

# Foam Pig Selection Guide



## LB - Light Density Bare Swab

Description: 2-pound-per-cubic-foot density foam cylinder with 90 Shore A durometer urethane coating on rear only. Also available in bullet shape.

Alternate Functions: Daily pigging where pressures are low, but cleaning is needed to reduce rapidity of buildups. Used as a gauging pig when progressive pigging is performed in order to ascertain reduced line diameter. Used as a sealer pig when progressive cleaning and smaller-than-line-size pigs are being run, by preventing too much bypass of the cleaning pig.



## LC - Light Density Criss Cross Swab

Description: 2-pound-per-cubic-foot density bullet-shaped foam cylinder with 90 Shore A durometer urethane coating in double-spiral configuration.

Design Function: Light wiping and light scraping used when line conditions do not allow for heavier density foam pigs due to low pressures. Good for multi-dimensional pipelines. The light density foam allows for hand launching with pig over sizing.



## LS - Light Density Criss Cross Silicon Carbide

Description: 2-pound-per-cubic-foot density bullet shaped foam cylinder with 90 Shore A durometer urethane coating.

Design Function: Light scraping in short distances of 2000 feet or less.



## LW - Light Density Criss Cross Wirebrush

Description: 2-pound-per-cubic-foot density bullet shaped foam cylinder with 90 Shore A durometer urethane coating in double-spiral configuration and wirebrush straps.

Design Function: Light scraping. Used for scraping, plowing and medium hard scale removal (up to 5-½ on Moh's scale of hardness) for most tuberculated scales.



**MB - Medium Density Bare Pig**

Description: 5-pound-per-cubic-foot density bullet shaped foam cylinder with 90 Shore A durometer urethane coating on rear only.

Design Function: Regular drying. For drying pipelines of up to 10 miles with smooth interiors or for the removal of soft buildup in all pipes.

Alternate Functions: Can be used for mild cleaning of lines with low pressures, or for gauging i.d. of scaled line.



**MC - Medium Density Criss Cross**

Description: 5-pound-per-cubic-foot density bullet shaped foam cylinder with 90 Shore A durometer urethane coating in double-spiral configuration.

Design Function: Regular wiping. Good in oilfield flow-lines for paraffin removal or for wiping most pipelines with soft buildup. Best in minimum pressure lines or lines with large quantity of short radius bends, tees, valves, etc.



**MW - Medium Density Criss Cross Wirebrush**

Description: 5-pound-per-cubic-foot density bullet shaped foam cylinder with 90 Shore A durometer urethane coating in double-spiral configuration and wirebrush straps.

Design Function: Medium scraping. Used for scraping, plowing and medium hard scale removal (up to 5-½ on Moh's scale of hardness) for most tuberculated scales.



**MS - Medium Density Criss Cross Silicon Carbide**

Description: 5-pound-per-cubic-foot density bullet shaped foam cylinder with 90 Shore A durometer urethane coating in double-spiral configuration and carbide sprinkled into coating.

Design Function: Regular scraping where mild abrasion is needed in short distances of 2000 feet or less. Not recommended where normal or tough abrasion is needed.



### **MP - Medium Density Criss Cross Plastic Bristle**

Description: 5-pound-per-cubic-foot density bullet shaped foam cylinder with 90 Shore A durometer urethane coating in double-spiral configuration and medium plastic bristle straps.

Design Function: Medium scraping. Best use in fiberglass, PVC, or internally coated lines where abrasive cleaning is needed, but wire brush or silicon carbide may damage.



### **HB - Heavy Density Bare Pig**

Description: 8-pound-per-cubic-foot density bullet shaped foam cylinder with 90 Shore A durometer urethane coating (on rear only).

Design Function: Heavy drying. Best for use in long lines where heavy drying or wiping is needed. Good for any drying needs or product removal such as light oils, hydrocarbon liquid, etc.



### **HC - Heavy Density Criss Cross**

Description: 8-pound-per-cubic-foot density bullet shaped foam cylinder with 90 Shore A durometer urethane coating in double-spiral configuration.

Design Function: Heavy wiping, drying, and first stages of progressive cleaning. Long runs should be kept less than 25 miles, although, under ideal conditions, the standard pattern may be run up to 200 miles.

Alternate Function: Many times used in lieu of carbide or wire brush when there is danger of damaging the interior of the pipe (fiberglass, PVC, epoxy lines, etc.).



### **HW - Heavy Density Criss Cross Wirebrush**

Description: 8-pound-per-cubic-foot density bullet shaped foam cylinder with 90 Shore A durometer urethane coating in double-spiral configuration and wire brush straps.

Design Function: Heavy scraping. For heaviest scraping, plowing, and medium hard scale removal (up to 5-1/2 on Moh's scale of hardness).



### **HS - Heavy Density Criss Cross Silicon Carbide**

Description: 8-pound-per-cubic-foot density bullet shaped foam cylinder with 90 Shore A durometer urethane coating in double-spiral configuration and carbide straps.

Design Function: Heavy scraping. For hard scraping scales (harder than 6 on Moh's scale of hardness).

Alternate Function: Good when used in line conditions that would shorten the life of the criss cross, or when scraping is needed, but wirebrush is too much.



### **HP - Heavy Density Criss Cross Plastic Bristle**

Description: 8-pound-per-cubic-foot density bullet shaped foam cylinder with 90 Shore A durometer urethane coating in double-spiral configuration and heavy plastic bristle straps.

Design Function: Heavy scraping. Best use in fiberglass, PVC, or internally coated lines where heavy duty abrasive cleaning is needed, but wire brush or silicon carbide may damage.



### **TW - Total Wirebrush Pig**

Description: 8-pound-per-cubic-foot density bullet shaped foam cylinder with 90 Shore A durometer urethane coating and wirebrush straps covering entire pig. (75% more wire than standard wirebrush pig.)

Design Function: Maximum scraping. For scraping to an absolute bare surface in steel or cast iron pipe prior to either drying to a minus dew point or application of internal coatings. Should be used only in single-dimension lines.



### **TP - Total Plastic Bristle Pig**

Description: 5-pound-per-cubic-foot density bullet shaped foam cylinder with 90 Shore A durometer urethane coating and plastic bristle straps covering entire pig. (75% more straps than standard plastic bristle pig.)

Design Function: Maximum scraping. Used when very abrasive cleaning is needed, but wire brush may damage pipe (PVC, fiberglass, internally coated) or not allow pig passage.

# Design Variations

## **A. Double-Dish (Bi-directional)**

Same body construction and coating configuration as bullet-shaped pigs, but with both ends being dished. Used when two directions are to be traversed by the pig without leaving the pipe. Not recommended for normal line cleaning.

## **B. Double-Nose (Bi-directional)**

Same body construction and coating configuration as bullet-shaped pigs, but with both ends being bullet-shaped. Will move through the line at approximately half the speed of a standard or double-dish due to no flat surface for pressure to push.

## **C. Transmitter Cavity**

Cavity is prepared in the body of the pig to house a tracking transmitter for the purpose of tracking or locating a lost pig. Caution should be used on sizes 8" and smaller.

## **D. Bypass Jets**

Used where bypass or "jetting" action greater than that of a conventional pig is required. The "jets" may be any type of tubular goods preferably flexible (PVC, polyethylene, copper tubing, etc.). The number and size of jets are designed per individual requirements. In pigging applications where sand, silt, heavy particles, or wax is prevalent, the jets help keep the debris suspended to prevent bridging, debris settling, and possible blockage of line caused by rapid settling of the heavy particles. Speed of this pig will be approximately 25 to 50% slower than that of a conventional pig due to its additional-bypass design.

## **E. Turning Pattern**

The turning pattern of coating applied to the pig in a different fashion than the standard criss-cross, helps the pig to rotate as it is traversing the line thereby allowing for a more even wear and longer distances.

## **F. Ropes and Cables**

Pigs can be supplied with pulling or handling ropes or cables in the nose, rear, or both.

## **G. Lengths and Diameters**

The standard length of a foam pig is approximately one-and-a-half times the nominal pipe diameter for the length from base to shoulder of the pig, plus one-half diameter for nose. Double-Dish pigs are one-and-a-half times the diameter total length and double-nose pigs are two-and-a-half times the diameter total length.

To properly seal and perform their functions, the pig's diameter is larger than the internal diameter of the pipe (anywhere from 1 to 5% over sizing is standard). However, as with the lengths, various diameters can be made for different applications.