ROTARY INDEX TABLES
7" THRU 20" TOP PLATES
ACCURACY WITHIN ±.001

ALL STAINLESS STEEL CYLINDERS

VALVES
2, 3 & 4-WAY

AIR & HYDRAULIC CYLINDERS
1/2" THRU 5"

CYL-CHECKS®
Creates Smooth, Uniform & Precise Control of Linear Motion

DRUM PUMPS
55 Gallon Open Head Steel Drum
Medium to High viscosity compounds
up to 250,000 centipoise (cPs)

Scope of System

There are 3 main components and 6 easy steps to the drum pump system.

Components

are VCR AIR CYLINDER, PUMP CENTERING PLATE and the FOLLOWER PLATE.

Steps

1. Remove the lid of the drum.

2. Place the FOLLOWER plate on top of the product in the drum. Push the follower plate down until the product is visible through the center opening in the follower plate.

3. Fit the CENTERING PLATE on top of the drum.

4. Tighten the two hand screws to secure the CENTERING PLATE top to the drum. Ensure that the CENTERING PLATE is centered and securely fixed to the drum.

5. Insert the pump’s dip tube through the CENTERING PLATE and the follower plate. Ensure that the dip tube reaches all the way to the bottom of the drum.

6. Secure the dip tube to the CENTERING PLATE by tightening the clamp-screw.

As the pump cycles it removes material by creating a vacuum, this causes the follower plate to move down the drum wiping the drum wall clean. The follower plate seal makes sure that almost no material remains on the drum wall. And at the same time the material in the drum remains isolated from external environments. With this system, the drum empties (without a liner) to less than 2% leftover product residue. When the product has been removed from the drum, the follower plate is simply released from the bottom of the drum by using compressed air.
BUNG MOUNTED
1-1/2 DIP TUBE

55 gallon Closed Head Steel Drum

TRANSFER PUMPING
LOW VISCOSITY MARTIALS
55 gallon Closed Head Steel Drum

Low to medium viscosity fluids
up to 50,000 centipoise (cPs)

Easy Service Design
UNIQUE FEATURES

EASE OF ASSEMBLY & DISASSEMBLY

2-1/2 Dip Tube Shown
THEORY OF OPERATION

UP STROKE LOWER LIQUID END:
- Piston moves upward in the dip tube. Upper check ball (1-1/2 Dip Tube) or flapper (2-1/2 Dip Tube) is seated and material above the check is displaced as the piston moves up the dip tube, forcing the material through the outlet.
- As piston moves upward, suction is created lifting the lower ball from its seat and the dip tube is filled with more material.

DOWN STROKE LIQUID END:
- Piston moves down causing lower check ball to seat. Material in dip tube forces the upper check from its seat and flows through piston to the upper portion of the dip tube.
- Piston travels down the dip tube causing displacement of material through material outlet.

PUMP ON DOWN STROKE
PUMP ON UP STROKE

*Images for flow illustration purposes only. Not all internal parts Shown.
### DRIVE CYLINDERS & DIP TUBES

**Ordering Procedure:**

CV x 8 VCR x - DP

<table>
<thead>
<tr>
<th>DRIVE CYL</th>
<th>DIP TUBE</th>
<th>RATIO</th>
<th>GPM MAX</th>
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- DRIVE CYLINDER
- DIP TUBE
- DRUM SIZE
**DRUM PUMP**

**GENERAL SPECIFICATIONS**

**Description:**
Allenair transfer pumps are designed around our tandem cylinder design joining two cylinders together with a common head and rod. The total pump unit is divided into two sections; the drive section and the pump section. By utilizing our Valve-In-Head cylinder as the air motor, the rod and pump piston will move in unison, creating suction on the lower half of the piston and pressure on the upper half. On the down stroke the check piston moves freely through the fluid in the dip tube.

**MATERIALS OF CONSTRUCTION**
- **Dip tube:** Stainless Steel
- **Piston Rod:** Stainless Steel
- **Piston:** Stainless Steel

**DRIVE CYLINDER PACKINGS**
- **Standard:** Nitrile
- **Lower Packing:** Nitrile
- **Dip Tube:** Stainless Steel

**BASIC CONSTRUCTION**
- **Model Series (refer to option page):** CV \( \frac{1}{2} \times 8 \) VCR X \( \frac{2}{3} \) DP
- **Pump Type:** Air Operated, Pump
- **Ratio:** \((0.359:1)\) to \((11.11:1)\)
- **Air Motor (drive cylinder):**
  - Motor Repair Kit: CV \( \frac{1}{2} \) P
  - Drive cylinder: 1-1/2 to 5” BORE
  - Stroke: 8”
- **Air Inlet (female):** 1/4, 3/8 & 1/2 N.P.T.
- **Material Inlet:** Immersed
- **Material Outlet (female):** 1 N.P.T.

**GPM**

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**Drive Cyl. Bore**
- **DIM. A (55 Gal.):**
  - 1-1/2” 56-1/4” 32-1/4” 1/4 N.P.T. 1/4 N.P.T.
  - 2” 56-1/4” 32-1/4” 1/4 N.P.T. 1/4 N.P.T.
  - 4” 58-3/8” 34-3/8” 1/2 N.P.T. 1/2 N.P.T.
  - 5” 58-3/8” 34-3/8” 1/2 N.P.T. 1/2 N.P.T.

**Ordering Procedure:**
- **CV \( \frac{1}{2} \times 8 \) VCR X \( \frac{2}{3} \) DP
- **DRIVE SIZE**
- **DRUM HEIGHT**
- **DIP TUBE SIZE**

**DIMENSIONS SHOWN FOR STANDARD 55 GAL. DRUM & 5 GAL. PAIL**
Advantages of using Allenair Drum Pumps

- **Plant use**
  The use of a drum pump is a much safer and more convenient way to empty a drum than having to hoist a drum into the air or placed onto a rack to provide a gravity feed to the point of use.

- Forklift trucks are not always available in plants
- Drum pumps minimize the possibility evaporation loss
- Drum remains sealed from outside environments
- Drum pumps are inserted through the opened bung in the drum head while the drum is in a vertical position, thus providing a safer, more flexible and economical way of discharging drum contents
- Open Head drums remain sealed do to the follower plate,
- **Product-savings – less than 2 % residue**
  (in drums without liner)
  Cost-effective use of the product and with low
  Lower expenditure for waist disposal.

- **Customized output**
  Due to a wide selection of drive motor combinations and matching Dip Tubes various output pressures and discharge rates can be achieved.

- **Fast cleaning & Maintenance**
  Ease of assembly & disassembly

- **High flexibility**
  due to the modularity of the pump system may easily be built upon.
  **Quick to install**
  with few components “Plug & Play”
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