

# ROTOTWIN<sup>®</sup> PUMP SOLUTIONS FOR THE MOST STRINGENT HYGIENE REQUIREMENTS

- Powerful suction capability
- Reversible direction of flow
- Wide viscosity range
- 60 % gas content possible
- Low pulsation
- Safe dry running

# THE ROTOTWIN® SCREW PUMP

## For the foodstuffs, pharmaceutical, cosmetics and chemical industries

Pathogens don't stand a chance! In order to meet the stringent requirements of the foodstuffs industry, companies working in this sector need equipment such as the RotoTwin® screw pump which was designed to meet the strict EHEDG hygiene requirements.

Two intermeshing rotating feed screws reliably convey products with high to low viscosity as well as gaseous or volatile products. Due to the axial movement and low acceleration the RotoTwin® never fails to impress with its powerful suction capability and gentle product delivery. The contactless operation of the feed screws makes the pump

safe even when running dry. Even major air bubbles in the pipe will not harm the pump. The pump's ability to reverse the direction of rotation enables the medium to be pumped in both directions, making it possible to use the pump for filling or emptying.

### Technical highlights:

- Max. output 200 m<sup>3</sup>/h
- Max. temperature +130 °C
- Max. pressure difference of 30 bar
- Viscosity up to 1,000,000 mPas

### TYPICAL USES

The RotoTwin® was developed for the reliable conveyance of a wide range of products. At the development stage the focus was on easy cleaning, cost-effectiveness, and use in applications requiring maximum hygiene and economy.



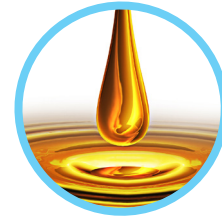
#### MILK

Yoghurt, quark, fruit preparations, cheese solids, curds, cream, butter, dessert preparations



#### DRINKS

Concentrates, fresh fruit juice, juice, pulp, yeast, syrup, beer, spirits, wine, fruit purée



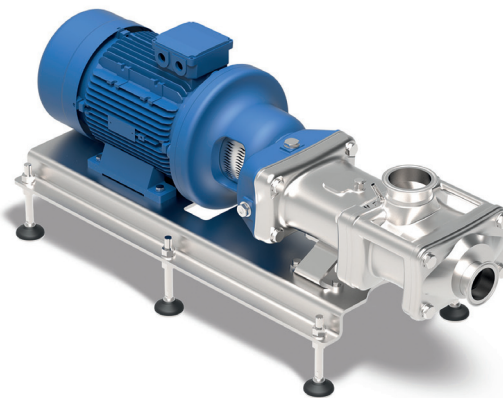
#### CHEMICAL INDUSTRY

Fuels, oil, adhesives, plasticisers, solvents, dispersions, feedstocks, polymer suspensions, chemicals



#### MEAT

Minced meat, sausage meat, blood, animal feeds



#### DELICATESSEN PRODUCTS

Ketchup, mayonnaise, mustard, whole egg, egg yolk, egg white, sauces, dressings



#### PHARMACEUTICALS & COSMETICS

Creams, ointments, soaps, shampoos, feedstocks



#### CONFECTIONERY

Dough, liquid sugar, glucose, honey, fat, fondant, chocolate, fillings, oils, grain suspensions

# MAJOR HYGIENE ADVANTAGES

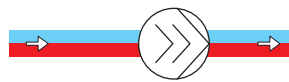
The very high rotational speed ranges enable the product or the cleaning fluid to be pumped by the same pump. Expensive procurement and operating costs of a bypass line are avoided. When used for cleaning, the RotoTwin® achieves very high rotational speeds up to 4,000 min<sup>-1</sup>. This provides optimal cleaning for the pipework as well as the pump, thus ensuring outstanding results for cleaning in place (CIP). When used with low viscosity media the screw pump achieves a pressure of up to 30 bar with the result that the product can be expelled from the pipework with water. The RotoTwin® is designed in such a way that there are no shadow or dead areas. All pump components in the

production line are optimally exposed to the cleaning medium.

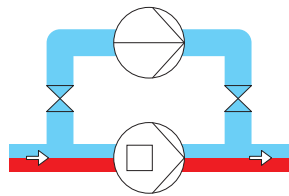
- Very high rotational speed range enables the product or cleaning fluid to be conveyed as required
- High pressure of up to 30 bar permits product-bearing pipework, equipment, valves and fittings to be pumped clear
- The pump is manufactured according to the high hygiene requirements of EHEDG or 3A certified production processes

## TWO IN ONE: OUR ROTOTWIN®

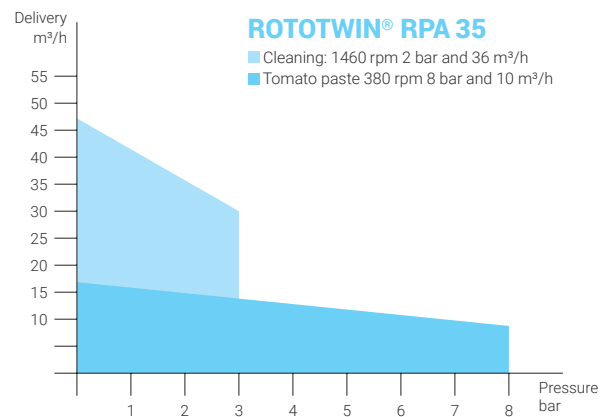
■ water  
■ or product, as required



Conveyance and CIP cleaning with the RotoTwin® RPA 35



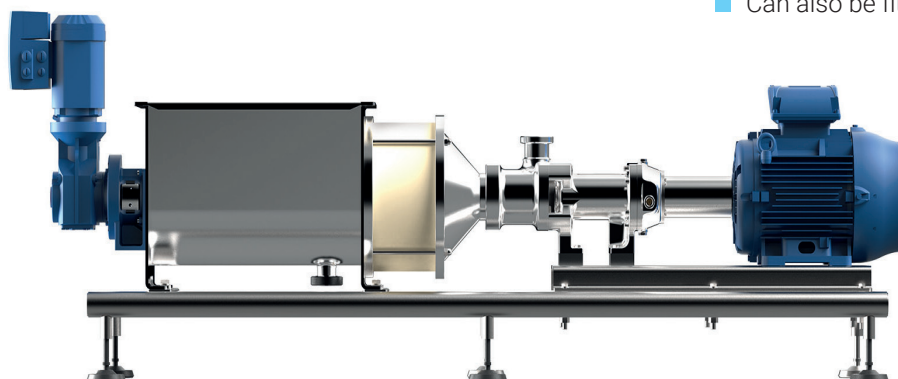
Pumping with positive displacement pump and CIP cleaning with a radial pump



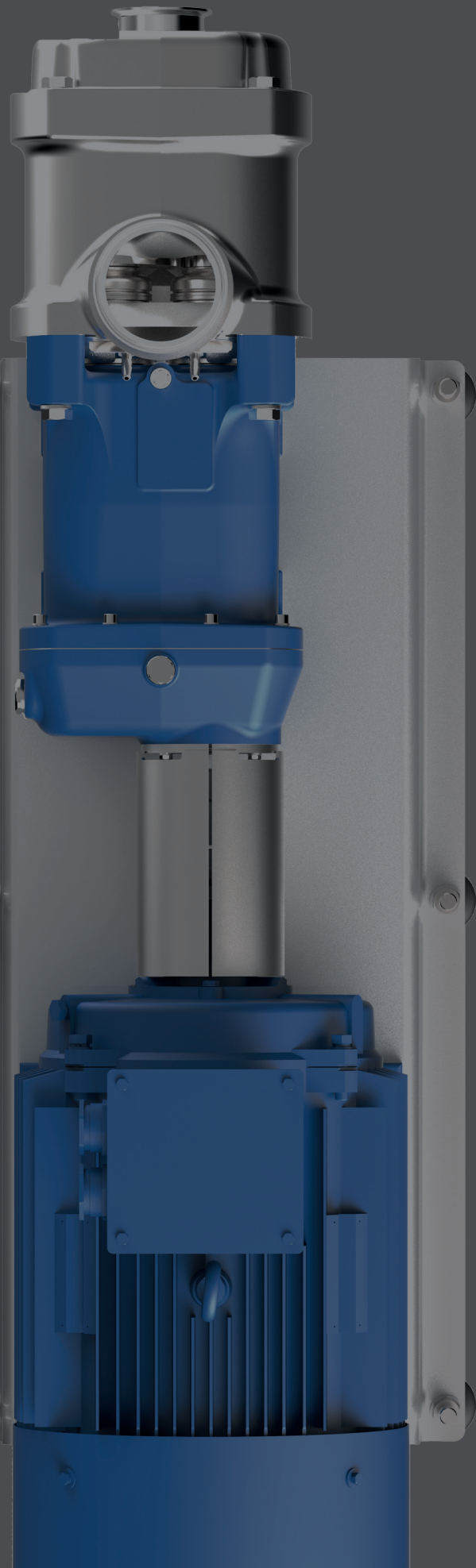
# FLEXIBLE SOLUTIONS

An extensive range of options and accessories are available as ideal additions or modifications so that the pump meets your specific requirements. Thus you can assemble a customised solution, as tailor-made special solutions are always possible, of course. The design and supply of reliable and robustly designed pumps is one of the special areas of Rototec AG. Our expert pump specialists are there to advise you.

- The full range of hygiene connections are available for the RotoTwin®
- Surface-hardened feed screws
- Base plate made from type 1.4301 stainless steel, also available with levelling feet as an option
- Type 1.4301 stainless steel drive cover
- Moveable version with moveable and fixed castors available
- Bearing oil cooler for temperatures up to 130 °C
- Heating jacket on the pump case
- Special versions possible for connection to existing plant and equipment
- Can also be fitted with a hopper



# OPTIMAL DELIVERY



## POWERFUL SUCTION CAPABILITY

The axial delivery and the low acceleration of the product in the pump provide excellent  $NPSH_R$  values  $< 2$  m.

- For emptying tanks
- For low suction line height to the pump
- For conveying viscous products or products with low boiling points

## REVERSIBLE DELIVERY DIRECTION

Delivery in both directions by reversal of direction of rotation.

- For delivery and subsequent emptying of the pipework
- For use as a filling and emptying pump

## WIDE VISCOSITY RANGE

Viscosities of up to 1,000,000 mPas are possible through the axial delivery and low kneading action in the product. Good delivery performance from the high rotational speed even at low viscosities of 0.5 mPas.

- Delivery of all low to high viscosity products
- Delivery of an extremely broad range of products from just one pump

## 60 % GAS CONTENT POSSIBLE

The high rotational speed enables even compressible products to be delivered.

- For delivery and subsequent emptying of the pipework by suction
- For use as a filling and emptying pump

## LOW PULSATION

The axial delivery and the low acceleration of the product in the pump ensure a low pulsation level. Any pulsation which occurs is rapidly dispelled by the high rotational speed.

- Minimal shear forces maintain the structure and appearance of the products
- Ensures gentle conveyance of sensitive media
- The pumped distance can be extended by pumps working in tandem
- For applications where high quantity accuracy is needed

## SAFE DRY RUNNING

The contactless operation of the feed screws and a flushed/blocked axial face seal make the pump safe if it runs dry.

- The pump continues to work even with a high proportion of gas in the pipework

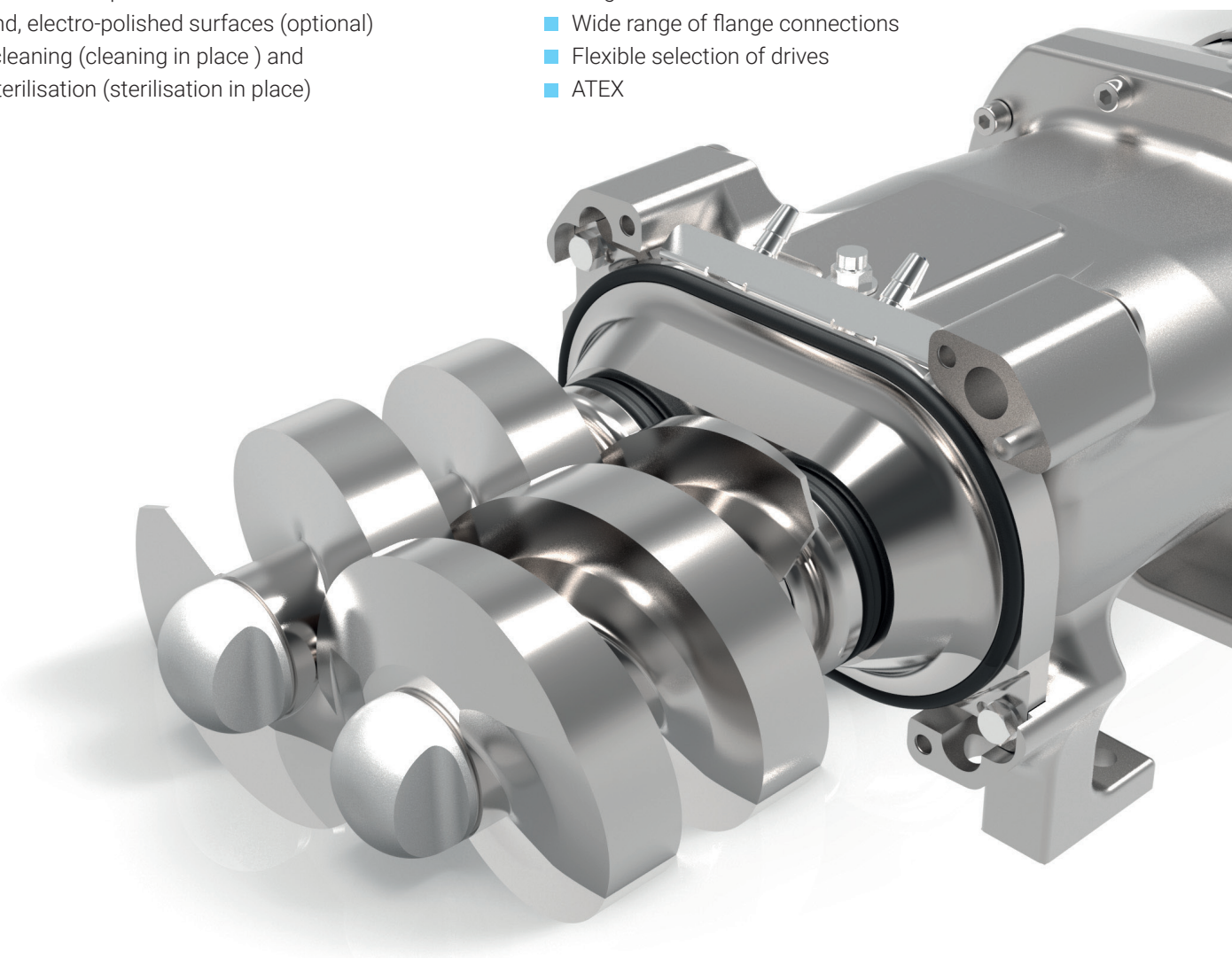
# TECHNICAL PERFORMANCE

ROTOTWIN®	RPA 5	RPA 12	RPA 35	RPA 65
Max. pressure difference (bar)	30	30	25	20
Delivery rate (m <sup>3</sup> /h)	0 -15	0 - 40	0 - 100	0 - 200
Max. rotational speed (min <sup>-1</sup> )	4000	3600	3000	2'600
Max. temperature (°C)	130*	130*	130*	130*
Viscosity range (mPas)	approx. 0.5 - 1,000,000	approx. 0.5 - 1,000,000	approx. 0.5 - 1,000,000	approx. 0.5 - 1,000,000
Free ball passage (mm)	20	25	30	40

\*Pumps for higher temperatures on request

## STURDY MATERIALS

- Material in contact with the product:  
Type 1.4404 stainless steel
- Surfaces of the parts in contact with the product  
approx. RA < 0.8 µm
- Ground, electro-polished surfaces (optional)
- CIP cleaning (cleaning in place ) and  
SIP sterilisation (sterilisation in place)
- Elastomers comply with FDA requirements and  
EC Regulation1935/2004
- Designed and certified in accordance with EHEDG and  
3A guide-lines
- Wide range of flange connections
- Flexible selection of drives
- ATEX



# ROTOTWIN® – THE CLEAN MACHINE

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## ENVIRONMENTAL INDUSTRY

Effluent, recycling,  
hazardous waste processing, waste-to-energy  
plants, biogas, sewerage systems, agriculture



## DESIGNERS

Plant engineering, machine construction,  
process engineers,  
Engineers



## MANUFACTURING INDUSTRY

Paper, cardboard, cellulose, ceramics,  
coatings, electroplating, plastics,  
wood products, glass, tiles



## CHEMICAL INDUSTRY

Adhesives, paints,  
Chemicals, bitumen, latex,  
Oils and fats

## THE RIGHT PUMP FOR YOUR SECTOR



## FOODSTUFFS

Bakery and dairy products, drinks,  
delicatessen products, confectionery, chocolate,  
sugar, meat, fruit and vegetables



## WATER

Sanitary items / infrastructure, fire brigade,  
flood control, shipping



## PHARMACEUTICALS & COSMETICS

Creams, ointments, feedstocks,  
Animal health



## CONSTRUCTION INDUSTRY

Concrete manufacturing, insulation materials,  
Cement manufacturing, geothermal applica-  
tions, tunnel construction,  
gravel quarries, cement products