AMCAL
INDUSTRIAL PUMP SOLUTIONS

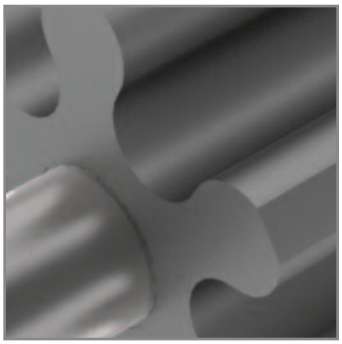
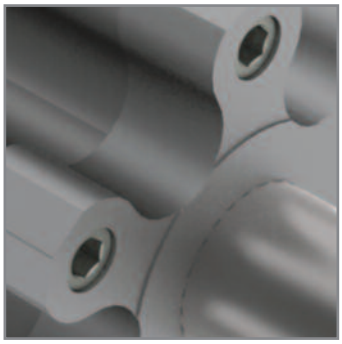
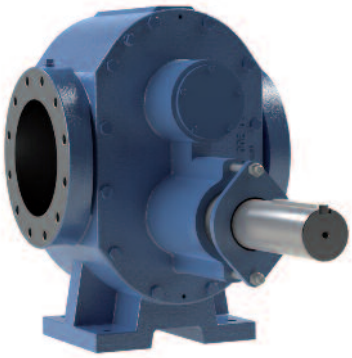
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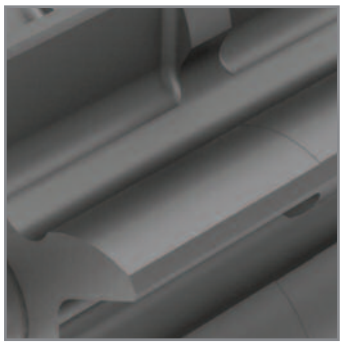
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Broquet

SOLUTIONS FOR THE SUGAR INDUSTRY




Viscous liquid solutions



With 40 years of experience in transferring fluids resulting from crystallization, the Broquet pumping solution for high-solids and viscous liquids stands out as one of the best-performing and most reliable on the market.

Every one of the thousands of installed massecuite and derivatives pumps is proof of our knowledge of the sugar industry environment and of its requirements.

Discover the new pump solution for the Sugar Industry designed by Broquet, the inventor of the gear type massecuite pump.

THE PRODUCT IS TRANSFORMED, OUR TECHNICAL SOLUTION ADAPTS.

At every stage of sugar manufacture, the material is transformed and the rheological properties of the fluids change. A universal technology could only be an approximation. For optimum performance, Broquet offers a collection of rotors matched to the different states of the material.



MC ROTOR

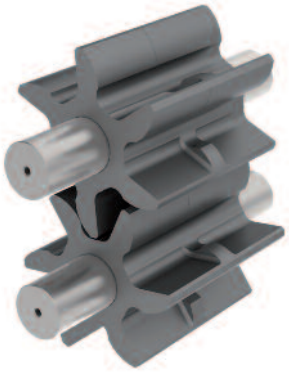
Designed for massecuite pumping, it is the second mark of the tooth design that made the brand famous throughout the sugar manufacturing world. It carries massecuite without denaturing the geometry of the crystals. An ingenious exhaust system, a low-contact gear mesh and a scraping profile enable it to preserve the particles present in the mother liquor.

APPLICATIONS

- Beet and cane processing
- White, raw and AP massecuite
- Any magmas
- Continuous vacuum processing

PRINCIPAL ADVANTAGES

- Prevention of crystal damage
- Low pulsation, low emulsification
- Very high suction power
- Totally reversible in operation
- Versions for high brix or low viscosity



X ROTOR

Recommended for transferring semi-viscous liquids, its innovative profile with heavy relief and its 6-tooth architecture endow it with economical hydraulic performance and high delivery for a more compact pump. It can be used on solutions that are slightly or accidentally loaded with crystals.

APPLICATIONS

- High/low greens
- Affination and wash syrups/liquors
- Hot molasses

PRINCIPAL ADVANTAGES

- Tolerates the accidental presence of crystals
- Less pulsation
- Low sensitivity to viscosity variations
- Economical operation



B ROTOR

Developed for transferring viscous to very viscous fluids, its tooth profile enables exceptional suction power even at the lowest rotation speeds. Often replaced at present by the X profile on process applications, it was long used for pumping syrups, greens, hot molasses, etc. It remains very effective in cold to very cold, molasses or syrup loading/unloading operations and is often used on particularly difficult process applications. A version has been developed for pumping solutions that are accidentally very heavily loaded and very fluid or low-granulometry magmas.

APPLICATIONS

- Cold molasses/syrups
- Accidentally loaded liquids
- Very viscous fluids

PRINCIPAL ADVANTAGES

- High suction power at low speed
- High tolerance of the presence of crystals
- Totally reversible in operation

COMPACT AND DURABLE CONSTRUCTION FOR MANAGED MAINTENANCE.

LAYOUT

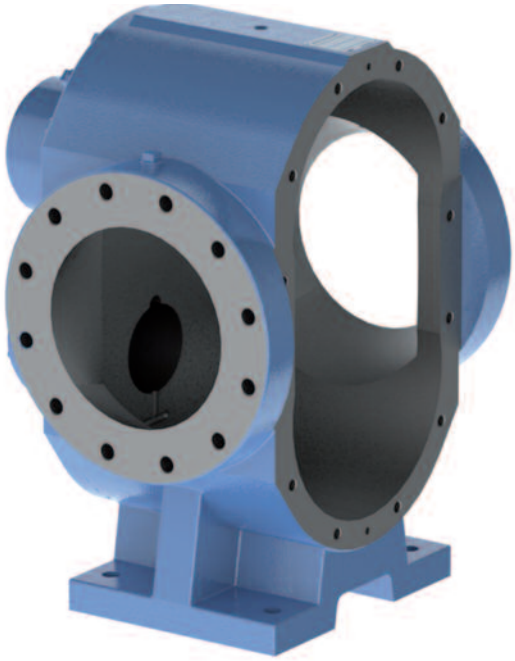
The new layout of the Series K pumps is optimized for reduced bulk.

- DIN or ANSI flanges
- Compact

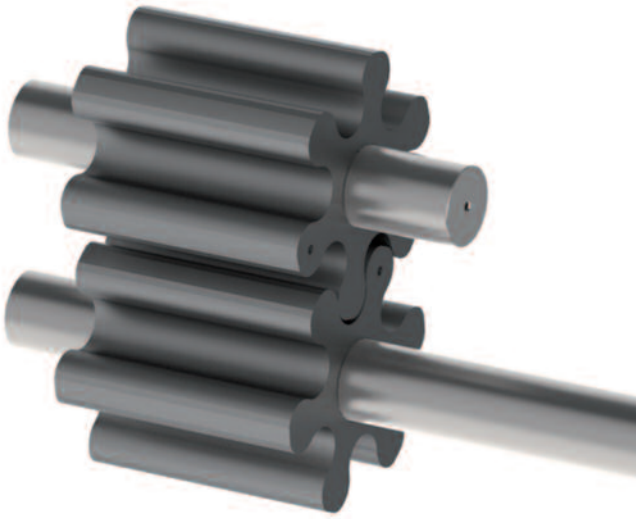
DESIGN

The rotors are carried on 4 internal bearings. This architecture minimizes the risk of breakdown or breakage in the event of degraded operation of the pump. As it does not require additional mechanical elements such as a synchronization gearbox, its maintenance is reduced.

- No cantilever arrangement
- No synchronizing gearbox
- No scraper
- Few rotating elements
- Compact architecture
- Reduced maintenance







BEARINGS

The pump is equipped with internal, product-lubricated bearings. Manufactured from noble materials, they are the fruit of years of experience and research to guarantee a long life and tolerate possible degraded operating modes of the pump. For ease of maintenance, the pump is equipped with static bearings in the covers and dynamic bearings on the shafts.

- No external lubrication
- No pollution hazard
- Reliable and technically advanced
- Simple

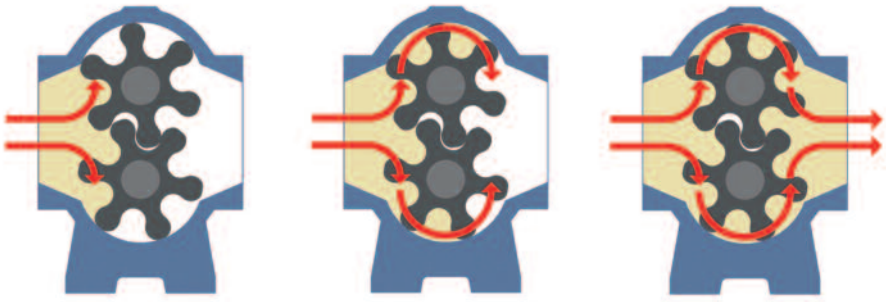
ROTORS

The 6-tooth architecture of the gearing makes it possible to constantly have 6 internal seals; that is 2 to 3 times as many as in most other technologies.

- High suction power
- Suited to continuous vacuum processing

OPERATING PRINCIPLE

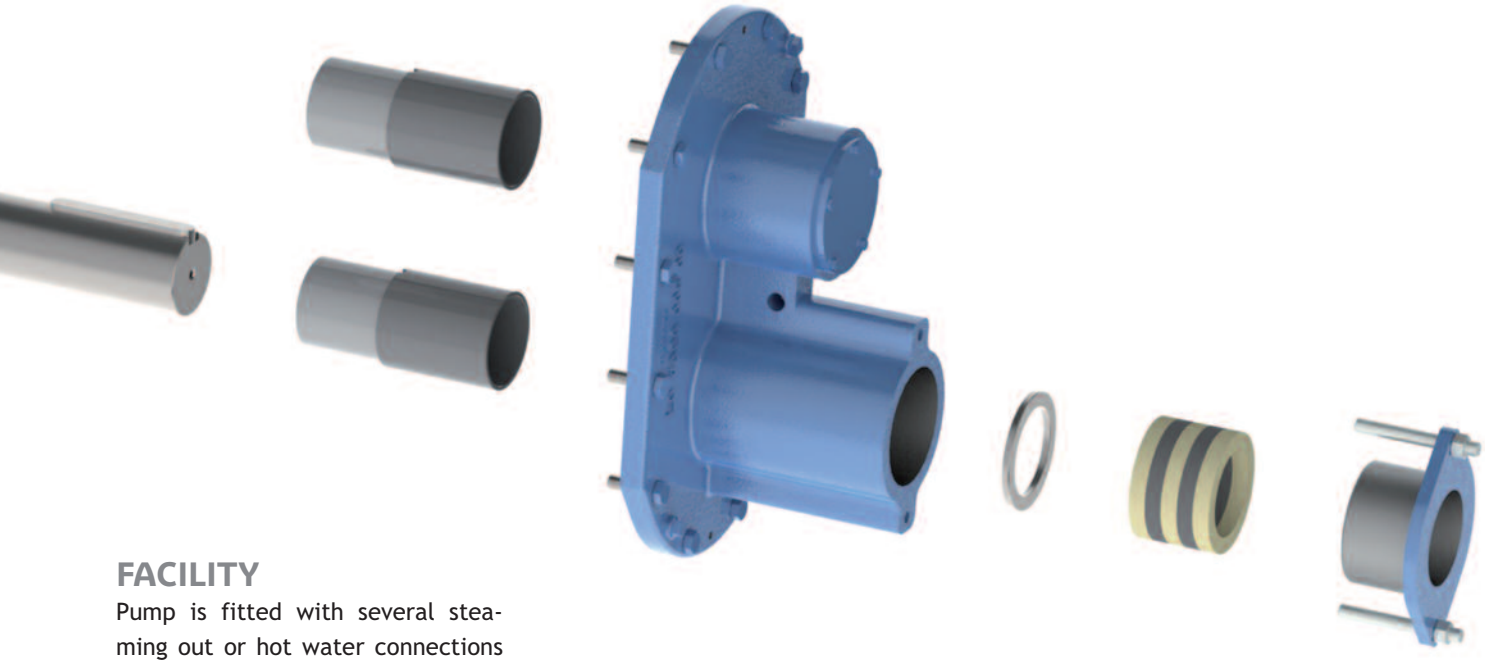
As rotor teeth disengage, the liquid is pumped into the tooth, then carried along the outside of the gearing without passing through the central meshing area.



DYNAMIC SEALING

Only one shaft is sealed using soft packing or any type of mechanical seals. All types of assembly are available.

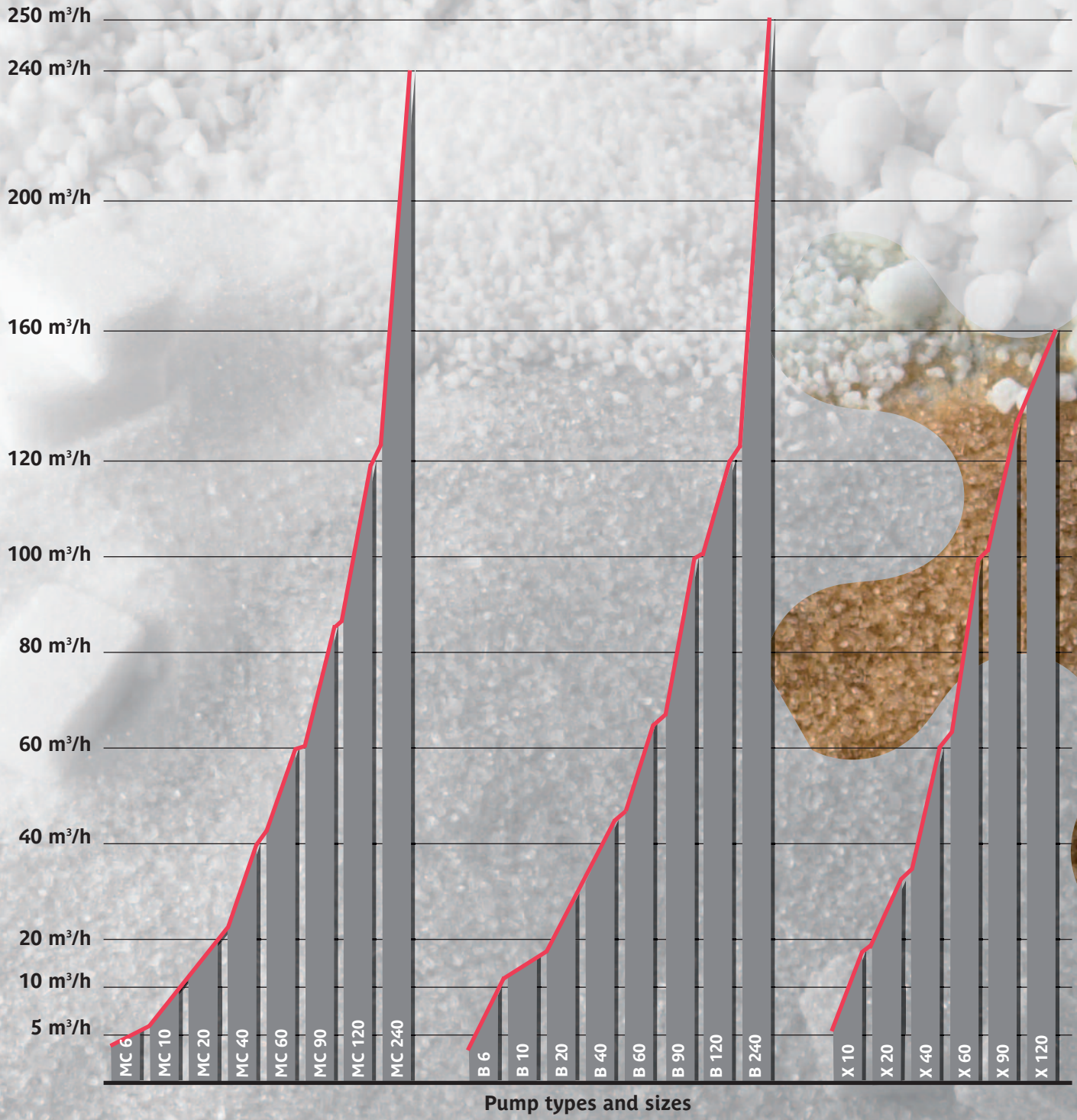
- A single controlled seal
- A multitude of standardized or specific solutions.



FACILITY

Pump is fitted with several steaming out or hot water connections to re-melt without disassembling or opening the pump, the massecuite which may have remained in the pump due to unscheduled stoppage of the installation.

SELECTION DIAGRAM

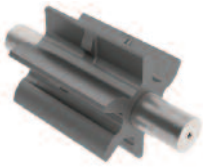


THE LINE



MC ROTOR

- 7 pump sizes
- Capacities from 4 to 240 m³/h
- 6-8 bar depending on the model
- Available in KMC and BMC versions



X ROTOR

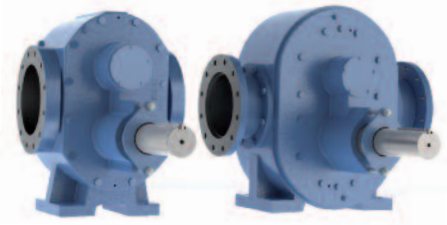
- 5 pump sizes
- Capacities from 10 to 200 m³/h
- 6-10 bar depending on the model
- Available in KX and BX versions



ROTOR B

- 7 pump sizes
- Capacities from 4 to 240 m³/h
- 6-12 bar depending on the model
- Available in KB and BB versions

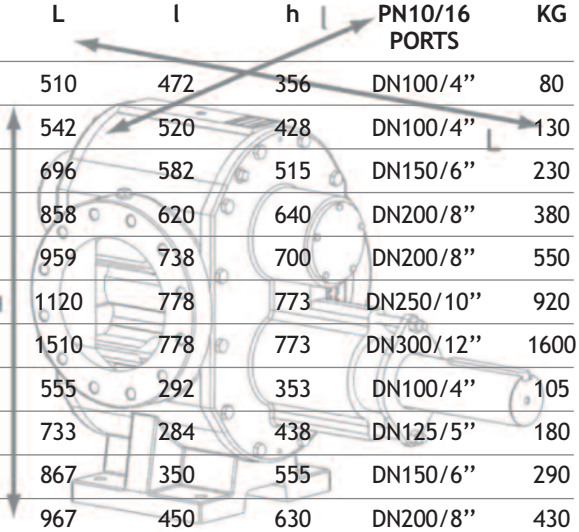
MODULARITY



K Housing B Housing

All MC, X, B rotors can be assembled into single shell Version K housing with integral flanges or into integral heating jacket Version B housing with modular separate flanges.

DIMENSIONS AND MASSES OF BARE PUMPS



PUMPS	L	l	h	PN10/16 PORTS	KG
BB6, BMC6	510	472	356	DN100/4”	80
BB10, BMC10, BX10	542	520	428	DN100/4”	130
BB20, BMC20, BX20	696	582	515	DN150/6”	230
BB40, BMC40, BX40	858	620	640	DN200/8”	380
BB60, BMC60, BX60	959	738	700	DN200/8”	550
BB120, BMC120, BX120	1120	778	773	DN250/10”	920
BB240, BMC240	1510	778	773	DN300/12”	1600
KB10, KMC10, KX10	555	292	353	DN100/4”	105
KB20, KMC20, KX20	733	284	438	DN125/5”	180
KB40, KMC40, KX40	867	350	555	DN150/6”	290
KB60, KMC60, KX60	967	450	630	DN200/8”	430

OPTIONS

- Integral heating jacket designed for hot water, steam or fluid process (3 bar, 130°C)
- Electrical heating device
- Nickel and other specific coatings
- Dynamic seal using mechanical seals

ACCESSORIES

- External safety/relief valve
- Various sensors
- Safety filters for viscous liquids

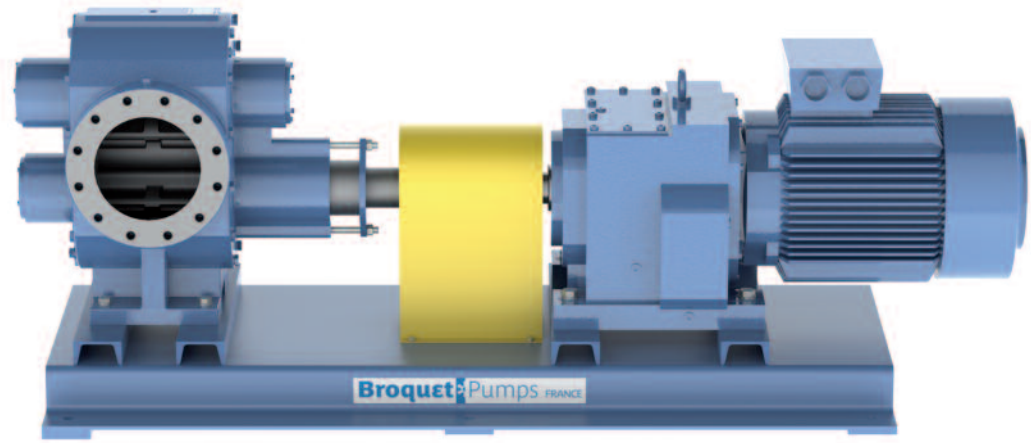


CONFIGURATIONS

PUMP SIZES	B ROTOR	MC ROTOR	X ROTOR	B HOUSING	K HOUSING
6	■	■		■	
10	■	■	■	■	■
20	■	■	■	■	■
40	■	■	■	■	■
60	■	■	■	■	■
120	■	■	■	■	
240	■	■		■	

■ Available

Configuration example:
BMC40, pump with Version B housing and Type MC rotor in size 40.
KX60, pump with Version K housing and Type X rotor in size 60, etc.



- A technical solution that is operational in more than 60 countries
- A network of partners, distributors and agents throughout the world

Broquet Pumps

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