

# Racking Arms Done Right

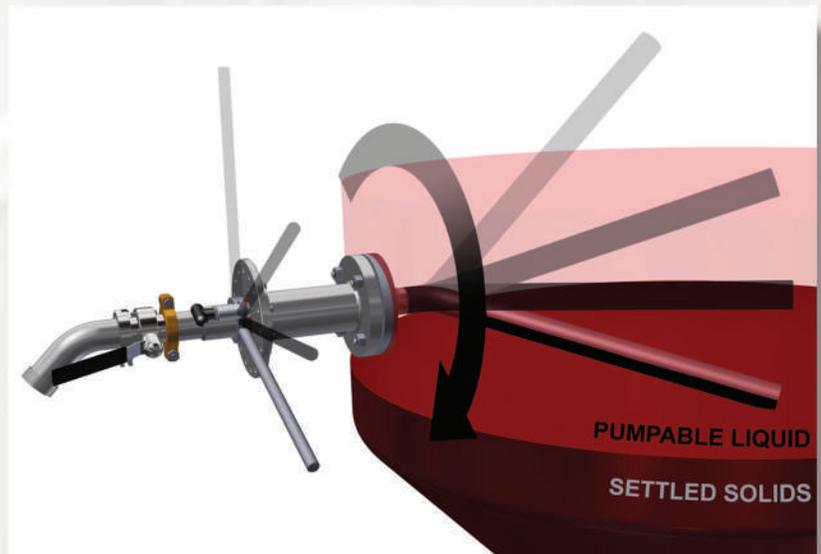


## Racking Arms

A racking arm (or racking port) allows you to adjust the level at which you draw liquid from a tank. This is accomplished through the use of an angled suction tube inside the tank that can be rotated to take advantage of the most optimal position. This is particularly important in a process which has a lot of solids that settle at the bottom of a tank. In the wine industry these solids come from dead yeast cells, grape solids and other tartrates which separate out from the juice during the fermentation process. This collection of solids is referred to as lees. While you may want your wine to be in contact with these solids or “on the lees” for a period of time to develop complexity, you will eventually need to transfer the liquid to a new vessel leaving the lees behind. This is what’s referred to as racking, and you may need to perform this step several times per batch. There are other processes which require racking such as brewing and olive oil production due to the amount of suspended solids that drop out during their maturation. In all racking scenarios, adjusting the level at which you draw liquid from the tank to just above the line where the solids meet the liquid ensures you yield as much viable product as possible.

## Barnum Mechanical’s Superior Racking Arms

Our patented design eliminates problems inherent with competitive products, creating a more sanitary, robust, and practical racking arm for use in an industrial environment. Most racking arms use a single Teflon gasket which doubles as the bearing and the seal. This design puts a lot of stress on a single point of contact. The weight of the suction tube which extends into the tank may cause the entire assembly to deflect within the housing and can distort the shape of the seal. This can cause leaks and unsanitary conditions.



# Our Design

## Our Patented Bearing

Our racking arm employs a long Ertalyte TX bearing custom-machined to maintain the tightest tolerances possible. We use Ertalyte TX for its low friction coefficient and its ability to maintain its shape under stress. But we don't stop there. We also added another bearing between the two seals to ensure the X-ring seals maintain the perfect amount of compression to prevent leaking and minimize drag.

## The Seals

Our X-ring seals have the same ease of installation as O-rings but they have a few added benefits. The first is the multi lobed design. This design adds more sealing surface which enhances its sealing capability and creates less drag for a longer life and easier rotation. The X-ring profile also helps prevent the ring from twisting in the groove, a common issue with standard O-rings. Our design places two of these X-rings as close to the inside diameter of the tank as possible with a leak detection hole for each seal. In the unlikely event the first X-ring seal fails, you still have another X-ring seal in place to keep your product in the tank until you are ready to pump it out.



## Indexing

To ensure the interior suction tube is in the precise position the operator intends, we have added a woodruff key between the rotating shaft and the handle to keep the handle and suction tube in synchronous movement. We also added a 16 position indexing plate with a locking plunger to allow the tube to be set at the optimum suction height.

## Sanitary Design

Typical racking arm are designed to attach to a standard tank port. This creates a pocket that is difficult to clean and can trap product or cleaning solution. Our racking arm employs a custom tank flange with a profile designed to optimize cleaning and virtually eliminate standing fluid.

## Custom Installation

We offer field-fitting and custom installation of our racking arms as well as training for your personnel to ensure worry-free use for seasons to come. We invite you to contact us to learn more about how we can improve your tank racking capabilities today!