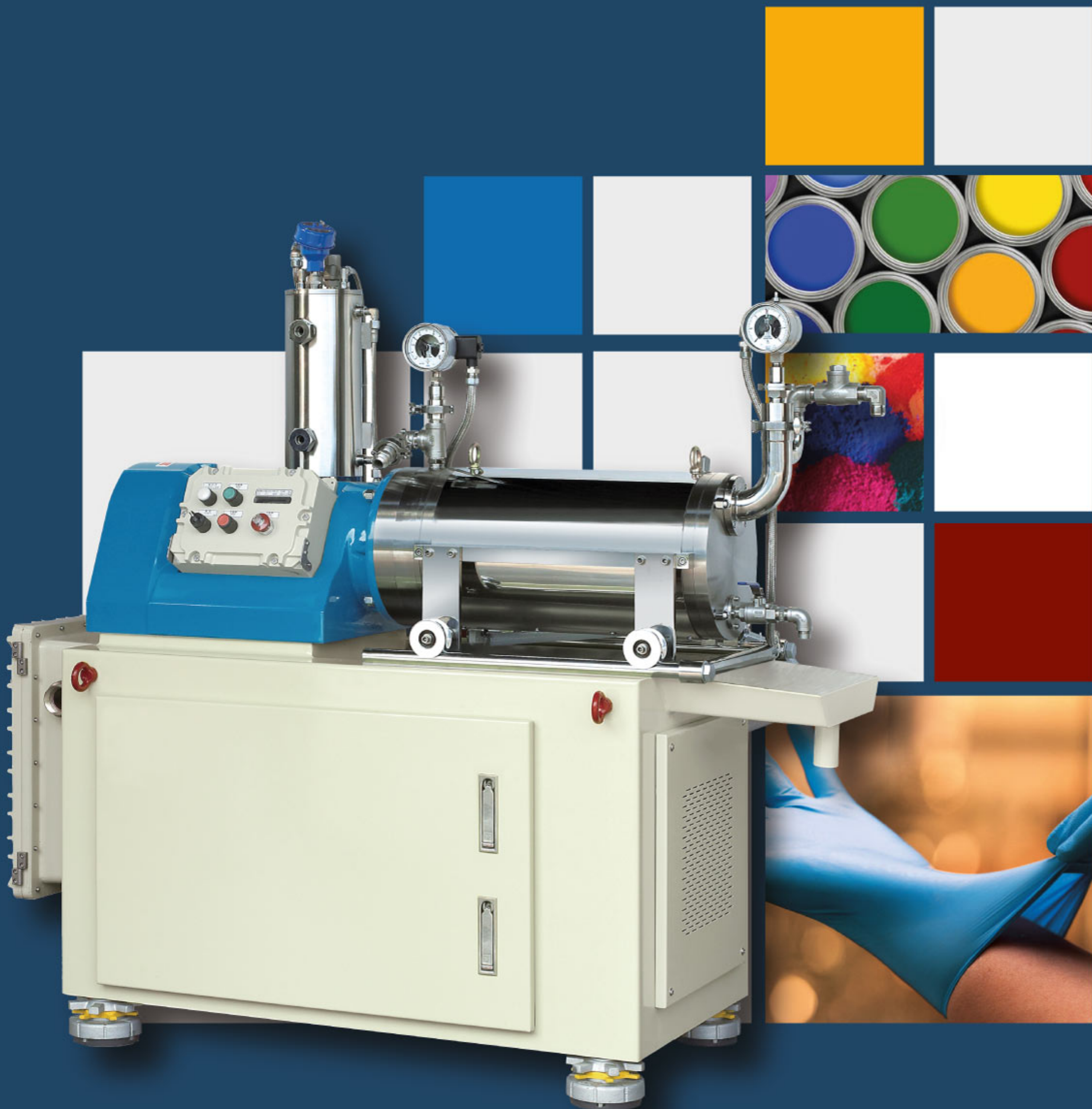


Dynamill®

Horizontal Bead Mill

Worldwide Expert in
Milling Industry



dyna - Specialising in wet milling and ultra fine dispersion

Dyna has been supplying milling and dispersion machinery over 20 years. Our strengths and capabilities in wet milling and ultra fine dispersion technology with well known - **Dynamill®**. Our range of machinery is to disintegrate and grind the particles to the desired micron level, thus making them ideal for their application.

The benefits of choosing **Dynamill®**

- Constructed of high quality material for maximum wear resistance.
- The **Dynamill®** gap separator is manufactured from extremely hard tungsten carbide alloy steel for maximum wear resistance.
- High efficiency cooling system.
- Choice between two kinds of shaft seal to meet our customer's requirements.
- Specially designed agitator discs ensure superior agitation performance.
- Grinding beads ideally adapted to **Dynamill®** agitator bead mills.
- All important qualities are available in the requested size applications.
- Optimum combination of machines, grinding tools and applications.
- Improved product quality.
- Process optimisation and increase of capacity.
- Improved energy efficiency.
- Excellent grinding bead quality.
- Ideal for pass mode with consistent efficiency to obtain narrow particle size distribution in the micrometer range.

- Easy to use - All **Dynamill®** types can be taken apart is just a few steps, allowing simple rapid changeover to a different mill configuration.
- Simple operation and easy setting of operating parameters.
- The consistent milling design enables scaling-up to any size in the **Dynamill®** type S and M series.
- Low operating and maintenance costs.

Technology

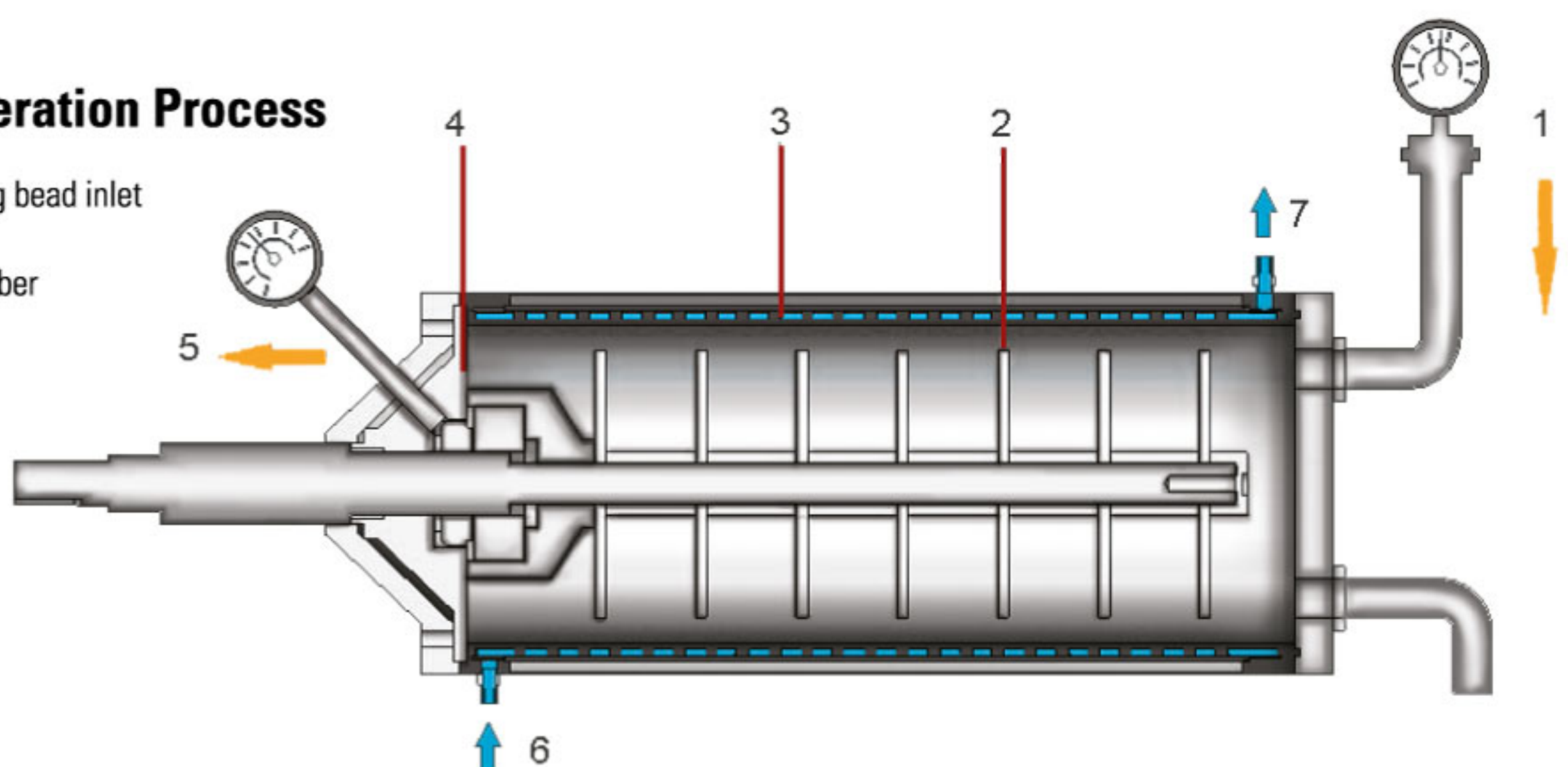
- Most modern three dimensional design process.
- Use of valuable quality materials.
- Manufacturing process and quality control that are state of the art.

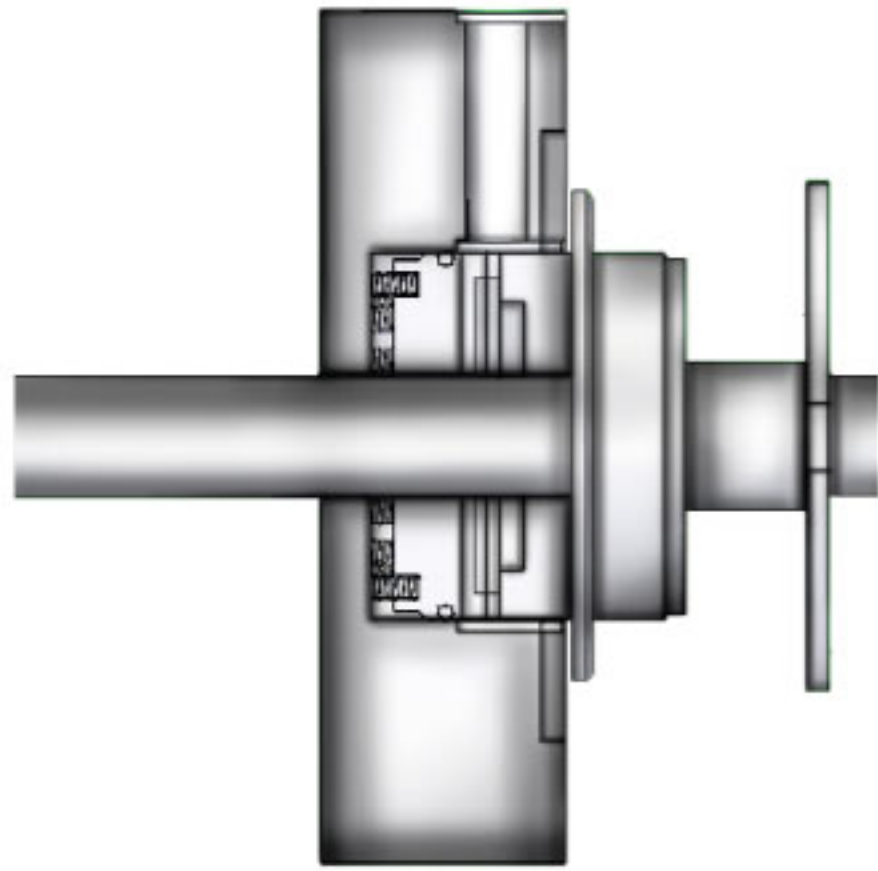


Agitator discs

Dynamill® - Operation Process

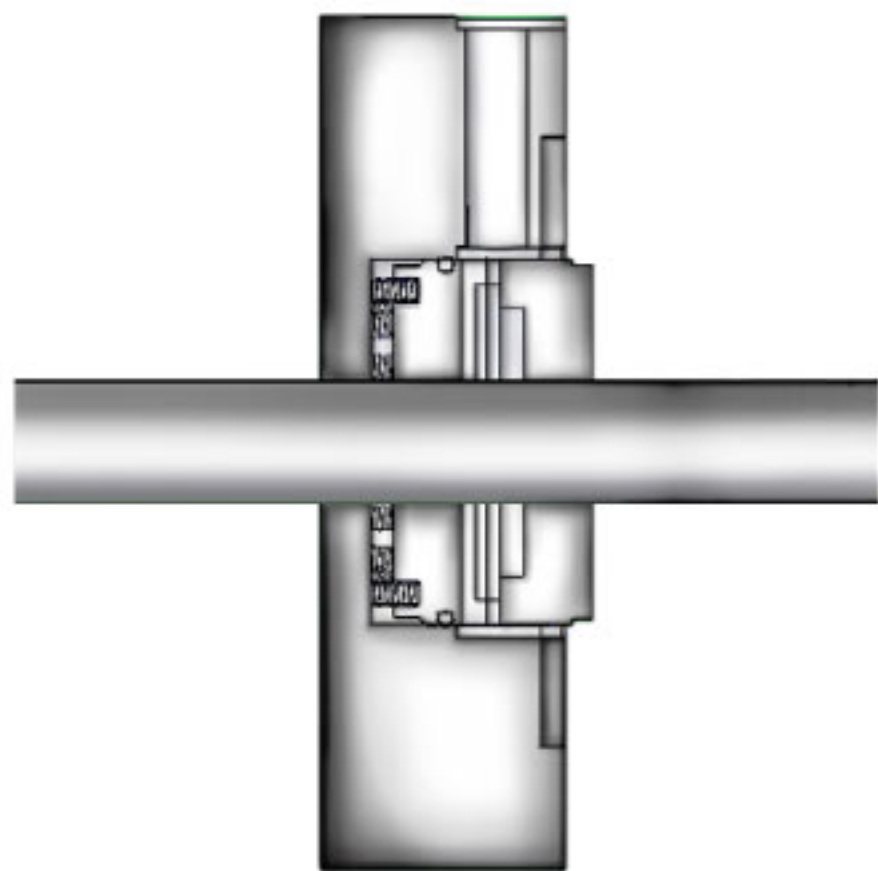
1. Incoming flow/inlet/grinding bead inlet
2. **Dynamill®** agitator disc
3. Cooling system of the chamber
4. The Dynamic gap separator
5. Product Outlet
6. Cooling water input
7. Cooling water output





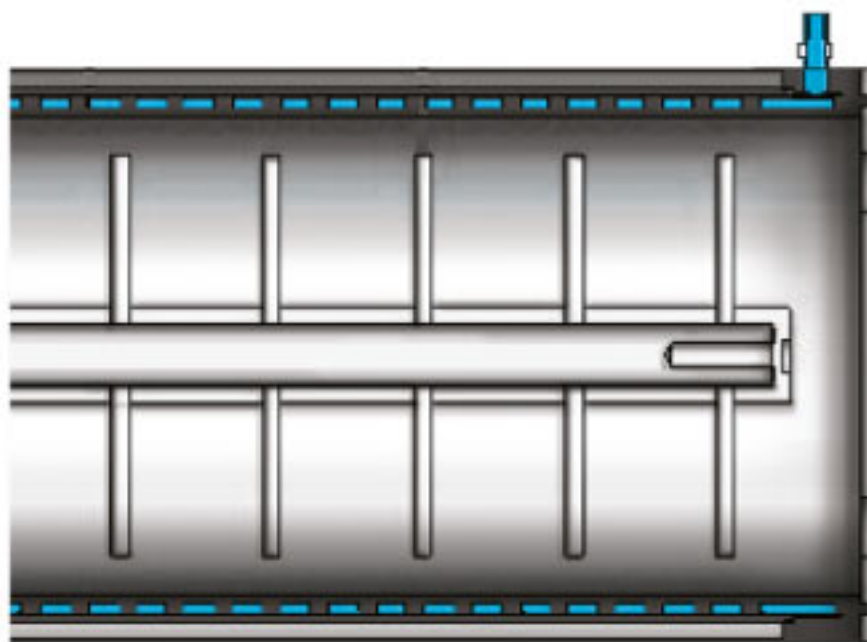
Shaft Seal

The shaft sealing is formed by single support with lip seal or double mechanical seal developed by Dynamech. The compact design of this seal enables the replacement process become quickly and easily. All shaft seals which are provided by our company are fully tested for quality ensure. In order to achieve the highest quality maintenance service, the used mechanical seal can be returned to the factory for repairment and replacement.



Grinding Bead Separator

On the small scale of research lap (S-Series) to production (M-Series), the grinding media are retained in the mill by means of gap separating with stator and rotor construct made of tungsten carbide. The gap width we designed is adjustable to suit the grinding bead size. Grinding beads of different materials and size (0.3 - 2.5 mm) can be used.



Grinding Chamber Cooling System

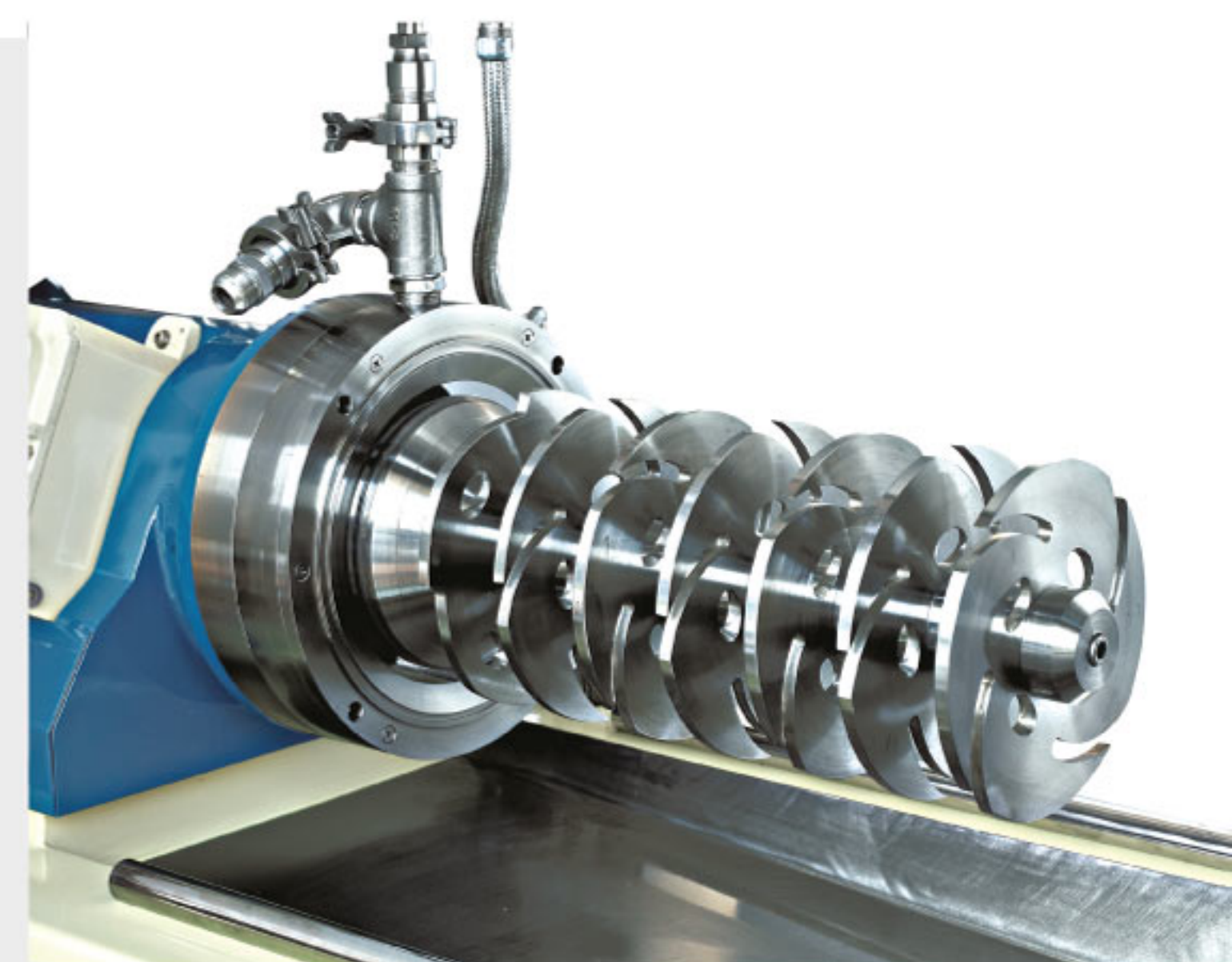
Dynamech designed cooling system is structure design in spiral shape around the inner chamber, its allowed the machine efficiently channel the cooling water surrounding the milling chamber. Our grinding chamber design to allow the inner cylinder to be removed and reinstalled in an easier way.

Dynamill® - Spare Parts Supply and After Sales Service

Our precision-manufactured spare parts maintain the value of your machinery, extend its life cycle and ensure that the valuable product warranty remains valid. We can deliver our original parts, including mechanical, electrical and electronic components, anywhere in the world right to your door steps in a short period of time. We maintain adequate spare parts stock, we have comprehensive distribution networks and a team of expert customer service operators to support the after sales service.

What can you gain from our service:

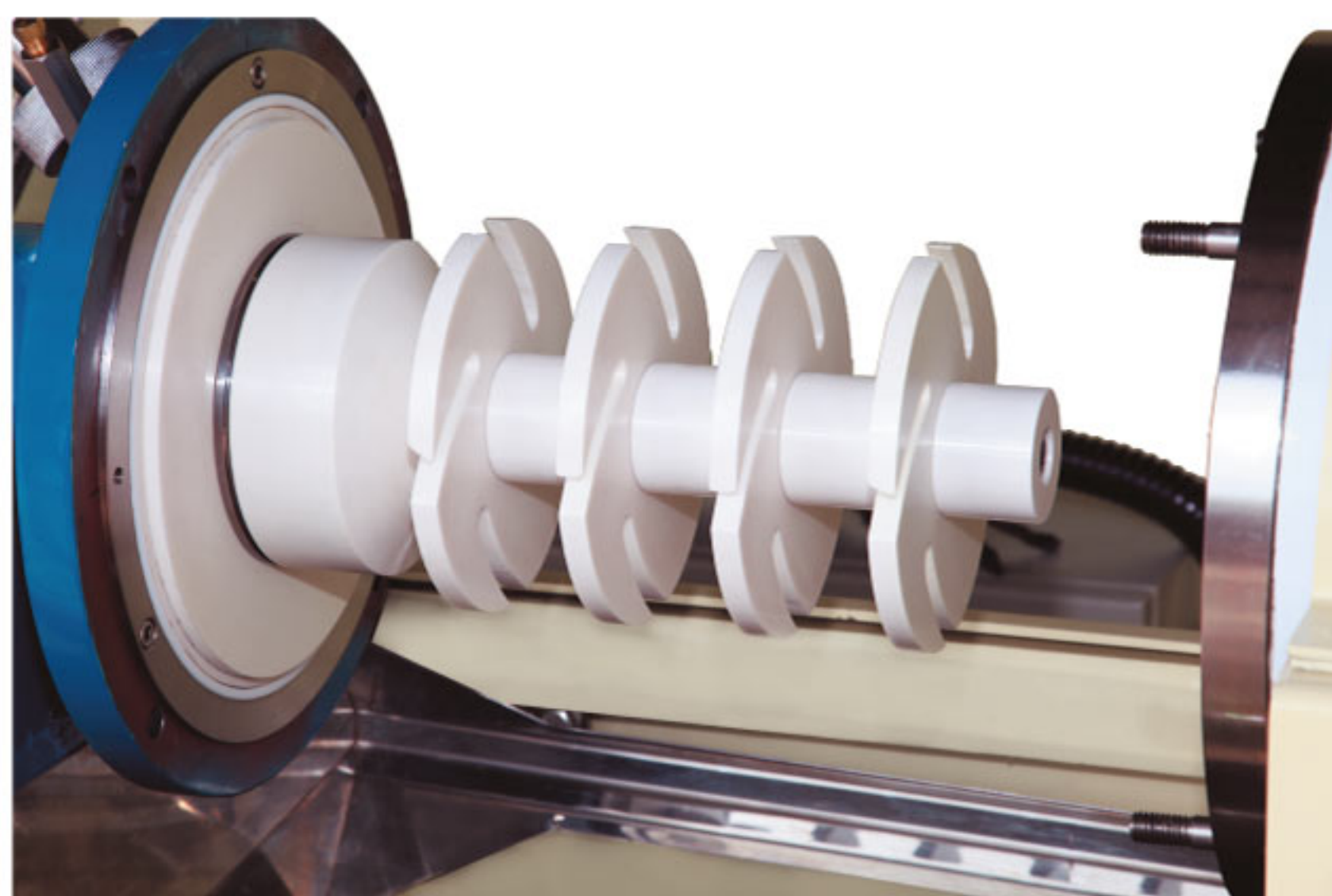
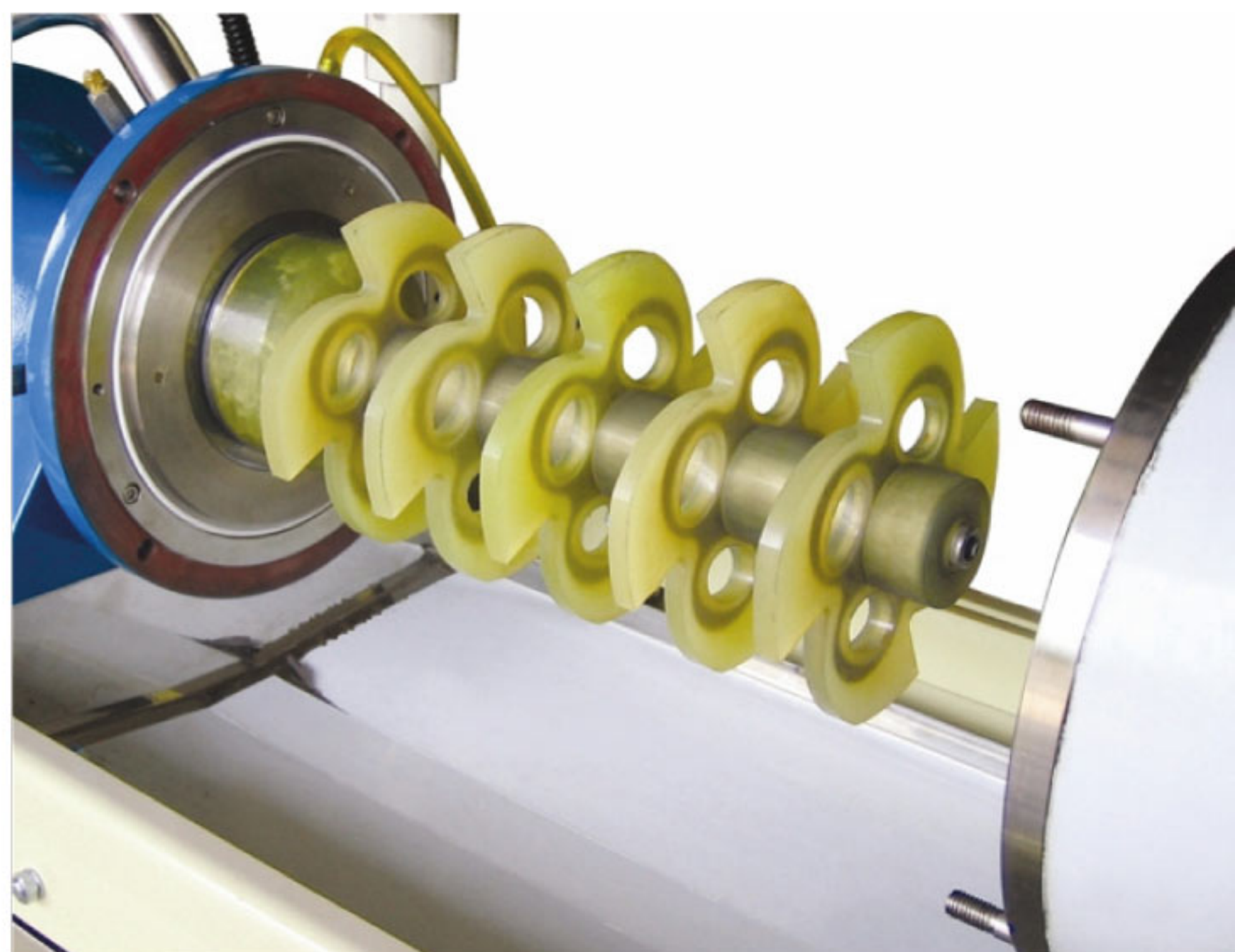
- You can continue enjoy the Dyna product warranty.
- You can maintain the value of your machinery and equipment.
- You can extend the lifecycle of your machinery and equipment.
- You can order the parts you need quickly and easily.




***Dynamill®* - Agitator Discs**

Dynamill® Specially shaped agitator discs provide good energy input and prevent packing of beads in one point. Our agitator discs able to provide wide choice of material for components coming into contact with the product - i.e. hardened of all alloy steel, ceramic & PU.

Dynamill® Agitator discs shape and number of discs are determined according to product. The grinding discs are arranged in such a way to achieve intensive grinding, attached with firm lock fit on shaft and braced via spacer bushings and end disc. Easily exchangeable.



***Dynamill®* - Safety Compliances**

Our selected electronic components and motors are specifically complies for hazardous location, containing any sparks within the motor or electronic component without igniting external vapours. Our selected equipments are satisfied with **CE - ATEX** -  - (optional)

***Dynamill®* - Customise Bead Mill**

Dynamech able to customise our ***Dynamill®*** according to customer needs. Applicable for: cosmetics, pharmaceutical, food, agro chemical, rubber chemical & biochemical industries. We are able to fabricate by using high grade stainless steel with special installation to suit the customer needs.

Dynabeads

We supply high quality grinding beads for high productivity performance. Its smooth an rounded surface, premium material and polished surface contribute to low wear rate. Our beads ranging from 0.5-3.0mm. The range available as follows:

- Glass bead
- Zirconium silicate bead
- Zirconium oxide bead
- Chrome steel bead



S-Series *Dynamill*®



Dynamill® S – 0.3

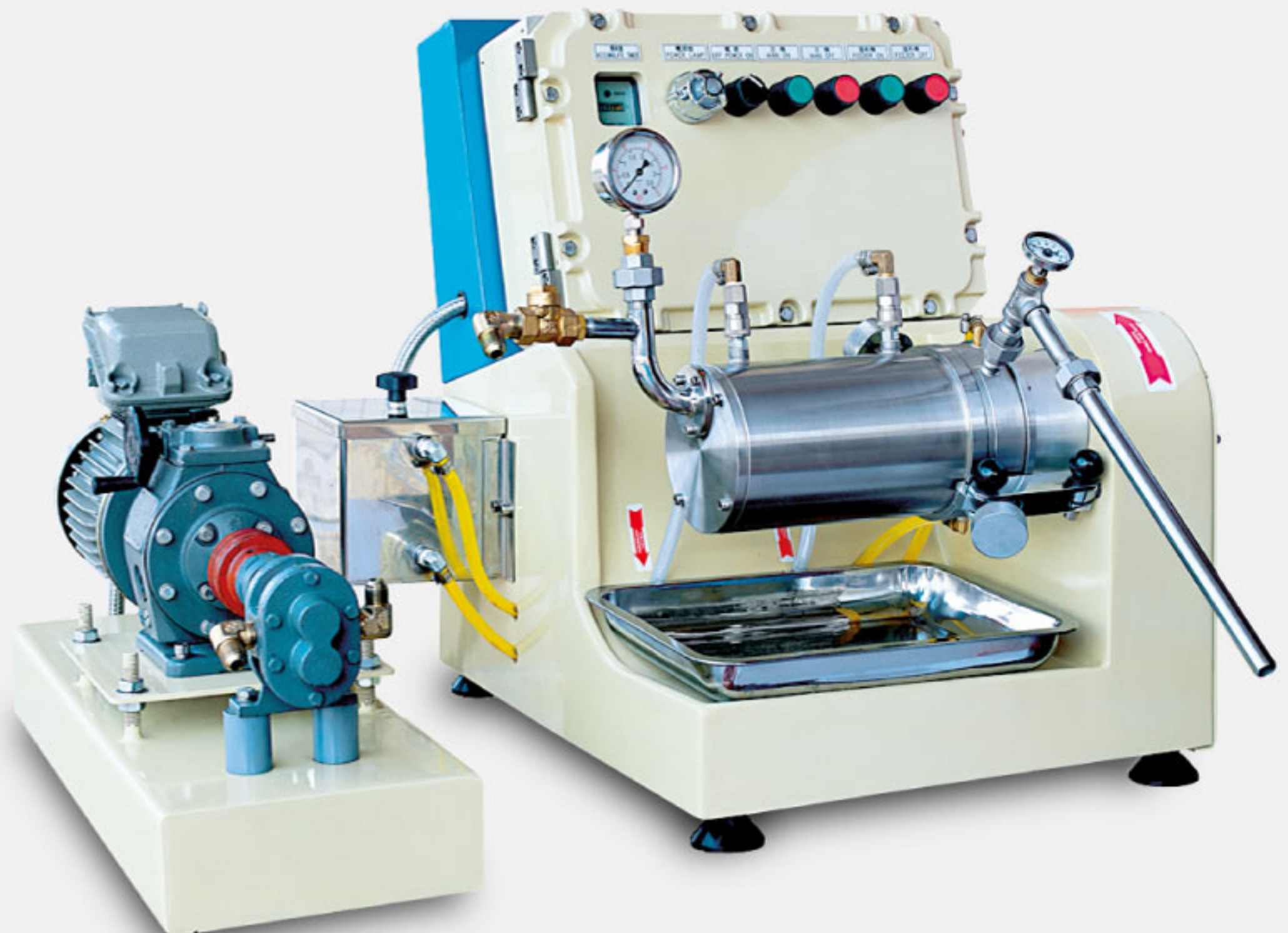
GRINDING PRINCIPLE

In the *Dynamill*® - S 0.3, the grinding beads are accelerated by accelerator and very high energy inputs are guaranteed. The grinding beads are retained in the mill by means of the sieve plate at the product outlet. mill by the sieve plate at the product outlet.

Dynamill® S – 0.4 / 1.4

GRINDING PRINCIPLE

In the *Dynamill*® - S 0.4/1.4, grinding containers with volumes of 1.4 L can be used for processing pump able suspensions of low to high viscosity in batches > 500 ml. A pump located next to the mill feeds the suspension into the *Dynamill*® S 0.4/1.4. The grinding beads are retained in the grinding chamber by means of a dynamic gap separator which makes it possible to use grinding beads with a diameter of 0.5 to 2.0 mm.



With the *Dynamill*® S-SERIES, are mainly design for **Laboratory & Technical Batch** use.

Features

- Ideal for laboratory research and development application or small scale product batches of > 100 ml to be processed in a continuous passage and circulation operation.
- Products to be processed metal-free using the engineered ceramics design made of zirconium oxide/silicon carbide.
- Applicable for low to high viscosity products, to be ground reproducibly and made into ultra-fine dispersions in the micrometer to nanometer range.
- The entire closed grinding unit to be disassembled, cleaned and even sterilized separately and rapidly.
- A low-noise operation in the laboratory with < 65 dB(A) thanks to a water-cooled motor.

Dynamill[®] M-Series

***Dynamill*[®] M-Series** - horizontal bead mill for wet grinding and ultra fine dispersion.

Features

- The optimum configuration for every product with an extremely wide choice of materials including hardened and stainless steel, hard chrome plated stainless steel, polyurethane and engineered ceramics.
- Alloy materials grinding chamber and agitator disc provide excellent wear and tear resistance.
- Easy to operate – all type of mill can be taken apart in just few steps, allowing simple and rapid changeover to a different mill configuration. Simple disassembly allows fast cleaning and changing of the dispersing tools.
- Mechanical seals we choose and design to suit your needs. All *Dynamill*[®] mechanical seals are tested for quality prior to delivery & ensuring complete reliability.
- Simple operation and easy setting of operating parameters - Low operating and maintenance costs.

● *Dynamill*[®] M - 5

● *Dynamill*[®] M - 15

Dynamill[®] M - 20



M-SERIES

An overview of the **Dynamill®** series

Dynamill® MODEL	GRINDING CHAMBER VOLUME / L	MILL MOTOR HP	CAPACITY VOLUME L/H	COOLING WATER CONSUMPTION VOLUME / L	WEIGHT kg	DIMENSIONS L/W/H mm
S-0.3	0.3	2	1 - 20	100 - 250	40	650 * 420 * 450
S-0.4	0.4	3	1 - 30	150 - 300	115	840 * 610 * 580
S-1.4	1.4	3	1 - 50	250 - 400	125	840 * 610 * 580
M-5	5	10	20 - 150	750 - 1500	600	1530 * 850 * 1590
M-15	15	20	50 - 500	1000 - 2000	750	1700 * 850 * 1630
M-20	25	25	60 - 600	1000 - 2000	850	1820 * 940 * 1630
DM-30	30	30 - 40	100 - 1000	2000 - 3000	1200	1850 * 1020 * 1790
M-45	45	50 - 60	150 - 1500	2000 - 3000	1600	1880 * 1110 * 1790
M-60	60	60 - 75	200 - 2000	2000 - 4000	1900	2205 * 1210 * 1790

Data above provided for reference purpose only. Company reserve the right to change or modify any particular info without prior notice.

We also provided Double Mechanical Seal on **Dynamill® DM-30**. Forced circulating of sealing liquid is done by means of Thermosyphon system - optional.



Dynamill® DM - 30



Dynamill® M - 45/ M - 60



***Dynamill®* Horizontal Bead Mills have been established & installed worldwide in the following industries :**

- Paints & Printing Inks Industry
- Rubber Industry
- Food Industry
- Solvent-based Industry
- Paper Industry
- Automobile Coatings Industry
- Agro Chemical Industry
- Biotechnology Industry
- Cosmetic Industry
- Microbiology Industry
- Pigments & Dyestuff Industry



You can order these machines or spare parts quickly and easily by email to our sales department as the following contact:

MALAYSIA (Head Office)

Dynamech Industries (M) Sdn Bhd

11-1, Jalan Puteri 4/1,
Boulevard,
Bandar Puteri,
47100 Puchong, Selangor,
Malaysia

Tel : +603-8060 0008
Fax : +603-8060 8878
Email : sales@dynamech.com
Website : www.dynamech.com

SINGAPORE

Dynamech Marketing (S) Pte Ltd

Tel : +65-6358 0300
Fax : +65-6358 0200
Email : singapore@dynamech.com

CHINA

Jintai - International Trading (Shanghai) Co. Ltd

Tel : +8621-5869 2659
Fax : +8621-5869 2658
Email : shanghai@dynamech.com

Dynamech can deliver our ***Dynamill®*** to comply & suit our customer needs. Our references are around the world.