



# PIPE CLEANING





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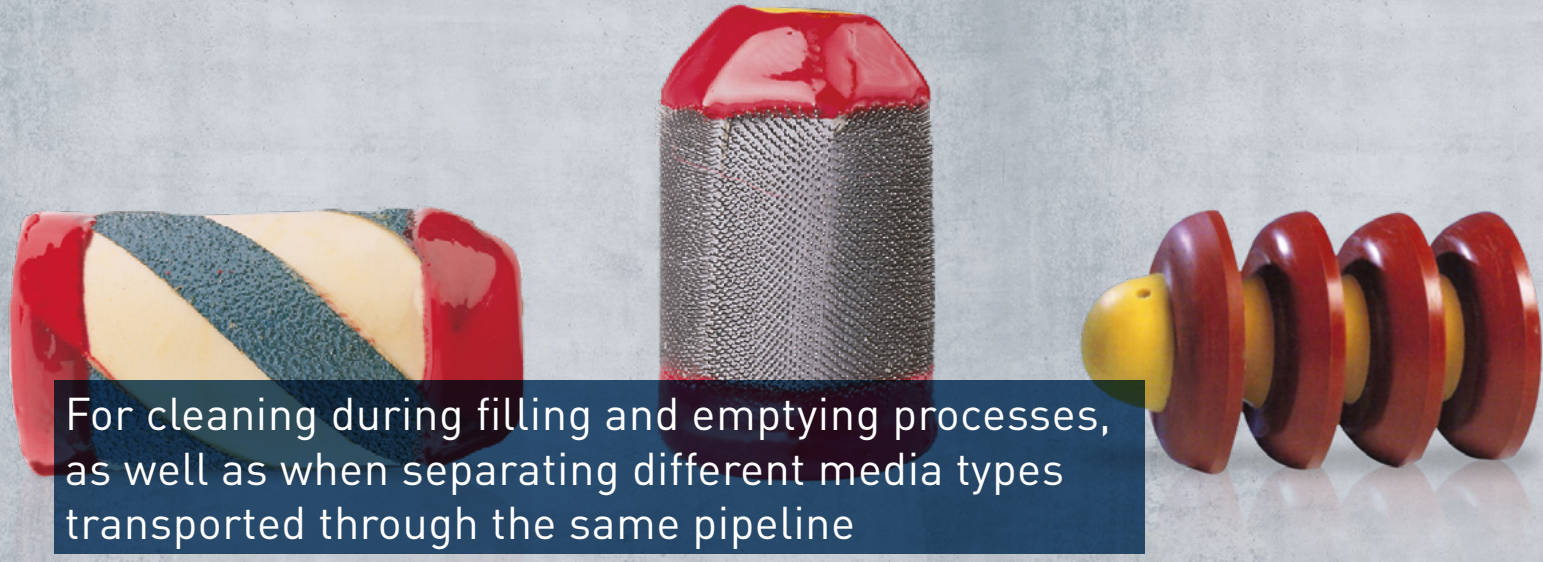
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### **CleanpaX** FLEXIBLE PIG

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For cleaning during filling and emptying processes, as well as when separating different media types transported through the same pipeline

## CleanpaX PIG



Civil engineering



Water



Oil



Gas



Industry



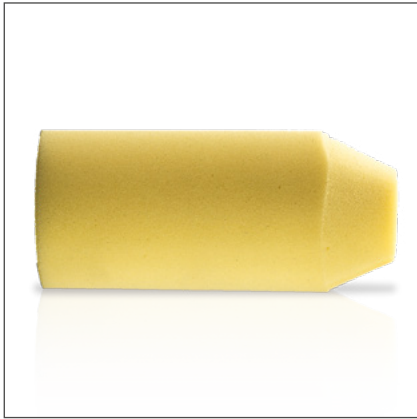
Pharma



Food



Chemistry



### CleanpaX **PU-FP** - Foam pig

#### Fields of application

Drying of pipelines, mild cleaning; in case of slight contamination; elimination of air humidity; test pig for unknown contamination

#### Material

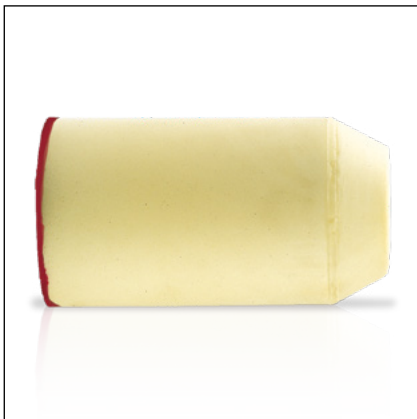
Pig body made of a soft, open-pored polyurethane foam, strengthened with a water-tight polyurethane bottom.

#### Properties

Due to its high elasticity, pig type FP easily passes through valves, restrictors, elbows and 1.5 D bends; gravity: 25 kg/m<sup>3</sup>; shore A hardness: -; temperature °C: +5 - +80; running speed m/s: 1-4; service life: approx. 45 km (empirical value); ø reduction rate max.: 50%; min. radius bend: 1.5 D; fitting reduction: yes

#### Sizes

Pipe diameter ND 50 - 1050; other sizes on request



### CleanpaX **PU-Plain** – Foam pig

### CleanpaX **PU-Plain-S** – Foam pig

#### Fields of application

For soft cleaning or drying of long distances after water passes through; for medium contamination without incrustation; dewatering; non-pressing sealing during maintenance work

#### Material

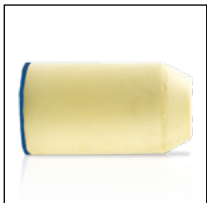
Made of high-density polyurethane foam, reinforced with a water-tight polyurethane bottom; also available with coated top (standard from 16")

#### Properties

Gravity: 110 kg/m<sup>3</sup> / PU-Plain-S: 80 kg/m<sup>3</sup>; shore A hardness: -; temperature °C: +5 - +80; running speed m/s: 1-4; service life: approx. 90 km (empirical value); ø reduction rate max: 15% / PU-Plain-S: 20%; min. radius bend: 1.5 D; fitting reduction: yes

#### Sizes

Pipe diameter ND 50 - 900 / PU-Plain-S: ND 50 - 900; other sizes on request





CleanpaX **PU-LR** - Foam pig  
CleanpaX **PU-LR-S** - Foam pig

#### Fields of application

Cleaning of long, straight pipe sections, also with narrow spots and heavier contamination; hydrostatic test; sealing; PU-LR-S: for long distance cleaning with lots of fittings

#### Material

Made of high-density polyurethane foam with an outer skin made of high-quality, wear-resistant polyurethane

#### Properties

This type easily passes 1.5 D bends; gravity: 110 kg/m<sup>3</sup> / PU-LR-S: 80 kg/m<sup>3</sup>; shore A hardness: 90; temperature °C: +5 - +80; running speed m/s: 1-4; service life: approx. 90 km (empirical value);  $\emptyset$  reduction rate max: 10%; min. radius bend: 1.5 D; fitting reduction: yes

#### Sizes

Pipe diameter ND 50 - 900 / PU-LR-S: ND 50 - 600;  
other sizes on request



CleanpaX **PU-CC** - Foam pig  
CleanpaX **PU-CC-S** - Foam pig

#### Fields of application

Uniform removal of deposits and dewatering, for example after hydrostatic tests; cleaning of long distances; cleaning prior to pipe commissioning

#### Material

Made of high-density polyurethane foam; the outer skin made of high-quality, wear-resistant polyurethane made up of spirally coiled stripes around the circumference; these make the pig rotate as it moves thus giving great flexibility; PU-CC-S has a softer core

#### Properties

Easily passes 1.5 D bends; gravity: 110 kg/m<sup>3</sup> / PU-CC-S: 80 kg/m<sup>3</sup>; hardness Shore A: 90; temperature °C: +5 - +80; running speed m/s: 1-4; service life: approx. 45 km (empirical value);  $\emptyset$  reduction rate max: 10% / PU-CC-S: 15%; min. radius bend: 1.5 D; fitting reduction: - / PU-CC-S: yes

#### Sizes

Pipe diameter ND 50 - 600 / PU-CC-S: ND 50 - 600;  
other sizes on request



CleanpaX **PU-WB** - Foam pig  
CleanpaX **PU-TWB** - Foam pig

#### Fields of application

Heavy incrustations; especially heavy rust; long distances; particularly stubborn deposits; use plastic brushes for plastic pipes; PU-TWB: Highest cleaning performance; exceptionally firm bonded deposits; not suitable for plastic pipes

#### Material

Made of high-density polyurethane foam. The outer skin is made of high-quality, wear-resistant polyurethane foam applied in strips for obtaining a rotation move of the pig. Steel brushes increase the cleaning effect.

The brushes are embedded in the pig body.

PU-TWB is without polyurethane stripes on the surface, but entirely coated with wire brushes.

#### Properties

Gravity: 110 kg/m<sup>3</sup>; shore A hardness: 90; temperature °C: +5 - +80; running speed m/s: 2-5; service life: approx. 90 km (empirical value); ø reduction rate max: 10% / PU-TWB: 5%; min. radius bend: 2.5 D; fitting reduction: -

#### Sizes

Pipe diameter ND 50 - 1200; other sizes on request



CleanpaX **PU-AC** - Foam pig

#### Fields of application

For removing heavy contamination, incrustated deposits and corrosion (scraping effect), also in long pipelines; not suitable for plastic pipes

#### Material

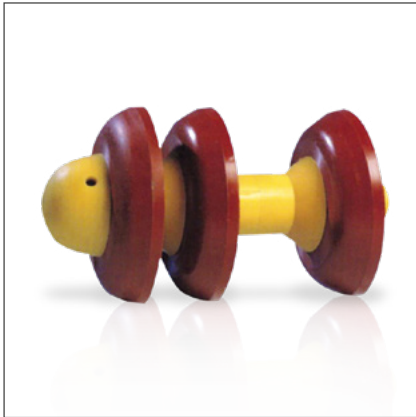
PU foam core. Spirally wound silicone carbide or corundum stripes; top and bottom consist of wear-resistant polyurethane.

#### Properties

This type easily passes 1.5 D bends; gravity: 110 kg/m<sup>3</sup>; Shore A hardness: 90; temperature °C: +5 - +80; running speed m/s: 1-4; service life: approx. 60 km (empirical value); ø reduction rate max: 15%; min. radius bends: 1.5 D; fitting reduction: yes

#### Sizes

Pipe diameter ND 50 - 600; other sizes on request



CleanpaX **Flex-S3** – Flexible pig  
CleanpaX **Flex-S4** – Flexible pig

#### **Fields of application**

Separation pigs can also be used as displacement or cleaning pigs for pipelines with paraffin or similar deposits and for cleaning new pipelines. For special applications, the pigs are available in natural color of polyurethane without addition of coloring substances.

For T-pieces with branch opening of 75% of the pipe ID, we recommend guide bars in the opening.

Type Flex-S4 corresponds to type Flex-S3, but it is equipped with four replaceable polyurethane cups.

Available spare parts:

Standard cup, pig body, diabolo spacers, ring spacers, socket head bolt, self-locking nuts, steel security ring

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#### **Material**

These pigs are equipped with replaceable polyurethane cups mounted on extremely flexible polyurethane pig body, making them particularly suitable for internally coated pipelines. The cups are also available in EPDM, NBR or CR Neoprene on request.

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#### **Properties**

This type easily passes 1.5 D bends; gravity: 110 kg/m<sup>3</sup> / PU-LR-S: 80 kg/m<sup>3</sup>; shore A hardness: 90; temperature °C: +5 - +80; running speed m/s: 1-4; service life: approx. 90 km (empirical value);  $\varnothing$  reduction rate max: 10%; min. radius bend: 1.5 D; fitting reduction: yes

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#### **Sizes**

Pipe diameter ND 50 - 600; other sizes on request



CleanpaX **Flex-C2** – Flexible pig  
CleanpaX **Flex-C3** – Flexible pig

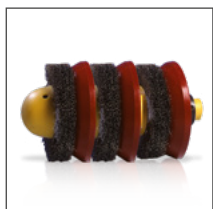
#### **Fields of application**

Cleaning of pipes with narrow bends; for hard deposits.

Guide bars in the opening are recommended for T-pieces when their branch opening is 75% of the pipe ID.

Available spare parts:

Standard cup, body-shaft, diabolo spacers, ring spacer, socket head bolt, self-locking nuts, steel security ring, steel brush



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#### **Material**

The pig is equipped with two polyurethane cups and circular steel wire brushes mounted to the flexible polyurethane body. It is also available with stainless steel brushes or with plastic brushes for internal coated pipelines.

(The Flex-C3 type has 3 polyurethane cups and 3 wire brushes)

The cups are also available in EPDM, NBR or CR Neoprene on request.

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#### **Properties**

This type easily passes 1.5 D bends; gravity: -; shore A hardness: 75;

temperature °C: -20 - +80; running speed m/s: 2-7;

service life: approx. 240 km (empirical value);

∅ reduction rate max: 10%; min. radius bends: 1.5 D; fitting reduction: -

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#### **Sizes**

Pipe diameter ND 50 - 400; other sizes on request





CleanpaX **Flex-G2** – Flexible pig  
CleanpaX **Flex-G3** – Flexible pig

#### **Fields of application**

Calibration, location and removal of objects.

Gauging pigs are used to check if weld seams do not have any excessive weld penetration. Gauging pigs are also used to localize and remove objects which could prevent pigs from passing through.

Guide bars in the opening are recommended for T-pieces when their branch opening is 75% of the pipe ID.

Available spare parts:

Standard cup, body-shaft, diabolo spacers, ring spacer, socket head bolt, self-locking nuts, steel security ring, gauging plate



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#### **Material**

Mounted on a very flexible pig body, these pigs are optionally available with two (Flex-G2) or three (Flex-G3) replaceable polyurethane cups and a gauging plate. The diameter of the gauging plate is normally 90% or 95% of the pipe ID. When ordering - please specify the exact diameter of the gauging plate.

The cups are also available in EPDM, NBR or CR Neoprene on request.

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#### **Properties**

This type of pig easily passes 2.5 D bends; gravity: -; shore A hardness: 75; temperature °C: -20 - +80; running speed m/s: 2-5; service life: approx. 240 km (empirical value);  $\emptyset$  reduction rate max: 15%; min. radius bends: 2.5 D; fitting reduction: -

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#### **Sizes**

Pipe diameter ND 50 - 300; Flex G3: ND 50 - 400;  
other sizes on request

AVAILABLE ONLINE | [WWW.PSI-PRODUCTS.COM](http://WWW.PSI-PRODUCTS.COM)[Product data sheet](#)[Questionnaire](#)[Tender text](#)

## PRODUCT INFORMATION

### Properties

- Filling
- Emptying
- Separation

### Fields of application

Foam pigs are ideal tools for filling and emptying processes during hydrostatic tests and liquid transport, as well as for separating different media types transported through the same pipeline.

### Description

After pressure-testing (hydrostatic tests), pipe needs to be thoroughly dried, without leaving any residues, especially in gas pipes. Low density, open pored foam pigs are highly suitable for this application.

CleanpaX foam pigs remove media residue from pipelines with great cleaning performance and remove also rust, deposits of various kinds and foreign particles.

Foam pigs are available in various densities and sizes from 2" to 48". Larger dimensions up to 64" on request.

### Notes

- All pig types are resistant to oil, petrol, methanol and other chemicals according to the PSI resistance table.
- Loops: All foam pigs can be equipped with one or two loops if required. Starting with ND 450 (18") one loop on the top is standard.
- Various shapes: All pigs can be supplied either conically or cylindrically shaped on both sides. Such pigs are suitable for bidirectional operations (forwards and backwards).
- Brush pigs: made of hard wooden core with nylon brushes. For easy cleaning of short pipes.



## OTHER PRODUCTS FROM PSI

Product overview **Sealing Technology**



Product overview **Pipe Insertion**



Product overview **Corrosion Protection**



Product overview **Flange Gasket**



Product overview **Pipe Cleaning**



Product overview **Marking**





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