



Welcome to the SERO PumpSystems Group.  
The foremost manufacturer of Side Channel Pumps.



# SERO PumpSystems

Company Information

Side Channel Pumps

# History



1894 Max Brandenburg establishes the Berliner Pumpenfabrik AG in Berlin.



1929 Imperial patent for the Side Channel Pump. The SERO trademark is created: SERO (SE = selfpriming - RO = rotating) Many patents follows.



1959 The SERO Pumpenfabrik GmbH is established in Meckesheim by Heidelberg.



2003 Founding of SERO PumpSystems GmbH. SERO has positioned itself as one of the leading manufacturers of side channel pumps.

# History



Founding of SMW Service und Pumpentechnik GmbH as Service Company within the SERO group. The SMW offers full 'Customer Support Service'.



Founding of SERO PumpSystems, Inc. in Houston/Texas as sales and spare parts distribution center for the US-market.



Construction of an new office- and workshop building at the location in Meckesheim.



Founding of SERO PumpSystems Pte. Ltd. in Singapore as sales office for the South-East Asian market.

# Manufacturing



- ◆ Largest manufacturer of Side Channel Pumps in Germany

~ 2500 pumps per year



- ◆ Only pump manufacturer worldwide with focussing on Side Channel Pumps

~ largest pump range



- ◆ Fast and efficient manufacturing by using state-of-the-art CNC-machine tools

# Material planning



- ◆ Short delivery times due to optimized material planning
- ◆ Availability of all original spare parts for SERO standard pump series at your disposal in our central stock



# Assembly



- ◆ Leader in Side Channel Pump Technology
- ◆ Custom-made pump systems in various designs, adapted to the site requirements or ready-for-operation units out of our standard program

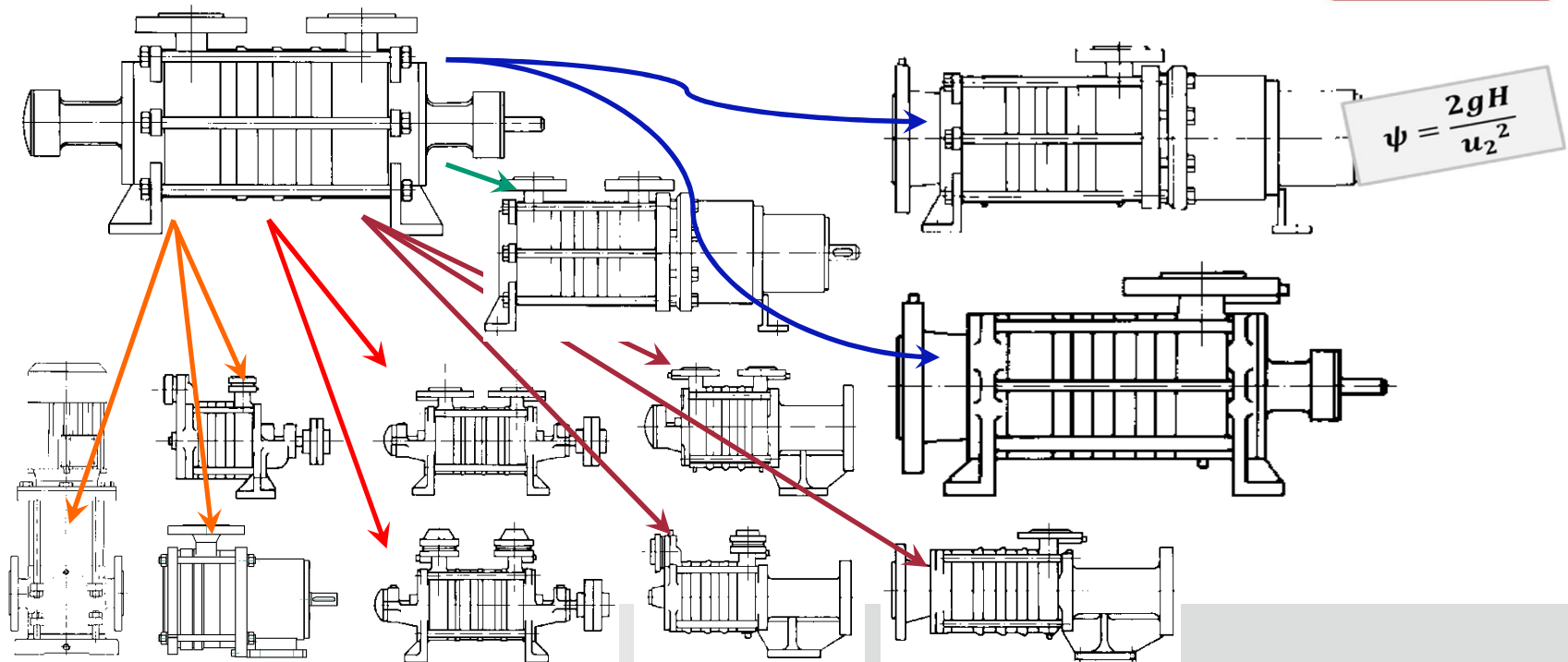
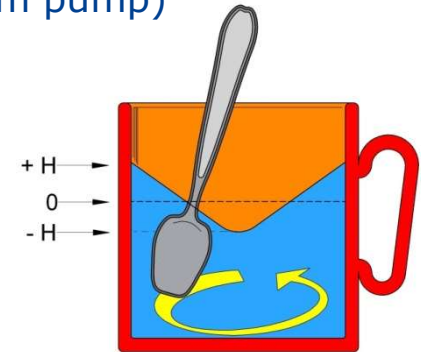
# Side Channel Pumps

## The Side Channel Pump

1. What it is?
2. How it works?

# Side Channel Pump – What it is?

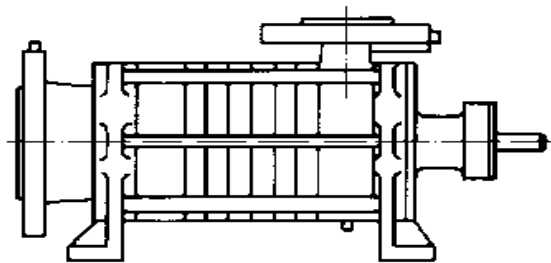
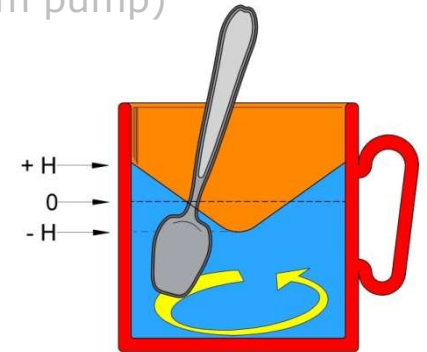
- SC principle was invented 90 years ago (developed from watering vacuum pump)
- Being a centrifugal following the laws of affinity ( $Q \sim n$  //  $H \sim n^2$  //  $P \sim n^3$ )
- Generating significantly higher pressure coefficients as as comparable classic centrifugal pumps („internal multistage effect“)
- Hydraulic performance per stage and connection sizes standardized with DIN EN 734
- With given modularity extremely versatile, flexible and adaptive



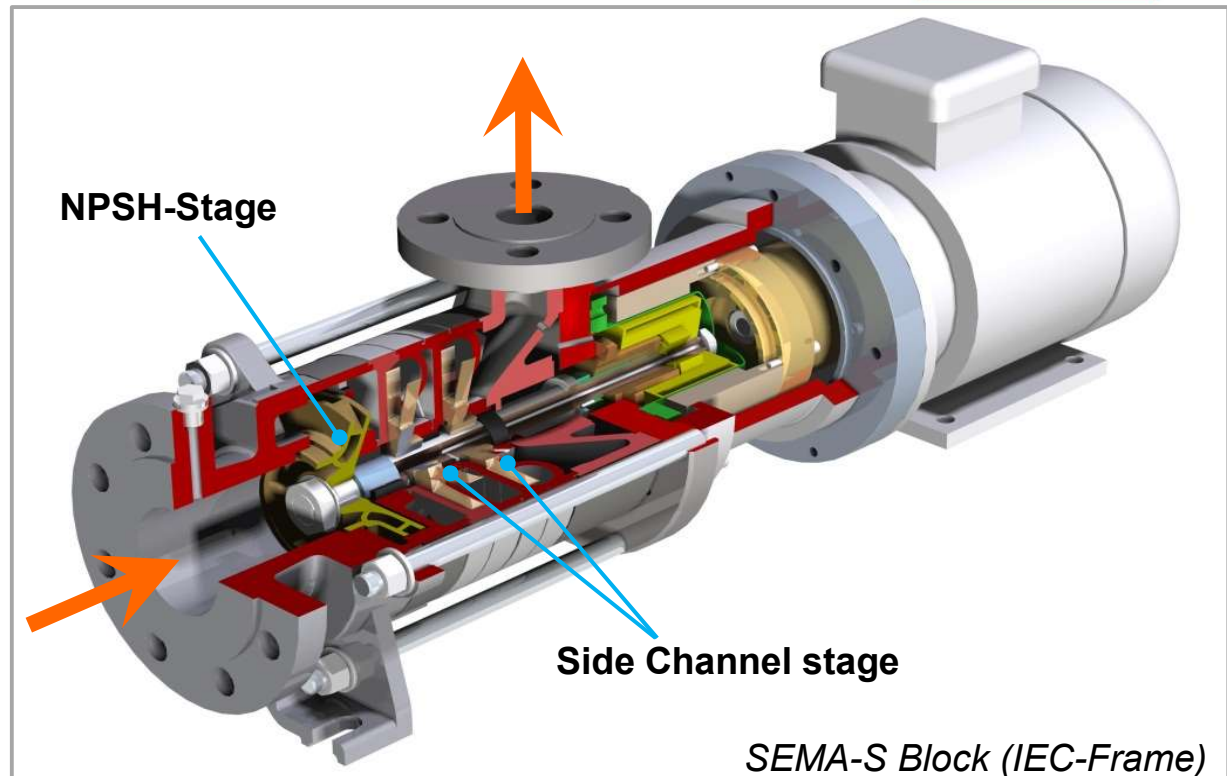


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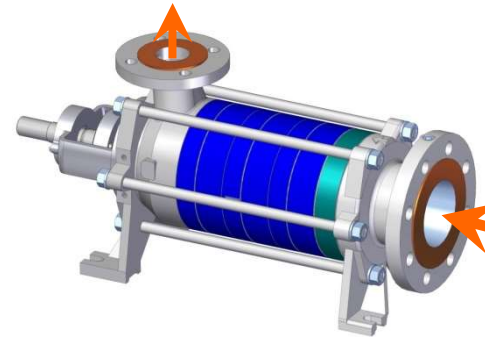


Multifunction pump (S-Hydraulic)



SEMA-S Block (IEC-Frame)

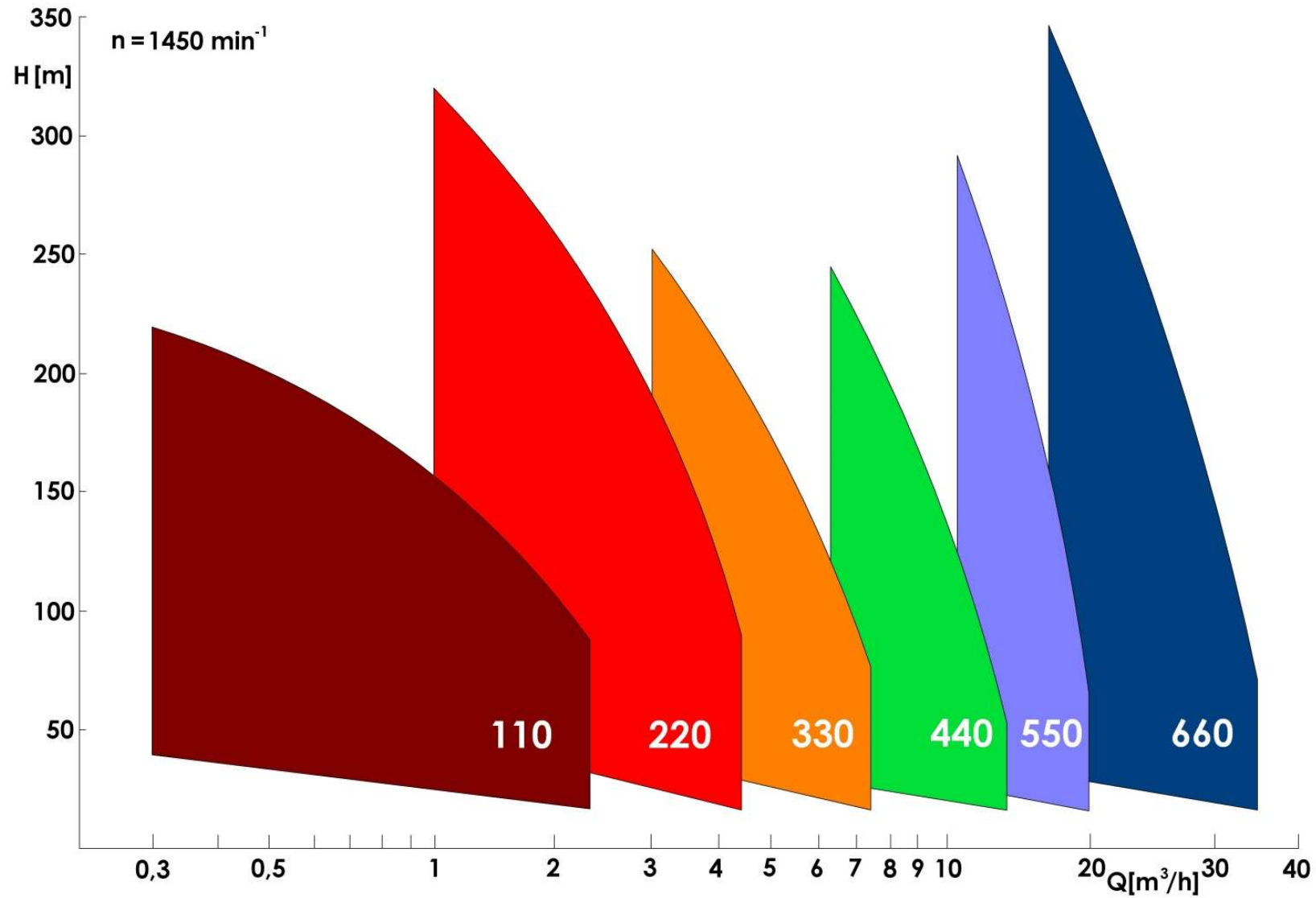
## Multifunction Side Channel Pump (derived from DIN EN 734)



- SCP radially split ring section design (6 sizes with max. 8 stages)
- 5 material classes with cast iron, ductile iron, brass, Chrome- and/or stainless steel
- With low NPSH- (suction-) stage
- Speed: from 950 to 1750 RPM
- Low temperature design from  $-60^{\circ}\text{C}$  ( $-75^{\circ}\text{F}$ )
- High temperature design to  $+220^{\circ}\text{C}$  ( $+425^{\circ}\text{F}$ )
- all common shaft seal technologies available
  - Gland packing
  - Mechanical seal  $\Rightarrow$  single or double acting (DIN24960)
  - Magnetic coupling
  - Canned motor

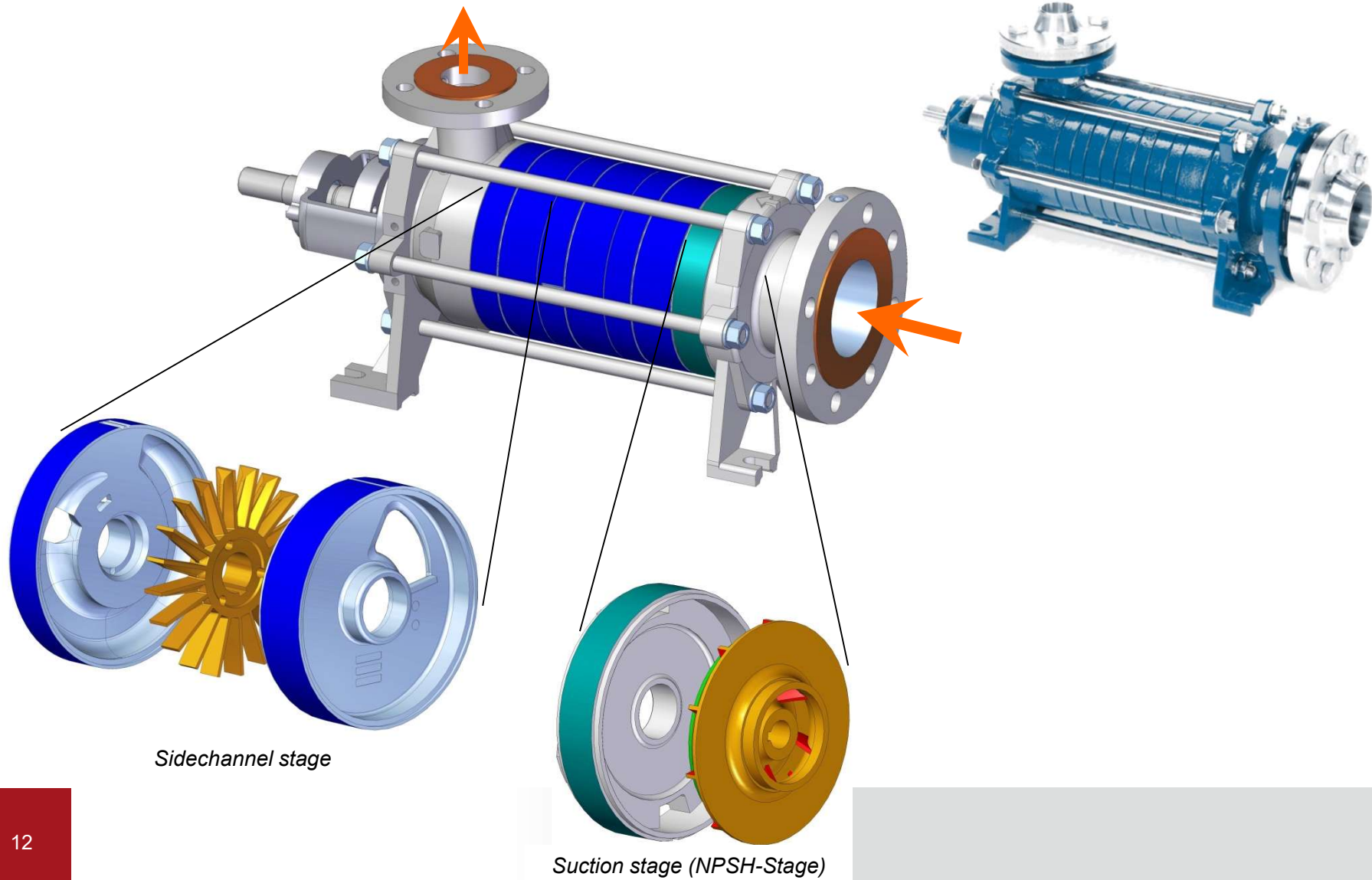
*Developed with stipulation  
of the Chemical Industry  
(good value and reliable)*





# Side Channel Pump – What it is?

## Design of the Multifunction hydraulics



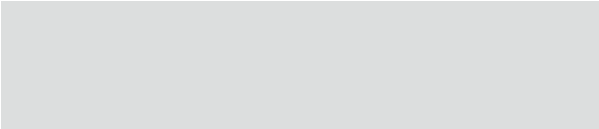
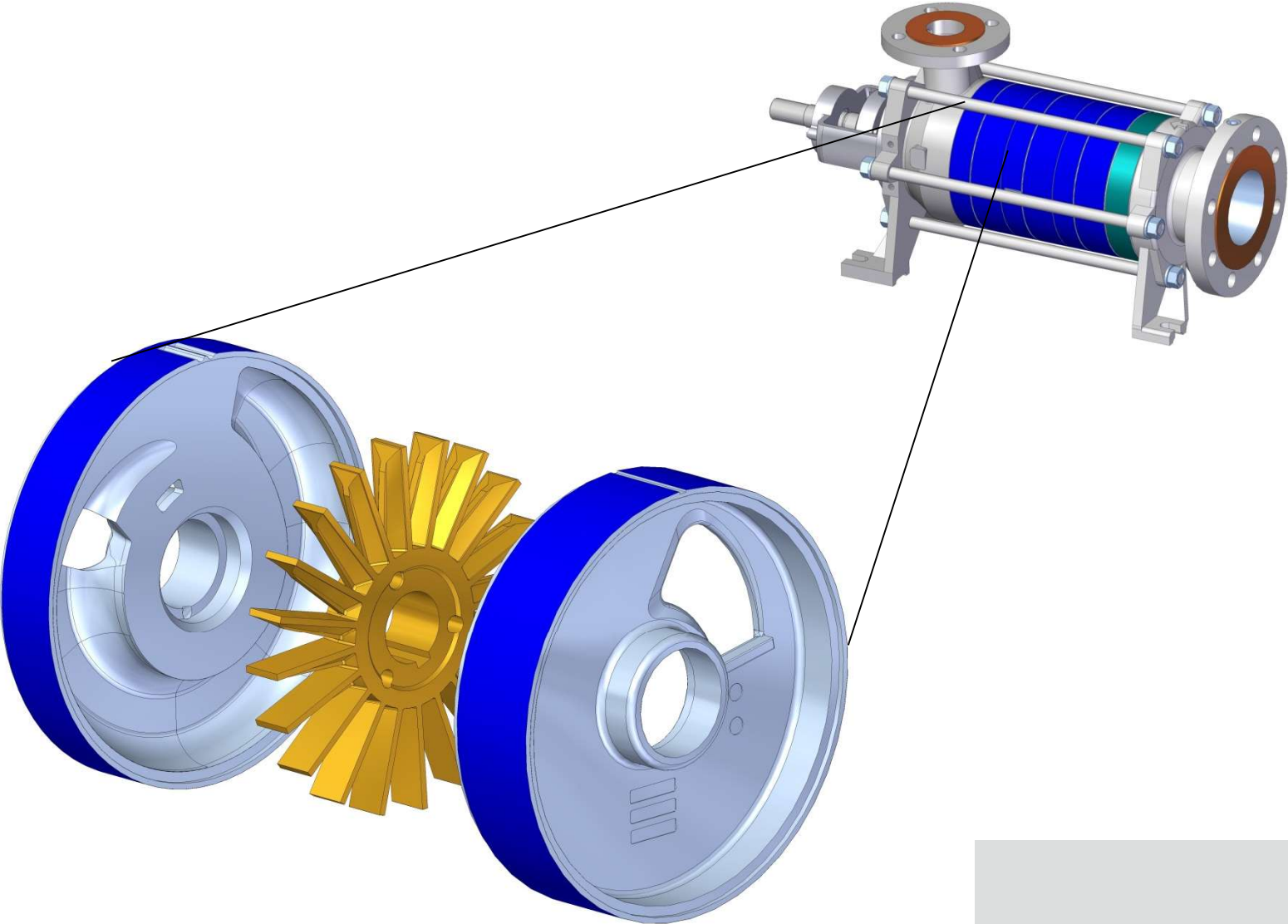


Inspiring Technology. Meeting Your Needs.



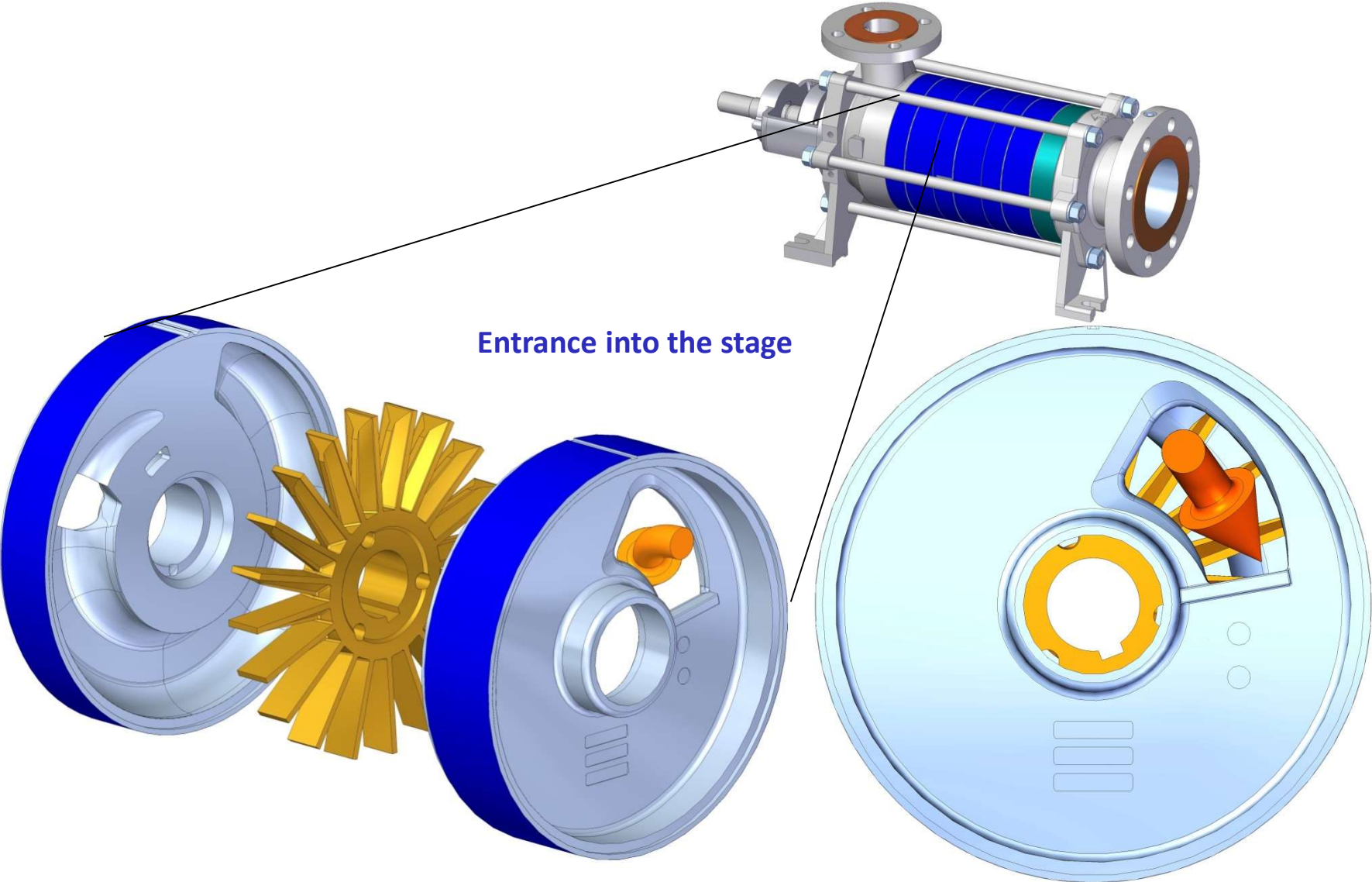
# Side Channel Pump – How it works?

## Working principle



# Side Channel Pump – How it works?

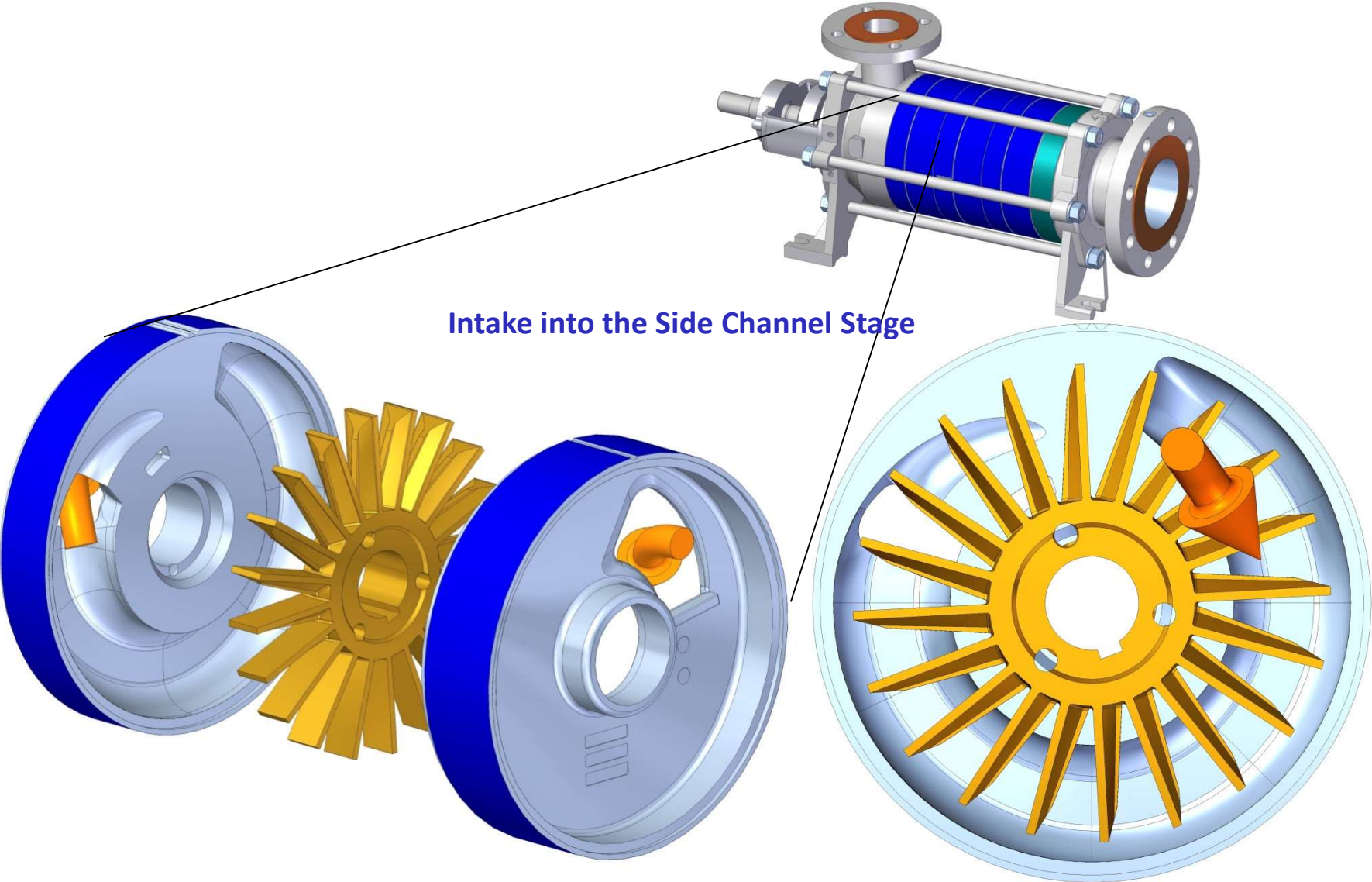
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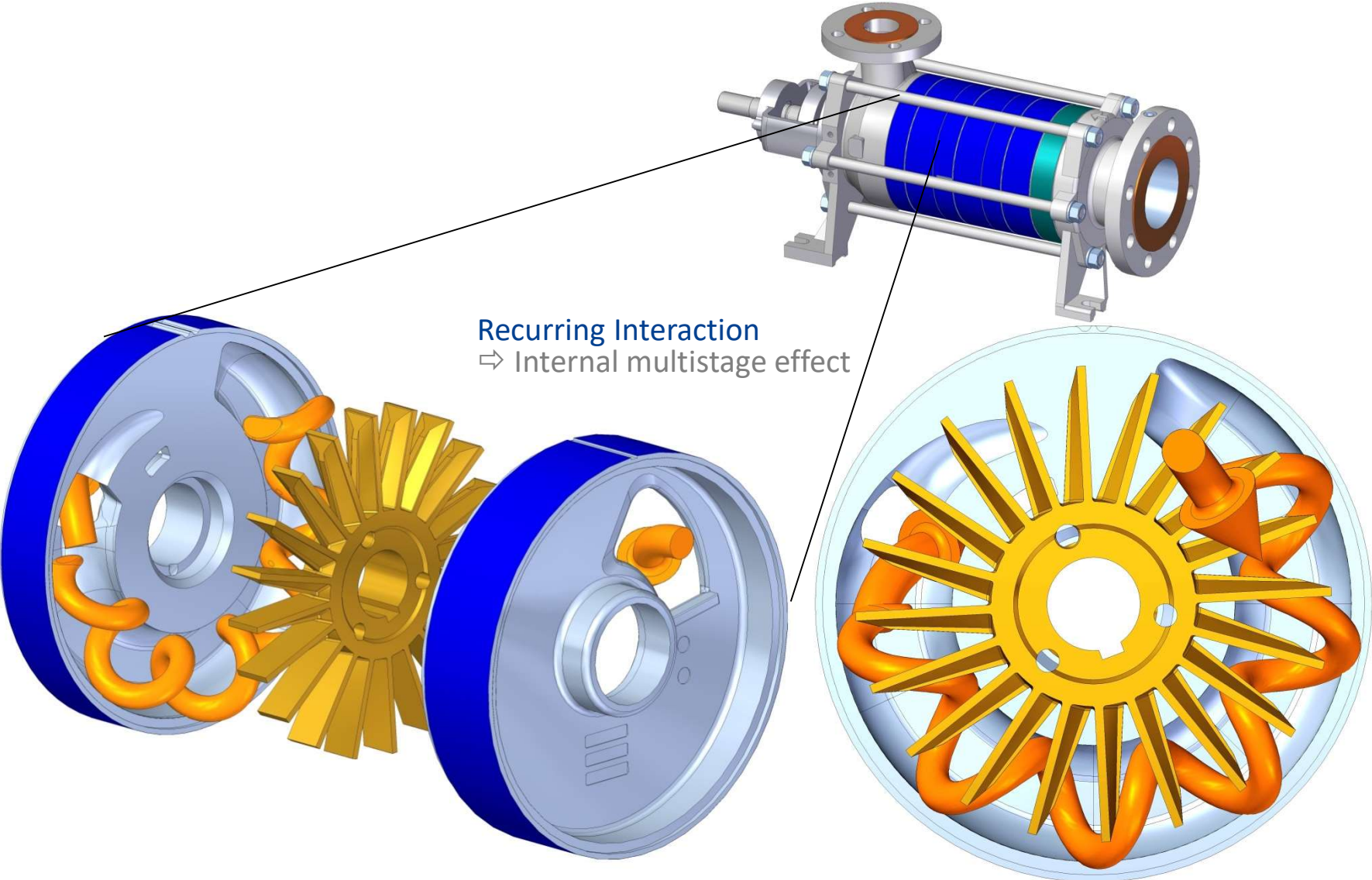
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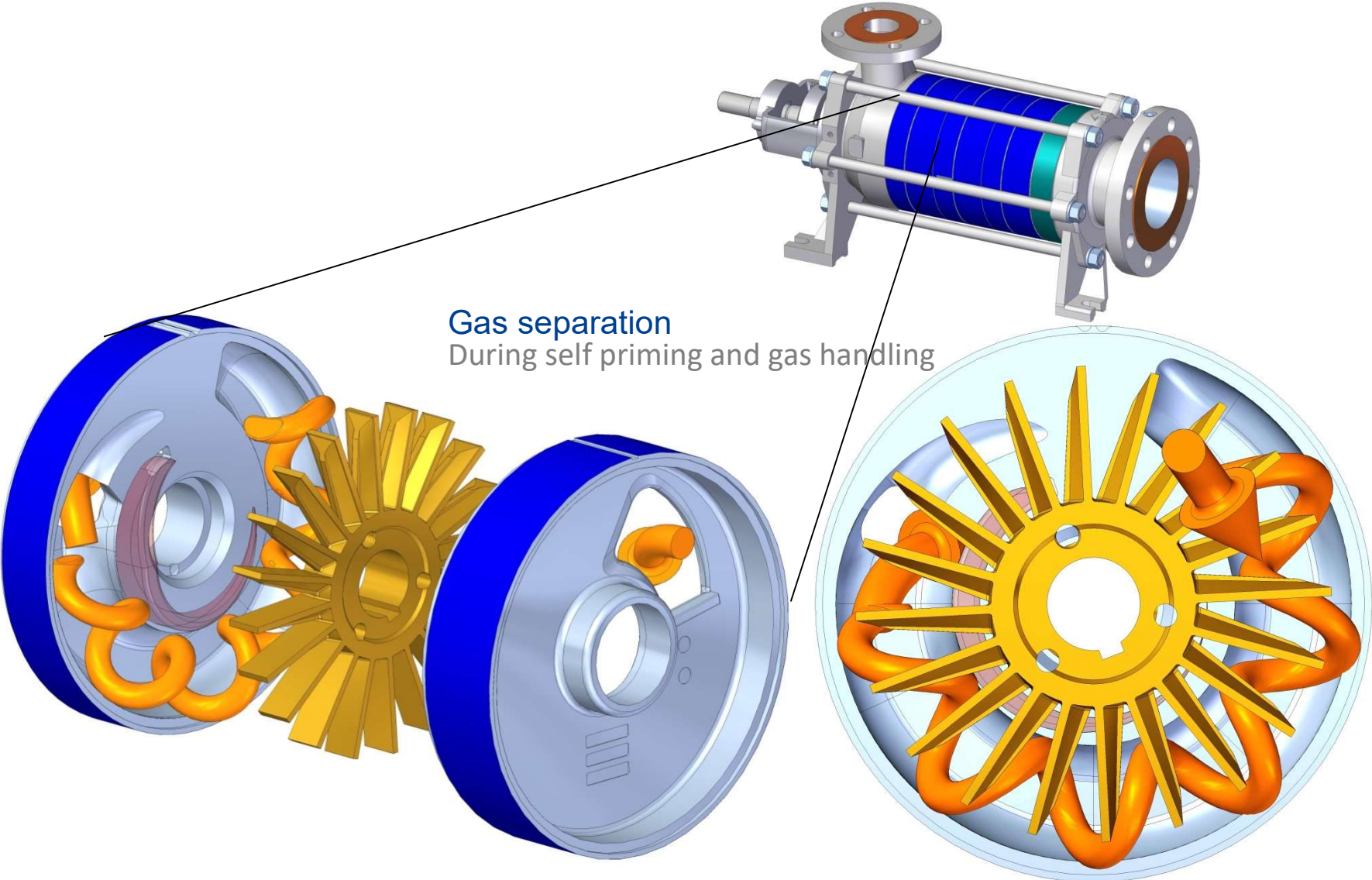
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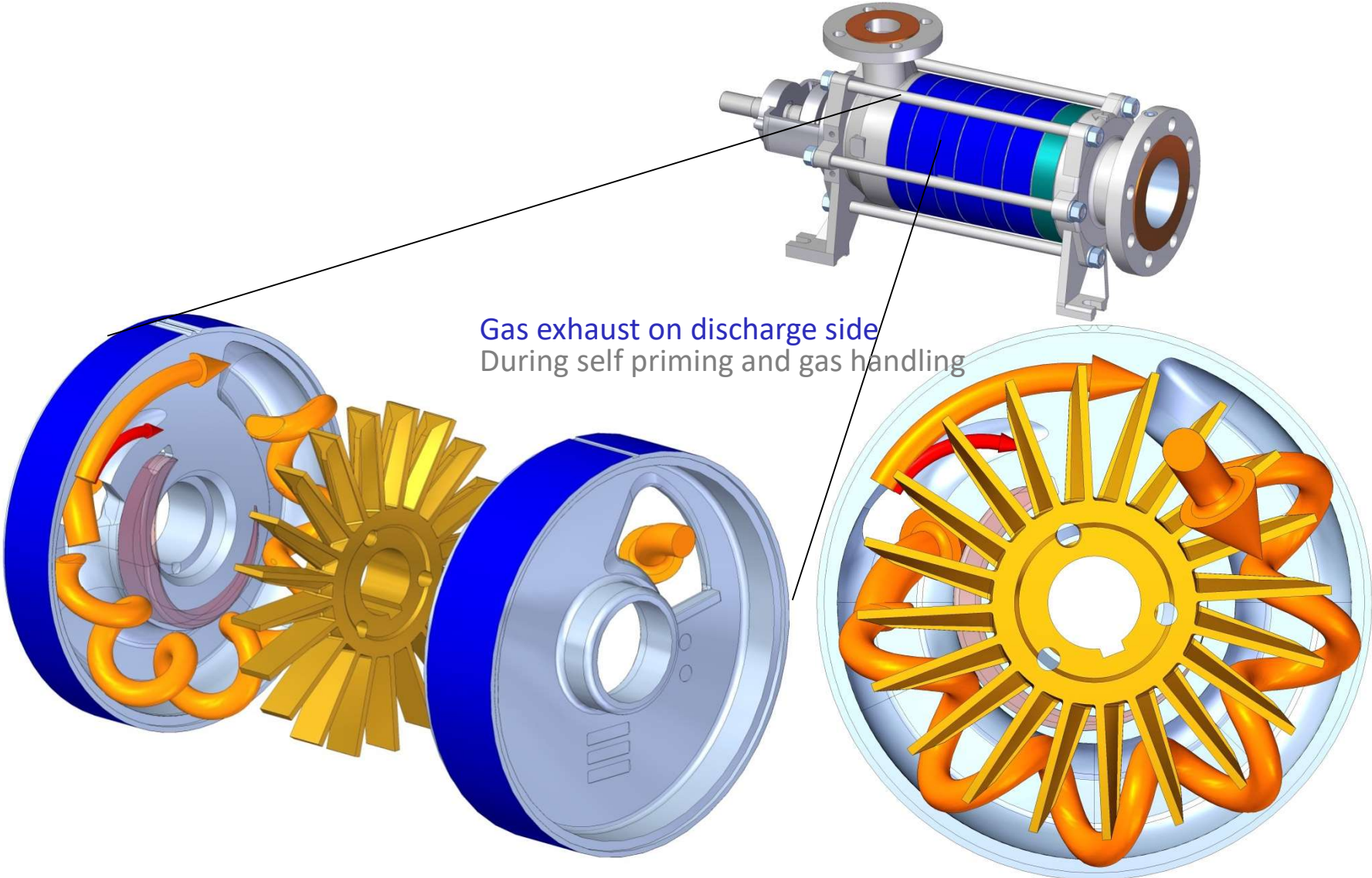
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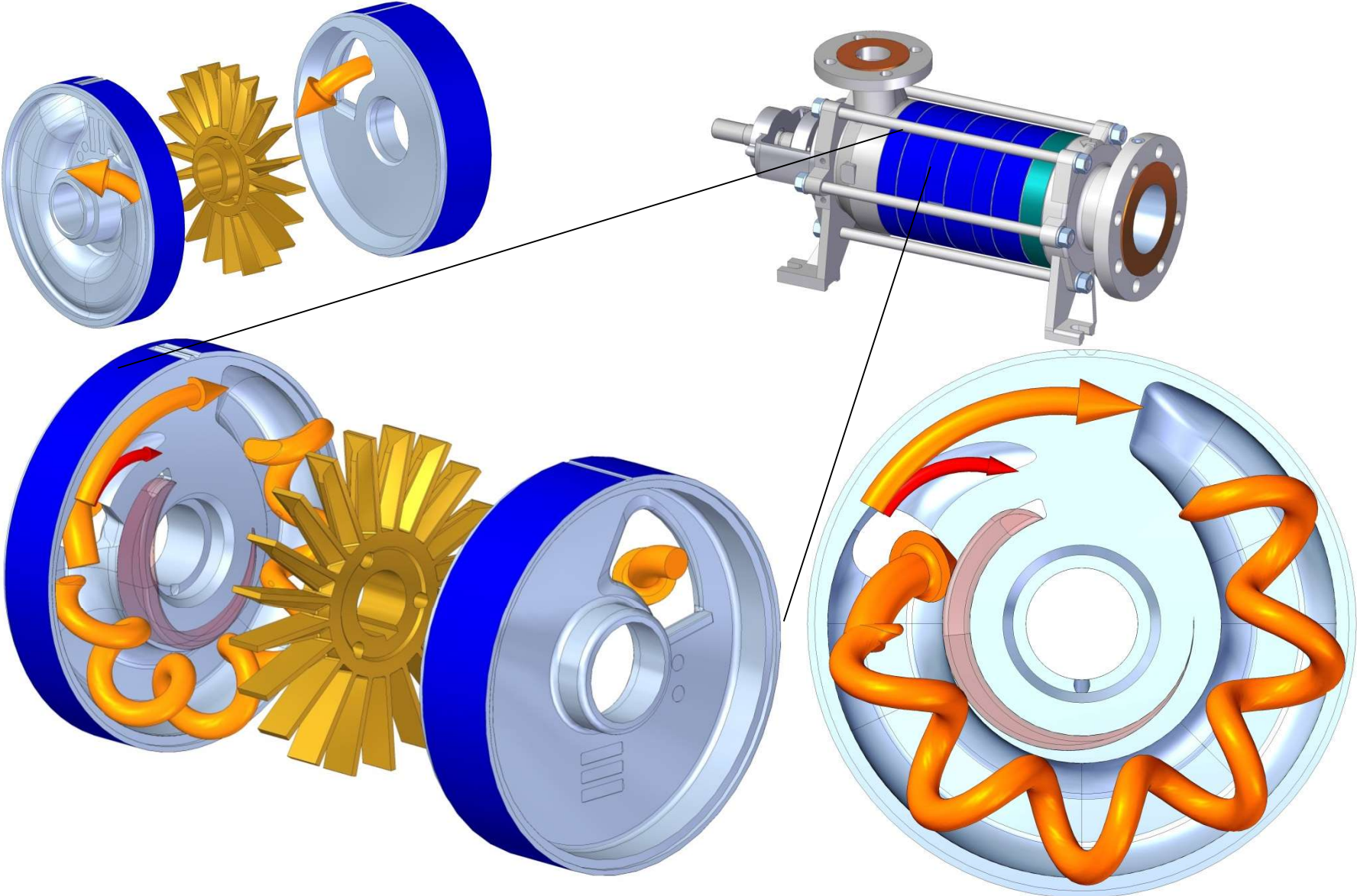


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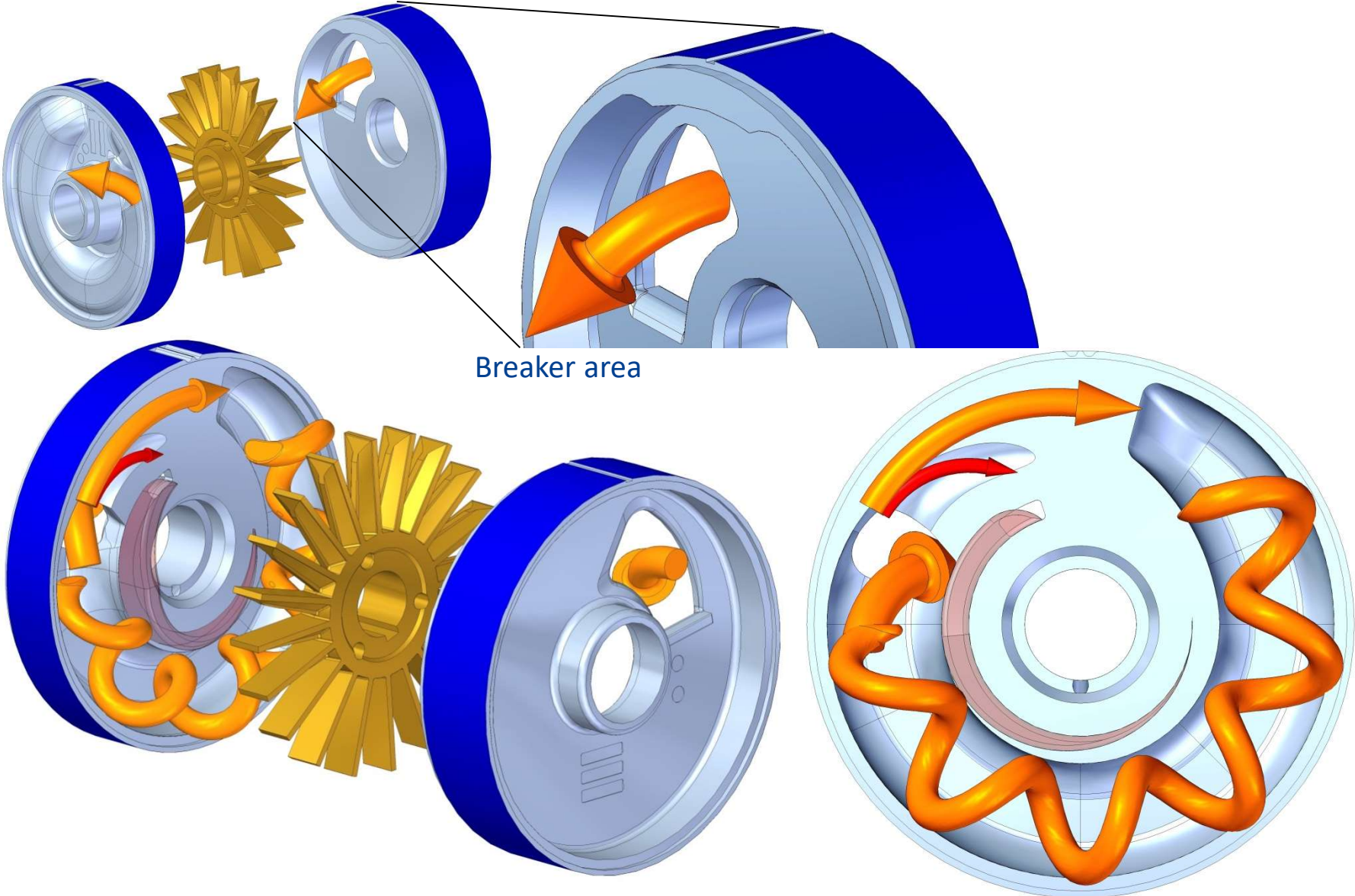
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## Working principle





## Side Channel Pump – Where to use?

### Low Flow – High Head

- 300l/h to 42m³/h – 350m to 550m
- Specific speed  $5 < n_q < 10$
- Steep linear performance curve  $\Rightarrow$  simple pressure sensitive control

