

The pig is an elastic, solid body that must provide reliable sealing in the pipe for functional purposes.

Pipe

As a basic rule, the pipeline must exhibit the same, circular diameter along the entire pigging section.

- internal diameter tolerance: ± 0.5 % nominal diameter
- ovality tolerance: ± 0.5 % nominal diameter

Pipes with longitudinal welds with seam smoothing and an internal roughness of $R_a < 0.8$ ($R_a < 1.6$ in the area of the weld seam) are to be used. Pipe in accordance with DIN EN 10357, DIN 11866, DIN 2430 is suitable.

Pipe connections

All detachable and non-detachable pipe connections must be implemented without offsets along the entire pigging section.

- Tolerance offset: ± 0.2 mm

Screw connections, flange connections or clamp connections in accordance with DIN 11864 or DIN 2430 are to be used.

Weld seams should be orbital-welded wherever possible. Manually welded seams are permissible and their performance should be professional and of high quality.

- Permissible sag of weld seams (reinforcement): 0.5 mm

Pipe bends

The pigging design and the bending radius of pipe bends have reciprocal effects on each other.

- AWH tangent pig: minimum bending radius $R_{min} = 1 \dots 1,5D$ (BA2/3, DIN 2605)
- AWH lip pig: minimum bending radius $R_{min} = 2,5D$ (BA5, DIN 2605)

Branches

The pig sealing must be ensured when t-branches are passed through. The use of product recovery technology requires specially designed t-pieces. These are equipped with a guide on the branch. The pig is kept reliably on its path, does not fall into a downward-directed outlet and cannot become jammed.

- AWH tangent pig: Nominal width of outlet = nominal width of pipe
- AWH lip pig: Nominal width of outlet = one nominal width less than the nominal width of the pipe

Project Questionnaire - Product Recovery Technology

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Date: _____

Project designation: _____

Contact person: _____

Company: _____

Street: _____

City / ZIP code: _____

Tel / Fax: _____

E-mail: _____

Line of business: _____

Food/beverage

Cosmetics industry

Chemical industry

Pharmaceutical industry

other

Pipe system: _____

Pipeline length: _____ m

Height difference: _____ m

Nominal width: _____

Pipe norm/standard: _____

Outside diameter: _____ mm

Wall thickness: _____ mm

Inside diameter: _____ mm

Product inlets: _____ Item

Product outlets: _____ Item

new

existing

insulation

trace heating

Operating and process parameters: _____

Pressure: _____ bar to _____ bar

Temperature: _____ °C to _____ °C

Capacity/turnover: _____ m³/h to _____ m³/h

Hygiene standard: flushable

completely CIP-capable

aseptic

Ambient temperature: _____

Cleaning agent: _____

Temperature of the cleaning medium: _____ °C

Duration of the cleaning: _____ min

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Product:

Type/Division: _____

Density: _____ kg/m³ Viscosity: _____ mPas (cP)

Containing particles/fibrous/lumpy (Particle size: _____ mm x _____ mm)

Sliding properties: supportive effect inhibiting effect

toxic flammable hazardous

Special features/remarks: _____

Requirements:

Product ejection Product separation

Manual actuation Automatic actuation

One-way operation Shuttle operation

Electronically controlled Integration in process management system

Drive medium: gaseous (.....)

liquid (.....)

ATEX:

Area:	Atmosphere:	Zone:
inside	Gas
outside	Gas
	Dust

Temperature class:

Enhanced requirements/Certificates/Regulations:

Comments:

A special distinction exists between liquid and gaseous drive media.

Gases can be compressed. The pig run is influenced by this behavior. A constant pressure can lead to high pig accelerations and speeds. Similarly, different conditions in the pipe system will lead to non-harmonious pig movement. This could lead to temporary standstills and subsequent strong accelerations.

Prerequisites for constant pigging process with gaseous propellants:

- sufficient volumetric supply
- regulation of the volume flow rate

Dry running of the pig through the pipe system is not permitted.

The pig is subjected to severe strain from friction by the sealing and by its movement in and through the pipeline. During operation, media reduce the friction between pig and pipe and acts as a lubricating film. If this support is absent, the pig will be exposed to a greater amount of wear or will be destroyed by friction heat.

Safety

The active principle of the pigging is in connection with energies in the form of pressing and the accelerated masses that result from it. This results in risks, not only for plants but also for personnel.

In order to minimize risks for plants or plant components, the following always applies:

- maximum permissible pig speed: 1.5 m/s
- maximum permissible pig acceleration: 1 m/s²

In order to minimize risks for personnel, the following always applies:

- open pipe ends from which the pig can freely exit are not permitted
- the pig can be manipulated only in a pressure-compensated state
- the necessary technical provisions for pig location and safeguarding must be present
- manual access to the pipe system or to fittings must be prevented during the pigging process by suitable measures

When used properly and in compliance with the operating and safety regulations, AWH pigs and (pig) fittings are safe. The fittings should be installed only in designated systems and operated only by qualified, specialist personnel.

For accelerated project processing, please fill out the questionnaire and send it back to us. Supplementary materials in the form of sketches and/or a product data sheet make it possible for us to propose a suitable concept in a short time.

Date

Signature