

KIESEL

Pig-cleaning systems

for food stuffs industry
beverage industry
pharmaceutical industry
cosmetic industry



Pig cleaning system – Your competitive advantage in the production process.



In the beverage industry...



Pastries industry...



Food stuff industry...



Meat product industry...

KIESEL offers solutions for liquids and products with high viscosity.



Sweets and chocolate industry...



Cosmetics and pharmaceutical industry...

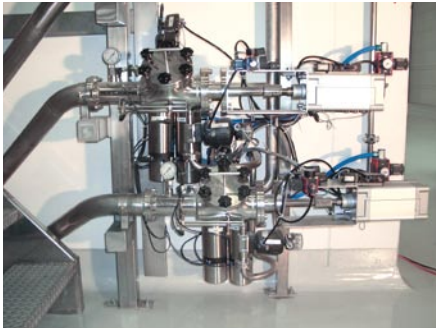
A pig is a rubber part which cleans and completely empties pipe systems. It is pressed through the pipe by means of a propelling agent. An optimum cleaning quality can be achieved upon minimal propelling pressure. This process is called 'pigging'.

This technique originated in mineral oil industry and today is applied in any industry that processes liquids and products with high viscosity as well as with a high rate of sediment creation. It is furthermore used for hardening and toxic products, pastes and powders, and in production processes that have frequent product change in pipes.

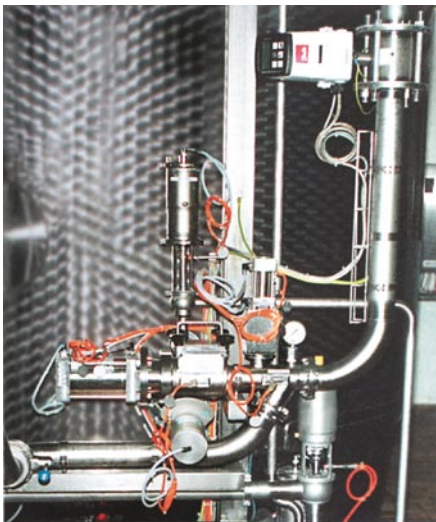
The main application of pigging technology is the cleaning process, as well as the retention of products upon conveying and dosing of material through the pipe system. It serves **cost reduction** and **allows for better availability of production and filling devices**. It serves **environmental protection** and **quality assurance**.

KIESEL has developed special fittings, station and manifolds in pigable design, which meet all **hygiene of the pharmaceutical, beverage, food and cosmetic requirements industry**.

KIESEL Pigging technology – a great advantage in piping



Vielfältige Einsatzmöglichkeiten der Molchtechnik in der kosmetischen Industrie ...



... or in the dairy-industry

- Product separation
- Complete product retention, no mix
- Transport of small amounts
- Shortened cleaning times and reduced cleaning costs
- Quality assurance reliable cleaning processes
- Minimal environmental impact by a reduction of water contamination
- Extended reliability of production facilities
- Avoidance of foam creation
- Pipes can be left without any heating
- Hardening or deposit creation can be avoided
- Super simple handling from manual to fully automated facilities
- Sizes DN 25 thru DN 200
- Piping diameters DIN 11850 version 1
version 2
and according to DIN 2430-1
- Connection of pipes and fittings by orbital welding technique
- All systems have additional possibilities for rinsing
- Certified facilities



cylindric pig EPDM



cylindric pig Silicone

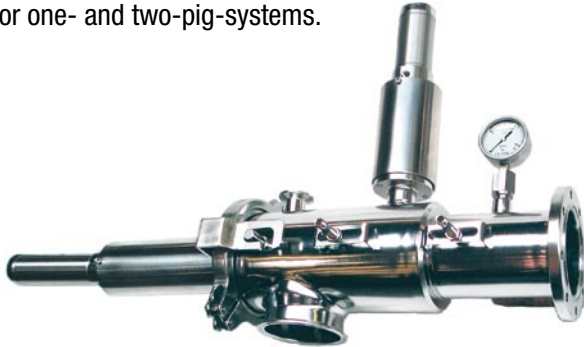
All in one from KIESEL:

- **Planning**
of complete production facilities
- **Engineering design**
by experienced engineers
- **Manufacturing**
of all components by KIESEL
- **Installation and Control**
friction free complete installations and control
- **Maintenance**
by trained specialists



Kiesel pig launching and receiving station

Nominal diameters DN 25 up to DN 200
Manually operated, automated stations
For one- and two-pig-systems.

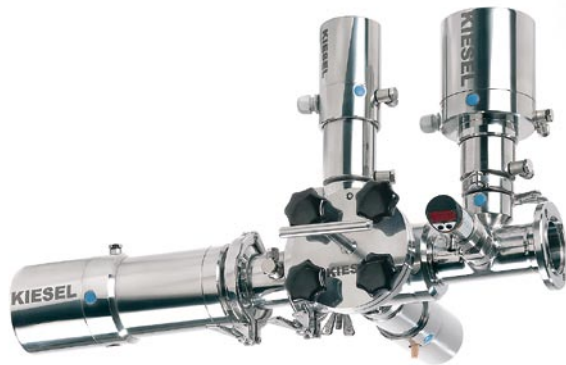


Inline-pig-launching-station
DN 40 up to DN 200



NEW

Inline-pig-launching-station
DN 40 up to DN 100
Manual and automatically operation



Aseptic-pig-launching-station
DN 50 up to DN 100



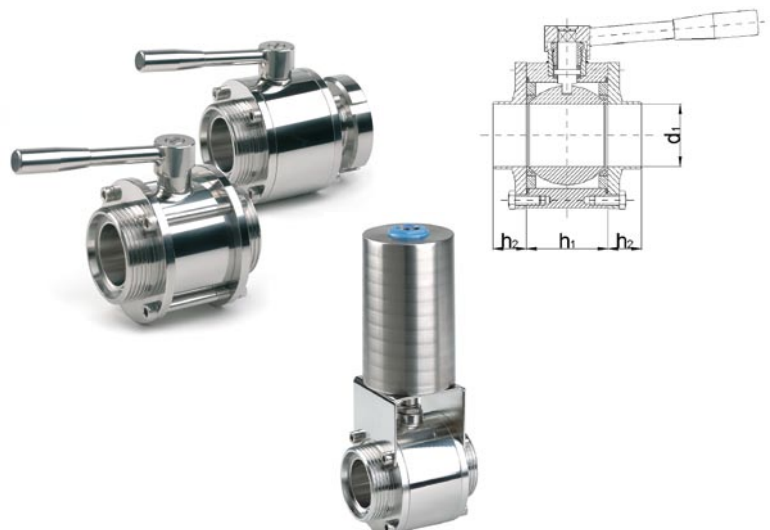
Aseptic-pig-receiving-station
DN 40 up to DN 100 with seat valve.

KIESEL-ball valve, CIP cleanable

Nominal diameters DN 15 up to DN 200
Manual operation, automatically operation with
pneumatically drive.

Product features:

- smooth passages exactly fitted to the pipe diameters
- radial removable
- CIP-cleanable and rinsable
- Expanded dead rooms between ball and housing
- jacketed fittings for heating and cooling purposes



KIESEL pigable valve – technology

Product features:

- deadroom free product separation in the pigable pipeline
- no residue inside the pigable system
- top quality surfaces
- CIP- and SIP-cleanable
- pneumatic operation with integrated control system
- easy maintenance
- sealing made of NBR, EPDM, Viton, FEP-coated
- nominal pressure PN 10
- bellow-sealing available

The pigable seat valve is used as product inlet and –outlet in a pigging system.

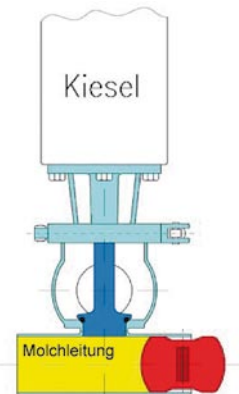
In the closed valve position all valve and pipe elements are aligned perfectly, deadroom free with smooth surfaces, to enable perfect pigging.

By assembling several seat valves we can built piggable manifolds. Pigable T-pieces are used to built manifolds in both directions.

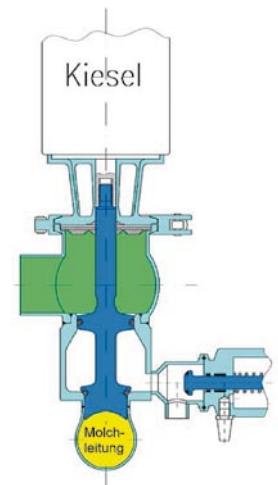
The KIESEL double seat valves has got two gaskets, which are separated by a rins- and leakage chamber. The leakage chamber is equipped with a pneumatical leakage valve. Therefore, the product separation from the cleaning liquid can be ensured



NEW



NEW



KIESEL multi-pigable switch

CIP-cleanable

Multiway-pigable switch, two-way-pigable switch in dimension DN 50 – DN 200 with integrated 5D-Bends in CIP-cleanable construction.
for manual and automated operation



KIESEL manifold

CIP-cleanable

By using the manifold flexibility in the pipeline system can be ensured.
Therefore pigging is possible in all pipeline directions.



Pigable pipes and connections

Pipes and bends DIN 11850

Line 1

Line 2

DIN 2430-1

ASME-BPE 1197 (2002)



Formed components, bends, t-pieces

Pipe connection:

Aseptic flange polished

DIN 2430-2

DIN 11864

Aseptic-clamp connection

Aseptic-fitting

Nominal diameter DN 25 up to DN 200

Materials: 14301 / 1.4307 / 304 L

1.4404 / 1.4571 / 316 L

1.4435

1.4539

Special material



Cylindric pigs

Product features:

- compact form with 2 sealing lips
- symmetric form for forward and backward running
- very long life-cycle
- magnet vulcanized inside the pig for easy detection of pig position
- appropriate for one- and two-pig-systems
- cleaning pigs
- pigs for powder products

Materials:

- Silicon
- HNBR
- Vulkozell
- EPDM
- Viton
- FDA-certified qualities

Driving media:

- gases: air, nitrogen
- fluids: water, dissolvents, detergents

Driving media pressure:

approx. 1,5 to 6 bar



Accessories for KIESEL pig cleaning systems

Extraction of KIESELs large portfolio

KIESEL Piggable loadingarm DN 50 to DN 125



Filling head

for tank wagons piggable up to the last point of product outlet, DN 25 to DN 125



PLC for KIESEL pig cleaning systems

Piggable valves with intelligent distribution boxes for bus termination.

Control for simple pig cleaning systems up to complete computer based and visualized PLC's.



KIESEL Pig speed regulator

A special facility for complete smooth and hitchless pigging with different viscosities, long piggable pipes and great elevation differences.



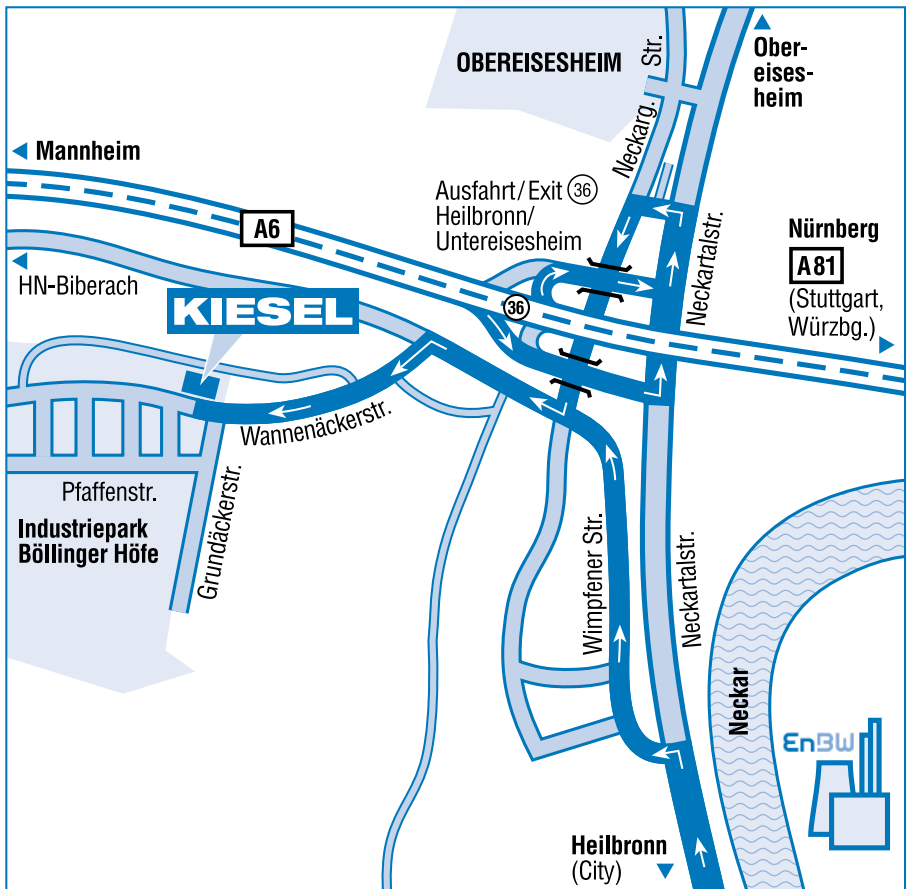
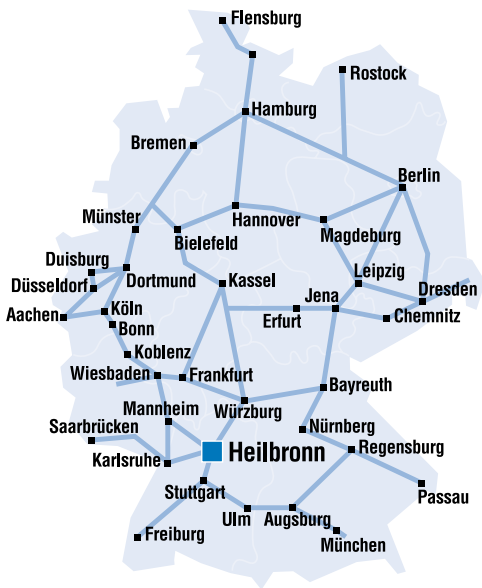
NEW solution against hitching pigs

KIESEL Pigging technology for best solutions!

KIESEL

Welcome to Heilbronn!

You are cordially invited to visit our modern production lines. Please make an appointment to visit: a quick call is sufficient and we look forward to hearing from you - by the way, we also look forward to your visit to our homepage. Here, you can find out the latest information about new KIESEL developments.



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