TECHNICAL BULLETIN

PROGRESSING CAVITY PUMPS | LS-TB-O22

LIFTING SOLUTIONS

BULLETIN NO.	TOPIC	ISSUE DATE	ISSUED BY
LS-TB-022 V1	PC PUMP TAGBAR OVERVIEW	FEBRUARY 11, 2021	ENGINEERING

BACKGROUND

The tagbar is an important part of the Progressing Cavity Pump (PCP) assembly as it allows you to locate the rotor properly inside the stator for proper operation. The most common tagbar configuration is the bottom pin style welded tagbar, although there are other variations. These include bottom tag plate and top tag plate styles. each with different advantages and disadvantages. There are several slotting options available at the intake for the bottom tagging systems.

AVAILABLE MODELS AND OPTIONS

Top Tag Plate Systems are available for applications that require direct access to the intake of the PCP. This places the tagging component location above the stator.

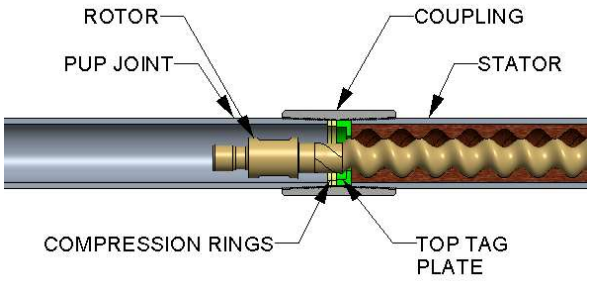
Rotor Length Code	Additional Rotor Length	Stator Termination	Tagar Image
P	32in (14 inches Paddled)	Open Below	

Table 1 – Top Tagging System

By using the top tag plate syste, there is open access to the wellbore directly below the stator. This configuration does not require a slotted intake, and should not be used with a tailjoint.

Bottom Pin Style Welded Tagbars are available in a variety of configurations as described in Table 2. This is a reliable but inexpensive tagging system and has been employed for many years. A round pin is welded into a threade tube to provide the necessary stop for the rotor. This component is ran directly below the stator.

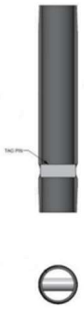
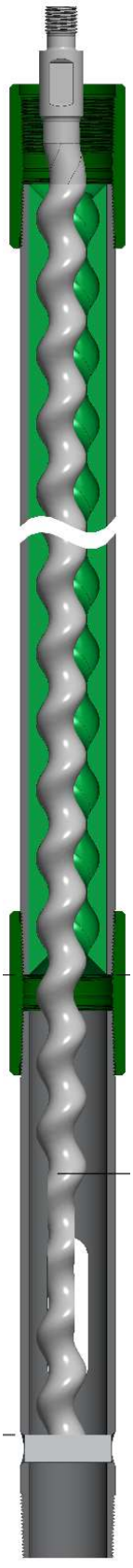
Rotor Length Code	Additional Rotor Length	Slotting Options	Tagbar Image
S	8in	Solid	
L	16in	Solid or Slotted	
P	32in (14 inches Paddled)	Slotted	

Table 2 – Bottom Pin Style Welded Tagbar

Bottom Plate Style Tagbar are also available in similar configurations as detailed in Table 3.

Rotor Length Code	Additional Rotor Length	Slotting Options	Tagar Image
S	8in	Solid	
L	16in	Solid or Slotted	
P	32in (14 inches Paddled)	Slotted	

Table 3 – Bottom Plate Style No Weld Tagbar



INTAKE SLOTTING OPTIONS

Slots can be added to the bottom pin and bottom plate style tagbar to promote inflow at the pump intake. Different slot sizes and for the bottom tagbar configurations are summarized in Table 4.

Rotor Length Code	Additional Rotor Length	Slotting Image	Slot Quantity and Size Options
S	Solid		n/a
L	Slotted		4 at 0.25 inch 2 at 0.50 inch 2 at 1.00 inch 2 at 1.50 inch
P	Slotted		6 at 0.50 inch 6 at 1.00 inch 6 at 1.50 inch

Table 4 – Bottom tagbar intake slotting options.

APPLICATION ADVANTAGES

The top tagging system is primarily utilized in sandy heavy oil applications requiring open access to the pump intake. This is a relatively recent design and requires consideration for proper clearances between the rotor and top tag plate to ensure contact is not made with the rotor during operation.

The bottom pin style welded tagbar is used in most applications because it is the lowest cost. It is suitable on smaller volume pumps with shallower landing depths. The welded pin can support up to 10,000lbs of rod weight (static load, not dynamic). In situations where the application utilizes a torque anchor below the tagbar this system contains a weakness with the drilled hole and welded pin and is not ideal. This low-cost option is also the lowest strength option.

The bottom plate style no weld tagbar offers a strength upgrade at an additional cost. It does not contain a drilled hole or welded pin which makes it a much stronger option. Instead, it utilizes a tag plate that is fully contained between the bottom coupling and top nipple in the assembly. This tagbar can support much higher rod weight at 20,000lbs (static). It is also significantly stronger in tensile and fatigue situations. It is the tagbar of choice for larger volume pumps operating at higher speeds and depths greater than 1000m.