

Stirring technology

Product overview

Stirring technology by planetroll[®]

– as individual as our customers.



About planetroll® – good ideas are our impulse

Since 1976, we are giving our products new momentum with forward-looking ideas at **planetroll®** and are setting new benchmarks in our markets.

Today we are successfully engaged in two business areas. In **power transmission technology**, we are one of the world's leading manufacturers of variable-speed gearboxes for use in explosion-proof areas according to ATEX-Directive 2014/34/EU. As a further product in power transmission technology, we develop and produce planetary gearheads in standard and special versions.

In **stirring technology**, our customers benefit from our decades of experience in the development and design of stirrer drive units. As a system supplier and specialist in the Ex-range, here we plan, develop and build complete solutions for plants - from consulting, through design, construction and manufacturing, to the installation and commissioning of the stirrers.

The customized solution for each of your tasks:

For both business areas, we offer a wide range of the best tried-and-tested products.

With our expert knowledge, good ideas and considerable flexibility, we would be particularly glad to develop application-specific solutions for you. Try it and give us a task - you will be convinced by the quality of our solutions and products.

In this catalog you will find the most relevant information to our business area **stirring technology**. For more information or technical advice, our sales team is always looking forward to your phone call.



Stirring technology – as individual as our customers

Tell us what you would like to stir and we will show you the best solution for your task. This is a simple message, but the best way of describing our offering in the field of stirring technology.

For **planetroll®** offers you a wide range of complete stirrer systems and, in addition, the professional advice of our experts from a single source. Whether you require variable-speed gear-boxes, frequency converters or a constant-speed power transmission solution – we supply you with the optimum custom-designed stirrer unit. Whether you require a propeller or blade or hollow shaft stirring element – you will receive the most suitable stirring element for your task.

Specialist for explosion protection and much more:

Incidentally, our stirrers and all components are available in both explosion-proof and non explosion-proof versions, in accordance according to ATEX-Directive 2014/34/EU. If required, we supply you with an ATEX certified zone 0 separation for your stirrer tank.

The standards GMP, FDA, BISSC, NSF/USDA-H1 can be always fulfilled.

Besides this, we also provide you with silicone-free power transmission solutions.

Nearly unlimited system solutions

With **planetroll®** you can rely on one of the most experienced and innovative manufacturer of power transmission technology for stirrers. Our solutions are not restricted to products made by ourselves: We provide you always exactly with the components obtaining the most favourable result for your stirring task. For ultimately, it is just the performance and the most favourable stirring result that counts.

Our services at a glance

- Technical advice and analysis
- Test planning and test procedure
- Conception
- System design
- Production
- Assembly and putting into operation
- Service, maintenance, spare parts
- 21 agencies abroad on five continents

We are also at home in your industry

You can rely on our knowledge acquired from a wide variety of sectors and countless stirring tasks. Whatever you want to stir and to mix – **planetroll®** is your good partner for it. For our

system solutions provide you with convincing arguments in respect of performance, costs and quality. Your possibilities are nearly unlimited. Well, call us and stir with us this and much more:

Cosmetics

Paint and varnish

Chemicals and pharmaceuticals

Plastics

Foods (diary products, confectionary)

Beverages



Individual system solutions by planetroll®

For the last 30 years, we have created a perfect basis for the development of the best system solution for your stirring tasks. As for such a long time, we develop speed-variable and speed-constant drive units for the stirring technology and

with custom-made designed drive units we provide for best stirring results. Tell us what you would like to stir, let us know your basic conditions and we will work out an individual solution for you.

What products should be processed?

- Description
- Density
- Viscosity
- Quantity
- Pressure
- Temperature

What would you like to do?

- Homogenizing
- Suspending
- Gassing support
- Heat exchange support

What kind of stirring task do you have?

- Gentle product stirring handling
- Avoiding of frothing and air induction
- Applying or avoiding of shear forces

How is the viscosity and the flow behaviour of your products?

- Low-viscosity 0-500 mPas
- Medium-viscosity 500 – 5.000 mPas
- High-viscosity > 5.000 mPas
- Newtonian product
- Non-newtonian product
Shear-thickening or shear-thinning

What is the operation method of your process?

- Discontinuous
- Continuous (throughput m³/h, retention time)
- Constant filling level
- Variable filling level

How long will the stirring unit be operated per day?

- Continuous duty
- Cycle duty
- Short-time duty

What material is allowed for parts getting into contact with the medium?

- Stainless-steel 1.4301
- Stainless-steel 1.4404
- Stainless-steel 1.4571
- Further materials

Is a stirrer seal necessary?

Yes

- Stirring shaft seal (seal ring, gland seal)
- Mechanical seal
- Others

No

- Open tank



Check

Which type of drive would you like to use?

- Variable-speed gearbox
- Frequency converter geared motor
- Constant geared motor
- Pneumatic drive unit

For which Ex-range should your plant be designed?

- Tank: Gas zone 0 / 1 / 2 / none
- Environment: Gas zone 1 / 2 / none
- Environment: Dust zone 21 / 22 / none
- Temperature class: T3, T4, others

What is the shape of your stirring tank?

- Type: Open or closed
- Form: Square or round
- Position: Vertical or horizontal
- Bottom: Straight, conical, convex or other form

Are tank internal attachments available?

- Baffle for stirrers
- Heating coils
- Tubes etc.

Which mounting position is required for the stirrer?

- From above
- Sidewise
- Sublevel
- Central
- Eccentric

Would you like to embed the stirring task into your production process?

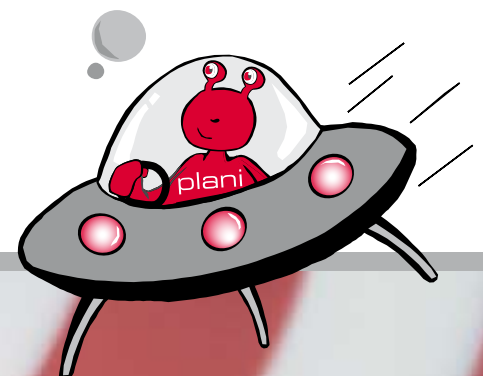
- Automation of your stirrer and monitoring of the stirring process to ensure your quality standards or embedding of your stirrer into a production process by means of a stirrer control
- Development of a complete production unit, combining the stirring task with further important production steps, projected from a single source
- Communication of the stirring plant with host computer level over standard field bus interference

Are there any other characteristics which need to be considered?

- FDA-compliant design
- Silicone and PWIS-free design
- GMP, FDA, BISSC compliant
- Lubricant NSF/USDA-H1 registered

List

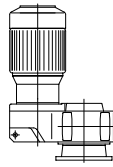
for the stirrer design



Our building blocks for your best stirrer plant

From a single source, we offer you technical advice, construction and manufacturing of complete stirrers for every field of application. We have developed our laboratory stirrer **plaroJet®** specifically for these areas of application – also in

explosion-proof execution. And also for all other stirring tasks and branches of industry, we offer you the most suitable product. Thanks to the planetroll® building block principle, your plant will be editable in all components at a maximum.



Power transmission options

plaromaster® MR gearbox with variable speed

Power: 0.027 - 11 kW
Torque: 1 - 3,000 Nm

Frequency converter geared motor with variable speed

Power: 0.06 - 200 kW
Torque: 1 - 90,000 Nm

Geared motor with constant speed

Power: 0.06 - 200 kW
Torque: 1 - 90,000 Nm

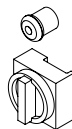
Stirring shaft options

- Different types of connection to gearbox and stirring element
- Stirring shaft diameter: from 10 to 150 mm
- Stirring shaft materials: Stainless-steel and others on request
- GMP and FDA compliant



Stirrer control system options

- Design according to customer request
- From simple speed control through to integration in process controls



We offer you the most suitable stirring element for your task from liquid to high-viscosity mediums. Our stirring elements, in standard or special versions, which can, among other features, be tilted for container and drum applications, offer you many advantages:

Short mixing times, no air induction, no foaming, no heating, energy saving due to low speeds, gentle product stirring, universally usable for almost all tasks, lightweight construction, the single-stage ground-level design without additional components inside the container is generally sufficient, pass-through operation possible.

Propeller stirring elements

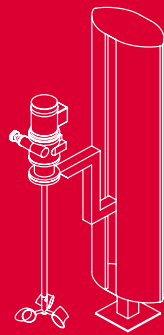
Hollow-shaft stirring elements

Blade stirring elements

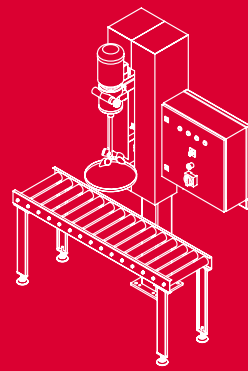
...and many more



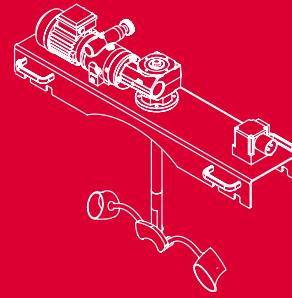
Small-scale stirrers for Hobbocks HRW and drum stirrers



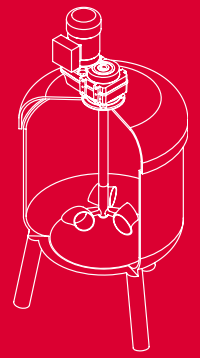
Stand stirrers SRW with manual or electric stroke



Process-integrated stirrer plants



Container stirrers CRW



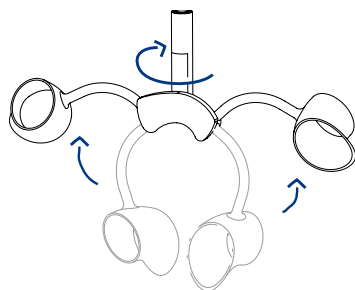
Top-mounted stirrers ARW and large-scale stirrers

Variety of products for all your stirring tasks

Other designs: Laboratory stirrers, tank stirrers, sublevel stirrers

Stirrer plants by planetroll® – completely integrated in all your production processes

Maximum diversity and flexibility



Functional principle for RuvaStar® comet, comet spiral round and square

tiltable and disassembled without any problems – thus easy to clean

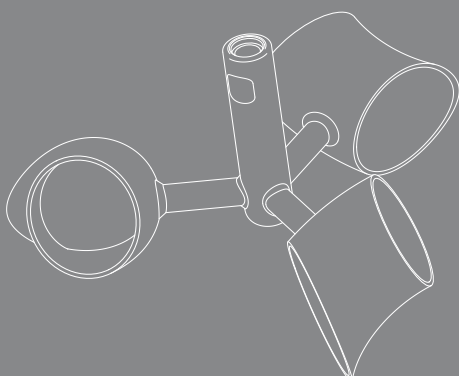
We build complete stirring plants for you, completely embedded in your production processes. In particular, this service range includes:

- The automation of your stirrers including the monitoring of the stirring process to ensure your quality standards
- The embedding of your stirrer into a production process by means of a stirrer control
- The communication of the stirring plant with host computer level over standard field bus interference

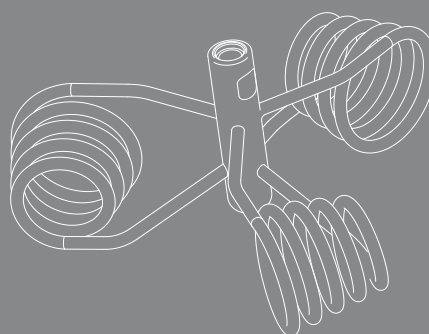
Furthermore, we build complete production plants for you, such as transport systems and handling systems combining your stirring task with further important production steps, projected from a single source.

Stirring element options

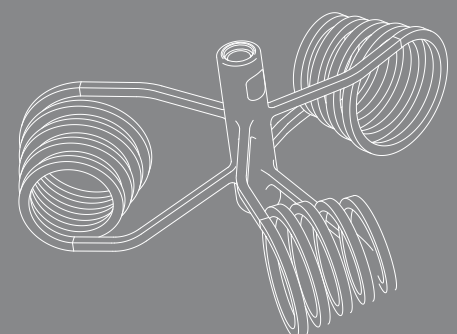
Example for a hollow-shaft stirring element: RuvaStar®



RuvaStar® standard



RuvaStar® spiral round (also available in tiltable version)



RuvaStar® spiral square (also available in tiltable version)

Contact

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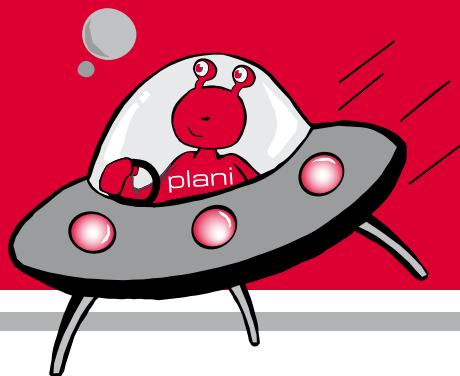
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A global leader in explosion protection

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