal and its operational benefits: K3300

- **Optimized centrifugation concept**

- **Design features**

- **High degree of automation**

- **Long service life**
Optimized centrifugation concept (I)
2-stage basket

- Uniform sugar layer during main separation
- Optimized sugar quality
- Improved throughput or
- Reduced energy consumption: 25%, depending on massecuite quality
Optimized centrifugation concept (II) Turbo3 product distributor

- Simplified design: one unit
- Efficient heating reduces massecuite viscosity
- Optimized massecuite distribution
- Improves mother liquor separation
- Significant performance increase
Optimized centrifugation concept (II)
Turbo3 product distributor
Optimized centrifugation concept (III)
Split spray nozzle lance

- Selective wash water addition
- Optimized sugar quality
- Minimized crystal losses
Innovative design features
K3300 with dry discharging

Ball valves for water and steam distribution

Feeding device

Guiding blades

2 stage basket

Product distributor Turbo3

dry discharge facility
Innovative design features
K3300 with mixing / melting device

- Split spray nozzle lance
- Ring piping
- Product distributor
  Standard execution
- Mixing and melting device

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Operational experience (I)
High raw beet

Product:
- Massecuite: high raw beet
- Brix: 91.9
- Purity [%]: 87.8
- Melting medium Bx: 68

Conditions
- Temperature [°C/°F]: 75/167
- Current [A]: 120
- Water [% / massecuite]: 3.0
- Steam [% / massecuite]: 0.1

Results
- Throughput [t/h]: 40.9
- Dry sugar purity [%]: 98.14
- Color [420nm]: 833
- Brix of run off: 80.5
- Purity of run off [%]: 76.41
Operational experience (II)
Low raw cane

- **Product**
  - Massecuite: low raw cane
  - Brix: 95.2
  - Purity [%]: 59.5

- **Conditions**
  - Temperature [°C/°F]: 60/140
  - Current [A]: 150
  - Water [% / massecuite]: 8.4
  - Steam [% / massecuite]: 0.4

- **Results**
  - Throughput [t/h]: 18.9
  - Dry sugar purity [%]: 85.4
  - Brix of run off: 85.8
  - Purity of run off [%]: 41.3
Innovative Design Features (II)
Ball valves for water and steam supply

- **Safe & secure operation**
- **Enhanced wear-resistance**
Innovative Design Features (III)
Plug & Play

- Clearly arranged connections for water and steam supply
- Fast & easy installation
High degree of automation

Overview

- **Enhanced process reliability**
- **Very user-friendly**
- **Prewired unit**

![Diagram of a high degree of automation system with labels for local operating panel, electro-pneumatically operated valve, inductive flow meter, tension monitoring, vibration sensor, and other components.](image)
Long service life (I)
Intelligent screen arrangement

- Low maintenance
- Reduced shutdown time
- Fast & Easy replacement
- No special tools needed
Long service life (II)
New motor arrangement

- Easy inspection and adjustment of V-belts
- Enhanced longevity of V-belts
- Tension monitoring
Long service life (III)
Replacement of rubber buffers

- Considerably improved longevity
- Easy & quick replacement
Summary

Your solution when it comes to continuous centrifugation:

- **High throughput**
- **Excellent quality of separation**
- **Compact square design**
- **Long service life**
Thanks for your attention