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# AGITATOR TECHNOLOGY IN PERFECTION

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## EXCELLENT QUALITY, FIRST-CLASS ADVICE: THE PERFECT MIX FOR YOUR SUCCESS

With more than 35 years of experience in agitation technology and process engineering, innovative technologies and first-class advice, PRG mbH is one of the world's leading suppliers of agitators and agitation plants.

With the highest level of precision and state-of-the-art manufacturing methods, we develop and produce agitators and mixing systems that perfectly fit for your processes. You can rely not just on the quality of our products but also on our well-established expertise as consultants: Exceptional knowledge of the industry and a sound understanding of its processes ensure that we will always offer you the best possible technical solution to meet your needs. This is something that

our customers from a wide range of industries can always count on, whether they come from the cosmetics, chemicals, biotechnology, food, biogas or pharmaceuticals sectors, or are system planners for large-scale industrial applications or medium-sized companies.

**Economical, innovative, reliable: Take your agitation technology to a new level - we look forward to your enquiry!**

>120  
EMPLOYEES

4,800 m<sup>2</sup>  
PRODUCTION  
AREA

>50%  
EXPORT QUOTA



High level consulting from the very beginning of a project



Every Detail in high end finishing



Innovative technology for highest requirements



PRG company history from 1981 to the present

**1981**  
Founded by  
Hubert Dierkes

**1990**  
New building goes up  
at the Warburg site

**2001**  
Frank Dierkes  
appointed  
Managing Director

**2004**  
PRG joins the  
BANG training  
network

**2005**  
Expansion:  
Production area

**2007**  
Further construction:  
Warehouse customi-  
sation and the production  
of steel parts, offices and  
training rooms

**2010**  
PRG India  
founded

**2012**  
Further construction:  
Offices, social areas, tech-  
nical centre, final assembly  
for pharma/biotech, small  
parts and pallet storage

**2016**  
Expansion:  
Surface  
finishing

**2017**  
Further construction:  
self-contained ware-  
house and logistics



## AGITATORS FROM PRG: AS INDIVIDUAL AS YOUR PRODUCTS

Over 220 installed central agitators since 2005 and more than 15 years of experience in the field of biogas: PRG offers you a wide range of sophisticated agitator types that can be perfectly adapted to the respective task and system size – for optimum yields and maximum operational reliability right from the start.

All the agitators we produce are all freely configurable, which guarantees seamless integration into your processes. We can also offer special constructions designed by our own development department to meet your specific requirements. As diverse as our agitators and stirring devices are, they are all characterised by excellent material and manufacturing quality, as well as maximum economic efficiency and reliability. This is because we use only materials of the highest quality and selected components from well-known manufacturers.

The agitators we manufacture for the biogas industry are made of steel, steel/stainless steel, or made completely of stainless steel. In this case, free shaft lengths of up to 24,000 mm and shaft diameters of up to 240 mm can be realised. Exceptional vertical integration in our production also allows us to manufacture or finish most of the required agitator components independently. In this way, we can respond to your wishes with the greatest possible degree of flexibility and, at the same time, guarantee precision, quality and ease of maintenance. Our SCC-certified fitters and supervisors ensure first-class service for all your agitator technology from PRG – including as part of an individual maintenance contract on request. It goes without saying that in the development and manufacture of our products we always adhere to the applicable statutory provisions and your internal factory standards.



Tested welding technology of the highest quality

**Whatever you plan to do: We will build the right agitator for you!**

## CENTRAL AGITATORS FROM PRG: WE FOCUS FULLY ON YOUR PRODUCT

Efficient agitator technology is indispensable for successful biogas production. PRG offers you technically perfected central agitators for a wide range of applications – whether for laboratory-scale work or industrial production in large tanks up to a volume of 10,000 m<sup>3</sup>.

Our central agitators precisely and reliably fulfil the tasks involved in biogas production. First and foremost is the homogeneous distribution of product components in order to enable optimal transport of material and heat – the basic prerequisite for maximum gas yield. Our central agitators also effectively prevent the formation of a floating layer and sedimentation at the bottom of the tank.

Whether hydrolysis tank, sanitising tank, digester or post-digester: our central agitators allow installation in all common tank designs, be it concrete tanks, bolted and coated steel tanks, or enamelled tanks. We also offer the greatest possible flexibility with regard to the media to be processed, ranging from renewable raw materials as well as silage and manure through to animal and kitchen waste. A dry matter content of up to 12% is standard for our agitators. Our drive units are robust and durable geared motors from a renowned German manufacturer, with an operating factor of  $\geq 2$ .

We design our agitators in close cooperation with the customer and, working from the specified parameters, develop tailor-made solutions of the highest technical quality. Our central agitators can thus operate without baffles and a steady bearing\*, while they are sealed off to the atmosphere via a low-maintenance water lock with integrated level monitoring. We also ensure the high quality of our central agitators by checking the welds using different test methods (visual inspection, dye penetrant testing, ultrasonic testing, etc.).

All of these factors have made PRG agitator technology the first choice of renowned customers worldwide. We look forward to impressing you too with our services!



## CENTRAL AGITATORS FOR DIGESTER

**Working volume:** 1,000 m<sup>3</sup> – 10,000 m<sup>3</sup>

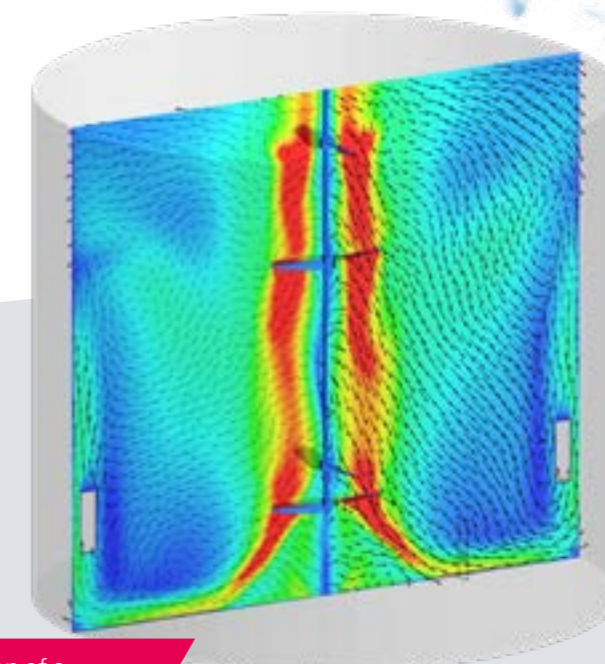
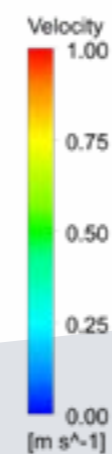
**Motor power:** 7.5 kW – 75.0 kW

**ATEX-classification agitator:** II 2 G cb II A T 3

**ATEX-classification drive unit:** EExde II CT4 / II 2 G

**Sealing:** gas-proof up to 50 mbar, wear-free

**Impeller design:** flow-optimised Hydrofoils from  $\varnothing$  3,000 mm to  $\varnothing$  6,000 mm



CFD simulation of a 8,500 m<sup>3</sup> biogas digester



\*Usage is possible depending on the product and process data.

## WE WALK THROUGH THE WALLS FOR YOU: LATERALLY INSTALLED AGITATORS

Use in post-digesters with gas storage usually requires lateral installation of the agitator technology. In this case too you will receive premium quality, tailor-made solutions from PRG for a usage range of up to 7,000 m<sup>3</sup>.

The installation position and the number of required belt driven agitators are determined depending on the respective working volume. Doing so ensures optimal mixing of the tank's contents. The agitator for bolted tanks is assembled on a shaft to ensure that no forces are conducted to the tank wall. And our agitators can also be easily installed on concrete basins, showing that there is almost no limit to the possible applications.

In addition, through innovative ideas and continual further development of our products we contribute to making the production processes of our customers even more effective and economical. For example, together with one of our suppliers, we developed a mechanical seal with a shut-down device, which was specially designed for use in the biogas industry. It allows maintenance and replacement of the seal from the outside on a full tank – a particularly maintenance-friendly and cost-saving solution that helps minimise downtimes.

Benefit from the numerous advantages the tailor-made agitators from PRG offer biogas producers like you. If you would like more detailed advice, we would be happy to have a personal conversation!



Energy for the future – with optimal agitator technology from PRG



### LATERALLY INSTALLED AGITATORS FOR POST-DIGESTER

**Working volume:** 500 m<sup>3</sup> – 7,000 m<sup>3</sup>

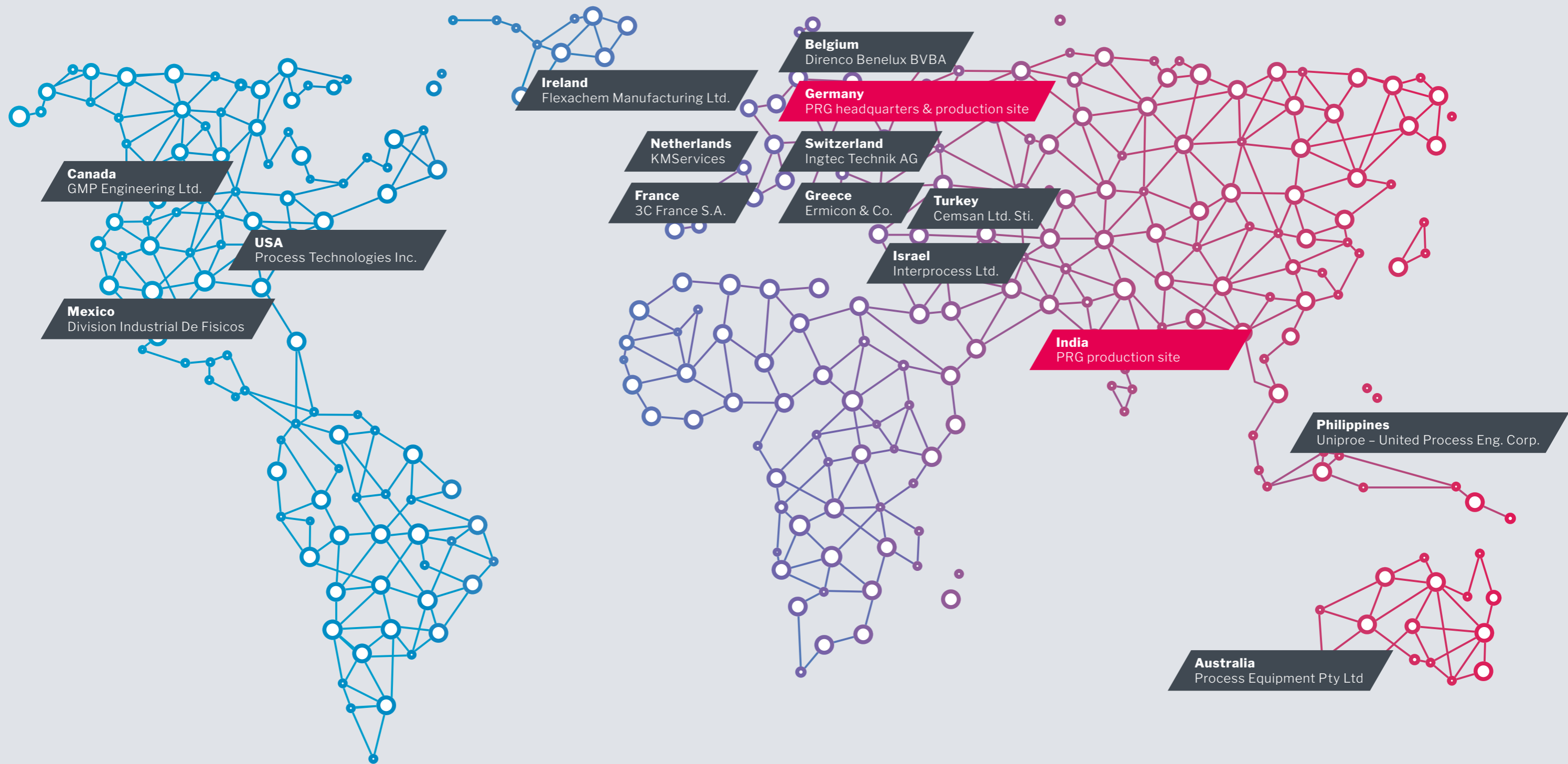
**Motor power:** 5.5 kW – (6×) 22.0 kW

**ATEX-classification agitator:** II 2 G cb II A T3

**ATEX-classification drive unit:** EExe II CT4

**Sealing:** special cartridge mechanical seal with shut-down device and according to TA Luft

**Impeller design:** Butterfly-Impeller with high pump flow rate



## WE'RE AT YOUR SERVICE THROUGHOUT THE WORLD

We take pride in offering you the best service for your PRG agitators and agitation plants at all times. This starts with advice and planning – and continues way beyond the manufacture of our products.

We're there for you around the clock – and around the world – and are on hand at all times with all the advice and practical support you need. Regardless of whether your agitation equipment needs maintenance, you want to further optimise your processes

or you need quick support and the right spare part in the event of a repair: With 15 sites or representatives on four continents, we're always close by and at your disposal at all times. We look forward to a cooperative partnership with you!



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## **Agitator technology for the biogas industry**

With more than 35 years of experience, innovative technologies and first-class consulting expertise, PRG GmbH is one of the world's leading suppliers of agitators and agitation plants. Our products are used around the globe in a wide variety of industries – not only in the biogas industry, but also in the sectors of food, cosmetics, chemicals, biotechnology and pharmaceuticals.

- Made-to-measure agitator technology
- Consulting expertise at the highest levels
- A broad product range
- Quality and precision down to the last detail

 **Quality products made in Germany**

 **The PRG GmbH operates a certified quality management according to DIN EN ISO 9001/2015 and also an Ex-certificate according to guideline 2014/34/EU.**

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