

CONTROLLED-VOLUME PIGGING



Advantages

- Hands-free
- Reduces turnaround time
- Effective on sticky, gummy foulants
- Custom-engineered process
- Bundles can be cleaned in place
- Cleans 100% of U-bundle in one pass
- Runs through multiple 90s
- 50% less water than conventional hydro blasting

Controlled-Volume Pigging (CVP) is a highly effective pipe and tube cleaning method that outperforms flex lancing, hydro blasting and conventional pipe pigging. It uses engineered cleaning pigs propelled by water with precisely controlled volumes, pressures and flow characteristics. The process safely removes the toughest materials from the full circumference and length of a line in a fraction of the time required by other methods.

APPLICATIONS

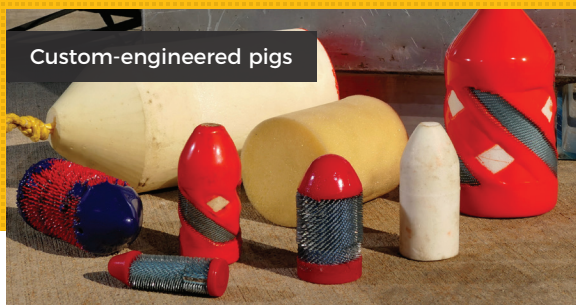
CVP cleans and decontaminates pipes and tubes in a wide range of refinery, chemical and petrochemical plant applications. It is effective with carbon steel or stainless steel pipes and tubes from ½-in. ID up to 8-in. ID.

CVP removes the most challenging foulants, including sticky, gummy polymers. Applications include HDPE, LDPE, LLDPE, wax, styrene, gumming materials, rust scale, tar materials, resid from RHU units, waste water sludges and more.

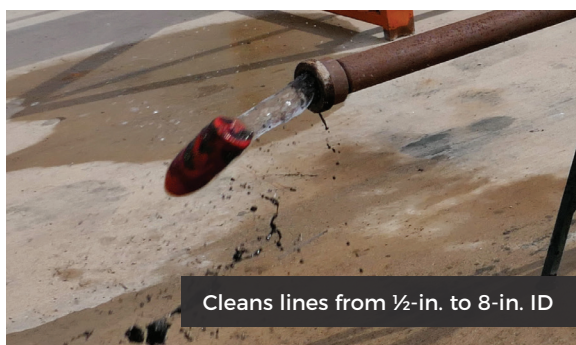
SAFE, ENVIRONMENTALLY FRIENDLY

CVP is safe for crew members, customer equipment and the environment. A technician executes the process with remote controls from a position away from the inlet and opposite the exit point of flushed materials. Other crew members are stationed safely away from pressurized water and maintain clear communication with one another.

No chemicals are used in the procedure and pressures are carefully regulated to protect customer equipment. The operation is self-contained to minimize water requirements, requiring approximately half the volume of ordinary hydro blasting.



Custom-engineered pigs



Cleans lines from ½-in. to 8-in. ID

Pig insertion during setup



Inlet nozzle prior to sealing on tube



SYSTEM & PROCEDURE

CVP uses a precisely regulated, low volume of water (40 gpm) and low pressures ($\leq 10,000$ psi) to convey engineered cleaning pigs through a pipe or tube to dislodge and push out fouling material. A special water inlet nozzle creates a vortex that not only propels the pig but increases the cleaning and flushing action of the water.

CVP pigs successfully navigate bends and 90 degree elbows, enabling the process to clean the full circumference and length of the line. CVP can completely clean U-bundles in a single pass.

Pig application is custom-engineered for each project, including the number of pigging cycles performed and the size, geometry, material and features of pigs used throughout the project. To complete the process, swabbing pigs are propelled through the line using plant air or nitrogen to completely dry interior surfaces.

MINIMAL FOOTPRINT

The CVP system is compact, highly mobile, rigs up quickly and occupies a small area on the job site. Major components include a trailer-mounted pump, pressure control system, pig launcher and receiver. Special valving controls flow and conserves water by recirculating it back to the pump when the system is not in use.



Belt-mounted remote control for indexing and flow control

CONTROLLED-VOLUME
PIGGING HAS REDUCED
TURNAROUND
TIMES BY UP TO 66%
COMPARED TO FLEX
LANCING AND OTHER
CLEANING METHODS.