

## *Message to Our Customers...*

Acknowledging the number of pump types commercially available throughout the world today, we are renewing our commitment to provide our customers with technically-sound equipment use, sizing, selection and application knowledge. Enabling representatives and customers to make better-informed choices has been a hallmark commitment from Neoflux for the past 5 years.

While there are hundreds of pump types manufactured, most can be classified as either centrifugal or displacement, each having its own inherent design strengths and weaknesses. As a result, our company recognized limitations with a one-design-fits-all approach to solving difficult pumping problems. Thus, the non-positive displacement pump, the air (or natural gas) powered, double diaphragm Neoflux pump range offers our customers a variety of unique problem solving Air-Operated Double Diaphragm (AODD) pump designs. Today, our core designs include *Neo-Flex* & *Neo-Tef* designed long lasting Diaphragm Technology, Heavy-Duty NRV Kit, Duplex Liquid Chamber, An innovative *Neo-Flo* & *Neo-Tune* design Air Distribution System with Lube-Free as a standard.

While we acknowledge that even the most diverse range of AODD pump designs cannot solve all problems or fill the needs of every pumping application, there is no other pump type on the market today that is so universally applicable and so responsive to pumping problem fluids.

We are proud to introduce you to our *Neoflux* AODD Pump & Solutions!

## *Neoflux Team*

*We look forward to being of assistance in your process equipment requirements.*

***It all flows free at [neoflux.in](http://www.neoflux.in).....***

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to exclusive content & Pumperletter***

## *Neoflux* PUMP'S GREATER DISPLACEMENT AND FLOWRATES IS PROVEN TO LOWER MAINTENANCE, SPARE PARTS AND PRODUCTION COSTS

**Neoflux** pumps have greater displacement per cycle than other manufacturers tested. This enables more fluid per cycle to pass through the pump which in turn reduces the need for more frequent maintenance, as the pump doesn't need to work so hard. Reduction in downtime equals a reduction in spares costs.

### *Neoflux's* INNOVATIVE AIR DISTRIBUTION SYSTEM AN ENERGY SAVING TECHNOLOGY

The **Neoflux's** *Neo-Flo* & *Neo-Tune* Air Distribution System (ADS) is at the heart of the machine. Simple, robust design with long-life technology a system that competitors are unable to match in quality and reliability. Most Competitors air valves are mechanical which means there are higher numbers of parts which means....more to go wrong, more to replace and harder to understand and subsequently maintain. All Neoflux ADS designs are totally in-line serviceable.

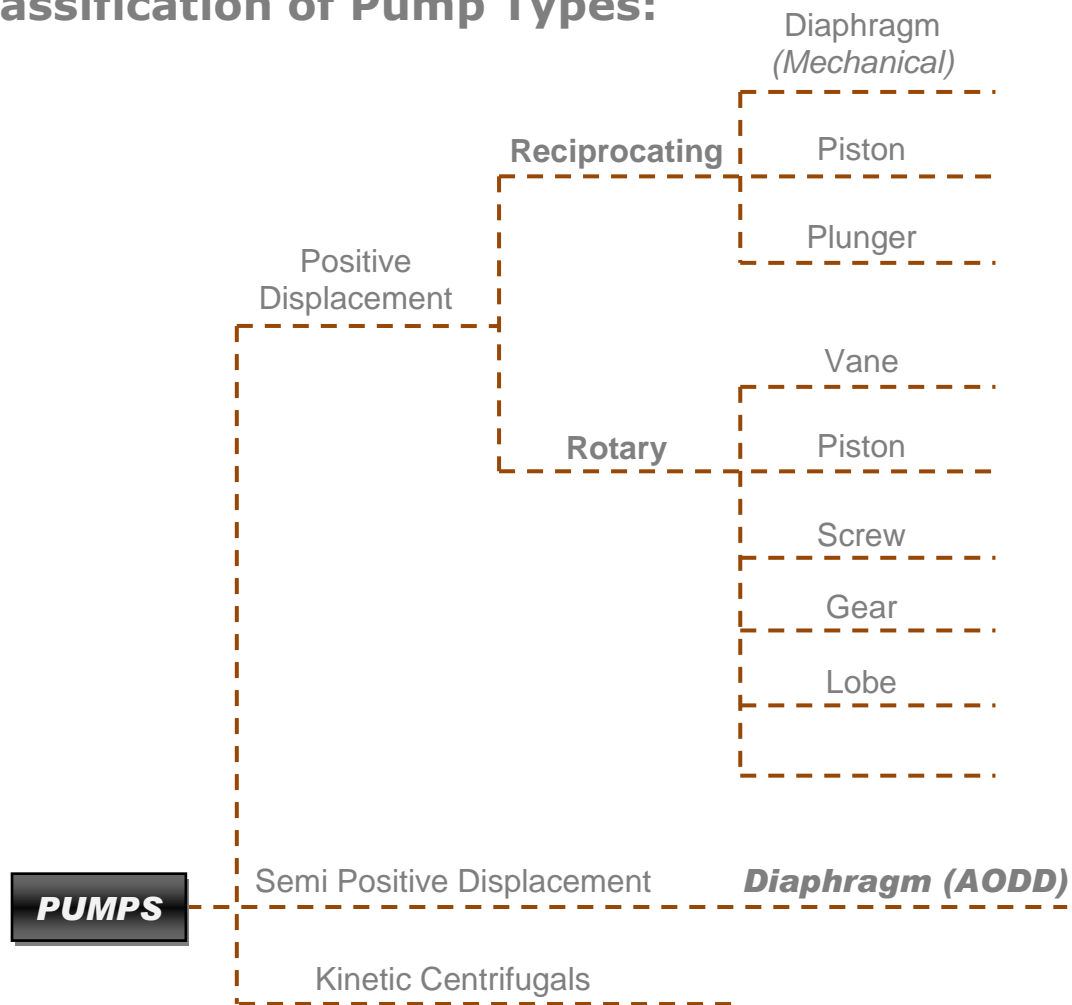
### **Informed customers select AODD pumps vs. other pump types when challenged with difficult pumping situations including:**

- Suspended Solids
- Non-Suspended Solids
- Line-Size Solids
- Abrasive Sludge & Slurries
- High Viscosity Fluids
- Dry Running
- Slip
- High Suction Lift
- Corrosive Fluids
- Heat Generation
- Loss of Suction (Prime Damage)
- Floor Space Restrictions
- Shaft Deflections

- Coupling Misalignment
- Added Costs for Variable Flow Rates
- Added Costs for Installation Bypass Lines
- Added Costs for Pressure Relief
- High Costs Associated with Packing Glands & Mechanical Seals
- Bearing/Shaft (load) problems associated with operating below minimum flow
- Catastrophic Mechanical Seal Failures
- Leakage from Packed Stuffing Boxes
- Insufficient NPSH (a) Cavitation
- Bearing Lubrication Contamination
- Decreased Volumetric Efficiency

**ALWAYS CALCULATE YOUR COST OF OWNERSHIP BEFORE YOU MAKE THE PURCHASE**

## Classification of Pump Types:



Although the AODD pump is a displacement type, it is actually a hybrid and defies strict classification. While its pressure versus capacity characteristics resemble those of a centrifugal pump, it is best defined as a Sealless, non (or semi) positive displacement pump. The pumping principle provides 100% efficiency at zero flow.

AODD pumps are air (or natural gas) operated displacement type pumps which uniquely differ from all other positive displacement pumps. As a result of air pressure acting on the entire surface of the diaphragm, the diaphragm is in a balanced condition while pumping. This measurably extends diaphragm life over that of mechanically operated diaphragm pumps. Because compressed air is limited, the maximum pressure developed by the pump is also safely limited. Thus AODD pumps are appropriately selected for on-demand intermittent requirements.

Variable flow and head conditions are achievable with the use of inexpensive off-the-shelf air line pressure regulators. Other commonly used flow control methods include restricting discharge and/or suction shutoff valves. Today, AODD pumps are appropriately selected for "process control" installations as automated control devices have become commercially available.

## PRIMARY MARKET:



Automotive/Plating  
& Finishing



Food Processing/  
Biotech/Pharmaceutical



Paint/Ink/Coatings



Ceramic Slip/Glaze



Industrial/Municipal  
Wastewater Treatment



Chemical/  
Petrochemical



Mining



Pulp/Paper Converters



Construction/Utilities



Oil & Gas

## Sizing to Extend MTBF:

Pumping requirements (flow & head) for most applications can be met by multiple sizes of pumps. Talk to *Neoflux's* application engineers to assist you with a size selection which best fits your total cost of ownership budget. An appropriately sized-up pump will lower the consolidated initial investment, repair, labor and energy costs. This **BEST PRACTICE** ensures desirable returns on the initial investment frequently measurable in weeks.

*For Example: 100 GPM @ 40 PSI*

2" AODD Pump at 40 PSI and 50 SCFM will give output of 100 GPM (*i.e. 40 PSI, 100 GPM = 50 SCFM*)

3" AODD Pump at 40 PSI and 35 SCFM will give output of 100 GPM (*i.e. 40 PSI, 100 GPM = 35 SCFM*)

### Est. Pump Data

Pump Model	Size	Price	Flow Rate	Pressure	SCFM	Displacement per Stroke	Wet-End Kit Cost
nf50 (178 GPM)	2"	Rs. 56,000	100 GPM	40 PSI	50	0.81	Rs. 3800
nf75 (267 GPM)	3"	Rs. 76,000	100 GPM	40 PSI	35	1.36	Rs. 6900

### Est. Cost Data

Cost Type	Unit.
Electricity Cost (Rs. / Kw. - Hr.)	Rs. 8 / Kwh
Labor Cost	Rs. 500
Hours of Operation / Week	40 Hrs. / Week

### Est. Pump Cost Summary

Pump Model	Annual Air Consumption Cost	Annual Replacement Parts Cost	Annual Maintenance Labor Cost	Maintenance Frequency	Weekly Pump Operating Cost	Weekly Pump Operating Cost
nf50	Rs. 85,450/-	Rs. 5,700/-	Rs. 2500/-	40 Weeks	Rs. 1800/-	Rs. 93,650/-
nf75	Rs. 48,150/-	Rs. 6,900	Rs. 600/-	80 Weeks	Rs. 1070/-	Rs. 55,650 /-

## Comparative example:

Compare the total cost of ownership of 2" to 3" AODD pump sizes, including purchase price, compressed air cost, repair parts cost, and maintenance labor cost. Required inputs are flow rate (GPM), discharge pressure (PSI), air inlet pressure (PSI), air consumption (SCFM), displacement per stroke (gal), wet end kit cost, electricity cost (Rs. / Kw-hr), labor cost (Rs./hr) and weekly hours of operation.

### INDUSTRY ACCEPTED BEST PRACTICES & ASSUMPTIONS

- Maintenance performed every 10 million pump strokes
- Two hours of labor required for each rebuild

## Pump Testing for Quality Assurance

To complete the pump assembly process, All pumps are tested in the following manner to ensure a quality built **NEOFLUX** product:

- Tested at 95 PSI (6.5 Bar) for Fluid and Air Leakage
- Prime from a Dry Start
- Deadhead the pump (each side) for a specific check for Fluid or Air Leakage (internal and external)
- Observation run cycle at high PSI / Cycling Rate
  - Checking for Porosity
  - Rhythmic Cycling
  - Abnormal Mechanical Noises
  - Visual inspection
    - Hardware
    - Powder Coating / Mating surfaces
    - Pipe threads
    - Wetted materials
- Max. Vacuum Check
- Drain & Dry Pump



# NEOFLUX Assurance

- Reduce down-time with our immediate availability of spares for Neoflux Pumps.
- Instant Alignment for Ease of Maintenance.
- Maintains Seals / O-Rings even after repeated servicing.
- Bolted Configuration withstands 4 times the pressure versus V-band clamps. Eliminates leakage at high pressure & deadhead conditions.
- Confidence of delivery in excess of **99%** on-time delivery.
- Neoflux Wear Package further extends "MTBF"
- All Neoflux pumps are designed for fast assembly/dis-assembly to ensure the quickest possible clean down for full CIP cleaning capability.

For Further Information, Please visit [www.neoflux.in](http://www.neoflux.in) Or Contact

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**OSCILLATING** TECHNOLOGY

THAT SHRIVELS YOUR COST OF OWNERSHIP