



# MOYNO

*Always the Right Solution™*

**Section:** Moyno® Vertical Pump  
Data Sheet

**Page:** 1 of 2 Pages

**Date:** January 2000

## General Description:

Specifically designed for submerged applications, the Moyno Vertical Pump is a heavy duty, positive displacement, progressing cavity pump that can be flange mounted to closed tanks or attached to beams above open tanks.

Moyno Vertical Pumps are used in all traditional markets where progressing cavity features are beneficial. They provide the additional benefits of requiring less mounting space and can be applied in systems with low NPSH available.

Moyno Inc. has applied Moyno Vertical pumps in skim oil sumps at refineries, waste sludge sumps on offshore platforms and at refineries, for heavy oil transfer, ship/barge loading and off loading, municipal sludge transfer, and paint pigment applications.

## Features:

- The pump drive is mounted in-line and on top of the pumping element making it easy to access and also provides for minimal space requirements.
- A single mechanical seal mounted on the pump discharge, equipped with a flush that circulates back to the sump. Double seals and packing can be provided as options.
- The mechanical shaft seal and drive can be removed and replaced without pulling the entire unit from the tank.
- The Moyno Vertical Pump is offered in standard installation depths. Refer to the pump dimension sheet, dimension "L", for these depths. Other depths can be provided – consult Application Engineering.
- The drive shaft is guided by rugged, frictionless bearings in extension tubes.
- The pump inlet is designed so that a strainer can be added as an option.
- The discharge flange is configured above the mounting flange as standard. It can be configured below the mounting flange as an option.

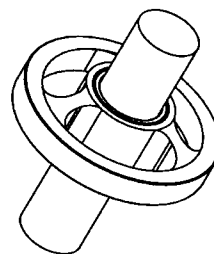
The mounting flange, extension tubes, and discharge housings are made of either alloy steel or 304 stainless steel thick-walled pipe. The drive adapter is made of thick-walled alloy steel.

The mounting flange and discharge connection are flat-faced flanges with bolt hole dimensions and spacing to ANSI standards. They both have a rating of 125 lbs. for alloy steel, and 150 lbs. for stainless steel.

Flanges connect the stator and extension tubes to facilitate removal.

A rigid connecting rod with sealed pin joints connects the drive shaft to the eccentrically moving rotor.

The drive shaft is a one-piece, solid construction, guided in extension tubes by frictionless flange bearings (see below). The drive shaft is made of 316 stainless steel.



## How to Size:

The Moyno Vertical Pump can be selected manually or on CAPS by generally following the steps outlined for the Moyno 1000 Close-Coupled Pump. Refer to Table 1 – the nomenclature chart on page 2 – for the list of available elements, stages, and pressure limitations. Follow these guidelines in your selection.

Table 2 shows the maximum pump speeds as a function of both element size and installation depth without the use of a suction support. By using a suction support which mounts on the side or the bottom of the tank, higher speeds and greater depths are possible – consult Applications Engineering.



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**Table 1 Moyno Vertical Pump Nomenclature**

		Sample:	V	2	G	172	C	S	Q	3	S	A	A	
		Item Description												
1	Construction	Vertical Pump	V											
2	Stages	Pressure to 87 psig		1										
		Pressure to 150 psig		2										
		Pressure to 150 psig		4										
3	Element	11.6 Gal./100 Rev.			F									
		21.4 Gal./100 Rev.			G									
		39.4 Gal./100 Rev.			H									
		48.4 Gal./100 Rev.			J									
		64.7 Gal./100 Rev.			K									
		115.0 Gal./100 Rev.			L									
4	Installation Depth	Depth in Inches From Mounting Flange To Suction Entry (See Dimension Sheet)				172								
5	Material of Discharge Housing	Cast Iron					C							
		316 Stainless Steel					S							
		Cast Steel						W						
		Special						X						
6	Material of Rotor/Con Rod	Alloy Steel						D						
		316 Stainless Steel						S						
		Special						X						
7	Stator Material	Nitrile							Q					
		Natural Rubber							R					
		EPDM								B				
		Fluoroelastomer								F				
8	Rev. Code	U.S. Version								3				
9	Seal Type	Single Mechanical									S			
		Compression Packing									P			
		Special									X			
10	Drive Shaft	Solid Shaft With Bearings										A		
		Long Connecting Rod										L		
11	Rotor	Standard Size/Chrome-Plated											A	
		Undersize/Chrome-Plated											C	

**Table 2 Moyno Vertical Pump Selection Chart**

Element Size	Installation Depth – L							
	40(inches)	60	80	100	120	140	160	180
	101(mm)	152	202	254	305	356	406	457
Maximum Pump Speed (RPM)								
F	650	600	550	500	425	350	300	250
G	600	550	500	450	375	300	250	200
H	--	450	400	350	300	250	200	150
J	--	350	300	250	225	200	175	125
K	--	--	250	225	200	175	150	100
L	--	--	--	175	150	125	100	75

**Note: At higher speeds and deeper depths than listed above, a suction support is required.**