

Conserve Resources and the Environment Clean Express

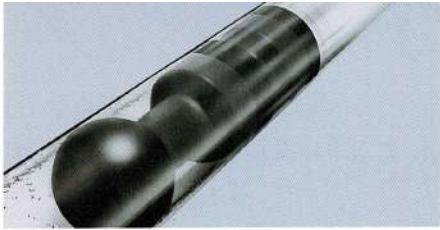


Cleaning System for Sanitary Pipelines

PUSHKUN®

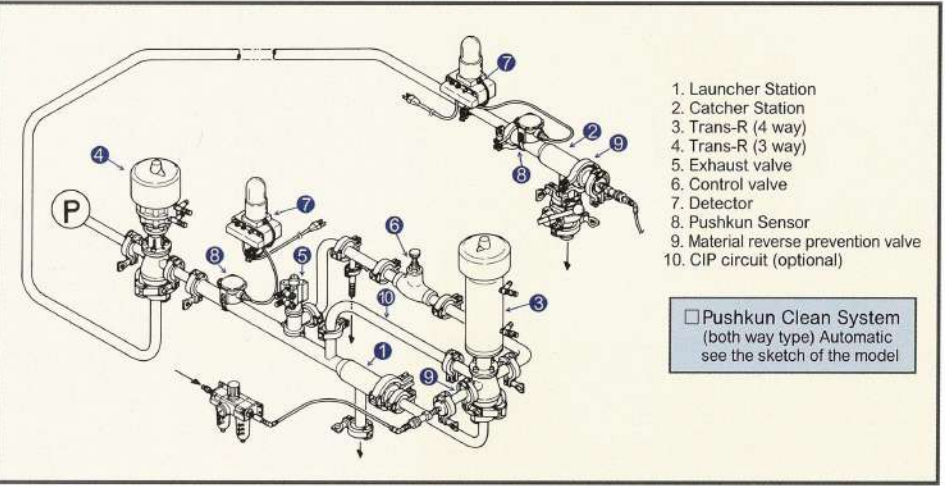
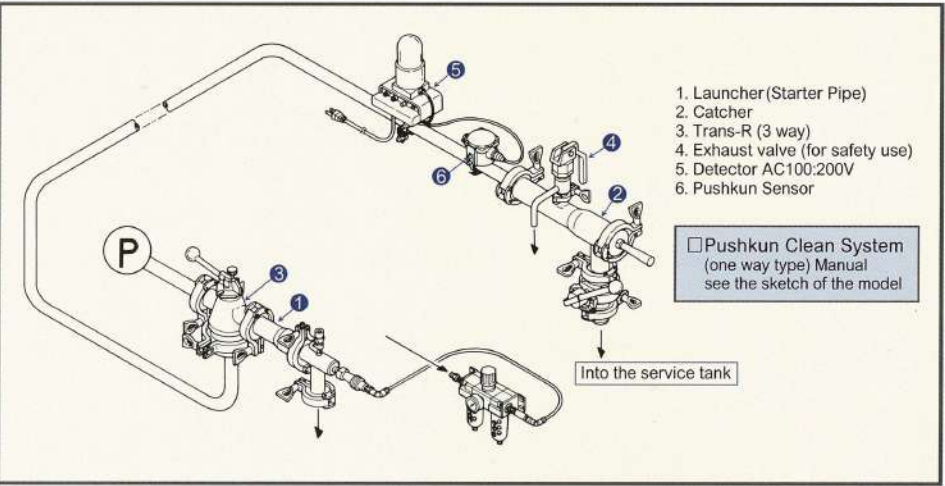
Raw material extrusion & cleaning system
reducing manufacturing costs and
satisfying strict draining regulations.

 **OEG** Co., Ltd.



Highly Efficient Products full of Originality for a wide range of needs (ORIGINAL ENGINEERING)

The transfer of foodstuffs or raw materials in sanitary facilities requires solutions to a number of technical problems. These include; damage to the packing, mixing germs of various sorts, collection of residual raw materials, reducing cleaning time, saving cleaning water/lotion, reducing the burden on the drainage facilities and the procedure of connecting to the existing lines. OEG has recently developed a complete range of products applying to these sanitary pipelines to meet a variety of needs. Pushkun Clean System, our raw material extrusion & cleaning system including other unique and original accessories, are now used extensively in food/chemical industries.



How to Use the System

Installation of the One Way Type

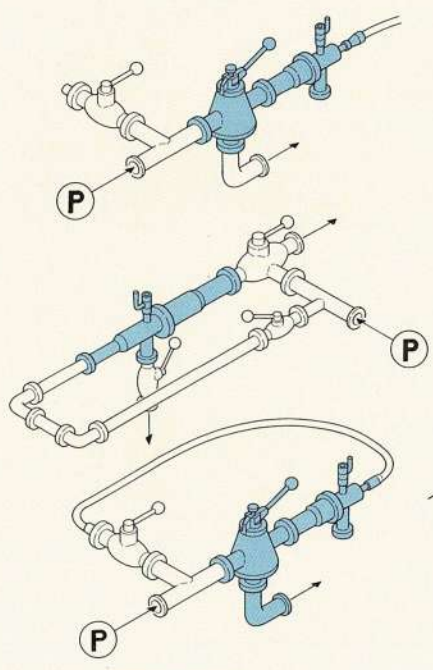
1. Install the Trans-R valve to the outlet of the pump to make it switch to the Starter Pipe.
2. Install the Catcher Pipe to where the materials will be transferred. There are different ways to install the Catcher Pipe, but the basic installation model is shown by the sketch on the left.
3. If using the Pushkun Cleaning System with detectable function (with magnet), install the Pushkun Sensor near the Catcher Pipe. In the left sketch the Pushkun Sensor is placed to the pipeline, but is also able to be placed to wherever is easier to recognize the buzzer sounds or the light.

Use of the One Way Type

1. Open the valve in the direction of transferring raw materials and conduct the transfer as usual.
 2. After the transfer of raw materials is completed, switch the Trans-R valve to the Starter Pipe.
 3. Launch the Pushkun, previously inserted into the Starter Pipe, into the pipeline by compressed air. The air pressure should be set at 0.5 to 1 kg/cm above the pressure applied to the usual pipeline process.
 4. The closer Pushkun reaches the Catcher Pipe, the more it increases in speed. The speed of the Pushkun can be adjusted by a raw material flow rate adjustment valve on the Catcher Pipe.
 5. When the Pushkun arrives at the Catcher Pipe, the detector responds. At this point, almost 100% of the raw materials are pushed out of the pipeline and into the service tank.
 6. Discharge any air remained in the pipeline by opening the Exhaust valve, (the exhaust valve is not necessary if the Catcher Pipe does not include O-ring since all air inside the pipeline will be released to the service tank.)
 7. Remove the Pushkun from the Catcher Pipe. After washing the Pushkun insert it into the Starter Pipe.
 8. Clean inside the pipeline. (the sketch to the left does not include a C.I.P. line.)
- ※In the both way type shown in the sketch on the left, the Pushkun makes a round-trip so that it comes back into the Starter Pipe. Also, with this both way type system, the Pushkun itself can be cleaned at the same time that the inside of the pipeline is cleaned.

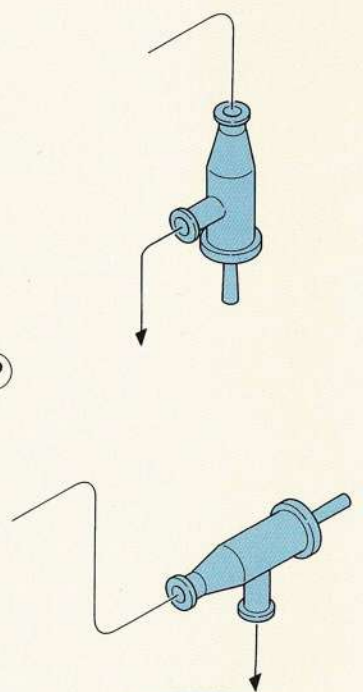
<h3>PUSHKUN</h3> <p>The front guide ball on the Pushkun means that the Pushkun itself runs smoothly through the pipeline, even through elbow or U-bent parts and valves, after it is launched from the Starter Pipe by air or water pressure. Sealed-advance (the wing on the Pushkun) is stretched by air or water pressure and results in the pipeline sealed up with Pushkun while it runs through it. This allows it collect all residual raw materials inside the pipeline while it also prevents air or water pressure from leaking into the raw material. When using a Pushkun Clean System that has superior sealing property, you can collect the material A remaining in the pipeline by the pressure of the material B. Then the material B is ready to be processed in the pipeline when the Pushkun completed its work.</p> <p>※The Pushkun is available in various materials and should be selected according to the type of raw material handled in the pipeline. ※The Pushkun is also available in various size to match the pipeline's inner diameter. ※Either of Pushkun with/without detectable function (with/without magnet inside) is available.</p>	<h3>STARTERPIPE</h3> <p>The Starter Pipe launches Pushkun using air or water pressure. It is slightly larger than the pipeline's inner diameter for easier Pushkun insertion, and suitable drain pipe and couplers are also installed for connecting an air or water pressure source, as well as for C.I.P. washing.</p> <p>※A Starter Pipe with jacket (optional) and various couplers are also available.</p>	<h3>CATCHERPIPE</h3> <p>The Catcher Pipe is a place to receive the Pushkun and also allows the raw material to flow through. With the T type, the Pushkun is caught in a basket inside the catcher pipe, and it can be removed together with the basket. With the C type, the Catcher Pipe is detached from the line to remove the Pushkun. With either type, the raw material adheres to the Pushkun, so it is necessary to wash the Pushkun before reusing it.</p> <p>The speed of the Pushkun can be adjusted during actual use by installing a raw material flow rate adjustment valve on the Catcher Pipe.</p> <p>Attention! After the Pushkun reaches the Catcher Pipe, any air remaining in the pipelines should be immediately discharged. If the air is still remained inside when removing the Pushkun from the Catcher Pipe, it may cause an accident.</p>	<h3>DETECTOR</h3> <p>The detector use a high-sensitivity sensor to detect the magnet built into the Pushkun. This indicates the presence of the Pushkun by turning on the contact point output (LED light). The detector can be mounted on the pipeline. Output from the output terminal is relay output. Depending on the type of line, either an explosion-proof type or a waterproof type sensor is available.</p> <p>※Power supply such as AC-100V, AC-220V are automated by the output terminal. ○When using the detector with pallite which indicates the Pushkun's arrival, the output terminal is AC-100V~AC-200V. ○When using the detector without pallite, the dry contact point is applied to the output terminal.</p> <p>Handy type</p> <p>Sensor/explosion-proof type Sensor/water proof type</p>	<h3>METALGUARD</h3> <p>A Metal Guard, with a stainless steel outer ring that holds the packing securely, completely eliminates the problems of wear and displacement due to pressure. By forming a seal that is extremely resistant to high pressure, it enhances durability and prevents the entry of any foreign matter. It is also easy to wash so that is always kept away from germs of any sorts, by using the Metal Guard, the loss of operating time or raw material due to packing related problems is reduced, and the safety of the transfer equipment can be enhanced.</p> <p>The material of the packing can be chosen and replaced to best suit each application, and can be also used for ferrule or IDF union (H, L type) parts of the present sanitary piping facility.</p> <p>※Type:FR (0.2mm laminated fluorine resin) H type · L type</p> <p>3.5 Metal (stainless) packing 1.5 Metal (stainless) packing</p> <p>H type Ferrule type</p>
<h3>TRANS-R</h3> <p>The Trans-R valve, which incorporates ceramics into the valve cone, has been specially developed by OEG to realize ideal fluid flow. It is also highly resistant to heat or steam, which can cause seizure or galling. Because it is designed with an elbow-shaped pipe inside the valve, the Trans-R valve can prevent loss of pressure when moving the Pushkun and the raw material (especially a high-viscosity raw material). It is an important accessory to enhance the effectiveness of the Pushkun's performance, and is recommended for use as a bypass in locations where the Pushkun can not run through. A manual type, with LS(optional) and an automatic type are available, and it enables to switch a single flow in as many as four directions; also only single flow out of these four can be selected.</p> <p>※The manual type can be easily disassembled and washed without any other tools. ※Trans-R with jacket (optional) and various couplers are also available.</p> <p>WHR/Both-Way type</p> <p>WK/One-Way type</p> <p>WHK/One-Way type (used for more than 2.55 of the pipeline's inner diameter)</p> <p>Automatic type 1 (3 way) Automatic type 2 (4 way)</p>		<h3>Attention</h3> <p>The One Way type is suitable for</p> <ul style="list-style-type: none"> □Facilities that rarely need to transfer raw materials. □Facilities that transfer limited kinds of raw materials. □Facilities that have only short pipelines. <p>The Both Way Type is suitable for</p> <ul style="list-style-type: none"> □Facilities that frequently need to transfer raw materials. □Facilities that use one line for several kinds of raw materials. □Facilities that transfer materials to other destinations. □Facilities that have long pipelines. □Facilities that wish to reduce the time on removing and washing the Pushkun □Facilities that adopt an automatic switch controlled by panel operation. <p>In some cases, however, both way type may be also suitable depending on the nature of the materials.</p> <p>T type C type</p> <p>With safety valve type</p>		

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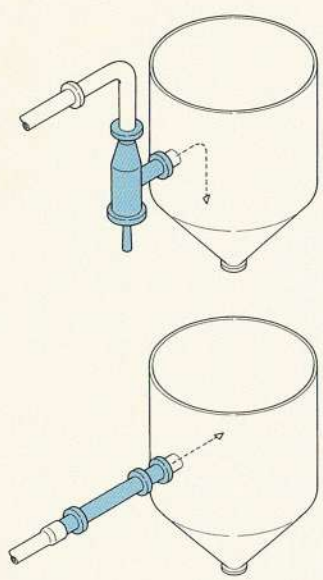
Pump side

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Example of Launcher Installation



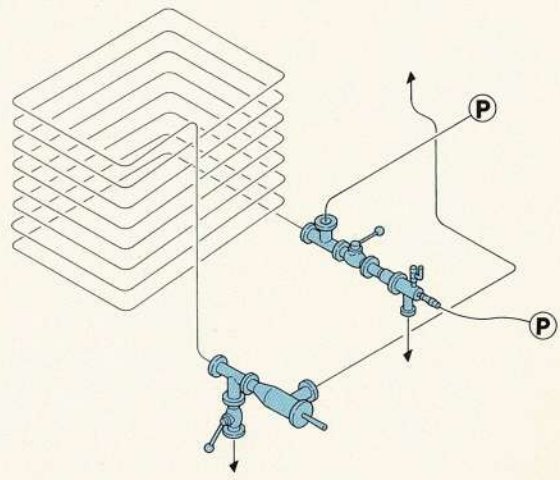
Raw Materials receiver side

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Example of Catcher Installation (1)

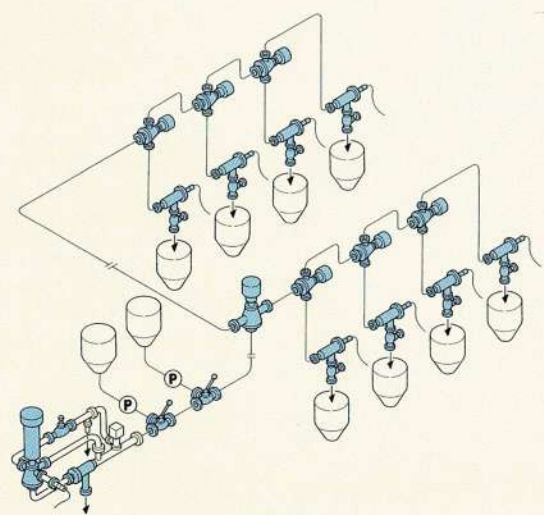


Raw Materials receiver side

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Example of Catcher Installation (2)



Example of applied system
(One Way Type)



Example of applied system
(Both Way Type)

MAJOR CLIENTS

In the World

Indag GmbH Betries KG (Germany)
Lee Kum Kee Co., Ltd. (Hong Kong)
PANAMCO Administracion (AZTECA),
SA de CV (Mexico)

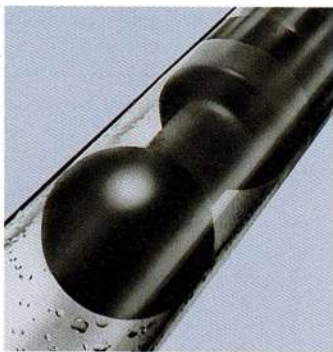
Spal Industria Brasileira de Bebidas
S/A (Brasil)

Refrescos Ipiranga S.A. (Brasil)
Rudolf Wild International (Germany)
Thai Pure Drinks Ltd. (Thailand)

In Japan

Asahi Denka Kogyo K.K.
Ajinomoto Co., Inc.
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Coca-Cola Japan Co., Ltd.
Dai Nippon Printing Co., Ltd.
Fuji Oil Company
Fuji Photo film Co., Ltd.
Hitachi, Ltd.
House Food Corporation
Kao Corporation
Kikkoman Corp.
Kirin Brewery Company, Ltd.
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Mandom Corporation
Meiji Milk Products Co., Ltd.
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Nitto Denko Corporation
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Shiseido Co., Ltd.
Snow Brand Milk Products Corporation
Sonton Foods Industries Ltd.
Sunstar Inc.
Takeda Chemical Industries, Ltd.
TDK Corp.,
The Nissin Oil Mills Ltd.
Tsumura & Co.
Yakult Honsha Co., Ltd.
Yamazaki Baking Co., Ltd.

(Alphabetical List)



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