

PRODUCT RECOVERY SYSTEM



Application

CSI's Product Recovery System (PRS) is a simple, economical and efficient way to increase your product yields and reduce CIP costs by recovering the residual product left behind in the lines after your food, beverage or pharmaceutical processing. It is also a reliable tool for product separation during changeovers, preventing costly "mixed phases" or missed splits.

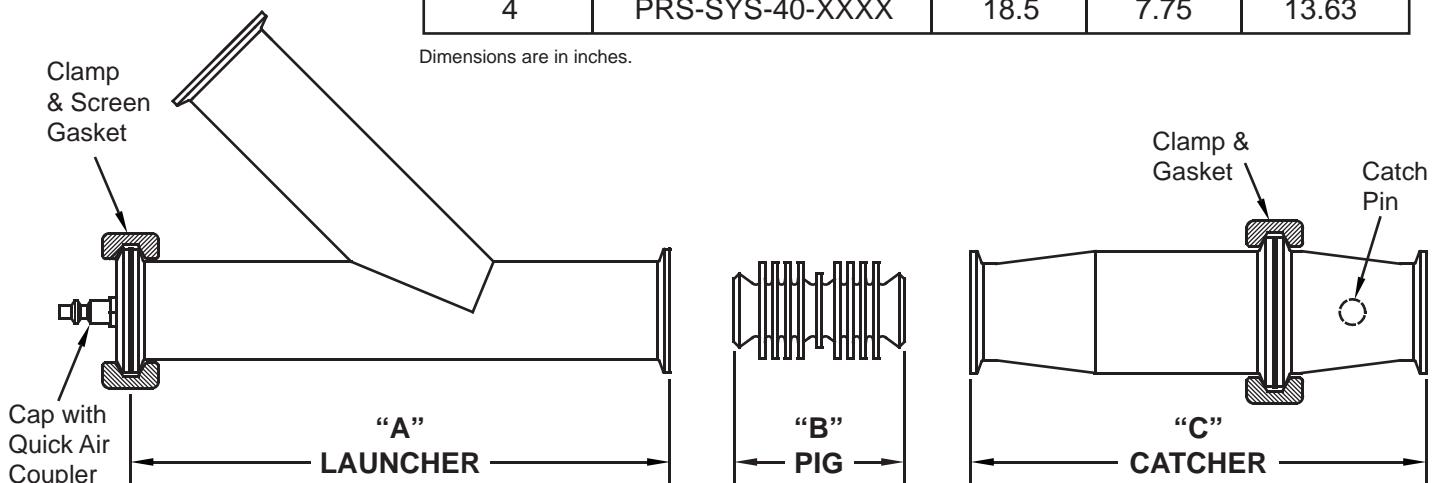
Design

The simple design of the PRS allows it to be easily installed into existing process systems with minimal modifications. Consisting of a launcher, a catcher and a one-piece solid molded polyurethane projectile (also known as a "pig"), this complete system is designed for use with standard sanitary tubing, sanitary hose, full-port ball valves and standard tube fittings including 90° elbows.

The launcher and catcher are constructed of 316L stainless steel and feature all Tri-Clamp® connections for easy installation. The design of the launcher and catcher allow for installation in horizontal or vertical process lines. The pig may be launched from either the run or branch of the launcher by simply moving the air coupler. The catcher should be positioned in the line so that the catch pin is on the downstream end. This allows the pig to properly dock in the catcher for easy retrieval.

SIZE	PART NUMBER	A	B	C
1 ½	PRS-SYS-15-XXXX	8.5	4.00	9
2	PRS-SYS-20-XXXX	10	4.50	9
2 ½	PRS-SYS-25-XXXX	12	5.50	9.5
3	PRS-SYS-30-XXXX	13.13	6.38	13.63
4	PRS-SYS-40-XXXX	18.5	7.75	13.63

Dimensions are in inches.



NOM. SIZE	"A" STYLE 4-WIPER		"B" STYLE 8-WIPER	
	STANDARD	DETECTABLE	STANDARD	DETECTABLE
1.5"	PRS-SYS-15-AAA	PRS-SYS-15-ABAA	PRS-SYS-15-BAA	PRS-SYS-15-BBAA
2"	PRS-SYS-20-AAA	PRS-SYS-20-ABAA	PRS-SYS-20-BAA	PRS-SYS-20-BBAA
2.5"	PRS-SYS-25-AAA	PRS-SYS-25-ABAA	PRS-SYS-25-BAA	PRS-SYS-25-BBAA
3"	PRS-SYS-30-AAA	PRS-SYS-30-ABAA	PRS-SYS-30-BAA	PRS-SYS-30-BBAA
4"	PRS-SYS-40-AAA	PRS-SYS-40-ABAA	PRS-SYS-40-BAA	PRS-SYS-35-BBAA

Operation

The launcher is typically installed slightly downstream from the pump, but may be installed at any point in the process stream. Prior to process start-up, the pig is placed in the launcher, where it remains during the process operation. Once the process run is completed, air pressure applied to the launcher propels the pig through the process tubing, pushing all residual product downstream, through the catcher, and into a recovery container.

Once the pig reaches the catcher, the air pressure may be shut off manually or by using CSI's Pig Detection System to signal an air solenoid valve. The unique design of our catcher releases the air pressure build-up safely and automatically when the pig arrives. Once the air pressure is shut off, the pig can be removed from the catcher, cleaned and placed back in the launcher for the next process run.

Air pressure and flow settings for smooth operation of the PRS vary depending on product viscosity, system backpressure, etc. Adjustments may be required to determine the appropriate air requirements for your application. Following are the recommended approximate settings for initial startup of your system:

- Normal pig speed should be set to between 3 ft/sec and 5 ft/sec by adjusting an air flow controller.
- From your initial setting, increase air flow if the pig is surging or stopping in the line. Decrease flow if the pig travel time is too short.
- Increased air pressure may be required for initial launching of the pig if product is particularly viscous or has remained in the process lines for a long period of time.
- Less air pressure is required toward the end of the product recovery run since the pig is pushing against less resistance. Air pressure can be reduced during the run manually or it can be controlled with CSI's Pig Detection System.

Temperature Rating for Food Grade Polyurethane

MINIMUM	MAXIMUM
-40° F	200° F
-40° C	93° C

Cleaning and Storage of Urethane Pigs

With proper handling, CSI's sanitary polyurethane pigs will provide a long, trouble-free service life. After each use, the pig can typically be cleaned with a hot water flush up to 200° F with minimal scrubbing. If a detergent or other cleaning agent is used, be sure the pig is adequately rinsed to remove any residual material from the pig. Limited exposure to an alcohol solution is acceptable provided that the pig is properly flushed afterward.

Ultraviolet sterilization is not recommended. Polyurethane has an inherent sensitivity to UV light and could be susceptible to chemical breakdown. For this reason it is recommended that the pigs be stored in a cool, dark area out of direct sunlight.

Polyurethane is used as the primary compound for CSI's standard product recovery projectiles because of its compatibility with most products, its broad thermal range and its outstanding abrasion resistance. CSI's sanitary polyurethane pigs are recommended for use only with products that are compatible with polyurethane. If you have any questions or need additional information about the compatibility of your product with these pigs, contact your CSI representative for details.