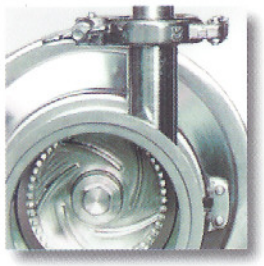


DISSOLVING

MIXING

EMULSIFYING

HOMOGENIZING

SUSPENDING

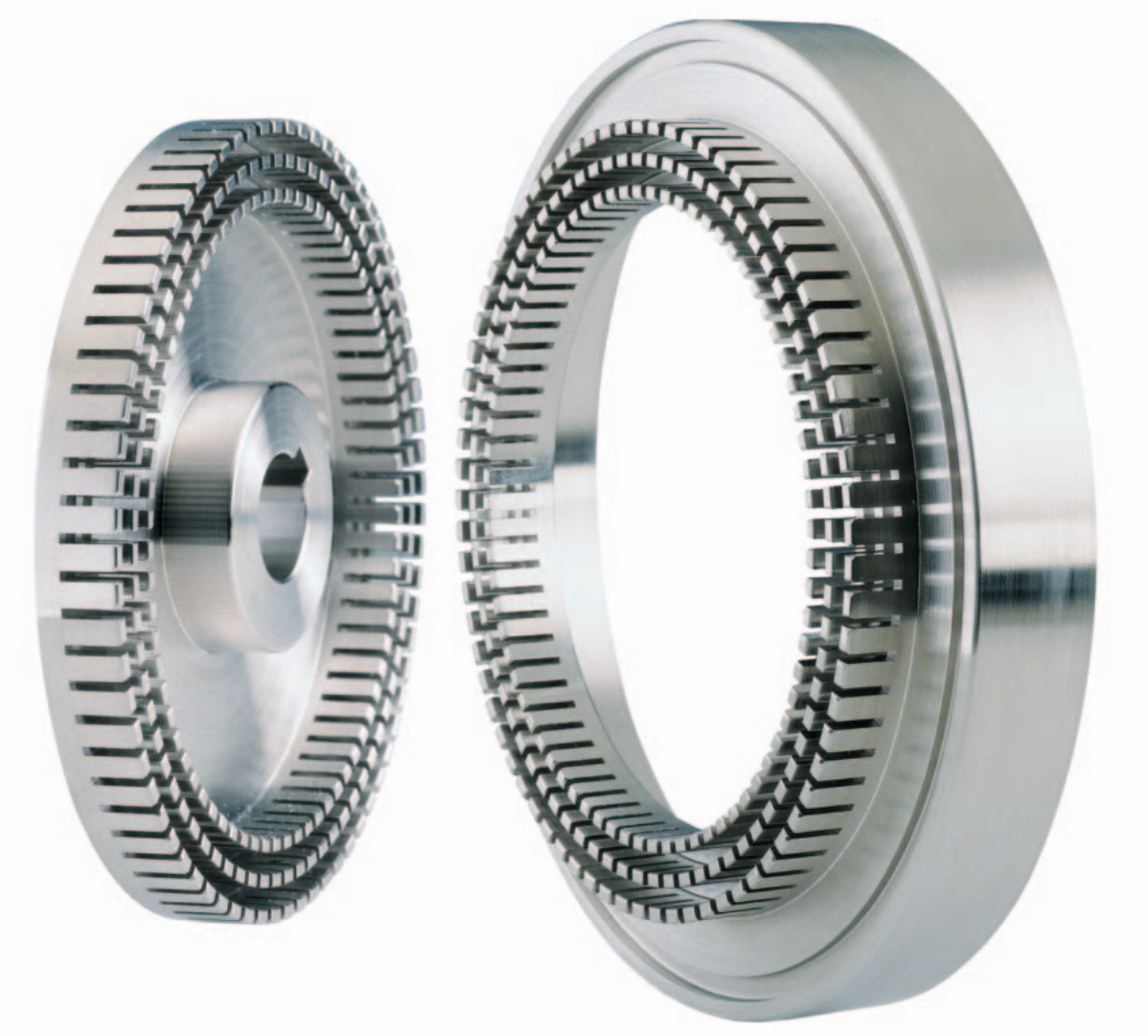
DISPERSING

GASSING

YTRON

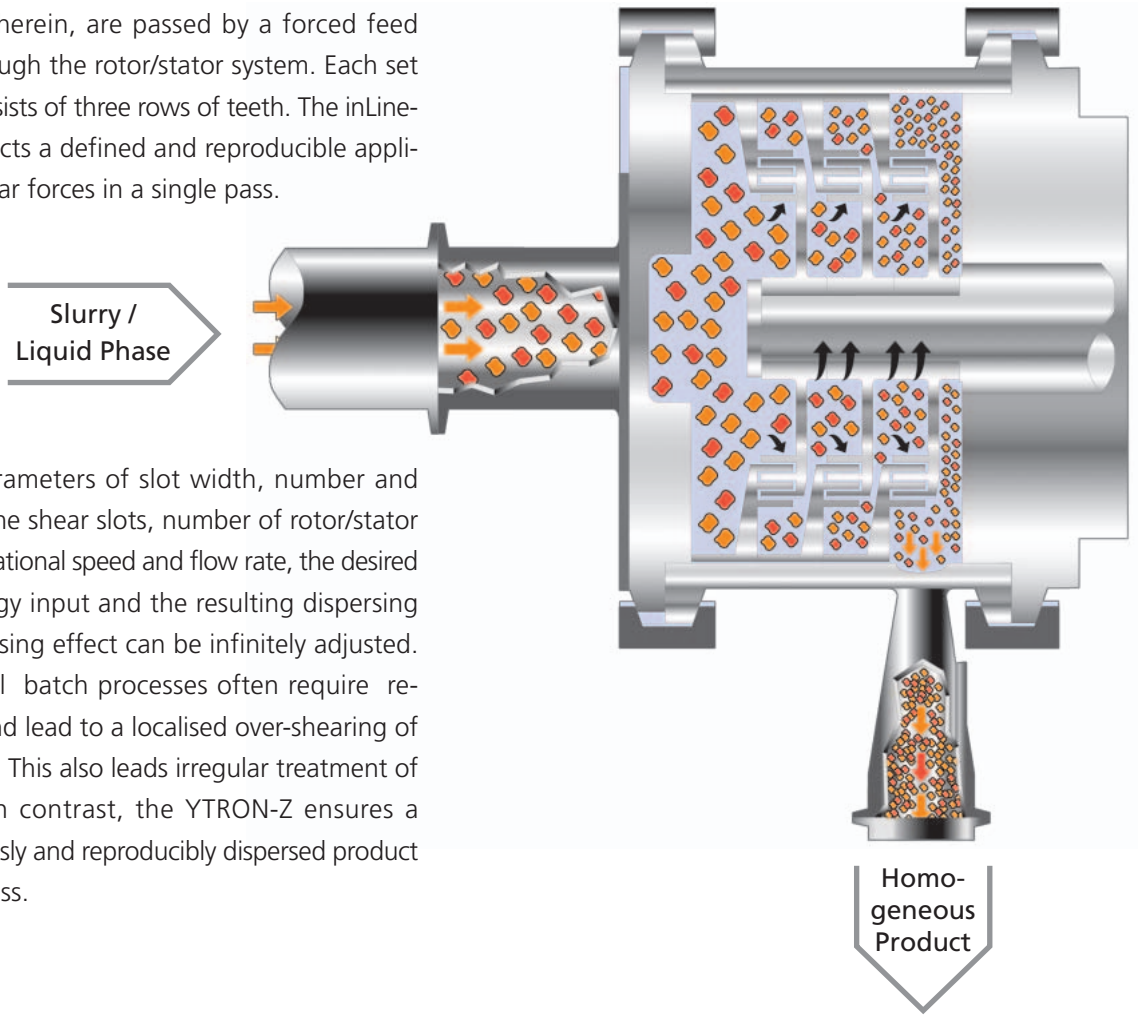
PROCESS TECHNOLOGY

YTRON-Z



The YTRON-Z Principle

The reactor head of YTRON-Z houses up to three rotor/stator sets with extremely fine radial tolerances. One or more liquid phases, as well as particles suspended therein, are passed by a forced feed passage through the rotor/stator system. Each set normally consists of three rows of teeth. The inLine-principle effects a defined and reproducible application of shear forces in a single pass.



With the parameters of slot width, number and distance of the shear slots, number of rotor/stator sets used, rotational speed and flow rate, the desired specific energy input and the resulting dispersing or homogenising effect can be infinitely adjusted. Conventional batch processes often require re-circulation and lead to a localised over-shearing of the products. This also leads irregular treatment of the batch. In contrast, the YTRON-Z ensures a homogeneously and reproducibly dispersed product in a single pass.

Important Advantages of YTRON-Z:

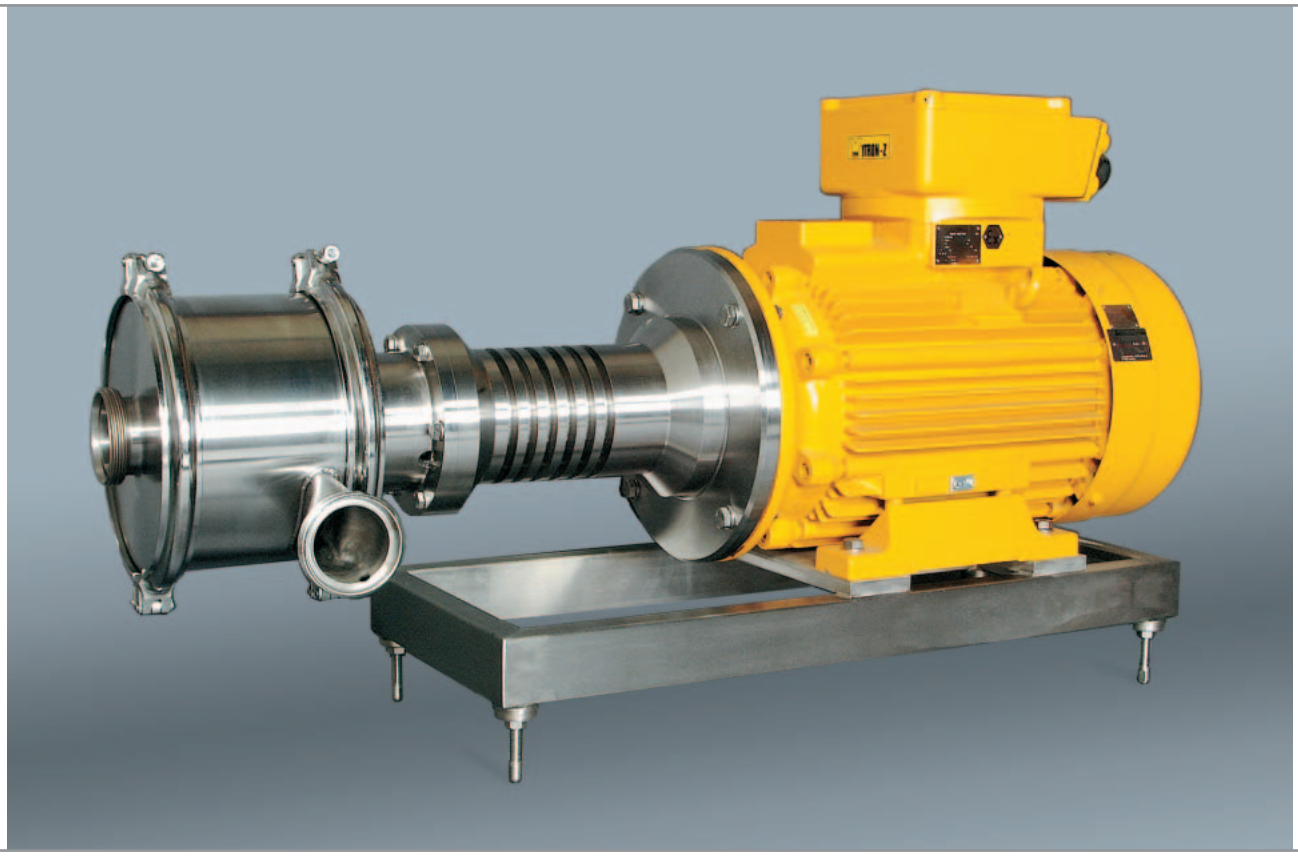
- Dispersing, de-agglomerating, emulsifying in one pass
- The forced feed passage allows reproducible results
- Gentle treatment of shear sensitive products, e.g. STRECHTING® of yoghurt, direct curd products, fromage frais and cream cheese at low speed
- Homogenising of aromatic oils in liquid systems using medium speeds
- High speed operation to effect a continuous emulsification reaching a droplet size as low as 1µm for various emulsions (o/w and w/o) and dispersions
- Up to three slotted rows of teeth with variable slot widths and finest distance of the slots in each rotor/stator set
- Reactor chamber houses up to three rotor/stator-sets
- Hygienic execution available for use in the food, cosmetic and pharmaceutical industry
- In many applications they are a replacement for a high pressure homogenizer which requires high capital outlay and subsequent maintenance costs

YTRON-Z with flameproof motor
Application: Variable use in the Laboratory

YTRON-Z with integrated frequency control
Application: Continuous production of base thickeners in the Textile Printing Industry

YTRON-Z in a mobile construction with frequency converter and YTRON Thermo Unit for seal lubrication

YTRON-Z in hygienic construction and flameproof motor



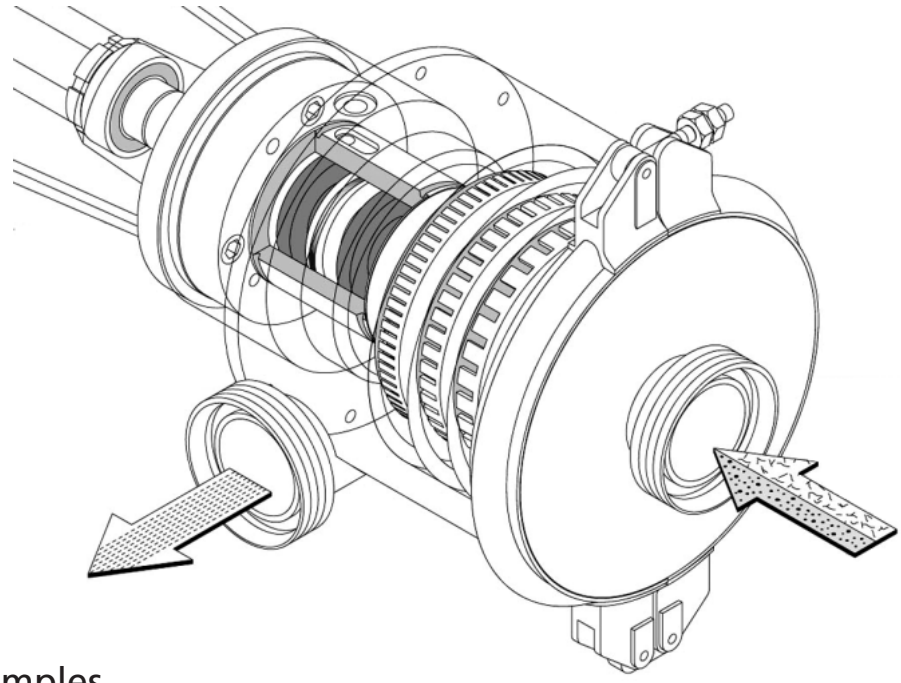
Typical Applications:

- Foaming, Aerating
- De-agglomerating
- Emulsifying
- Chemical reaction
- Homogenising
- Wet milling
- STRETCHING®
- Modification of texture and adjustment of viscosity

Application Examples

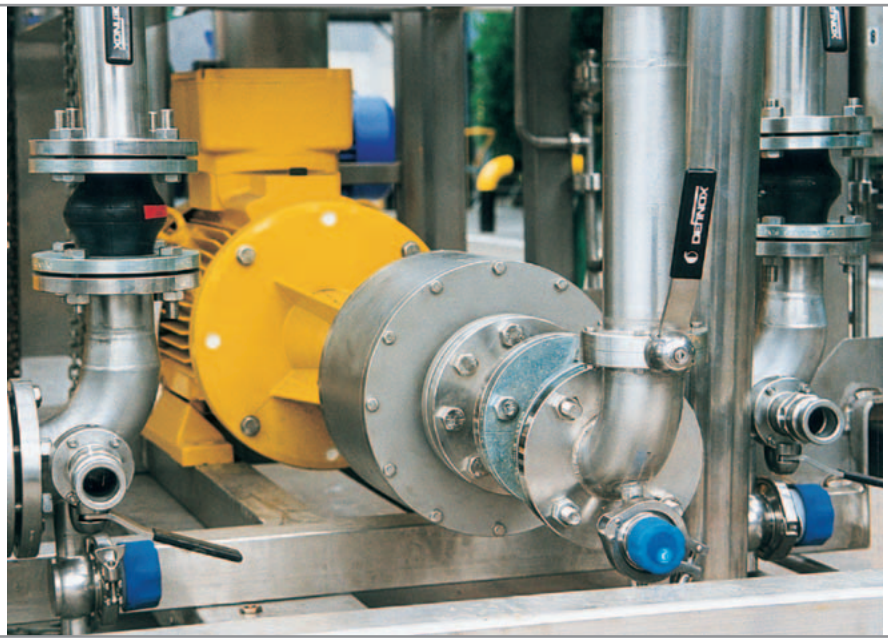
- Bitumen
- Tomato Ketchup (cold and hot break)
- Creams and lotions
- Fruit juices
- Soft drinks
- Mayonnaise
- Medical solutions and dispersions
- O/W and W/O emulsions
- Perfume oil and aromatic products
- Pesticides
- S.L.E.S. (continuous dissolving)
- Salad dressing
- Melted cheese and similar products
- Shampoo (continuous production)
- STRETCHING® of yoghurt and fromage frais
- STRETCHING® of thickener slurries
- Soups and sauces

and many more...



Some Advantages of YTRON-Z using Examples of Food Applications

- Improved product quality and shelf life stability
- Reduced production times due to a single pass operation
- Reproducibility of results
- Savings of energy, materials and process time when compared to batch procedures and conventional processes
- Flexibility due to interchangeable dispersion tooling
- Improved rheological properties, mouth-feel and texture



YTRON-Z in flameproof execution
Application: Production of
Emulsions in the Chemical Industry

YTRON-Z in the
Chemical Industry
Application:
Homogenising of
Liquid Detergent
Emulsions

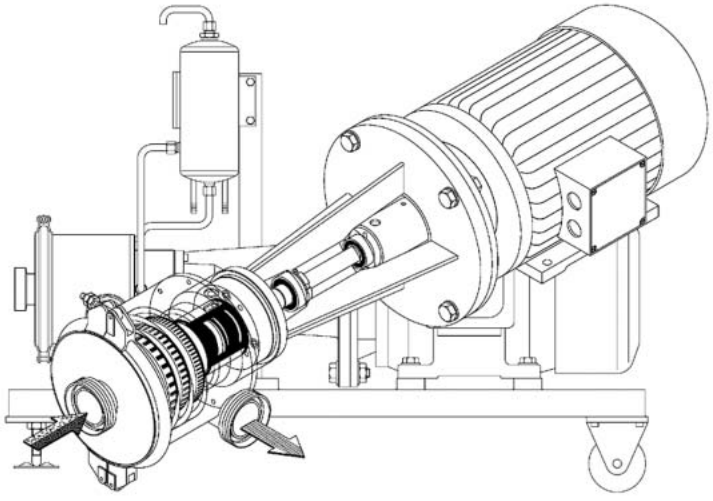
YTRON-Z

Model	Z-Lab (Z 0)	Z 60.2V	Z 60.3V
Power (kW)	1.50 ... 2.20	3.00	5.50
Capacity (l/h)max.	800	2,500	2,500
Hygienic Version	Yes	Yes	No
Single acting mechanical seal	Yes	Yes	Optional
Double acting mechanical seal	No	No	Yes
Pressure (bar)	0 ... 10	0 ... 10	0 ... 10
Fittings (Standard)	DN 25	DN 25	DN 40
Dimensions* LxBxH (mm)	520x200x200	520x200x260	1,600x400x1.100

Model	Z-80 (Z 1)	Z-130 (Z3)	Z 250 (Z5)
Power (kW)	3.00 ... 7.50	5.50 ... 18.50	7.50 ... 45.00
Capacity (l/h)max.	4,000	18,000	50,000
Hygienic Version	Yes	Yes	Yes
Single acting mechanical seal	optional	optional	optional
Double acting mechanical seal	Yes	Yes	Yes
Pressure (bar)	0 ... 10	0 ... 10	0 ... 10
Fittings (Standard)	DN 40	DN 50	DN 80
Dimensions* LxBxH (mm)	1,600x425x980	1,200x425x980	1,200x450x980

According to the application, other additional executions, deviating from the standard, are available.

* In the standard execution



The YTRON® range is not mass produced

YTRON® equipment and systems are carefully selected for your individual application. We therefore kindly ask you to provide as detailed as possible a description of your application containing for example:

- Components to be processed
- Viscosity at the beginning and at the end of the process
- The specific gravity (bulk density when adding powders)
- Overall dimensions and shape of the mixing vessel
- Minimum and maximum filling levels of products to be processed
- Working temperature
- Other details that may be relevant

The capacities indicated in this brochure are related to certain applications under standardised conditions. They are not necessarily valid for all products or processes.

The standard materials for the product contact parts are:

- Material 1.4301 / AISI 304
- Material 1.4571 / AISI 316 Ti
- Material 1.4435 und 1.4404 / AISI316 L

Special materials such as 1.4539, Hastelloy etc. are available on request

Fittings can be delivered various types such as
DIN 11851, DIN 11864, SMS, DS, RJT, Clamp, Flange etc.

We reserve the right to alter the design without previous notice in the interest of development.

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